

MICRO INVERTER PACKAGED AIR-CONDITIONERS

(Split system, Air to air heat pump type)

CEILING CASSETTE-4WAY TYPE

Single type	Twin type	Triple type
FDT100VNVF	FDT100VNPVF	FDT140VNTVF
100VNVF1	100VSPVF	140VSTVF
100VSVF	125VNPVF	200VSTVF
100VSVF1	125VSPVF	200VSTVF1
125VNVF	140VNPVF	Double twin type
125VSVF	140VNPVF1	FDT200VSDVF
140VNVF	140VSPVF	250VSDVF
140VSVF	140VSPVF1	
	200VSPVF	
	200VSPVF1	
	250VSPVF	

CEILING CASSETTE-4WAY COMPACT TYPE

		~ –
Twin type	Triple type	Double twin type
FDTC100VNPVF	FDTC140VNTVF	FDTC200VSDVF
100VSPVF	140VSTVF	250VSDVF
125VNPVF		
125VSPVF		

CEILING SUSPENDED TYPE

Single type	Twin type	Triple type
FDEN100VNVF	FDEN100VNPVF	FDEN140VNTVF
100VNVF1	100VSPVF	140VSTVF
100VSVF	125VNPVF	200VSTVF
100VSVF1	125VSPVF	200VSTVF
125VNVF	140VNPVF	Double twin type
125VSVF	140VNPVF1	FDEN200VSDVF
140VNVF	140VSPVF	250VSDVF
140VSVF	140VSPVF1	
	200VSPVF	
	200VSPVF1	

250VSPVF

DUCT CONNECTED-LOW/MIDDLE STATIC PRESSURE TYPI

DOC! COMMECTED.	LUM/MIDDLE STATIC	PRESSURE LIFE
Single type	Twin type	Triple type
FDUM100VNVF	FDUM100VNPVF	FDUM140VNTVF
100VNVF1	100VSPVF	140VSTVF
100VSVF	125VNPVF	200VSTVF
100VSVF1	125VSPVF	200VSTVF1
125VNVF	140VNPVF	
125VSVF	140VNPVF1	
140VNVF	140VSPVF	
140VSVF	140VSPVF1	
	200VSPVF	
	200VSPVF1	
	250VSPVF	

DUCT CONNECTED-HIGH STATIC PRESSURE TYPE

Single type			
FDU100VNVD			
100VSVD			
125VNVD			
125VSVD			
140VNVD			
140VSVD			
200VSVF			
250VSVF			

FLOOR STANDING TYPE Single type Twin t

Single type	Twin type
FDF100VNVD	FDF140VNPVD
100VNVD1	140VNPVD1
100VSVD	140VSPVD
100VSVD1	140VSPVD1
125VNVD	200VSPVD
125VSVD	200VSPVD1
140VNVD	250VSPVD
140VSVD	

WALL MOUNTED TYPE

Twin type	Tri	iple type	е		
SRK100VNPZJX	S	RK140V	/NTZ	JX	
100VSPZJX		140V	STZ.	JX	
125VNPZJX					
125VSPZJX					

Service code: Please refer to next page.

V Multi System

(OUTDOOR UNIT)	(INDOOR UNIT)	
FDC100VN	FDT50VF	FDEN50VF
100VS	60VF	60VF
125VN	71VF	71VF
125VS	100VF	100VF
140VN	125VF	125VF
140VS		
200VS		
0501/0		



· Note:

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1. MICRO INVERTER PACKAGED AIR-CONDITIONERS

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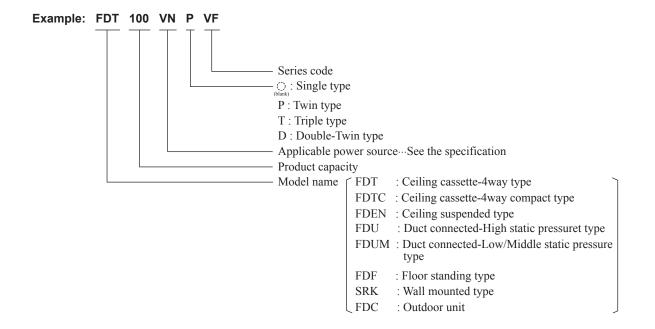
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How to read the model name



1.1 SPECIFICATIONS

(1) Ceiling cassette-4way type (FDT) (a) Single type

Adapted to **RoHS** directive

	Model	pdel FDT100VNVF			
		Indoor unit FDT100VF	Outdoor unit FDC100VN		
Item		Panel T-PSA-3BW-E			
Power source			220-240V ~ 50Hz / 220V ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]		
Power consumption	kW	2.76	2.74		
Running current	Α	12.1 / 12.7	12.0 / 12.6		
Power factor	%	99	99		
Inrush current	Α	5 < Max.runnir	ng current 24 >		
Sound Pressure Level	dB(A)	P-Hi:51 Hi:40 Me:37 Lo:35	49		
Exterior dimensions Height × Width × Depth	mm	Unit 298 × 840 × 840 Panel 35 × 950 × 950	845 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 27 PANEL 5.5	81		
Refrigerant equipment Compressor type & Q'ty	5	_	RMT5126MDE2 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	140 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi:37 Hi:27 Me:24 Lo:20	Cooling: 75 Heating: 73		
External static pressure	Pa	0	0		
Outside air intake		possible	_		
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W		20 (Crank case heater)		
Remote controller		wired: RC-EX1A, RC-E5 (option)	wireless : RCN-T-36W-E (option)		
Room temperature control		Thermostat by electronics	-		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U ϕ 9.52 (3/8") Pipe ϕ 9.52 (3/8")	9		
Refrigerant piping size	mm	Gas line : φ15.88 (5/8") φ15.88 (5/8")			
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m	64.4		
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154		
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)			
Refrigerant Quantity		, ,	the amount for the piping of : 30m)		
Drain pump		Built-in Drain pump			
Drain		Hose Connectable with VP25	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both L			
IP code		IPXO	IPX4		
		Mounting kit, Drain hose	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19℃	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model			
		Indoor unit FDT100VF	Outdoor unit FDC100VS	
Item		Panel T-PSA-3BW-E		
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.)~12.5 (Max.)]	
Power consumption	kW	2.76	2.74	
Running current	Α	4.2 / 4.4	4.2 / 4.4	
Power factor	%	95 / 91	94 / 95	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi: 51 Hi: 40 Me: 37 Lo: 35	49	
Exterior dimensions	\ \ \ \ \	Unit 298 × 840 × 840		
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 27 PANEL 5.5	81	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l e	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1	
Motor <starting method=""></starting>	W	140 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	СММ	P-Hi: 37 Hi: 27 Me: 24 Lo: 20	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
nsulation (noise & heat)		Polyurethane form		
Electric heater	W		20 (Crank case heater)	
Remote controller		wired : BC-EX1A BC-E5 (option)	wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics		
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
nstallation data		Liquid line : I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")	9	
Refrigerant piping size	mm	Gas line : ϕ 15.88 (5/8") ϕ 15.88 (5/8		
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	1	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		,	the amount for the piping of : 30m)	
Orain pump		Built-in Drain pump	——————————————————————————————————————	
Drain Pamp		Hose Connectable with VP25	Holes size φ20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	
		l at the fellowing conditions	Laging	

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz. (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDT125VNVF		
		Indoor unit FDT125VF	Outdoor unit FDC125VN	
Item		Panel T-PSA-3BW-E		
Power source			220-240V~50Hz / 220V~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.) ~ 16.0 (Max.)]	
Power consumption	kW	4.05	3.77	
Running current	Α	17.7 / 18.6	16.6 / 17.3	
Power factor	%	99	99	
Inrush current	Α	5 < Max.runnir	ng current 24 >	
Sound Pressure Level	dB(A)	P-Hi: 51 Hi: 42 Me: 40 Lo: 37	Coolingi: 50 Heatingi: 51	
Exterior dimensions		Unit 298 × 840 × 840	0.45 0.70 0.70	
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 27 PANEL 5.5	81	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan x 1	
Motor <starting method=""></starting>	W	140 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 37 Hi: 30 Me: 27 Lo: 23	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	<u> </u>	20 (Crank case heater)	
Remote controller		wired: RC-EX1A, RC-E5 (option)	wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics	_	
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : ϕ 15.88 (5/8") ϕ 15.88 (5/8		
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	1, 3	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl.	the amount for the piping of : 30m)	
Drain pump		Built-in Drain pump		
Drain		Hose Connectable with VP25	Holes size φ 20 × 3pcs	
Insulation for piping		Necessary (both L	, , ,	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	
		at the following conditions		

Notes (1) The data are measured at the following conditions.

` '				
Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- $\hbox{(4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.}\\$
- (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDT125VSVF		
		Indoor unit FDT125VF	Outdoor unit FDC125VS	
Item		Panel T-PSA-3BW-E		
Power source			380-415V 3N~50Hz / 380V 3N~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.) ~ 16.0 (Max.)]	
Power consumption	kW	4.05	3.77	
Running current	Α	5.9 / 6.3	5.5 / 5.9	
Power factor	%	99 / 98	99 / 97	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi: 51 Hi: 42 Me: 40 Lo: 37	Coolingi: 50 Heatingi: 51	
Exterior dimensions		Unit 298 × 840 × 840	0.45 0.00 0.00	
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 27 PANEL 5.5	83	
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q.	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan x 1	
Motor <starting method=""></starting>	W	140 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 37 Hi: 30 Me: 27 Lo: 23	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form		
Electric heater	W		20 (Crank case heater)	
Remote controller	''	wired · RC-FX1A RC-F5 (option)	wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics		
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection	
Installation data		Liquid line : I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : φ15.88 (5/8") φ15.88 (5/8		
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	I	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		,	the amount for the piping of : 30m)	
Drain pump		Built-in Drain pump	——————————————————————————————————————	
Drain pamp		Hose Connectable with VP25	Holes size φ20 × 3pcs	
Insulation for piping			iguid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	
Standard Accessories		Mounting Mr., Drain 11036	Laging	

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	del FDT140VNVF		
		Indoor unit FDT140VF	Outdoor unit FDC140VN	
Item		Panel T-PSA-3BW-E		
Power source			220-240V ~ 50Hz / 220V ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.)~16.5 (Max.)]	
Power consumption	kW	4.98	4.57	
Running current	Α	22.0 / 23.0	20.2 / 21.2	
Power factor	%	98	98	
Inrush current	Α	5 < Max.runnir	ng current 24 >	
Sound Pressure Level	dB(A)	P-Hi:51 Hi:43 Me:41 Lo:38	51	
Exterior dimensions	· /	Unit 298 × 840 × 840		
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 27 PANEL 5.5	81	
Refrigerant equipment Compressor type & Q'ty	-	_	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q.	_	0.9 M-MA68	
Heat exchanger	1	Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1	
Motor <starting method=""></starting>	W	140 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	СММ	P-Hi: 37 Hi: 30 Me: 27 Lo: 23	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
nsulation (noise & heat)		Polyurethane form		
Electric heater	w		20 (Crank case heater)	
Remote controller	''	wired : BC-EX1A BC-E5 (option)	wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics		
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
nstallation data		Liquid line : I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")	9	
Refrigerant piping size	mm	Gas line : φ15.88 (5/8") φ15.88 (5/8		
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	1	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		,	the amount for the piping of : 30m)	
Orain pump		Built-in Drain pump	-	
Drain Pamp		Hose Connectable with VP25	Holes size φ20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	
Otalidaid Accessories		Woulding Kit, Drain 1103e	l Laging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz. (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDT140VSVF		
		Indoor unit FDT140VF	Outdoor unit FDC140VS	
Item		Panel T-PSA-3BW-E		
Power source			380-415V 3N~50Hz / 380V 3N~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min. ~ 16.5 (Max.)]	
Power consumption	kW	4.98	4.57	
Running current	Α	7.4 / 7.8	6.7 / 7.4	
Power factor	%	97	98 / 94	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi:51 Hi:43 Me:41 Lo:38	51	
Exterior dimensions	. ,	Unit 298 × 840 × 840		
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 27 PANEL 5.5	83	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q.	_	0.9 M-MA68	
Heat exchanger	-	Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment				
Fan type & Q'ty		Turbo fan x 1	Propeller fan x 1	
Motor <starting method=""></starting>	W	140 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 37 Hi: 30 Me: 27 Lo: 23	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		wired : RC-EX1A , RC-E5 (option)	wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics		
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")) × 0.8 O/U φ 9.52 (3/8")	
Refrigerant piping size	mm	Gas line : φ15.88 (5/8") φ15.88 (5/8		
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m		
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154	
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)		
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m)		
Drain pump		Built-in Drain pump	_	
Drain		Hose Connectable with VP25	Holes size φ 20 × 3pcs	
Insulation for piping		Necessary (both L	Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

(b) Twim type Adapted to RoHS directive

	Model	FDT100	VNPVF		
		Indoor unit FDT50VF (2 units)	Outdoor unit FDC100VN		
Item		Panel T-PSA-3BW-E			
Power source			220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.)~12.5 (Max.)]		
Power consumption	kW	2.94	3.09		
Running current	Α	12.9 / 13.7	13.6 / 14.2		
Power factor	%	99 / 98	99		
Inrush current	Α	5 < Max.runnir	ng current 24 >		
Sound Pressure Level	dB(A)	P-Hi:39 Hi:33 Me:31 Lo:30	49		
Exterior dimensions	. ,	Unit 246 × 840 × 840			
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 22 PANEL 5.5	81		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1		
Starting method		_	Direct line start		
Refrigerant oil	l	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	50 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 20 Hi: 18 Me: 16 Lo: 14	Cooling: 75 Heating: 73		
External static pressure	Pa	0	0		
Outside air intake		possible	_		
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired : RC-EX1A , RC-E5 (option)	wireless : RCN-T-36W-E (option)		
Room temperature control		Thermostat by electronics	<u> </u>		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×	c 0.8 ① φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : I/U φ 12.7 (1/2") ② φ 12.7 (1/2") ×	 0.8 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8") 		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154		
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP25	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit, Drain hose	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1" × 1 (option). ①: Pipe of O/U ~ Branch, ②: Pipe of Branch ~ I/U

 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDT100VSPVF		
		Indoor unit FDT50VF (2 units)	Outdoor unit FDC100VS	
Item		Panel T-PSA-3BW-E		
Power source			$380-410V\ 3N \sim 50Hz\ /\ 380V\ 3N \sim 60Hz$	
Operation data		Cooling	Heating	
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]	
Power consumption	kW	2.94	3.09	
Running current	Α	4.3 / 4.6	4.5 / 4.8	
Power factor	%	99 / 97	99 / 98	
Inrush current	Α	5 < Max.runnin	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi:39 Hi:33 Me:31 Lo:30	49	
Exterior dimensions		Unit 246 × 840 × 840	045 070 070	
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 22 PANEL 5.5	83	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1	
Motor <starting method=""></starting>	W	50 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 20 Hi: 18 Me: 16 Lo: 14	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	—	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		wired : RC-FX1A : RC-F5 (option)	wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics	—	
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection	
Installation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×	9	
Refrigerant piping size	mm	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	c 0.8 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	·	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	e piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	——————————————————————————————————————	
Drain		Hose Connectable with VP25	Holes size φ20 × 3pcs	
Insulation for piping		Necessary (both L	, ,	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	
	<u> </u>	d at the following conditions	Laging	

Notes (1) The data are measured at the following conditions.

` '		Ü		
Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19℃	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
 (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WA1" × 1 (option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
- (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model			
		Indoor unit FDT60VF (2 units)	Outdoor unit FDC125VN	
Item		Panel T-PSA-3BW-E		
Power source			220-240V ~ 50Hz / 220V ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]	
Power consumption	kW	3.95	3.70	
Running current	Α	17.7 / 18.5	16.6 / 17.3	
Power factor	%	97	97	
Inrush current	Α	5 < Max.runnin	ng current 24 >	
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 33 Me: 31 Lo: 30	Cooling: 50 Heating: 51	
Exterior dimensions		Unit 246 × 840 × 840	045 070 070	
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 24 PANEL 5.5	83	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	e l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan x 1	
Motor <starting method=""></starting>	W	50 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 28 Hi: 18 Me: 16 Lo: 14	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
nsulation (noise & heat)		Polyurethane form		
Electric heater	W		20 (Crank case heater)	
Remote controller	''	wired : BC-EX1A BC-E5 (option)	wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics		
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
nstallation data		•	c 0.8 ① φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")	
Refrigerant piping size	mm	. , , , , , , , , , , , , , , , , , , ,	c 0.8 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	I	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	e piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	——————————————————————————————————————	
Drain pamp Drain		Hose Connectable with VP25	Holes size φ20 × 3pcs	
Insulation for piping		Necessary (both L		
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	
		I at the fellowing conditions	Laging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1" × 1 (option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
- (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	del FDT125VSPVF			
		Indoor unit FDT60VF (2 units)	Outdoor unit FDC125VS		
Item		Panel T-PSA-3BW-E			
Power source			380-415V 3N~50Hz / 380V 3N~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]		
Power consumption	kW	3.95	3.70		
Running current	Α	5.9 / 6.2	5.5 / 5.8		
Power factor	%	97	97		
Inrush current	Α	5 < Max.runnir	ng current 15 >		
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 33 Me: 31 Lo: 30	Cooling: 50 Heating: 51		
Exterior dimensions	` _	Unit 246 × 840 × 840			
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 24 PANEL 5.5	83		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1		
Starting method		_	Direct line start		
Refrigerant oil	e	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	50 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 28 Hi: 18 Me: 16 Lo: 14	Cooling: 75 Heating: 73		
External static pressure	Pa	0	0		
Outside air intake		possible	_		
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired : RC-EX1A . RC-E5 (option)	wireless : RCN-T-36W-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") >	c 0.8 ① φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm		c 0.8 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154		
Refrigerant Quantity			e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump	——————————————————————————————————————		
Drain		Hose Connectable with VP25	Holes size φ20 × 3pcs		
Insulation for piping		Necessary (both L			
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit, Drain hose	Edging		
	L	instanting in a prainting of	249119		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1" × 1 (option). ①: Pipe of O/U ~ Branch, ②: Pipe of Branch ~ I/U
- (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDT140VNPVF			
		Indoor unit FDT71VF (2 units)	Outdoor unit FDC140VN		
Item		Panel T-PSA-3BW-E			
Power source			220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.)~16.5 (Max.)]		
Power consumption	kW	4.51	4.58		
Running current	Α	19.8 / 20.7	20.1 / 21.0		
Power factor	%	99	99		
Inrush current	Α	5 < Max.runnir	ng current 24 >		
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 35 Me: 33 Lo: 31	51		
Exterior dimensions	. ,	Unit 246 × 840 × 840			
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 24 PANEL 5.5	81		
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE2 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q.	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	50 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 28 Hi: 21 Me: 19 Lo: 17	Cooling: 75 Heating: 73		
External static pressure	Pa	0	0		
Outside air intake		possible	_		
Air filter, Q'ty		Pocket plastic net x 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired: RC-EX1A, RC-E5 (option)	wireless : RCN-T-36W-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data	ĺ	Liquid line : I/U φ 9.52 (3/8") ② φ 9.52 (3/8")	× 0.8 ① φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : I/U φ 15.88 (5/8") ② φ 15.88 (5/8"	') × 1.0 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154		
Refrigerant Quantity		` '	e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump			
Drain		Hose Connectable with VP25	Holes size φ20 × 3pcs		
Insulation for piping		Necessary (both L	, , ,		
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit, Drain hose	Edging		
			-~9"'9		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1" × 1 (option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
- (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	del FDT140VSPVF			
		Indoor unit FDT71VF (2 units)	Outdoor unit FDC140VS		
Item		Panel T-PSA-3BW-E			
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]		
Power consumption	kW	4.51	4.58		
Running current	Α	6.7 / 7.1	6.7 / 7.1		
Power factor	%	97	99 / 98		
Inrush current	Α	5 < Max.runnir	ng current 15 >		
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 35 Me: 33 Lo: 31	51		
Exterior dimensions	` _	Unit 246 × 840 × 840			
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 24 PANEL 5.5	83		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q.	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	50 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 28 Hi: 21 Me: 19 Lo: 17	Cooling: 75 Heating: 73		
External static pressure	Pa	0	0		
Outside air intake		possible	_		
Air filter, Q'ty		Pocket plastic net x 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired: RC-EX1A, RC-E5 (option)	wireless : RCN-T-36W-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		·	× 0.8 ① ϕ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")		
Refrigerant piping size	mm	1 1 1 1 1	") × 1.0 ① ϕ 15.88 (5/8") × 1.0 O/U ϕ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m	, , , ,		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154		
Refrigerant Quantity		` '	e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump	——————————————————————————————————————		
Drain		Hose Connectable with VP25	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both L			
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit, Drain hose	Edging		
Otanualu ACCESSUNES		I IVIOURING KIT, DIAIR HOSE	Laging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1" × 1 (option). ①: Pipe of O/U ~ Branch, ②: Pipe of Branch ~ I/U

 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDT200VSPVF			
		Indoor unit FDT100VF (2 units)	Outdoor unit FDC200VS		
Item		Panel T-PSA-3BW-E			
Power source			380-415V 3N~50Hz / 380V 3N~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	20.0 [7.0 (Min.)~22.4 (Max.)]	22.4 [7.6 (Min.)~25.0 (Max.)]		
Power consumption	kW	6.58	6.02		
Running current	Α	9.9 / 10.6	9.1 / 9.8		
Power factor	%	96 / 94	95 / 93		
Inrush current	Α	5 < Max.runnir	ng current 19 >		
Sound Pressure Level	dB(A)	P-Hi:51 Hi:40 Me:37 Lo:35	57		
Exterior dimensions	. ,	Unit 298 × 840 × 840			
Height × Width × Depth	mm	Panel 35 × 950 × 950	1,300 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 27 PANEL 5.5	122		
Refrigerant equipment Compressor type & Q'ty		_	GTC5150ND70K × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q	_	1.45 M-MA32R		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 2		
Motor <starting method=""></starting>	W	140 < Direct line start >	86 × 2 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 37 Hi: 27 Me: 24 Lo: 20	Cooling: 150, Heating: 145		
External static pressure	Pa	0	0		
Outside air intake		Possible	_		
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	33 (Crank case heater)		
Remote controller		wired : RC-EX1A , RC-E5 (option)	wireless : RCN-T-36W-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Internal thermostat for fan motor Frost protection thermostat Abnormal discharge temperature protection			
Installation data		Liquid line : I/U φ 9.52 (3/8") ② φ 9.52 (3/8")	\times 0.8 ① ϕ 9.52 (3/8") \times 0.8 O/U ϕ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : I/U φ 15.88 (5/8") ② φ 15.88 (5/8")) × 1.0 ① φ 22.22 (7/8") × 1.6 O/U φ 22.22 (7/8")		
Connecting method		Flare piping Liquid: Flare / Gas: Brazing			
Refrigerant line (one way) length		Max.70m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)			
Refrigerant Quantity		,	e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP25	Holes size φ20 × 3pcs		
Insulation for piping		Necessary (both L			
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit, Drain hose	Connecting pipe, Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	20°C		6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WB1"× 1 (option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDT250	SPVF	
		Indoor unit FDT125VF (2 units)	Outdoor unit FDC250VS	
Item		Panel T-PSA-3BW-E		
Power source			380-415V 3N~50Hz / 380V 3N~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	25.0 [10.0 (Min.) ~ 28.0 (Max.)]	28.0 [9.5 (Min.) ~ 31.5 (Max.)]	
Power consumption	kW	8.30	7.75	
Running current	Α	12.4 / 13.0	11.8 / 12.3	
Power factor	%	97	95 / 96	
Inrush current	Α	5 < Max.runnir	ng current 22 >	
Sound Pressure Level	dB(A)	P-Hi:51 Hi:42 Me:40 Lo:37	Cooling: 57 Heating: 58	
Exterior dimensions	mm	Unit 298 × 840 × 840	1,505 × 970 × 370	
Height × Width × Depth		Panel 35 x 950 x 950		
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 27 PANEL 5.5	140	
Refrigerant equipment Compressor type & Q'ty		_	GTC5150ND70K × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	1.45 M-MA32R	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 2	
Motor <starting method=""></starting>	W	140 < Direct line start >	86 × 2 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 37 Hi: 30 Me: 27 Lo: 23	Cooling: 150, Heating: 145	
External static pressure	Pa	0	0	
Outside air intake		Possible	_	
Air filter. Q'tv		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form		
Electric heater	W	—	33 (Crank case heater)	
Remote controller		wired : BC-EX1A BC-E5 (option)	wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics	_	
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
Installation data			\times 0.8 ① ϕ 12.7 (1/2") \times 0.8 O/U ϕ 12.7 (1/2")	
Refrigerant piping size	mm	Gas line : I/U ϕ 15.88 (5/8") 2 ϕ 15.88 (5/8"		
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing	
Refrigerant line (one way) length		Max.70m	, , , , , , , , , , , , , , , , , , , ,	
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154	
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)		
Refrigerant Quantity		R410A 7.2kg (Pre-charged up to the	e piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	_	
Drain		Hose Connectable with VP25	Holes size φ20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Connecting pipe, Edging	
			<u> </u>	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WB1"× 1 (option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

(c) Triple type Adapted to RoHS directive

	Model	FDT140	FDT140VNTVF		
		Indoor unit FDT50VF (3 units)	Outdoor unit FDC140VN		
Item	$\overline{}$	Panel T-PSA-3BW-E			
Power source			220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.) ~ 14.5 (Max.)]	16.0 [4.0 (Min.)~16.5 (Max.)]		
Power consumption	kW	4.65	4.63		
Running current	А	20.8 / 22.1	20.3 / 21.2		
Power factor	%	97 / 96	99		
Inrush current	А	5 < Max.runnir	ng current 24 >		
Sound Pressure Level	dB(A)	P-Hi: 39 Hi: 33 Me: 31 Lo: 30	51		
Exterior dimensions		Unit 246 × 840 × 840	845 × 970 × 370		
${\sf Height} \times {\sf Width} \times {\sf Depth}$	mm	Panel 35 × 950 × 950	845 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 22 PANEL 5.5	81		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1		
Starting method		-	Direct line start		
Refrigerant oil	l	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	50 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 20 Hi: 18 Me: 16 Lo: 14	Cooling: 75, Heating: 73		
External static pressure	Pa	0	0		
Outside air intake		Possible	_		
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired : RC-EX1A , RC-E5 (option)	wireless : RCN-T-36W-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U ϕ 6.35 (1/4") ② ϕ 9.52 (3/8") ×	0.8 ① ϕ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : I/U ϕ 12.7 (1/2") ② ϕ 12.7 (1/2") ×			
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 155		
Refrigerant Quantity		<u> </u>	e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump			
Drain		Hose Connectable with VP25	Holes size φ 20 × 3pcs		
Insulation for piping			Liquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit, Drain hose	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.
- (6) Branching pipe set "DIS-TA1"×1(option). ①: Pipe of O/U ~ Branch, ②: Pipe of Branch~I/U (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

Model		FDT140VSTVF			
		Indoor unit FDT50VF (3 units)	Outdoor unit FDC140VS		
Item		Panel T-PSA-3BW-E			
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.) ~ 14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]		
Power consumption	kW	4.65	4.63		
Running current	Α	6.9 / 7.4	6.8 / 7.1		
Power factor	%	97 / 95	98 / 99		
Inrush current	Α	5 < Max.runnir	ng current 15 >		
Sound Pressure Level	dB(A)	P-Hi:39 Hi:33 Me:31 Lo:30	51		
Exterior dimensions		Unit 246 × 840 × 840	0.45 0.70 0.70		
Height × Width × Depth	mm	Panel 35 × 950 × 950	845 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 22 PANEL 5.5	83		
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE3 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q.	_	0.9 M-MA68		
Heat exchanger	_	Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	50 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	СММ	P-Hi:20 Hi:18 Me:16 Lo:14	Cooling: 75, Heating: 73		
External static pressure	Pa	0	0		
Outside air intake		Possible	_		
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired : RC-EX1A , RC-E5 (option)			
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×	· · · · · · · · · · · · · · · · · · ·		
Refrigerant piping size	mm		0.8 ① ϕ 15.88 (5/8") × 1.0 O/U ϕ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m	1		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 155		
Refrigerant Quantity		,	e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump	— — — —		
Drain pump Drain		Hose Connectable with VP25	Holes size φ20 × 3pcs		
		Necessary (both L	, , ,		
Insulation for piping IP code		IPXO	IPX4		
Standard Accessories					
Staridard Accessories		Mounting kit, Drain hose	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.
 (6) Branching pipe set "DIS-TA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDT200	VSTVF	
		Indoor unit FDT71VF (3 units)	Outdoor unit FDC200VS	
Item		Panel T-PSA-3BW-E		
Power source			380-415V 3N~50Hz / 380V 3N~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	20.0 [7.0(Min.)~22.4(Max.)]	22.4 [7.6(Min.)~25.0(Max.)]	
Power consumption	kW	6.49	6.12	
Running current	Α	9.7 / 10.2	9.1 / 9.6	
Power factor	%	97	97	
Inrush current	Α	5 < Max.runnir	ng current 19 >	
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 35 Me: 33 Lo: 31	57	
Exterior dimensions		Unit 246 × 840 × 840		
Height × Width × Depth	mm	Panel 35 × 950 × 950	1,300 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 24 PANEL 5.5	122	
Refrigerant equipment			OTOG150ND70K 1	
Compressor type & Q'ty		_	GTC5150ND70K × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q.	_	1.45 M-MA32R	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment			•	
Fan type & Q'ty		Turbo fan × 1	Propeller fan × 2	
Motor <starting method=""></starting>	W	50 < Direct line start >	86 × 2 < Direct line start >	
Air flow (Standard)	СММ	P-Hi:28 Hi:21 Me:19 Lo:17	Cooling: 150, Heating: 145	
External static pressure	Pa	0	0	
Outside air intake		Possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
nsulation (noise & heat)		Polyurethane form	_	
Electric heater	W		33 (Crank case heater)	
Remote controller		wired : BC-EX1A : BC-E5 (option)	wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics		
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
Installation data		•	\times 0.8 ① ϕ 9.52 (3/8") \times 0.8 O/U ϕ 9.52 (3/8")	
Refrigerant piping size	mm		$) \times 1.0 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing	
Refrigerant line (one way) length		Max.70m	I Equid : Fidio / Gdo : Didzing	
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 155	
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)		
Refrigerant Quantity		,	e piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—	
Drain pump Drain	\vdash	Hose Connectable with VP25	Holes size ϕ 20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories	\vdash			
Jianuaru Accessories		Mounting kit, Drain hose	Connecting pipe, Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20)°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.

 (6) Branching pipe set "DIS-TB1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

(d) Double twim type

Adapted to RoHS directive

Indoor unit FDT50VF (4 units) Outdoor unit FDC200VS		
Power source		
Operation data Cooling Heating Nominal capacity kW 20.0 [7.0 (Min) ~ 22.4 (Max.)] 22.4 [7.6 (Min.) ~ 25.0 (Max.)] Power consumption kW 6.58 6.15 Running current A 9.8 / 10.3 9.2 / 9.6 Power factor % 97 97 Inrush current A 5 < Max.running current 19 > Sound Pressure Level dB(A) P-Hi : 39 Hi : 33 Me : 31 Lo : 30 57 Exterior dimensions Height × Width × Depth Panle 35 × 950 × 950 1,300 × 970 × 370 Heterior appearance Plaster White Stucco White (8.98.9/0.2) near equivalent (4.2Y7.5/1.1) near equivalent Net weight kg UNIT 22 PANEL 5.5 122 GTC5150ND70K × 1 Refrigerant equipment Compressor type & Q'ty — GTC5150ND70K × 1 GTC5150ND70K × 1 Starting method ℓ — 1.45 M-MA32R Heat exchanger Louver fin & inner grooved tubing Straight fin & inner grooved tubing Air flow (Standard) Motor < Starting method> W 50 < Direct line start > 86 × 2 < Dire		
Nominal capacity kW 20.0 [7.0 (Min.) → 22.4 (Max.)] 22.4 [7.6 (Min.) → 25.0 (Max.) Power consumption kW 6.58 6.15 Running current A 9.8 / 10.3 9.2 / 9.6 Power factor % 97 97 Inrush current A 5 < Max.running current 19 > Sound Pressure Level dB(A) P-Hi : 39 Hi : 33 Me : 31 Lo : 30 57 Exterior dimensions May 1 = 46 × 840 × 840 1,300 × 970 × 370 Height × Width × Depth Panel 35 × 950 × 950 1,300 × 970 × 370 Exterior appearance (Mussell color) Plaster White Stucco White Net weight kg UNIT 22 PANEL 5.5 122 Refrigerant equipment Compressor type & Q'ty - GTC5150ND70K × 1 Starting method - - 1.45 M-MA32R Heat exchanger Louver fin & inner grooved tubing Straight fin & inner grooved tubing Refrigerant control - Electronic expansion valve Air handling equipment Fan type & Q'ty Turb fan × 1 Propeller fan × 2 Motor <starting method=""> W<td>1</td></starting>	1	
Power consumption kW 6.58 6.15]	
Running current		
Power factor		
Power factor % 97 97 Inrush current A 5 < Max.running current 19 > Sound Pressure Level dB(A) P-Hi: 39 Hi: 33 Me: 31 Lo: 30 57 Exterior dimensions Unit 246 × 840 × 840 1,300 × 970 × 370 Height x Width x Depth Panel 35 × 950 × 950 1,300 × 970 × 370 Exterior appearance (Munsell color) Plaster White (6.8Y8.9/0.2) near equivalent Stucco White (4.2Y7.5/1.1) near equivalent Net weight kg UNIT 22 PANEL 5.5 122 Refrigerant equipment Compressor type & Q'ty — GTC5150ND70K × 1 Starting method — Direct line start Refrigerant oil ℓ — 1.45 M-MA32R Heat exchanger Louver fin & inner grooved tubing Straight fin & inner grooved tub Refrigerant control — Electronic expansion valve Air handling equipment Fan type & Q'ty Turbo fan x 1 Propeller fan x 2 Motor <starting method=""> W 50 < Direct line start > 86 × 2 < Direct line start > Air flow (Standard) CMM P-Hi: 20 Hi: 18 Me: 16 Lo: 14 Cooling: 150 , Heating: 146<!--</td--><td></td></starting>		
Inrush current		
Sound Pressure Level dB(A) P-Hi : 39 Hi : 33 Me : 31 Lo : 30 57 Exterior dimensions Height x Width x Depth mm Unit 246 x 840 x 840 1,300 x 970 x 370 Exterior appearance (Munsell color) Plaster White (6.8% 8.90.2) near equivalent Stucco White (4.2Y7.5/1.1) near equivalent Net weight kg UNIT 22 PANEL 5.5 122 Refrigerant equipment Compressor type & Q'ty — GTC5150ND70K x 1 Starting method — Direct line start Refrigerant oil ℓ — 1.45 M-MA32R Heat exchanger Louver fin & inner grooved tubing Straight fin & inner grooved tubing Refrigerant control — Electronic expansion valve Air handling equipment Fan type & Q'ty Turbo fan x 1 Propeller fan x 2 Motor <starting method=""> W 50 < Direct line start > 86 x 2 < Direct line start > Air flow (Standard) CMM P-Hi : 20 Hi : 18 Me : 16 Lo : 14 Cooling : 150 , Heating : 145 External static pressure Pa 0 0 Outside air intake Possible — Air filter, Q'ty Pocket plasti</starting>		
Exterior dimensions Height × Width × Depth mm Panel 35 × 950 × 950 Exterior appearance (Munsell color) Net weight Refrigerant equipment Compressor type & Q'ty Starting method Heat exchanger For your flow (Standard) For your flow (Standard) Air flow (Standard) Coutside air intake Air flor, Q'ty Shock & vibration absorber Remote controller		
Height × Width × Depth		
Exterior appearance (Munsell color) Net weight kg UNIT 22 PANEL 5.5 122 Refrigerant equipment Compressor type & Q'ty Starting method		
(Munsell color) (6.8Y8.9/0.2) near equivalent (4.2Y7.5/1.1) near equivalent Net weight kg UNIT 22 PANEL 5.5 122 Refrigerant equipment Compressor type & Q'ty — GTC5150ND70K x 1 Starting method — Direct line start Refrigerant oil \$\ellipsize{\textit{0}}\$ — 1.45 M-MA32R Heat exchanger Louver fin & inner grooved tubing Straight fin & inner grooved tubing Refrigerant control — Electronic expansion valve Air handling equipment Fan type & Q'ty Turbo fan x 1 Propeller fan x 2 Motor <starting method=""> W 50 < Direct line start > 86 x 2 < Direct line start > Air flow (Standard) CMM P-Hi : 20 Hi : 18 Me : 16 Lo : 14 Cooling : 150 , Heating : 145 External static pressure Pa 0 0 Outside air intake Possible — Air fliter, Q'ty Pocket plastic net x 1 (Washable) — Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor Insulation (noise & heat) Polyurethane form — Sernice controller W — 33 (Crank case heater)</starting>		
Net weight kg UNIT 22 PANEL 5.5 122 Refrigerant equipment Compressor type & Q'ty — GTC5150ND70K x 1 Starting method — Direct line start Refrigerant oil ℓ — 1.45 M-MA32R Heat exchanger Louver fin & inner grooved tubing Straight fin & inner grooved tubing Refrigerant control — Electronic expansion valve Air handling equipment Fan type & Q'ty Turbo fan x 1 Propeller fan x 2 Motor <starting method=""> W 50 < Direct line start > 86 × 2 < Direct line start > Air flow (Standard) CMM P-Hi : 20 Hi : 18 Me : 16 Lo : 14 Cooling : 150 , Heating : 145 External static pressure Pa 0 0 Outside air intake Possible — Air filter, Q'ty Pocket plastic net × 1 (Washable) — Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor Insulation (noise & heat) — Polyurethane form — 33 (Crank case heater) Remote controller wired : RC-EX1A , RC-E5 (option) wireless : RCN-T-36W-E (option) Room temperature control Thermostat by electronics —</starting>	:	
Refrigerant equipment Compressor type & Q'ty Starting method — Direct line start Refrigerant oil ℓ — 1.45 M-MA32R Heat exchanger Refrigerant control — Electronic expansion valve Air handling equipment Fan type & Q'ty Motor <starting method=""> W 50 < Direct line start > 86 × 2 < Direct line start > Air flow (Standard) CMM P-Hi: 20 Hi: 18 Me: 16 Lo: 14 Cooling: 150, Heating: 145 External static pressure Pa 0 0 0 Outside air intake Possible — Oxidation absorber Air filter, Q'ty Pocket plastic net × 1 (Washable) — Rubber sleeve (for Compressor Insulation (noise & heat)) Polyurethane form — 33 (Crank case heater) Remote controller Room temperature control Thermostat by electronics Far motor</starting>		
Starting method — Direct line start Refrigerant oil		
Refrigerant oil Refrigerant oil Refrigerant control Air handling equipment Fan type & O'ty Motor <starting method=""> Air flow (Standard) External static pressure Outside air intake Air filter, Q'ty Shock & vibration absorber Insulation (noise & heat) Remote controller Remote controller Rober 1.45 M-MA32R Louver fin & inner grooved tubing Turbo fan × 1 Fropeller fan & 2 Electronic expansion valve Belectronic expansion valve 1.45 M-MA32R 1.45 M-MA32R 1.45 M-MA32R 1.45 M-MA32R 1.45 M-MA32R 1.45 M-MA32R Propeller fan & 2 Fropeller fan × 2 Fropeller fan × 2 Fropeller fan × 2 Be 6 × 2 < Direct line start > 86 × 2 < Direct line start ></starting>		
Heat exchanger Refrigerant control Air handling equipment Fan type & Q'ty Motor <starting method=""> Air flow (Standard) CMM P-Hi : 20 Hi : 18 Me : 16 Lo : 14 External static pressure Air filter, Q'ty Pocket plastic net × 1 (Washable) Shock & vibration absorber Insulation (noise & heat) Remote controller Remote controller Room temperature control Louver fin & inner grooved tubing Electronic expansion valve Electronic expansion valve Blectronic expansion valve Electronic expansion valve Electronic expansion valve Electronic expansion valve Electronic expansion valve Blectronic expansion valve Electronic expansion valve Electronic expansion valve Blectronic expansion valve Electronic expansion valve</starting>		
Refrigerant control Air handling equipment Fan type & Q'ty Motor <starting method=""> W 50 < Direct line start > Air flow (Standard) External static pressure Pa Outside air intake Air filter, Q'ty Shock & vibration absorber Insulation (noise & heat) Remote controller Remote controller Room temperature control Air handling equipment Turbo fan x 1 Propeller fan x 2 Propeller fan x 2 Propeller fan x 2 Bé x 2 < Direct line start > 86 x 2 <</starting>		
Air handling equipment Fan type & Q'ty Motor <starting method=""> W 50 < Direct line start > 86 × 2 < Direct line start > Air flow (Standard) CMM P-Hi : 20 Hi : 18 Me : 16 Lo : 14 External static pressure Pa 0 Outside air intake Possible Air filter, Q'ty Pocket plastic net × 1 (Washable) Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor line at the controller Remote controller Rom temperature control Air filter, Q'ty Pocket plastic net × 1 (Washable) Polyurethane form — 33 (Crank case heater) W — Overload protection for fan motor Internostat by electronics — Overload protection for fan motor Internostat the most at the most at the most at for fan motor Internal thermostat for fan motor</starting>	ing	
Fan type & Q'ty Motor <starting method=""> W 50 < Direct line start > 86 × 2 < Direct line start > Air flow (Standard) CMM P-Hi : 20 Hi : 18 Me : 16 Lo : 14 External static pressure Pa 0 Outside air intake Possible Air filter, Q'ty Pocket plastic net × 1 (Washable) Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor line at the controller wired : RC-EX1A , RC-E5 (option) Room temperature control Propeller fan × 2 Propeller fan × 2 Ref x 2 < Direct line start > 86 × 2 < Direct line start > 86 × 2 < Direct line start > 0 0 0 0 Outside air intake Possible — Rubber sleeve (for Compressor line at the control of start of the control of the control of the control of start of the control of the con</starting>		
Air flow (Standard) CMM P-Hi: 20 Hi: 18 Me: 16 Lo: 14 Cooling: 150, Heating: 145 External static pressure Pa O Outside air intake Possible Air filter, Q'ty Pocket plastic net × 1 (Washable) Rubber sleeve (for fan motor) Rubber sleeve (for Compressor loss a factor of the polyurethane form Polyurethane form Polyurethane form Remote controller Remote controller Room temperature control Overload protection for fan motor Internal thermostat for fan motor		
External static pressure Pa 0 0 Outside air intake Possible — Air filter, Q'ty Pocket plastic net × 1 (Washable) — Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor Insulation (noise & heat) Polyurethane form — Electric heater W — 33 (Crank case heater) Remote controller wired: RC-EX1A, RC-E5 (option) wireless: RCN-T-36W-E (option) Room temperature control Thermostat by electronics — Overload protection for fan motor		
Outside air intake Air filter, Q'ty Pocket plastic net × 1 (Washable) Rubber sleeve (for fan motor) Rubber sleeve (for Compressor Insulation (noise & heat) Polyurethane form Polyurethane form Electric heater W Mired: RC-EX1A, RC-E5 (option) Wireless: RCN-T-36W-E (option) Thermostat by electronics Overload protection for fan motor		
Air filter, Q'ty Pocket plastic net x 1 (Washable)		
Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor Insulation (noise & heat) Polyurethane form — Electric heater W — Remote controller Remote controller Room temperature control Thermostat by electronics — Overload protection for fan motor Overload protection for fan motor		
Insulation (noise & heat) Polyurethane form —		
Electric heater W — 33 (Crank case heater) Remote controller wired: RC-EX1A, RC-E5 (option) wireless: RCN-T-36W-E (option) Room temperature control Thermostat by electronics — Overload protection for fan motor	or)	
Remote controller wired: RC-EX1A, RC-E5 (option) wireless: RCN-T-36W-E (option) Thermostat by electronics — Overload protection for fan motor		
Room temperature control Thermostat by electronics Overload protection for fan motor Internal thermostat for fan motor		
Overload protection for fan motor Internal thermostat for fan mot		
Overload protection for fan motor Internal thermostat for fan motor		
	or	
Safety equipment Frost protection thermostat Abnormal discharge temperature pro	tection.	
Installation data Liquid line: I/U ϕ 6.35 (1/4") 3(2) ϕ 9.52 (3/8") × 0.8 (1) ϕ 9.52 (3/8") × 0.8 O / U ϕ 9.52	52 (3/8")	
Refrigerant piping size Gas line : I/U ϕ 12.7 (1/2") 3ϕ 12.7 × 0.8 2ϕ 15.88 1ϕ 22.22 (7/8") × 1.6 O / U ϕ 22		
Connecting method Flare piping Liquid: Flare / Gas: Brazing		
Refrigerant line (one way) length Max.70m		
Vertical height difference between Max.30m (Outdoor unit is higher) See page 154		
outdoor unit and indoor unit Max.15m (Outdoor unit is lower)		
Refrigerant Quantity R410A 5.4kg (Pre-charged up to the piping length of 30m) Outdoor unit		
Drain pump Built-in Drain pump —		
Drain Hose Connectable with VP25 Holes size $\phi 20 \times 3$ pcs		
Insulation for piping Necessary (both Liquid & Gas lines)		
IPXO IPX4		
Standard Accessories Mounting kit, Drain hose Connecting pipe, Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is four indoor units are combined and run together. (6) Branching pipe set "DIS-WB1"× 1,"DIS-WA1"× 2 (option). Pipe ①: O/U~Branch, ②: Branch~Branch, ③: Branch~I/U
- (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDT250VSDVF			
		Indoor unit FDT60VF (4 units)	Outdoor unit FDC250VS		
Item		Panel T-PSA-3BW-E			
Power source			380-415V 3N~50Hz / 380V 3N~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	25.0 [10.0 (Min.)~28.0 (Max.)]	28.0 [9.5 (Min.) ~ 31.5 (Max.)]		
Power consumption	kW	8.28	7.70		
Running current	Α	12.3 / 13.0	11.5 / 12.1		
Power factor	%	97	97		
Inrush current	Α	5 < Max.runnir	ng current 22 >		
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 33 Me: 31 Lo: 30	Cooling: 57 Heating: 58		
Exterior dimensions	<u> </u>	Unit 246 × 840 × 840			
Height × Width × Depth	mm	Panel 35 × 950 × 950	1,505 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 22 PANEL 5.5	140		
Refrigerant equipment Compressor type & Q'ty		-	GTC5150ND70K × 1		
Starting method		_	Direct line start		
Refrigerant oil	e l	_	1.45 M-MA32R		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 2		
Motor <starting method=""></starting>	W	50 < Direct line start >	86 × 2 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 28 Hi: 18 Me: 16 Lo: 14	Cooling: 150, Heating: 145		
External static pressure	Pa	0	0		
Outside air intake		Possible	_		
Air filter, Q'ty		Pocket plastic net x 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	33 (Crank case heater)		
Remote controller		wired : RC-EX1A , RC-E5 (option)	wireless : RCN-T-36W-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		-	\times 0.8 ① ϕ 12.7 (1/2") \times 0.8 O/U ϕ 12.7 (1/2")		
Refrigerant piping size	mm		φ 15.88 ① φ 22.22 (7/8") × 1.6 O/U φ 22.22 (7/8")		
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing		
Refrigerant line (one way) length		Max.70m	1 11 11 11 11 11 11 11 11 11 11 11 11 1		
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154		
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)	5 ,		
Refrigerant Quantity		,	e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump			
Drain		Hose Connectable with VP25	Holes size φ 20 × 3pcs		
Insulation for piping		Necessary (both L	· · · · · · · · · · · · · · · · · · ·		
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit, Drain hose	Connecting pipe, Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19℃	35°C	24°C
Heating	20)°C	7°C	6°C

- $\ensuremath{\text{(2)}}\ \mbox{This packaged air-conditioner is manufactured and tested in conformity with the ISO.}$
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is four indoor units are combined and run together.
 (6) Branching pipe set "DIS-WB1"× 1,"DIS-WA1"× 2 (option). Pipe ①: O/U~Branch, ②: Branch~Branch, ③: Branch~I/U (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

(2) Ceiling cassette-4way compact type (FDTC) (a) Twin type

Adapted to RoHS directive

	Model	FDTC100VNPVF		
	ĺ	Indoor unit FDT50VF (2 units)	Outdoor unit FDC100VN	
Item		Panel TC-PSA-25W-E		
Power source			220-240V~50Hz / 220V~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.)~12.5 (Max.)]	
Power consumption	kW	3.25	3.26	
Running current	Α	14.3 / 14.9	14.3 / 14.9	
Power factor	%	99	99	
Inrush current	Α	5 < Max.runnir	ng current 24 >	
Sound Pressure Level	dB(A)	Cooling P-Hi: 47 Hi: 42 Me: 36 Lo: 30 Heating P-Hi: 47 Hi: 42 Me: 36 Lo: 32	49	
Exterior dimensions Height × Width × Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	845 × 970 × 370	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 15 PANEL3.5	81	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1	
Motor <starting method=""></starting>	W	33 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	СММ	Cooling P-Hi: 13.5 Hi: 11.5 Me: 9 Lo: 7 Heating P-Hi: 13.5 Hi: 11.5 Me: 9 Lo: 8	Cooling: 75 , Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		Not Possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W		20 (Crank case heater)	
Remote controller		wired: RC-EX1A (option) wired: RC-E5 (o	ption) wireless : RCN-TC-24W-ER (option)	
Room temperature control		Thermostat by electronics	_	
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U ϕ 6.35 (1/4") ② ϕ 9.52 (3/8") ×		
Refrigerant piping size	mm			
Connecting method		Gas line : I/U φ 12.7 (1/2") ② φ 12.7 (1/2") × 0.8 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8") Flare piping		
Refrigerant line (one way) length		Max.50m	Ι ιαι σ ριγιιία	
Vertical height difference between			See page 154	
outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower) See page 154		
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump		
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	
- Ctandard / 10063301163		Mounting Mt, Drain 11036	Laging	

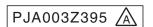
Notes (1) The data are measured at the following conditions.

. ,				
Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.



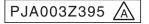
	Model	FDTC100VSPVF		
		Indoor unit FDTC50VF (2 units)	Outdoor unit FDC100VS	
Item		Panel TC-PSA-25W-E		
Power source			380-415V 3N~50Hz / 380V 3N~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]	
Power consumption	kW	3.25	3.26	
Running current	Α	4.8 / 5.0	4.8 / 5.1	
Power factor	%	98	99 / 97	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	Cooling P-Hi: 47 Hi: 42 Me: 36 Lo: 30 Heating P-Hi: 47 Hi: 42 Me: 36 Lo: 32	49	
Exterior dimensions Height × Width × Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 15 PANEL 3.5	83	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1	
Starting method		-	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1	
Motor <starting method=""></starting>	W	33 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	СММ	Cooling P-Hi:13.5 Hi:11.5 Me:9 Lo:7 Heating P-Hi:13.5 Hi:11.5 Me:9 Lo:8	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		Possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	=	20 (Crank case heater)	
Remote controller		wired : BC-EX1A (option) wired : BC-E5 (o	option) wireless : RCN-TC-24W-ER (option)	
Room temperature control		Thermostat by electronics		
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U ϕ 6.35 (1/4") ② ϕ 9.52 (3/8") ×	0.8 ① ϕ 9.25 (3/8") × 0.8 O/U ϕ 9.52 (3/8")	
Refrigerant piping size	mm	Gas line : I/U ϕ 12.7 (1/2") ② ϕ 12.7 (1/2") ×	0.8 ① ϕ 15.88 (5/8") × 1.0 O/U ϕ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower) See page 154		
Refrigerant Quantity			e piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	_	
Drain		Hose Connectable with VP20	Holes size φ20 x 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

` '		0		
Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.

 (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1"× 1 (option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
- (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.



	Model	FDTC125VNPVF		
		Indoor unit FDTC60VF (2 units)	Outdoor unit FDC125VN	
Item		Panel TC-PSA-25W-E		
Power source			220-240V~50Hz/220V~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0 (Min.) ~ 14.0 (Max.)]	14.0 [4.0 (Min.) ~ 16.0 (Max.)]	
Power consumption	kW	5.35	4.62	
Running current	Α	24.0 / 25.1	20.7 / 21.6	
Power factor	%	97	97	
Inrush current	Α	5 < Max.runnir	ng current 27 >	
Sound Pressure Level	dB(A)	Cooling P-Hi: 47 Hi: 46 Me: 39 Lo: 30 Heating P-Hi: 47 Hi: 46 Me: 39 Lo: 32	Cooling: 50 Heating: 51	
Exterior dimensions Height × Width × Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 15 PANEL3.5	81	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1	
Motor <starting method=""></starting>	W	33 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	СММ	Cooling P-Hi: 13.5 Hi: 13.5 Me: 10 Lo: 7 Heating P-Hi: 13.5 Hi: 13.5 Me: 10 Lo: 8	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form		
Electric heater	w	-	20 (Crank case heater)	
Remote controller		wired: RC-EX1A (option) wired: RC-E5 (o	,	
Room temperature control		Thermostat by electronics		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		Liquid line: I/U ϕ 6.35 (1/4") ② ϕ 9.52 (3/8") ×		
Refrigerant piping size	mm	Gas line : I/U ϕ 12.7 (1/2") $@$ ϕ 12.7 (1/2") \times		
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	Ι ιαιθ ριριπί	
Vertical height difference between			See page 154	
outdoor unit and indoor unit		maxicom (catacor and congress)		
Refrigerant Quantity		Max.15m (Outdoor unit is lower) R410A 3.8kg (Pre-charged up to the piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump		
Drain pump Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs	
			iquid & Gas lines)	
Insulation for piping		IPXO		
IP code Standard Accessories			IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

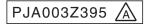
 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.



	Model	FDTC125VSPVF		
	Γ	Indoor unit FDTC60VF (2 units)	Outdoor unit FDC125VS	
Item		Panel TC-PSA-25W-E		
Power source			380-415V 3N~50Hz / 380V 3N~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]	
Power consumption	kW	5.35	4.62	
Running current	А	8.0 / 8.4	6.9 / 7.2	
Power factor	%	97	97	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	Cooling P-Hi: 47 Hi: 46 Me: 39 Lo: 30 Heating P-Hi: 47 Hi: 46 Me: 39 Lo: 32	Cooling: 50 Heating: 51	
Exterior dimensions Height × Width × Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 15 PANEL 3.5	83	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	-	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1	
Motor <starting method=""></starting>	W	33 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	СММ	Cooling P-Hi: 13.5 Hi: 13.5 Me: 10 Lo: 7 Heating P-Hi: 13.5 Hi: 13.5 Me: 10 Lo: 8	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		Not Possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form		
Electric heater	W		20 (Crank case heater)	
Remote controller		wired : RC-EX1A (option) wired : RC-E5 (o	option) wireless : RCN-TC-24W-ER (option)	
Room temperature control		Thermostat by electronics	_ (Cp.1111)	
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×		
Refrigerant piping size	mm -		0.8 ① ϕ 15.88 (5/8") × 1.0 O/U ϕ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	, , , ,	
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154	
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)		
Refrigerant Quantity			e piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	_	
Drain		Hose Connectable with VP20	Holes size φ20 x 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20)°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
 (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WA1"× 1 (option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.



(b) Triple type Adapted to RoHS directive

	Model	FDTC140VNTVF		
	ĺ	Indoor unit FDTC50VF (3 units)	Outdoor unit FDC140VN	
Item		Panel TC-PSA-25W-E		
Power source			220-240V~50Hz / 220V~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0 (Min.) ~ 14.5 (Max.)]	16.0 [4.0 (Min.)~16.5 (Max.)]	
Power consumption	kW	4.64	4.52	
Running current	Α	20.4 / 21.3	20.0 / 20.9	
Power factor	%	99	98	
Inrush current	A	5.7	ng current 24 >	
Sound Pressure Level	dB(A)	Cooling P-Hi: 47 Hi: 42 Me: 36 Lo: 30 Heating P-Hi: 47 Hi: 42 Me: 36 Lo: 32	51	
Exterior dimensions Height × Width × Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	845 × 970 × 370	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 15 PANEL3.5	81	
Refrigerant equipment Compressor type & Q'ty	9	-	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q	_	0.9 M-MA68	
Heat exchanger	Ť	Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1	
Motor <starting method=""></starting>	w	33 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	Cooling P-Hi: 13.5 Hi: 11.5 Me: 9 Lo: 7 Heating P-Hi: 13.5 Hi: 11.5 Me: 9 Lo: 8	Cooling : 75 , Heating : 73	
External static pressure	Pa	0	0	
Outside air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
nsulation (noise & heat)		Polyurethane form	_	
Electric heater	W	-	20 (Crank case heater)	
Remote controller		wired: RC-EX1A (option) wired: RC-E5 (o	ption) wireless : RCN-TC-24W-ER (option)	
Room temperature control		Thermostat by electronics	_	
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection	
Installation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×		
Refrigerant piping size	mm	Gas line : I/U ϕ 12.7 (1/2") $@$ ϕ 12.7 (1/2") \times		
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	, , ,	
Vertical height difference between outdoor unit and indoor unit	_	Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 155	
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump		
Drain pump Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs	
Insulation for piping		Necessary (both L		
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	
Diamaiu ACCESSUMES		wounting kit, Draill 1105e	Euging	

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

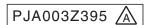
- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.
 (6) Branching pipe set "DIS-TA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.



	Model	FDTC140VSTVF			
		Indoor unit FDTC50VF (3 units)	Outdoor unit FDC140VS		
Item		Panel TC-PSA-25W-E			
Power source			380-415V 3N~50Hz / 380V 3N~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]		
Power consumption	kW	4.64	4.52		
Running current	Α	6.8 / 7.1	6.6 / 7.0		
Power factor	%	98 / 99	99 / 98		
Inrush current	Α	5 < Max.runnir	ng current 15 >		
Sound Pressure Level	dB(A)	Cooling P-Hi: 47 Hi: 42 Me: 36 Lo: 30 Heating P-Hi: 47 Hi: 42 Me: 36 Lo: 32	51		
Exterior dimensions Height x Width x Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	845 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 15 PANEL 3.5	83		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q.	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	33 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	СММ	Cooling P-Hi:13.5 Hi:11.5 Me:9 Lo:7 Heating P-Hi:13.5 Hi:11.5 Me:9 Lo:8	Cooling: 75 Heating: 73		
External static pressure	Pa	0	0		
Outdoor air intake		Not possible	_		
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	· –	20 (Crank case heater)		
Remote controller		wired: RC-EX1A (option) wired: RC-E5 (o	ption) wireless : RCN-TC-24W-ER (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		•	< 0.8 ① φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm		< 0.8 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m	1		
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 155		
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)			
Refrigerant Quantity		, ,	e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs		
Insulation for piping			Liquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit, Drain hose	Edging		
		mounting mit, Drain 11000	Laging		

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19℃	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat rights due ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
 (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.
 (6) Branching pipe set "DIS-TA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.



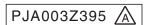
(c) Double twin type

Adapted to **RoHS** directive

	Model	el FDTC200VSDVF		
		Indoor unit FDTC50VF (4 units)	Outdoor unit FDC200VS	
Item		Panel TC-PSA-25W-E		
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	20.0 [7.0 (Min.)~22.4 (Max.)]	22.4 [7.6 (Min.) ~ 25.0 (Max.)]	
Power consumption	kW	7.33	6.98	
Running current	Α	10.9 / 11.5	10.4 / 10.9	
Power factor	%	97	97	
Inrush current	A		ng current 19 >	
Sound Pressure Level	dB(A)	Cooling P-Hi: 47 Hi: 42 Me: 36 Lo: 30 Heating P-Hi: 47 Hi: 42 Me: 36 Lo: 32	57	
Exterior dimensions Height x Width x Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	1,300 × 970 × 370	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (4.2Y7.5/1.1) near equivalent	
Net weight	kg	UNIT 15 PANEL 3.5	122	
Refrigerant equipment Compressor type & Q'ty		-	GTC5150ND70K × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	1.45 M-MA32R	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 2	
Motor <starting method=""></starting>	W	33 < Direct line start >	86 x 2 < Direct line start >	
Air flow (Standard)	СММ	Cooling P-Hi: 13.5 Hi: 11.5 Me: 9 Lo: 7 Heating P-Hi: 13.5 Hi: 11.5 Me: 9 Lo: 8	Cooling: 150, Heating: 145	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	33 (Crank case heater)	
Remote controller		wired: RC-EX1A (option) wired: RC-E5 (o	option) wireless : RCN-TC-24W-ER (option)	
Room temperature control		Thermostat by electronics		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		Liquid line : I/O φ 6.35 (1/4") ③② φ 9.52 (3/8") ×	0.8 ① ϕ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")	
Refrigerant piping size	mm	Gas line : I/U ϕ 12.7 (1/2") $\Im \phi$ 12.7 × 0.8 $\Im \phi$	5 15.88 ① φ 22.22 (7/8") × 1.6 O/U φ 22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing	
Refrigerant line (one way) length		Max.70m		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	door unit is higher) See page 154	
Refrigerant Quantity		,	e piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	_	
Drain		Hose Connectable with VP20	Holes size φ20 x 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Connecting pipe, Edging	
- C.C. IGGIG / 10063301163	<u> </u>	I Wounting Rit, Drain 11036	Domicoting pipe, Luging	

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is four indoor units are combined and run together.
- (6) Branching pipe set "DIS-WB1"×1,"DIS-WA1"×2 (option). Pipe ①: O/U~Branch, ②: Branch~Branch, ③: Branch~I/U (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.



	Model	FDTC25	FDTC250VSDVF		
		Indoor unit FDTC60VF (4 units)	Outdoor unit FDC250VS		
Item		Panel TC-PSA-25W-E			
Power source			380-415V 3N~50Hz / 380V 3N~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	25.0 [10.0 (Min.) ~ 28.0 (Max.)]	28.0 [9.5 (Min.) ~31.5 (Max.)]		
Power consumption	kW	11.28	10.19		
Running current	Α	16.8 / 17.7	15.2 / 16.0		
Power factor	%	97	97		
Inrush current	Α	5 < Max.runnir	ng current 22 >		
Sound Pressure Level	dB(A)	Cooling P-Hi: 47 Hi: 46 Me: 39 Lo: 30 Heating P-Hi: 47 Hi: 46 Me: 39 Lo: 32	Cooling : 57 Heating : 58		
Exterior dimensions Height x Width x Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	1,505 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	UNIT 15 PANEL 3.5	140		
Refrigerant equipment Compressor type & Q'ty		-	GTC5150ND70K × 1		
Starting method		_	Direct line start		
Refrigerant oil	l	_	1.45 M-MA32R		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 2		
Motor <starting method=""></starting>	W	33 < Direct line start >	86 x 2 < Direct line start >		
Air flow (Standard)	СММ	Cooling P-Hi: 13.5 Hi: 13.5 Me: 10 Lo: 7 Heating P-Hi: 13.5 Hi: 13.5 Me: 10 Lo: 8	Cooling : 150 , Heating : 145		
External static pressure	Pa	0	0		
Outdoor air intake		Not possible	_		
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form			
Electric heater	W	<u> </u>	33 (Crank case heater)		
Remote controller		wired: RC-EX1A (option) wired: RC-E5 (o	ption) wireless : RCN-TC-24W-ER (option)		
Room temperature control		Thermostat by electronics			
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data		Liquid line : I/O φ 6.35 (1/4") ③② φ 9.52 (3/8") ×			
Refrigerant piping size	mm		5 15.88 ① φ 22.22 (7/8") × 1.6 O/U φ 22.22 (7/8")		
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing		
Refrigerant line (one way) length		Max.70m	, , , , , , , , , , , , , , , , , , , ,		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154		
Refrigerant Quantity		· · · · · · · · · · · · · · · · · · ·	e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump	— — — — — — — — — — — — — — — — — — —		
Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs		
Insulation for piping			Liquid & Gas lines)		
IP code		IPXO	IPX4		
		11 //	1 11 17 7		

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19℃	35°C	24°C
Heating	20°C		7°C	6°C

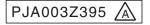
- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat nigher due ambient temperature.

 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.

 (5) Indoor unit specifications for one unit. Capacity and operation data is four indoor units are combined and run together.

 (6) Branching pipe set "DIS-WB1"×1,"DIS-WA1"×2 (option). Pipe ①: O/U~Branch, ②: Branch~Branch, ③: Branch~I/U

 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.



(3) Ceiling suspended type (FDEN)

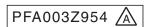
(a) Single type

Adapted to RoHS directive

Mod		FDEN10	00VNVF
		Indoor unit FDEN100VF	Outdoor unit FDC100VN
Item			
Power source			220-240V~50Hz / 220V~60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]
Power consumption	kW	2.85	2.97
Running current	Α	12.5 / 13.1	13.0 / 13.6
Power factor	%	99	99
Inrush current	Α	5 < Max.runnir	ng current 24 >
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 44 Me: 41 Lo: 39	49
Exterior dimensions Height x Width x Depth	mm	250 × 1,620 × 690	845 × 970 × 370
Exterior appearance		Plaster White	Stucco White
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent
Net weight	kg	49	81
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1
Starting method		_	Direct line start
Refrigerant oil	Q.	_	0.9 M-MA68
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control			Electronic expansion valve
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 1
Motor <starting method=""></starting>	W	30 × 2 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi: 28 Hi: 26 Me: 23 Lo: 21	Cooling: 75 Heating: 73
External static pressure	Pa	0	0
Outdoor air intake		Not possible	_
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)
Insulation (noise & heat)		Polyurethane form	_
Electric heater	w	_	20 (Crank case heater)
Remote controller		wired : RC-EX1A (option) wired : RC-E	5 (option) wireless : RCN-E1R (option)
Room temperature control		Thermostat by electronics	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.
Installation data		Liquid line : I/U φ 9.52 (3/8") Pipe φ	φ 9.52(3/8") × 0.8 O/U φ 9.52 (3/8")
Refrigerant piping size	mm		b 15.88 (5/8") × 1.0 φ 15.88 (5/8")
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	1
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154
Refrigerant Quantity			the amount for the piping of : 30m)
Drain pump		_	_
Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs
Insulation for piping			Liquid & Gas lines)
IP code		IPXO	IPX4
Standard Accessories		Mounting kit, Drain hose	Edging
2.4		mounting fitt, Diam nooc	

` '				
Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.



	Model	el FDEN100VSVF		
		Indoor unit FDEN100VF	Outdoor unit FDC100VS	
Item				
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]	
Power consumption	kW	2.85	2.97	
Running current	Α	4.2 / 4.4	4.3 / 4.6	
Power factor	%	98	99 / 98	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 44 Me: 41 Lo: 39	49	
Exterior dimensions Height x Width x Depth	mm	250 × 1,620 × 690	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	49	83	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 1	
Motor <starting method=""></starting>	W	30 × 2 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 28 Hi: 26 Me: 23 Lo: 21	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		wired: RC-EX1A (option) wired: RC-E	,	
Room temperature control		Thermostat by electronics		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U φ 9.52 (3/8") Pipe φ	9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")	
Refrigerant piping size	mm		15.88 (5/8") × 1.0 φ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	o ,	
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	he amount for the piping of : 30m)	
Drain pump		_	_	
Drain		Hose Connectable with VP20	Holes size φ20 x 3pcs	
Insulation for piping		Necessary (both L		
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz. (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDEN1	FDEN125VNVF	
		Indoor unit FDEN125VF	Outdoor unit FDC125VN	
Item				
Power source			220-240V ~ 50Hz / 220V ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0 (Min.) ~ 14.0 (Max.)]	14.0 [4.0 (Min.) ~ 16.0 (Max.)]	
Power consumption	kW	4.45	4.08	
Running current	Α	19.5 / 20.4	17.9 / 18.7	
Power factor	%	99	99	
Inrush current	Α	5 < Max.runnii	ng current 24 >	
Sound Pressure Level	dB(A)	P-Hi: 50 Hi: 46 Me: 44 Lo: 43	Cooling: 50 Heating: 51	
Exterior dimensions Height x Width x Depth	mm	250 × 1,620 × 690	845 × 970 × 370	
		Digeter White	Ctuaca White	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (4.2Y7.5/1.1) near equivalent	
Net weight	ka	(6.6 f 6.9/0.2) Hear equivalent 49	(4.2 f 7.5/1.1) near equivalent	
Refrigerant equipment	kg	43	01	
Compressor type & Q'ty		-	RMT5126MDE2 × 1	
Starting method		-	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 1	
Motor <starting method=""></starting>	W	40 × 2 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 32 Hi: 29 Me: 26 Lo: 23	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake	- ι α	Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	Tubber sleeve (for Compressor)	
Electric heater	W	- Ciyuretilane lollil	20 (Crank case heater)	
Remote controller	VV	wired : PC EV1A (antion) wired : PC E	E5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	-0 (option) wireless . noiv-Ein (option)	
noom temperature control		Internal thermostat for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
Installation data		,	φ 9.52(3/8") × 0.8 O/U φ 9.52 (3/8")	
Refrigerant piping size	mm –		ϕ 15.88(5/8") × 1.0 ϕ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	1, 5	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		,	the amount for the piping of : 30m)	
Drain pump			ine amount for the piping of . 3011)	
Drain pump Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs	
Insulation for piping			Holes size φ 20 × 3pcs Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose		
Standard Accessories		Mounting Kit, Drain nose	Edging	

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz. (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	lodel FDEN125VSVF		
		Indoor unit FDEN125VF	Outdoor unit FDC125VS	
Item				
Power source	380-415V 3N~50Hz / 380V 3N~60		380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0 (Min.) ~ 14.0 (Max.)]	14.0 [4.0 (Min.) ~ 16.0 (Max.)]	
Power consumption	kW	4.45	4.08	
Running current	Α	6.6 / 6.8	6.0 / 6.3	
Power factor	%	97 / 99	98 / 99	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi:50 Hi:46 Me:44 Lo:43	Cooling: 50 Heating: 51	
Exterior dimensions Height x Width x Depth	mm	250 × 1,620 × 690	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	49	83	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 1	
Motor <starting method=""></starting>	W	40 × 2 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 32 Hi: 29 Me: 26 Lo: 23	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		wired: RC-EX1A (option) wired: RC-E	5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	-	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data	100.100	Liquid line : I/U φ 9.52 (3/8") Pipe (φ 9.52(3/8") × 0.8 O/U φ 9.52 (3/8")	
Refrigerant piping size	mm	Gas line : φ15.88 (5/8") φ	5 15.88(5/8") × 1.0 φ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	cl. the amount for the piping of : 30m)	
Drain pump		_		
Drain		Hose Connectable with VP20	Holes size $\phi 20 \times 3pcs$	
Insulation for piping		Necessary (both L		
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Item	Indoor air te	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.(5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model			
		Indoor unit FDEN140VF	Outdoor unit FDC140VN	
Item				
Power source			220-240V ~ 50Hz / 220V ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0 (Min.) ~ 14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]	
Power consumption	kW	5.80	4.92	
Running current	А	25.2 / 26.0	21.6 / 22.6	
Power factor	%	99	99	
Inrush current	А	5 < Max.runniı	ng current 26 >	
Sound Pressure Level	dB(A)	P-Hi:50 Hi:46 Me:44 Lo:43	51	
Exterior dimensions		050 1000 000	0.45 0.70 0.70	
Height x Width x Depth	mm	250 × 1,620 × 690	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	49	81	
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 1	
Motor <starting method=""></starting>	w	40 × 2 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi:32 Hi:29 Me:26 Lo:23	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form		
Electric heater	w		20 (Crank case heater)	
Remote controller	**	wired : RC-FX14 (option) wired : RC-F	E5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics		
·		Internal thermostat for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
Installation data			ϕ 9.52(3/8") × 0.8 O/U ϕ 9.52 (3/8")	
Refrigerant piping size	mm		φ 15.88(5/8") × 1.0 φ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	I	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		,	the amount for the piping of : 30m)	
Drain pump		—		
Drain pump Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	
Grandalu Accessories		Modifility Kit, Dialit 11056	Luging	

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

N		pdel FDEN140VSVF		
		Indoor unit FDEN140VF	Outdoor unit FDC140VS	
Item				
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]	
Power consumption	kW	5.80	4.92	
Running current	Α	8.6 / 9.1	7.2 / 7.6	
Power factor	%	97	99	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi:50 Hi:46 Me:44 Lo:43	51	
Exterior dimensions Height x Width x Depth	mm	250 × 1,620 × 690	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	49	83	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 1	
Motor <starting method=""></starting>	W	40 × 2 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 32 Hi: 29 Me: 26 Lo: 23	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		wired: RC-EX1A (option) wired: RC-E	5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	-	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U φ 9.52 (3/8") Pipe σ	φ 9.52(3/8") × 0.8 O/U φ 9.52 (3/8")	
Refrigerant piping size	mm	Gas line : φ15.88 (5/8") φ	5 15.88(5/8") × 1.0 φ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	1	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	(incl. the amount for the piping of : 30m)	
Drain pump			-	
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs	
Insulation for piping		Necessary (both L		
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

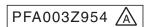
(b) Twin type Adapted to RoHS directive

(b) Timitype	Model	Model FDEN100VNPVF		
		Indoor unit FDEN50VF (2 units)	Outdoor unit FDC100VN	
Item				
Power source			220-240V~50Hz / 220V~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.)~12.5 (Max.)]	
Power consumption	kW	3.12	3.49	
Running current	Α	13.7 / 14.3	15.3 / 16.0	
Power factor	%	99	99	
Inrush current	Α	5 < Max.runnir	ng current 24 >	
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 39 Me: 38 Lo: 37	49	
Exterior dimensions Height x Width x Depth	mm	210 × 1,070 × 690	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	28	81	
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	Propeller fan × 1	
Motor <starting method=""></starting>	W	25 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi:11 Hi:10 Me:9 Lo:7	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		wired : RC-EX1A (option) wired : RC-E	5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	_	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data	pa	Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×	0.8 ① ϕ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")	
Refrigerant piping size	mm	Gas line : I/U φ 12.7 (1/2") ② φ 12.7 (1/2") ×	0.8 ① ϕ 15.88 (5/8") × 1.0 O/U ϕ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	piping length of 30m) Outdoor unit	
Drain pump		_	_	
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs	
Insulation for piping		Necessary (both L	Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.



	Model			
		Indoor unit FDEN50VF (2 units)	Outdoor unit FDC100VS	
Item				
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]	
Power consumption	kW	3.12	3.49	
Running current	Α	4.6 / 4.8	5.1 / 5.4	
Power factor	%	98	99	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 39 Me: 38 Lo: 37	49	
Exterior dimensions	` '			
Height x Width x Depth	mm	210 × 1,070 × 690	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	28	83	
Refrigerant equipment		_	RMT5126MDE3 × 1	
Compressor type & Q'ty				
Starting method		-	Direct line start	
Refrigerant oil	l		0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	Propeller fan x 1	
Motor <starting method=""></starting>	W	25 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	СММ	P-Hi:11 Hi:10 Me:9 Lo:7	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake	. u	Not possible		
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
nsulation (noise & heat)		Polyurethane form	Nubbei sieeve (ioi Compressor)	
Electric heater	w	Polydrethane form	20 (Crank case heater)	
	VV	in-d - DO EVAA (ti)in-d - DO E	,	
Remote controller		* * * * * * * * * * * * * * * * * * * *	E5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
nstallation data		<u> </u>	× 0.8 ① φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")	
Refrigerant piping size	mm -	, , , , , , ,	< 0.8 ① \$\phi\$ 15.88 (5/8") × 1.0 O/U \$\phi\$ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	1	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	nining length of 30m) Outdoor unit	
		n4 toA 3.0kg (FTe-charged up to the	piping length of sorn) outdoor unit	
Orain pump		Lless Connectels with VD00	Lieles eige / 00 Ogge	
Orain		Hose Connectable with VP20	Holes size φ20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
P code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	lodel FDEN125VNPVF			
		Indoor unit FDEN60VF (2 units)	Outdoor unit FDC125VN		
Item					
Power source			220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.) ~ 16.0 (Max.)]		
Power consumption	kW	4.23	3.83		
Running current	Α	18.5 / 19.4	16.8 / 17.6		
Power factor	%	99	99		
Inrush current	Α	5 < Max.runnir	ng current 24 >		
Sound Pressure Level	dB(A)	P-Hi: 48 Hi: 41 Me: 39 Lo: 38	Cooling: 50 Heating: 51		
Exterior dimensions	mm	210 × 1,320 × 690	845 × 970 × 370		
Height x Width x Depth		,			
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	37	81		
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE2 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q.	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 1		
Motor <starting method=""></starting>	W	20 × 2 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 20 Hi: 16 Me: 14 Lo: 12	Cooling: 75, Heating: 73		
External static pressure	Pa	0	0		
Outdoor air intake		Not possible	_		
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	=		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired : RC-EX1A (option) wired : RC-E	5 (option) wireless : RCN-E1R (option)		
Room temperature control		Thermostat by electronics			
Safety equipment		Internal thermostat for fan motor	Internal thermostat for fan motor		
		Frost protection thermostat	Abnormal discharge temperature protection.		
Installation data	mm	Liquid line : I/U \(\phi \) 6.35 (1/4") 2 \(\phi \) 9.52 (3/8") >			
Refrigerant piping size		, , , , , , , ,	< 0.8 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m	Soc 2000 154		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154		
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	piping length of 30m) Outdoor unit		
Drain pump		_	_		
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs		
Insulation for piping			Liquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit, Drain hose	Edging		
214.144.4.0000001100		I Modifiely Nit, Dialit 11000	L		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1"×1 (option). ①: Pipe of O/U ~ Branch, ②: Pipe of Branch~I/U

 (7) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDEN12	25VSPVF	
		Indoor unit FDEN60VF (2 units)	Outdoor unit FDC125VS	
Item				
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0(Min.) ~ 14.0(Max.)]	14.0 [4.0(Min.) ~ 16.0(Max.)]	
Power consumption	kW	4.23	3.83	
Running current	Α	6.2 / 6.5	5.6 / 5.9	
Power factor	%	98 / 99	99	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi: 48 Hi: 41 Me: 39 Lo: 38	Cooling: 50 Heating: 51	
Exterior dimensions Height x Width x Depth	mm	210 × 1,320 × 690	845 × 970 × 370	
		Plaster White	Stucco White	
Exterior appearance (Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	(6.616.9/0.2) Hear equivalent	(4.217.5/1.1) Hear equivalent	
Refrigerant equipment	ng		RMT5126MDE3 × 1	
Compressor type & Q'ty			DIVITOTZOIVIDES X T	
Starting method		_	Direct line start	
Refrigerant oil	Q	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 1	
Motor <starting method=""></starting>	W	20 × 2 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 20 Hi: 16 Me: 14 Lo: 12	Cooling: 75 , Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake	1 4	Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	Trubber sieeve (ior oompressor)	
Electric heater	W	r Olyurethane Ionni	20 (Crank case heater)	
Remote controller	VV	wired - DC EV1A (antion) wired - DC E	E5 (option) wireless : RCN-E1R (option)	
		Thermostat by electronics	-0 (option) wireless . noiv-ETA (option)	
Room temperature control		Internal thermostat for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
Installation data		Liquid line: I/U \(\phi \) 6.35 (1/4") \(\Q \phi \) 9.52 (3/8") \(\times \)		
Refrigerant piping size	mm	. , , , , , , , , , , , , , , , , , , ,	0.8 ① ϕ 15.88 (5/8") × 1.0 O/U ϕ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	I idio piping	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher)	See page 154	
		Max.15m (Outdoor unit is lower) R410A 3.8kg (Pre-charged up to the piping length of 30m) Outdoor unit		
Refrigerant Quantity		h4 IUA 3.8kg (Pre-charged up to the	e piping length of som) Outdoor unit	
Drain pump		Lloss Connectalla with VD00	Holon diss. / 00 Osses	
Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.

	Model	odel FDEN140VNPVF		
	Indoor unit FDEN71VF (2 units)		Outdoor unit FDC140VN	
Item				
Power source			220-240V ~ 50Hz / 220V ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0(Min.) ~ 14.5(Max.)]	16.0 [4.0(Min.) ~ 16.5(Max.)]	
Power consumption	kW	4.87	4.59	
Running current	Α	21.6 / 22.6	20.1 / 21.0	
Power factor	%	98	99	
Inrush current	Α	5 < Max.runnir	ng current 24 >	
Sound Pressure Level	dB(A)	P-Hi:50 Hi:41 Me:39 Lo:38	51	
Exterior dimensions Height x Width x Depth	mm	210 × 1,320 × 690	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	37	81	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 1	
Motor <starting method=""></starting>	W	20 × 2 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi:20 Hi:16 Me:14 Lo:12	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		wired: RC-EX1A (option) wired: RC-E	5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U φ 9.52 (3/8") ② φ 9.52 (3/8") ×		
Refrigerant piping size	mm	Gas line : I/U φ 15.88 (5/8") ② φ 15.88 (5/8")) × 1.0 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m		
Vertical height difference between outdoor unit and indoor unit	Max.30m (Outdoor unit is higher) See page 154		See page 154	
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	e piping length of 30m) Outdoor unit	
Drain pump		_	-	
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs	
Insulation for piping		Necessary (both L	iquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	oling 27°C 19°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.

	Model	odel FDEN140VSPVF		
		Indoor unit FDEN71VF (2 units)	Outdoor unit FDC140VS	
Item				
Power source			380-415V 3N~ 50Hz / 380V 3N~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0(Min.) ~ 14.5(Max.)]	16.0 [4.0(Min.) ~ 16.5(Max.)]	
Power consumption	kW	4.87	4.59	
Running current	Α	7.2 / 7.6	6.7 / 7.1	
Power factor	%	98	99 / 98	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi:50 Hi:41 Me:39 Lo:38	51	
Exterior dimensions Height x Width x Depth	mm	210 × 1,320 × 690	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	37	83	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 1	
Motor <starting method=""></starting>	W	20 × 2 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 20 Hi: 16 Me: 14 Lo: 12	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		wired : RC-EX1A (option) wired : RC-E	E5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U φ 9.52 (3/8") ② φ 9.52 (3/8")	\times 0.8 ① ϕ 9.52 (3/8") \times 0.8 O/U ϕ 9.52 (3/8")	
Refrigerant piping size	mm	Gas line : I/U φ 15.88 (5/8") ② φ 15.88 (5/8")) × 1.0 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m		
Vertical height difference between outdoor unit and indoor unit	` ' '		See page 154	
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	e piping length of 30m) Outdoor unit	
Drain pump		_	_	
Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs	
Insulation for piping		Necessary (both L	Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

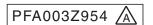
 (7) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.

	Model	-	00VSPVF	
		Indoor unit FDEN100VF (2 units)	Outdoor unit FDC200VS	
Item				
Power source			380-415V 3N~ 50Hz / 380V 3N~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	20.0 [7.0(Min.) ~ 22.4(Max.)]	22.4 [7.6(Min.)~ 25.0(Max.)]	
Power consumption	kW	6.47	5.97	
Running current	Α	9.7 / 10.1	9.1 / 9.5	
Power factor	%	96 / 97	95	
Inrush current	Α	5 < Max.runnir	ng current 19 >	
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 44 Me: 41 Lo: 39	57	
Exterior dimensions	mm	250 × 1,620 × 690	1,300 × 970 × 370	
Height x Width x Depth		<u> </u>	,	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	49	122	
Refrigerant equipment Compressor type & Q'ty		_	GTC5150ND70K × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q.	_	1.45 M-MA32R	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		<u> </u>	Electronic expansion valve	
Air handling equipment			·	
Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 2	
Motor <starting method=""></starting>	W	30 × 2 < Direct line start >	86 x 2 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 28 Hi: 26 Me: 23 Lo: 21	Cooling: 150, Heating: 145	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	33 (Crank case heater)	
Remote controller		wired: RC-EX1A (option) wired: RC-	E5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	_	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		•	\times 0.8 (1) ϕ 9.52 (3/8") \times 0.8 O/U ϕ 9.52 (3/8")	
Refrigerant piping size	mm -		× 1.0 ① φ 22.22 (7/8") × 1.6 O/U φ 22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing	
Refrigerant line (one way) length		Max.70m	Liquid . Fidite / Gas . Drazirig	
. , ,,	-		See page 154	
Vertical height difference between outdoor unit and indoor unit	wax.com (outdoor unit is higher)		300 page 104	
Refrigerant Quantity		R410A 5.4kg (Pre-charged up to the	e piping length of 30m) Outdoor unit	
Drain pump		_		
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs	
Insulation for piping		Necessary (both L	_iquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WB1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.



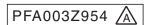
	Model	FDEN250VSPVF		
		Indoor unit FDEN125VF (2 units)	Outdoor unit FDC250VS	
Item				
Power source			380-415V 3N~ 50Hz / 380V 3N~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	25.0 [10.0(Min.)~ 28.0(Max.)]	28.0 [9.5(Min.)~ 31.5(Max.)]	
Power consumption	kW	9.01	8.05	
Running current	Α	13.5 / 14.1	12.2 / 12.8	
Power factor	%	96 / 97	95 / 96	
Inrush current	А	5 < Max.runnir	ng current 22 >	
Sound Pressure Level	dB(A)	P-Hi: 50 Hi: 46 Me: 44 Lo: 43	Cooling: 57 Heating: 58	
Exterior dimensions Height x Width x Depth	mm	250 × 1,620 × 690	1,505 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	49	140	
Refrigerant equipment Compressor type & Q'ty		-	GTC5150ND70K × 1	
Starting method		_	Direct line start	
Refrigerant oil	e l	_	1.45 M-MA32R	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 2	
Motor <starting method=""></starting>	W	40 × 2 < Direct line start >	86 × 2 < Direct line start >	
Air flow (Standard)	CMM	P-Hi:32 Hi:29 Me:26 Lo:23	Cooling: 150, Heating: 145	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form		
Electric heater	w		33 (Crank case heater)	
Remote controller		wired : RC-EX1A (option) wired : RC-F	E5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	— (opining	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection	
Installation data		·	\times 0.8 ① ϕ 12.7 (1/2") \times 0.8 O/U ϕ 12.7 (1/2")	
Refrigerant piping size	mm	, , , , , , , ,) × 1.0 ① φ 22.22 (7/8") × 1.6 O/U φ 22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing	
Refrigerant line (one way) length		Max.70m		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		, ,	e piping length of 30m) Outdoor unit	
Drain pump		_		
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Connecting pipe, Edging	
Otanidald Accessories		Mounting Ait, Dialli 1105e	Oormeoning pipe, Luging	

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WB1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

 (7) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.



(c) Triple type Adapted to RoHS directive

	Model	Model FDEN140VNTVF		
		Indoor unit FDEN50VF (3 units)	Outdoor unit FDC140VN	
Item				
Power source			220-240V~ 50Hz / 220V~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0(Min.) ~ 14.5(Max.)]	16.0 [4.0(Min.) ~ 16.5(Max.)]	
Power consumption	kW	1.88	4.58	
Running current	Α	21.7 / 22.6	20.2 / 21.1	
Power factor	%	98	99	
Inrush current	Α	5 < Max.runnir	ng current 24 >	
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 39 Me: 38 Lo: 37	51	
Exterior dimensions Height x Width x Depth	mm	210 × 1,070 × 690	845 × 970 × 370	
Exterior appearance		Plaster White	Stucco White	
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	28	81	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q.	_	0.9 M-MA68	
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	Propeller fan × 1	
Motor <starting method=""></starting>	W	25 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi:11 Hi:10 Me:9 Lo:7	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		wired: RC-EX1A (option) wired: RC-E	E5 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	— (*F * /	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×		
Refrigerant piping size	mm		0.8 ① ϕ 15.85 (5/8") × 1.0 O/U ϕ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	' ' '	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	(Outdoor unit is higher) See page 155	
Refrigerant Quantity			e piping length of 30m) Outdoor unit	
Drain pump			— — — — — — — — — — — — — — — — — — —	
Drain pamp		Hose Connectable with VP20	Holes size φ20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	
Glandalu Accessories		I Woulding NI, Diail 11056	Luging	

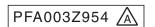
Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.

 (6) Branching pipe set "DIS-TA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

 (7) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.



	Model	FDEN14	OVSTVF
		Indoor unit FDEN50VF (3 units)	Outdoor unit FDC140VS
Item			
Power source			380-415V 3N~ 50Hz / 380V 3N~ 60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	14.0 [5.0(Min.) ~ 14.5(Max.)]	16.0 [4.0(Min.) ~ 16.5(Max.)]
Power consumption	kW	4.88	4.58
Running current	Α	7.2 / 7.6	6.7 / 7.0
Power factor	%	98	99
Inrush current	Α	5 < Max.runnir	ng current 15 >
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 39 Me: 38 Lo: 37	51
Exterior dimensions			
Height x Width x Depth	mm	210 × 1,070 × 690	845 × 970 × 370
Exterior appearance		Plaster White	Stucco White
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent
Net weight	kg	28	83
Refrigerant equipment			DIATE LOCKED TO
Compressor type & Q'ty		_	RMT5126MDE3 × 1
Starting method		_	Direct line start
Refrigerant oil	e l	_	0.9 M-MA68
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control		<u> </u>	Electronic expansion valve
Air handling equipment			·
Fan type & Q'ty		Centrifugal fan × 2	Propeller fan x 1
Motor <starting method=""></starting>	W	25 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi:11 Hi:10 Me:9 Lo:7	Cooling: 75, Heating: 73
External static pressure	Pa	0	0
Outdoor air intake		Not possible	_
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)
nsulation (noise & heat)		Polyurethane form	_
Electric heater	W		20 (Crank case heater)
Remote controller		wired : BC-EX1A (option) wired : BC-E	E5 (option) wireless : RCN-E1R (option)
Room temperature control		Thermostat by electronics	
noom temperature control		Internal thermostat for fan motor	Internal thermostat for fan motor
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.
nstallation data		Liquid line: I/U \(\phi 6.35 \) (1/4") \(\Q \phi 9.52 \) (3/8") \(\times \)	
Refrigerant piping size	mm	Gas line : I/U ϕ 12.7 (1/2") $@$ ϕ 12.7 (1/2") \times	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	Ι τατε ριριπίς
Vertical height difference between	\vdash		See page 155
vertical neight difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	200 page 100
Refrigerant Quantity		, ,	e piping length of 30m) Outdoor unit
Drain pump		THION 3.0Kg (FIE-Gliaiged up to tile	piping religition owing outdoor unit
Drain pump Drain	\vdash	Hose Connectable with VP20	Holes size ϕ 20 × 3pcs
nsulation for piping			Liquid & Gas lines)
P code		IPXO	IPX4
Standard Accessories		Mounting kit, Drain hose	Edging

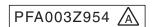
Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.

 (6) Branching pipe set "DIS-TA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

 (7) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.



	Model	FDEN20	00VSTVF
		Indoor unit FDEN71VF (3 units)	Outdoor unit FDC200VS
Item			
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	20.0 [7.0(Min.)~ 22.4(Max.)]	22.4 [7.6(Min.) ~ 25.0(Max.)]
Power consumption	kW	6.40	5.90
Running current	Α	9.6 / 10.0	9.0 / 9.4
Power factor	%	96 / 97	95
Inrush current	Α	5 < Max.runnir	ng current 19 >
Sound Pressure Level	dB(A)	P-Hi:50 Hi:41 Me:39 Lo:38	57
Exterior dimensions	mm	210 × 1,320 × 690	1,300 × 970 × 370
Height x Width x Depth		Di i Wil'i	0, 14, 1
Exterior appearance		Plaster White	Stucco White
(Munsell color)	le~	(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent
Net weight	kg	37	122
Refrigerant equipment Compressor type & Q'ty		-	GTC5150ND70K × 1
Starting method		_	Direct line start
Refrigerant oil	l	_	1.45 M-MA32R
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control		_	Electronic expansion valve
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 2
Motor <starting method=""></starting>	W	20 ×2 < Direct line start >	86 x 2 < Direct line start >
Air flow (Standard)	CMM	P-Hi: 20 Hi: 16 Me: 14 Lo: 12	Cooling: 150, Heating: 145
External static pressure	Pa	0	0
Outdoor air intake	ıα	Not possible	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)
		` '	hubber sleeve (for Compressor)
nsulation (noise & heat)	W	Polyurethane form	-
Electric heater	VV	—	33 (Crank case heater)
Remote controller			E5 (option) wireless : RCN-E1R (option)
Room temperature control		Thermostat by electronics	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.
nstallation data	mm	Liquid line : I/U φ 9.52 (3/8") ② φ 9.52 (3/8")	\times 0.8 ① ϕ 9.52 (3/8") \times 0.8 O/U ϕ 9.52 (3/8")
Refrigerant piping size	mm	Gas line : I/U φ 15.88 (5/8") ② φ 15.88 (5/8") × 1.0 ① ϕ 22.22 (7/8") × 1.6 O/U ϕ 22.22 (7/8")
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 155
Refrigerant Quantity		,	e piping length of 30m) Outdoor unit
Orain pump			— — — — — — — — — — — — — — — — — — —
Drain pamp Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping			Liquid & Gas lines)
IP code		IPXO	IPX4
Standard Accessories		Mounting kit, Drain hose	Connecting pipe, Edging
Jianualu Accessories		Wounting Nt, Drain 11056	Connecting pipe, Edging

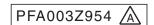
Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20)°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.

 (6) Branching pipe set "DIS-TB1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

 (7) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.



(d) Double twin type

	Model	FDEN200VSDVF			
		Indoor unit FDEN50VF (4 units)	Outdoor unit FDC200VS		
Item					
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	20.0 [7.0(Min.) ~ 22.4(Max.)]	22.4 [7.6(Min.) ~ 25.0(Max.)]		
Power consumption	kW	7.43	7.26		
Running current	Α	11.1 / 11.6	10.8 / 11.4		
Power factor	%	97	97		
Inrush current	Α	5 < Max.runnir	ng current 19 >		
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 39 Me: 38 Lo: 37	57		
Exterior dimensions		040 4 070 000	4.000 070 070		
Height x Width x Depth	mm	210 × 1,070 × 690	1,300 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	28	122		
Refrigerant equipment Compressor type & Q'ty		_	GTC5150ND70K × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q.	-	1.45 M-MA32R		
Heat exchanger	~	Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Air handling equipment					
Fan type & Q'ty		Centrifugal fan × 2	Propeller fan × 2		
Motor <starting method=""></starting>	W	25 < Direct line start >	86 x 2 < Direct line start >		
Air flow (Standard)	CMM	P-Hi:11 Hi:10 Me:9 Lo:7	Cooling: 150, Heating: 145		
External static pressure	Pa	0	0		
Outdoor air intake		Not possible	_		
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	33 (Crank case heater)		
Remote controller		wired: RC-EX1A (option) wired: RC-E	E5 (option) wireless : RCN-E1R (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U ϕ 6.35 (1/4") (3)(2) ϕ 9.52 (3/8")			
Refrigerant piping size	mm	, , , , , , , ,	$(0.6)^{\circ}$ $(0.6$		
Connecting method		Flare piping	2) φ 15.88 (1) φ 22.22 (7/8") × 1.6 Ο/Ο φ 22.22 (7/8") Liquid : Flare / Gas : Brazing		
Refrigerant line (one way) length		Max.70m	Liquid . Flate / Gas . Brazing		
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154		
outdoor unit and indoor unit	entical neight difference between [Wax.50ff (Outdoor difference)				
Refrigerant Quantity		,	kg (Pre-charged up to the piping length of 30m) Outdoor unit		
Drain pump		—			
Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs		
Insulation for piping		Necessary (both L			
IP code		IPXO	IPX4		
Standard Accessories		-			
Standard Accessories		Mounting kit, Drain hose	Connecting pipe, Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20)°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is four indoor units are combined and run together. (6) Branching pipe set "DIS-WB1"×1,"DIS-WA1"×2 (option). Pipe ①: O/U~Branch, ②: Branch~Branch, ③: Branch~I/U (7) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.

	Model	FDEN25	FDEN250VSDVF		
		Indoor unit FDEN60VF (4 units)	Outdoor unit FDC250VS		
Item					
Power source			380-415V 3N~ 50Hz / 380V 3N~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	25.0 [10.0(Min.) ~ 28.0(Max.)]	28.0 [9.5(Min.) ~ 31.5(Max.)]		
Power consumption	kW	9.50	8.69		
Running current	Α	14.1 / 14.9	12.9 / 13.6		
Power factor	%	97	97		
Inrush current	А	5 < Max.runnir	ng current 22 >		
Sound Pressure Level	dB(A)	P-Hi: 48 Hi: 41 Me: 39 Lo: 38	Cooling: 57 Heating: 58		
Exterior dimensions		010 1000 000	1.505 070 070		
Height x Width x Depth	mm	210 × 1,320 × 690	1,505 × 970 × 370		
Exterior appearance		Plaster White	Stucco White		
(Munsell color)		(6.8Y8.9/0.2) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	37	140		
Refrigerant equipment Compressor type & Q'ty		-	GTC5150ND70K × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q.	_	1.45 M-MA32R		
Heat exchanger	_	Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Air handling equipment		Centrifugal fan × 4	Propeller fan × 2		
Fan type & Q'ty	10/	00 0 . Divert live extent.	OC O . Dive at live a start.		
Motor <starting method=""></starting>	W	20 ×2 < Direct line start >	86 x 2 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 20 Hi: 16 Me: 14 Lo: 12	Cooling: 150, Heating: 145		
External static pressure	Pa	0	0		
Outdoor air intake		Not possible			
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	<u> </u>	33 (Crank case heater)		
Remote controller		· · /	E5 (option) wireless : RCN-E1R (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U φ 6.35 (1/4") ③② φ 9.52 (3/8")	$) \times 0.8$ ① ϕ 12.7 (1/2") \times 0.8 O/U ϕ 12.7 (1/2")		
Refrigerant piping size	mm	Gas line : I/U ϕ 12.7 (1/2") $\cent{3} \phi$ 12.7 \times 0.8 (2 φ 15.88 ① φ 22.22 (7/8") × 1.6 O/U φ 22.22 (7/8")		
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing		
Refrigerant line (one way) length		Max.70m	·		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154		
Refrigerant Quantity		, ,	e piping length of 30m) Outdoor unit		
Drain pump		_			
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs		
Insulation for piping			Liquid & Gas lines)		
IP code		IPXO	IPX4		

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is four indoor units are combined and run together.
 (6) Branching pipe set "DIS-WB1"×1,"DIS-WA1"×2 (option). Pipe ①: O/U~Branch, ②: Branch~Branch, ③: Branch~I/U (7) When wireless remote controller is used, fan is 3 speed setting(Hi-Me-Lo) only.

(4) Duct connected-High static pressure type (FDU) (a) Single type

Adapted to RoHS directive

	Model	FDU10	0VNVD
		Indoor unit FDU100VD	Outdoor unit FDC100VN
Item			
Power source			220-240V~50Hz
Operation data		Cooling	Heating
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]
Power consumption	kW	2.88	2.99
Running current	Α	12.7	13.1
Power factor	%	99	99
Inrush current	Α	5 < Max.runnir	ng current 25 >
Sound Pressure Level	dB(A)	Hi : 42 Lo : 37	49
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 650	845 × 970 × 370
Exterior appearance (Munsell color)		-	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	63	81
Refrigerant equipment Compressor type & Q'ty	3	-	RMT5126MDE2 × 1
Starting method		_	Direct line start
Refrigerant oil	l	_	0.9 M-MA68
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control		_	Electronic expansion valve
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	Propeller fan × 1
Motor <starting method=""></starting>	W	280 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	Hi : 34 Lo : 27	Cooling: 75, Heating: 73
External static pressure	Pa	Standard: 60 Max: 130	0
Outdoor air intake		Possible (on return duct)	_
Air filter, Q'ty		Procure locally	_
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)
Insulation (noise & heat)		Polyurethane form	_
Electric heater	W	_	20 (Crank case heater)
Remote controller		wired : RC-E5 (option) wir	eless : RCN-KIT3-E (option)
Room temperature control		Thermostat by electronics	_
Cofety equiper		Internal thermostat for fan motor	Internal thermostat for fan motor
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.
Installation data		Liquid line : I/U ϕ 9.52 (3/8") Pipe of	φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")
Refrigerant piping size	mm	Gas line : φ15.88 (5/8")	φ 15.88 (5/8") × 1.0 φ 15.88 (5/8")
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	
Vertical height difference between		Max.30m (Outdoor unit is higher)	*1.See page 154
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl.	the amount for the piping of : 30m)
Drain pump		Built-in Drain pump	
Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs
Insulation for piping		Necessary (both L	iquid & Gas lines)
IP code		IPXO	IPX4
Standard Accessories		Drain hose	Edging

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	60
Heating	20°C		7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz
- (5) External static pressure can be changed from standard external static pressure (factory setting) to maximum external static pressuer (high static pressure setting) by remote controller.
- (6) Value of sound pressure level become increased 5dB (A), when external static pressure is 130Pa.

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	Model				
		Indoor unit FDU100VD	Outdoor unit FDC100VS		
Item					
Power source			380-415V 3N ~ 50Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]		
Power consumption	kW	2.88	2.99		
Running current	Α	4.3	4.4		
Power factor	%	97	99		
Inrush current	Α	5 < Max.runnir	ng current 16 >		
Sound Pressure Level	dB(A)	Hi : 42 Lo : 37	49		
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 650	845 × 970 × 370		
Exterior appearance (Munsell color)		-	Stucco White (4.2Y7.5/1.1) near equivalent		
Net weight	kg	63	83		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q	_	0.9 M-MA68		
Heat exchanger	Ť	Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	Propeller fan × 1		
Motor <starting method=""></starting>	W	280 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	Hi:34 Lo:27	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard: 60 Max: 130	0		
Outdoor air intake		Possible (on return duct)	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
nsulation (noise & heat)		Polyurethane form	<u> </u>		
Electric heater	W		20 (Crank case heater)		
Remote controller	-	wired : RC-E5 (option) wire	,		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection		
Installation data		Liquid line: /U ϕ 9.52 (3/8") Pipe o	φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm		φ 15.88 (5/8") × 1.0 φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m	1, 3		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	※1.See page 154		
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. i			
Drain pump		Built-in Drain pump	—		
Drain pump		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both L			
IP code		IPXO	IPX4		
Standard Accessories		Drain hose	Edging		
Otalidald Accessories		Diaminose	Luging		

Iten	n	Indoor air t	emperature	Outdoor air	temperature	External static pressure of indoor unit
Opera	tion	DB	WB	DB	WB	Pa
Cooli	ing	27°C	19°C	35°C	24°C	60
Heati	ing	20°C		7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.

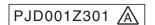
 (3) Sound pressure level indicates the value in an anechoic chamber.

 During operation these value are somewhat higher due to ambient temperature.

 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz

 (5) External static pressure can be changed from standard external static pressure (factory setting) to maximum external static pressure (high static pressure setting) by remote controller.
- to maximum external static pressuer (high static pressure setting) by remote controller.

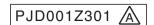
 (6) Value of sound pressure level become increased 5dB (A), when external static pressure is 130Pa.



	Model	FDU125VNVD				
		Indoor unit FDU125VD	Outdoor unit FDC125VN			
Item						
Power source			220-240V~50Hz			
Operation data		Cooling	Heating			
Nominal capacity	kW	12.5 [5.0 (Min.) ~ 14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]			
Power consumption	kW	4.04	3.79			
Running current	A	17.8	16.6			
Power factor	%	99	99			
Inrush current	Α	5 < Max.runnir	ng current 27 >			
Sound Pressure Level	dB(A)	Hi: 43 Lo: 38	Cooling: 50 Heating: 51			
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 650	845 × 970 × 370			
Exterior appearance (Munsell color)		_	Stucco White (4.2Y7.5/1.1) near equivalent			
Net weight	kg	63	81			
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1			
Starting method		_	Direct line start			
Refrigerant oil	Q.	_	0.9 M-MA68			
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	Propeller fan × 1			
Motor <starting method=""></starting>	W	370 < Direct line start >	86 < Direct line start >			
Air flow (Standard)	CMM	Hi: 42 Lo: 33.5	Cooling: 75, Heating: 73			
External static pressure	Pa	Standard: 60 Max: 130	0			
Outdoor air intake		Possible (on return duct)	_			
Air filter, Q'ty		Procure locally	_			
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)			
Insulation (noise & heat)		Polyurethane form	_			
Electric heater	W	<u> </u>	20 (Crank case heater)			
Remote controller		wired : RC-E5 (option) wir	eless : RCN-KIT3-E (option)			
Room temperature control		Thermostat by electronics				
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection			
Installation data		·	φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")			
Refrigerant piping size	mm —		ϕ 15.88 (5/8") × 1.0 ϕ 15.88 (5/8")			
Connecting method		Flare piping	Flare piping			
Refrigerant line (one way) length		Max.50m				
Vertical height difference between outdoor unit and indoor unit	height difference between Max.30m (Outdoor unit is high-		%1.See page 154			
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl.	the amount for the piping of : 30m)			
Drain pump		Built-in Drain pump	_			
Drain		Hose Connectable with VP20	Holes size φ20 x 3pcs			
Insulation for piping			Liquid & Gas lines)			
IP code		IPXO	IPX4			
Standard Accessories		Drain hose	Edging			

Item	Indoor air temperature		Outdoor air	temperature	External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	60
Heating	20°C		7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber.
 During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz
 (5) External static pressure can be changed from standard external static pressure (factory setting) to maximum external static pressure (high static pressure setting) by remote controller.
 (6) Value of sound pressure level become increased 5dB (A), when external static pressure is 130Pa.

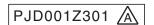


	Model	FDU12	5VSVD		
		Indoor unit FDU125VD	Outdoor unit FDC125VS		
Item					
Power source			380-415V 3N ∼ 50Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	12.5 [5.0 (Min.) ~ 14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]		
Power consumption	kW	4.04	3.79		
Running current	Α	6.0	5.6		
Power factor	%	97	98		
Inrush current	Α	5 < Max.runnir	ng current 18 >		
Sound Pressure Level	dB(A)	Hi : 43 Lo : 38	Cooling: 50 Heating: 51		
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 650	845 × 970 × 370		
Exterior appearance (Munsell color)		_	Stucco White (4.2Y7.5/1.1) near equivalent		
Net weight	kg	63	83		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q.	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	Propeller fan × 1		
Motor <starting method=""></starting>	W	370 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	Hi: 42 Lo: 33.5	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard: 60 Max: 130	0		
Outdoor air intake		Possible (on return duct)	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line: I/U φ 9.52 (3/8") Pipe (φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : φ15.88 (5/8")	φ 15.88 (5/8") × 1.0 φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m	·		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	*1.See page 154		
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl.	the amount for the piping of : 30m)		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both L	Liquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Drain hose	Edging		

Item	Indoor air temperature		em Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	60
Heating	20°C		7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber.

 During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz
- (5) External static pressure can be changed from standard external static pressure (factory setting)
- to maximum external static pressuer (high static pressure setting) by remote controller.
- (6) Value of sound pressure level become increased 5dB (A), when external static pressure is 130Pa.



		del FDU140VNVD			
	L	Indoor unit FDU140VD	Outdoor unit FDC140VN		
Item					
Power source			220-240V ~ 50Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.) ~ 14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]		
Power consumption	kW	4.95	4.43		
Running current	Α	21.7	19.5		
Power factor	%	99	99		
Inrush current	Α	5 < Max.runnir	ng current 28 >		
Sound Pressure Level	dB(A)	Hi : 43 Lo : 38	51		
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 650	845 × 970 × 370		
Exterior appearance (Munsell color)		_	Stucco White (4.2Y7.5/1.1) near equivalent		
Net weight	kg	63	81		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q.	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	Propeller fan × 1		
Motor <starting method=""></starting>	W	370 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	Hi: 42 Lo: 33.5	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard: 60 Max: 130	0		
Outdoor air intake		Possible (on return duct)			
Air filter, Q'ty		Procure locally			
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W		20 (Crank case heater)		
Remote controller		wired : RC-E5 (option) wire	,		
Room temperature control		Thermostat by electronics			
·		Internal thermostat for fan motor	Internal thermostat for fan motor		
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection		
Installation data		•	φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm		φ 15.88 (5/8") × 1.0 φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between		Max.30m (Outdoor unit is higher)	*1.See page 154		
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)			
Refrigerant Quantity	R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m)		the amount for the piping of : 30m)		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs		
Insulation for piping		Necessary (both L	' '		
IP code		IPXO	IPX4		
		Drain hose	Edging		

Item	Indoor air temperature		n Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	60
Heating	20)°C	7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.

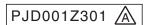
 (3) Sound pressure level indicates the value in an anechoic chamber.

 During operation these value are somewhat higher due to ambient temperature.

 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz

 (5) External static pressure can be changed from standard external static pressure (factory setting) to maximum external static pressure (high static pressure setting) by remote controller.

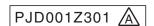
 (6) Value of sound pressure level become increased 5dB (A), when external static pressure is 130Pa.



	Model	del FDU140VSVD			
	[Indoor unit FDU140VD	Outdoor unit FDC140VS		
Item					
Power source			380-415V 3N∼50Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]		
Power consumption	kW	4.95	4.43		
Running current	Α	7.4	6.6		
Power factor	%	97	97		
Inrush current	Α	5 < Max.runnir	ng current 19 >		
Sound Pressure Level	dB(A)	Hi : 43 Lo : 38	51		
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 650	845 × 970 × 370		
Exterior appearance (Munsell color)		-	Stucco White (4.2Y7.5/1.1) near equivalent		
Net weight	kg	63	83		
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE3 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q	_	0.9 M-MA68		
Heat exchanger	1	Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	Propeller fan × 1		
Motor <starting method=""></starting>	W	370 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	Hi : 42 Lo : 33.5	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard: 60 Max: 130	0		
Outdoor air intake		Possible (on return duct)	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
nsulation (noise & heat)		Polyurethane form	_		
Electric heater	W		20 (Crank case heater)		
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line: I/U ϕ 9.52 (3/8") Pipe of	φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm -	Gas line : φ15.88 (5/8")	φ 15.88 (5/8") × 1.0 φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher)			
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl.	the amount for the piping of : 30m)		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs		
Insulation for piping		Necessary (both L	Liquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Drain hose	Edging		

Item	Indoor air temperature		Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	60
Heating	20°C		7°C	6°C	80

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber.
 During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz
 (5) External static pressure can be changed from standard external static pressure (factory setting) to maximum external static pressure (high static pressure setting) by remote controller.
 (6) Value of sound pressure level become increased 5dB (A), when external static pressure is 130Pa.



	Model	FDU200VSVF			
Item		Indoor unit FDU200VF	Outdoor unit FDC200VS		
Power source			380-415V 3N~50Hz / 380V 3N~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	20.0 [7.0 (Min.)~22.4 (Max.)]	22.4 [7.6 (Min.) ~ 25.0 (Max.)]		
Power consumption	kW	6.59 / 6.58	6.08 / 5.84		
Running current	А	10.8 / 11.4	10.2 / 10.3		
Power factor	%	88	86		
Inrush current	А	5 < Max.runnir	ng current 24 >		
Sound Pressure Level	dB(A)	51	57		
Exterior dimensions Height x Width x Depth	mm	360 × 1,570 × 830	1,300 × 970 × 370		
Exterior appearance			Stucco White		
(Munsell color)		_	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	92	122		
Refrigerant equipment Compressor type & Q'ty		-	GTC5150ND70K × 1		
Starting method		_	Direct line start		
Refrigerant oil	l	-	1.45 M-MA32R		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		-	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 2		
Motor <starting method=""></starting>	W	270 × 2 < Direct line start >	86 × 2 < Direct line start >		
Air flow	CMM	Hi : 51 / 60	Cooling: 150, Heating: 145		
External static pressure	Pa	200	0		
Outdoor air intake		Possible (on return duct)	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	33 (Crank case heater)		
Remote controller		wired : RC-EX1A (option) wired : RC-E5	(option) wireless : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U φ 9.52 (3/8") Pipe φ 9.52 (3 /8")	× 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : I/U φ 25.4 (1") φ 22.22 (7/8'	') × 1.6 φ 22.22 (7/8")		
Connecting method		Brazing	Liquid : Flare / Gas : Brazing		
Refrigerant line (one way) length		Max.70m			
Vertical height difference between outdoor unit and indoor unit	e between Max.30m (Outdoor		9 ,		
Refrigerant Quantity		R410A 5.4kg in outdoor unit (incl. the amount for the piping of : 30m)			
Drain pump		_	_		
Drain		Hose Connectable with VP25	Holes size φ 20 × 3pcs		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories			Connecting pipe, Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		tem Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	100
Heating	20°C		7°C	6°C	(With optional fan controller kit : U-FCRA)

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Values of sound pressure level become increased 5dB(A) when external static pressure is 200Pa (factory setting). (6) Values of air flow are those at external static pressure 200Pa (factory setting).

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	Model	FDU250VSVF			
Item		Indoor unit FDU250VSVF	Outdoor unit FDC250VS		
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	25.0 [10.0 (Min.)~28.0 (Max.)]	28.0 [9.5 (Min.)~31.5 (Max.)]		
Power consumption	kW	9.91 / 10.21	8.50 / 8.22		
Running current	Α	15.7 / 17.0	14.4 / 14.7		
Power factor	%	91	85		
Inrush current	Α	5 < Max.runnir	ng current 27 >		
Sound Pressure Level	dB(A)	52	Cooling: 57 Heating: 58		
Exterior dimensions Height x Width x Depth	mm	360 × 1,570 × 830	1,505 × 970 × 370		
Exterior appearance			Stucco White		
(Munsell color)		-	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	92	140		
Refrigerant equipment Compressor type & Q'ty			GTC5150ND70K × 1		
Starting method		_	Direct line start		
Refrigerant oil	l	_	1.45 M-MA32R		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment		Contributed for 1. 4	Dranallar fan 0		
Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 2		
Motor <starting method=""></starting>	W	270 × 2 < Direct line start >	86 × 2 < Direct line start >		
Air flow	CMM	Hi : 68 / 80	Cooling: 150, Heating: 145		
External static pressure	Pa	200	0		
Outdoor air intake		Possible (on return duct)	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	33 (Crank case heater)		
Remote controller		wired : RC-EX1A (option) wired : RC-E5	(option) wireless : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U φ 12.7 (1/2") Pipe φ 12.7 (1/2")	× 0.8 O/U ϕ 12.7 (1/2")		
Refrigerant piping size	mm —	Gas line : I/U φ 25.4 (1") φ 22.22 (7/8'	') × 1.6 φ 22.22 (7/8")		
Connecting method		Brazing	Liquid: Flare / Gas: Brazing		
Refrigerant line (one way) length		Max.70m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	*1.See page 154		
Refrigerant Quantity	R410A 7.2kg in outdoor unit (incl. the amount for the piping of : 30m		the amount for the piping of : 30m)		
Drain pump		_	_		
Drain		Hose Connectable with VP25	Holes size φ 20 × 3pcs		
Insulation for piping		Necessary (both L			
IP code					
Standard Accessories					

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		em Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	100
Heating	20°C		7°C	6°C	(With optional fan controller kit : U-FCRA)

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Values of sound pressure level become increased 5dB (A) when external static pressure is 200Pa (factory setting). (6) Values of air flow are those at external static pressure 200Pa (factory setting).

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(5) Duct connected-Low / Middle static pressure type (FDUM) (a) Single type

Adapted to RoHS directive

	Model	el FDUM100VNVF				
Item		Indoor unit FDUM100VF	Outdoor unit FDC100VN			
Power source			220-240V~50Hz / 220V~60Hz			
Operation data		Cooling	Heating			
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]			
Power consumption	kW	2.8	3.02			
Running current	А	12.6 / 13.2	13.5 / 14.1			
Power factor	%	97 / 96	97			
Inrush current	А	5 < Max.runnin	ng current 24 >			
Sound Pressure Level	dB(A)	P-Hi: 44 Hi: 38 Me: 36 Lo: 30	49			
Exterior dimensions	mm	280 × 1,370 × 740	845 × 970 × 370			
Height x Width x Depth			C4: \ \A/I-i4-			
Exterior appearance (Munsell color)		-	Stucco White (4.2Y7.5/1.1) near equivalent			
Net weight	kg	54	81			
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE2 × 1			
Starting method		_	Direct line start			
Refrigerant oil	e	_	0.9 M-MA68			
Heat exchanger	Ť	Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Air handling equipment			'			
Fan type & Q'ty		Centrifugal fan × 3	Propeller fan × 1			
Motor <starting method=""></starting>	W	100 + 130 < Direct line start >	86 < Direct line start >			
Air flow (Standard)	CMM	P-Hi: 36 Hi: 28 Me: 25 Lo: 19	Cooling: 75, Heating: 73			
External static pressure	Pa	Standard: 60 Max: 100	0			
Outdoor air intake		Possible	_			
Air filter, Q'ty		Procure locally	_			
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)			
nsulation (noise & heat)		Polyurethane form	_			
Electric heater	W	_	20 (Crank case heater)			
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)			
Room temperature control		Thermostat by electronics	_			
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.			
Installation data		Liquid line : I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")				
Refrigerant piping size	mm —	Gas line : I/U φ 15.88 (5/8") φ 15.88 (5/8'				
Connecting method		Flare piping	Flare piping			
Refrigerant line (one way) length		Max.50m				
Vertical height difference between		Max.30m (Outdoor unit is higher)	*1.See page 154			
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)				
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	the amount for the piping of : 30m)			
Drain pump		Built-in Drain pump	——————————————————————————————————————			
Drain Drain		Hose Connectable with VP20	Holes size φ20 x 3pcs			
Insulation for piping		Necessary (both L				
IP code		IPXO	IPX4			
Standard Accessories		Drain hose	Edging			
Otalidald Accessories		Diaii ii056	Luging			

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Item Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	60
Heating	20°C		7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.
 (6) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDUM100VSVF			
Item		Indoor unit FDUM100VF	Outdoor unit FDC100VS		
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]		
Power consumption	kW	2.8	3.02		
Running current	Α	4.2 / 4.4	4.5 / 4.7		
Power factor	%	96 / 97	97 / 98		
Inrush current	Α	5 < Max.runnir	ng current 15 >		
Sound Pressure Level	dB(A)	P-Hi: 44 Hi: 38 Me: 36 Lo: 30	49		
Exterior dimensions Height x Width x Depth	mm	280 × 1,370 × 740	845 × 970 × 370		
Exterior appearance			Stucco White		
(Munsell color)		_	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	54	83		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1		
Starting method		_	Direct line start		
Refrigerant oil	l	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control		-	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 3	Propeller fan x 1		
Motor <starting method=""></starting>	W	100 + 130 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 36 Hi: 28 Me: 25 Lo: 19	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard: 60 Max: 100	0		
Outdoor air intake		Possible	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	-		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	<u> </u>		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U ϕ 9.52 (3/8") Pipe ϕ 9.52 (3/8")	× 0.8 O/U ϕ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : I/U φ 15.88 (5/8") φ 15.88 (5/8"	') × 1.0		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher)			
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	the amount for the piping of : 30m)		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Drain hose	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		oor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19℃	35°C	24°C	60
Heating	20°C		7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.
 (6) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model				
Item		Indoor unit FDUM125VF	Outdoor unit FDC125VN		
Power source			220-240V~50Hz/220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.~16.0 (Max.)]		
Power consumption	kW	3.90	3.88		
Running current	А	17.5 / 18.3	17.4 / 18.2		
Power factor	%	97	97		
Inrush current	Α	5 < Max.runnin	g current 24 >		
Sound Pressure Level	dB(A)	P-Hi: 45 Hi: 40 Me: 34 Lo: 29	Cooling: 50 Heating: 51		
Exterior dimensions Height x Width x Depth	mm	280 × 1,370 × 740	845 × 970 × 370		
Exterior appearance			Stucco White		
(Munsell color)		_	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	54	81		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1		
Starting method		-	Direct line start		
Refrigerant oil	l	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 3	Propeller fan × 1		
Motor <starting method=""></starting>	W	100 + 200 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi:39 Hi:32 Me:26 Lo:20	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard: 60 Max: 100	0		
Outdoor air intake		Possible	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	, <u> </u>	20 (Crank case heater)		
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")	× 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : I/U φ 15.88 (5/8") φ 15.88 (5/8"	') × 1.0 φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher)			
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	he amount for the piping of : 30m)		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Drain hose	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air	Indoor air temperature		temperature	External static pressure of indoor unit
Operatio	n DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	60
Heating	2	20°C		6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.
 (6) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDUM125VSVF			
Item		Indoor unit FDUM125VF	Outdoor unit FDC125VN		
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]		
Power consumption	kW	3.90	3.88		
Running current	А	5.8 / 6.1	5.8 / 6.1		
Power factor	%	97	97		
Inrush current	Α	5 < Max.runnin	ng current 15 >		
Sound Pressure Level	dB(A)	P-Hi: 45 Hi: 40 Me: 34 Lo: 29	Cooling: 50 Heating: 51		
Exterior dimensions Height x Width x Depth	mm	280 × 1,370 × 740	845 × 970 × 370		
Exterior appearance			Stucco White		
(Munsell color)		_	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	54	83		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1		
Starting method		<u> </u>	Direct line start		
Refrigerant oil	l	<u> </u>	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control		-	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 3	Propeller fan x 1		
Motor <starting method=""></starting>	W	100 + 200 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi:39 Hi:32 Me:26 Lo:20	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard: 60 Max: 100	0		
Outdoor air intake		Possible	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/ U φ 9.52 (3/8") Pipe φ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : I/U φ 15.88 (5/8") φ 15.88 (5/8"	") × 1.0 ϕ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	※1.See page 154		
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	the amount for the piping of : 30m)		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both L			
IP code		IPXO	IPX4		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		tem Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	60
Heating	20°C		7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.
 (6) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDUM140VNVF			
Item		Indoor unit FDUM140VF	Outdoor unit FDC140VN		
Power source			220-240V~50Hz/220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]		
Power consumption	kW	4.95	4.69		
Running current	А	22.2 / 23.2	21.0 / 22.0		
Power factor	%	97	97		
Inrush current	А	5 < Max.runnir	ng current 24 >		
Sound Pressure Level	dB(A)	P-Hi: 47 Hi: 40 Me: 35 Lo: 30	51		
Exterior dimensions Height x Width x Depth	mm	280 × 1,370 × 740	845 × 970 × 370		
Exterior appearance			Stucco White		
(Munsell color)			(4.2Y7.5/1.1) near equivalent		
Net weight	kg	54	81		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1		
Starting method		_	Direct line start		
Refrigerant oil	l	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control		-	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 3	Propeller fan × 1		
Motor <starting method=""></starting>	W	100 + 200 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 48 Hi: 35 Me: 28 Lo: 22	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard: 60 Max: 100	0		
Outdoor air intake		Possible	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U ϕ 9.52 (3/8") Pipe ϕ 9.52 (3/8")	× 0.8 O/U ϕ 9.52 (3/8")		
Refrigerant piping size	mm –	Gas line : I/U φ 15.88 (5/8") φ 15.88 (5/8"	") × 1.0		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher)			
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	the amount for the piping of : 30m)		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Drain hose	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		m Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	60
Heating	20°C		7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.
 (6) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model					
Item		Indoor unit FDUM140VF	Outdoor unit FDC140VN			
Power source			380-415V 3N~50Hz / 380V 3N~60Hz			
Operation data		Cooling	Heating			
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]			
Power consumption	kW	4.95	4.69			
Running current	Α	7.4 / 7.8	7.0 / 7.4			
Power factor	%	97 / 96	97 / 96			
Inrush current	Α	5 < Max.runnir	ng current 15 >			
Sound Pressure Level	dB(A)	P-Hi: 47 Hi: 40 Me: 35 Lo: 30	51			
Exterior dimensions Height x Width x Depth	mm	280 × 1,370 × 740	845 × 970 × 370			
Exterior appearance (Munsell color)		-	Stucco White (4.2Y7.5/1.1) near equivalent			
Net weight	kg	54	83			
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE3 × 1			
Starting method		_	Direct line start			
Refrigerant oil	l	_	0.9 M-MA68			
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control		_	Electronic expansion valve			
Air handling equipment Fan type & Q'ty		Centrifugal fan × 3	Propeller fan × 1			
Motor <starting method=""></starting>	W	100 + 200 < Direct line start >	86 < Direct line start >			
Air flow (Standard)	CMM	P-Hi: 48 Hi: 35 Me: 28 Lo: 22	Cooling: 75, Heating: 73			
External static pressure	Pa	Standard: 60 Max: 100	0			
Outdoor air intake		Possible	_			
Air filter, Q'ty		Procure locally	_			
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)			
Insulation (noise & heat)		Polyurethane form	_			
Electric heater	W		20 (Crank case heater)			
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)			
Room temperature control		Thermostat by electronics	_			
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.			
Installation data		Liquid line: I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8")) × 0.8 O/U ϕ 9.52 (3/8")			
Refrigerant piping size	mm	Gas line : I/U φ 15.88 (5/8") φ 15.88 (5/8"	") × 1.0			
Connecting method		Flare piping	Flare piping			
Refrigerant line (one way) length		Max.50m				
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	※1.See page 154			
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl.	the amount for the piping of : 30m)			
Drain pump		Built-in Drain pump	_			
Drain		Hose Connectable with VP20	Holes size φ 20 × 3pcs			
Insulation for piping		Necessary (both L	Liquid & Gas lines)			
IP code		IPXO	IPX4			
Standard Accessories		Drain hose	Edging			

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		m Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C	19°C	35°C	24°C	60
Heating	20°C		7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz. (5) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially. (6) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

(b) Twin type

Adapted to **RoHS** directive

(b) Twiii type	Model	FDUM100VSPVF			
Item		Indoor unit FDUM50VF (2 units)	Outdoor unit FDC100VN		
Power source			220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]		
Power consumption	kW	2.84	3.35		
Running current	Α	12.7 / 13.3	15.0 / 15.7		
Power factor	%	97	97		
Inrush current	Α	5 < Max.runnir	na current 24 >		
Sound Pressure Level	dB(A)	P-Hi: 37 Hi: 32 Me: 29 Lo: 26	49		
Exterior dimensions	`				
Height x Width x Depth	mm	280 × 750 × 635	845×970×370		
Exterior appearance		_	Stucco White		
(Munsell color)			(4.2Y7.5 / 1.1) near equivalent		
Net weight	kg	29	81		
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE2×1		
Starting method		_	Direct line start		
Refrigerant oil	l	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan ×1	Propeller fan × 1		
Motor <starting method=""></starting>	W	100 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi:13 Hi:10 Me:9 Lo:8	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard: 35 Max: 100	0		
Outdoor air intake		Possible	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×			
Refrigerant piping size	mm	Gas line : I/U ϕ 12.7 (1/2") $\otimes \phi$ 13.7 (1/2") \times			
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m	Titule piping		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) See page 154			
		Max.15m (Outdoor unit is lower) R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m)			
Refrigerant Quantity Drain pump		H410A 3.8kg in outdoor unit (inci. t Built-in Drain pump	ne amount for the piping of : 30m)		
· · ·					
Drain		Hose Connectable with VP20	Holes size φ20 x 3pcs		
Insulation for piping		Necessary (both L			
IP code		IPXO	IPX4		
Standard Accessories		Drain hose	Edging		

Notes (1) The data are measured at the following conditions.

	Item	Indoor air temperature		Outdoor air	temperature	External static pressure of indoor unit
ſ	Operation	DB	WB	DB	WB	Pa
	Cooling	27°C 19°C		35°C	24°C	25
ſ	Heating	20°C		7°C	6°C	35

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (4) The operation data indicates when the air-conditioner is operated at 250/01/2 U = 220/001/2. (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together. (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U Branch, ②: Pipe of Branch—I/U (7) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially. (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDUM100VSPVF				
tem		Indoor unit FDUM50VF (2 units)	Outdoor unit FDC100VS			
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz			
Operation data		Cooling	Heating			
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.)~12.5 (Max.)]			
Power consumption	kW	2.84	3.35			
Running current	А	4.2 / 4.4	5.0 / 5.3			
Power factor	%	98	97 / 96			
Inrush current	Α	5 < Max.runnir	na current 15 >			
Sound Pressure Level	dB(A)	P-Hi: 37 Hi: 32 Me: 29 Lo: 26	49			
Exterior dimensions						
Height x Width x Depth	mm	280 × 750 × 635	845×970×370			
Exterior appearance		_	Stucco White			
(Munsell color)			(4.2Y7.5 / 1.1) near equivalent			
Net weight	kg	29	83			
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3×1			
Starting method		_	Direct line start			
Refrigerant oil	l	_	0.9 M-MA68			
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control		_	Electronic expansion valve			
Air handling equipment Fan type & Q'ty		Centrifugal fan ×1	Propeller fan × 1			
Motor <starting method=""></starting>	W	100 < Direct line start >	86 < Direct line start >			
Air flow (Standard)	CMM	P-Hi:13 Hi:10 Me:9 Lo:8	Cooling: 75, Heating: 73			
External static pressure	Pa	Standard : 35 Max : 100	0			
Outdoor air intake		Possible				
Air filter, Q'ty		Procure locally	_			
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)			
Insulation (noise & heat)		Polyurethane form	——————————————————————————————————————			
Electric heater	W		20 (Crank case heater)			
Remote controller		wired : RC-E5 (option) wire	,			
Room temperature control		Thermostat by electronics				
·		Overload protection for fan motor	Internal thermostat for fan motor			
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.			
Installation data		Liquid line: I/U \(\phi \) 6.35 (1/4") \(\tilde{2} \phi \) 9.52 (3/8") \(\tilde{x} \)				
Refrigerant piping size	mm —	Gas line : I/U ϕ 12.7 (1/2") $@$ ϕ 13.7 (1/2") \times				
Connecting method		Flare piping	Flare piping			
Refrigerant line (one way) length		Max.50m	I idio piping			
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154			
outdoor unit and indoor unit		Max.15m (Outdoor unit is higher)				
Refrigerant Quantity		,	he amount for the piping of : 30m)			
Drain pump		Built-in Drain pump	——————————————————————————————————————			
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs			
Insulation for piping		Necessary (both L				
IP code		IPXO	IPX4			
Standard Accessories		Drain hose	Edging			

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Item Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C 19°C		35°C	24°C	25
Heating	20)°C	7°C	6°C	35

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.

 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.

 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.

 (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U ~ Branch, ②: Pipe of Branch~I/U

 (7) Static pressure of optional air filter "UMF-L1EF" is 5Pa initially.

- (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDUM125VNPVF				
Item		Indoor unit FDUM60VF (2 units)	Outdoor unit FDC125VN			
Power source			220-240V ~ 50Hz / 220V ~ 60Hz			
Operation data		Cooling	Heating			
Nominal capacity	kW	12.5 [5.0 (Min.) ~ 14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]			
Power consumption	kW	3.87	4.07			
Running current	Α	17.3 / 18.1	18.2 / 19.0			
Power factor	%	97	97			
Inrush current	Α	5 < Max.runnin	g current 24 >			
Sound Pressure Level	dB(A)	P-Hi:36 Hi:31 Me:28 Lo:25	Cooling: 50 Heating: 51			
Exterior dimensions Height x Width x Depth	mm	280 × 950 × 738	845×970×370			
Exterior appearance (Munsell color)		-	Stucco White (4.2Y7.5 / 1.1) near equivalent			
Net weight	kg	34	81			
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2×1			
Starting method		_	Direct line start			
Refrigerant oil	l	_	0.9 M-MA68			
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control		_	Electronic expansion valve			
Air handling equipment Fan type & Q'ty		Centrifugal fan ×2	Propeller fan × 1			
Motor <starting method=""></starting>	W	130 < Direct line start >	86 < Direct line start >			
Air flow (Standard)	CMM	P-Hi: 20 Hi: 15 Me: 13 Lo: 10	Cooling: 75 , Heating: 73			
External static pressure	Pa	Standard: 35 Max: 100	0			
Outdoor air intake		Possible	-			
Air filter, Q'ty		Procure locally	-			
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)			
nsulation (noise & heat)		Polyurethane form	-			
lectric heater	W	_	20 (Crank case heater)			
Remote controller		wired: RC-E5 (option) wired:	on) wireless : RCN-KIT3-E (option)			
Room temperature control		Thermostat by electronics	-			
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.			
nstallation data	mm —	Liquid line : I/U ϕ 6.35 (1/4") $\textcircled{2}$ ϕ 9.52 (3/8") \times	0.8 ① ϕ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")			
Refrigerant piping size	111111	Gas line : I/U ϕ 12.7 (1/2") $\textcircled{2}$ ϕ 12.7 (1/2") \times	0.8 ① ϕ 15.88 (5/8") × 1.0 O/U ϕ 15.88 (5/8")			
Connecting method		Flare piping	Flare piping			
Refrigerant line (one way) length		Max.50m				
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower) See page 154				
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	he amount for the piping of : 30m)			
Orain pump		Built-in Drain pump				
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs			
nsulation for piping		Necessary (both Liquid & Gas lines)				
P code		IPXO	IPX4			
Standard Accessories		Drain hose	Edging			

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature	External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C 19°C		35°C	24°C	35
Heating	20	°C	7°C	6°C	35

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (6) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

 (7) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.

 (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDUM125VSPVF			
Item		Indoor unit FDUM60VF (2 units)	Outdoor unit FDC125VS		
Power source			380-415V 3N~ 50Hz / 380V 3N~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	12.5 [5.0 (Min.) ~ 14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]		
Power consumption	kW	3.87	4.07		
Running current	А	5.8 / 6.1	6.1 / 6.4		
Power factor	%	96	96 / 97		
Inrush current	Α	5 < Max.runnir	ng current 15 >		
Sound Pressure Level	dB(A)	P-Hi: 36 Hi: 31 Me: 28 Lo: 25	Cooling: 50 Heating: 51		
Exterior dimensions Height x Width x Depth	mm	280 × 950 × 635	845×970×370		
Exterior appearance		_	Stucco White		
(Munsell color)			(4.2Y7.5 / 1.1) near equivalent		
Net weight	kg	34	83		
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE3×1		
Starting method		_	Direct line start		
Refrigerant oil	l	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control		-	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan ×2	Propeller fan × 1		
Motor <starting method=""></starting>	W	130 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi:20 Hi:15 Me:13 Lo:10	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard: 35 Max: 100	0		
Outdoor air intake		Possible	-		
Air filter, Q'ty		Procure locally	-		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	-		
Electric heater	W	-	20 (Crank case heater)		
Remote controller		wired: RC-E5 (option) wireless: RCN-KIT3-E (option)			
Room temperature control		Thermostat by electronics	-		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U ϕ 6.35 (1/4") ② ϕ 9.52 (3/8") ×	0.8 ① φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")		
Refrigerant piping size	mm —	Gas line : I/U ϕ 12.7 (1/2") ② ϕ 12.7 (1/2") ×	0.8 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower) See page 154			
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	he amount for the piping of : 30m)		
Drain pump		Built-in Drain pump			
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both L			
IP code		IPXO	IPX4		
Standard Accessories			Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C 19°C		35°C	24°C	35
Heating	20°C		7°C	6°C	35

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to (3) Sound pressure level indicates the value in an anecnoic cnamber. During operation triese value are somewhat higher of ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
 (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.
 (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDUM140VNPVF				
Item		Indoor unit FDUM71VF (2 units)	Outdoor unit FDC140VN			
Power source			220-240V ~ 50Hz / 220V ~ 60Hz			
Operation data		Cooling	Heating			
Nominal capacity	kW	14.0 [5.0 (Min.) ~ 14.5 (Max.)]	16.0 [4.0 (Min.)~ 16.5 (Max.)]			
Power consumption	kW	4.78	4.60			
Running current	А	21.4 / 22.4	20.6 / 21.5			
Power factor	%	97	97			
Inrush current	А	5 < Max.runnir	ng current 24 >			
Sound Pressure Level	dB(A)	P-Hi: 38 Hi: 33 Me: 29 Lo: 25	51			
Exterior dimensions Height × Width × Depth	mm	280 × 950 × 635	845×970×370			
Exterior appearance			Stucco White			
(Munsell color)			(4.2Y7.5 / 1.1) near equivalent			
Net weight	kg	34	81			
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE2×1			
Starting method		-	Direct line start			
Refrigerant oil	l	-	0.9 M-MA68			
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control		_	Electronic expansion valve			
Air handling equipment Fan type & Q'ty		Centrifugal fan ×2	Propeller fan × 1			
Motor <starting method=""></starting>	W	130 < Direct line start >	86 < Direct line start >			
Air flow (Standard)	CMM	P-Hi: 24 Hi: 19 Me: 15 Lo: 10	Cooling: 75, Heating: 73			
External static pressure	Pa	Standard : 35 Max : 100	0			
Outdoor air intake		Possible	_			
Air filter, Q'ty		Procure locally	_			
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)			
Insulation (noise & heat)		Polyurethane form	_			
Electric heater	W	_	20 (Crank case heater)			
Remote controller		wired: RC-E5 (option) wi	reless : RCN-KIT3-E (option)			
Room temperature control		Thermostat by electronics	_			
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.			
Installation data		Liquid line : I/U φ 9.52 (3/8") ② φ 9.52 (3/8")	× 0.8 ① φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")			
Refrigerant piping size	mm —	Gas line : I/U φ 15.88 (5/8") ② φ 15.88 (5/8")) × 1.0 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")			
Connecting method		Flare piping	Flare piping			
Refrigerant line (one way) length		Max.50m				
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154			
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	he amount for the piping of : 30m)			
Drain pump		Built-in Drain pump				
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs			
Insulation for piping		Necessary (both L				
IP code		IPXO	IPX4			
Standard Accessories		Drain hose	Edging			

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air temperature		External static pressure of indoor unit
Operation	DB WB		DB	WB	Pa
Cooling	27°C 19°C		35°C	24°C	35
Heating	20°C		7°C	6°C	33

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (8) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.
 (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDUM140VSPVF				
Item		Indoor unit FDUM71VF (2 units)	Outdoor unit FDC140VS			
Power source		_	380-415V 3N~ 50Hz / 380V 3N~ 60Hz			
Operation data		Cooling	Heating			
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]			
Power consumption	kW	4.78	4.60			
Running current	Α	7.1 / 7.5	6.8 / 7.2			
Power factor	%	97	98 / 97			
Inrush current	A		ng current 15 >			
Sound Pressure Level	dB(A)	P-Hi:38 Hi:33 Me:29 Lo:25	51			
Exterior dimensions Height × Width × Depth	mm	280 × 950 × 635	845×970×370			
<u> </u>			Stucco White			
Exterior appearance (Munsell color)		_	(4.2Y7.5 / 1.1) near equivalent			
Net weight	kg	34	83			
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3×1			
Starting method		-	Direct line start			
Refrigerant oil	e	_	0.9 M-MA68			
Heat exchanger	_	Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control			Electronic expansion valve			
Air handling equipment			,			
Fan type & Q'ty		Centrifugal fan ×2	Propeller fan × 1			
Motor <starting method=""></starting>	W	130 < Direct line start >	86 < Direct line start >			
Air flow (Standard)	CMM	P-Hi: 24 Hi: 19 Me: 15 Lo: 10	Cooling: 75, Heating: 73			
External static pressure	Pa	Standard: 35 Max: 100	0			
Outdoor air intake		Possible	_			
Air filter, Q'ty		Procure locally	_			
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)			
Insulation (noise & heat)		Polyurethane form	_			
Electric heater	W	<u> </u>	20 (Crank case heater)			
Remote controller		wired: RC-E5 (option) wireless: RCN-KIT3-E (option)				
Room temperature control		Thermostat by electronics	_			
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.			
Installation data		· · · · · · · · · · · · · · · · · · ·	\times 0.8 ① ϕ 9.52 (3/8") \times 0.8 O/U ϕ 9.52 (3/8")			
Refrigerant piping size	mm		× 1.0 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")			
Connecting method		Flare piping	Flare piping			
Refrigerant line (one way) length		Max.50m	Ι ιαι ε ριριιία			
. , ,, ,			See page 154			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	300 page 101			
		,	the amount for the pining of : 20m)			
Refrigerant Quantity		• • • • • • • • • • • • • • • • • • • •	the amount for the piping of : 30m)			
Drain pump		Built-in Drain pump				
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs			
Insulation for piping			Liquid & Gas lines)			
IP code		IPXO	IPX4			
Standard Accessories		Drain hose	Edging			

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature	External static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27°C 19°C		35°C	24°C	25
Heating	20°C		7°C	6°C	35

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (8) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.
 (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

Power source Operation data Nominal capacity Power consumption Running current	kW	Indoor unit FDUM100VF (2 units)	Outdoor unit FDC200VS 380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz	
Operation data Nominal capacity Power consumption Running current	kW	Oaslin-	380-415V 3N~50Hz / 380V 3N~60Hz	
Nominal capacity Power consumption Running current	kW	0 11	380-415V 3N~50Hz / 380V 3N~60Hz	
Power consumption Running current	kW	Cooling	Heating	
Running current	inal capacity kW 20.0 [7.0 (Min.) ~ 22.		22.4 [7.6 (Min.)~25.0 (Max.)]	
-	kW	6.86	7.22	
-	A	10.5 / 11.1	11.1 / 11.7	
Power factor	%	94	94	
Inrush current	A	5 < Max.runnin	a current 19 >	
Sound Pressure Level	dB(A)	P-Hi: 44 Hi: 38 Me: 36 Lo: 30	57	
Exterior dimensions	. ,			
Height x Width x Depth	mm	280 × 1,370 × 740	1,300 × 970 × 370	
Exterior appearance (Munsell color)		_	Stucco White (4.2Y7.5/1.1) near equivalent	
Net weight	kg	54	122	
Refrigerant equipment Compressor type & Q'ty		-	GTC5150ND70K × 1	
Starting method		_	Direct line start	
Refrigerant oil	e l	_	1.45 M-MA32R	
Heat exchanger	*	Louver fin & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		—	Electronic expansion valve	
hir handling equipment			•	
Fan type & Q'ty		Centrifugal fan × 3	Propeller fan × 2	
Motor <starting method=""></starting>	W	100 + 130 < Direct line start >	86 x 2 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 36 Hi: 28 Me: 25 Lo: 19	Cooling: 150, Heating: 145	
External static pressure	Pa	Standard: 60 Max: 100	0	
Outdoor air intake		possible	_	
Air filter, Q'ty		Procure locally	<u> </u>	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
nsulation (noise & heat)		Polyurethane form	_	
lectric heater	W	-	20 (Crank case heater)	
Remote controller		wired: RC-E5 (option) wire	eless : RCN-KIT3-E (option)	
Room temperature control		Thermostat by electronics	-	
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
nstallation data		Liquid line: I/U ϕ 9.52 (3/8") ② ϕ 9.52 (3/8")	× 0.8 ① φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8")	
Refrigerant piping size	mm —	. , , , -, , ,	× 1.0 ① φ 22.22 (7/8") × 1.6 O/U φ 22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing	
Refrigerant line (one way) length		Max.70m		
Vertical height difference between outdoor unit is higher) outdoor unit and indoor unit Max.15m (Outdoor unit is lower)		See page 154		
Refrigerant Quantity		R410A 5.4kg (Pre-charged up to the	piping length of 30m) Outdoor unit	
Orain pump		Built-in Drain pump	<u> </u>	
)rain		Hose Connectable with VP20	Holes size	
nsulation for piping		Necessary (both L		
P code		IPXO	IPX4	
Standard Accessories		Drain hose	Connecting pipe, Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature Outdoor air temperature		Indoor air temperature		External static pressure of indoor unit	
Operati	on	BD WB		DB	WB	Pa
Coolin	g	27°C 19°C 20°C		35°C	24°C	60
Heatin	g			7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (6) Branching pipe set "DIS-WB1"×1(option). ①: Pipe of O/U ~ Branch, ②: Pipe of Branch~I/U (7) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.
- (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	el FDUM250VSPVF			
Item		Indoor unit FDUM125VF (2 units)	Outdoor unit FDC250VS		
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	25.0 [10.0 (Min.)~28.0 (Max.)]	28.0 [9.5 (Min.) ~ 31.5 (Max.)]		
Power consumption	kW	9.05	8.51		
Running current	Α	13.9 / 14.6	13.1 / 13.8		
Power factor	%	94	94		
Inrush current	А	5 < Max.runnir	ng current 22 >		
Sound Pressure Level	dB(A)	P-Hi: 45 Hi: 40 Me: 34 Lo: 29	Cooling: 57 Heating: 58		
Exterior dimensions Height x Width x Depth	mm	280 × 1,370 × 740	1,505 × 970 × 370		
Exterior appearance		_	Stucco White		
(Munsell color)			(4.2Y7.5/1.1) near equivalent		
Net weight	kg	54	140		
Refrigerant equipment Compressor type & Q'ty		_	GTC5150ND70K × 1		
Starting method		<u> </u>	Direct line start		
Refrigerant oil	l	-	1.45 M-MA32R		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 3	Propeller fan × 2		
Motor <starting method=""></starting>	W	100 + 200 < Direct line start >	86 x 2 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 39 Hi: 32 Me: 26 Lo: 20	Cooling: 150, Heating: 145		
External static pressure	Pa	Standard: 60 Max: 100	0		
Outdoor air intake		possible	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W		20 (Crank case heater)		
Remote controller		wired: RC-E5 (option) wireless: RCN-KIT3-E (option)			
Room temperature control		Thermostat by electronics	_		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U φ 9.52 (3/8") ② φ 9.52 (3/8")	× 0.8 ① φ 12.7 (1/2") × 0.8 O/U φ 12.7 (1/2")		
Refrigerant piping size	mm –	Gas line : I/U φ 15.88 (5/8") ② φ 15.88 (5/8") × 1.0 ① φ 22.22 (7/8") × 1.6 O/U φ 22.22 (7/8")		
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing		
Refrigerant line (one way) length		Max.70m			
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154		
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)			
Refrigerant Quantity		0, 0,	e piping length of 30m) Outdoor unit		
Drain pump		Built-in Drain pump	_		
Drain		Hose Connectable with VP20	Holes size φ 20 x 3pcs		
Insulation for piping			Liquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Drain hose	Connecting pipe, Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		e Outdoor air temperature		External static pressure of indoor unit
Operation			DB	WB	Pa
Cooling			35°C	24°C	60
Heating			7°C	6℃	80

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WB1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) Static pressure of optional air filter "UM-FL3EF" is 5Pa initially.

- (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

(c) Triple type Adapted to RoHS directive

	Model	FDUM140VNTVF				
Item	-	Indoor unit FDUM50VF (3 units)	Outdoor unit FDC140VN			
Power source			220-240V~50Hz/220V~60Hz			
Operation data		Cooling	Heating			
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]			
Power consumption	kW	4.65	5.15			
Running current	Α	20.8 / 21.7	23.1 / 24.2			
Power factor	%	97	97			
Inrush current	A	5 < Max.runnir	ng current 24 >			
Sound Pressure Level	dB(A)	P-Hi: 37 Hi: 32 Me: 29 Lo: 26	51			
Exterior dimensions Height x Width x Depth	mm	280 × 750 × 635	845 × 970 × 370			
Exterior appearance			Stucco White			
(Munsell color)		_	(4.2Y7.5/1.1) near equivalent			
Net weight	kg	29	81			
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1			
Starting method		-	Direct line start			
Refrigerant oil	l	-	0.9 M-MA68			
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing			
Refrigerant control		_	Electronic expansion valve			
Air handling equipment Fan type & Q'ty		Centrifugal fan × 1	Propeller fan × 1			
Motor <starting method=""></starting>	W	100 < Direct line start >	86 < Direct line start >			
Air flow (Standard)	CMM	P-Hi:13 Hi:10 Me:9 Lo:8	Cooling: 75, Heating: 73			
External static pressure	Pa	Standard: 35 Max: 100	0			
Outdoor air intake		possible	_			
Air filter, Q'ty		Procure locally	_			
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)			
nsulation (noise & heat)		Polyurethane form	-			
Electric heater	W	_	20 (Crank case heater)			
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)			
Room temperature control		Thermostat by electronics	<u> </u>			
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.			
nstallation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×	0.8 ① ϕ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")			
Refrigerant piping size	mm –	Gas line : I/U ϕ 12.7 (1/2") ② ϕ 12.7 (1/2") ×	0.8 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")			
Connecting method		Flare piping	Flare piping			
Refrigerant line (one way) length		Max.50m				
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) See page 155 Max.15m (Outdoor unit is lower)				
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. t	the amount for the piping of : 30m)			
Orain pump		Built-in Drain pump	_			
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs			
nsulation for piping		Necessary (both L				
P code		IPXO	IPX4			
1 6006						

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature Outdoor air temperature		External static pressure of indoor unit		
Operation	DB WB		DB	WB	Pa
Cooling	27°C 19°C		35°C	24°C	60
Heating	20°C		7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.
 (6) Branching pipe set "DIS-TA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
 (7) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially.
 (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	del FDUM140VSTVF			
Item		Indoor unit FDUM50VF (3 units)	Outdoor unit FDC140VS		
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.)~16.5 (Max.)]		
Power consumption	kW	4.65	5.15		
Running current	А	6.9 / 7.3	7.7 / 8.1		
Power factor	%	97	97		
Inrush current	A	5 < Max.runnin	g current 15 >		
Sound Pressure Level	dB(A)	P-Hi: 37 Hi: 32 Me: 29 Lo: 26	51		
Exterior dimensions Height x Width x Depth	mm	280 × 750 × 635	845 × 970 × 370		
Exterior appearance (Munsell color)		_	Stucco White (4.2Y7.5/1.1) near equivalent		
Net weight	kg	29	83		
Refrigerant equipment Compressor type & Q'ty	g	_	RMT5126MDE3 × 1		
Starting method		_	Direct line start		
Refrigerant oil	e l	_	0.9 M-MA68		
Heat exchanger		Louver fin & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	100 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	P-Hi:13 Hi:10 Me:9 Lo:8	Cooling: 75, Heating: 73		
External static pressure	Pa	Standard : 35 Max : 100	0		
Outdoor air intake	- ι α	possible			
Air filter, Q'ty		Procure locally			
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	——————————————————————————————————————		
Electric heater	W	- Ciyaretilare form	20 (Crank case heater)		
Remote controller		wired : RC-E5 (option) wire			
Room temperature control		Thermostat by electronics			
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data	mm	Liquid line : I/U ϕ 6.35 (1/4") ② ϕ 9.52 (3/8") ×	0.8 ① ϕ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")		
Refrigerant piping size		Gas line : I/U ϕ 12.7 (1/2") ② ϕ 12.7 (1/2") ×			
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m	0 155		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) See page 155 Max.15m (Outdoor unit is lower)			
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. the	ne amount for the piping of : 30m)		
Drain pump		Built-in Drain pump			
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Drain hose	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		or air temperature Outdoor air temperature		External static pressure of indoor unit
Operation			DB	WB	Pa
Cooling			35°C	24°C	60
Heating			7°C	6°C	60

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.

 (6) Branching pipe set "DIS-TA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

 (7) Static pressure of optional air filter "UM-FL1EF" is 5Pa initially.

 (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	del FDUM200VSTVF			
Item		Indoor unit FDUM71VF (3 units)	Outdoor unit FDC200VS		
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	20.0 [7.0 (Min.)~22.4 (Max.)]	22.4 [7.6 (Min.) ~25.0 (Max.)]		
Power consumption	er consumption kW		6.26		
Running current	А	10.1 / 10.6	9.6 / 10.1		
Power factor	%	94	94		
Inrush current	А	5 < Max.runnin	ng current 19 >		
Sound Pressure Level	dB(A)	P-Hi:38 Hi:33 Me:29 Lo:25	51		
Exterior dimensions Height x Width x Depth	mm	280 × 950 × 635 1,300 × 970 × 370			
Exterior appearance (Munsell color)		-	Stucco White (4.2Y7.5/1.1) near equivalent		
Net weight	kg 34		122		
Refrigerant equipment Compressor type & Q'ty		-	GTC5150ND70K x 1		
Starting method		_	Direct line start		
Refrigerant oil	l	_	1.45 M-MA32R		
Heat exchanger		Louver fin & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	Propeller fan × 2		
Motor <starting method=""></starting>	W	130 < Direct line start >	86 × 2 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 24 Hi: 19 Me: 15 Lo: 10	Cooling: 150, Heating: 145		
External static pressure	Pa	Standard: 35 Max: 100	0		
Outdoor air intake		possible	_		
Air filter, Q'ty		Procure locally	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	33 (Crank case heater)		
Remote controller		wired : RC-E5 (option) wire	eless : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	-		
Safety equipment		Overload protection for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U ϕ 9.52 (3/8") ② ϕ 9.52 (3/8")	× 0.8 ① ϕ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")		
Refrigerant piping size	mm —	Gas line : I/U φ 15.88 (5/8") ② φ 15.88 (5/8")) × 1.0 ① φ 22.22 (7/8") × 1.6 O/U φ 22.22 (7/8")		
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing		
Refrigerant line (one way) length		Max.70m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 155		
Refrigerant Quantity		R410A 5.4kg (Pre-charged up to the	e piping length of 30m)Outdoor unit		
Drain pump		Built-in Drain pump	<u> </u>		
Drain		Hose Connectable with VP20	Holes size φ20 x 3pcs		
Insulation for piping		Necessary (both L			
IP code		IPXO	IPX4		
	-	Drain hose	" / 1 /		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		m Indoor air temperature Outdoor air temperature		External static pressure of indoor unit
Operation			DB	WB	Pa
Cooling			35°C	24°C	60
Heating			7°C	6℃	00

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.

 (6) Branching pipe set "DIS-TB1"×1(option). ①: Pipe of O/U ~ Branch, ②: Pipe of Branch~I/U

 (7) Static pressure of optional air filter "UM-FL2EF" is 5Pa initially.

- (8) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

(6) Floor standing type (a) Single type

Adapted to RoHS directive

Deversion data Cooling		Model	FDF100VNVD			
	Item	_	Indoor unit FDF100VD	Outdoor unit FDC100VN		
Nominal capacity KW 10.0 [4.0 (Min.)-11.2 (Max.)] 11.2 [4.0 (Min.)-12.5 (Max.)]	Power source			220-240V~50Hz / 220V~60Hz		
Power consumption	Operation data		Cooling	Heating		
Running current	Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.)~12.5 (Max.)]		
Power factor	Power consumption	kW	3.12	3.10		
Inrush current	Running current	Α	13.8 / 14.5	13.8 / 14.4		
Sound Pressure Level	Power factor	%	98	98		
Exterior dimensions	Inrush current	Α	5 < Max.runni	ing current 24 >		
Height x Width x Depth	Sound Pressure Level	dB(A)	P-Hi: 54 Hi: 50 Me: 48 Lo: 44	49		
Height x Width x Depth	Exterior dimensions		1.050 600 200	0.45 0.70 0.70		
(Munsell color) (Munsell cultive day (Munsell color) (Munsell cultive day (Munsell cultive	Height x Width x Depth	mm	1,850 × 600 × 320	845 × 970 × 370		
Set weight Set	Exterior appearance		Ceramic White	Stucco White		
Refrigerant equipment Compressor type & Q'ty Starting method Refrigerant oil Refrigerant oil Refrigerant control Refrigerant income control Refrigerant piping size Refrigerant income way length Refrigerant income way l	(Munsell color)		(N8.0) near equivalent	(4.2Y7.5/1.1) near equivalent		
Refrigerant equipment Compressor type & Q'ty Starting method Refrigerant oil Refrigerant oil Refrigerant oil Refrigerant control Refrigerant reprines and refrigerant refrigerant interest control Refrigerant interest con	Net weight	kg				
Compressor type & Q'ty — RMT6126MDE2 × 1 Starting method — Direct line start Refrigerant oil ℓ — 0.9 M-MA68 Heat exchanger Louver fine & inner grooved tubing M shape fin & inner grooved tubing Refrigerant control — Electronic expansion valve Not handling equipment Fan type & Q'ty Propeller fan × 1 Motor <starting method=""> W 157 < Direct line start > 86 < Direct line start > Air flow (Standard) CMM P-Hi: 29 Hi: 26 Me: 23 Lo: 19 Cooling: 75, Heating: 73 External static pressure Pa 0 0 Outside air intake Not possible — Air filter, Q'ty Plastic net x 1 (Washable) — Air filter, Q'ty Plastic net x 1 (Washable) — Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor) Isaliation (noise & heat) Polyurethane form — Remote controller Room temperature control Thermostat by electronics — Remote controller Thermostat by electronics</starting>	Refrigerant equipment					
Starting method	0 11		_	RMT5126MDE2 × 1		
Refrigerant oil			_	Direct line start		
Heat exchanger	•	l	_	 		
Refrigerant control Centrifugal fan × 1			Louver fine & inner grooved tubing			
Centrifugal fan x 1						
Fan type & O'ty Motor <starting method=""> M 157 < Direct line start > 86 < Direct line start sta</starting>				·		
Air flow (Standard) CMM P-Hi : 29 Hi : 26 Me : 23 Lo : 19 Cooling : 75, Heating : 73 External static pressure Pa 0 0 0 Outside air intake Not possible — Air filter, Q'ty Plastic net x 1 (Washable) — Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor) Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor) Selectric heater W — 20 (Crank case heater) Remote controller RC-E5 Installed / wireless : RCN-KIT3-E (option) Room temperature control Thermostat by electronics — Overload protection for fan motor Internal thermostat for fan motor Abnormal discharge temperature protection. Installation data Refrigerant piping size Rasine : \$\phi 15.88 (5/8") \phi 15.88 (5/8") \times 1.0 \phi 15.88 (5/8") \times 1.0 \phi 15.88 (5/8") Connecting method Refrigerant line (one way) length Max.50m Vertical height difference between outdoor unit and indoor unit Refrigerant Quantity R410A 3.8kg in outdoor unit is lower) Refrigerant Quantity R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m) Porain Hose Connectable with VP20 Holes size \$\phi 20 \times 30 \time	•		Centrifugal fan x 1	Propeller fan × 1		
External static pressure Pa 0 0 0 Outside air intake Not possible — Air filter, O'ty Plastic net x 1 (Washable) — Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor) nesulation (noise & heat) — 20 (Crank case heater) Electric heater W — 20 (Crank case heater) Remote controller RC-E5 Installed / wireless : RCN-KIT3-E (option) Room temperature control Thermostat by electronics — Safety equipment Overload protection for fan motor Frost protection thermostat Abnormal discharge temperature protection. Refrigerant piping size Gas line : //U / 9.5.2 (3/8") Pipe / 9.5.2 (3/8") × 0.8 O/U / 9.5.2 (3/8") Refrigerant line (one way) length Max.50m Vertical height difference between outdoor unit and indoor unit Max.15m (Outdoor unit is higher) See page 154 Refrigerant Quantity R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m) Prode IPXO IPX4 Redispersum included Sas lines) P code IPXO IPX4 Mounting kit Edging	Motor <starting method=""></starting>	W	157 < Direct line start >	86 < Direct line start >		
Outside air intake Air filter, Q'ty Plastic net x 1 (Washable) Rubber sleeve (for fan motor) Rubber sleeve (for Compressor) Rubber sleeve (for fan motor) Rubber sleeve (for Compressor) Rubber sleeve (for fan motor) Rubber sleeve (for Compressor) Rubber sleeve (for Compressor) Rubber sleeve (for fan motor) Rubber sleeve (for Compressor) Rubber sleeve (for fan motor) Ruber sleeve (for fan motor) Ruber sleeve (for fan motor) Rubber sleeve (for fan motor) Rubler sleeve (for a motor) Rubler sleeve (for a motor) Rubler sleeve (for a motor) Ruber sleeve (for fan motor) Rubler sleeve (for a motor) Roll (Fan motor) Rubler sleeve (for a motor) Refrigerant plane sleeve (for a motor) Rubler sleeve (for a motor) Refrigerant plane sleeve (for sleeve (for a motor) Refrigerant plane sleeve (for a motor) Refrigerant plane sleeve (for a motor) Refrigerant plane sleeve	Air flow (Standard)	CMM	P-Hi: 29 Hi: 26 Me: 23 Lo: 19	Cooling: 75, Heating: 73		
Air filter, Q'ty Plastic net x 1 (Washable) — Shock & vibration absorber Rubber sleeve (for fan motor) Rubber sleeve (for Compressor) Insulation (noise & heat) Polyurethane form — Secretic heater W — 20 (Crank case heater) Remote controller Room temperature control Thermostat by electronics —— Safety equipment Overload protection for fan motor Frost protection thermostat Abnormal discharge temperature protection. Installation data Refrigerant piping size Gas line: \(\psi \) 15.88 (5/8") \(\psi \) 15.88 (5/8") \(\psi \) 15.88 (5/8") Connecting method Flare piping Flare piping Flare piping Refrigerant line (one way) length Vertical height difference between outdoor unit and indoor unit Refrigerant Quantity R410A 3.8kg in outdoor unit (incl. the amount for the piping of: 30m) Orain pump ——————————————————————————————————	External static pressure	Pa	0	0		
Rubber sleeve (for fan motor) Rubber sleeve (for Compressor)	Outside air intake		Not possible	_		
Polyurethane form — 20 (Crank case heater) Remote controller	Air filter, Q'ty		Plastic net × 1 (Washable)	_		
Electric heater W — 20 (Crank case heater) Remote controller RC-E5 Installed / wireless : RCN-KIT3-E (option) Room temperature control Thermostat by electronics — Safety equipment Safety equipment Prost protection for fan motor Frost protection thermostat Abnormal discharge temperature protection. Installation data Part of the piping size Protection thermostat Protection thermostat Protection thermostat Protection. Refrigerant piping size Protection thermostat Protection. Refrigerant line (one way) length Protection thermostat Protection. Refrigerant line (one way) length Protection thermostat Protection. Refrigerant line (one way) length Protection thermostat Protection. Max.50m Vertical height difference between outdoor unit and indoor unit Protection. Refrigerant Quantity Protection thermostat Protection. Refrigerant Quantity Protection motor Protection. Refrigerant Quantity Protectio	Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Remote controller RC-E5 Installed / wireless : RCN-KIT3-E (option) Room temperature control Thermostat by electronics — Safety equipment Saf	nsulation (noise & heat)		Polyurethane form			
Room temperature control Thermostat by electronics — Safety equipment Overload protection for fan motor Frost protection thermostat Internal thermostat for fan motor Abnormal discharge temperature protection. Installation data Refrigerant piping size Image: I/U φ 9.52 (3/8") Pipe φ 9.52 (3/8") × 0.8 O/U φ 9.52 (3/8") Connecting method Refrigerant line (one way) length Flare piping Flare piping Vertical height difference between outdoor unit and indoor unit and indoor unit Amax.15m (Outdoor unit is lower) Max.30m (Outdoor unit is lower) Refrigerant Quantity R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m) Orain pump — Orain pump P code IPXO IPX4 Standard Accessories Mounting kit Edging	Electric heater	W	_	20 (Crank case heater)		
Safety equipment Safety equip	Remote controller		RC-E5 Installed / wirele	ess : RCN-KIT3-E (option)		
Frost protection thermostat Abnormal discharge temperature protection. Installation data Refrigerant piping size Connecting method Refrigerant line (one way) length Vertical height difference between outdoor unit and indoor unit Refrigerant Quantity Refrigerant Quantity Refrigerant Quantity Refrigerant Poping Refrigerant Quantity Refrigerant Refrigerant Quantity Refrigerant Poping Refrigerant Quantity Refrigerant Refrigerant Quantity Refrigerant Refrigerant Quantity Refrigerant Refrigerant Refrigerant Quantity Refrigerant Refrigerant Refrigerant Poping Refrigerant Refrigerant Refrigerant Poping Refrigerant Refrigeran	Room temperature control		Thermostat by electronics	_		
Frost protection thermostat Abnormal discharge temperature protection. Installation data Refrigerant piping size Connecting method Refrigerant line (one way) length Vertical height difference between outdoor unit and indoor unit Refrigerant Quantity Refrigerant Quantity Refrigerant Quantity Refrigerant Poping Refrigerant Quantity Refrigerant Refrigerant Quantity Refrigerant Poping Refrigerant Quantity Refrigerant Refrigerant Quantity Refrigerant Refrigerant Quantity Refrigerant Refrigerant Refrigerant Quantity Refrigerant Refrigerant Refrigerant Poping Refrigerant Refrigerant Refrigerant Poping Refrigerant Refrigeran			Overload protection for fan motor	Internal thermostat for fan motor		
Refrigerant piping size Gas line : \$\phi 15.88 \left(5/8") \times 15.88 \left(5/8") \times 1.0 \text{\$\phi 15.88 \left(5/8")} \times 15.88 \left(5/8") \times 1.0 \text{\$\phi 15.88 \left(5/8")} \times 15.88 \left(5/8") \times 1.0 \text{\$\phi 15.88 \left(5/8")} \times 15.88 \left(5/8") \times 10.0 \text{\$\phi 15.88 \left(5/8")} \times 15.88 \left(5/8") \times 15.88 \left(5/8") \times 10.0 \text{\$\phi 15.88 \left(5/8")} \times 15.88 \left(5/8") \times 10.0 \text{\$\phi 15.88 \left(5/8")} \times 15.88 \left(5/8") \times	Safety equipment		·			
Refrigerant piping size Gas line : \$\phi 15.88 \(5/8^n\) \times 15.88 \(5/8^n\) \times 1.0 \(\phi 15.88 \(5	nstallation data		Liquid line: I/U \(\phi \) 9.52 (3/8") Pipe	φ9.52 (3/8") × 0.8 O/Uφ9.52 (3/8")		
Connecting method Flare piping Flare piping Refrigerant line (one way) length Max.50m Vertical height difference between outdoor unit and indoor unit Max.30m (Outdoor unit is higher) See page 154 Nax.15m (Outdoor unit is lower) Refrigerant Quantity R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m) Porain pump − − Orain priping Holes Connectable with VP20 Holes size φ20 × 3pcs Insulation for piping Necessary (both Liquid & Gas lines) P code IPXO IPX4 Standard Accessories Mounting kit Edging		mm				
Refrigerant line (one way) length Max.50m Vertical height difference between outdoor unit and indoor unit Max.30m (Outdoor unit is higher) See page 154 Nax.15m (Outdoor unit is lower) Refrigerant Quantity R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m) Orain pump — — Orain prinin Hose Connectable with VP20 Holes size φ20 × 3pcs Insulation for piping Necessary (both Liquid & Gas lines) P code IPXO IPX4 Standard Accessories Mounting kit Edging			, ,			
Vertical height difference between outdoor unit and indoor unit Max.30m (Outdoor unit is higher) See page 154 Refrigerant Quantity R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m) Drain pump — — Orain Hose Connectable with VP20 Holes size φ20 × 3pcs Insulation for piping Necessary (both Liquid & Gas lines) P code IPXO IPX4 Standard Accessories Mounting kit Edging	× ·		11.0	1		
outdoor unit and indoor unit Max.15m (Outdoor unit is lower) Refrigerant Quantity R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m) Orain pump — Orain Hose Connectable with VP20 Holes size φ20 × 3pcs Insulation for piping Necessary (both Liquid & Gas lines) P code IPXO IPX4 Standard Accessories Mounting kit Edging				See page 154		
Refrigerant Quantity R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m) Drain pump — — Drain Hose Connectable with VP20 Holes size φ20 × 3pcs Insulation for piping Necessary (both Liquid & Gas lines) P code IPXO IPX4 Standard Accessories Mounting kit Edging	•		` ,	pago		
Orain pump — — Orain pump Hose Connectable with VP20 Holes size ϕ 20 × 3pcs Insulation for piping Necessary (both Liquid & Gas lines) P code IPXO IPX4 Standard Accessories Mounting kit Edging			,	for the piping of : 30m)		
Orain Hose Connectable with VP20 Holes size $φ20 × 3pcs$ Insulation for piping Necessary (both Liquid & Gas lines) P code IPXO IPX4 Standard Accessories Mounting kit Edging				_		
nsulation for piping Necessary (both Liquid & Gas lines) P code IPXO IPX4 Standard Accessories Mounting kit Edging			Hose Connectable with VP20	Holes size ϕ 20 x 3ncs		
P code IPXO IPX4 Standard Accessories Mounting kit Edging				•		
Standard Accessories Mounting kit Edging	IP code					
		at the f-11- '	Š	∟aging		

Notes (1) The data are measured at the following conditions.

Item	Indoor	r air temperatu	ire Outdoor	air temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating		20°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDF100VSVD	
Item		Indoor unit FDF100VD	Outdoor unit FDC100VS
Power source			380-415V 3N~50Hz / 380V 3N~60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.)~12.5 (Max.)]
Power consumption	kW	3.12	3.1
Running current	A	4.6 / 4.8	4.6 / 4.8
Power factor	%	98/99	97/98
Inrush current	A		ng current 15 >
Sound Pressure Level	dB(A)	P-Hi: 54 Hi: 50 Me: 48 Lo: 44	49
Exterior dimensions	GD(A)	1-111.04 111.30 Me.40 LO.44	40
Height x Width x Depth	mr	$1,850 \times 600 \times 320$	845 × 970 × 370
Exterior appearance		Ceramic White	Stucco White
(Munsell color)		(N8.0) near equivalent	(4.2Y7.5/1.1) near equivalent
Net weight	kg	(No.0) riear equivalent	(4.217.5/1.1) Hear equivalent
	Kg .	32	65
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE3 × 1
			Diverse line setare
Starting method		<u> </u>	Direct line start
Refrigerant oil	l		0.9 M-MA68
Heat exchanger		Louver fine & inner grooved tubing	M shape fin & inner grooved tubing
Refrigerant control			Electronic expansion valve
Air handling equipment Fan type & Q'ty		Centrifugal fan x 1	Propeller fan x 1
Motor <starting method=""></starting>	W	157 < Direct line start >	86 < Direct line start >
Air flow(Standard)	CMM	P-Hi: 29 Hi: 26 Me: 23 Lo: 19	Cooling: 75, Heating: 73
External static pressure	Pa	0	0
Outside air intake	Τα	Not possible	
Air filter, Q'ty		Plastic net × 1 (Washable)	_
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)
nsulation (noise & heat)		Polyurethane form	Trubber sieeve (for Compressor)
Electric heater	W	Folyuletilarie loitii	20 (Crank case heater)
	VV	PC E5 Installed / wirele	,
Remote controller			ss : RCN-KIT3-E (option)
Room temperature control		Thermostat by electronics	
Safety equipment		Overload protection for fan motor	Internal thermostat for fan motor Abnormal discharge temperature protection.
		Frost protection thermostat	<u> </u>
nstallation data	mm —		φ9.52 (3/8") × 0.8 Ο/Uφ9.52 (3/8")
Refrigerant piping size			φ15.88 (5/8") × 1.0 φ15.88 (5/8")
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl.	the amount for the piping of : 30m)
Drain pump		_	-
Orain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping			Liquid & Gas lines)
IP code		IPXO	IPX4
Standard Accessories		Mounting kit	Edging

Notes (1) The data are measured at the following conditions.

Item	Indoor air ter	mperature	Outdoor air temperature		
Operation	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	
Heating	20	20°C		6°C	

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

Adapted to RoHS directive

	Model	FDF125VNVD			
Item		Indoor unit FDF125VD	Outdoor unit FDC125VN		
Power source			220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]		
Power consumption	kW	4.40	4.36		
Running current	A	19.5 / 20.4	19.3 / 20.2		
Power factor	%	98	98		
Inrush current	A		ng current 24 >		
Sound Pressure Level	dB(A)	P-Hi: 54 Hi: 50 Me: 48 Lo: 44	Cooling: 50 Heating: 51		
Exterior dimensions	ab(r)	7 111.01 111.00 1410.10 20.11	Occurig : Sc Trodding : ST		
Height x Width x Depth	mm	1,850 × 600 × 320	845 × 970 × 370		
Exterior appearance		Ceramic White	Stucco White		
(Munsell color)		(N8.0) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	52	81		
Refrigerant equipment	Ng .	52	01		
Compressor type & Q'ty		_	RMT5126MDE2 × 1		
Starting method			Direct line start		
	Q		0.9 M-MA68		
Refrigerant oil	Ł	Laurer fine 9 inner greened tubing			
Heat exchanger Refrigerant control			M shape fin & inner grooved tubing Electronic expansion valve		
			Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Centrifugal fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	157 < Direct line start >	86 < Direct line start >		
Air flow(Standard)	CMM	P-Hi: 29 Hi: 26 Me: 23 Lo: 19	Cooling: 75, Heating: 73		
External static pressure	Pa	0	0		
Outside air intake		Not possible	_		
Air filter, Q'ty		Plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		RC-E5 Installed / wireles	ss : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
Cafaty agricument		Overload protection for fan motor	Internal thermostat for fan motor		
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection		
Installation data		Liquid line : I/U ϕ 9.52 (3/8") Pipe	φ9.52 (3/8") × 0.8 O/Uφ9.52 (3/8")		
Refrigerant piping size	mm	Gas line : ϕ 15.88 (5/8")	φ15.88 (5/8") × 1.0 φ15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154		
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)	· -		
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m)			
Drain pump			_		
Drain		Hose Connectable with VP20	Holes size <i>ф</i> 20 × 3pcs		
Insulation for piping			Liquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit	Edging		
Notes (1) The data are measured	at the followi		Laging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	del FDF125VSVD		
Item		Indoor unit FDF125VD	Outdoor unit FDC125VS	
Power source			380-415V 3N~50Hz / 380V 3N~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]	
Power consumption	kW	4.4	4.36	
Running current	А	6.5 / 6.8	6.5 / 6.8	
Power factor	%	98	97	
Inrush current	Α	5 < Max.runnii	ng current 15 >	
Sound Pressure Level	dB(A)	P-Hi: 54 Hi: 50 Me: 48 Lo: 44	Cooling: 50 Heating: 51	
Exterior dimensions		1.050 .000 .000	0.45 0.70 0.70	
Height x Width x Depth	mm	1,850 × 600 × 320	845 × 970 × 370	
Exterior appearance		Ceramic White	Stucco White	
(Munsell color)		(N8.0) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	52	83	
Refrigerant equipment			D. 177. / 0-1-17	
Compressor type & Q'ty		_	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q	_	0.9 M-MA68	
Heat exchanger		Louver fine & inner grooved tubing	M shape fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment				
Fan type & Q'ty		Centrifugal fan x 1	Propeller fan × 1	
Motor <starting method=""></starting>	W	157 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	P-Hi: 29 Hi: 26 Me: 23 Lo: 19	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		Not possible	_	
Air filter, Q'ty		Plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
nsulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		RC-E5 Installed / wirele	ss : RCN-KIT3-E (option)	
Room temperature control		Thermostat by electronics	_	
Sofoty aguinment		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
nstallation data		Liquid line : I/U ϕ 9.52 (3/8") Pipe	ϕ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")	
Refrigerant piping size	mm	Gas line : φ15.88 (5/8")	φ15.88 (5/8") × 1.0 φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m		
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154	
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)		
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m)		
Drain pump		_	_	
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs	
nsulation for piping		Necessary (both	Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air ter	mperature	Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	ling 27°C 19	19°C	35°C	24°C
Heating	20°	С	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDF140VNVD			
Item		Indoor unit FDF140VD	Outdoor unit FDC140VN		
Power source			220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.)~16.5 (Max.)]		
Power consumption	kW	5.15	5.31		
Running current	Α	22.8 / 23.9	23.6 / 24.6		
Power factor	%	98	98		
Inrush current	A	5 < Max.runni	ng current 24 >		
Sound Pressure Level	dB(A)	P-Hi: 54 Hi: 50 Me: 48 Lo: 44	51		
Exterior dimensions					
Height x Width x Depth	mm	1,850 × 600 × 320	845 × 970 × 370		
Exterior appearance		Ceramic White	Stucco White		
(Munsell color)		(N8.0) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	52	81		
Refrigerant equipment	g	<u> </u>			
Compressor type & Q'ty		_	RMT5126MDE2 × 1		
Starting method		_	Direct line start		
Refrigerant oil	e e	_	0.9 M-MA68		
Heat exchanger		Louver fine & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control		<u> </u>	Electronic expansion valve		
Air handling equipment					
Fan type & Q'ty		Centrifugal fan x 1	Propeller fan x 1		
Motor <starting method=""></starting>	W	157 < Direct line start >	86 < Direct line start >		
Air flow(Standard)	CMM	P-Hi: 29 Hi: 26 Me: 23 Lo: 19	Cooling: 75, Heating: 73		
External static pressure	Pa	0	0		
Outside air intake		Not possible	_		
Air filter, Q'ty		Plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
nsulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		RC-E5 Installed / wirele	ss : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
O-f-tt		Overload protection for fan motor	Internal thermostat for fan motor		
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection		
Installation data	mm	Liquid line : I/U ϕ 9.52 (3/8") Pipe	φ9.52 (3/8") × 0.8 O/Uφ9.52 (3/8")		
Refrigerant piping size	111111	Gas line : ϕ 15.88 (5/8")	ϕ 15.88 (5/8") × 1.0 ϕ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154		
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)			
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl.	the amount for the piping of : 30m)		
Drain pump			_		
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both	Liquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air te	emperature	Outdoor air t	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

Model		FDF14	OVSVD	
Item		Indoor unit FDF140VD	Outdoor unit FDC140VS	
Power source			380-415V 3N~50Hz / 380V 3N~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.)~16.5 (Max.)]	
Power consumption	kW	5.15	5.31	
Running current	A	7.6 / 8.0	7.9 / 8.2	
Power factor	%	98	97/98	
Inrush current	A		5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi: 54 Hi: 50 Me: 48 Lo: 44	51	
Exterior dimensions	UD(A)	1 111.04 111.00 MG.40 E0.44	01	
Height x Width x Depth	mm	$1,850 \times 600 \times 320$	845 × 970 × 370	
		Ceramic White	Stucco White	
Exterior appearance (Munsell color)		(N8.0) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	52	83	
	Ng .	52	00	
Refrigerant equipment		_	RMT5126MDE3 × 1	
Compressor type & Q'ty			Discret line at and	
Starting method	0	_	Direct line start	
Refrigerant oil	l		0.9 M-MA68	
Heat exchanger		Louver fine & inner grooved tubing	M shape fin & inner grooved tubing	
Refrigerant control		<u> </u>	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 1	Propeller fan x 1	
Motor <starting method=""></starting>	W	157 < Direct line start >	86 < Direct line start >	
Air flow(Standard)	CMM	P-Hi: 29 Hi: 26 Me: 23 Lo: 19	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		Not possible	_	
Air filter, Q'ty		Plastic net × 1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
nsulation (noise & heat)		Polyurethane form		
Electric heater	W	_	20 (Crank case heater)	
Remote controller		RC-E5 Installed / wireles	ss : RCN-KIT3-E (option)	
Room temperature control		Thermostat by electronics	_	
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection	
Installation data		<u> </u>	φ 9.52 (3/8") × 0.8 O/Uφ 9.52 (3/8")	
Refrigerant piping size	mm		ϕ 15.88 (5/8") × 1.0 ϕ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	Tital o piping	
Vertical height difference between		Max.30m (Outdoor unit is higher)	 See page 154	
outdoor unit and indoor unit		Max.15m (Outdoor unit is higher)	200 page 101	
Refrigerant Quantity				
Drain pump		R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m)		
Drain pump Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs	
Insulation for piping		IPXO Necessary (both I	Liquid & Gas lines) IPX4	
IP code				
Standard Accessories Notes (1) The data are measured		Mounting kit	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air te	emperature	Outdoor air temperature		
Operation	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	
Heating	20°C		7°C	6°C	

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

(b) Twin type

Adapted to RoHS directive

Mo		FDF140	DVNPVD		
Item	_	Indoor unit FDF71VD (2 units)	Outdoor unit FDC140VN		
Power source			220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.)~16.5 (Max.)]		
Power consumption	kW	5.16	5.01		
Running current	Α	22.9 / 23.9	22.2 / 23.2		
Power factor	%	98	98		
Inrush current	Α	5 < Max.runnir	ng current 24 >		
Sound Pressure Level	dB(A)	P-Hi: 42 Hi: 39 Me: 35 Lo: 33	51		
Exterior dimensions	` ′				
Height x Width x Depth	mm	1,850 × 600 × 320	845 × 970 × 370		
Exterior appearance		Ceramic White	Stucco White		
(Munsell color)		(N8.0) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	49	81		
Refrigerant equipment	9				
Compressor type & Q'ty		_	RMT5126MDE2 × 1		
Starting method		_	Direct line start		
Refrigerant oil	Q		0.9 M-MA68		
Heat exchanger	•	Louver fine & inner grooved tubing	M shape fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Air handling equipment			Electronic expansion valve		
Fan type & Q'ty		Centrifugal fan × 1	Propeller fan x 1		
Motor <starting method=""></starting>	W	157 < Direct line start >	86 < Direct line start >		
Air flow(Standard)	CMM	P-Hi:18 Hi:16 Me:14 Lo:12	Cooling: 75, Heating: 73		
External static pressure	Pa	0	0		
Outside air intake		Not possible	_		
Air filter, Q'ty		Plastic net × 1 (Washable)	_		
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)		
nsulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		RC-E5 Installed / wireles	ss : RCN-KIT3-E (option)		
Room temperature control		Thermostat by electronics	_		
Safaty aguinment		Overload protection for fan motor	Internal thermostat for fan motor		
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection		
nstallation data		Liquid line : I/U ϕ 9.52 (3/8") ② ϕ 9.52 (3/8") × 0	1.8 ① φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")		
Refrigerant piping size	mm	Gas line :U ϕ 15.88 (5/8") $@\phi$ 15.88 (5/8") $×$	1.0 ① ϕ 15.88 (5/8") × 1.0 O/U ϕ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154		
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)			
Refrigerant Quantity			e piping length of 30m) Outdoor unit		
Drain pump			_		
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs		
Insulation for piping		Necessary (both I	Liquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories		Mounting kit	Edging		
		5			

Notes (1) The data are measured at the following conditions.

Item	Indoor air ter	nperature	Outdoor air temperature		
Operation	DB	WB	DB	WB	
Cooling	27°C	19°C	35°C	24°C	
Heating	20	°C	7°C	6°C	

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (6) Branching pipe set "DIS-WA1" \times 1 (option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
- $(7) \ \hbox{If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available. } \\$

	Model	FDF140VSPVD		
Item		Indoor unit FDF71VD (2 units)	Outdoor unit FDC140VS	
Power source			380-415V 3N~50Hz / 380V 3N~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.)~16.5 (Max.)]	
Power consumption	kW	5.16	5.01	
Running current	Α	7.6 / 8.0	7.4 / 7.8	
Power factor	%	98	98	
Inrush current	Α	5 < Max.runn	ing current 15 >	
Sound Pressure Level	dB(A)	P-Hi: 42 Hi: 39 Me: 35 Lo: 33	51	
Exterior dimensions		1.050 .000 .000	045 070 070	
Height x Width x Depth	mm	1,850 × 600 × 320	845 × 970 × 370	
Exterior appearance		Ceramic White	Stucco White	
(Munsell color)		(N8.0) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	49	83	
Refrigerant equipment				
Compressor type & Q'ty		_	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q.	_	0.9 M-MA68	
Heat exchanger		Louver fine & inner grooved tubing	M shape fin & inner grooved tubing	
Refrigerant control		<u> </u>	Electronic expansion valve	
Air handling equipment			·	
Fan type & Q'ty		Centrifugal fan x 1	Propeller fan × 1	
Motor <starting method=""></starting>	W	157 < Direct line start >	86 < Direct line start >	
Air flow(Standard)	СММ	P-Hi: 18 Hi: 16 Me: 14 Lo: 12	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outside air intake		Not possible	_	
Air filter, Q'ty		Plastic net ×1 (Washable)	_	
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)	
nsulation (noise & heat)		Polyurethane form	_	
Electric heater	w		20 (Crank case heater)	
Remote controller		RC-E5 Installed / wirele	ess : RCN-KIT3-E (option)	
Room temperature control		Thermostat by electronics	_	
·		Overload protection for fan motor	Internal thermostat for fan motor	
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.	
nstallation data			< 0.8 ① φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
Refrigerant piping size	mm —	Gas line : I/U φ15.88 (5/8") ②φ15.88 (5/8")	\times 1.0 ① ϕ 15.88 (5/8") \times 1.0 O/U ϕ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	11.0	
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154	
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)	· -	
Refrigerant Quantity		, ,	he piping length of 30m) Outdoor unit	
Drain pump		—		
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs	
Insulation for piping			Liquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit	Edging	
Notes (1) The data are measured	-44 6-11			

Notes (1) The data are measured at the following conditions.

Item	Indoor air ten	nperature	Outdoor air te	mperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (6) Branching pipe set "DIS-WA1" \times 1 (option). $\footnote{\footnote{O}}$: Pipe of O/U~Branch, $\footnote{\footnote{O}}$: Pipe of Branch~I/U
- (7) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

	Model	FDF200	DVSPVD
Item		Indoor unit FDF100VD (2 units)	Outdoor unit FDC200VS
Power source			380-415V 3N~50Hz / 380V 3N~60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	20.0 [7.0 (Min.)~22.4 (Max.)]	22.4 [7.6 (Min.)~25.0 (Max.)]
Power consumption	kW	6.50	6.42
Running current	Α	9.6 / 10.1	9.5 / 10.0
Power factor	%	98	98
Inrush current	Α	5 < Max.runnir	ng current 19 >
Sound Pressure Level	dB(A)	P-Hi:54 Hi:50 Me:48 Lo:44	57
Exterior dimensions		4.050 000 000	4.000 070 070
Height x Width x Depth	mm	1,850 × 600 × 320	1,300 × 970 × 370
Exterior appearance		Ceramic White	Stucco White
(Munsell color)		(N8.0) near equivalent	(4.2Y7.5/1.1) near equivalent
Net weight	kg	52	122
Refrigerant equipment			GTC5150ND70K × 1
Compressor type & Q'ty		_	GTC515UND/UK × I
Starting method		_	Direct line start
Refrigerant oil	Q	_	1.45 M-MA32R
Heat exchanger		Louver fine & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control		_	Electronic expansion valve
Air handling equipment		0 1/5 15	'
Fan type & Q'ty		Centrifugal fan x 1	Propeller fan × 2
Motor <starting method=""></starting>	W	157 < Direct line start >	86 × 2 < Direct line start >
Air flow(Standard)	CMM	P-Hi: 29 Hi: 26 Me: 23 Lo: 19	Cooling: 150, Heating: 145
External static pressure	Pa	0	0
Outside air intake		Not possible	_
Air filter, Q'ty		Plastic net × 1 (Washable)	_
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)
Insulation (noise & heat)		Polyurethane form	_
Electric heater	w		33 (Crank case heater)
Remote controller		RC-E5 Installed / wireles	
Room temperature control		Thermostat by electronics	_
·		Overload protection for fan motor	Internal thermostat for fan motor
Safety equipment		Frost protection thermostat	Abnormal discharge temperature protection.
Installation data		Liquid line : I/U ϕ 9.52 (3/8") $@\phi$ 9.52 (3/8") \times	
Refrigerant piping size	mm	Gas line : I/U ϕ 15.88 (5/8") $@\phi$ 15.88 (5/8") >	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)	, .
Refrigerant Quantity		R410A 5.4kg (Pre-charged up to the piping length of 30m) Outdoor unit	
Drain pump			_
Drain		Hose Connectable with VP20	Holes size
Insulation for piping			Liquid & Gas lines)
IP code		IPXO	IPX4
Standard Accessories		Mounting kit	Connecting pipe, Edging
	-4 4b - f-11-	<u> </u>	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (6) Branching pipe set "DIS-WB1" \times 1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U
- (7) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

Adapted to **RoHS** directive

	Model	FDF250	DVSPVD
Item		Indoor unit FDF125VD (2 units)	Outdoor unit FDC250VS
Power source			380-415V 3N~50Hz / 380V 3N~60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	25.0 [10.0 (Min.)~28.0 (Max.)]	28.0 [9.5 (Min.)~31.5 (Max.)]
Power consumption	kW	8.95	9.17
Running current	Α	13.2 / 13.9	13.5 / 14.2
Power factor	%	98	98
Inrush current	A		ng current 22 >
Sound Pressure Level	dB(A)	P-Hi:54 Hi:50 Me:48 Lo:44	Cooling: 57 Heating: 58
Exterior dimensions			
Height x Width x Depth	mm	1,850 × 600 × 320	1,505 × 970 × 370
Exterior appearance		Ceramic White	Stucco White
(Munsell color)		(N8.0) near equivalent	(4.2Y7.5/1.1) near equivalent
Net weight	kg	52	140
Refrigerant equipment Compressor type & Q'ty		_	GTC5150ND70K × 1
Starting method		_	Direct line start
Refrigerant oil	Q.	_	1.45 M-MA32R
Heat exchanger		Louver fine & inner grooved tubing	Straight fin & inner grooved tubing
Refrigerant control		_	Electronic expansion valve
Air handling equipment		Centrifugal fan × 1	Propeller fan × 2
Fan type & Q'ty			
Motor <starting method=""></starting>	W	157 < Direct line start >	86 × 2 < Direct line start >
Air flow(Standard)	CMM	P-Hi:29 Hi:26 Me:23 Lo:19	Cooling: 150, Heating: 145
External static pressure	Pa	0	0
Outside air intake		Not possible	_
Air filter, Q'ty		Plastic net × 1 (Washable)	_
Shock & vibration absorber		Rubber sleeve (for fan motor)	Rubber sleeve (for Compressor)
nsulation (noise & heat)		Polyurethane form	_
Electric heater	W	_	33 (Crank case heater)
Remote controller			ss : RCN-KIT3-E (option)
Room temperature control		Thermostat by electronics	_
Safety equipment		Overload protection for fan motor	Internal thermostat for fan motor
		Frost protection thermostat	Abnormal discharge temperature protection.
Installation data	mm —	Liquid line : I/U φ9.52 (3/8") ② φ9.52 (3/8") ×	
Refrigerant piping size		Gas line : I/U φ 15.88 (5/8") ② φ 15.88 (5/8") ×	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 7.2kg (Pre-charged up to the	e piping length of 30m) Outdoor unit
Drain pump			
Drain		Hose Connectable with VP20	Holes size ϕ 20 × 3pcs
Insulation for piping			_iquid & Gas lines)
IP code		IPXO	IPX4
Standard Accessories		Mounting kit	Connecting pipe, Edging

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
- (6) Branching pipe set "DIS-WB1" \times 1(option). ① : Pipe of O/U~Branch, ② : Pipe of Branch~I/U
- (7) If wireless remote controller is used, only 3-speed fan setting (Hi-Me-Lo) is available.

(7) Wall mounted type (SRK) (a) Twin type

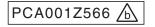
Adapted to RoHS directive

	Model	SRK100VNPZJX		
		Indoor unit SRK50ZJX-S1 (2 units)	Outdoor unit FDC100VN	
Item				
Power source			220-240V~50Hz / 220V~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]	
Power consumption	kW	2.72	2.86	
Running current	А	11.9 / 12.5	12.6 / 13.1	
Power factor	%	99	99	
Inrush current	Α	5 < Max.runnin	ng current 24 >	
Sound Pressure Level	dB(A)	Hi: 47 Me: 40 Lo: 27 (C) / Hi: 48 Me: 40 Lo: 33 (H)	49	
Exterior dimensions Height x Width x Depth	mm	309 × 890 × 220	845 × 970 × 370	
Exterior appearance		Fine snow	Stucco White	
(Munsell color)	unsell color) (8.0Y9.3/0.1) near equivalent (4.2Y7		(4.2Y7.5/1.1) near equivalent	
Net weight	kg	15	74	
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q	_	0.9 M-MA68	
Heat exchanger		Louver fins & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control	l – Electron		Electronic expansion valve	
Air handling equipment Fan type & Q'ty	Indential tan x 1		Propeller fan × 1	
Motor <starting method=""></starting>	W	27 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	Hi: 13.5 Me: 11 Lo: 8 (C) / Hi: 16.5 Me: 14.5 Lo: 10.5 (H)	Cooling: 75, Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Polypropylene net (washable) × 2	_	
Shock & vibration absorber		_	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	_	20 (Crank case heater)	
Remote controller		RC-E5 (option) & SC-BIKI	,	
Room temperature control		Thermostat by electronics	——————————————————————————————————————	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×	9	
Refrigerant piping size	mm	Gas line : I/U ϕ 12.7 (1/2") $@$ ϕ 12.7 (1/2") \times		
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	11 0	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	piping length of 30m) Outdoor unit	
Drain pump			_	
Drain		Hose Connectable with VP16	Holes size φ20 × 3pcs	
Insulation for piping		Necessary (both L		
		IPXO	IPX4	
IP code				

Notes (1) The data are measured at the following conditions.

()				
Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20)°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

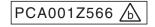


	Model	SRK100	SRK100VSPZJX		
		Indoor unit SRK50ZJX-S1 (2 units)	Outdoor unit FDC100VS		
Item					
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.) ~ 12.5 (Max.)]		
Power consumption	kW	2.72	2.86		
Running current	Α	4.0 / 4.2	4.2 / 4.4		
Power factor	%	98	98		
Inrush current	Α	5 < Max.runnir	ng current 15 >		
Sound Pressure Level	dB(A)	Hi: 47 Me: 40 Lo: 27 (C) / Hi: 48 Me: 40 Lo: 33 (H)	49		
Exterior dimensions		000 000 000	0.45 0.70 0.70		
Height x Width x Depth	mm	309 × 890 × 220	845 × 970 × 370		
Exterior appearance		Fine snow	Stucco White		
(Munsell color)		(8.0Y9.3/0.1) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	15	74		
Refrigerant equipment Compressor type & Q'ty		-	RMT5126MDE3 × 1		
Starting method		_	Direct line start		
Refrigerant oil	ρ	_	0.9 M-MA68		
Heat exchanger		Louver fins & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control		_	Electronic expansion valve		
Air handling equipment			Electronic expansion varve		
Fan type & Q'ty		Tangential fan × 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	27 < Direct line start >	86 < Direct line start >		
Air flow (Standard)		Hi: 13.5 Me: 11 Lo: 8 (C) / Hi: 16.5 Me: 14.5 Lo: 10.5 (H)	Cooling: 75 Heating: 73		
External static pressure	Pa	0	0		
Outdoor air intake		Not possible	<u> </u>		
Air filter, Q'ty		Polypropylene net (washable) × 2	<u> </u>		
Shock & vibration absorber		_	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		RC-E5 (option) & SC-BIK	N-E (Interface kit, option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×			
Refrigerant piping size	mm		0.8 ① φ 15.88 (5/8") × 1.0 O/U φ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m	6.159		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154		
Refrigerant Quantity		,	e piping length of 30m) Outdoor unit		
Drain pump					
Drain pump	-	Hose Connectable with VP16	Holes size φ20 × 3pcs		
Insulation for piping		Necessary (both L			
IP code	-	IPXO	IPX4		
Standard Accessories	-	Mounting kit, Drain filter			
Standard Accessories		iviounting kit, Drain litter	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19℃	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
 (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.
 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U



Model		SRK125VNPZJX			
		Indoor unit SRK60ZJX-S1 (2 units)	Outdoor unit FDC125VN		
Item					
Power source			220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]		
Power consumption	kW	4.25	4.29		
Running current	Α	18.7 / 19.5	18.8 / 19.7		
Power factor	%	99	99		
Inrush current	Α	5 < Max.runnir	ax.running current 24 >		
Sound Pressure Level	dB(A)	Hi: 51 Me: 41 Lo: 29 (C) / Hi: 48 Me: 41 Lo: 34 (H)	Cooling: 50 Heating: 51		
Exterior dimensions					
Height x Width x Depth	mm	309 × 890 × 220	845 × 970 × 370		
Exterior appearance		Fine snow	Stucco White		
(Munsell color)		(8.0Y9.3/0.1) near equivalent	(4.2Y7.5/1.1) near equivalent		
Net weight	kg	15	74		
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE2 × 1		
Starting method		_	Direct line start		
Refrigerant oil	l	_	0.9 M-MA68		
Heat exchanger	Ł	Louver fins & inner grooved tubing	Straight fin & inner grooved tubing		
Refrigerant control			Electronic expansion valve		
Air handling equipment		_	Electionic expansion vaive		
Fan type & Q'ty		Tangential fan x 1	Propeller fan × 1		
Motor <starting method=""></starting>	W	27 < Direct line start >	86 < Direct line start >		
Air flow (Standard)	CMM	Hi: 14.5 Me: 12.5 Lo: 8.5 (C) / Hi: 17 Me: 15 Lo: 11 (H)	Cooling: 75, Heating: 73		
External static pressure	Pa	0	0		
Outdoor air intake		Not possible			
Air filter, Q'ty		Polypropylene net (washable) × 2	_		
Shock & vibration absorber		_	Rubber sleeve (for Compressor)		
Insulation (noise & heat)		Polyurethane form	_		
Electric heater	W	_	20 (Crank case heater)		
Remote controller		RC-E5 (option) & SC-BIK	N-E (Interface kit, (option)		
Room temperature control		Thermostat by electronics	_		
Safety equipment		Internal thermostat for fan motor	Internal thermostat for fan motor		
Salety equipment		Frost protection thermostat	Abnormal discharge temperature protection.		
Installation data	mm	Liquid line : I/U ϕ 6.35 (1/4") $\textcircled{2}$ ϕ 9.52 (3/8") \times	0.8 ① ϕ 9.52 (3/8") × 0.8 O/U ϕ 9.52 (3/8")		
Refrigerant piping size	'''''	Gas line : I/U ϕ 12.7 (1/2") $@$ ϕ 12.7 (1/2") \times	0.8 ① ϕ 15.88 (5/8") × 1.0 O/U ϕ 15.88 (5/8")		
Connecting method		Flare piping	Flare piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154		
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)	wer)		
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	e piping length of 30m) Outdoor unit		
Drain pump		_			
Drain		Hose Connectable with VP16	Holes size φ 20 × 3pcs		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IPXO	IPX4		
Standard Accessories	1	Mounting kit, Clean hose	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20)°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

	Model	SRK125VSPZJX		
		Indoor unit SRK60ZJX-S1 (2 units)	Outdoor unit FDC125VS	
Item				
Power source			380-415V 3N~50Hz / 380V 3N~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.) ~ 16.0 (Max.)]	
Power consumption	kW	4.25	4.29	
Running current	Α	6.3 / 6.6	6.3 / 6.7	
Power factor	%	98	98	
Inrush current	А	5 < Max.runnin	g current 15 >	
Sound Pressure Level	dB(A)	Hi: 51 Me: 41 Lo: 29 (C) / Hi: 48 Me: 41 Lo: 34 (H)	Cooling: 50 Heating: 51	
Exterior dimensions	mm	309 × 890 × 220	845 × 970 × 370	
Height x Width x Depth			2	
Exterior appearance		Fine snow	Stucco White	
(Munsell color)		(8.0Y9.3/0.1) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	15	74	
Refrigerant equipment Compressor type & Q'ty		_	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	l	_	0.9 M-MA68	
Heat exchanger		Louver fins & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment		Tangential fan × 1	Propeller fan × 1	
Fan type & Q'ty		ŭ		
Motor <starting method=""></starting>	W	27 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	Hi: 14.5 Me: 12.5 Lo: 8.5 (C) / Hi: 17 Me: 15 Lo: 11 (H)	Cooling: 75 Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible	_	
Air filter, Q'ty		Polypropylene net (washable) × 2		
Shock & vibration absorber		_	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	_	
Electric heater	W	-	20 (Crank case heater)	
Remote controller		RC-E5 (option) & SC-BIKI	N-E (Interface kit, option)	
Room temperature control		Thermostat by electronics	_	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	Internal thermostat for fan motor Abnormal discharge temperature protection.	
notallation dat-		Liquid line: I/U \$\phi\$ 6.35 (1/4") (2) \$\phi\$ 9.52 (3/8") \$\times\$		
nstallation data	mm	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Refrigerant piping size	-	Gas line : I/U φ 12.7 (1/2") ② φ 12.7 (1/2") ×		
Connecting method	-	Flare piping	Flare piping	
Refrigerant line (one way) length	-	Max.50m	See page 154	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 104	
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	piping length of 30m) Outdoor unit	
Orain pump		_	-	
Drain		Hose Connectable with VP16	Holes size ϕ 20 × 3pcs	
Insulation for piping		Necessary (both L	iquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
- (5) Indoor unit specifications for one unit. Capacity and operation data is two indoor units are combined and run together.

 (6) Branching pipe set "DIS-WA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

(b) Triple type Adapted to RoHS directive

	Model	SRK140VNTZJX		
		Indoor unit SRK50ZJX-S1 (3 units)	Outdoor unit FDC140VN	
Item				
Power source			220-240V~50Hz/220V~60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.)~16.5 (Max.)]	
Power consumption	kW	4.53	4.05	
Running current	Α	19.9 / 20.8	17.8 / 18.6	
Power factor	%	99	99	
Inrush current	Α	5 < Max.runnin	g current 24 >	
Sound Pressure Level	dB(A)	Hi: 47 Me: 40 Lo: 27 (C) / Hi: 48 Me: 40 Lo: 33 (H)	51	
Exterior dimensions		200 200	0.45 0.70 0.70	
Height x Width x Depth	mm	309 × 890 × 220	845 × 970 × 370	
Exterior appearance		Fine snow	Stucco White	
(Munsell color)		(8.0Y9.3/0.1) near equivalent	(4.2Y7.5/1.1) near equivalent	
let weight	kg	15	74	
Refrigerant equipment			DIATE LOCALIDED A	
Compressor type & Q'ty		_	RMT5126MDE2 × 1	
Starting method		_	Direct line start	
Refrigerant oil	e	_	0.9 M-MA68	
Heat exchanger		Louver fins & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control			Electronic expansion valve	
Air handling equipment			· ·	
Fan type & Q'ty		Tangential fan x 1	Propeller fan x 1	
Motor <starting method=""></starting>	W	27 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	CMM	Hi: 13.5 Me: 11 Lo: 8 (C) / Hi: 16.5 Me: 14.5 Lo: 10.5 (H)	Cooling: 75 , Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake	Ι α	Not possible		
Air filter, Q'ty		Polypropylene net (washable) × 2		
Shock & vibration absorber		Folypropylerie fiet (washable) x 2	Rubber sleeve (for Compressor)	
		Dob wysthone form	hubber sleeve (for Compressor)	
nsulation (noise & heat)	W	Polyurethane form		
Electric heater	VV	— 20 (Crank case heater) RC-E5 (option) & SC-BIKN-E (Interface kit, (option)		
Remote controller			N-E (Interface Kit, (option)	
Room temperature control		Thermostat by electronics		
Safety equipment		Internal thermostat for fan motor	Internal thermostat for fan motor	
		Frost protection thermostat	Abnormal discharge temperature protection.	
nstallation data	mm	Liquid line : I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×		
Refrigerant piping size			0.8 ① ϕ 15.88 (5/8") × 1.0 O/U ϕ 15.88 (5/8")	
Connecting method		Flare piping	Flare piping	
Refrigerant line (one way) length	_	Max.50m	See nego 155	
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 155	
outdoor unit and indoor unit	-	Max.15m (Outdoor unit is lower)		
Refrigerant Quantity	-	R410A 3.8kg (Pre-charged up to the	piping length of 30m) Outdoor unit	
Orain pump	-	_	-	
Drain		Hose Connectable with VP16	Holes size φ 20 x 3pcs	
Insulation for piping	ļ	Necessary (both L		
P code		IPXO	IPX4	
Standard Accessories	1	Mounting kit, Clean hose	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to (a) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat nighter due ambient temperature.

 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.

 (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.

 (6) Branching pipe set "DIS-TA1"x1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U



	Model	SRK140VSTZJX		
		Indoor unit SRK50ZJX-S1 (3 units)	Outdoor unit FDC140VS	
Item				
Power source			380-415V 3N ~ 50Hz / 380V 3N ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]	
Power consumption	kW	4.53	4.05	
Running current	Α	6.7 / 7.0	6.0 / 6.3	
Power factor	%	98	98	
Inrush current	Α	5 < Max.runnir	ng current 15 >	
Sound Pressure Level	dB(A)	Hi: 47 Me: 40 Lo: 27 (C) / Hi: 48 Me: 40 Lo: 33 (H)	51	
Exterior dimensions Height x Width x Depth	mm	309 × 890 × 220	845 × 970 × 370	
Exterior appearance		Fine snow	Stucco White	
(Munsell color)		(8.0Y9.3/0.1) near equivalent	(4.2Y7.5/1.1) near equivalent	
Net weight	kg	15	74	
Refrigerant equipment Compressor type & Q'ty	9	_	RMT5126MDE3 × 1	
Starting method		_	Direct line start	
Refrigerant oil	Q	_	0.9 M-MA68	
Heat exchanger		Louver fins & inner grooved tubing	Straight fin & inner grooved tubing	
Refrigerant control		_	Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Tangential fan × 1	Propeller fan × 1	
Motor <starting method=""></starting>	W	27 < Direct line start >	86 < Direct line start >	
Air flow (Standard)	_	Hi: 13.5 Me: 11 Lo: 8 (C) / Hi: 16.5 Me: 14.5 Lo: 10.5 (H)	Cooling: 75 , Heating: 73	
External static pressure	Pa	0	0	
Outdoor air intake		Not possible		
Air filter, Q'ty		Polypropylene net × 1 (washable) × 2		
Shock & vibration absorber		—	Rubber sleeve (for Compressor)	
Insulation (noise & heat)		Polyurethane form	——————————————————————————————————————	
Electric heater	W	—	20 (Crank case heater)	
Remote controller	"	RC-E5 (option) & SC-BIK	,	
Room temperature control		Thermostat by electronics	— —	
Safety equipment		Internal thermostat for fan motor	Internal thermostat for fan motor	
	-	Frost protection thermostat	Abnormal discharge temperature protection.	
Installation data	mm	Liquid line: I/U φ 6.35 (1/4") ② φ 9.52 (3/8") ×		
Refrigerant piping size		Gas line : I/U φ 12.7 (1/2") ② φ 12.7 (1/2") ×		
Connecting method	-	Flare piping	Flare piping	
Refrigerant line (one way) length		Max.50m	See page 155	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)		
Refrigerant Quantity		R410A 3.8kg (Pre-charged up to the	e piping length of 30m) Outdoor unit	
Drain pump		_	<u> </u>	
Drain		Hose Connectable with VP16	Holes size ϕ 20 × 3pcs	
Insulation for piping		Necessary (both L	iquid & Gas lines)	
IP code		IPXO	IPX4	
Standard Accessories		Mounting kit, Drain hose	Edging	

Notes (1) The data are measured at the following conditions.

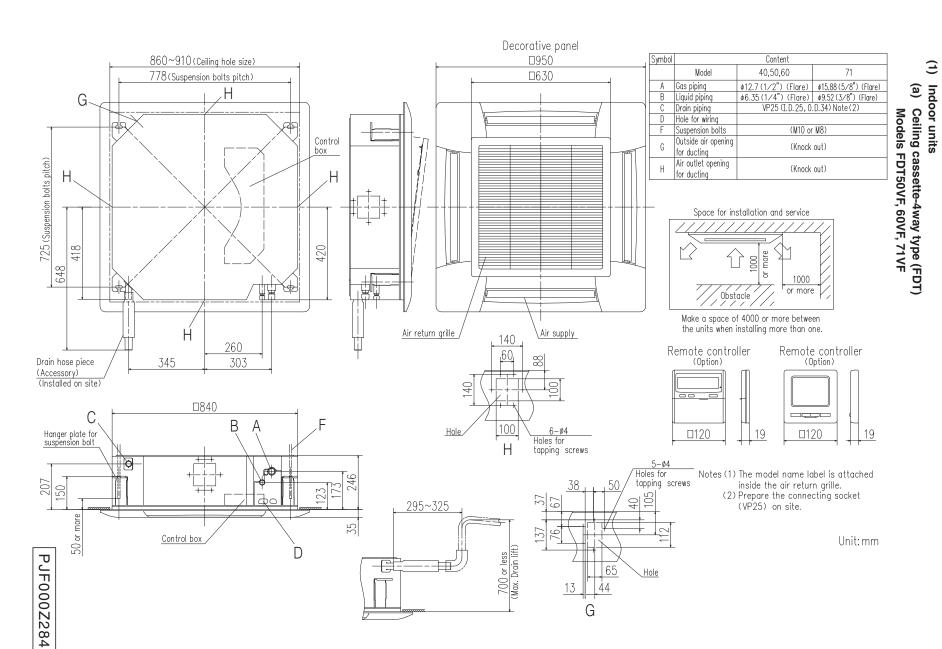
Item	Indoor air temperature		Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

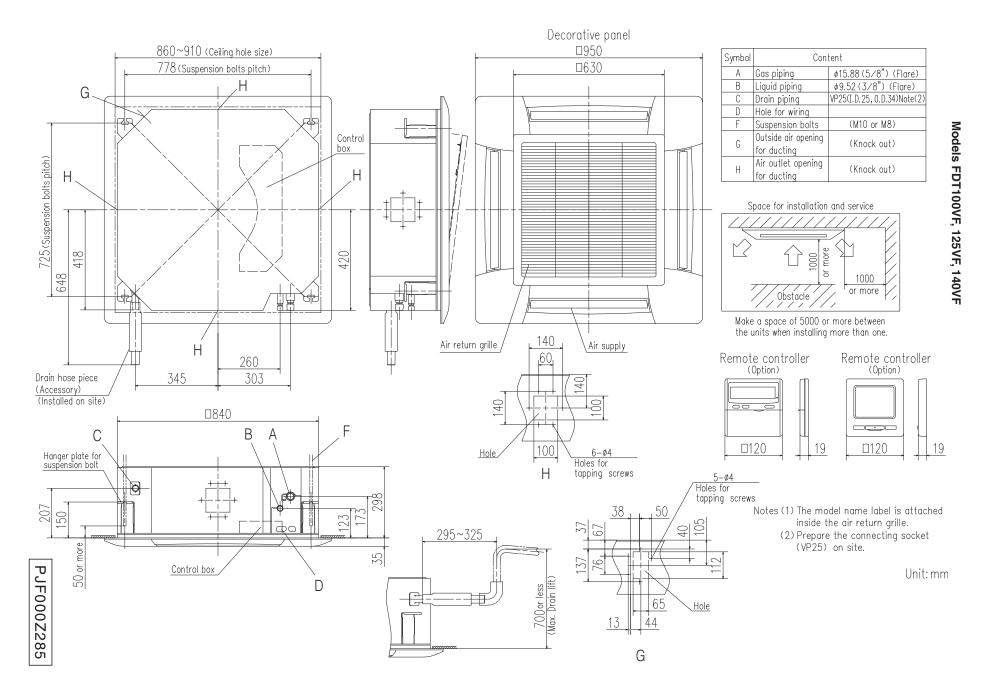
- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.
 (5) Indoor unit specifications for one unit. Capacity and operation data is three indoor units are combined and run together.
 (6) Branching pipe set "DIS-TA1"×1(option). ①: Pipe of O/U~Branch, ②: Pipe of Branch~I/U

'12 • PAC-T-174

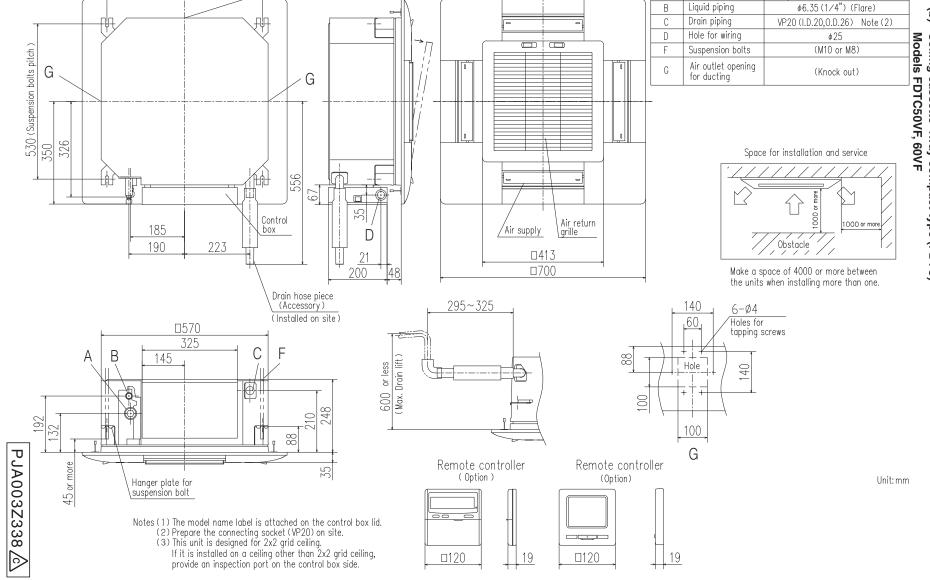
EXTERIOR

DIMENSIONS





530 (Suspension bolts pitch)



Symbol

Α

Gas piping

Decorative panel

Content

Model

25,35 : φ9.52 (3/8") (Flare)

40-60 : φ12.7 (1/2") (Flare)

<u></u> Ceiling cassette-4way compact type (FDTC)
Models FDTC50VF, 60VF

'12 • PAC-T-174

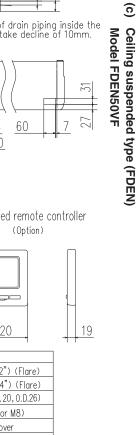
PFA003Z8

16

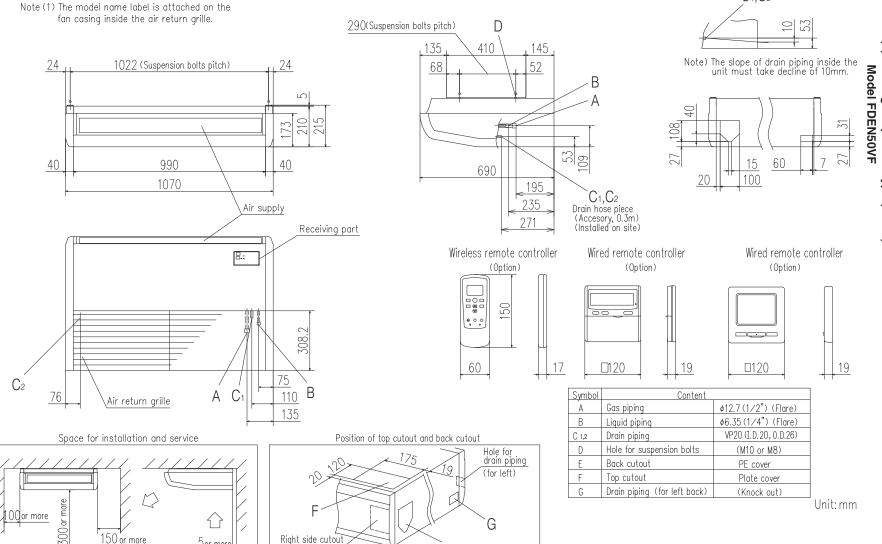
150 or more

Obstacle

5or more



 C_1, C_2



Right side cutout

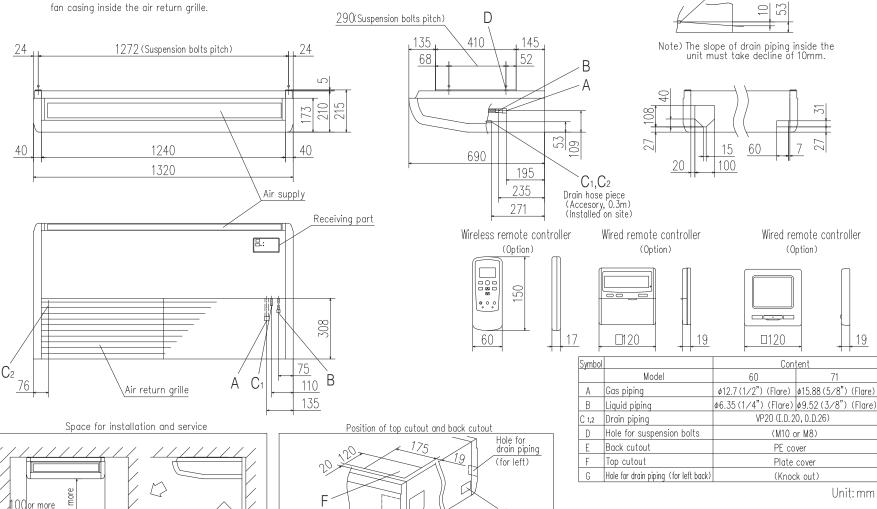
Piping can be connected from 3 different direction.

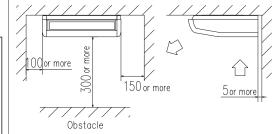
Remove the cutout using side cutter or similar tool.

 C_1, C_2

PFA003Z8

_





Note (1) The model name label is attached on the

Figure 2 de cutout

Right side cutout

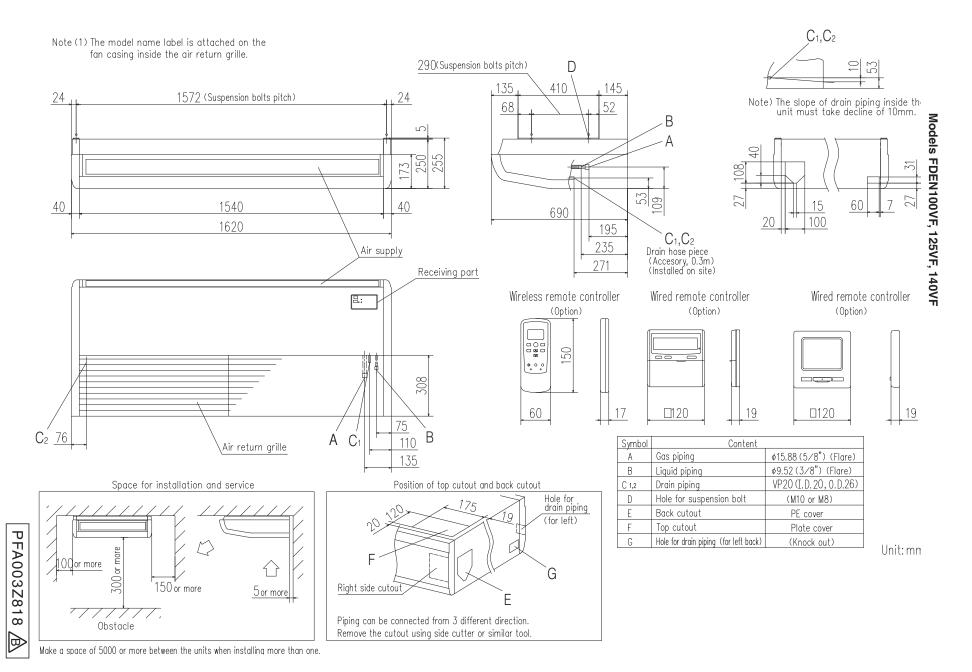
E

Piping can be connected from 3 different direction.

Remove the cutout using side cutter or similar tool.

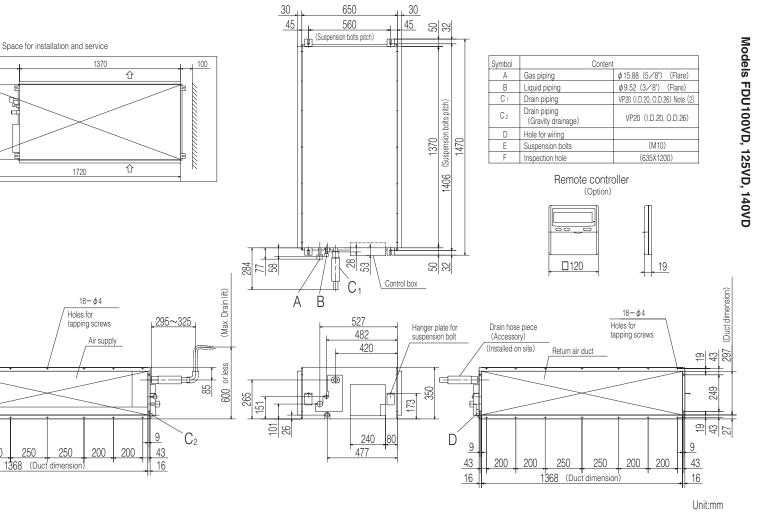
Make a space of 4500 or more between the units when installing more than one.





Duct connected-High static pressure type (FDU)

<u>a</u>



Notes (1) The model name label is attached on the lid of the control box.
(2) Prepare the connecting socket (VP20) on site.

(Duct dimension)

297

43

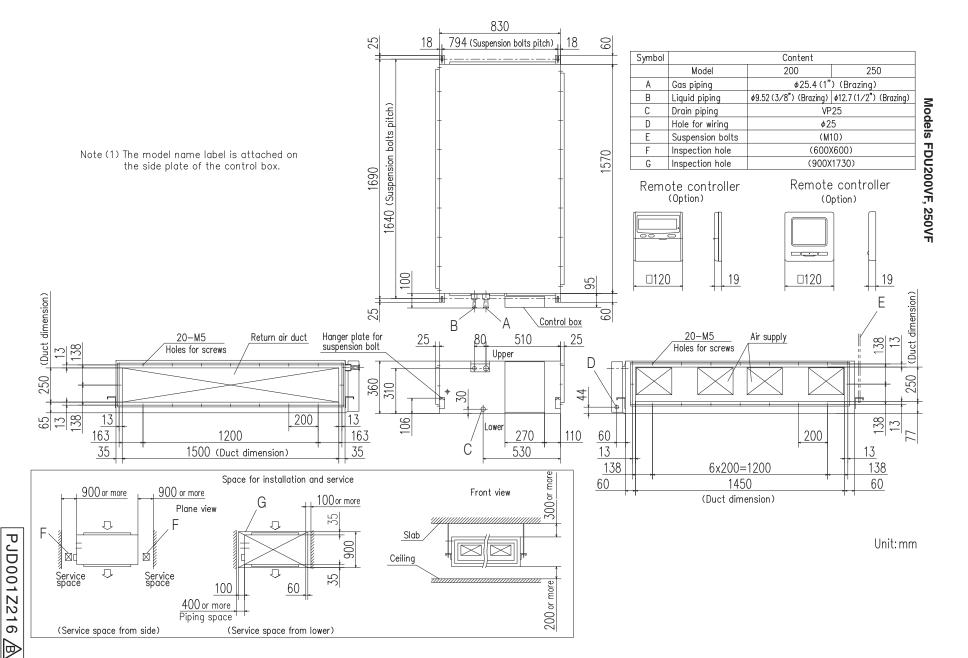
99 –

600

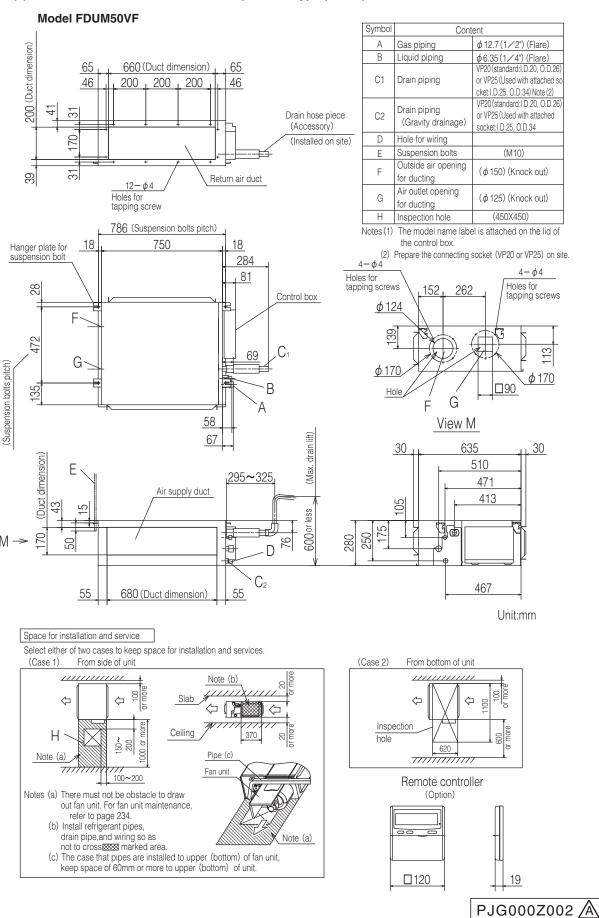
200

250

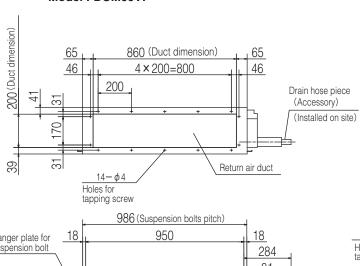
635



(e) Duct connected-Low / Middle static pressure type (FDUM)

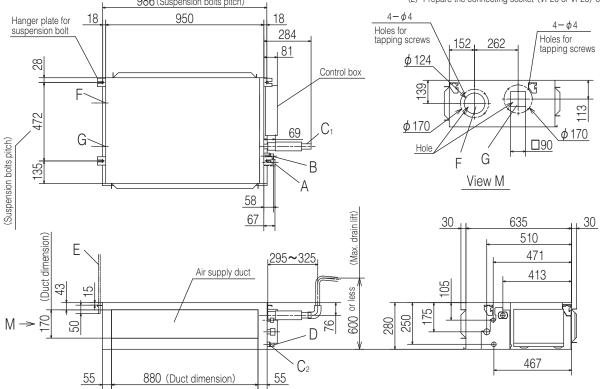


Model FDUM60VF



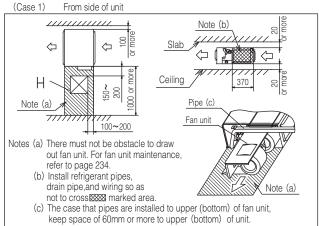
Symbol		Content	
Α	Gas piping	φ 12.7 (1/2") (Flare)	
В	Liquid piping	φ6.35(1/4") (Flare)	
C1	Drain piping	VP20 (standard:I.D.20, O.D.26) or VP25 (Used with attached so cket:I.D.25, O.D.34) Note (2)	
C2	Drain piping (Gravity drainage)	VP20 (standard:I.D.20, O.D.26) or VP25 (U sed with attached socket:I.D.25, O.D.34	
D	Hole for wiring		
Е	Suspension bolts	(M10)	
F	Outside air opening for ducting	(φ150) (Knock out)	
G	Air outlet opening for ducting	(φ 125) (Knock out)	
Н	Inspection hole	(450X450)	
	T1 1 1	1 12 0 1 1 0 12 1 60	

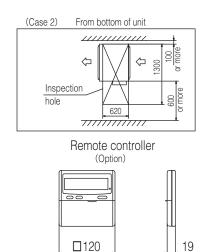
Notes (1) The model name label is attached on the lid of the control box.
(2) Prepare the connecting socket (VP20 or VP25) on site.



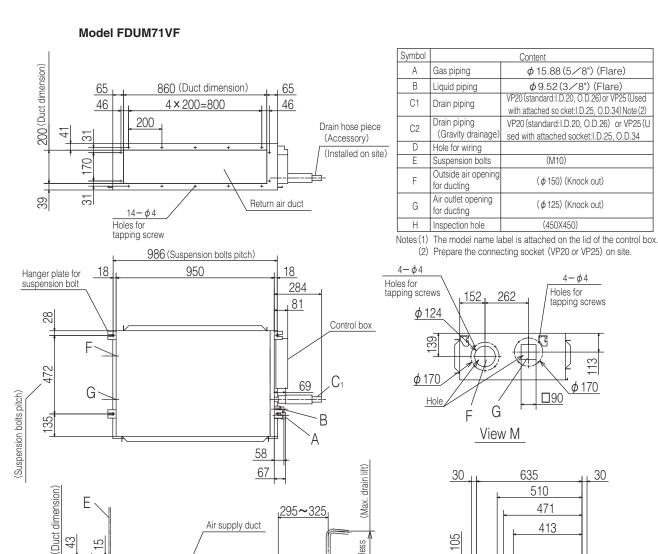
Space for installation and service

Select either of two cases to keep space for installation and services.





30



Space for installation and service

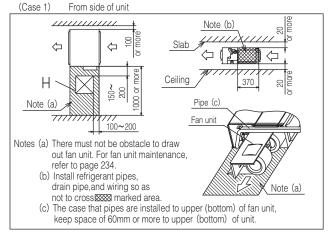
 $M \rightarrow$

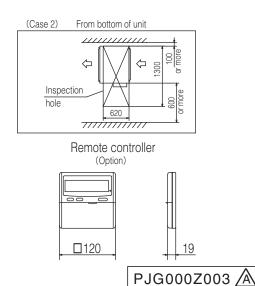
50

55

Select either of two cases to keep space for installation and services.

880 (Duct dimension)





414

467

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009

9/

D

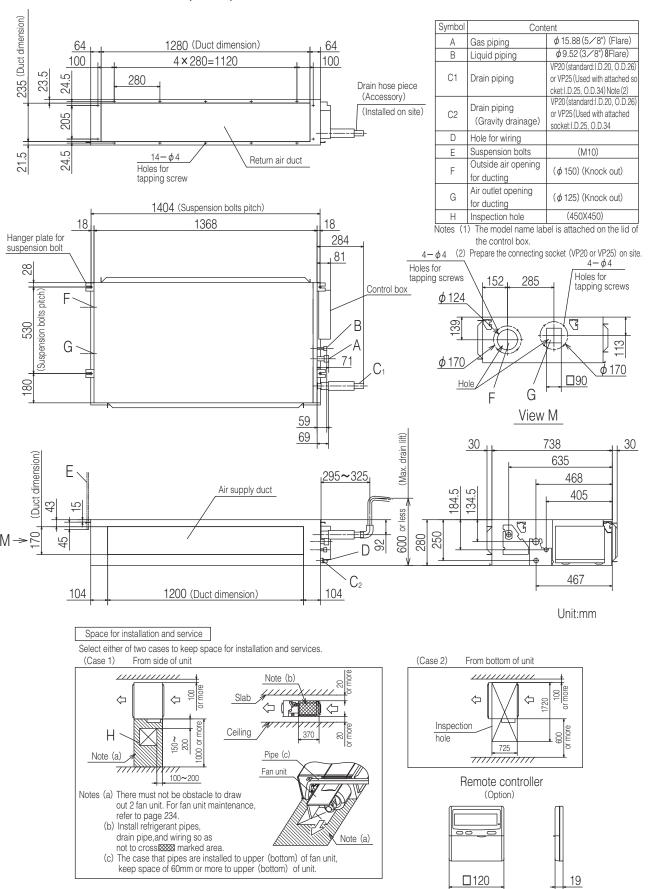
 C_2 55

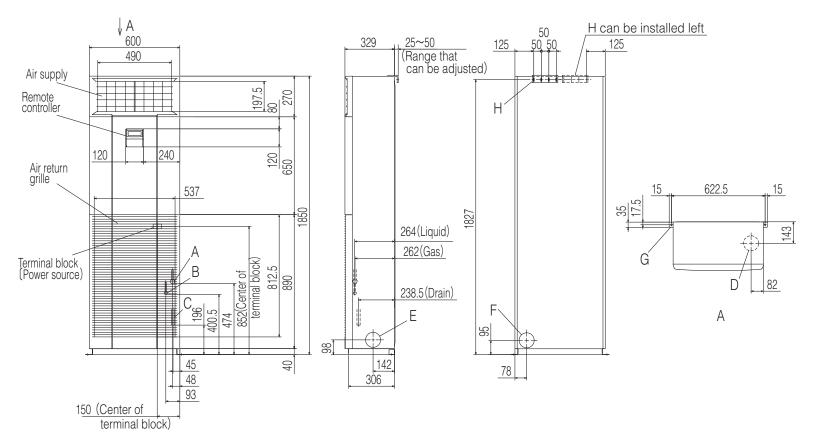
田

250 280

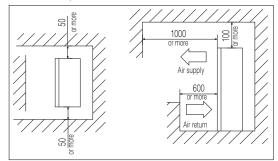
PJG000Z004 🗥

Models FDUM100VF, 125VF, 140VF





Space for installation and service



Symbol	Content	
Α	Gas piping	φ15.88(5 ∕ 8") (Flare)
В	Liquid piping	φ9.52(3/8") (Flare)
С	Drain piping	V20(I.D.20, O.D.26)
D	Hole on wall for bottom piping	\$\psi 100 (Resin cap having)
Е	Hole on wall for side piping/	φ100 (Knock out)
F	Hole on wall for rear piping	φ100 (Knock out)
G	Metal fittings to fix to floor face	M8(2 places)
Н	Fall prevention metal fittings	4-7×25 (Slot)

Note (1) The model name label is attached on the left lower side panel inside the air return grille.

Unit:mm

 \ni

Floor standing type (FDF)

Models FDF71VD, 100VD, 125VD, 140VD

RKY000Z054

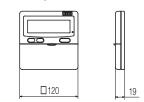
Space for installation and service when viewing from the front

881.9

Symbol Content Α Gas piping ϕ 12.7(1/2") (Flare) В Liquid piping ϕ 6.35(1/4") (Flare) С Hole on wall for right rear piping $(\phi 65)$ D Hole on wall for left rear piping $(\phi 65)$ Ε Drain hose VP16 Outlet for wiring Outlet for piping (on both side) G



46.5



Notes(1) The model name label is attached on the underside of the panel.

(2) It takes the interface kit (SC-BIKN-E) to connect the wired remote controller.

Unit:mm

'12 • PAC-T-174

(g)

Wall mounted type (SRK)

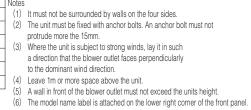
Models SRK50ZJX-S1, 60ZJX-S1

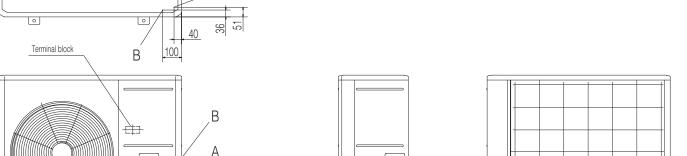
PCA001Z535 🗥

(2) Outdoor units

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Models FDC100VN, 125VN, 140VN FDC100VS, 125VS, 140VS





110

20

52

195

Content

φ15.88(5/8") (Flare)

φ9.52(3/8") (Flare)

φ20×3places

M10×4places

φ30×3places

120

20

Service valve connection (gas side)

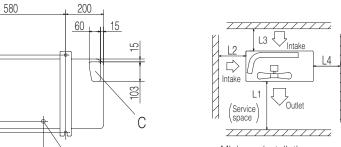
Pipe/cable draw-out hole

Drain discharge hole

Cable draw-out hole

Anchor bolt hole

Service valve connection (liquid side)



242

195

20

<u>55</u>

15

50

D

970

388

60

262

Symbol

Α

В

D E

M

M

845

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Ε

8 4

410 370

8 8

60

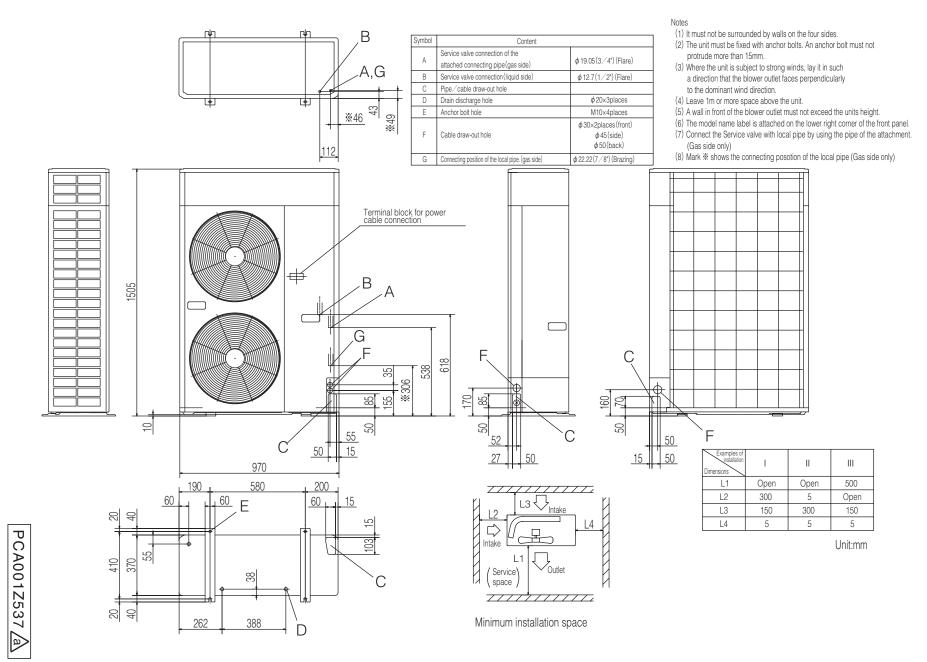
Examples of installation Dimensions	I	II	III
L1	Open	Open	500
L2	300	5	Open
L3	150	300	150
L4	5	5	5

Unit:mm

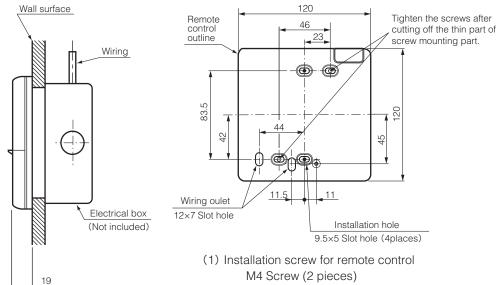
Minimum installation space

Notes

108



(3) Remote controller (Option parts) (a) wired remote controller Model RC-E5 Wiring outlet Cut off the upper thin part of remote control lower case with a nipper or knife, and grind burrs with a file etc. Exposed mounting In case of pulling out from center In case of pulling out from upper left 48 0.3mm²×2 cores Upper part In case of pulling out from upper left In case of pulling out from center P Lower case LCD 0 0000 Lower part Sheath Upper Upper | Upper cace Upper cace Board Board ΠQ @O@ Lower Wiring Wiring X, Y Terminal block In case of pulling out from upper left In case of pulling out from center Attach M3 screw with washer The peeling-off length of sheath □120 Pulling out from upper left Pulling out from center X wiring : 215mm Y wiring : 195mm X wiring : 170mm The peeling-off length of sheath Y wiring : 190mm Embedded mounting Remote control installation dimensions Wall surface 120 Remote Tighten the screws after 46 control cutting off the thin part of _ 23 screw mounting part. Wiring

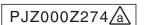


Wiring specifications

(1) If the prolongation is over 100m, change to the size below.

But, wiring in the remote controller case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

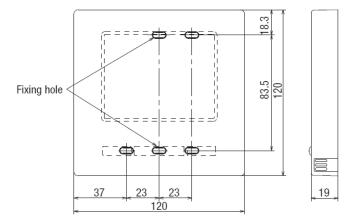
Length	Wiring thickness
100 to 200m	0.5mm ² ×2 cores
Under 300m	0.75mm ² ×2 cores
Under 400m	1.25mm ² ×2 cores
Under 600m	2 0mm ² ×2 cores



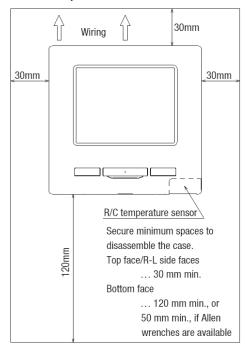
Unit:mm

Model: RC-EX1A

Dimensions (Viewed from front)



Installation space



Cautions for selecting installation place

- (1) Installation surface must be flat and sufficiently strong. R/C case must not be deformed.
- (2) Where the R/C can detect room temperatures accurately This is a must when detecting room temperatures with the temperature sensor of R/C.
 - \cdot Install the R/C where it can detect the average temperature in the room.
 - · Install the R/C sufficiently separated from a heat source.
 - · Install the R/C where it will not be influenced by the turbulence of air when the door is opened or closed.

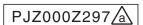
Select a place where the R/C is not exposed to direct sunlight or blown by winds from the air conditioner or temperatures on the wall surface will not deviate largely from indoor air temperatures.

R/C cable: $0.3 \text{mm}^2 \times 2\text{-core}$

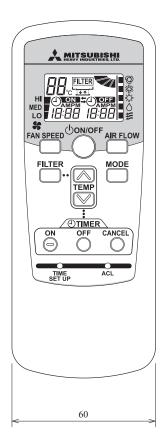
When the cable length is longer than 100 m, the max size for wires used in the R/C case is 0.5 mm². Connect them to wires of larger size near the outside of R/C. When wires are connected, take measures to prevent water, etc. from entering inside.

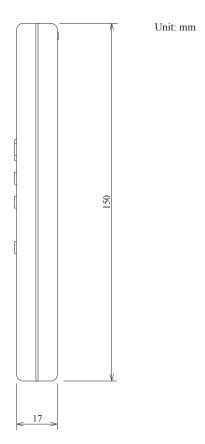
< 200 m	0.5 mm ² x 2-core
< 300 m	0.75 mm ² x 2-core
< 400 m	1.25 mm ² x 2-core
< 600 m	2.0 mm ² x 2-core

Adapted to **RoHS** directive



(b) Wireless remote controller (RCN-E1R)





ELECTRICAL WIRING

(1) Indoor unit

(a)

Ceiling cassette-4way type (FDT)
Models FDT50VF, 60VF, 71VF, 100VF, 125VF, 140VF

Operation check, Drain motor test run

SW7-3 Powerful mode Valid / Invalid TB1 Terminal block (Power source) (□mark) TB2 Terminal block (Signal line) (□mark) Thermistor (Remote controller) Thc Thi - AThermistor (Return gir) Thi-R1,2,3 Thermistor (Heat exchanger)

Color Marks

CNB~Z

DM

FMI

F1~3

LED · 2

LED · 3

LM1~4

SW2

SW5

SW6

SW7-1

Connector

Fan motor Float switch Reactor

Indication lamp (Green-Normal operation)

Louver motor Panel switch

address

Indication lamp (Red-Inspection)

Remote controller communication

Plural units Master/Slave setting

Model capacity setting

Fuse

Drain motor

Mark Color Mark Color RD Black Red BL Blue WH White BR Brown Yellow OR Orange Y/GN Yellow/Green

			(Remo	te operation input:) ee contact
		Remote controller Tho Tho Y Here	1 CNB 3 WH	CNTA 1 RD Thi-R1
Connecting line between indoor unit and outdoor unit	*1 CNWR2 CNWR2 CNWR2 RD 1 WH 1 W	⊟ Power 4 wij	1 CNR LED · 2	ONN 3 Y 1 Th1-R2
Power source line 112 Signal line 3 Earth	TB1 ₹ BL 3 WH	Circuit CNW1 6 WH 15A) WH 7 WH 7 WH 10 WH	5 CNW2 7 WH SW2 9 10 11	CNH 1 BK 1 ThI -A
		1 4 5 6 7 2 a 8 8 5 \$ CNM	BK 3 SW7	CNI 2 RD FS RD Prepare on site
		M 1 8K 6 7 M 2 8K 9 5 8k 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	BK 6 SW8 7 8 8 8 9 For HA CN7 WH	CNT 3
		M 3 RD 114 4 RD 114 5 RD 15 LM4 2 RD 17 M 3 RD 17 4 RD 114 5 RD 15 17 17 18 18 19 19 19 19 19 19 19 19 19 19	BK 13 14 15 16 16 17 17 17 17 18 17 17 17 18 18 18 18 17 18 18 18 18 18 18 18 18 18 18 18 18 18	DNV 3
		\\	19 CN\ 20 BK 1 2 3	2 5 6 <u>4</u> <u>4</u>

Notes 1. ----indicates wiring on site.

2. See the wiring diagram of outside unit about the line between inside unit and outside unit.

3. Use twin core cord (0.3mm²) at remote controller line. See spec sheet of remote controller in case that the total length is more

4. Do not out remote controller line alonaside power source line.

PJF000Z286

'12 • PAC-T-174

CNB~Z	Connector
DM	Drain motor
F200~203	Fuse
FM ı	Fan motor
FS	Float switch
LED•2	Indication lamp (Green-Normal operation)

LED•3	Indication lamp (Red-Inspection)
LM1~4	Louver motor
SW2	Remote controller communication address
SW5	Plural units Master / Slave setting
SW6	Model capacity setting
SW7-1	Operation check, Drain motor test run

TB1	Terminal block(Power source) (☐ mark)
TB2	Terminal block(Signal line) (☐mark)
Thc	Thermistor (Remote controller)
Thı-A	Thermistor(Return air)
Th ₁ -R1,2,3	Thermistor(Heat exchanger)
X4	Relay for DM
■ mark	Closed-end connector

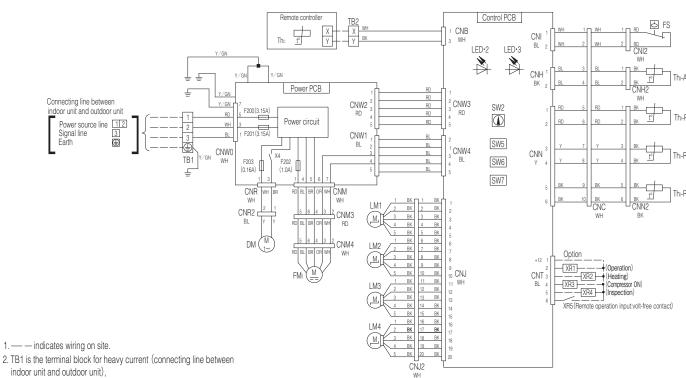
Color Marks

Mark	Color
BK	Black
BL	Blue
BR	Brown
OR	Orange
RD	Red
WH	White
Υ	Yellow
Y/GN	Yellow/Green

b

Ceiling cassette-4 way compact type (FDTC)

Models FDTC50VF, 60VF

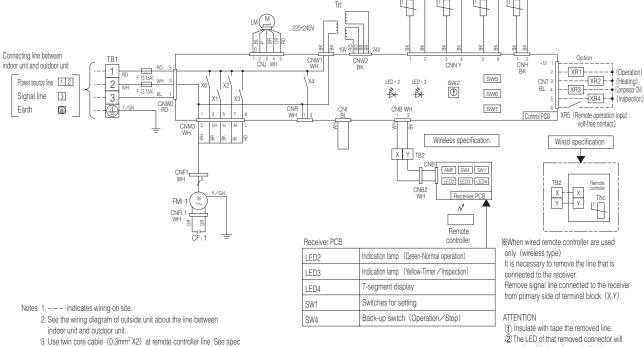


Notes 1. — — indicates wiring on site.

- indoor unit and outdoor unit), and TB2 is the terminal block for weak current (remote controller).
- 3. See the wiring diagram of outside unit about the line between inside unit and outside unit.
- 4. Use twin core cable (0.3mm²X2) at remote controller line. See spec sheet of remote controller in case that the total length is more than 100m.
- 5. Do not put remote controller line alongside power source line.

Ceiling suspended type (FDEN) Model FDEN50VF Capacitor for FMI

<u>(c)</u>



CNB~Z	Connector	
F	Fuse	
FMI 1	Fan motor (with thermostat)	
LED · 2	Indication lamp (Green-Normal operation)	
LED · 3	Indication lamp (Red-Inspection)	
LM	Louver motor	
SW2	Remote controller communication address	
SW5	Plural units Master/Slave setting	
SW6	Model capacity setting	
SW7-1	Operation check, Drain motor test run	
TB1	Terminal block (Power source) (□mark)	
TB2	Terminal block (Signal line) (□mark)	
Thc	Thermistor (Remote controller)	
Thl -A	Thermistor (Return air)	
Thl -R1,2,3	Thermistor (Heat exchanger)	
Trl	Transformer	
X1~3,6	Relay for FM	
X4	Relay for DM	

2 The LED of that removed connector will

not be able to make any indication.

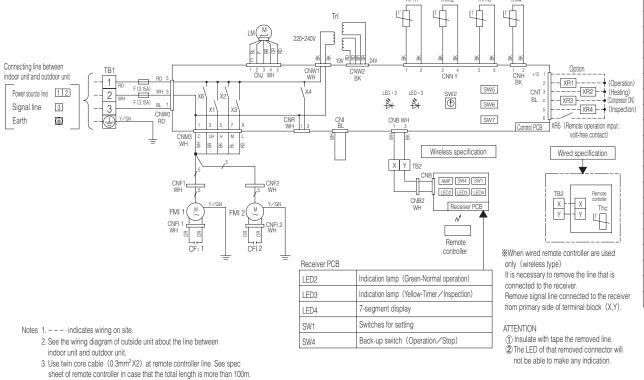
Color Marko

CFI 1

COIOI Warks				
Mark	Color	Mark	Color	
BK	Black	RD	Red	
BL	Blue	WH	White	
BR	Brown	Υ	Yellow	
OR	Orange	Y/GN	Yellow / Green	
Р	Pink			

sheet of remote controller in case that the total length is more than 100m. 4. Do not put remote controller line alongside power source line.

Do not put remote controller line alongside power source line.



CFI 1,2	Capacitor for FMI	
CNB~Z	Connector	
F	Fuse	
FMI 1,2	Fan motor (with thermostat)	
LED · 2	Indication lamp (Green-Normal operation)	
LED · 3	Indication lamp (Red-Inspection)	
LM	Louver motor	
SW2	Remote controller communication address	
SW5	Plural units Master/Slave setting	
SW6	Model capacity setting	
SW7-1	Operation check, Drain motor test run	
TB1	Terminal block (Power source) (□mark)	
TB2	Terminal block (Signal line) (□mark)	
Thc	Thermistor (Remote controller)	
ThI -A	Thermistor (Return air)	
Thl -R1,2,3	Thermistor (Heat exchanger)	
Trl	Transformer Relay for FM Relay for DM	
X1~3,6		
X4		
■mark	Closed-end connector	

Models FDEN60VF, 71VF, 100VF, 125VF, 140VF

'12 • PAC-T-174

Color Marke

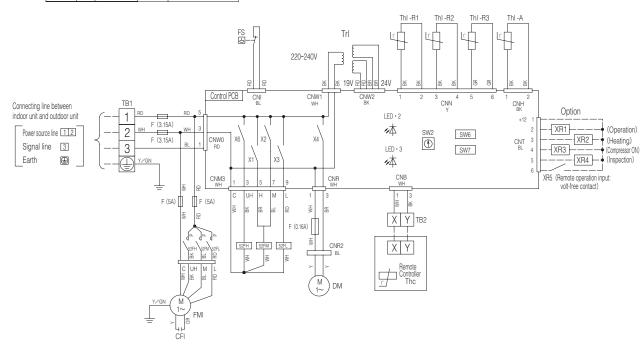
Color Mark	S		
Mark	Color	Mark	Color
BK	Black	RD	Red
BL	Blue	WH	White
BR	Brown	Υ	Yellow
OR	Orange	Y/GN	Yellow / Green
Р	Pink		

PJD001Z217/B

<u>a</u> Duct connected-High static pressure type (FDU) Models FDU100VD, 125VD, 140VD

Color Mark	S
Mark	





CFI	Capacitor for FMI		
CNB~Z	Connector		
DM	Drain motor		
F	Fuse		
FMI	Fan motor (with thermostat)		
FS	Float switch		
LED · 2	Indication lamp (Green-Normal operation)		
LED · 3	Indication lamp (Red-Inspection)		
SW2	Remote controller communication address		
SW6	Model capacity setting		
SW7-1	Operation check, Drain motor test run		
TB1	Terminal block (Power source) (□mark)		
TB2	Terminal block (Signal line) (□mark)		
Thc	Thermistor (Remote controller)		
ThI -A	Thermistor (Return air)		
Thl -R1,2,3	Thermistor (Heat exchanger)		
Trl	Transformer		
X1~3,6	Relay for FM		
X4	Relay for DM		
■mark	Closed-end connector		
52FL,FM,FH	Electromagnetic contactor for FMI		

Notes 1. $---\cdot$ indicates wiring on site.

- 2. See the wiring diagram of outside unit about the line between inside unit and outside unit.
- 3. Use twin core cable (0.3mm²X2) at remote controller line. See spec sheet of remote controller in case that the total length is more than 100m.
- 4. Do not put remote controller line alongside power source line.

	Color Marl	KS			
	Mark	Color	Mark	Color	
	BK	Black	Р	Pink	
	BL	Blue	RD	Red	
	BR	Brown	WH	White	Thi-R1 Thi-R2 Thi-R3 Thi-A
	GR	Gray	Υ	Yellow	1 L' L' L' L' 220-240V
	OR	Orange	Y/GN	Yellow/Green	
					# # # # # # # # # # # # # # # # # # #
Connectin	ng line betwe	on	TB1		1 2 3 4 5 6 1 2 2 NW1 CNW2 CNW BK Online
	it and outdoo		1 RD		F (3.15A) RD 5 Y BK +12 1 Option
Powers	ource line 1	p7	2 WH		WHF (3.15A) WH 3 CMMO VS VS VS LED · 2 SW6 CMT 3 - XR2 (Heating)
Signa		- 1 - ∠	3		BL 1 CMV X6 X2 X6 X2 SW7 BL 4 XR3 — (Compressor ON)
Earth			J Y/GN	₹ &	X1 X3 LED·3 SW2 5 XR4 (Inspection)
LEarth					XR5 (Remote operation input:
			Ť	DF DF	volt-free contact)
				(6.3A) (6.3A)	Control PCB
				8	C UH H M L Q2 Q2 1 3 1 3 1 1 3 1 1 1 1 1 1 1 1 1 1 1 1
					₩ W W W W W W W W W W W W W W W W W W W
				، []	
				52FL\	SOEL SOEL XY
				<u>e</u>	SONE PS - Remote
				@ à	≦ WH WH IR IS CIVEX WH That
				Y/GN M	CNF2 ""
				FM _I 1 1~	OR OR FMI2 OR OR OR
				<u></u>	NF2 TONES
				=	WH = WH CMF9 WH

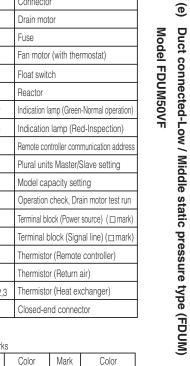
CFI 1,2	Capacitor for FMI		
CNB~Z	Connector		
F	Fuse		
FC	Fan controller		
FMI 1,2	Fan motor (with thermostat)		
FS	Float switch		
LED · 2	Indication lamp (Green-Normal operation)		
LED · 3	Indication lamp (Red-Inspection)		
SW2	Remote controller communication address		
SW6	Model capacity setting		
SW7-1	Operation check, Drain motor test run		
TB1	Terminal block (Power source) (□mark)		
TB2	Terminal block (Signal line) (□mark)		
Thc	Thermistor (Remote controller)		
Thl -A	Thermistor (Return air)		
Thl -R1,2,3	Thermistor (Heat exchanger)		
Trl	Transformer		
X1~3,6	Relay for FM		
■mark	Closed-end connector		
52FL,FH	Electromagnetic contactor for FMI		

Notes 1. --- indicates wiring on site.

- 2. See the wiring diagram of outside unit about the line between inside unit and outside unit.

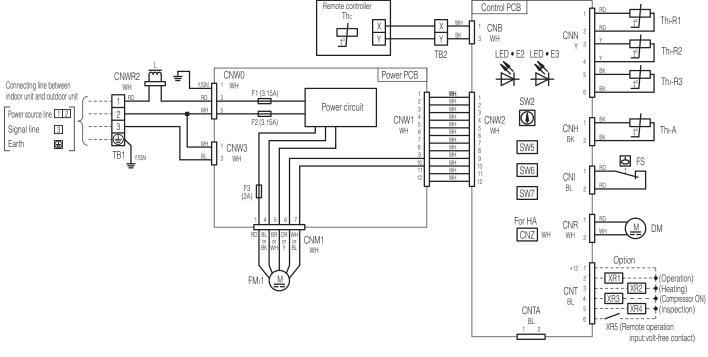
 3. Use twin core cable (0.3mm²X2) at remote controller line. See spec sheet of remote controller in case that the total length is more than 100m.

 4. Do not put remote controller line alongside power source line.



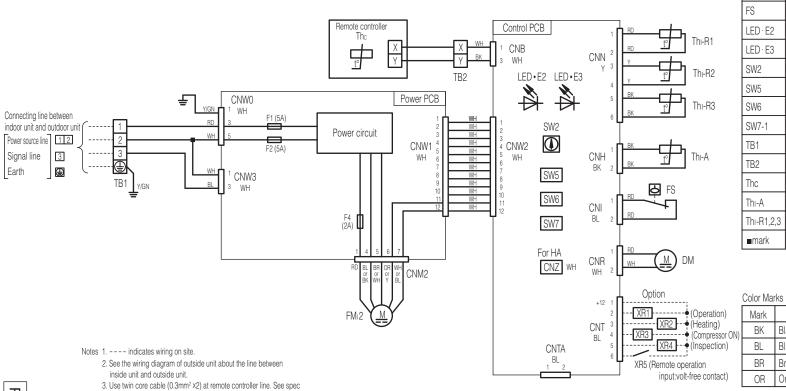
CNB~Z Connector DM Drain motor F1~3 FM₁1 FS LED · E2 LED · E3 SW2 SW5 SW6 SW7-1 TB1 TB2 Thc Thi-A Thi-R1,2,3 ■mark

Color Marks					
Mark	Color	Mark	Color		
BK	Black	RD	Red		
BL	Blue	WH	White		
BR	Brown	Υ	Yellow		
OR	Orange	Y/GN	Yellow/Green		



Notes 1. ---- indicates wiring on site.

- 2. See the wiring diagram of outside unit about the line between inside unit and outside unit.
- 3. Use twin core cable (0.3mm² x2) at remote controller line. See spec sheet of remote controller in case that the total length is more than 100m.
- 4. Do not put remote controller line alongside power source line.



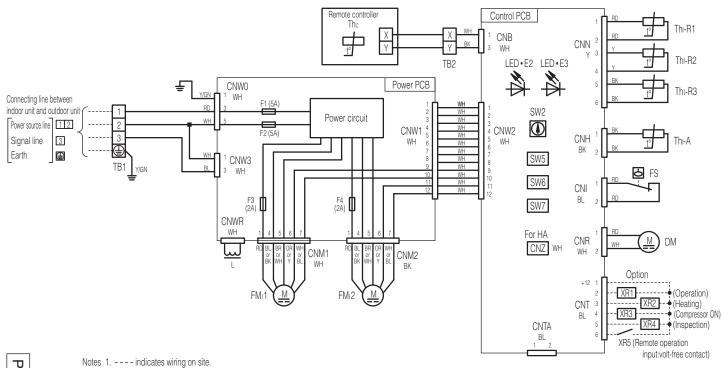
Connector
Drain motor
Fuse
Fan motor (with thermostat)
Float switch
Indication lamp (Green-Normal operation)
Indication lamp (Red-Inspection)
Remote controller communication address
Plural units Master/Slave setting
Model capacity setting
Operation check, Drain motor test run
Terminal block (Power source) (□ mark)
Terminal block (Signal line) (□ mark)
Thermistor (Remote controller)
Thermistor (Return air)
Thermistor (Heat exchanger)
Closed-end connector

Mark	Color	Mark	Color
BK	Black	RD	Red
BL	Blue	WH	White
BR	Brown	Υ	Yellow
OR	Orange	Y/GN	Yellow/Green

3. Use twin core cable (0.3mm² x2) at remote controller line. See spec

sheet of remote controller in case that the total length is more than 100m.

4. Do not put remote controller line alongside power source line.



CNB~Z	Connector
DM	Drain motor
F1~4	Fuse
FM ₁ 1,2	Fan motor (with thermostat)
FS	Float switch
L	Reactor
LED · E2	Indication lamp (Green-Normal operation)
LED · E3	Indication lamp (Red-Inspection)
SW2	Remote controller communication address
SW5	Plural units Master/Slave setting
SW6	Model capacity setting
SW7-1	Operation check, Drain motor test run
TB1	Terminal block (Power source) (□ mark)
TB2	Terminal block (Signal line) (□ mark)
Thc	Thermistor (Remote controller)
Thı-A	Thermistor (Return air)
Thı-R1,2,3	Thermistor (Heat exchanger)
■mark	Closed-end connector

Color Marks

Morle	Color	Morle	Color
Mark	Color	Mark	Color
BK	Black	RD	Red
BL	Blue	WH	White
BR	Brown	Υ	Yellow
OR	Orange	Y/GN	Yellow/Green

- 2. See the wiring diagram of outside unit about the line between inside unit and outside unit.
- 3. Use twin core cable (0.3mm² x2) at remote controller line. See spec sheet of remote controller in case that the total length is more than 100m.
- 4. Do not put remote controller line alongside power source line.

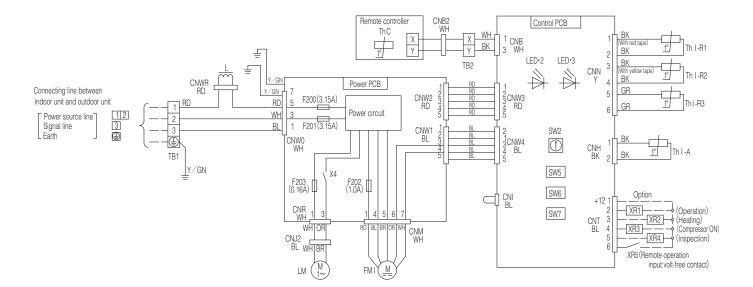
PGA000Z783

Color Marks

Octor Mario					
Mark	Color	Mark	Color	Mark	Color
BK	Black	GR	Gray	WH	White
BL	Blue	OR	Orange	Υ	Yellow
BR	Brown	RD	Red	Y/GN	Yellow/Green

CNB~Z	Connector
F200~203	Fuse
FM I	Fan motor
L	Reactor
LED•2	Indication lamp
	(Green-Normal operation)
LED·3	Indication lamp (Red-Inspection)
LM	Louver motor
SW2	Remote controller communication address
	F200~203 FM I L LED•2 LED•3 LM

SW5	Plural units Master / Slave setting	
SW6	Model capacity setting	
SW7-1	Operation check,Drain motor test run	
TB1	Terminal block(Power source)	
	(? mark)	
TB2	Terminal block(Signal line) (Dmark)	
Thc	Thermistor (Remote controller)	
Th I-A	Thermistor (Return air)	
Th -R1,2,3	Thermistor(Heat exchanger)	
X4	Relay for DM	



Notes 1. — indicates wiring on site.

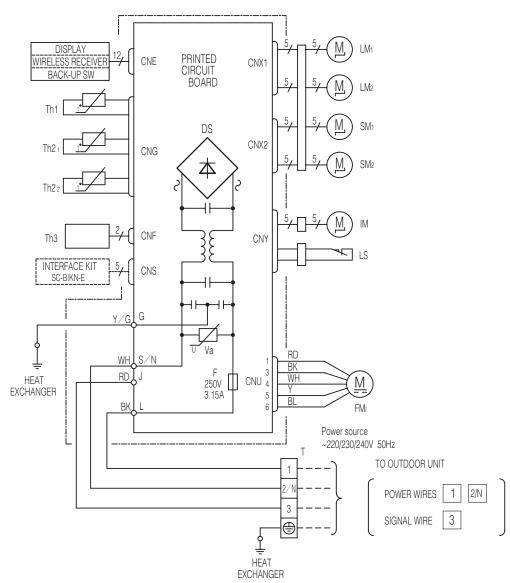
- 2. See the wiring diagram of outside unit about the line between inside unit and outside unit.
- Use twin core cable (0.3mm² X2) at remote controller line. See spec sheet of remote controller in case that the total length is more than 100m.
- 4. Do not put remote controller line alongside power source line.

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 \ni

Floor standing type (FDF)

Models FDF71VD, 100VD, 125VD, 140VD



Item	Description	
CNE-CNY	Connector	
FMı	Fan motor	
SM _{1,2}	Flap motor	
LM _{1,2}	Louver motor	
IM	Inlet motor	
Th1	Room temp. sensor	
Th2 _{1,2}	Heat exch. sensor	
Th3	Humidity sensor	
LS	Limit switch	
DS	Diode stack	
F	Fuse	
T	Terminal block	
Va	Varistor	

Color Marks			
Mark	Color		
BK	Black		
BL	Blue		
RD	Red		
WH	White		
Υ	Yellow		
Y/G	Yellow/Green		

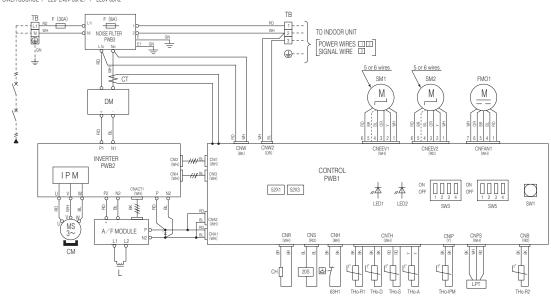
(g) Wall mounted type (SRK)

Models SRK50ZJX-S1, 60ZJX-S1

Outdoor units

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Models FDC100VN, 125VN, 140VN



СН Crankcase heater CM Compressor motor Current sensor DM Diode module Fuse FM01 Fan motor IPM Intelligent power module Reactor LED1 Indication lamp (GREEN) LED2 Indication lamp (RED) LPT Low pressure sensor SM1 Expansion valve for cooling SM2 Expansion valve for heating SW1 Pump down switch Local setting switch SW3,5 TB Terminal block THo-A Thermistor (Outdoor air temp.) THo-D Thermistor (Discharge pipe temp.) THo-IPM Thermistor (IPM) THo-R1,2 Thermistor (Heat exchanger pipe temp.) THo-S Thermistor (Suction pipe temp.) 20S Solenoid valve for 4 way valve 52X1 Auxilliary relay (for CH)

Auxilliary relay (for 20S)

High pressure switch

Description

Connector

Item

CnA~Z

Power cable, indoor-outdoor connecting wires

	····, ··							
Model	MAX over current Power cable (A) (mm²)		Power cable length (m)	indoor-outdoor wire size x number	Earth wire size (mm)			
100								
125	24	5.5	25	φ 1.6mm x 3	φ1.6			
140								

*At the connection with the duct type indoor unit

7007 10 6111	And the definedation with the date type mader dist.						
Model	MAX over current (A)	Power cable size (mm ²)	Power cable length (m)	indoor-outdoor wire size x number	Earth wire size (mm)		
100	25	5.5	24				
125	27	3.3	22	Ф 1.6mm x 3	φ 1.6		
140	28	8	32				

- The specifications shown in the above table are for units without heaters. For units with heaters, refer
 to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of Circuit breaker capacity which is calculated from MAX. over current should be chosen
 along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no
 more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling
 outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation
 in effect in each country.

Local setting switch SW3 (Set up at shipment OFF)

Mark

BR

GN

GR

OR

RD

WH

Y/GN

Color

Black

Blue

Brown

Green

Gray

Pink

Red

White

Yellow

Yellow / Green

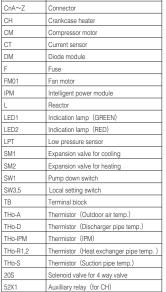
52X3

63H1

Orange

256di Gotting Cirion Grot up di Gripmont Gri7					
SW3-1	Defrost control change	The defrosting operation interval becomes shorter by turning ON this switch. This switch should be turned ON in the area where outside temperature becomes below the freezing point.			
SW3-2	Snow guard fan control	When this switch is turned ON, the outdoor unit fan will run for 30 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not runnning when the unit is used in a very snowy country, set this switch to ON.			
SW3-3,4	Trial operation	Method of trial operation ①Trial operation can be performed by using SW3-3,4. ②Compressor will be in the operation when SW3-3 is ON. ②Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON. ③Be sure to turn OFF SW3-3 after the trial operation is finished.			

POWER SOURCE 3N~380-415V 50Hz



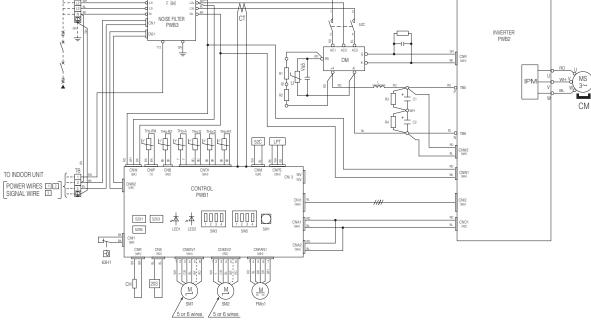
Auxilliary relay (for 20S)

Auxilliary relay (for 52C)

Models FDC100VS, 125VS, 140VS

Description

Item



wor cable	indoor-outdoor	connecting	wires	

	· · · · · · · · · · · · · · · · · · ·							
Model	MAX over current (A)	Power cable size (mm ²)	Power cable length (m)	indoor-outdoor wire size x number	Earth wire size (mm)			
100								
125	15	3.5	27	φ 1.6mm x 3	φ1.6			
140								

*At the connection with the duct type indoor unit.

Model	MAX over current (A)	Power cable size (mm ²)	Power cable length (m)	indoor-outdoor wire size x number	Earth wire size (mm)				
100	16		26						
125	18	3.5	23	φ 1.6mm x 3	φ 1.6				
140	19		21						

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

Local setting:	switch	SW3	(Set up	at sh	ipment	OFF)

Mark

BK

BR

GR

OR

RD

WH

Y/GN

Color

Black

Blue

Brown

Gray

Pink

Red

White

Yellow

Yellow/Green

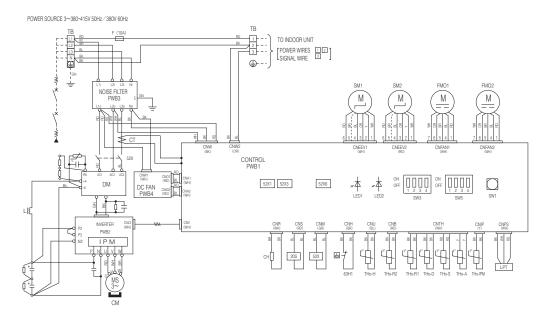
52X3

52X6

Orange

Local sett	ting switch SW3 (Set up at sh	nipment OFF)	63H1	High pressure switch
SW3-1	Defrost control change	The defrosting operation by turning ON this switturned ON in the area where the becomes below the free transfer of the switch of	ch. This switch : where outside te	should be
SW3-2	Snow guard fan control	When this switch is turn fan will run for 30 secon when outdoor temperat the compressor is not r in a very snowy country	nds in every 10 ture falls to 3°C runnning when t	minutes, or lower and he unit is used
SW3-3,4	Trial operation	Method of trial operatio (Trial operation can be (Compressor will be in SW3-3 is ON, (Cooling trial operatio SW3-4 is OFF, and he SW3-4 is ON. (Be sure to turn OFF S is finished.	e performed by In the operation In will be performeating trial opera	when ned when ation when

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Mark	Color
BK	Black
BL	Blue
BR	Brown
GR	Gray
Р	Pink
OR	Orange
RD	Red
WH	White
Υ	Yellow
Y/GN	Yellow/Green

CH	Crankcase heater
CM	Compressor motor
CT	Current sensor
DM	Diode module
F	Fuse
FM01,02	Fan motor
IPM	Intelligent power module
L	Reactor
LED1	Indication lamp (GREEN)
LED2	Indication lamp (RED)
LPT	Low pressure sensor
SM1	Expansion valve for cooling
SM2	Expansion valve for heating
SW1	Pump down switch
SW3,5	Local setting switch
TB	Terminal block
THo-A	Thermistor (Outdoor air temp.)
THo-D	Thermistor (Discharge pipe temp.)
THo-H	Thermistor(Camp.undeneth temp.)
THo-IPM	Thermistor (IPM)
THo-R1,2	Thermistor (Heat exchanger pipe temp.)
THo-S	Thermistor (Suction pipe temp.)
20S	Solenoid valve for 4 way valve
52X1	Auxilliary relay (for CH)
52X3	Auxilliary relay (for 20S)
52X6	Auxilliary relay (for 52X)
63H1	High pressure switch

Description

Connector

CnA~Z

Power cable, indoor-outdoor connecting wires

	· · · · · · · · · · · · · · · · · · ·								
	Model	MAX over current (A)	Power cable size (mm) ²	Power cable length (m)	indoor-outdoor wire size x number	Earth wire size (mm)			
	200	19	3.5	21	φ 1.6mm x 3	φ1.6			
ı	250	22	5.5	31	Ψισιπικο	Ψ1.6			

*At the connection with the duct type indoor unit.

74.7 11. 11.10	t the connection with the date type indoor drift.				
Model	MAX over current (A)	Power cable size (mm) ²	Power cable length (m)	indoor-outdoor wire size x number	Earth wire size (mm)
200	24		29	φ 1.6mm x 3	φ1.6
250	27	5.5	26		

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear of Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

Local setti	ng swi	tch SW	3 (Set up	(Set up at shipment Of		
					The de	

Local Sciling Switch Ovo (Oct up at Shiphicht Or 1)					
SW3-1	Defrost control change	The defrosting operation interval becomes shorter by turning ON this switch. This switch should be turned ON in the area where outside temperature becomes below the freezing point.			
SW3-2	Snow guard fan control	When this switch is turned ON, the outdoor unit fan will run for 30 seconds in every 10 minutes, when outdoor temperature falls to 3 or lower and the compressor is not runnning when the unit is used in a very snowy country, set this switch to ON.			
SW3-3,4	Trial operation	Method of trial operation (Trial operation can be performed by using SW3-3,4. (2) Compressor will be in the operation when SW3-3 is ON. (3) Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON. (3) Be sure to turn OFF SW3-3 after the trial operation is finished.			

1.4 NOISE LEVEL

Notes (1) The data are based on the following conditions.

Ambient air temperature: Indoor unit 27°CWB. Outdoor unit 35°CDB.

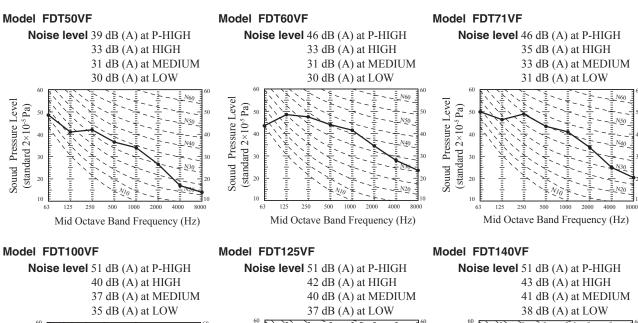
- (2) The data in the chart are measured in an anechoic room.
- (3) The noise levels measured in the field are usually higher than the data because of reflection.

(1) Indoor units

(a) Ceiling cassette-4way compact type (FDT)

Measured based on JIS B 8616
Mike position as right

1.5m
Mike (at center & below unit)



Sound Pressure Level (standard 2×10-5 pa) (standard

 $\begin{array}{c} \text{37 dB (A) at LOW} \\ \text{Resonre Fevel} \\ \text{Bonnos} \\ \text{Bonnos} \\ \text{Bonnos} \\ \text{Bonos} \\ \text{Bo$

8 dB (A) at MEDIUM

38 dB (A) at LOW

(standard 2×10.8 bg 10.8 bg 10.8

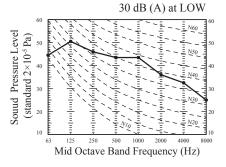
(1) Ceiling cassette-4way type (FDTC)

Measured based on JIS B 8616 Mike position as right

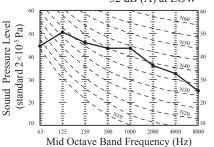


Model FDTC50VF

Cooling noise level 47 dB (A) at P-HIGH 42 dB (A) at HIGH 36 dB (A) at MEDIUM



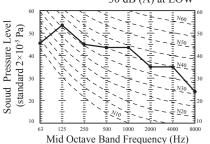
Heating noise level 47 dB (A) at P-HIGH 42 dB (A) at HIGH 36 dB (A) at MEDIUM 32 dB (A) at LOW



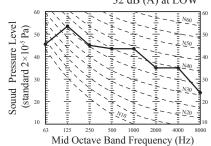
Model FDTC60VF

Cooling noise level 47 dB (A) at P-HIGH 46 dB (A) at HIGH 39 dB (A) at MEDIUM

39 dB (A) at MEDIC 30 dB (A) at LOW

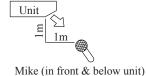


Heating noise level 47 dB (A) at P-HIGH 46 dB (A) at HIGH 39 dB (A) at MEDIUM 32 dB (A) at LOW



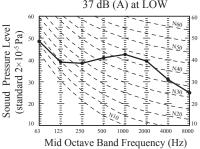
(c) Ceiling suspended type (FDEN)

Measured based on JIS B 8616 Mike position as right



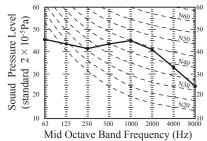
Model FDEN50VF

Noise level 46 dB (A) at P-HIGH 39 dB (A) at HIGH 38 dB (A) at MEDIUM 37 dB (A) at LOW



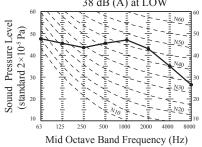
Model FDEN60VF

Noise level 48 dB (A) at P-HIGH 41 dB (A) at HIGH 39 dB (A) at MEDIUM 38 dB (A) at LOW



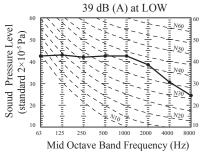
Model FDEN71VF

Noise level 50 dB (A) at P-HIGH 41 dB (A) at HIGH 39 dB (A) at MEDIUM 38 dB (A) at LOW



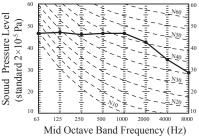
Models FDEN100VF

Noise level 46 dB (A) at P-HIGH 44 dB (A) at HIGH 41 dB (A) at MEDIUM



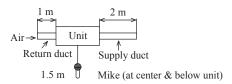
Models FDEN125VF,140VF

Noise level 50 dB (A) at P-HIGH 46 dB (A) at HIGH 44 dB (A) at MEDIUM 43 dB (A) at LOW



(d) Duct connected-High static pressure-type (FDU)

Measured based on JIS B 8616 Mike position as right

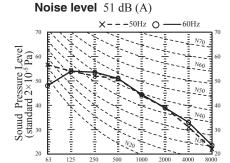


Model FDU100VD

Mid Octave Band Frequency (Hz)

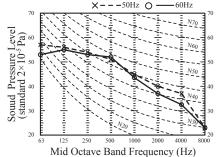
Models FDU125VD, 140VD

Model FDU200VF



Model FDU250VF

Noise level 52 dB (A)



Power level

(Measurement conditions: JIS-B8616, measurement location: reverberation chamber)

 Unit: dB

 Model
 Air supply side
 Air return side

 FDU200VF
 75
 64

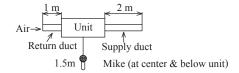
 FDU250VF
 76
 65

Mid Octave Band Frequency (Hz)

Note(1) Values are for external static pressure of 200Pa

(e) Duct connected-Low / Middle static pressure type (FDUM)

Measured based on JIS B 8616 Mike position as righ



Model FDUM50VF

Noise level 37 dB (A) at P-HIGH 32 dB (A) at HIGH 29 dB (A) at MEDIUM 26 dB (A) at LOW 27 dB (A) at LOW 28 dB (A) at LOW 28 dB (A) at LOW 29 dB (A) at LOW 20 dB (A) at HIGH 20 dB (A) at

Model FDUM60VF

Noise level 36 dB (A) at P-HIGH

Model FDUM71VF

Noise level 38 dB (A) at P-HIGH 33 dB (A) at HIGH 29 dB (A) at MEDIUM 25 dB (A) at LOW 25 dB (A) at LOW 25 dB (A) at LOW 36 dB (A) at LOW 36 dB (A) at LOW 36 dB (A) at MEDIUM 25 dB (A) at LOW 36 dB (A) at LOW 36 dB (A) at LOW 36 dB (A) at MEDIUM 36 dB (A) at MEDIUM

Model FDUM100VF Model FDUM125VF Model FDUM140VF Noise level 44 dB (A) at P-HIGH Noise level 45 dB (A) at P-HIGH Noise level 47 dB (A) at P-HIGH 38 dB (A) at HIGH 40 dB (A) at HIGH 40 dB (A) at HIGH 36 dB (A) at MEDIUM 35 dB (A) at MEDIUM 34 dB (A) at MEDIUM 30 dB (A) at LOW 29 dB (A) at LOW 30 dB (A) at LOW Sound Pressure Level Pressure Level Pressure Level $2 \times 10^{-5} \text{Pa}$ (standard 2×10^{-5} Pa) (standard 2×10^{-5} Pa) 40 (standard Sound Sound 1000 2000 Mid Octave Band Frequency (Hz) Mid Octave Band Frequency (Hz) Mid Octave Band Frequency (Hz) (f) Floor standing type (FDF) Mike (1 m each at front face, forward & height) Measured based on JIS B 8616 Mike position as right Revision Model FDF71VD Models FDF100VD, 125VD, 140VD Noise level 42 dB (A) at P-HIGH Noise level 54 dB (A) at P-HIGH 39 dB (A) at HIGH 50 dB (A) at HIGH 35 dB (A) at MEDIUM 48 dB (A) at MEDIUM 33 dB (A) at LOW 44 dB (A) at LOW Sound Pressure Level Pressure Level (standard $2 \times 10^{-5} Pa$) (standard $2 \times 10^{-5} Pa$) Sound N30 1000 2000 250 Mid Octave Band Frequency (Hz) Mid Octave Band Frequency (Hz) (g) Wall mounted type (SRK) Mike position Unit Model SRK50ZJX-S1 (Center & Low points) Cooling noise level 40 dB (A) at MEDIUM Cooling noise level 47 dB (A) at HIGH Cooling noise level 27 dB (A) at LOW Heating noise level 48 dB (A) at HIGH Heating noise level 40 dB (A) at MEDIUM Heating noise level 33 dB (A) at LOW Sound Pressure Level Sound Pressure Level Pressure Level (standard 2×10-5 Pa) (standard 2×10⁻⁵ Pa) (standard 2×10-5 Pa) Sound Mid Octave Band Frequency (Hz) Mid Octave Band Frequency (Hz) Mid Octave Band Frequency (Hz) Model SRK60ZJX-S1 Cooling noise level 51 dB (A) at HIGH Cooling noise level 41 dB (A) at MEDIUM Cooling noise level 29 dB (A) at LOW Heating noise level 48 dB (A) at HIGH Heating noise level 41 dB (A) at MEDIUM Heating noise level 34 dB (A) at LOW Sound Pressure Level Sound Pressure Level (standard 2×10⁻⁵ Pa) (standard 2×10⁻⁵ Pa) (standard 2×10⁻⁵ Pa) 20 1000 250 1000 2000 1000 2000

Mid Octave Band Frequency (Hz)

Sound Pressure Level

Mid Octave Band Frequency (Hz)

Mid Octave Band Frequency (Hz)

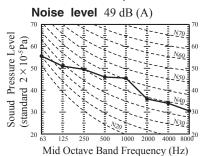
(2) Outdoor units

Measured based on JIS B 8616

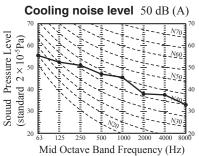
Mike position: at highest noise level in position as mentioned below Distance from front side 1m

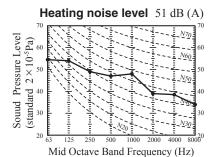
Height 1m

Models FDC100VN,100VS

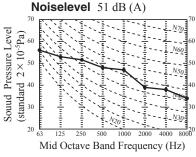


Models FDC125VN,125VS

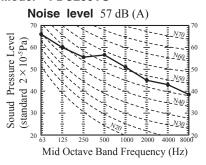




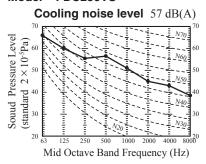
Models FDC140VN,140VS



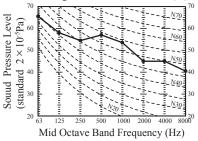
Model FDC200VS



Model FDC250VS

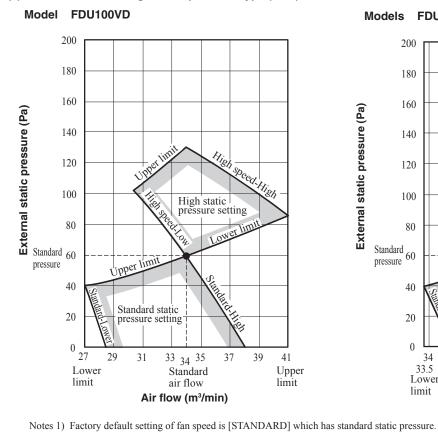


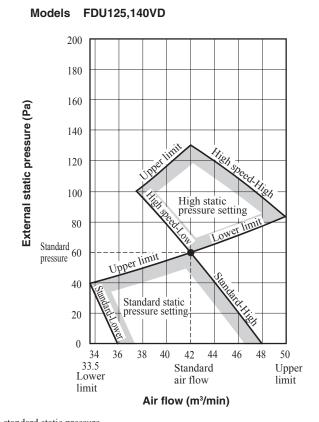
Heating noise level $58 \ dB \ (A)$



1.5 CHARACTERISTICS OF FAN

(a) Duct connected-High static pressure type (FDU)



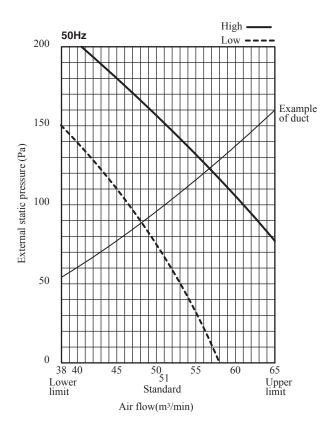


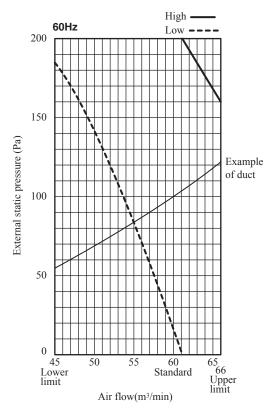
If high static pressure setting is required, change setting to [HIGH SPEED 1] with remote controller on site. (Regarding the setting method, refer to the user's manual of remote controller for detail)

- 2) When setting up high static pressure, do not operate the unit under the condition of 60Pa or lower of the external static pressure.
- 3) The fan speed of this model can be switched between two speeds.

Model FDU200VF

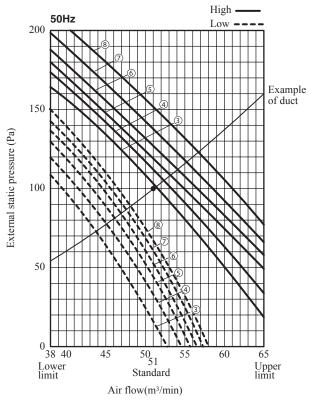
■Standard (Factory Settings)



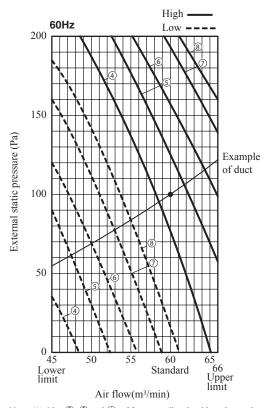


■When the fan controller kit is used (Option : Refer to page 494)

•Standard rating point rated air volume at 100Pa



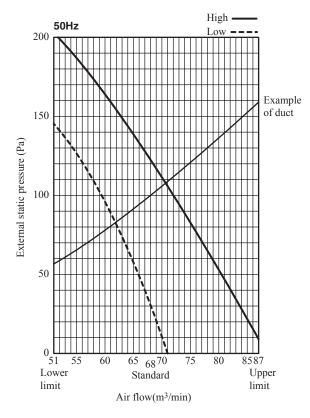
Note (1) Nos.②, ① of fan controller should not be used because the fan motor could produce electromagnetic noise.

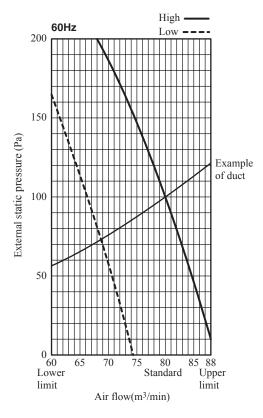


Note (1) Nos.③, ② and ① of fan controller should not be used because the fan motor could produce electromagnetic noise.

Model FDU250VF

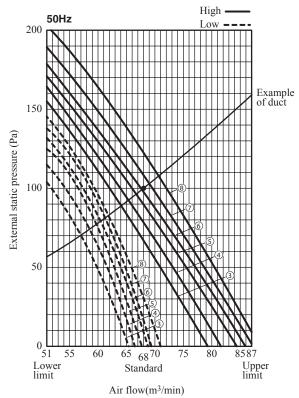
■Standard (Factory Settings)



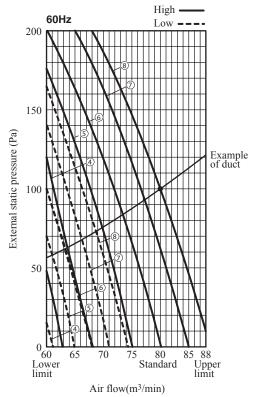


■When the fan controller kit is used (Option : Refer to page 494)

•Standard rating point rated air volume at 100Pa



Note (1) Nos.②, ① of fan controller should not be used because the fan motor could produce electromagnetic noise.



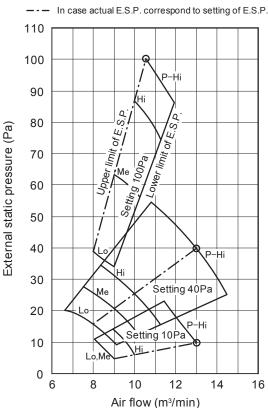
Note (1) Nos.③, ② and ① of fan controller should not be used because the fan motor could produce electromagnetic noise.

(b) Duct connected-Low / Middle static pressure type (FDUM)

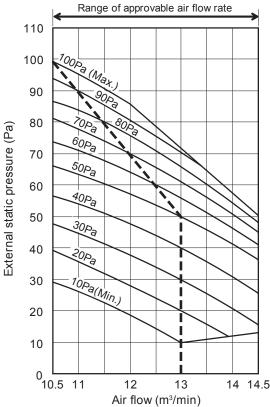
- · Characteristic FAN (1) shows air flow vs. External Static Pressure (E.S.P.) range where settings of E.S.P. are maximum E.S.P. (100Pa), rated E.S.P., and minimum E.S.P. (10Pa)
- · Characteristic FAN (2) shows air flow vs. E.S.P curve when set fan tap is set P-Hi with each setting of E.S.P by remote controller.
- External Static Pressure (E.S.P.) can be set by wired remote controller.
- · You can set required E.S.P. by wired remote controller which calculate it with the set air flow rate and pressure loss of the duct connected.

Model FDUM50VF

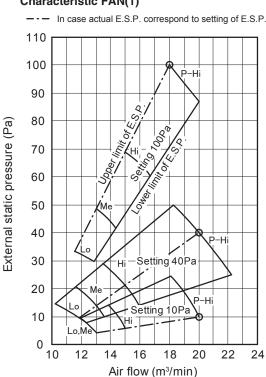
Characteristic FAN(1)

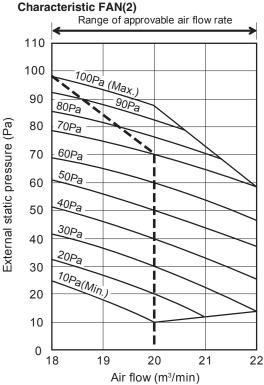


Characteristic FAN(2)

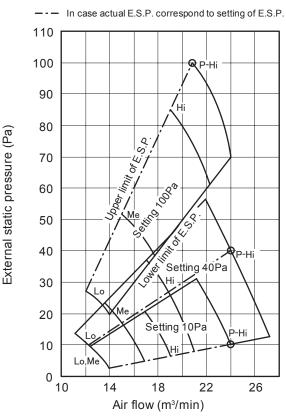


Model FDUM60VF Characteristic FAN(1)

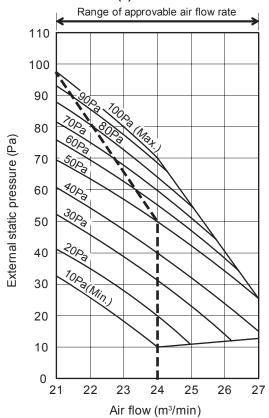




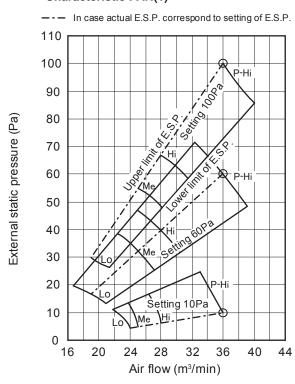
Model FDUM71VF Characteristic FAN(1)



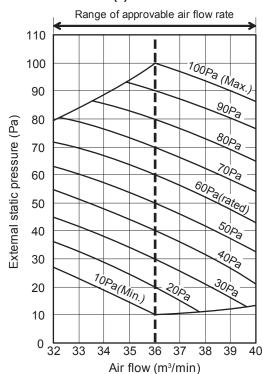
Characteristic FAN(2)



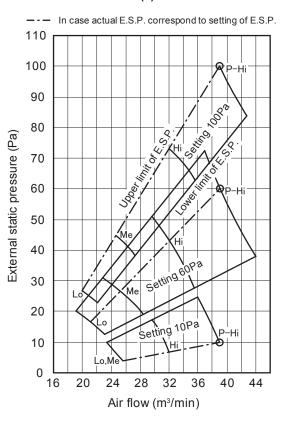
Model FDUM100VF Characteristic FAN(1)



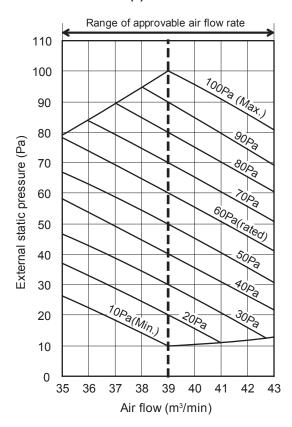
Characteristic FAN(2)



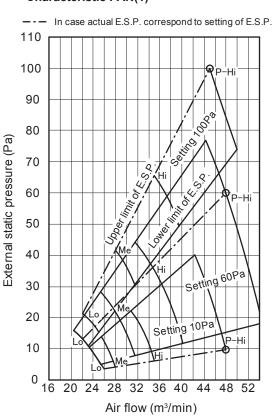
Model FDUM125VF Characteristic FAN(1)



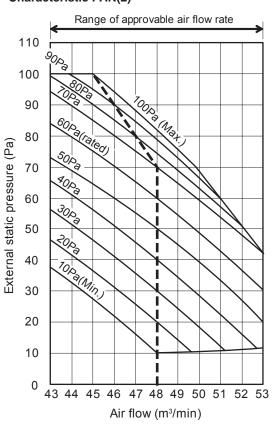
Characteristic FAN(2)



Model FDUM140VF Characteristic FAN(1)



Characteristic FAN(2)



1.6 TEMPERATURE AND VELOCITY DISTRIBUTION

Indoor temperature

Cooling 27°CDB / 19°CWB

Heating 20°CDB

Note: These figures represent the typical main range of temperature and velocity distribution at the center of air outlet within the published conditions.

In the actual installation, they may differ from the typical figures under the influence of air temperature conditions, ceiling height, operation conditions and obstacles.

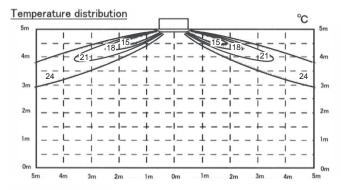
(1) Ceiling cassett-4way type (FDT)

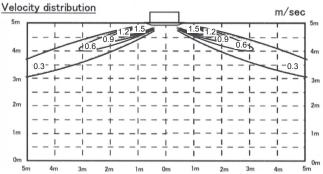
Model FDT50VF

Cooling Air flow: P-Hi

Louver position

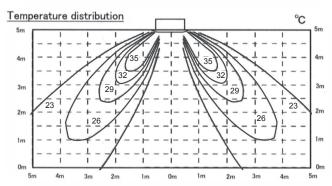


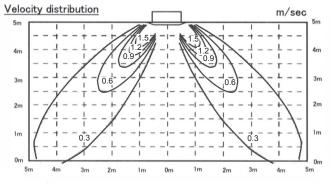




Heating Air flow: P-Hi Louver position

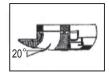


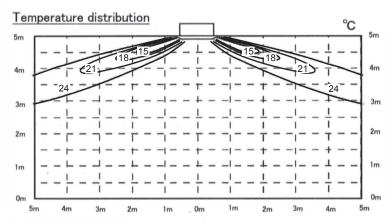


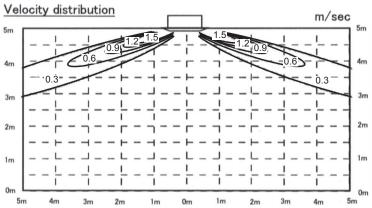


Models FDT60VF, 71VF Cooling Air flow : P-Hi

Louver position

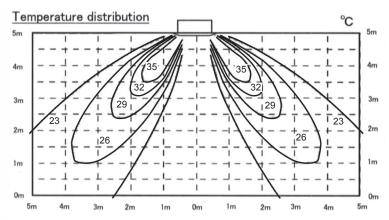


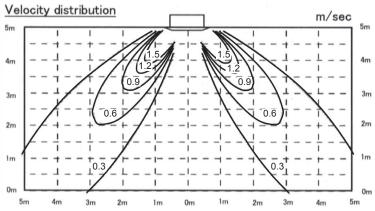




Heating Air flow: P-Hi
Louver position





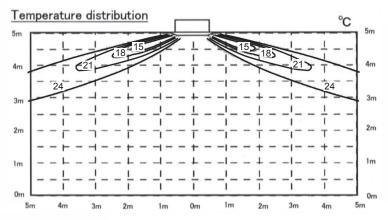


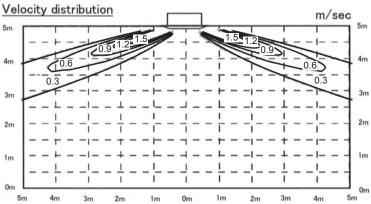
Models FDT100VF, 125VF, 140VF

Cooling Air flow : P-Hi

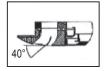
Louver position

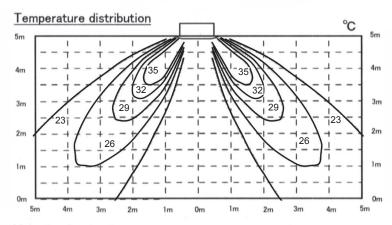


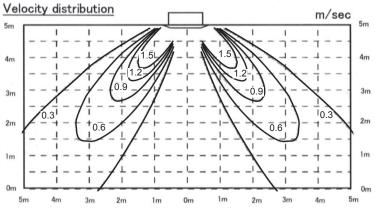




Heating Air flow: P-Hi
Louver position





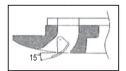


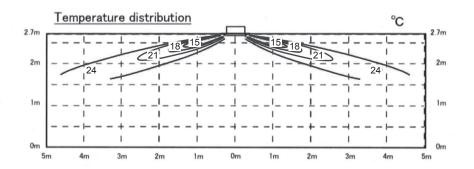
(2) Ceiling cassett-4way compact type (FDTC)

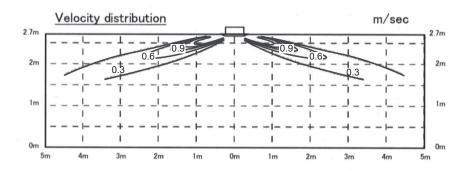
Model FDTC50VF, 60VF

Cooling Air flow: P-Hi

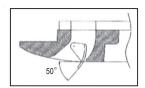
Louver position

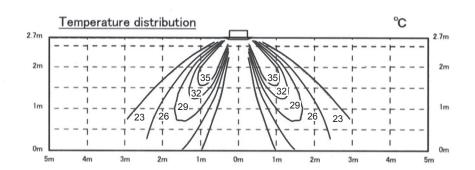


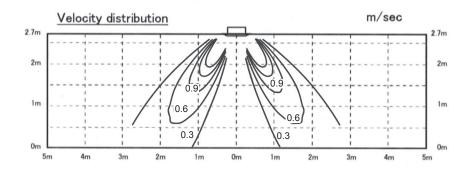




Heating Air flow: P-Hi Louver position







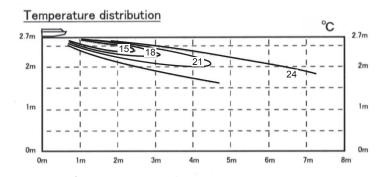
(3) Ceiling suspended type (FDEN)

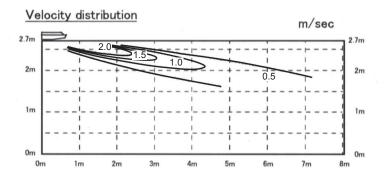
Model FDEN50VF

Cooling Air flow: P-Hi

Louver position



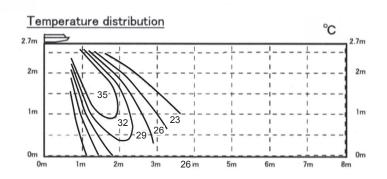


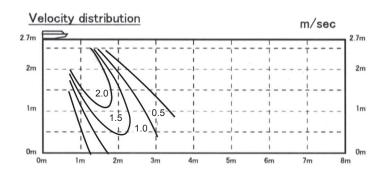


Heating Air flow: P-Hi

Louver position



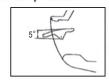


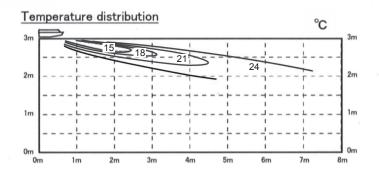


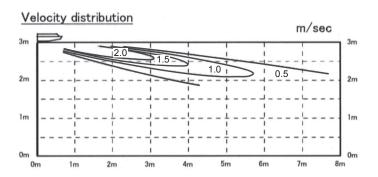
Models FDEN60VF, 71VF

Cooling Air flow : P-Hi

Louver position



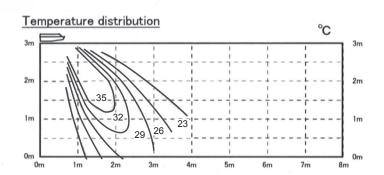


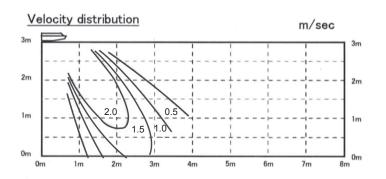


Heating Air flow : P-Hi

Louver position



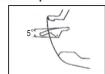


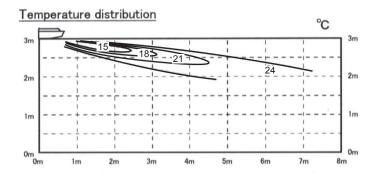


Models FDEN100VF

Cooling Air flow : P-Hi

Louver position





Velocity distribution

m/sec

2m

1.5

1.0

1.0

2m

1m

1m

0m

1m

2m

2m

0m

1m

2m

0m

1m

2m

3m

0m

0m

1m

2m

3m

0m

0m

1m

0m

0m

1m

2m

3m

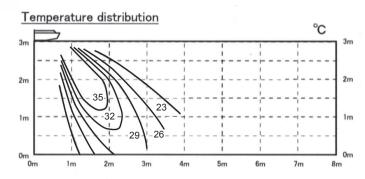
0m

0m

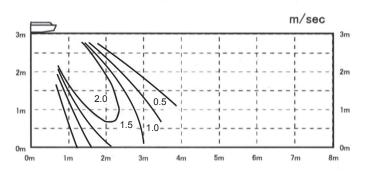
Heating Air flow : P-Hi

Louver position





Velocity distribution

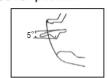


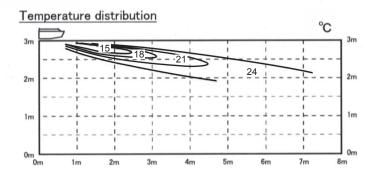
ISD09408

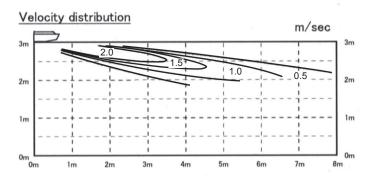
Models FDEN125VF, 140VF

Cooling Air flow : P-Hi

Louver position



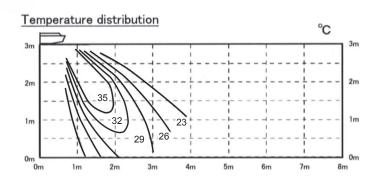


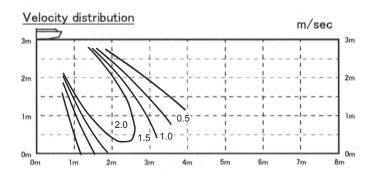


Heating Air flow : P-Hi

Louver position







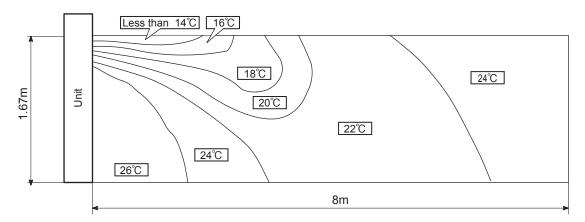
ISD09408

(4) Floor standing type (FDF)

Models FDF71VD, 100VD, 125VD, 140VD

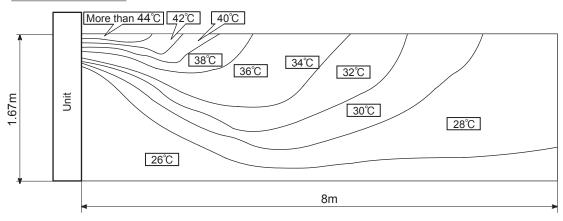
(a) Cooling Air flow:Hi (Louver position:Horizontal)

Temperature distribution



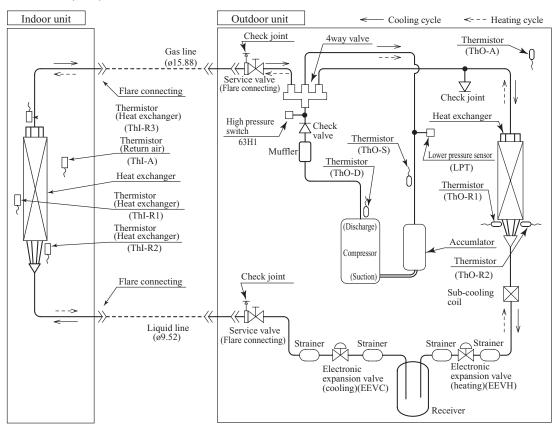
(b) Heating Air flow:Hi (Louver position:Horizontal)

Temperature distribution

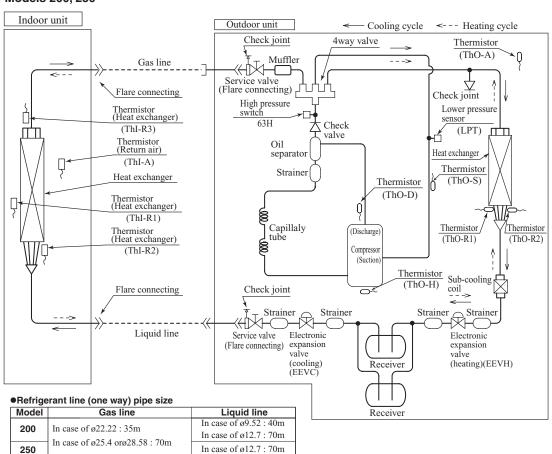


1.7 PIPING SYSTEM

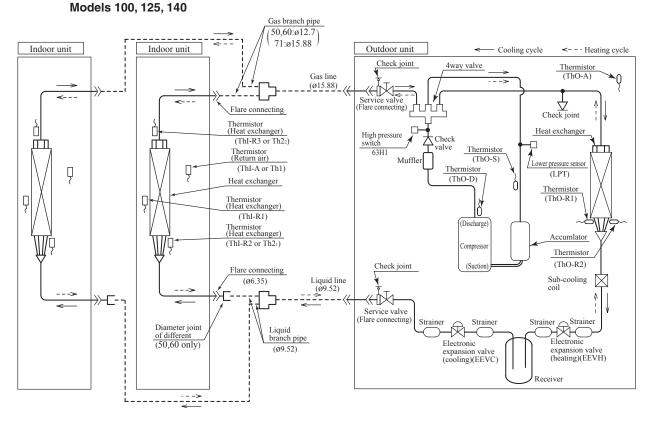
(1) Single type Models 100, 125, 140

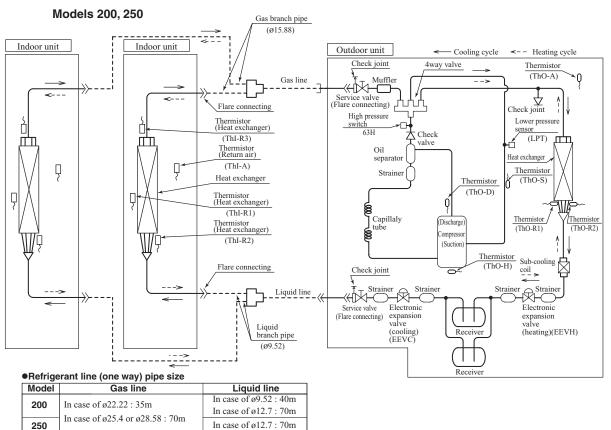


Models 200, 250

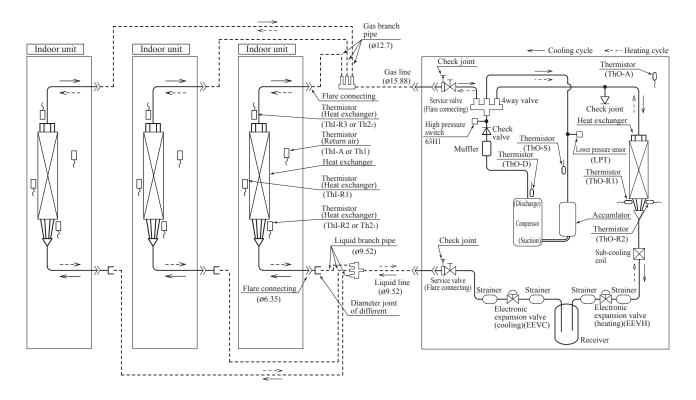


(2) Twin type

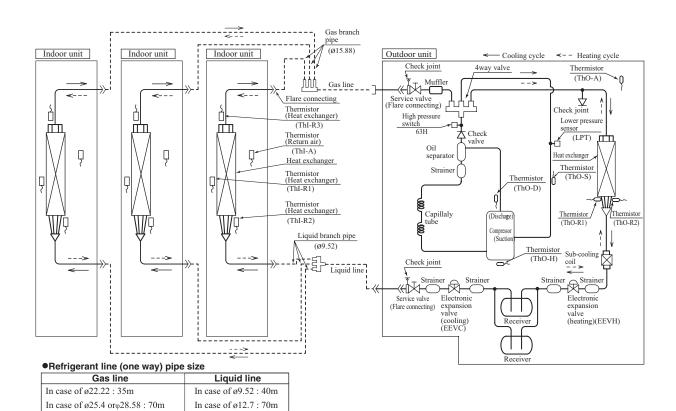




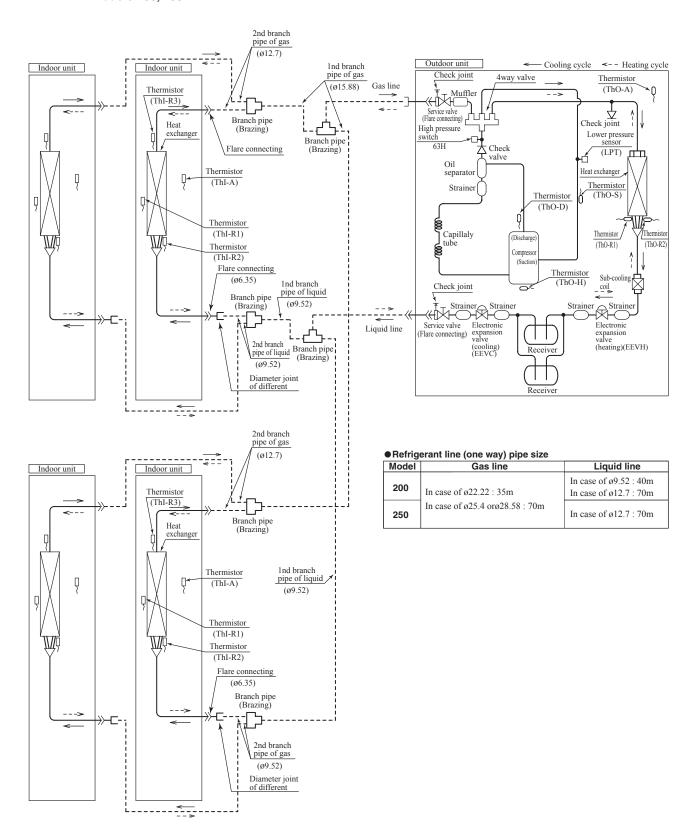
(3) Triple type Model 140



Model 200



(4) Double Twin type Models 200, 250



Preset point of the protective devices

Parts name	Mark	Equipped unit	100, 125, 140 model	200, 250 model
Thermistor (for protection over- loading in heating)	ThI-R (TH1)	Indoor unit		63°C (OFF 16°C) 56°C (ON 17°C)
Thermistor (for frost prevention)	ThI-R (TH1)		OFF ON	63°C (OFF 8°C 56°C (ON 2.5°C)
Thermistor (for protection high pressure in cooling.)	Tho-R	Outdoor unit		51°C 65°C
Thermistor (for detecting dis- charge pipe temp.)	Tho-D	Outdoor unit	OFF 115°C ON 85°C	OFF 135°C ON 90°C
High pressure switch (for protection)	63H1	Outdoor unit		15MPa 15MPa
Low pressure sensor (for protection)	LPT	Outdoor unit		227MPa 79MPa

Note (1) Values in () are for the SRK models.

1.8 RANGE OF USAGE & LIMITATIONS

		See next page.						
Operating temperature r	ange	When used below -5°C, install a snow hood (option).						
Recommendable area to	o install	Considering to get sufficient heating capacity, the area where the averaged lowest ambient air temperature in day time during winter is above 0°C, and it has no accumulation of snow.						
Installation site		The limitations of installation space are shown in the page for exterior dimensions. Install the indoor unit at least 2.5m higher than the floor surface.						
Temperature and humidity conditions surrounding the indoor unit in the ceiling (Note 2)		Model FDE Dew point temperature : 23°C or less, relative hummdity : 80% or less Other models Dew point temperature : 28°C or less, relative hummdity : 80% or less						
Limitations on unit and p	iping installation	See page 154 and 155						
Compressor	Cycle Time	7 minutes or more (from OFF to OFF) or (from ON to ON)						
ON-OFF cycling	Stop Time	3 minutes or more						
	Voltage range	Rating ±10%						
Power source	Voltage drop at start-up	Min.85% of rating						
	Phase-to-phase imbalance	3% or less						

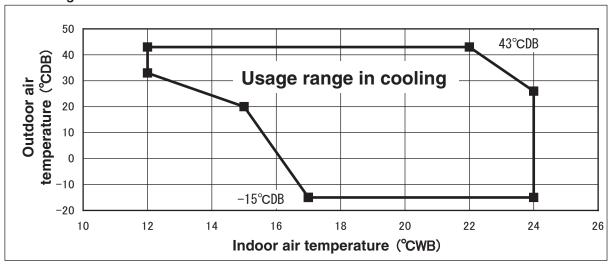
Note 1. Do not install the unit in places which:

- 1) Flammable gas may leak.
- 2) Carbon fiber, metal particles, powder, etc. are floating.
- 3) Cosmetic or special sprays are used frequently.
- 4) Exposed to oil splashes or steam (e.g. kitchen and machine plant).
- 5) Exposed to sea breeze (e.g. coastal area) or calcium chloride (e.g. snow melting agent).
- 6) Exposed to ammonia substance (e.g. organic fertilizer).
- 7) Matters affecting devices, such as sulfuric gas, chlorine gas, acid, alkali, etc. may generate or accumulate.
- 8) Chimney smoke is hanging.
- 9) Sucking the exhaust gas from heat exchanger.
- 10) Adjacent to equipment generating electromagnetic waves or high frequency waves.
- 11) There is light beams that affect the receiving device of indoor unit in case of the wireless specification.
- 12) Snow falls heavily.
- 13) At an elevation of 1000 meters or higher.
- 14) On mobile machine (e.g. vehicle, ship, etc.)
- 15) Splashed with water to indoor unit (e.g. laundry room).
- 16) Indoor units of twin, triple and double-twin specifications separately in a room with partition.
- Note 2. If ambient temperature and humidity exceed the above conditions, add polyurethane foam insulation (10mm or thicker) on the outer plate of indoor unit.

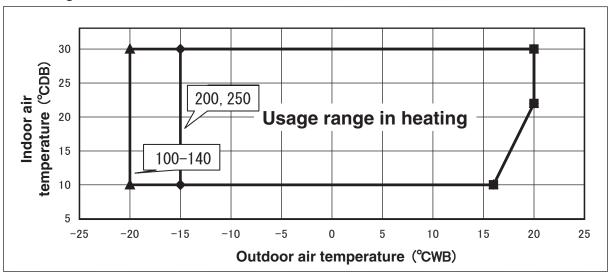
Note 3. Both gas and liquid pipes need to be coverd with 20mm or thicker heat insulation materials at the place where humidity exceeds 70%.

Operating temperature range

■ Cooling



■ Heating



Decline in cooling and heating capacity or operation stop may occur when the outdoor unit is installed in places where natural wind can increase or decrease its design airflow rate.

PCA001Z561 🛕

"CAUTION" Cooling operation under low outdoor air temperature conditions

PAC models can be operated in cooling mode at low outdoor air temperature condition within above temperature range. However in case of severely low temperature conditions if the following precaution is not observed, it may not be operated in spite of operable temperature range mentioned above and cooling capacity may not be established under certain conditions.

[Precaution]

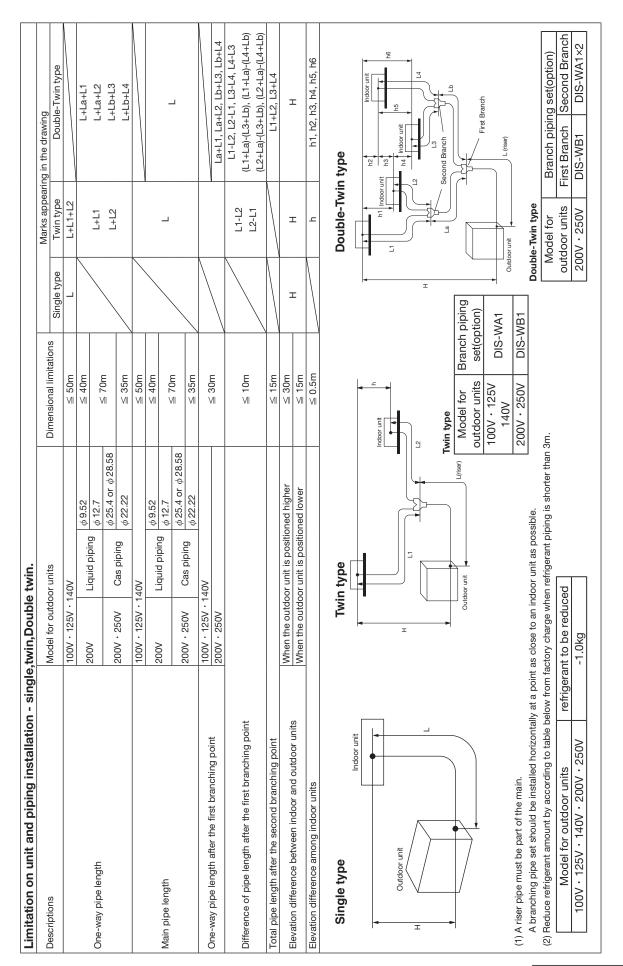
In case of severely low temperature condition

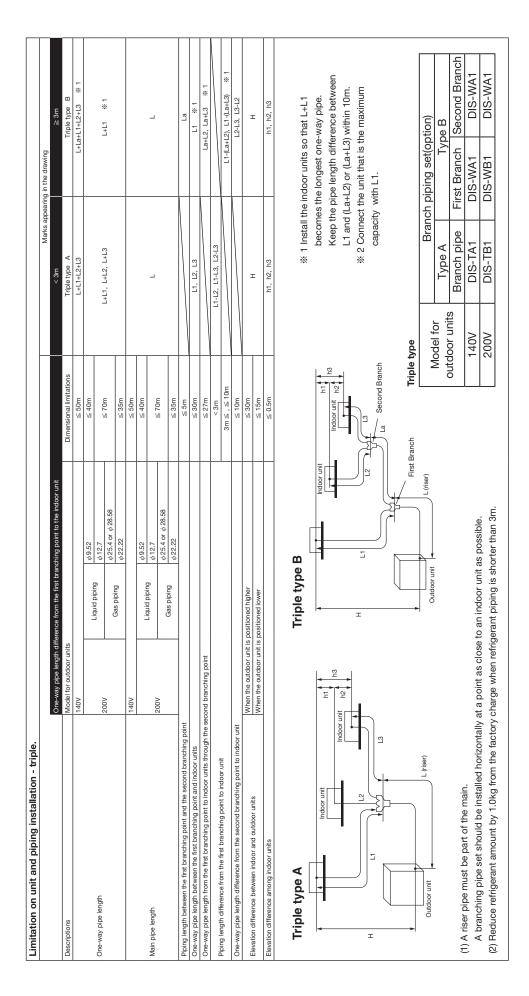
- 1) Install the outdoor unit at the place where strong wind cannot blow directly into the outdoor unit.
- 2) If there is no installation place where can prevent strong wind from directly blowing into the outdoor unit, mount the flex flow adapter (prepared as optional part) or like such devices onto the outdoor unit in order to divert the strong wind.

[Reason]

Under the low outdoor air temperature conditions of -5°C or lower, the outdoor fan is controlled at lower or lowest speed by outdoor fan control, but if strong wind directly blow into the outdoor unit, the outdoor heat exchanger temperature will drop more.

This makes high and low pressures to drop as well. This low pressure drop makes the indoor heat exchanger temperature to drop and will activate anti-frost control at indoor heat exchanger at frequent intervals, that cooling operation may not be established for any given time.





1.9 SELECTION CHART

Correct the cooling and heating capacity in accordance with the operating conditions. The net cooling and heating capacity can be obtained in the following way.

Net capacity = Capacity shown in the capacity tables (1.9.1) × Correction factors shown in the table (1.9.2) (1.9.3) (1.9.4).

Caution: In case that the cooling operation during low outdoor air temperature below -5°C is expected, install the outdoor unit where it is not influenced by natural wind. Otherwise protection control by low pressure will be activated much more frequently and it will cause insufficient capacity or breakdown of the compressor in worst case.

1.9.1 Capacity tables

(1) Ceiling cassette-4way type (FDT)

(a) Single type

Model FDT100VNVF Indoor unit FDT100VF Outdoor unit FDC100VN Cool Mode

Cool M	ode	100 01		muo	or urni	וטו	100 V I	`	Juluoc	n uniit	IDC	100 01	N.			(kW)	Hea	t Mo	ode
							Indo	or air t	emper	ature							0	utdo	or
Outdoor air temp.	18	DB	21	DB	23 1	DB	26 [DB	27 [OB	28 [DB	31 [OB	33 [DВ	air	tem	ıp.
all tellip.	12 \	ΝB	14 \	ΝB	16 \	VΒ	18 V	ΝB	19 V	VB	20 V	VΒ	22 V	VB	24 V	VB	DB	\ \	NΒ
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.	8 -	20
11					8.12	7.72	8.59	8.42	8.82	8.36	9.07	8.28	9.56	8.83	10.06	8.64	-17.	7 -	18
13					8.50	7.86	9.00	8.58	9.26	8.50	9.52	8.42	10.06	8.96	10.60	8.76	-15.	7 -	16
15					8.88	7.99	9.42	8.72	9.69	8.64	9.98	8.55	10.56	9.09	11.14	8.89	-13.	5 -	14
17					9.26	8.13	9.84	8.86	10.12	8.77	10.43	8.69	11.05	9.22	11.67	9.02	-11.	5 -	12
19					9.46	8.21	10.05	8.93	10.34	8.84	10.65	8.76	11.29	9.29	11.92	9.08	-9.5	5 -	10
21					9.65	8.28	10.25	9.00	10.56	8.91	10.88	8.83	11.52	9.35	12.16	9.14	-7.5	;	-8
23					9.65	8.28	10.28	9.01	10.59	8.92	10.91	8.84	11.56	9.36	12.21	9.15	-5.5	;	-6
25			8.93	8.49	9.64	8.27	10.31	9.02	10.62	8.93	10.95	8.85	11.61	9.38	12.27	9.17	-3.0)	-4
27			8.86	8.46	9.64	8.27	10.34	9.03	10.65	8.94	10.96	8.85	11.57	9.37			-1.0)	-2
29			8.80	8.44	9.50	8.22	10.17	8.97	10.49	8.89	10.81	8.81	11.45	9.33			1.0		0
31			8.73	8.41	9.35	8.17	9.99	8.91	10.32	8.84	10.66	8.76	11.32	9.30			2.0	,	1
33	8.22	7.78	8.58	8.35	9.21	8.11	9.82	8.85	10.16	8.78	10.51	8.71	11.19	9.26			3.0	,	2
35	8.05	7.71	8.44	8.27	9.06	8.06	9.64	8.79	10.00	8.73	10.36	8.67	11.07	9.23			5.0	,	4
37	7.92	7.65	8.30	8.13	8.91	8.00	9.46	8.73	9.79	8.67	10.13	8.60	10.80	9.16			7.0	,	6
39	7.78	7.59	8.16	8.00	8.75	7.95	9.28	8.67	9.59	8.60	9.90	8.53	10.53	9.08			9.0	,	8
41	7.64	7.49	8.02	7.86	8.60	7.89	9.09	8.61	9.38	8.54	9.68	8.46	10.26	9.01			11.5	5	10
43	7.50	7.35	7.88	7.72	8.45	7.84	8.91	8.55	9.18	8.48	9.45	8.40	9.99	8.94			13.5	5	12

Indoor air temperature

27 DB

19 WB

TC SHC

8.82 | 8.36

10.12

10.34

10.56 | 8.91 | 10.88 | 8.83 | 11.52 | 9.35 | 12

10.59 8.92 10.91 8.84 11.56 9.36 12.

10.62 8.93

10.65 8.94

10.49 8.89

10.32 8.84 10.66 8.76 11.32

10.16 8.78 10.51

9.79 8.67

9.38

9.18 8.48 9.45 8.40 9.99 8.94

10.00 8.73

8 54

8.77 10.43 8.69 11.05

8.84

28 DB

20 WB

8.42

TC SHC

9.07 | 8.28

9.98 | 8.55 | 10.56 | 9.09 | 11

10.65 8.76 11.29

10.95 8.85 11.61

10.96 8.85 11.57 9.37

10.81 8.81 11.45 9.33

10.36 8.67 11.07 9.23

10.13 | 8.60 **|**10.80 | 9.16

9.68 | 8.46

31 DB

22 WB

8.96

9.22

9.29

9.38 12

9.30

9.01

10

11

11.

TC SHC

9.56 | 8.83 | 10

10.06

11.19 9.26

10.26

8.71

26 DB

18 WB

TC SHC

8.59 8.42

9.84

10.05

9.82 8.85

9.64 8.79

9.46 8.73

9.28 | 8.67 | 9.59 | 8.60 | 9.90 | 8.53 | 10.53 | 9.08

8.86

8.93

9.03

Heat I	Mode					(kW)
Out	door	In	door a	ir tem	oeratui	re
air te	emp.			DB		
DB	WB	16	18	20	22	24
-19.8	-20	5.64	5.62	5.60	5.58	5.56
-17.7	-18	5.97	5.95	5.92	5.90	5.87
-15.7	-16	6.30	6.27	6.25	6.22	6.19
-13.5	-14	6.66	6.63	6.60	6.57	6.54
-11.5	-12	7.03	6.99	6.96	6.93	6.90
-9.5	-10	7.39	7.36	7.32	7.29	7.25
-7.5	-8	7.75	7.72	7.68	7.64	7.60
-5.5	-6	7.92	7.88	7.85	7.80	7.76
-3.0	-4	8.10	8.05	8.01	7.97	7.92
-1.0	-2	8.27	8.22	8.18	8.13	8.08
1.0	0	8.44	8.39	8.34	8.29	8.24
2.0	1	8.52	8.47	8.42	8.37	8.32
3.0	2	9.08	9.03	8.98	8.94	8.90
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59

Model FDT100VSVF Indoor unit FDT100VF Outdoor unit FDC100VS Cool Mode

8.12 7.72

7.86 9.00 8.58 9.26 8.50 9.52

23 DB

16 WB

TC SHC

8.50

8.88 | 7.99 | 9.42 | 8.72 | 9.69 | 8.64

9.26 8.13

9.46 8.21

9.65 | 8.28 | 10.25 | 9.00

9.65 8.28 10.28 9.01

9.64 8.27 10.31 9.02

9.35 | 8.17 | 9.99 | 8.91

9.06 8.06

		PJF000Z22
(1/1/1)	Heat Mode	

	(kW)		Heat I
		Ш	Out
33 E	OB	П	air te
24 V	٧B	Ш	DB
C	SHC	П	-19.8
.06	8.64	П	-17.7
.60	8.76	Ш	-15.7
14	8.89	П	-13.5
67	9.02	П	-11.5
92	9.08	П	-9.5
16	9.14	П	-7.5
21	9.15	П	-5.5
27	9.17	П	-3.0
		П	-1.0
		П	1.0
		П	2.0
		П	3.0
		П	5.0
		П	7.0
			9.0
			11.5
			13.5

reat i	vioue					(KVV)
Out	door	In	door a	ir temp	eratu	re
air te	emp.			DB		
DB	WB	16	18	20	22	24
-19.8	-20	5.64	5.62	5.60	5.58	5.56
-17.7	-18	5.97	5.95	5.92	5.90	5.87
-15.7	-16	6.30	6.27	6.25	6.22	6.19
-13.5	-14	6.66	6.63	6.60	6.57	6.54
-11.5	-12	7.03	6.99	6.96	6.93	6.90
-9.5	-10	7.39	7.36	7.32	7.29	7.25
-7.5	-8	7.75	7.72	7.68	7.64	7.60
-5.5	-6	7.92	7.88	7.85	7.80	7.76
-3.0	-4	8.10	8.05	8.01	7.97	7.92
-1.0	-2	8.27	8.22	8.18	8.13	8.08
1.0	0	8.44	8.39	8.34	8.29	8.24
2.0	1	8.52	8.47	8.42	8.37	8.32
3.0	2	9.08	9.03	8.98	8.94	8.90
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59

Note(1) These data show average statuses

7 49

8.22 7.78

8.05 7.71

7.92 | 7.65 | 8.30 | 8.13 | 8.91 | 8.00

7.78 7.59

7 64

7.50

Outdoo

air temp

DB

11

13

15

17

19

21

23

25

27

29

31

33

35

37

39

41

18 DB

12 WB

TC SHC

21 DB

14 WB

TC SHC

8.93 8.49

8.86 | 8.46 | 9.64 | 8.27 | 10.34

8.80 | 8.44 | 9.50 | 8.22 | 10.17 | 8.97

8.73 8.41

8.58 8.35 9.21 8.11

8.44 8.27

8.16 | 8.00 | 8.75 | 7.95

8.02 | 7.86 | 8.60 | 7.89 | 9.09 | 8.61

7.88

Depending on the system control, there may be ranges where the operation is not conducted continuously

These data show the case where the operation frequency of a compressor is fixed.

8.45 7.84 8.91 8.55

(2) Capacities are based on the following conditions Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows. TC: Total cooling capacity SHC: Sensible heat capacity PJF000Z221 🛕

Model Cool Mo		125VN	1 V F	muo	or unit	רטו	125VF	,	Juluoc	n unil	FDC	12371	N .			(kW)	Не	at N	10
Outdoor							Indo	or air t	emper	ature								Outd	0
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	а	ir te	m
an tompi	12 \	WB	14 \	WB	16 \	ΝB	18	WB	19	WB	20	WB	22	WB	24	WB	D	В	٧
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19	9.8	-2
11					10.15	8.86	10.74	9.60	11.03	9.53	11.34	9.46	11.96	10.01	12.57	9.83	-17	7.7	-
13					10.63	9.06	11.26	9.80	11.57	9.72	11.91	9.65	12.58	10.21	13.25	10.03	-15	5.7	-
15					11.10	9.25	11.78	10.00	12.11	9.92	12.47	9.85	13.20	10.41	13.92	10.23	-13	3.5	-
17					11.58	9.45	12.29	10.20	12.65	10.13	13.04	10.06	13.82	10.62	14.59	10.43	-11	1.5	-
19					11.82	9.55	12.56	10.30	12.92	10.23	13.32	10.16	14.11	10.71	14.90	10.52	-9	.5	-
21					12.06	9.66	12.82	10.41	13.19	10.33	13.60	10.26	14.40	10.81	15.20	10.61	-7	'.5	٦.
23					12.06	9.66	12.85	10.42	13.23	10.35	13.64	10.28	14.45	10.83	15.27	10.64	-5	.5	_
25			11.16	9.82	12.06	9.66	12.89	10.44	13.27	10.36	13.68	10.29	14.51	10.85	15.34	10.66	-3	3.0	Ξ.
27			11.08	9.78	12.05	9.65	12.92	10.45	13.31	10.38	13.69	10.29	14.47	10.83			-1	.0	Τ.
29			11.00	9.74	11.87	9.58	12.71	10.36	13.11	10.30	13.51	10.23	14.31	10.78			1.	.0	Т
31			10.92	9.71	11.69	9.50	12.49	10.28	12.90	10.22	13.32	10.16	14.15	10.73			2	.0	Т
33	10.27	9.05	10.72	9.62	11.51	9.42	12.27	10.19	12.70	10.15	13.13	10.09	13.99	10.67			3	.0	Т
35	10.07	8.95	10.55	9.54	11.33	9.35	12.06	10.11	12.50	10.07	12.94	10.02	13.83	10.62			5	.0	Т
37	9.90	8.87	10.38	9.46	11.13	9.26	11.83	10.02	12.24	9.97	12.66	9.92	13.50	10.51			7.	.0	_
39	9.72	8.78	10.20	9.38	10.94	9.18	11.60	9.93	11.99	9.88	12.38	9.82	13.16	10.40			9	.0	_
41	9.55	8.70	10.02	9.30	10.75	9.10	11.37	9.84	11.73	9.78	12.09	9.72	12.82	10.29			11	.5	1
43	9.38	8.62	9.85		10.56	9.03	11.14	9.75	11.47		11.81	9.62	12.48	10.18			_	3.5	1
																	'	5.5	-

Heat I	Mode					(kW)
	door	In	door a	ir tem	oeratui	re
air te	emp.			DB		
DB	WB	16	18	20	22	24
-19.8	-20	7.06	7.03	7.00	6.97	6.95
-17.7	-18	7.46	7.43	7.41	7.37	7.34
-15.7	-16	7.87	7.84	7.81	7.77	7.74
-13.5	-14	8.33	8.29	8.26	8.22	8.18
-11.5	-12	8.78	8.74	8.70	8.66	8.62
-9.5	-10	9.24	9.19	9.15	9.11	9.06
-7.5	-8	9.69	9.65	9.60	9.55	9.50
-5.5	-6	9.91	9.86	9.81	9.75	9.70
-3.0	-4	10.12	10.07	10.01	9.96	9.90
-1.0	-2	10.33	10.28	10.22	10.16	10.10
1.0	0	10.55	10.49	10.43	10.36	10.30
2.0	1	10.65	10.59	10.53	10.47	10.40
3.0	2	11.36	11.29	11.22	11.18	11.13
5.0	4	12.76	12.69	12.61	12.60	12.58
7.0	6	14.16	14.08	14.00	14.02	14.04
9.0	8	14.72	14.64	14.56	14.52	14.49
11.5	10	15.28	15.20	15.11	15.02	14.93
13.5	12	16.13	16.04	15.94	15.82	15.75
15.5	14	16.98	16.88	16.77	16.62	16.58
16.5	16	17.41	17.30	17.19	17.02	16.99

PJF000Z221 🛕

Model	FDT125VSVF	Indoor unit	FDT125VF	Outdoor unit	FDC125VS
Cool M	ode				

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
un tomp.	12 \	WB	14 \	WB	16	WB	18	WB	19	WB	20 \	WB	22 '	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.15	8.86	10.74	9.60	11.03	9.53	11.34	9.46	11.96	10.01	12.57	9.83
13					10.63	9.06	11.26	9.80	11.57	9.72	11.91	9.65	12.58	10.21	13.25	10.03
15					11.10	9.25	11.78	10.00	12.11	9.92	12.47	9.85	13.20	10.41	13.92	10.23
17					11.58	9.45	12.29	10.20	12.65	10.13	13.04	10.06	13.82	10.62	14.59	10.43
19					11.82	9.55	12.56	10.30	12.92	10.23	13.32	10.16	14.11	10.71	14.90	10.52
21					12.06	9.66	12.82	10.41	13.19	10.33	13.60	10.26	14.40	10.81	15.20	10.61
23					12.06	9.66	12.85	10.42	13.23	10.35	13.64	10.28	14.45	10.83	15.27	10.64
25			11.16	9.82	12.06	9.66	12.89	10.44	13.27	10.36	13.68	10.29	14.51	10.85	15.34	10.66
27			11.08	9.78	12.05	9.65	12.92	10.45	13.31	10.38	13.69	10.29	14.47	10.83		
29			11.00	9.74	11.87	9.58	12.71	10.36	13.11	10.30	13.51	10.23	14.31	10.78		
31			10.92	9.71	11.69	9.50	12.49	10.28	12.90	10.22	13.32	10.16	14.15	10.73		
33	10.27	9.05	10.72	9.62	11.51	9.42	12.27	10.19	12.70	10.15	13.13	10.09	13.99	10.67		
35	10.07	8.95	10.55	9.54	11.33	9.35	12.06	10.11	12.50	10.07	12.94	10.02	13.83	10.62		
37	9.90	8.87	10.38	9.46	11.13	9.26	11.83	10.02	12.24	9.97	12.66	9.92	13.50	10.51		
39	9.72	8.78	10.20	9.38	10.94	9.18	11.60	9.93	11.99	9.88	12.38	9.82	13.16	10.40		
41	9.55	8.70	10.02	9.30	10.75	9.10	11.37	9.84	11.73	9.78	12.09	9.72	12.82	10.29		
43	9.38	8.62	9.85	9.23	10.56	9.03	11.14	9.75	11.47	9.69	11.81	9.62	12.48	10.18		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length: 7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

(kW)	Heat I	Mode					(kW)
	Out	door	In	door a	ir tem	oeratui	re
DB	air te	emp.			DB		
ΝB	DB	WB	16	18	20	22	24
SHC	-19.8	-20	7.06	7.03	7.00	6.97	6.95
9.83	-17.7	-18	7.46	7.43	7.41	7.37	7.34
10.03	-15.7	-16	7.87	7.84	7.81	7.77	7.74
10.23	-13.5	-14	8.33	8.29	8.26	8.22	8.18
10.43	-11.5	-12	8.78	8.74	8.70	8.66	8.62
10.52	-9.5	-10	9.24	9.19	9.15	9.11	9.06
10.61	-7.5	-8	9.69	9.65	9.60	9.55	9.50
10.64	-5.5	-6	9.91	9.86	9.81	9.75	9.70
10.66	-3.0	-4	10.12	10.07	10.01	9.96	9.90
	-1.0	-2	10.33	10.28	10.22	10.16	10.10
	1.0	0	10.55	10.49	10.43	10.36	10.30
	2.0	1	10.65	10.59	10.53	10.47	10.40
	3.0	2	11.36	11.29	11.22	11.18	11.13
	5.0	4	12.76	12.69	12.61	12.60	12.58
	7.0	6	14.16	14.08	14.00	14.02	14.04
	9.0	8	14.72	14.64	14.56	14.52	14.49
	11.5	10	15.28	15.20	15.11	15.02	14.93
	13.5	12	16.13	16.04	15.94	15.82	15.75
	15.5	14	16.98	16.88	16.77	16.62	16.58
	16.5	16	17.41	17.30	17.19	17.02	16.99

Model		40VN	IVF	Indo	or unit	FDT	140VF	- (Dutdoo	r unit	FDC	140VN	1										
Cool Mo	ode															(kW)	Heat	Mode					(kW)
Outdoor							Indo	or air t	emper	ature							Out	door	In	door a	ir temp	eratur	e
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air t	emp.			DB		
an tomp	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-20	8.06	8.03	8.00	7.97	7.94
11					11.37	9.30	12.02	10.02	12.35	9.93	12.70	9.85	13.39	10.38	14.08	10.17	-17.7	-18	8.53	8.50	8.46	8.43	8.39
13					11.90	9.52	12.61	10.25	12.96	10.16	13.33	10.07	14.09	10.61	14.84	10.40	-15.7	-16	9.00	8.96	8.92	8.88	8.85
15					12.43	9.74	13.19	10.47	13.57	10.39	13.97	10.31	14.78	10.84	15.59	10.62	-13.5	-14	9.52	9.48	9.43	9.39	9.35
17					12.96	9.97	13.77	10.70	14.17	10.62	14.61	10.54	15.48	11.07	16.34	10.85	-11.5	-12	10.04	9.99	9.95	9.90	9.85
19					13.24	10.09	14.06	10.82	14.48	10.74	14.92	10.65	15.80	11.18	16.68	10.96	-9.5	-10	10.56	10.51	10.46	10.41	10.36
21					13.51	10.21	14.36	10.94	14.78	10.85	15.23	10.77	16.12	11.29	17.02	11.06	-7.5	-8	11.08	11.02	10.97	10.91	10.86
23					13.51	10.21	14.40	10.96	14.82	10.87	15.28	10.79	16.19	11.31	17.10	11.09	-5.5	-6	11.32	11.26	11.21	11.15	11.09
25			12.50	10.37	13.50	10.20	14.43	10.97	14.86	10.88	15.33	10.81	16.25	11.33	17.18	11.11	-3.0	-4	11.56	11.50	11.44	11.38	11.31
27			12.41	10.33	13.50	10.20	14.47	10.99	14.91	10.90	15.34	10.81	16.20	11.32			-1.0	-2	11.81	11.75	11.68	11.61	11.54
29			12.32	10.29	13.29	10.11	14.23	10.89	14.68	10.81	15.13	10.73	16.02	11.25			1.0	0	12.05	11.99	11.92	11.84	11.77
31			12.23	10.24	13.09	10.03	13.99	10.79	14.45	10.73	14.92	10.65	15.85	11.20			2.0	1	12.18	12.11	12.04	11.96	11.89
33	11.51	9.60	12.01	10.14	12.89	9.94	13.75	10.69	14.23	10.64	14.71	10.58	15.67	11.13			3.0	2	12.98	12.90	12.83	12.77	12.72
35	11.28	9.48	11.82	10.05	12.68	9.85	13.50	10.60	14.00	10.55	14.50	10.50	15.49	11.07			5.0	4	14.58	14.50	14.41	14.40	14.38
37	11.08	9.39	11.62	9.96	12.47	9.76	13.25	10.50	13.71	10.44	14.18	10.38	15.12	10.95			7.0	6	16.19	16.09	16.00	16.02	16.05
39	10.89	9.29	11.43	9.88	12.26	9.67	12.99	10.39	13.43	10.34	13.86	10.27	14.74	10.82			9.0	8	16.83	16.73	16.63	16.59	16.55
41	10.70	9.20	11.23	9.78	12.04	9.58	12.73	10.29	13.14	10.23	13.55	10.15	14.36	10.70			11.5	10	17.46	17.37	17.27	17.17	17.06
43	10.51	9.11	11.03	9.69	11.83	9.49	12.47	10.19	12.85	10.12	13.23	10.04	13.98	10.57			13.5	12	18.44	18.33	18.22	18.08	18.00
																	15.5	14	19.41	19.29	19.17	18.99	18.95
																	16.5	16	19.90	19.77	19.64	19.45	19.42

Model FDT140VSVF Indoor unit FDT140VF Outdoor unit FDC140VS Cool Mode

0.11							Indo	or air t	emper	ature						
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an temp.	12 \	WB	14	WB	16	WB	18	WB	19	WB	20 '	WB	22	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	9.30	12.02	10.02	12.35	9.93	12.70	9.85	13.39	10.38	14.08	10.17
13					11.90	9.52	12.61	10.25	12.96	10.16	13.33	10.07	14.09	10.61	14.84	10.40
15					12.43	9.74	13.19	10.47	13.57	10.39	13.97	10.31	14.78	10.84	15.59	10.62
17					12.96	9.97	13.77	10.70	14.17	10.62	14.61	10.54	15.48	11.07	16.34	10.85
19					13.24	10.09	14.06	10.82	14.48	10.74	14.92	10.65	15.80	11.18	16.68	10.96
21					13.51	10.21	14.36	10.94	14.78	10.85	15.23	10.77	16.12	11.29	17.02	11.06
23					13.51	10.21	14.40	10.96	14.82	10.87	15.28	10.79	16.19	11.31	17.10	11.09
25			12.50	10.37	13.50	10.20	14.43	10.97	14.86	10.88	15.33	10.81	16.25	11.33	17.18	11.11
27			12.41	10.33	13.50	10.20	14.47	10.99	14.91	10.90	15.34	10.81	16.20	11.32		
29			12.32	10.29	13.29	10.11	14.23	10.89	14.68	10.81	15.13	10.73	16.02	11.25		
31			12.23	10.24	13.09	10.03	13.99	10.79	14.45	10.73	14.92	10.65	15.85	11.20		
33	11.51	9.60	12.01	10.14	12.89	9.94	13.75	10.69	14.23	10.64	14.71	10.58	15.67	11.13		
35	11.28	9.48	11.82	10.05	12.68	9.85	13.50	10.60	14.00	10.55	14.50	10.50	15.49	11.07		
37	11.08	9.39	11.62	9.96	12.47	9.76	13.25	10.50	13.71	10.44	14.18	10.38	15.12	10.95		
39	10.89	9.29	11.43	9.88	12.26	9.67	12.99	10.39	13.43	10.34	13.86	10.27	14.74	10.82		
41	10.70	9.20	11.23	9.78	12.04	9.58	12.73	10.29	13.14	10.23	13.55	10.15	14.36	10.70		
43	10.51	9.11	11.03	9.69	11.83	9.49	12.47	10.19	12.85	10.12	13.23	10.04	13.98	10.57		

Note(1) These data show average statuses

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed. (2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity
SHC: Sensible heat capacity

(kW) Heat Mode (kW) Indoor air temperature Outdoor air temp. DB WB 16 18 20 22 24 -19.8 -20 8.06 | 8.03 | 8.00 | 7.97 7.94 8.50 8.46 8.43 8.39 -17.7 -18 8.53 -15.7 -16 9.00 8.96 8.92 8.88 8.85 -13.5-14 9.52 9.48 9.43 9.39 9.35 9.95 9.90 9.85 -11.5 -12 10.04 9.99 -9.5 10.56 10.51 10.46 10.41 10.36 -7.5 -8 11.08 | 11.02 | 10.97 | 10.91 | 10.86 11.32 11.26 11.21 11.15 11.09 -5.5 -6 -3.0 -4 11.56 11.50 | 11.44 | 11.38 | 11.31 -1.0 -2 11.81 11.75 11.68 11.61 11.54 1.0 12.05 11.99 11.92 11.84 11.77 12.18 12.11 12.04 11.96 11.89 2.0 1 3.0 2 12.98 12.90 12.83 12.77 12.72 5.0 4 14.58 14.50 | 14.41 | 14.40 | 14.38 7.0 16.19 16.09 16.00 16.02 16.05 6 16.83 16.73 16.63 16.59 16.55 11.5 10 | 17.46 | 17.37 | 17.27 | 17.1<mark>7 | 17.06</mark> 18.44 18.33 18.22 18.08 18.00 13.5 12 14 19.41 19.29 19.17 18.99 18.95 19.90 19.77 19.64 19.45 19.42 16.5 16

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(b) Twin type

Model FDT100VNPVF Indoor unit FDT50VF (2 units) Outdoor unit FDC100VN (kW) Heat Mode Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28 1	DB	31	DB	33	DB
dii tomp.	12 \	ΝB	14 \	ΝB	16 \	ΝB	18 \	WB	19 \	ΝB	20 \	ΝB	22 \	ΝB	24 \	ΝB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	7.94	8.59	8.42	8.82	8.62	9.07	8.53	9.56	9.11	10.06	8.89
13					8.50	8.07	9.00	8.82	9.26	8.75	9.52	8.65	10.06	9.22	10.60	9.01
15					8.88	8.19	9.42	8.97	9.69	8.87	9.98	8.78	10.56	9.35	11.14	9.12
17					9.26	8.32	9.84	9.09	10.12	9.00	10.43	8.90	11.05	9.46	11.67	9.23
19					9.46	8.39	10.05	9.16	10.34	9.06	10.65	8.96	11.29	9.52	11.92	9.29
21					9.65	8.46	10.25	9.22	10.56	9.13	10.88	9.03	11.52	9.58	12.16	9.34
23					9.65	8.46	10.28	9.23	10.59	9.13	10.91	9.03	11.56	9.59	12.21	9.35
25			8.93	8.71	9.64	8.46	10.31	9.24	10.62	9.14	10.95	9.04	11.61	9.60	12.27	9.36
27			8.86	8.68	9.64	8.46	10.34	9.25	10.65	9.15	10.96	9.05	11.57	9.59		
29			8.80	8.62	9.50	8.41	10.17	9.20	10.49	9.10	10.81	9.01	11.45	9.56		
31			8.73	8.56	9.35	8.35	9.99	9.14	10.32	9.05	10.66	8.96	11.32	9.53		
33	8.22	7.97	8.58	8.41	9.21	8.31	9.82	9.09	10.16	9.01	10.51	8.92	11.19	9.50		
35	8.05	7.89	8.44	8.27	9.06	8.26	9.64	9.03	10.00	8.96	10.36	8.88	11.07	9.47		
37	7.92	7.76	8.30	8.13	8.91	8.20	9.46	8.98	9.79	8.90	10.13	8.82	10.80	9.40		
39	7.78	7.62	8.16	8.00	8.75	8.15	9.28	8.92	9.59	8.84	9.90	8.75	10.53	9.34		
41	7.64	7.49	8.02	7.86	8.60	8.10	9.09	8.86	9.38	8.78	9.68	8.69	10.26	9.27		
43	7.50	7.35	7.88	7.72	8.45	8.05	8.91	8.73	9.18	8.72	9.45	8.63	9.99	9.21		

Heat	Mode					(kW)
Out	door	In	door a	ir tem	oeratui	re
air t	emp.			DB		
DB	WB	16	18	20	22	24
-19.8	-20	5.64	5.62	5.60	5.58	5.56
-17.7	-18	5.97	5.95	5.92	5.90	5.87
-15.7	-16	6.30	6.27	6.25	6.22	6.19
-13.5	-14	6.66	6.63	6.60	6.57	6.54
-11.5	-12	7.03	6.99	6.96	6.93	6.90
-9.5	-10	7.39	7.36	7.32	7.29	7.25
-7.5	-8	7.75	7.72	7.68	7.64	7.60
-5.5	-6	7.92	7.88	7.85	7.80	7.76
-3.0	-4	8.10	8.05	8.01	7.97	7.92
-1.0	-2	8.27	8.22	8.18	8.13	8.08
1.0	0	8.44	8.39	8.34	8.29	8.24
2.0	1	8.52	8.47	8.42	8.37	8.32
3.0	2	9.08	9.03	8.98	8.94	8.90
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59

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Model FDT100VSPVF Indoor unit FDT50VF (2 units) Outdoor unit FDC100VS Cool Mode

																(1000)
Outdoor							Indo	or air t	emper	ature						
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an temp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	7.94	8.59	8.42	8.82	8.62	9.07	8.53	9.56	9.11	10.06	8.89
13					8.50	8.07	9.00	8.82	9.26	8.75	9.52	8.65	10.06	9.22	10.60	9.01
15					8.88	8.19	9.42	8.97	9.69	8.87	9.98	8.78	10.56	9.35	11.14	9.12
17					9.26	8.32	9.84	9.09	10.12	9.00	10.43	8.90	11.05	9.46	11.67	9.23
19					9.46	8.39	10.05	9.16	10.34	9.06	10.65	8.96	11.29	9.52	11.92	9.29
21					9.65	8.46	10.25	9.22	10.56	9.13	10.88	9.03	11.52	9.58	12.16	9.34
23					9.65	8.46	10.28	9.23	10.59	9.13	10.91	9.03	11.56	9.59	12.21	9.35
25			8.93	8.71	9.64	8.46	10.31	9.24	10.62	9.14	10.95	9.04	11.61	9.60	12.27	9.36
27			8.86	8.68	9.64	8.46	10.34	9.25	10.65	9.15	10.96	9.05	11.57	9.59		
29			8.80	8.62	9.50	8.41	10.17	9.20	10.49	9.10	10.81	9.01	11.45	9.56		
31			8.73	8.56	9.35	8.35	9.99	9.14	10.32	9.05	10.66	8.96	11.32	9.53		
33	8.22	7.97	8.58	8.41	9.21	8.31	9.82	9.09	10.16	9.01	10.51	8.92	11.19	9.50		
35	8.05	7.89	8.44	8.27	9.06	8.26	9.64	9.03	10.00	8.96	10.36	8.88	11.07	9.47		
37	7.92	7.76	8.30	8.13	8.91	8.20	9.46	8.98	9.79	8.90	10.13	8.82	10.80	9.40		
39	7.78	7.62	8.16	8.00	8.75	8.15	9.28	8.92	9.59	8.84	9.90	8.75	10.53	9.34		
41	7.64	7.49	8.02	7.86	8.60	8.10	9.09	8.86	9.38	8.78	9.68	8.69	10.26	9.27		
43	7.50	7.35	7.88	7.72	8.45	8.05	8.91	8.73	9.18	8.72	9.45	8.63	9.99	9.21		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows. TC: Total cooling capacity
SHC: Sensible heat capacity (kW) Heat Mode (kW) Indoor air temperature Outdoor air temp. DB DB WB 16 18 20 24 22 5.60 5.58 5.56 -19.8 -20 5.64 5.62 5.92 5.87 -17.7 -18 5.97 5.95 5.90 -15.7 -16 6.30 6.27 6.25 6.22 6.19 -13.5 6.54 -14 6.63 6.57 6.66 6.60 -11.5 -12 7.03 6.99 6.96 6.93 6.90 -9.5 -10 7.39 7.36 7.32 7.29 7.25 -7.5 7.68 7.60 -8 7.75 7.72 7.64 -5.5 7.92 7.88 7.85 7.80 7.76 8.10 8.01 7.97 -3.0 -4 8.05 7.92 -2 -1.0 8.27 8.22 8.18 8.13 8.08 1.0 0 8.44 8.39 8.34 8.29 8.24 2.0 8.47 8.42 8.37 8.32 1 8.52 3.0 9.08 9.03 8.98 8.90 10.21 10.15 10.09 10.08 10.07 5.0 4 7.0 6 11.33 11.27 11.20 11.22 11.23 9.0 8 11.78 | 11.71 | 11.64 | 11.62 11.59 12.23 12.16 12.09 12.02 11.94 11.5 10 13.5 12.91 12.83 12.75 12.65 12.60 15.5 14 | 13.59 | 13.50 | 13.42 | 13.29 | 13.26 16 | 13.93 | 13.84 | 13.75 | 13.61 | 13.59 16.5



Model Cool Mo		25VN	IPVF	Ind	oor un	it FD	T60VI	= (2 un	its)	Outo	door u	nit F	DC125	VN		(kW)	Hea	t Mode					(kW)
	Juo						Indo	or oir t	emper	aturo						()		ıtdoor		door a	ir tomr	oratu	
Outdoor	18	ne l	21	DB.	23	DB.	26		27		20	DB	31	DB.	22	DB	_	temp.		uooi a	DB	Jeralui	-
air temp.	12 \	_	14 \		16 \		18 \	_		WB	_	WB	22 \		_	WB	DE		16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.		7.06	7.03	7.00	6.97	6.95
11	10	SHU	10	SHU									_				-19.						
- ' '					10.15								11.96					_	7.46	7.43	7.41	7.37	7.34
13					10.63								12.58				-15.		7.87	7.84	7.81	7.77	7.74
15													13.20				-13.		8.33	8.29	8.26	8.22	8.18
17											_		13.82				-11.		8.78	8.74	8.70	8.66	8.62
19													14.11			_	-9.5		9.24	9.19	9.15	9.11	9.06
21													14.40			-	-7.5		9.69	9.65	9.60	9.55	9.50
23													14.45			-	-5.5		9.91	9.86	9.81	9.75	9.70
25					_								14.51		15.34	11.19	-3.0	-4	_	10.07		9.96	9.90
27			11.08	10.79	12.05	10.34	12.92	11.34	13.31	11.15	13.69	10.96	14.47	11.62			-1.0	-2	10.33	10.28	10.22	10.16	10.10
29			11.00	10.76	11.87	10.29	12.71	11.29	13.11	11.11	13.51	10.92	14.31	11.60			1.0	0	10.55	10.49	10.43	10.36	10.30
31			10.92	10.70	11.69	10.24	12.49	11.24	12.90	11.07	13.32	10.89	14.15	11.58			2.0	1	10.65	10.59	10.53	10.47	10.40
33	10.27	9.88	10.72	10.51	11.51	10.20	12.27	11.19	12.70	11.03	13.13	10.85	13.99	11.55			3.0	2	11.36	11.29	11.22	11.18	11.13
35	10.07	9.82	10.55	10.34	11.33	10.15	12.06	11.15	12.50	10.99	12.94	10.81	13.83	11.53			5.0	4	12.76	12.69	12.61	12.60	12.58
37	9.90	9.70	10.38	10.17	11.13	10.10	11.83	11.10	12.24	10.93	12.66	10.76	13.50	11.48			7.0	6	14.16	14.08	14.00	14.02	14.04
39	9.72	9.53	10.20	10.00	10.94	10.05	11.60	11.05	11.99	10.88	12.38	10.71	13.16	11.43			9.0	8	14.72	14.64	14.56	14.52	14.49
41	9.55	9.36	10.02	9.82	10.75	10.00	11.37	11.00	11.73	10.83	12.09	10.66	12.82	11.38			11.5	10	15.28	15.20	15.11	15.02	14.93
43	9.38	9.19	9.85	9.65	10.56	9.95	11.14	10.92	11.47	10.78	11.81	10.61	12.48	11.33			13.	12	16.13	16.04	15.94	15.82	15.75
																	15.	14	16.98	16.88	16.77	16.62	16.58
																	16.	16	17.41	17.30	17.19	17.02	16.99

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Model Cool Mo		12578	SPVF	Ind	oor un	it FL) 160VI	- (2 ur	nts)	Outo	door ur	nit F	DC125	VS	
Outdoor							Indo	or air t	emper	ature					
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33
an tomp.	12 \	ΝB	14 \	WB	16 \	ΝB	18 \	ΝB	19 \	ΝB	20 \	ΝB	22 \	ΝB	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC
4.4															

Cool Mo		12373	or vi	IIIu	oor un	11 1 1	/100 VI	- (2 ui	1115)	Out	JOOI UI	111	JU 120	003		(kW)
0.44							Indo	or air t	emper	ature						$\neg \neg$
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an temp.	12 \	ΝB	14 \	ΝB	16 \	ΝB	18 \	ΝB	19 \	ΝB	20 \	ΝB	22 \	ΝB	24 \	NΒ
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.15	9.85	10.74	10.53	11.03	10.70	11.34	10.53	11.96	11.26	12.57	10.88
13					10.63	9.97	11.26	10.97	11.57	10.80	11.91	10.63	12.58	11.34	13.25	10.95
15					11.10	10.09	11.78	11.09	12.11	10.91	12.47	10.73	13.20	11.43	13.92	11.02
17					11.58	10.22	12.29	11.20	12.65	11.02	13.04	10.83	13.82	11.53	14.59	11.10
19					11.82	10.28	12.56	11.26	12.92	11.07	13.32	10.89	14.11	11.57	14.90	11.14
21					12.06	10.34	12.82	11.32	13.19	11.13	13.60	10.94	14.40	11.61	15.20	11.17
23					12.06	10.34	12.85	11.32	13.23	11.14	13.64	10.95	14.45	11.62	15.27	11.18
25			11.16	10.81	12.06	10.34	12.89	11.33	13.27	11.14	13.68	10.95	14.51	11.63	15.34	11.19
27			11.08	10.79	12.05	10.34	12.92	11.34	13.31	11.15	13.69	10.96	14.47	11.62		
29			11.00	10.76	11.87	10.29	12.71	11.29	13.11	11.11	13.51	10.92	14.31	11.60		
31			10.92	10.70	11.69	10.24	12.49	11.24	12.90	11.07	13.32	10.89	14.15	11.58		
33	10.27	9.88	10.72	10.51	11.51	10.20	12.27	11.19	12.70	11.03	13.13	10.85	13.99	11.55		
35	10.07	9.82	10.55	10.34	11.33	10.15	12.06	11.15	12.50	10.99	12.94	10.81	13.83	11.53		
37	9.90	9.70	10.38	10.17	11.13	10.10	11.83	11.10	12.24	10.93	12.66	10.76	13.50	11.48		
39	9.72	9.53	10.20	10.00	10.94	10.05	11.60	11.05	11.99	10.88	12.38	10.71	13.16	11.43		
41	9.55	9.36	10.02	9.82	10.75	10.00	11.37	11.00	11.73	10.83	12.09	10.66	12.82	11.38		
43	9.38	9.19	9.85	9.65	10.56	9.95	11.14	10.92	11.47	10.78	11.81	10.61	12.48	11.33		

Note(1) These data show average statuses.

te(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length: 7.5m

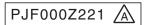
Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

	Heat I	Mode					(kW)
ı		door	In	door a	ir tem	oeratu	re
ı	air te	emp.			DB		
ı	DB	WB	16	18	20	22	24
ı	-19.8	-20	7.06	7.03	7.00	6.97	6.95
ı	-17.7	-18	7.46	7.43	7.41	7.37	7.34
ı	-15.7	-16	7.87	7.84	7.81	7.77	7.74
ı	-13.5	-14	8.33	8.29	8.26	8.22	8.18
ı	-11.5	-12	8.78	8.74	8.70	8.66	8.62
ı	-9.5	-10	9.24	9.19	9.15	9.11	9.06
ı	-7.5	-8	9.69	9.65	9.60	9.55	9.50
ı	-5.5	-6	9.91	9.86	9.81	9.75	9.70
ı	-3.0	-4	10.12	10.07	10.01	9.96	9.90
ı	-1.0	-2	10.33	10.28	10.22	10.16	10.10
ı	1.0	0	10.55	10.49	10.43	10.36	10.30
ı	2.0	1	10.65	10.59	10.53	10.47	10.40
ı	3.0	2	11.36	11.29	11.22	11.18	11.13
ı	5.0	4	12.76	12.69	12.61	12.60	12.58
ı	7.0	6	14.16	14.08	14.00	14.02	14.04
ı	9.0	8	14.72	14.64	14.56	14.52	14.49
ı	11.5	10	15.28	15.20	15.11	15.02	14.93
ı	13.5	12	16.13	16.04	15.94	15.82	15.75
ı	15.5	14	16.98	16.88	16.77	16.62	16.58
ı	16.5	16	17.41	17.30	17.19	17.02	16.99



Model FDT140VNPVF Indoor unit FDT71VF (2 units) Outdoor unit FDC140VN (kW) Cool Mode Indoor air temperature Outdoo 18 DB 21 DB 23 DB 26 DB 27 DB 28 DB 31 DB 33 DB air temp 12 WB 14 WB 16 WB 18 WB 19 WB 20 WB 22 WB 24 WB TC SHC DB TC SHC 12.02 11.78 11 11.37 11.14 12.35 12.10 12.70 12.04 13.39 12.85 14.08 12.56 13 11.90 11.37 12.61 12.36 12.96 12.34 13.33 12.21 14.09 13.02 14.84 12.73 15 12.43 11.55 13.19 12.64 13.57 12.52 13.97 12.39 14.78 13.20 15.59 12.89 17 12.96 | 11.74 | 13.77 | 12.83 | 14.17 | 12.70 **|** 14.61 | 12.57 15.48 13.37 16.34 13.06 19 13.24 | 11.84 | 14.06 | 12.92 | 14.48 12.79 14.92 12.66 15.80 13.45 16.68 13.13 21 13.51 | 11.93 | 14.36 | 13.01 14.78 12.88 15.23 12.75 16.12 13.53 17.02 13.21 23 13.51 11.93 14.40 13.03 14.82 12.89 12.76 16.19 13.55 17.10 13.23 15.28 25 12.50 12.25 13.50 11.93 14.43 13.04 14.86 12.90 15.33 12.77 16.25 13.57 17.18 13.24 27 13 50 11 93 14 47 13 05 12 41 12 16 14 91 12 92 15 34 12 78 16 20 13 55 29 12.32 12.07 13.29 11.85 14.23 12.97 14.68 12.85 15.13 12.72 16.02 13.51 31 12.23 11.99 13.09 11.78 13.99 12.90 14.45 12.78 14.92 12 66 15.85 13.46 33 11.51 11.23 12.01 11.77 12.89 11.71 13.75 12.82 14.23 12.71 14.71 12.60 15.67 13.42 14.00 35 11.28 11.05 11.82 11.58 12.68 11.64 13.50 12.74 12.65 14.50 12.54 15.49 13.37 37 11.08 10.86 11.62 11.39 12.47 11.57 13.25 12.66 15.12 13.28 13.71 12.56 14.18 12.45 39 10.89 | 10.67 | 11.43 | 11.20 | 12.26 | 11.50 | 12.99 | 12.58 | 13.43 | 12.48 | 13.86 12.36 14.74 13.19 41 10.70 | 10.49 | 11.23 | 11.01 | 12.04 | 11.42 | 12.73 | 12.48 | 13.14 | 12.39 | 13.55 | 12.27 14.36 13.09 10.51 | 10.30 | 11.03 | 10.81 | 11.83 | 11.35 | 12.47 | 12.22 | 12.85 | 12.31 | 13.23 | 12.18 | 13.98 | 13.00 43

Heat Mode (kW) Indoor air temperature Outdoor air temp DB DB WB 16 18 20 22 24 -19.8 -20 8.06 8.03 8.00 7.97 7.94 -17.7 -18 8.53 8.50 8.46 8.43 8.39 -15.7 -16 9.00 8.96 8.92 8.88 8.85 -13.5 -14 9.52 9.48 9.43 9.39 9.35 -11.5 9.99 9.95 -12 10.04 9.90 9.85 -9.5 10.56 10.51 10.46 10.41 10.36 10.97 -75 -8 11.08 11.02 10.91 10.86 -5.5 -6 11.32 11.26 11.21 11.15 11.09 -3.0 11.56 |11.50 |11.44 |11.38 |11.31 11.81 11.75 11.68 11.61 11.54 -1.0 1.0 12.05 11.99 11.92 11.84 11.77 12.18 12.11 12.04 11.96 11.89 2.0 3.0 12.98 12.90 12.83 12.77 12.72 2 5.0 4 14.58 14.50 14.41 14.40 14.38 7.0 16.19 16.09 16.00 16.02 16.05 6 9.0 8 16.83 16.73 16.63 16.59 16.55 11.5 10 17.46 | 17.37 | 17.27 | 17.17 | 17.06 13.5 12 18.44 18.33 18.22 18.08 18.00 15.5 14 19.41 19.29 19.17 18.99 18.95 |19.90 | 19.77 | 19.64 | 19.45 | 19.42 16.5 16

PJF000Z221

Model FDT140VSPVF Indoor unit FDT71VF (2 units) Outdoor unit FDC140VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tomp.	12 \	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	11.14	12.02	11.78	12.35	12.10	12.70	12.04	13.39	12.85	14.08	12.56
13					11.90	11.37	12.61	12.36	12.96	12.34	13.33	12.21	14.09	13.02	14.84	12.73
15					12.43	11.55	13.19	12.64	13.57	12.52	13.97	12.39	14.78	13.20	15.59	12.89
17					12.96	11.74	13.77	12.83	14.17	12.70	14.61	12.57	15.48	13.37	16.34	13.06
19					13.24	11.84	14.06	12.92	14.48	12.79	14.92	12.66	15.80	13.45	16.68	13.13
21					13.51	11.93	14.36	13.01	14.78	12.88	15.23	12.75	16.12	13.53	17.02	13.21
23					13.51	11.93	14.40	13.03	14.82	12.89	15.28	12.76	16.19	13.55	17.10	13.23
25			12.50	12.25	13.50	11.93	14.43	13.04	14.86	12.90	15.33	12.77	16.25	13.57	17.18	13.24
27			12.41	12.16	13.50	11.93	14.47	13.05	14.91	12.92	15.34	12.78	16.20	13.55		
29			12.32	12.07	13.29	11.85	14.23	12.97	14.68	12.85	15.13	12.72	16.02	13.51		
31			12.23	11.99	13.09	11.78	13.99	12.90	14.45	12.78	14.92	12.66	15.85	13.46		
33	11.51	11.23	12.01	11.77	12.89	11.71	13.75	12.82	14.23	12.71	14.71	12.60	15.67	13.42		
35	11.28	11.05	11.82	11.58	12.68	11.64	13.50	12.74	14.00	12.65	14.50	12.54	15.49	13.37		
37	11.08	10.86	11.62	11.39	12.47	11.57	13.25	12.66	13.71	12.56	14.18	12.45	15.12	13.28		
39	10.89	10.67	11.43	11.20	12.26	11.50	12.99	12.58	13.43	12.48	13.86	12.36	14.74	13.19		
41	10.70	10.49	11.23	11.01	12.04	11.42	12.73	12.48	13.14	12.39	13.55	12.27	14.36	13.09		
43	10.51	10.30	11.03	10.81	11.83	11.35	12.47	12.22	12.85	12.31	13.23	12.18	13.98	13.00		

Depending on the system control, there may be ranges where the operation is not conducted continuously These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity
SHC: Sensible heat capacity

Heat I	Mode					(kW
	door	In	door a	ir tem	oeratu	re
air te	emp.			DB		
DB	WB	16	18	20	22	24
-19.8	-20	8.06	8.03	8.00	7.97	7.94
-17.7	-18	8.53	8.50	8.46	8.43	8.39
-15.7	-16	9.00	8.96	8.92	8.88	8.85
-13.5	-14	9.52	9.48	9.43	9.39	9.35
-11.5	-12	10.04	9.99	9.95	9.90	9.85
-9.5	-10	10.56	10.51	10.46	10.41	10.36
-7.5	-8	11.08	11.02	10.97	10.91	10.86
-5.5	-6	11.32	11.26	11.21	11.15	11.09
-3.0	-4	11.56	11.50	11.44	11.38	11.31
-1.0	-2	11.81	11.75	11.68	11.61	11.54
1.0	0	12.05	11.99	11.92	11.84	11.77
2.0	1	12.18	12.11	12.04	11.96	11.89
3.0	2	12.98	12.90	12.83	12.77	12.72
5.0	4	14.58	14.50	14.41	14.40	14.38
7.0	6	16.19	16.09	16.00	16.02	16.05
9.0	8	16.83	16.73	16.63	16.59	16.55
11.5	10	17.46	17.37	17.27	17.17	17.06
13.5	12	18.44	18.33	18.22	18.08	18.00
15.5	14	19.41	19.29	19.17	18.99	18.95
16.5	16	19.90	19.77	19.64	19.45	19.42

(kW)

Model		200VS	PVF	Ind	oor un	it FD	T100\	/F (2 u	ınits)	Ou	tdoor i	unit F	DC20	0VS									
Cool M	ode															(kW)	Heat I	Node					(kW)
Outdoor							Indo	or air t	emper	ature							Outo	door	In	door a	ir temp	oeratur	·e
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air te	emp.			DB		
э тоттр	12 \	ΝB	14 \	WB	16	ΝB	18 \	WB	19 \	ΝB	20	WB	22 \	WB	24 \	NΒ	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-20					
11					17.37	15.85	18.41	17.29	18.94	17.13	19.50	16.97	20.63	18.05	21.76	17.66	-17.7	-18					
13					17.90	16.04	18.99	17.49	19.54	17.32	20.13	17.16	21.31	18.23	22.49	17.84	-15.7	-16					
15					18.43	16.23	19.57	17.68	20.14	17.51	20.75	17.35	21.98	18.42	23.21	18.01	-13.5	-14	13.21	13.18	13.14	13.11	13.08
17					18.96	16.43	20.14	17.87	20.73	17.70	21.38	17.54	22.66	18.60	23.94	18.19	-11.5	-12	13.91	13.87	13.83	13.79	13.76
19					19.35	16.57	20.56	18.01	21.16	17.84	21.81	17.67	23.12	18.73	24.42	18.31	-9.5	-10	14.61	14.57	14.52	14.47	14.43
21					19.41	16.59	20.98	18.16	21.59	17.98	22.25	17.81	23.57	18.85	24.89	18.42	-7.5	-8	15.31	15.26	15.21	15.16	15.10
23					19.31	16.56	20.86	18.12	21.47	17.94	22.12	17.77	23.43	18.82	24.73	18.38	-5.5	-6	15.64	15.58	15.52	15.46	15.40
25			17.35	16.78	19.20	16.52	20.74	18.07	21.35	17.90	21.99	17.73	23.28	18.77	24.57	18.34	-3.0	-4	15.96	15.89	15.82	15.76	15.69
27			17.28	16.75	19.10	16.48	20.62	18.03	21.22	17.86	21.83	17.68	23.04	18.71			-1.0	-2	16.29	16.21	16.13	16.06	15.98
29			17.14	16.69	18.85	16.39	20.31	17.93	20.92	17.76	21.53	17.58	22.75	18.63			1.0	0	16.61	16.53	16.44	16.36	16.28
31			16.99	16.63	18.59	16.29	20.00	17.82	20.61	17.66	21.22	17.49	22.45	18.54			2.0	1	16.78	16.69	16.59	16.51	16.42
33	16.46	15.57	17.03	16.65	18.33	16.20	19.69	17.72	20.31	17.57	20.92	17.40	22.15	18.46			3.0	2	17.96	17.86	17.76	17.66	17.56
35	16.14	15.43	16.76	16.42	18.08	16.10	19.38	17.62	20.00	17.47	20.62	17.31	21.85	18.38			5.0	4	20.33	20.21	20.08	19.96	19.84
37	15.86	15.31	16.50	16.17	17.76	15.99	18.98	17.48	19.57	17.33	20.17	17.17	21.35	18.25			7.0	6	22.71	22.55	22.40	22.26	22.12
39	15.59	15.19	16.23	15.91	17.44	15.87	18.58	17.35	19.15	17.20	19.71	17.03	20.85	18.11			9.0	8	23.43	23.28	23.13	22.88	22.63
41	15.32	15.01	15.97	15.65	17.13	15.76	18.17	17.22	18.72	17.06	19.26	16.90	20.35	17.98			11.5	10	24.14	24.00	23.86	23.50	23.13
43	15.04	14.74	15.70	15.39	16.81	15.64	17.77	17.08	18.29	16.93	18.81	16.77	19.85	17.84			13.5	12	25.41	25.24	25.07	24.77	24.43
																	15.5	14	26.67	26.47	26.27	26.05	25.72
																	16.5	16	27.30	27.09	26.87	26.69	26.37

PJF000Z221

Model	FDT250VSPVF	Indoor unit	FDT125VF (2 units)	Outdoor unit	FDC250VS
Cool M	ode				

Outdoor							Indo	or air t	emper	ature						
air temp.	18 D	В	21 D	В	23 D	В	26 D	В	27 D	В	28 D	В	31 D	В	33 D	В
an tomp.	12 W	/B	14 W	/B	16 W	/B	18 W	/B	19 W	/B	20 W	'B	22 W	/B	24 W	/B
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					21.71	18.30	23.02	19.79	23.67	19.64	24.38	19.51	25.79	20.62	27.21	20.27
13					22.38	18.58	23.74	20.07	24.42	19.92	25.16	19.79	26.63	20.90	28.11	20.53
15					23.04	18.85	24.46	20.35	25.17	20.20	25.94	20.07	27.48	21.18	29.02	20.81
17					23.70	19.13	25.18	20.63	25.92	20.49	26.72	20.35	28.32	21.46	29.92	21.08
19					24.19	19.34	25.70	20.84	26.45	20.69	27.27	20.55	28.89	21.65	30.52	21.27
21					24.26	19.37	26.22	21.05	26.99	20.89	27.82	20.75	29.47	21.84	31.12	21.45
23					24.13	19.32	26.07	20.99	26.84	20.84	27.65	20.69	29.28	21.78	30.91	21.39
25			21.69	19.35	24.00	19.26	25.92	20.93	26.68	20.78	27.49	20.63	29.10	21.72	30.71	21.32
27			21.60	19.30	23.88	19.21	25.77	20.87	26.53	20.72	27.29	20.56	28.80	21.62		
29			21.42	19.22	23.56	19.07	25.39	20.72	26.15	20.57	26.91	20.42	28.43	21.50		
31			21.24	19.14	23.24	18.94	25.00	20.56	25.77	20.43	26.53	20.28	28.06	21.37		
33	20.58	18.11	21.29	19.16	22.92	18.80	24.61	20.41	25.38	20.28	26.15	20.14	27.69	21.25		
35	20.17	17.91	20.96	19.01	22.60	18.67	24.23	20.26	25.00	20.14	25.77	20.00	27.31	21.12		
37	19.83	17.75	20.62	18.86	22.20	18.50	23.73	20.07	24.47	19.94	25.21	19.80	26.69	20.92		
39	19.49	17.58	20.29	18.71	21.80	18.33	23.22	19.87	23.93	19.74	24.64	19.60	26.06	20.71		
41	19.15	17.42	19.96	18.57	21.41	18.17	22.72	19.68	23.40	19.55	24.08	19.40	25.43	20.51		
43	18.81	17.26	19.63	18.42	21.01	18.01	22.22	19.49	22.86	19.35	23.51	19.20	24.81	20.31		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length: 7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

(kW)		Heat I	Mode					(kW)
	Ш	Out	door	In	door a	ir tem	peratu	re
В	Ш	air te	emp.			DB		
/B		DB	WB	16	18	20	22	24
SHC	П	-19.8	-20					
20.27		-17.7	-18					
20.53	П	-15.7	-16					
20.81	П	-13.5	-14	16.52	16.47	16.43	16.39	16.35
21.08	П	-11.5	-12	17.39	17.34	17.29	17.24	17.19
21.27	П	-9.5	-10	18.26	18.21	18.15	18.09	18.04
21.45	П	-7.5	-8	19.14	19.07	19.01	18.94	18.88
21.39	П	-5.5	-6	19.55	19.47	19.40	19.32	19.24
21.32	П	-3.0	-4	19.95	19.87	19.78	19.70	19.61
	П	-1.0	-2	20.36	20.26	20.17	20.07	19.98
		1.0	0	20.77	20.66	20.55	20.45	20.35
	П	2.0	1	20.97	20.86	20.74	20.64	20.53
	П	3.0	2	22.45	22.32	22.19	22.07	21.95
	П	5.0	4	25.42	25.26	25.10	24.95	24.80
	П	7.0	6	28.38	28.19	28.00	27.82	27.65
	П	9.0	8	29.28	29.10	28.91	28.60	28.28
		11.5	10	30.18	30.00	29.83	29.37	28.91
		13.5	12	31.76	31.55	31.33	30.97	30.53
		15.5	14	33.34	33.09	32.84	32.57	32.15
		16.5	16	34.13	33.86	33.59	33.37	32.96

(c) Triple type

Model FDT140VNTVF Indoor unit FDT50VF (3 units) Outdoor unit FDC140VN Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
dii tompi	12 \	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22 \	WB	24 \	ΝB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	11.14	12.02	11.78	12.35	12.10	12.70	12.45	13.39	13.12	14.08	13.14
13					11.90	11.66	12.61	12.36	12.96	12.70	13.33	12.72	14.09	13.60	14.84	13.29
15					12.43	11.99	13.19	12.93	13.57	13.03	13.97	12.89	14.78	13.76	15.59	13.44
17					12.96	12.17	13.77	13.34	14.17	13.20	14.61	13.07	15.48	13.93	16.34	13.60
19					13.24	12.26	14.06	13.43	14.48	13.29	14.92	13.15	15.80	14.01	16.68	13.67
21					13.51	12.36	14.36	13.52	14.78	13.38	15.23	13.24	16.12	14.09	17.02	13.74
23					13.51	12.36	14.40	13.53	14.82	13.39	15.28	13.25	16.19	14.10	17.10	13.76
25			12.50	12.25	13.50	12.35	14.43	13.54	14.86	13.40	15.33	13.26	16.25	14.12	17.18	13.78
27			12.41	12.16	13.50	12.35	14.47	13.55	14.91	13.41	15.34	13.27	16.20	14.10		
29			12.32	12.07	13.29	12.28	14.23	13.48	14.68	13.35	15.13	13.21	16.02	14.06		
31			12.23	11.99	13.09	12.21	13.99	13.41	14.45	13.28	14.92	13.15	15.85	14.02		
33	11.51	11.28	12.01	11.77	12.89	12.15	13.75	13.33	14.23	13.22	14.71	13.09	15.67	13.98		
35	11.28	11.05	11.82	11.58	12.68	12.08	13.50	13.23	14.00	13.15	14.50	13.04	15.49	13.93		
37	11.08	10.86	11.62	11.39	12.47	12.01	13.25	12.99	13.71	13.07	14.18	12.95	15.12	13.84		
39	10.89	10.67	11.43	11.20	12.26	11.94	12.99	12.73	13.43	12.99	13.86	12.86	14.74	13.75		
41	10.70	10.49	11.23	11.01	12.04	11.80	12.73	12.48	13.14	12.88	13.55	12.78	14.36	13.66		
43	10.51	10.30	11.03	10.81	11.83	11.59	12.47	12.22	12.85	12.59	13.23	12.70	13.98	13.58		

	Heat I	Mode					(kW)
		door	In	door a	ir tem	oeratui	re
П	air te	emp.			DB		
П	DB	WB	16	18	20	22	24
П	-19.8	-20	8.06	8.03	8.00	7.97	7.94
П	-17.7	-18	8.53	8.50	8.46	8.43	8.39
	-15.7	-16	9.00	8.96	8.92	8.88	8.85
	-13.5	-14	9.52	9.48	9.43	9.39	9.35
	-11.5	-12	10.04	9.99	9.95	9.90	9.85
П	-9.5	-10	10.56	10.51	10.46	10.41	10.36
П	-7.5	-8	11.08	11.02	10.97	10.91	10.86
П	-5.5	-6	11.32	11.26	11.21	11.15	11.09
П	-3.0	-4	11.56	11.50	11.44	11.38	11.31
П	-1.0	-2	11.81	11.75	11.68	11.61	11.54
	1.0	0	12.05	11.99	11.92	11.84	11.77
	2.0	1	12.18	12.11	12.04	11.96	11.89
	3.0	2	12.98	12.90	12.83	12.77	12.72
	5.0	4	14.58	14.50	14.41	14.40	14.38
П	7.0	6	16.19	16.09	16.00	16.02	16.05
П	9.0	8	16.83	16.73	16.63	16.59	16.55
	11.5	10	17.46	17.37	17.27	17.17	17.06
	13.5	12	18.44	18.33	18.22	18.08	18.00
'	15.5	14	19.41	19.29	19.17	18.99	18.95
	16.5	16	19.90	19.77	19.64	19.45	19.42

(kW)

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Indoor air temperature

(kW)

Model FDT140VSTVF Indoor unit FDT50VF (3 units) Outdoor unit FDC140VS Cool Mode

(kW) Indoor air temperature Outdooi 18 DB 21 DB 23 DB 26 DB 27 DB 28 DB 31 DB 33 DB ir temp 12 WB 14 WB 16 WB 24 WB 18 WB 19 WB 20 WB 22 WB DB SHC SHC TC SHC TC SHC TC SHC TC SHC TC SHC TC SHC 11 11.37 11.14 12.02 11.78 12.35 12.10 12.70 12.45 13.39 13.12 14.08 13.14 13 11.90 11.66 12.61 12.36 12.96 12.70 13.33 12.72 14.09 13.60 14.84 13.29 15 12.43 11.99 13.19 | 12.93 | 13.57 | 13.03 | 13.97 | 12.89 14.78 13.76 15.59 13.44 17 12.96 12.17 13.77 13.34 16.34 14.17 13.20 14.61 13.07 15.48 13.93 13.60 13.43 19 13.24 12.26 14.06 14.48 13.29 14.92 13.15 15.80 14.01 16.68 13.67 21 13.52 14.78 13.38 13 51 12 36 14 09 14 36 15 23 13 24 16 12 17 02 13.74 23 13.51 12.36 14.40 13.53 14.82 13.39 15.28 13.25 16.19 14.10 17.10 13.76 25 12 50 12 25 13.50 12 35 14.43 |13.54 |14.86 |13.40 |15.33 |13.26 16.25 14.12 17.18 13.78 12.41 12.16 13.50 12.35 14.47 13.55 14.91 13.41 16.20 14.10 27 15.34 13.27 29 12.32 12.07 13.29 12.28 14.23 13.48 14.68 13.35 15.13 13.21 16.02 14.06 31 12.23 11.99 13.09 12.21 13.41 14.45 13.28 15.85 14.02 13.99 14.92 13.15 33 11.51 11.28 12.01 11.77 12.89 12.15 13.75 13.33 14.23 13.22 14.71 13.09 15.67 13.98 35 11.28 11.05 11.82 11.58 12.68 12.08 13.50 13.23 14.00 13.15 14.50 13.04 15.49 13.93 37 11.08 10.86 11.62 11.39 12.47 12.01 13.25 12.99 14.18 12.95 15.12 13.84 |13.71 |13.07 39 11.43 11.20 12.26 11.94 12.99 12.73 13.43 12.99 13.86 12.86 14.74 10.89 10.67 13.75 41 10.70 10.49 11.23 11.01 12.04 11.80 12.73 12.48 13.14 12.88 13.55 12.78 14.36 13.66 10.51 | 10.30 | 11.03 | 10.81 | 11.83 | 11.59 | 12.47 | 12.22 | 12.85 | 12.59 | 13.23 | 12.70 | 13.98 | 13.58

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length: 7.5m

Level difference of Zero.

(3) Symbols are as follows.
TC: Total cooling capacity
SHC: Sensible heat capacity

air temp DB DB WB 16 18 20 24 -19.8 -20 8.06 8.03 8.00 7.97 7.94 -17.7 -18 8.53 8.50 8.46 8.43 8.39 -15.7 -16 9.00 8.96 8.92 8.88 8.85 -14 -13.59.52 9 48 9.43 9 39 9.35 -11.5 -12 10.04 9.99 9.95 9.90 9.85 -9.5 -10 10.56 10.51 10.46 10.41 10.36 -7.5 11.08 | 11.02 | 10.97 | 10.91 | 10.86 -8 11.32 11.26 11.21 11.15 11.09 -5.5 -6 -3.0 |11.56 |11.50 |11.44 |11.38 |11.31 11.81 11.75 11.68 11.61 11.54 -1.0 -2 1.0 12.05 | 11.99 | 11.92 | 11.84 | 11.77 12.18 | 12.11 | 12.04 | 11.96 | 11.89 2.0 3.0 12.98 | 12.90 | 12.83 | 12.77 | 12.72 5.0 14.58 | 14.50 | 14.41 | 14.40 | 14.38 7.0 6 16.19 16.09 16.00 16.02 16.05 16.83 16.73 16.63 9.0 8 16.59 16.55 11.5 10 17.46 | 17.37 | 17.27 | 17.17 | 17.06 13.5 12 18.44 | 18.33 | 18.22 | 18.08 | 18.00 15.5 14 19.41 | 19.29 | 19.17 | 18.99 | 18.95 16 19.90 19.77 19.64 19.45 19.42 16.5

Heat Mode

Outdoor

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Model Cool Mo		200VS	TVF	Indo	oor uni	t FD	T71VF	(3 un	its)	Outo	door ur	nit Fl	DC200	VS		(kW)	Hea	t Mode					(kW)
							Indo	or air t	emper	ature						Ť	0	utdoor	In	door a	ir temr	eratu	re 1
Outdoor	18	DB	21	DB	23	DB		DB	_	DB	28	DB	31	DB	33	DB		temp.		<u> </u>	DB	, o. a.a.	<u> </u>
air temp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB	DE	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19	8 -20					\Box
11					17.37	16.90	18.41	18.04	18.94	18.36	19.50	18.18	20.63	19.41	21.76	18.98	-17	7 -18					
13					17.90	17.08	18.99	18.61	19.54	18.54	20.13	18.35	21.31	19.58	22.49	19.14	-15	7 -16					
15					18.43	17.26	19.57	18.90	20.14	18.71	20.75	18.53	21.98	19.75	23.21	19.30	-13	5 -14	13.21	13.18	13.14	13.11	13.08
17					18.96	17.44	20.14	19.08	20.73	18.89	21.38	18.70	22.66	19.92	23.94	19.46	-11	5 -12	13.91	13.87	13.83	13.79	13.76
19					19.35	17.58	20.56	19.21	21.16	19.02	21.81	18.82	23.12	20.03	24.42	19.56	-9.	-10	14.61	14.57	14.52	14.47	14.43
21					19.41	17.60	20.98	19.34	21.59	19.14	22.25	18.95	23.57	20.14	24.89	19.67	-7.	5 -8	15.31	15.26	15.21	15.16	15.10
23															24.73		-5.	-6	15.64	15.58	15.52	15.46	15.40
25															24.57	19.60	-3.	-4	15.96	15.89	15.82	15.76	15.69
27			17.28	16.93	19.10	17.49	20.62	19.23	21.22	19.03	21.83	18.83	23.04	20.01			-1.) -2	16.29	16.21	16.13	16.06	15.98
29			17.14	16.80	18.85	17.40	20.31	19.13	20.92	18.94	21.53	18.74	22.75	19.94			1.0	0	16.61	16.53	16.44	16.36	16.28
31			16.99	16.65	18.59	17.31	20.00	19.03	20.61	18.85	21.22	18.66	22.45	19.86			2.0	1	16.78	16.69	16.59	16.51	16.42
33	16.46	16.13	17.03	16.69	18.33	17.22	19.69	18.94	20.31	18.76	20.92	18.57	22.15	19.79			3.0	2	17.96	17.86	17.76	17.66	17.56
35	16.14	15.82	16.76	16.42	18.08	17.14	19.38	18.84	20.00	18.67	20.62	18.49	21.85	19.71			5.0	4	20.33	20.21	20.08	19.96	19.84
37	15.86	15.54	16.50	16.17	17.76	17.03	18.98	18.60	19.57	18.54	20.17	18.36	21.35	19.59			7.0	6	22.71	22.55	22.40	22.26	22.12
39	15.59	15.28	16.23	15.91	17.44	16.92	18.58	18.21	19.15	18.42	19.71	18.24	20.85	19.47			9.0	8	23.43	23.28	23.13	22.88	22.63
41	15.32	15.01	15.97	15.65	17.13	16.79	18.17	17.81	18.72	18.30	19.26	18.11	20.35	19.35			11.	5 10	24.14	24.00	23.86	23.50	23.13
43	15.04	14.74	15.70	15.39	16.81	16.47	17.77	17.41	18.29	17.92	18.81	17.99	19.85	19.22			13.	5 12	25.41	25.24	25.07	24.77	24.43
																	15.	5 14	26.67	26.47	26.27	26.05	25.72
																	16.	16	27.30	27.09	26.87	26.69	26.37

Outdoor unit FDC200VS

PJF000Z221

Indoor air temperature

Outdoor

(kW)

(d) Double twin type

Model FDT200VSDVF Indoor unit FDT50VF (4 units) Cool Mode Heat Mode (kW) Indoor air temperature Outdoor 18 DB 21 DB 23 DB 26 DB 27 DB 28 DB 31 DB 33 DB air temp 12 WB 14 WB 16 WB 19 WB 20 WB 18 WB 22 WB 24 WB DB SHC SHC SHC SHC TC SHC TC SHC TC TC SHC TC TC SHC TC TC 11 17.37 16.26 18.41 17.80 18.94 17.61 19.50 17.43 20.63 18.57 21.76 18.13 13 17.90 16.44 18.99 17.98 19.54 17.79 20.13 17.60 21.31 18.74 22.49 18.28 15 18.43 16.62 19.57 18.16 20.14 17.96 20.75 17.77 21.98 18.90 23.21 18.44 17 18.96 16.80 20.14 | 18.33 | 20.73 | 18.14 21.38 17.94 22.66 19.07 23.94 18.59 19 19.35 16.93 20.56 18.46 21.16 18.26 18.06 19.18 18.70 21.81 23.12 24.42 21 19.41 16.96 20.98 18.60 21.59 18.39 22.25 18.19 23.57 19.29 24.89 18.80 23 19.31 16.92 20.86 18.56 21.47 18.35 22.12 18.15 23.43 19.26 24.73 18.77 25 17.35 17.00 19.20 16.88 20.74 18.52 21.35 18.32 21.99 18.12 23.28 19.22 24.57 18.73 27 17.28 16.93 19.10 16.85 20.62 | 18.48 | 21.22 | 18.28 | 21.83 | 18.07 | 23.04 19.16 29 17.14 16.80 18.85 16.76 20.31 18.39 20.92 18.19 21.53 17.99 19.09 22.75 31 16.99 16.65 18.59 16.67 20.00 18.29 20.61 18.10 21.22 17.90 22.45 19.01 16.46 15.95 17.03 16.69 18.33 16.58 19.69 18.19 20.31 18.01 20.92 17.82 22.15 18.94 33 35 16.14 15.82 16.76 16.42 18.08 16.50 19.38 18.10 20.00 17.92 20.62 17.73 21.85 18.87 37 15.86 15.54 16.50 16.17 17.76 16.39 18.98 17.97 19.57 17.80 20.17 17.61 21.35 18.75 39 15.59 15.28 16.23 15.91 17.44 16.28 18.58 17.85 19.15 17.67 19.71 17.48 20.85 18.62 41 15.32 15.01 15.97 15.65 17.13 16.18 18.17 17.73 18.72 17.55 19.26 17.36 20.35 18.50 15 04 14 74 |15.70 |15.39 |16.81 |16.07 |17.77 |17.41 |18.29 |17.43 |18.81 |17.24 |19.85 |18.39

	air te	emp.			DB		
ı	DB	WB	16	18	20	22	24
ı	-19.8	-20					
ı	-17.7	-18					
ı	-15.7	-16					
ı	-13.5	-14	13.21	13.18	13.14	13.11	13.08
ı	-11.5	-12	13.91	13.87	13.83	13.79	13.76
ı	-9.5	-10	14.61	14.57	14.52	14.47	14.43
ı	-7.5	-8	15.31	15.26	15.21	15.16	15.10
ı	-5.5	-6	15.64	15.58	15.52	15.46	15.40
ı	-3.0	-4	15.96	15.89	15.82	15.76	15.69
ı	-1.0	-2	16.29	16.21	16.13	16.06	15.98
ı	1.0	0	16.61	16.53	16.44	16.36	16.28
ı	2.0	1	16.78	16.69	16.59	16.51	16.42
ı	3.0	2	17.96	17.86	17.76	17.66	17.56
ı	5.0	4	20.33	20.21	20.08	19.96	19.84
ı	7.0	6	22.71	22.55	22.40	22.26	22.12
ı	9.0	8	23.43	23.28	23.13	22.88	22.63
ı	11.5	10	24.14	24.00	23.86	23.50	23.13
ı	13.5	12	25.41	25.24	25.07	24.77	24.43
ı	15.5	14	26.67	26.47	26.27	26.05	25.72
ı	16.5	16	27.30	27.09	26.87	26.69	26.37

Note(1) These data show average statuses

Depending on the system control, there may be ranges where the operation is not conducted continuously

These data show the case where the operation frequency of a compressor is fixed

(2) Capacities are based on the following conditions. Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.
TC: Total cooling capacity SHC : Sensible heat capacity

Model Cool Mo		.50 V C		iiiu	oor un	11 1 1	/100 V	(4 ui	1113)	Out	door u		DO230	,,,,		(kW)	Heat	Mode					(kW
Outdoor							Indo	or air t	emper	ature							Ou	tdoor	In	door a	ir tem	oeratui	re
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air	emp.			DB		
an tomp.	12 \	WB	14	WB	16	WB	18	ΝB	19	WB	20	WB	22	WB	24	WB	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-20					
11					21.71	20.06	23.02	22.05	23.67	21.71	24.38	21.36	25.79	22.78	27.21	21.98	-17.7	-18					
13					22.38	20.23	23.74	22.21	24.42	21.86	25.16	21.50	26.63	22.90	28.11	22.08	-15.7	-16					
15					23.04	20.40	24.46	22.37	25.17	22.01	25.94	21.64	27.48	23.03	29.02	22.18	-13.5	-14	16.52	16.47	16.43	16.39	16.35
17					23.70	20.57	25.18	22.53	25.92	22.16	26.72	21.79	28.32	23.15	29.92	22.29	-11.5	-12	17.39	17.34	17.29	17.24	17.19
19					24.19	20.70	25.70	22.65	26.45	22.27	27.27	21.89	28.89	23.24	30.52	22.36	-9.5	-10	18.26	18.21	18.15	18.09	18.04
21					24.26	20.72	26.22	22.77	26.99	22.38	27.82	22.00	29.47	23.33	31.12	22.43	-7.5	-8	19.14	19.07	19.01	18.94	18.88
23					24.13	20.69	26.07	22.73	26.84	22.35	27.65	21.96	29.28	23.30	30.91	22.41	-5.5	-6	19.55	19.47	19.40	19.32	19.24
25			21.69	21.26	24.00	20.65	25.92	22.70	26.68	22.32	27.49	21.93	29.10	23.27	30.71	22.38	-3.0	-4	19.95	19.87	19.78	19.70	19.61
27			21.60	21.17	23.88	20.62	25.77	22.66	26.53	22.29	27.29	21.89	28.80	23.23			-1.0	-2	20.36	20.26	20.17	20.07	19.98
29			21.42	20.99	23.56	20.54	25.39	22.58	26.15	22.21	26.91	21.82	28.43	23.17			1.0	0	20.77	20.66	20.55	20.45	20.35
31			21.24	20.82	23.24	20.45	25.00	22.49	25.77	22.13	26.53	21.75	28.06	23.11			2.0	1	20.97	20.86	20.74	20.64	20.53
33	20.58	19.78	21.29	20.86	22.92	20.37	24.61	22.40	25.38	22.05	26.15	21.68	27.69	23.06			3.0	2	22.45	22.32	22.19	22.07	21.95
35	20.17	19.64	20.96	20.54	22.60	20.29	24.23	22.32	25.00	21.97	25.77	21.61	27.31	23.00			5.0	4	25.42	25.26	25.10	24.95	24.80
37	19.83	19.43	20.62	20.21	22.20	20.18	23.73	22.21	24.47	21.87	25.21	21.51	26.69	22.91			7.0	6	28.38	28.19	28.00	27.82	27.65
39	19.49	19.10	20.29	19.88	21.80	20.08	23.22	22.10	23.93	21.76	24.64	21.40	26.06	22.82			9.0	8	29.28	29.10	28.91	28.60	28.28
41	19.15	18.77	19.96	19.56	21.41	19.98	22.72	21.99	23.40	21.65	24.08	21.30	25.43	22.73			11.5	10	30.18	30.00	29.83	29.37	28.91
43	18.81	18.43	19.63	19.24	21.01	19.88	22.22	21.78	22.86	21.55	23.51	21.20	24.81	22.64			13.5	12	31.76	31.55	31.33	30.97	30.53
Note(1) Th	ese data	show av	erage st	atuses.													15.5	14	33.34	33.09	32.84	32.57	32.15
De	pending	on the s	ystem c	ontrol, th					ration is ssor is fi		ducted co	ontinuou	sly.				16.5	16	34.13	33.86	33.59	33.37	32.96

Depending on the system control, there may be ranges where the operation is not or These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length: 7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

(kW)

24

5.87

6.19

6.54

6.90

7.25

7.60

7.76

7.92

8.08

8.24

8.32

8.90

10.07

(2) Ceiling cassette-4way compact type (FDTC) (a) Twin type

Model FDTC100VNPVF Outdoor unit FDC100VN Indoor unit FDT50VF (2 units) (kW) Cool Mode Heat Mode Indoor air temperature Indoor air temperature Outdoor Outdoo 18 DB 21 DB 23 DB 28 DB 31 DB 33 DB air temp DB 26 DB 27 DB air temp WB 12 WB 14 WB 16 WB 18 WB 19 WB 20 WB 22 WB 24 WB DB 16 18 20 22 DB TC SHC -20 5.64 5.62 5.60 | 5.58 | 5.56 11 6.48 8.82 6.90 9.56 7.20 10.06 7.07 -17.7-18 5.97 5.95 5.92 5.90 8.12 8.59 6.95 9.07 6.85 13 15.7 -16 6.30 6 64 7 12 7.08 6.27 6.25 6.22 8 50 9 00 9 26 9.52 7 02 10.06 7.38 10 60 7 25 15 -13.5 -14 6.66 6.63 6.60 6.57 8.88 6.81 9.42 7.30 9.69 7.25 9.98 7.20 10.56 7.55 11.14 7.42 7 03 17 -11.5 6.99 6.96 6.93 9.26 6.99 9.84 7.48 10.12 7.42 10.43 7.38 11.05 7.73 11.67 7.60 -12 19 9.46 7.08 10.05 7.57 10.34 7.51 10.65 7.46 11.29 7.82 11.92 7.68 -9.5 -10 7.39 7.36 7.32 7.29 21 9.65 7.17 10.25 7.65 10.56 7.60 10.88 7.56 11.52 7.90 12.16 7.77 -7.5 -8 7.75 7.72 7.68 7.64 7.80 9.65 7.17 10.28 7.66 10.59 7.62 10.91 7.57 11.56 7.92 12.21 -5.5 -6 7.92 7.88 7.85 23 7.78 25 8.93 7.25 9.64 7.16 10.31 7.68 10.62 7.63 10.95 7.58 11.61 7.94 12.27 -3.0 -4 8.10 8.05 8.01 7.97 27 8.86 7 21 9.64 7.16 10.34 7.69 10.65 7.64 10.96 7 59 11.57 7 92 -1.0 -2 8.27 8.22 8.18 8.13 29 8.80 7.18 9.50 7.10 10.17 7.62 10.49 7.58 10.81 7.53 11.45 7.88 0 8.44 8.39 8.34 8.29 1.0 31 8.73 7.15 9.35 7.03 9.99 7.54 10.32 7.51 10.66 7.47 11.32 7.83 2.0 8.52 8.47 8.42 8.37 33 8.22 6.72 8.58 7.08 9.21 6.96 9.82 7.47 10.16 7.44 10.51 7.41 11.19 7.78 3.0 2 9.08 9.03 8.98 8.94 7.39 35 8.05 6.63 8.44 7.01 9.06 6.90 9.64 10.00 7.37 10.36 7.35 11.07 7.74 5.0 4 10.21 10.15 10.09 10.08 37 7.92 6.57 8.30 6.94 8.91 6.83 9.46 7.32 9.79 7.29 10.13 7.26 10.80 7.64 7.0 6 11.33 11.27 11.20 11.22 11.23 39 7.78 6.49 8.16 6.87 8.75 6.76 9.28 7.24 9.59 7.21 9.90 7.17 10.53 7.54 9.0 8 11.78 11.71 11.64 11.62 11.59 41 7.64 6.42 8.02 6.81 8.60 6.69 9.09 7.16 9.38 7.12 9.68 7.08 10.26 7.45 11.5 12.23 | 12.16 | 12.09 | 12.02 | 11.94 10 7 50 6.35 8 91 7 09 9 18 7 04 7 00 9 99 7.35 43 7 88 6 74 8 45 6 62 9 45 13.5 12 12 91 12 83 12 75 12 65 12 60

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13.93 | 13.84 | 13.75 | 13.61 | 13.59

13.42 13.29 13.26

15.5 14 13.59 13.50

16.5 16

Heat Mode

(kW)

Model FDTC100VSPVF Indoor unit FDT50VF (2 units) Outdoor unit FDC100VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
all tomp	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.48	8.59	6.95	8.82	6.90	9.07	6.85	9.56	7.20	10.06	7.07
13					8.50	6.64	9.00	7.12	9.26	7.08	9.52	7.02	10.06	7.38	10.60	7.25
15					8.88	6.81	9.42	7.30	9.69	7.25	9.98	7.20	10.56	7.55	11.14	7.42
17					9.26	6.99	9.84	7.48	10.12	7.42	10.43	7.38	11.05	7.73	11.67	7.60
19					9.46	7.08	10.05	7.57	10.34	7.51	10.65	7.46	11.29	7.82	11.92	7.68
21					9.65	7.17	10.25	7.65	10.56	7.60	10.88	7.56	11.52	7.90	12.16	7.77
23					9.65	7.17	10.28	7.66	10.59	7.62	10.91	7.57	11.56	7.92	12.21	7.78
25			8.93	7.25	9.64	7.16	10.31	7.68	10.62	7.63	10.95	7.58	11.61	7.94	12.27	7.80
27			8.86	7.21	9.64	7.16	10.34	7.69	10.65	7.64	10.96	7.59	11.57	7.92		
29			8.80	7.18	9.50	7.10	10.17	7.62	10.49	7.58	10.81	7.53	11.45	7.88		
31			8.73	7.15	9.35	7.03	9.99	7.54	10.32	7.51	10.66	7.47	11.32	7.83		
33	8.22	6.72	8.58	7.08	9.21	6.96	9.82	7.47	10.16	7.44	10.51	7.41	11.19	7.78		
35	8.05	6.63	8.44	7.01	9.06	6.90	9.64	7.39	10.00	7.37	10.36	7.35	11.07	7.74		
37	7.92	6.57	8.30	6.94	8.91	6.83	9.46	7.32	9.79	7.29	10.13	7.26	10.80	7.64		
39	7.78	6.49	8.16	6.87	8.75	6.76	9.28	7.24	9.59	7.21	9.90	7.17	10.53	7.54		
41	7.64	6.42	8.02	6.81	8.60	6.69	9.09	7.16	9.38	7.12	9.68	7.08	10.26	7.45		
43	7.50	6.35	7.88	6.74	8.45	6.62	8.91	7.09	9.18	7.04	9.45	7.00	9.99	7.35		

Note(1) These data show average statuses

Depending on the system control, there may be ranges where the operation is not conducted continuously

These data show the case where the operation frequency of a compressor is fixed

(2) Capacities are based on the following conditions. Corresponding refrigerant piping length: 7.5m Level difference of Zero.

(3) Symbols are as follows. TC: Total cooling capacity SHC: Sensible heat capacity

(kW) Outdoor Indoor air temperature air temp DB DB WB 24 16 20 22 18 19.8 -20 5.64 5.62 5.60 5.58 5.56 177 -18 5.97 5.95 5.92 5.90 5.87 15.7 6.30 -16 6.27 6.25 6.22 6.19 13.5 -14 6.66 6.63 6.60 6.57 6.54 -11.5 -12 7.03 6.99 6.96 6.93 6.90 -9.5 7.32 7.29 7.25 -10 7.39 7.36 -7.5 -8 7.75 7.72 7.68 7.64 7.60 7.80 7.76 -5.5 -6 7.92 7.88 7.85 -3.0 8.10 8.05 8.01 7.97 7.92 -1.0 -2 8.27 8.22 8.18 8.13 8.08 8.39 8.34 8.29 8.24 1.0 0 8.44 2.0 8.52 8.47 8.42 8.32 8.37 3.0 2 9.08 9 03 | 8 98 8 94 8 90 5.0 10.21 10.15 10.09 10.08 10.07 7.0 6 11.33 | 11.27 | 11.20 | 11.22 | 11.23 11.78 11.71 11.64 11.62 11.59 9.0 8 11.5 10 12.23 12.16 12.09 12.02 11.94 13.5 12 12.91 12.83 12.75 12.65 12.60 15.5 14 13.59 13.50 | 13.42 | 13.29 | 13.26 16.5 16 13.93 13.84 13.75 13.61 13.59

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Model Cool Mo		C125\	/NPVF	= Ir	ndoor u	ınit f	FDT60	VF (2	units)	O	utdoor	unit	FDC12	25VN		(kW)	Heat	Mode					(kW)
Outdoor							Indo	or air t	emper	ature							Ou	tdoor	In	door a	ir tem	oeratui	'e
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air	temp.			DB		
an tempi	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-20	7.06	7.03	7.00	6.97	6.95
11					10.15	7.28	10.74	7.76	11.03	7.67	11.34	7.57	11.96	7.89	12.57	7.67	-17.7	' -18	7.46	7.43	7.41	7.37	7.34
13					10.63	7.48	11.26	7.96	11.57	7.87	11.91	7.78	12.58	8.09	13.25	7.86	-15.7		7.87	7.84	7.81	7.77	7.74
15					11.10	7.69	11.78	8.17	12.11	8.07	12.47	7.98	13.20	8.30	13.92	8.06	-13.5	_	8.33	8.29	8.26	8.22	8.18
17					11.58	7.90	12.29	8.37	12.65	8.28	13.04	8.19	13.82	8.51	14.59	8.26	-11.5	_	8.78	8.74	8.70	8.66	8.62
19					11.82	8.01	12.56		12.92	8.39	13.32		14.11	8.61	14.90	8.36	-9.5	-10	9.24	9.19	9.15	9.11	9.06
21					12.06	8.11	12.82	8.59	13.19	8.49	13.60	8.40	14.40	8.71	15.20	8.45	-7.5	_	9.69	9.65	9.60	9.55	9.50
23					12.06	8.11	12.85		13.23	8.51	13.64	8.42	14.45	8.72	15.27	8.48	-5.5		9.91	9.86	9.81	9.75	9.70
25			11.16	8.26	12.06	8.11	12.89	8.62	13.27	8.53	13.68	8.43	14.51	8.74	15.34	8.50	-3.0	_	10.12	10.07	10.01	9.96	9.90
27			11.08	8.22	12.05	8.11	12.92	8.63	13.31	8.54	13.69	8.44	_	8.73			-1.0	-2	10.33	10.28	_	10.16	
29			11.00	8.18	11.87	8.03	12.71	8.55	13.11	8.46	13.51	8.37	14.31	8.67			1.0	0	10.55			10.36	
31			10.92	8.15	11.69	7.95	12.49	8.46	12.90	8.38	13.32	8.30	14.15	8.62			2.0	1	10.65	10.59	10.53	10.47	10.40
33	10.27	7.71	10.72	8.05	11.51	7.87	12.27	8.37	12.70	8.30	13.13	8.22	13.99	8.56			3.0	2	11.36	11.29	11.22	11.18	11.13
35	10.07	7.61	10.55	7.97	11.33	7.79	12.06	8.28	12.50	8.22	12.94	8.15	13.83	8.51			5.0	4	12.76	12.69	12.61	12.60	12.58
37	9.90	7.52	10.38	7.89	11.13	7.70	11.83	8.19	12.24	8.12	12.66	8.05	13.50	8.40			7.0	6	14.16	14.08	14.00	14.02	14.04
39	9.72	7.43	10.20	7.81	10.94	7.62	11.60	8.09	11.99	8.03	12.38	7.95	13.16	8.28			9.0	8	14.72	14.64	14.56	14.52	14.49
41	9.55	7.35	10.02	7.72	10.75	7.54	11.37	8.00	11.73	7.93	12.09	7.84	12.82	8.17			11.5	10	15.28	15.20	15.11	15.02	14.93
43	9.38	7.26	9.85	7.64	10.56	7.45	11.14	7.91	11.47	7.83	11.81	7.74	12.48	8.06			13.5	12	16.13	16.04	15.94	15.82	15.75
																	15.5	14	16.98	16.88	16.77	16.62	16.58
																	16.5	16	17.41	17.30	17.19	17.02	16.99

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Model FDTC125VSPVF Indoor unit FDT60VF (2 units) Outdoor unit FDC125VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
a tomp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.15	7.28	10.74	7.76	11.03	7.67	11.34	7.57	11.96	7.89	12.57	7.67
13					10.63	7.48	11.26	7.96	11.57	7.87	11.91	7.78	12.58	8.09	13.25	7.86
15					11.10	7.69	11.78	8.17	12.11	8.07	12.47	7.98	13.20	8.30	13.92	8.06
17					11.58	7.90	12.29	8.37	12.65	8.28	13.04	8.19	13.82	8.51	14.59	8.26
19					11.82	8.01	12.56	8.48	12.92	8.39	13.32	8.30	14.11	8.61	14.90	8.36
21					12.06	8.11	12.82	8.59	13.19	8.49	13.60	8.40	14.40	8.71	15.20	8.45
23					12.06	8.11	12.85	8.61	13.23	8.51	13.64	8.42	14.45	8.72	15.27	8.48
25			11.16	8.26	12.06	8.11	12.89	8.62	13.27	8.53	13.68	8.43	14.51	8.74	15.34	8.50
27			11.08	8.22	12.05	8.11	12.92	8.63	13.31	8.54	13.69	8.44	14.47	8.73		
29			11.00	8.18	11.87	8.03	12.71	8.55	13.11	8.46	13.51	8.37	14.31	8.67		
31			10.92	8.15	11.69	7.95	12.49	8.46	12.90	8.38	13.32	8.30	14.15	8.62		
33	10.27	7.71	10.72	8.05	11.51	7.87	12.27	8.37	12.70	8.30	13.13	8.22	13.99	8.56		
35	10.07	7.61	10.55	7.97	11.33	7.79	12.06	8.28	12.50	8.22	12.94	8.15	13.83	8.51		
37	9.90	7.52	10.38	7.89	11.13	7.70	11.83	8.19	12.24	8.12	12.66	8.05	13.50	8.40		
39	9.72	7.43	10.20	7.81	10.94	7.62	11.60	8.09	11.99	8.03	12.38	7.95	13.16	8.28		
41	9.55	7.35	10.02	7.72	10.75	7.54	11.37	8.00	11.73	7.93	12.09	7.84	12.82	8.17		
43	9.38	7.26	9.85	7.64	10.56	7.45	11.14	7.91	11.47	7.83	11.81	7.74	12.48	8.06		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

(kW)		Heat I	Mode					(kW)
	П	Out	door	In	door a	ir tem	oeratu	re
DB	Ш	air te	emp.			DB		
WB	П	DB	WB	16	18	20	22	24
SHC	П	-19.8	-20	7.06	7.03	7.00	6.97	6.95
7.67	П	-17.7	-18	7.46	7.43	7.41	7.37	7.34
7.86	П	-15.7	-16	7.87	7.84	7.81	7.77	7.74
8.06	П	-13.5	-14	8.33	8.29	8.26	8.22	8.18
8.26	П	-11.5	-12	8.78	8.74	8.70	8.66	8.62
8.36	П	-9.5	-10	9.24	9.19	9.15	9.11	9.06
8.45	П	-7.5	-8	9.69	9.65	9.60	9.55	9.50
8.48	П	-5.5	-6	9.91	9.86	9.81	9.75	9.70
8.50	П	-3.0	-4	10.12	10.07	10.01	9.96	9.90
	П	-1.0	-2	10.33	10.28	10.22	10.16	10.10
	П	1.0	0	10.55	10.49	10.43	10.36	10.30
	П	2.0	1	10.65	10.59	10.53	10.47	10.40
	П	3.0	2	11.36	11.29	11.22	11.18	11.13
	П	5.0	4	12.76	12.69	12.61	12.60	12.58
	П	7.0	6	14.16	14.08	14.00	14.02	14.04
	П	9.0	8	14.72	14.64	14.56	14.52	14.49
	П	11.5	10	15.28	15.20	15.11	15.02	14.93
		13.5	12	16.13	16.04	15.94	15.82	15.75
		15.5	14	16.98	16.88	16.77	16.62	16.58
		16.5	16	17.41	17.30	17.19	17.02	16.99

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(c) Triple type

Model FDTC140VNTVF Indoor unit FDT50VF (3 units) Outdoor unit FDC140VN Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tomp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	9.36	12.02	10.08	12.35	10.01	12.70	9.94	13.39	10.47	14.08	10.29
13					11.90	9.59	12.61	10.32	12.96	10.25	13.33	10.17	14.09	10.71	14.84	10.53
15					12.43	9.82	13.19	10.56	13.57	10.49	13.97	10.42	14.78	10.96	15.59	10.77
17					12.96	10.06	13.77	10.80	14.17	10.73	14.61	10.66	15.48	11.20	16.34	11.01
19					13.24	10.19	14.06	10.92	14.48	10.85	14.92	10.78	15.80	11.32	16.68	11.13
21					13.51	10.31	14.36	11.04	14.78	10.97	15.23	10.90	16.12	11.43	17.02	11.24
23					13.51	10.31	14.40	11.06	14.82	10.99	15.28	10.92	16.19	11.46	17.10	11.27
25			12.50	10.44	13.50	10.30	14.43	11.07	14.86	11.00	15.33	10.94	16.25	11.48	17.18	11.29
27			12.41	10.39	13.50	10.30	14.47	11.09	14.91	11.02	15.34	10.95	16.20	11.46		
29			12.32	10.35	13.29	10.21	14.23	10.99	14.68	10.93	15.13	10.86	16.02	11.40		
31			12.23	10.31	13.09	10.12	13.99	10.89	14.45	10.84	14.92	10.78	15.85	11.34		
33	11.51	9.66	12.01	10.20	12.89	10.03	13.75	10.79	14.23	10.75	14.71	10.70	15.67	11.27		
35	11.28	9.54	11.82	10.11	12.68	9.94	13.50	10.68	14.00	10.66	14.50	10.62	15.49	11.21		
37	11.08	9.44	11.62	10.02	12.47	9.84	13.25	10.58	13.71	10.54	14.18	10.50	15.12	11.08		
39	10.89	9.34	11.43	9.93	12.26	9.75	12.99	10.47	13.43	10.43	13.86	10.37	14.74	10.94		
41	10.70	9.25	11.23	9.83	12.04	9.65	12.73	10.37	13.14	10.32	13.55	10.26	14.36	10.81		
43	10.51	9.15	11.03	9.74	11.83	9.56	12.47	10.26	12.85	10.20	13.23	10.14	13.98	10.68		

(kW)	Heat I	Mode					(kW)
	Out	door	In	door a	ir tem	oeratui	e
DB	air te	emp.			DB		
WB	DB	WB	16	18	20	22	24
SHC	-19.8	-20	8.06	8.03	8.00	7.97	7.94
10.29	-17.7	-18	8.53	8.50	8.46	8.43	8.39
10.53	-15.7	-16	9.00	8.96	8.92	8.88	8.85
10.77	-13.5	-14	9.52	9.48	9.43	9.39	9.35
11.01	-11.5	-12	10.04	9.99	9.95	9.90	9.85
11.13	-9.5	-10	10.56	10.51	10.46	10.41	10.36
11.24	-7.5	-8	11.08	11.02	10.97	10.91	10.86
11.27	-5.5	-6	11.32	11.26	11.21	11.15	11.09
11.29	-3.0	-4	11.56	11.50	11.44	11.38	11.31
	-1.0	-2	11.81	11.75	11.68	11.61	11.54
	1.0	0	12.05	11.99	11.92	11.84	11.77
	2.0	1	12.18	12.11	12.04	11.96	11.89
	3.0	2	12.98	12.90	12.83	12.77	12.72
	5.0	4	14.58	14.50	14.41	14.40	14.38
	7.0	6	16.19	16.09	16.00	16.02	16.05
	9.0	8	16.83	16.73	16.63	16.59	16.55
	11.5	10	17.46	17.37	17.27	17.17	17.06
	13.5	12	18.44	18.33	18.22	18.08	18.00
	15.5	14	19.41	19.29	19.17	18.99	18.95
	16.5	16	19.90	19.77	19.64	19.45	19.42

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Model FDTC140VSTVF Indoor unit FDT50VF (3 units) Outdoor unit FDC140VS Cool Mode

COOI IVII	oue															(KVV)
Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tomp.	12 \	ИB	14	WB	16 \	WB	18	WB	19	WB	20 \	WB	22 \	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	9.36	12.02	10.08	12.35	10.01	12.70	9.94	13.39	10.47	14.08	10.29
13					11.90	9.59	12.61	10.32	12.96	10.25	13.33	10.17	14.09	10.71	14.84	10.53
15					12.43	9.82	13.19	10.56	13.57	10.49	13.97	10.42	14.78	10.96	15.59	10.77
17					12.96	10.06	13.77	10.80	14.17	10.73	14.61	10.66	15.48	11.20	16.34	11.01
19					13.24	10.19	14.06	10.92	14.48	10.85	14.92	10.78	15.80	11.32	16.68	11.13
21					13.51	10.31	14.36	11.04	14.78	10.97	15.23	10.90	16.12	11.43	17.02	11.24
23					13.51	10.31	14.40	11.06	14.82	10.99	15.28	10.92	16.19	11.46	17.10	11.27
25			12.50	10.44	13.50	10.30	14.43	11.07	14.86	11.00	15.33	10.94	16.25	11.48	17.18	11.29
27			12.41	10.39	13.50	10.30	14.47	11.09	14.91	11.02	15.34	10.95	16.20	11.46		
29			12.32	10.35	13.29	10.21	14.23	10.99	14.68	10.93	15.13	10.86	16.02	11.40		
31			12.23	10.31	13.09	10.12	13.99	10.89	14.45	10.84	14.92	10.78	15.85	11.34		
33	11.51	9.66	12.01	10.20	12.89	10.03	13.75	10.79	14.23	10.75	14.71	10.70	15.67	11.27		
35	11.28	9.54	11.82	10.11	12.68	9.94	13.50	10.68	14.00	10.66	14.50	10.62	15.49	11.21		
37	11.08	9.44	11.62	10.02	12.47	9.84	13.25	10.58	13.71	10.54	14.18	10.50	15.12	11.08		
39	10.89	9.34	11.43	9.93	12.26	9.75	12.99	10.47	13.43	10.43	13.86	10.37	14.74	10.94		
41	10.70	9.25	11.23	9.83	12.04	9.65	12.73	10.37	13.14	10.32	13.55	10.26	14.36	10.81		
43	10.51	9.15	11.03	9.74	11.83	9.56	12.47	10.26	12.85	10.20	13.23	10.14	13.98	10.68		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length: 7.5m

Level difference of Zero.
(3) Symbols are as follows.

Symbols are as follows. TC: Total cooling capacity SHC: Sensible heat capacity (kW) Heat Mode (kW) Outdoor Indoor air temperature air temp. DB DB WB 16 18 20 22 24 -19.8 -20 8.06 8.03 8.00 7.97 7.94 -17.7 -18 8.53 8.50 8.46 8.43 8.39 -15.7 -16 9.00 8.96 8.92 8.88 8.85 -13.5 -14 9.52 9.48 9.43 9.39 9.35 -11.5 -12 10.04 9.99 9.95 9.90 9.85 -9.5 -10 10.56 10.51 10.46 10.41 10.36 -7.5 11.08 11.02 10.97 10.91 10.86 -8 -5.5 -6 | 11.32 | 11.26 | 11.21 | 11.15 | 11.09 -3.0 11.56 11.50 11.44 11.38 11.31 -4 -1.0 -2 11.81 11.75 11.68 11.61 11.54 1.0 0 12.05 11.99 11.92 11.84 11.77 2.0 12.18 12.11 12.04 11.96 11.89 3.0 2 12.98 | 12.90 | 12.83 | 12.77 | 12.72 5.0 4 14.58 14.50 14.41 14.40 14.38 7.0 6 16.19 16.09 16.00 16.02 16.05 9.0 8 16.83 | 16.73 | 16.63 | 16.59 | 16.55 17.46 17.37 17.27 17.17 17.06 11.5 10 13.5 12 18.44 18.33 18.22 18.08 18.00 19.41 19.29 19.17 18.99 18.95 14 15.5 16.5 16 19.90 19.77 19.64 19.45 19.42

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(c) Double twin type

Model FDTC200VSDVF Indoor unit FDT50VF (4 units) Outdoor unit FDC200VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tempi	12	WB	14 \	WB	16 \	WB	18	WB	19 \	WB	20 \	ΝB	22 \	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					17.37	13.45	18.41	14.42	18.94	14.32	19.50	14.22	20.63	14.93	21.76	14.68
13					17.90	13.69	18.99	14.66	19.54	14.56	20.13	14.47	21.31	15.18	22.49	14.92
15					18.43	13.93	19.57	14.90	20.14	14.81	20.75	14.71	21.98	15.42	23.21	15.16
17					18.96	14.18	20.14	15.15	20.73	15.05	21.38	14.96	22.66	15.67	23.94	15.40
19					19.35	14.36	20.56	15.33	21.16	15.23	21.81	15.13	23.12	15.84	24.42	15.57
21					19.41	14.38	20.98	15.51	21.59	15.41	22.25	15.31	23.57	16.01	24.89	15.73
23					19.31	14.34	20.86	15.46	21.47	15.36	22.12	15.26	23.43	15.95	24.73	15.67
25			17.35	14.25	19.20	14.29	20.74	15.41	21.35	15.31	21.99	15.20	23.28	15.90	24.57	15.62
27			17.28	14.21	19.10	14.24	20.62	15.35	21.22	15.25	21.83	15.14	23.04	15.81		
29			17.14	14.14	18.85	14.13	20.31	15.22	20.92	15.13	21.53	15.02	22.75	15.70		
31			16.99	14.07	18.59	14.01	20.00	15.09	20.61	15.00	21.22	14.90	22.45	15.59		
33	16.46	13.45	17.03	14.09	18.33	13.89	19.69	14.96	20.31	14.88	20.92	14.78	22.15	15.48		
35	16.14	13.29	16.76	13.96	18.08	13.77	19.38	14.82	20.00	14.75	20.62	14.66	21.85	15.37		
37	15.86	13.14	16.50	13.83	17.76	13.63	18.98	14.66	19.57	14.57	20.17	14.48	21.35	15.19		
39	15.59	13.00	16.23	13.71	17.44	13.49	18.58	14.49	19.15	14.40	19.71	14.30	20.85	15.01		
41	15.32	12.86	15.97	13.58	17.13	13.35	18.17	14.32	18.72	14.23	19.26	14.13	20.35	14.83		
43	15.04	12.72	15.70	13.45	16.81	13.20	17.77	14.15	18.29	14.06	18.81	13.96	19.85	14.66		

(kW)	 Heat I	Mode					(kW)
	Out	door	In	door a	ir tem	oeratui	e
DB	air te	emp.			DB		
NΒ	DB	WB	16	18	20	22	24
SHC	-19.8	-20					
14.68	-17.7	-18					
14.92	-15.7	-16					
15.16	-13.5	-14	13.21	13.18	13.14	13.11	13.08
15.40	-11.5	-12	13.91	13.87	13.83	13.79	13.76
15.57	-9.5	-10	14.61	14.57	14.52	14.47	14.43
15.73	-7.5	-8	15.31	15.26	15.21	15.16	15.10
15.67	-5.5	-6	15.64	15.58	15.52	15.46	15.40
15.62	-3.0	-4	15.96	15.89	15.82	15.76	15.69
	-1.0	-2	16.29	16.21	16.13	16.06	15.98
	1.0	0	16.61	16.53	16.44	16.36	16.28
	2.0	1	16.78	16.69	16.59	16.51	16.42
	3.0	2	17.96	17.86	17.76	17.66	17.56
	5.0	4	20.33	20.21	20.08	19.96	19.84
	7.0	6	22.71	22.55	22.40	22.26	22.12
	9.0	8	23.43	23.28	23.13	22.88	22.63
	11.5	10	24.14	24.00	23.86	23.50	23.13
	13.5	12	25.41	25.24	25.07	24.77	24.43
	15.5	14	26.67	26.47	26.27	26.05	25.72
	16.5	16	27.30	27.09	26.87	26.69	26.37

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Indoor air temperature

(kW)

Model FDTC250VSDVF Indoor unit FDT60VF (4 units) Outdoor unit FDC250VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tomp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					21.71	15.16	23.02	16.12	23.67	15.93	24.38	15.75	25.79	16.39	27.21	15.94
13					22.38	15.45	23.74	16.41	24.42	16.22	25.16	16.04	26.63	16.67	28.11	16.20
15					23.04	15.75	24.46	16.70	25.17	16.51	25.94	16.33	27.48	16.96	29.02	16.48
17					23.70	16.04	25.18	16.99	25.92	16.81	26.72	16.62	28.32	17.25	29.92	16.76
19					24.19	16.26	25.70	17.21	26.45	17.02	27.27	16.83	28.89	17.44	30.52	16.94
21					24.26	16.29	26.22	17.43	26.99	17.23	27.82	17.04	29.47	17.65	31.12	17.13
23					24.13	16.23	26.07	17.37	26.84	17.17	27.65	16.98	29.28	17.58	30.91	17.07
25			21.69	16.22	24.00	16.17	25.92	17.30	26.68	17.11	27.49	16.92	29.10	17.52	30.71	17.00
27			21.60	16.18	23.88	16.12	25.77	17.24	26.53	17.05	27.29	16.84	28.80	17.41		
29			21.42	16.09	23.56	15.98	25.39	17.08	26.15	16.90	26.91	16.69	28.43	17.28		
31			21.24	16.01	23.24	15.83	25.00	16.92	25.77	16.75	26.53	16.55	28.06	17.16		
33	20.58	15.44	21.29	16.03	22.92	15.69	24.61	16.76	25.38	16.59	26.15	16.41	27.69	17.03		
35	20.17	15.23	20.96	15.87	22.60	15.55	24.23	16.60	25.00	16.44	25.77	16.26	27.31	16.90		
37	19.83	15.06	20.62	15.71	22.20	15.38	23.73	16.40	24.47	16.24	25.21	16.06	26.69	16.69		
39	19.49	14.89	20.29	15.56	21.80	15.20	23.22	16.20	23.93	16.03	24.64	15.85	26.06	16.48		
41	19.15	14.72	19.96	15.41	21.41	15.03	22.72	16.00	23.40	15.83	24.08	15.65	25.43	16.28		
43	18.81	14.55	19.63	15.26	21.01	14.86	22.22	15.80	22.86	15.63	23.51	15.44	24.81	16.07		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed. (2) Capacities are based on the following conditions. Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

air temp. DB DB WB 16 18 20 22 24 -19.8 -20 -17.7 -18 -15.7 -16 -13.5 -14 16.52 | 16.47 | 16.43 | 16.39 | 16.35 -11.5 -12 17.39 17.34 17.29 17.24 17.19 -9.5 -10 18.26 18.21 18.15 18.09 18.04 -7.5 -8 19.14 | 19.07 | 19.01 | 18.94 | 18.88 -5.5 19.55 19.47 19.40 19.32 19.24 -6 -3.0 -4 19.95 19.87 19.78 19.70 19.61 -2 20.36 20.26 20.17 20.07 19.98 -1.0 1.0 20.77 20.66 20.55 20.45 20.35 20.97 20.86 20.74 20.64 20.53 2.0 3.0 22.45 22.32 22.19 22.07 21.95 5.0 4 25.42 25.26 25.10 24.95 24.80 7.0 6 28.38 28.19 28.00 27.82 27.65 9.0 8 29.28 29.10 28.91 28.60 28.28 11.5 10 30.18 30.00 29.83 29.37 28.91 13.5 12 31.76 31.55 31.33 30.97 30.53 14 33.34 33.09 32.84 32.57 32.15 34.13 33.86 33.59 33.37 32.96 16.5 16

(kW) Heat Mode

Outdoor

PJA003Z383

(1/1/1)

(3) Ceiling susponded type (FDEN) (a) Single type

Model FDEN100VNVF Indoor unit FDEN100VF Outdoor unit FDC100VN
Cool Mode (kW) Heat Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
all tomp	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.86	8.59	7.42	8.82	7.35	9.07	7.30	9.56	7.71	10.06	7.56
13					8.50	7.02	9.00	7.57	9.26	7.52	9.52	7.45	10.06	7.87	10.60	7.72
15					8.88	7.18	9.42	7.74	9.69	7.68	9.98	7.62	10.56	8.03	11.14	7.88
17					9.26	7.34	9.84	7.90	10.12	7.84	10.43	7.78	11.05	8.19	11.67	8.04
19					9.46	7.42	10.05	7.98	10.34	7.92	10.65	7.86	11.29	8.27	11.92	8.12
21					9.65	7.51	10.25	8.06	10.56	8.01	10.88	7.95	11.52	8.35	12.16	8.19
23					9.65	7.51	10.28	8.08	10.59	8.02	10.91	7.96	11.56	8.37	12.21	8.21
25			8.93	7.63	9.64	7.50	10.31	8.09	10.62	8.03	10.95	7.97	11.61	8.38	12.27	8.23
27			8.86	7.59	9.64	7.50	10.34	8.10	10.65	8.04	10.96	7.98	11.57	8.37		
29			8.80	7.57	9.50	7.44	10.17	8.03	10.49	7.98	10.81	7.92	11.45	8.33		
31			8.73	7.53	9.35	7.38	9.99	7.96	10.32	7.91	10.66	7.87	11.32	8.28		
33	8.22	7.04	8.58	7.47	9.21	7.32	9.82	7.89	10.16	7.85	10.51	7.81	11.19	8.24		
35	8.05	6.96	8.44	7.40	9.06	7.25	9.64	7.82	10.00	7.79	10.36	7.76	11.07	8.20		
37	7.92	6.90	8.30	7.34	8.91	7.19	9.46	7.75	9.79	7.71	10.13	7.67	10.80	8.11		
39	7.78	6.83	8.16	7.28	8.75	7.12	9.28	7.68	9.59	7.64	9.90	7.59	10.53	8.02		
41	7.64	6.76	8.02	7.21	8.60	7.06	9.09	7.61	9.38	7.56	9.68	7.51	10.26	7.93		
43	7.50	6.69	7.88	7.15	8.45	7.00	8.91	7.54	9.18	7.49	9.45	7.43	9.99	7.84		

Heat I	vioae					(KVV)
Out	door	In	door a	ir tem	oeratu	re
air te	emp.			DB		
DB	WB	16	18	20	22	24
-19.8	-20	5.64	5.62	5.60	5.58	5.56
-17.7	-18	5.97	5.95	5.92	5.90	5.87
-15.7	-16	6.30	6.27	6.25	6.22	6.19
-13.5	-14	6.66	6.63	6.60	6.57	6.54
-11.5	-12	7.03	6.99	6.96	6.93	6.90
-9.5	-10	7.39	7.36	7.32	7.29	7.25
-7.5	-8	7.75	7.72	7.68	7.64	7.60
-5.5	-6	7.92	7.88	7.85	7.80	7.76
-3.0	-4	8.10	8.05	8.01	7.97	7.92
-1.0	-2	8.27	8.22	8.18	8.13	8.08
1.0	0	8.44	8.39	8.34	8.29	8.24
2.0	1	8.52	8.47	8.42	8.37	8.32
3.0	2	9.08	9.03	8.98	8.94	8.90
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59

PFA003Z924 🛕

(kW)

Model FDEN100VSVF Indoor unit FDEN100VF Outdoor unit FDC100VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18 E)B	21 🛭)B	23 🛚)B	26 E)B	27 D)B	28 D)B	31 E)B	33 E)B
a tomp	12 V	٧B	14 V	/B	16 V	/B	18 V	/B	19 W	/B	20 W	/B	22 V	/B	24 W	/B
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.86	8.59	7.42	8.82	7.35	9.07	7.30	9.56	7.71	10.06	7.56
13					8.50	7.02	9.00	7.57	9.26	7.52	9.52	7.45	10.06	7.87	10.60	7.72
15					8.88	7.18	9.42	7.74	9.69	7.68	9.98	7.62	10.56	8.03	11.14	7.88
17					9.26	7.34	9.84	7.90	10.12	7.84	10.43	7.78	11.05	8.19	11.67	8.04
19					9.46	7.42	10.05	7.98	10.34	7.92	10.65	7.86	11.29	8.27	11.92	8.12
21					9.65	7.51	10.25	8.06	10.56	8.01	10.88	7.95	11.52	8.35	12.16	8.19
23					9.65	7.51	10.28	8.08	10.59	8.02	10.91	7.96	11.56	8.37	12.21	8.21
25			8.93	7.63	9.64	7.50	10.31	8.09	10.62	8.03	10.95	7.97	11.61	8.38	12.27	8.23
27			8.86	7.59	9.64	7.50	10.34	8.10	10.65	8.04	10.96	7.98	11.57	8.37		
29			8.80	7.57	9.50	7.44	10.17	8.03	10.49	7.98	10.81	7.92	11.45	8.33		
31			8.73	7.53	9.35	7.38	9.99	7.96	10.32	7.91	10.66	7.87	11.32	8.28		
33	8.22	7.04	8.58	7.47	9.21	7.32	9.82	7.89	10.16	7.85	10.51	7.81	11.19	8.24		
35	8.05	6.96	8.44	7.40	9.06	7.25	9.64	7.82	10.00	7.79	10.36	7.76	11.07	8.20		
37	7.92	6.90	8.30	7.34	8.91	7.19	9.46	7.75	9.79	7.71	10.13	7.67	10.80	8.11		
39	7.78	6.83	8.16	7.28	8.75	7.12	9.28	7.68	9.59	7.64	9.90	7.59	10.53	8.02		
41	7.64	6.76	8.02	7.21	8.60	7.06	9.09	7.61	9.38	7.56	9.68	7.51	10.26	7.93		
43	7.50	6.69	7.88	7.15	8.45	7.00	8.91	7.54	9.18	7.49	9.45	7.43	9.99	7.84		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously

These data show the case where the operation frequency of a compressor is fixed. (2) Capacities are based on the following conditions.

 Capacities are based on the following condition Corresponding refrigerant piping length: 7.5m Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

Outdoor Indoor air temperature air temp. DB DB WB 24 16 18 20 -19.8 -20 5.64 5.62 5.60 5.58 5.56 -17.7 5.90 -18 5.97 5.95 5.92 5.87 6.22 -15.7 -16 6.30 6.27 6.25 6.19 -13.5 -14 6.66 6.63 6.60 6.57 6.54 -11.5 7.03 6.99 6.96 6.90 -12 6.93 -9.5 -10 7.39 7.36 7.32 7.29 7.25 -7.5 -8 7.75 7.72 7.68 7.64 7.60 -5.5 -6 7.92 7.88 7.85 7.80 7.76 -3.0 -4 8.10 8.05 8.01 7.97 7.92 8.27 | 8.22 | 8.18 8.08 -1.0 -2 8.13 8.44 8.39 8.34 8.24 2.0 1 8.52 | 8.47 | 8.42 8.37 8.32 3.0 9.08 9.03 8.98 8.94 8.90 5.0 10.21 | 10.15 | 10.09 | 10.08 | 10.07 11.33 11.27 11.20 11.22 11.23 7.0 9.0 11.78 11.71 11.64 11.62 11.59 12.23 | 12.16 | 12.09 | 12.02 | 11.94 11.5 12.91 12.83 12.75 12.65 12.60 13.5 12 15.5 14 13.59 | 13.50 | 13.42 | 13.29 | 13.26 16.5 16 | 13.93 | 13.84 | 13.75 | 13.61 | 13.59

(kW) Heat Mode

PFA003Z924 🛕

Model Cool Mo		\125\	/NVF	Ind	loor un	it FC	DEN12	5VF	Out	door u	ınit F	DC12	5VN			(kW)	Н	leat N	/lode					(kW)
0.11							Indoo	or air t	emper	ature							Γ	Outo	loor	ln	door a	ir tem	oeratur	re
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	ı	air te	mp.			DB		
an temp.	12 '	WB	14 \	WB	16 \	ΝB	18 \	ΝB	19	WB	20	WB	22 '	WB	24	WB	Г	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	Ŀ	19.8	-20	7.06	7.03	7.00	6.97	6.95
11					10.15	7.66	10.74	8.23	11.03	8.12	11.34	8.01	11.96	8.40	12.57	8.15	-	17.7	-18	7.46	7.43	7.41	7.37	7.34
13					10.63	7.85	11.26	8.41	11.57	8.30	11.91	8.19	12.58	8.58	13.25	8.31	Ŀ	15.7	-16	7.87	7.84	7.81	7.77	7.74
15					11.10	8.03	11.78	8.59	12.11	8.48	12.47	8.37	13.20	8.75	13.92	8.48	Ŀ	13.5	-14	8.33	8.29	8.26	8.22	8.18
17					11.58	8.22	12.29	8.78	12.65	8.67	13.04	8.56	13.82	8.93	14.59	8.66	Ŀ	11.5	-12	8.78	8.74	8.70	8.66	8.62
19					11.82	8.32	12.56	8.88	12.92	8.76	13.32	8.65	14.11	9.02	14.90	8.74	Ŀ	-9.5	-10	9.24	9.19	9.15	9.11	9.06
21					12.06	8.41	12.82	8.97	13.19	8.86	13.60	8.74	14.40	9.11	15.20	8.82	Ŀ	-7.5	-8	9.69	9.65	9.60	9.55	9.50
23					12.06	8.41	12.85	8.98	13.23	8.87	13.64	8.76	14.45	9.12	15.27	8.84	Ŀ	-5.5	-6	9.91	9.86	9.81	9.75	9.70
25			11.16	8.63	12.06	8.41	12.89	9.00	13.27	8.88	13.68	8.77	14.51	9.14	15.34	8.86	Ŀ	-3.0	-4	10.12	10.07	10.01	9.96	9.90
27			11.08	8.59	12.05	8.41	12.92	9.01	13.31	8.90	13.69	8.77	14.47	9.13			Ŀ	-1.0	-2	10.33	10.28	10.22	10.16	10.10
29			11.00	8.56	11.87	8.34	12.71	8.93	13.11	8.83	13.51	8.71	14.31	9.08			L	1.0	0	10.55	10.49	10.43	10.36	10.30
31			10.92	8.52	11.69	8.26	12.49	8.85	12.90	8.75	13.32	8.65	14.15	9.03			L	2.0	1	10.65	10.59	10.53	10.47	10.40
33	10.27	8.02	10.72	8.43	11.51	8.19	12.27	8.77	12.70	8.68	13.13	8.59	13.99	8.98			L	3.0	2	11.36	11.29	11.22	11.18	11.13
35	10.07	7.92	10.55	8.36	11.33	8.12	12.06	8.69	12.50	8.61	12.94	8.52	13.83	8.94			L	5.0	4	12.76	12.69	12.61	12.60	12.58
37	9.90	7.84	10.38	8.29	11.13	8.04	11.83	8.61	12.24	8.53	12.66	8.43	13.50	8.84			L	7.0	6	14.16	14.08	14.00	14.02	14.04
39	9.72	7.76	10.20	8.21	10.94	7.97	11.60	8.53	11.99	8.44	12.38	8.34	13.16	8.74			L	9.0	8	14.72	14.64	14.56	14.52	14.49
41	9.55	7.68	10.02	8.13	10.75	7.89	11.37	8.45	11.73	8.35	12.09	8.25	12.82	8.64			Ŀ	11.5	10	15.28	15.20	15.11	15.02	14.93
43	9.38	7.60	9.85	8.06	10.56	7.82	11.14	8.37	11.47	8.27	11.81	8.16	12.48	8.55			Ŀ	13.5	12	16.13	16.04	15.94	15.82	15.75
																	Ŀ	15.5	14	16.98	16.88	16.77	16.62	16.58
																	Ŀ	16.5	16	17.41	17.30	17.19	17.02	16.99

PFA003Z924

Model	FDEN125VSVF	Indoor unit	FDEN125VF	Outdoor unit	FDC125VS
Cool M	ode				

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tompi	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.15	7.66	10.74	8.23	11.03	8.12	11.34	8.01	11.96	8.40	12.57	8.15
13					10.63	7.85	11.26	8.41	11.57	8.30	11.91	8.19	12.58	8.58	13.25	8.31
15					11.10	8.03	11.78	8.59	12.11	8.48	12.47	8.37	13.20	8.75	13.92	8.48
17					11.58	8.22	12.29	8.78	12.65	8.67	13.04	8.56	13.82	8.93	14.59	8.66
19					11.82	8.32	12.56	8.88	12.92	8.76	13.32	8.65	14.11	9.02	14.90	8.74
21					12.06	8.41	12.82	8.97	13.19	8.86	13.60	8.74	14.40	9.11	15.20	8.82
23					12.06	8.41	12.85	8.98	13.23	8.87	13.64	8.76	14.45	9.12	15.27	8.84
25			11.16	8.63	12.06	8.41	12.89	9.00	13.27	8.88	13.68	8.77	14.51	9.14	15.34	8.86
27			11.08	8.59	12.05	8.41	12.92	9.01	13.31	8.90	13.69	8.77	14.47	9.13		
29			11.00	8.56	11.87	8.34	12.71	8.93	13.11	8.83	13.51	8.71	14.31	9.08		
31			10.92	8.52	11.69	8.26	12.49	8.85	12.90	8.75	13.32	8.65	14.15	9.03		
33	10.27	8.02	10.72	8.43	11.51	8.19	12.27	8.77	12.70	8.68	13.13	8.59	13.99	8.98		
35	10.07	7.92	10.55	8.36	11.33	8.12	12.06	8.69	12.50	8.61	12.94	8.52	13.83	8.94		
37	9.90	7.84	10.38	8.29	11.13	8.04	11.83	8.61	12.24	8.53	12.66	8.43	13.50	8.84		
39	9.72	7.76	10.20	8.21	10.94	7.97	11.60	8.53	11.99	8.44	12.38	8.34	13.16	8.74		
41	9.55	7.68	10.02	8.13	10.75	7.89	11.37	8.45	11.73	8.35	12.09	8.25	12.82	8.64		
43	9.38	7.60	9.85	8.06	10.56	7.82	11.14	8.37	11.47	8.27	11.81	8.16	12.48	8.55		

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

(kW) Heat Mode (kW) Indoor air temperature Outdoor air temp. DB WB 16 18 20 22 24 -19.8 -20 7.06 7.03 7.00 6.97 6.95 -17.7 -18 7.46 7.43 7.41 7.37 7.34 -15.7 -16 7.87 7.84 7.81 7.77 7.74 -13.5 -14 8.33 8.29 8.26 8.22 8.18 -11.5 -12 8.78 8 74 8.70 8 66 8.62 -9.5 9.11 9.06 -10 9.24 9.19 9.15 -7.5 -8 9.69 9.65 9.60 9.55 9.50 9.75 -5.5 -6 9.91 9.86 9.81 9.70 -3.0 10.12 10.07 10.01 9.96 9.90 -1.0 -2 10.28 10.22 10.16 10.10 10.33 0 10.55 10.49 10.43 10.36 10.30 1.0 2.0 10.65 | 10.59 | 10.53 | 10.47 | 10.40 11.36 11.29 11.22 11.18 11.13 3.0 2 5.0 4 12.76 12.69 12.61 12.60 12.58 7.0 6 14.16 14.08 14.00 14.02 14.04 9.0 8 14.72 14.64 14.56 14.52 14.49 11.5 10 15.28 | 15.20 | 15.11 | 15.02 | 14.93 16.13 | 16.04 | 15.94 | 15.82 | 15.75 13.5 12 15.5 14 16.98 16.88 16.77 16.62 16.58 17.41 17.30 17.19 17.02 16.99 16.5 16

PFA003Z924

Model		N140\	/NVF	Inc	door ur	nit F	DEN14	0VF	Out	tdoor ι	unit F	DC14	0VN			(1.140)			
Cool M	ode															(kW)	Heat	Mode	
Outdoor							Indo	or air t	emper	ature								door	In
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air t	emp.	
an tomp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22 '	WB	24	WB	DB	WB	16
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-20	8.06
11					11.37	8.30	12.02	8.87	12.35	8.76	12.70	8.66	13.39	9.04	14.08	8.78	-17.7	-18	8.53
13					11.90	8.52	12.61	9.09	12.96	8.98	13.33	8.87	14.09	9.26	14.84	8.99	-15.7	-16	9.00
15					12.43	8.74	13.19	9.31	13.57	9.20	13.97	9.09	14.78	9.47	15.59	9.20	-13.5	-14	9.52
17					12.96	8.97	13.77	9.54	14.17	9.43	14.61	9.32	15.48	9.70	16.34	9.42	-11.5	-12	10.04
19					13.24	9.09	14.06	9.65	14.48	9.55	14.92	9.44	15.80	9.80	16.68	9.52	-9.5	-10	10.56
21					13.51	9.21	14.36	9.77	14.78	9.66	15.23	9.55	16.12	9.91	17.02	9.62	-7.5	-8	11.08
23					13.51	9.21	14.40	9.79	14.82	9.68	15.28	9.57	16.19	9.93	17.10	9.64	-5.5	-6	11.32
25			12.50	9.39	13.50	9.20	14.43	9.80	14.86	9.69	15.33	9.59	16.25	9.95	17.18	9.67	-3.0	-4	11.56
27			12.41	9.35	13.50	9.20	14.47	9.82	14.91	9.71	15.34	9.59	16.20	9.94			-1.0	-2	11.81
29			12.32	9.31	13.29	9.11	14.23	9.72	14.68	9.62	15.13	9.51	16.02	9.88			1.0	0	12.05
31			12.23	9.27	13.09	9.03	13.99	9.63	14.45	9.53	14.92	9.44	15.85	9.82			2.0	1	12.18
33	11.51	8.76	12.01	9.17	12.89	8.94	13.75	9.53	14.23	9.45	14.71	9.36	15.67	9.76			3.0	2	12.98
35	11.28	8.64	11.82	9.08	12.68	8.85	13.50	9.43	14.00	9.36	14.50	9.28	15.49	9.70			5.0	4	14.58
37	11.08	8.54	11.62	8.99	12.47	8.76	13.25	9.33	13.71	9.26	14.18	9.17	15.12	9.58			7.0	6	16.19
39	10.89	8.45	11.43	8.90	12.26	8.67	12.99	9.23	13.43	9.15	13.86	9.06	14.74	9.46			9.0	8	16.83
41	10.70	8.36	11.23	8.81	12.04	8.58	12.73	9.13	13.14	9.05	13.55	8.95	14.36	9.34			11.5	10	17.46
43	10.51	8.27	11.03	8.72	11.83	8.49	12.47	9.04	12.85	8.94	13.23	8.84	13.98	9.22			13.5	12	18.44
																	15.5	14	19.41
																			1

	Heat I	Mode					(kW)
	Out	door	In	door a	ir tem	oeratui	re
	air te	emp.			DB		
П	DB	WB	16	18	20	22	24
	-19.8	-20	8.06	8.03	8.00	7.97	7.94
	-17.7	-18	8.53	8.50	8.46	8.43	8.39
	-15.7	-16	9.00	8.96	8.92	8.88	8.85
	-13.5	-14	9.52	9.48	9.43	9.39	9.35
	-11.5	-12	10.04	9.99	9.95	9.90	9.85
	-9.5	-10	10.56	10.51	10.46	10.41	10.36
	-7.5	-8	11.08	11.02	10.97	10.91	10.86
П	-5.5	-6	11.32	11.26	11.21	11.15	11.09
	-3.0	-4	11.56	11.50	11.44	11.38	11.31
	-1.0	-2	11.81	11.75	11.68	11.61	11.54
	1.0	0	12.05	11.99	11.92	11.84	11.77
	2.0	1	12.18	12.11	12.04	11.96	11.89
П	3.0	2	12.98	12.90	12.83	12.77	12.72
П	5.0	4	14.58	14.50	14.41	14.40	14.38
	7.0	6	16.19	16.09	16.00	16.02	16.05
П	9.0	8	16.83	16.73	16.63	16.59	16.55
	11.5	10	17.46	17.37	17.27	17.17	17.06
	13.5	12	18.44	18.33	18.22	18.08	18.00
'	15.5	14	19.41	19.29	19.17	18.99	18.95
	16.5	16	19.90	19.77	19.64	19.45	19.42

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Indoor air temperature

DB

8.00 7.97 7.94

(kW)

24

(kW)

Heat Mode

Outdoor

air temp.

8.06

8.03

DB WB 16 18 20

-19.8 -20

16.5 16

Model FDEN140VSVF Indoor unit FDEN140VF Outdoor unit FDC140VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
от тот р	12 \	WB	14 \	WB	16 \	WB	18	WB	19	WB	20 \	WB	22 \	WB	24 \	NΒ
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	8.30	12.02	8.87	12.35	8.76	12.70	8.66	13.39	9.04	14.08	8.78
13					11.90	8.52	12.61	9.09	12.96	8.98	13.33	8.87	14.09	9.26	14.84	8.99
15					12.43	8.74	13.19	9.31	13.57	9.20	13.97	9.09	14.78	9.47	15.59	9.20
17					12.96	8.97	13.77	9.54	14.17	9.43	14.61	9.32	15.48	9.70	16.34	9.42
19					13.24	9.09	14.06	9.65	14.48	9.55	14.92	9.44	15.80	9.80	16.68	9.52
21					13.51	9.21	14.36	9.77	14.78	9.66	15.23	9.55	16.12	9.91	17.02	9.62
23					13.51	9.21	14.40	9.79	14.82	9.68	15.28	9.57	16.19	9.93	17.10	9.64
25			12.50	9.39	13.50	9.20	14.43	9.80	14.86	9.69	15.33	9.59	16.25	9.95	17.18	9.67
27			12.41	9.35	13.50	9.20	14.47	9.82	14.91	9.71	15.34	9.59	16.20	9.94		
29			12.32	9.31	13.29	9.11	14.23	9.72	14.68	9.62	15.13	9.51	16.02	9.88		
31			12.23	9.27	13.09	9.03	13.99	9.63	14.45	9.53	14.92	9.44	15.85	9.82		
33	11.51	8.76	12.01	9.17	12.89	8.94	13.75	9.53	14.23	9.45	14.71	9.36	15.67	9.76		
35	11.28	8.64	11.82	9.08	12.68	8.85	13.50	9.43	14.00	9.36	14.50	9.28	15.49	9.70		
37	11.08	8.54	11.62	8.99	12.47	8.76	13.25	9.33	13.71	9.26	14.18	9.17	15.12	9.58		
39	10.89	8.45	11.43	8.90	12.26	8.67	12.99	9.23	13.43	9.15	13.86	9.06	14.74	9.46		
41	10.70	8.36	11.23	8.81	12.04	8.58	12.73	9.13	13.14	9.05	13.55	8.95	14.36	9.34		
43	10.51	8.27	11.03	8.72	11.83	8.49	12.47	9.04	12.85	8.94	13.23	8.84	13.98	9.22		

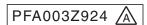
Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions. Corresponding refrigerant piping length: 7.5m Level difference of Zero.

(3) Symbols are as follows.
TC: Total cooling capacity
SHC: Sensible heat capacity

-17.7 -18 8.50 8.46 8.43 8.39 8.92 -15.7 -16 9.00 8.96 8.88 8.85 -13.5 -14 9.52 9.48 9.43 9.39 9.35 -11.5 -12 10.04 9.99 9.95 9.90 9.85 -9.5 10.56 10.51 10.46 10.41 10.36 -10 -7.5 11.08 | 11.02 | 10.97 | 10.91 | 10.86 11.32 11.26 11.21 11.15 11.09 -5.5 -6 11.56 11.50 11.44 11.38 11.31 -3.0 -4 -1.0 -2 11.81 11.75 11.68 11.61 11.54 0 12.05 11.99 11.92 11.84 11.77 1.0 2.0 12.18 | 12.11 | 12.04 | 11.96 | 11.89 2 12.98 12.90 12.83 12.77 12.72 3.0 5.0 4 14.58 14.50 14.41 14.40 14.38 7.0 6 16.19 16.09 16.00 16.02 16.05 16.83 16.73 16.63 16.59 16.55 9.0 8 17.46 17.37 17.27 17.17 17.06 11.5 10 13.5 12 18.44 18.33 18.22 18.08 18.00 14 19.41 19.29 19.17 18.99 18.95 15.5



19.90 19.77 19.64 19.45 19.42

(b) Twin type

Model FDEN100VNPVF Indoor unit FDEN50VF (2 units) Outdoor unit FDC100VN Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
all tomp	12	WB	14	WB	16 \	WB	18 \	WB	19 \	WB	20 \	WB	22 \	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.22	8.59	6.66	8.82	6.60	9.07	6.55	9.56	6.86	10.06	6.74
13					8.50	6.40	9.00	6.83	9.26	6.78	9.52	6.73	10.06	7.04	10.60	6.91
15					8.88	6.57	9.42	7.01	9.69	6.96	9.98	6.91	10.56	7.23	11.14	7.09
17					9.26	6.75	9.84	7.19	10.12	7.14	10.43	7.09	11.05	7.41	11.67	7.27
19					9.46	6.84	10.05	7.28	10.34	7.23	10.65	7.18	11.29	7.50	11.92	7.36
21					9.65	6.93	10.25	7.37	10.56	7.32	10.88	7.28	11.52	7.58	12.16	7.44
23					9.65	6.93	10.28	7.38	10.59	7.34	10.91	7.29	11.56	7.60	12.21	7.46
25			8.93	7.00	9.64	6.93	10.31	7.40	10.62	7.35	10.95	7.30	11.61	7.62	12.27	7.48
27			8.86	6.97	9.64	6.93	10.34	7.41	10.65	7.36	10.96	7.31	11.57	7.60		
29			8.80	6.94	9.50	6.86	10.17	7.34	10.49	7.29	10.81	7.25	11.45	7.56		
31			8.73	6.90	9.35	6.79	9.99	7.26	10.32	7.22	10.66	7.19	11.32	7.51		
33	8.22	6.51	8.58	6.83	9.21	6.72	9.82	7.18	10.16	7.15	10.51	7.12	11.19	7.46		
35	8.05	6.42	8.44	6.76	9.06	6.65	9.64	7.10	10.00	7.09	10.36	7.06	11.07	7.41		
37	7.92	6.35	8.30	6.69	8.91	6.58	9.46	7.03	9.79	7.00	10.13	6.97	10.80	7.31		
39	7.78	6.28	8.16	6.62	8.75	6.51	9.28	6.95	9.59	6.92	9.90	6.88	10.53	7.21		
41	7.64	6.20	8.02	6.55	8.60	6.44	9.09	6.87	9.38	6.83	9.68	6.79	10.26	7.12		
43	7.50	6.13	7.88	6.48	8.45	6.37	8.91	6.79	9.18	6.75	9.45	6.70	9.99	7.02		

(kW)		Heat I	Mode					(kW)
	-	Out	door	In	door a	ir tem	peratu	re
DB		air te	emp.			DB		
ΝB		DB	WB	16	18	20	22	24
SHC		-19.8	-20	5.64	5.62	5.60	5.58	5.56
6.74		-17.7	-18	5.97	5.95	5.92	5.90	5.87
6.91		-15.7	-16	6.30	6.27	6.25	6.22	6.19
7.09		-13.5	-14	6.66	6.63	6.60	6.57	6.54
7.27		-11.5	-12	7.03	6.99	6.96	6.93	6.90
7.36		-9.5	-10	7.39	7.36	7.32	7.29	7.25
7.44		-7.5	-8	7.75	7.72	7.68	7.64	7.60
7.46		-5.5	-6	7.92	7.88	7.85	7.80	7.76
7.48		-3.0	-4	8.10	8.05	8.01	7.97	7.92
		-1.0	-2	8.27	8.22	8.18	8.13	8.08
		1.0	0	8.44	8.39	8.34	8.29	8.24
		2.0	1	8.52	8.47	8.42	8.37	8.32
		3.0	2	9.08	9.03	8.98	8.94	8.90
		5.0	4	10.21	10.15	10.09	10.08	10.07
		7.0	6	11.33	11.27	11.20	11.22	11.23
		9.0	8	11.78	11.71	11.64	11.62	11.59
		11.5	10	12.23	12.16	12.09	12.02	11.94
		13.5	12	12.91	12.83	12.75	12.65	12.60
		15.5	14	13.59	13.50	13.42	13.29	13.26
		16.5	16	13.93	13.84	13.75	13.61	13.59

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Model FDEN100VSPVF Indoor unit FDEN50VF (2 units) Outdoor unit FDC100VS Cool Mode

COOI IVI	oae															(kW)
0.44							Indo	or air t	emper	ature						
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an temp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.22	8.59	6.66	8.82	6.60	9.07	6.55	9.56	6.86	10.06	6.74
13					8.50	6.40	9.00	6.83	9.26	6.78	9.52	6.73	10.06	7.04	10.60	6.91
15					8.88	6.57	9.42	7.01	9.69	6.96	9.98	6.91	10.56	7.23	11.14	7.09
17					9.26	6.75	9.84	7.19	10.12	7.14	10.43	7.09	11.05	7.41	11.67	7.27
19					9.46	6.84	10.05	7.28	10.34	7.23	10.65	7.18	11.29	7.50	11.92	7.36
21					9.65	6.93	10.25	7.37	10.56	7.32	10.88	7.28	11.52	7.58	12.16	7.44
23					9.65	6.93	10.28	7.38	10.59	7.34	10.91	7.29	11.56	7.60	12.21	7.46
25			8.93	7.00	9.64	6.93	10.31	7.40	10.62	7.35	10.95	7.30	11.61	7.62	12.27	7.48
27			8.86	6.97	9.64	6.93	10.34	7.41	10.65	7.36	10.96	7.31	11.57	7.60		
29			8.80	6.94	9.50	6.86	10.17	7.34	10.49	7.29	10.81	7.25	11.45	7.56		
31			8.73	6.90	9.35	6.79	9.99	7.26	10.32	7.22	10.66	7.19	11.32	7.51		
33	8.22	6.51	8.58	6.83	9.21	6.72	9.82	7.18	10.16	7.15	10.51	7.12	11.19	7.46		
35	8.05	6.42	8.44	6.76	9.06	6.65	9.64	7.10	10.00	7.09	10.36	7.06	11.07	7.41		
37	7.92	6.35	8.30	6.69	8.91	6.58	9.46	7.03	9.79	7.00	10.13	6.97	10.80	7.31		
39	7.78	6.28	8.16	6.62	8.75	6.51	9.28	6.95	9.59	6.92	9.90	6.88	10.53	7.21		
41	7.64	6.20	8.02	6.55	8.60	6.44	9.09	6.87	9.38	6.83	9.68	6.79	10.26	7.12		
43	7.50	6.13	7.88	6.48	8.45	6.37	8.91	6.79	9.18	6.75	9.45	6.70	9.99	7.02		

Note(1)	These data show average statuses.
	Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed. (2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m
Level difference of Zero.

(3) Symbols are as follows. TC: Total cooling capacity SHC: Sensible heat capacity (kW) Heat Mode (kW) Indoor air temperature Outdoor air temp DB WB DB 16 18 20 22 24 -19.8 -20 5.64 5.62 5.60 5.58 5.56 -17.7 -18 5.97 5.95 5.92 5.90 5.87 -15.7 -16 6.30 6.27 6.25 6.22 6.19 -13.5 -14 6.66 6.63 | 6.60 6.57 6.54 -11.5 -12 7.03 6.99 6.96 6.93 6.90 -9.5 -10 7.39 7.36 7.32 7.29 7.25 7.75 -7.5 7.72 7.68 7.60 -8 7 64 7.85 7.80 7.76 -5.5 -6 7.92 7.88 -3.0 -4 8.10 8.05 8.01 7.97 7.92 8.08 -1 0 -2 8 27 8 22 8 18 8 13 1.0 0 8.44 8.39 8.34 8.29 8.24 8.37 2.0 8.52 8.47 8.42 8.32 3.0 2 9.08 9.03 8.98 8.94 8.90 5.0 4 10.21 | 10.15 | 10.09 | 10.08 | 10.07 11.33 11.27 11.20 11.22 11.23 7.0 6 9.0 8 11.78 11.71 11.64 11.62 11.59 11.5 10 12.23 | 12.16 | 12.09 | 12.02 | 11.94 13.5 12 12.91 12.83 12.75 12.65 12.60 15.5 13.59 | 13.50 | 13.42 | 13.29 | 13.26 16 | 13.93 | 13.84 | 13.75 | 13.61 | 13.59 16.5

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Model Cool Me		N125\	/NPVI	F Ir	ndoor ı	unit l	FDEN6	60VF (2 units)	Outdoo	or unit	FDC	125VI	٧	(kW)	Heat	Mode
0.44							Indo	or air t	emper	ature							Ou	tdoor
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air	temp.
an tomp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB	DB	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-20
11					10.15	8.18	10.74	8.84	11.03	8.73	11.34	8.62	11.96	9.09	12.57	8.83	-17.7	-18
13					10.63	8.35	11.26	9.01	11.57	8.90	11.91	8.79	12.58	9.26	13.25	9.00	-15.7	-16
15					11.10	8.53	11.78	9.19	12.11	9.08	12.47	8.97	13.20	9.43	13.92	9.16	-13.5	-14
17					11.58	8.71	12.29	9.36	12.65	9.25	13.04	9.14	13.82	9.60	14.59	9.32	-11.5	-12
19					11.82	8.81	12.56	9.46	12.92	9.34	13.32	9.23	14.11	9.68	14.90	9.40	-9.5	-10
21					12.06	8.90	12.82	9.55	13.19	9.43	13.60	9.32	14.40	9.76	15.20	9.48	-7.5	-8
23					12.06	8.90	12.85	9.56	13.23	9.45	13.64	9.34	14.45	9.78	15.27	9.50	-5.5	-6
25			11.16	9.13	12.06	8.90	12.89	9.58	13.27	9.46	13.68	9.35	14.51	9.80	15.34	9.51	-3.0	-4
27			11.08	9.10	12.05	8.90	12.92	9.59	13.31	9.47	13.69	9.35	14.47	9.78			-1.0	-2
29			11.00	9.06	11.87	8.83	12.71	9.51	13.11	9.41	13.51	9.29	14.31	9.74			1.0	0
31			10.92	9.03	11.69	8.76	12.49	9.43	12.90	9.34	13.32	9.23	14.15	9.69			2.0	1
33	10.27	8.45	10.72	8.95	11.51	8.69	12.27	9.36	12.70	9.27	13.13	9.17	13.99	9.65			3.0	2
35	10.07	8.36	10.55	8.88	11.33	8.62	12.06	9.28	12.50	9.20	12.94	9.11	13.83	9.60			5.0	4
37	9.90	8.29	10.38	8.81	11.13	8.54	11.83	9.20	12.24	9.12	12.66	9.03	13.50	9.51			7.0	6
39	9.72	8.20	10.20	8.73	10.94	8.47	11.60	9.13	11.99	9.04	12.38	8.94	13.16	9.41			9.0	8
41	9.55	8.13	10.02	8.66	10.75	8.40	11.37	9.05	11.73	8.95	12.09	8.85	12.82	9.32			11.5	10
43	9.38	8.05	9.85	8.59	10.56	8.33	11.14	8.97	11.47	8.87	11.81	8.76	12.48	9.23			13.5	12
																	15.5	1/1

	Heat I	Mode					(kW)
П		door	In	door a	ir tem	peratu	re
Ш	air te	emp.			DB		
	DB	WB	16	18	20	22	24
	-19.8	-20	7.06	7.03	7.00	6.97	6.95
	-17.7	-18	7.46	7.43	7.41	7.37	7.34
	-15.7	-16	7.87	7.84	7.81	7.77	7.74
	-13.5	-14	8.33	8.29	8.26	8.22	8.18
	-11.5	-12	8.78	8.74	8.70	8.66	8.62
	-9.5	-10	9.24	9.19	9.15	9.11	9.06
	-7.5	-8	9.69	9.65	9.60	9.55	9.50
	-5.5	-6	9.91	9.86	9.81	9.75	9.70
	-3.0	-4	10.12	10.07	10.01	9.96	9.90
	-1.0	-2	10.33	10.28	10.22	10.16	10.10
	1.0	0	10.55	10.49	10.43	10.36	10.30
	2.0	1	10.65	10.59	10.53	10.47	10.40
	3.0	2	11.36	11.29	11.22	11.18	11.13
	5.0	4	12.76	12.69	12.61	12.60	12.58
	7.0	6	14.16	14.08	14.00	14.02	14.04
	9.0	8	14.72	14.64	14.56	14.52	14.49
	11.5	10	15.28	15.20	15.11	15.02	14.93
	13.5	12	16.13	16.04	15.94	15.82	15.75
	15.5	14	16.98	16.88	16.77	16.62	16.58
	16.5	16	17.41	17.30	17.19	17.02	16.99

PFA003Z924 /A

Model	FDEI	V125\	/SPVF	- Ir	ndoor ι	ınit F	FDEN6	0VF (2	2 units) (Outdoo	r unit	FDC	125VS	3	
Cool Mo	ode															(kW)
Outdoor		, i		, i		, i	Indo	or air t	emper	ature		, in the second		, i		
Outdoor air temp.	18	DB	21 1	DB	23 [DВ	26 1	DB	27 I	DB	28 [OB	31 I	DB	33 1	DB
an temp.	12 \	ΝB	14 \	VΒ	16 V	VΒ	18 \	ΝB	19 V	VΒ	20 V	VB	22 V	VΒ	24 V	VВ
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.15	8.18	10.74	8.84	11.03	8.73	11.34	8.62	11.96	9.09	12.57	8.83
13					10.63	8.35	11.26	9.01	11.57	8.90	11.91	8.79	12.58	9.26	13.25	9.00
15					11.10	8.53	11.78	9.19	12.11	9.08	12.47	8.97	13.20	9.43	13.92	9.16
17					11.58	8.71	12.29	9.36	12.65	9.25	13.04	9.14	13.82	9.60	14.59	9.32
19					11.82	8.81	12.56	9.46	12.92	9.34	13.32	9.23	14.11	9.68	14.90	9.40
21					12.06	8.90	12.82	9.55	13.19	9.43	13.60	9.32	14.40	9.76	15.20	9.48
23					12.06	8.90	12.85	9.56	13.23	9.45	13.64	9.34	14.45	9.78	15.27	9.50
25			11.16	9.13	12.06	8.90	12.89	9.58	13.27	9.46	13.68	9.35	14.51	9.80	15.34	9.51
27			11.08	9.10	12.05	8.90	12.92	9.59	13.31	9.47	13.69	9.35	14.47	9.78		
29			11.00	9.06	11.87	8.83	12.71	9.51	13.11	9.41	13.51	9.29	14.31	9.74		
31			10.92	9.03	11.69	8.76	12.49	9.43	12.90	9.34	13.32	9.23	14.15	9.69		
33	10.27	8.45	10.72	8.95	11.51	8.69	12.27	9.36	12.70	9.27	13.13	9.17	13.99	9.65		
35	10.07	8.36	10.55	8.88	11.33	8.62	12.06	9.28	12.50	9.20	12.94	9.11	13.83	9.60		
37	9.90	8.29	10.38	8.81	11.13	8.54	11.83	9.20	12.24	9.12	12.66	9.03	13.50	9.51		

9.72 | 8.20 | 10.20 | 8.73 | 10.94 | 8.47 | 11.60 | 9.13 | 11.99 | 9.04 | 12.38 | 8.94 | 13.16 | 9.41

9.85 8.59 10.56 8.33 11.14 8.97 11.47 8.87 11.81 8.76

9.38 8.05 Note(1) These data show average statuses

9.55 8.13

39

41

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed. (2) Capacities are based on the following conditions.

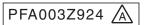
10.02 8.66 10.75 8.40 11.37 9.05 11.73 8.95

Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity
SHC: Sensible heat capacity

Heat Mode (kW) Indoor air temperature Outdoor air temp. DB WB 20 24 16 18 22 7.00 -19.8 -20 7.06 7.03 6.97 6.95 -17.7 -18 7.46 7.43 7.41 7.37 7.34 -15.7 -16 7.87 7.84 7.81 7.77 7.74 -13.5 -14 8.29 8.22 8.18 8.33 8.26 -11.5 -12 8.78 8.74 8.70 8.66 8.62 -9.5 -10 9.24 9.19 9.15 9.11 9.06 9.65 -7.5 9.60 9.55 9.50 -8 9.69 -5.5 9.91 9.86 9.81 9.75 9.70 -3.0 10.07 10.01 -4 10.12 9.96 9.90 10.28 -1.0 -2 10.33 10.22 10.16 10.10 1.0 0 10.55 10.49 | 10.43 | 10.36 | 10.30 10.65 10.59 10.53 10.47 10.40 2.0 1 3.0 11.36 11.29 11.22 11.18 11.13 12.76 | 12.69 | 12.61 | 12.60 | 12.58 5.0 4 7.0 6 14.16 14.08 14.00 14.02 14.04 9.0 8 14.72 14.64 | 14.56 | 14.52 | 14.49 11.5 10 | 15.28 | 15.20 | 15.11 | 15.02 | 14.93 16.13 16.04 15.94 15.82 15.75 13.5 12 15.5 14 | 16.98 | 16.88 | 16.77 | 16.62 | 16.58 16 17.41 17.30 17.19 17.02 16.99 16.5



12.82 9.32

12.48 9.23

12.09 8.85

11 11.37 9.49 12.02 10.26 12.35 10.16 12.70 10.07 13.39 10.63 14.08 10.40 13 11.90 9.70 12.61 10.47 12.96 10.38 13.33 10.28 14.09 10.84 14.84 10.60 15 10.49 14.78 11.05 15.59 10.81 14.61 10.71 15.48 11.05 15.59 10.81 14.61 10.71 15.48 11.02 16.34 11.02 14.48 10.92 14.92 10.82 15.80 11.37 16.68 11.12 11.22 16.34 11.02 14.48 10.92 14.92 10.82 15.80 11.37 16.68 11.12 11.22 14.92 10.82 15.80 11.37 16.68 11.12 11.22 13.51 10.36 14.40 11.15 14.48 11.03 15.23 10.93 16.12 11.47 17.02 11.22 11.22 13.51 10.36 14.40 11.15 14.82	Model Cool M		N140\	/NPVI	F II	ndoor	unit I	FDEN7	71VF (2 units) (Outdoo	or unit	FDC	140Vľ	٧	(kW)	Н
air temp. 18 DB 21 DB 23 DB 26 DB 27 DB 28 DB 31 DB 33 DB DB TC SHC TC	Outdoor							Indo	or air t	emper	ature							Г
12 WB		18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	١L
11 11.37 9.49 12.02 10.26 12.35 10.16 12.70 10.07 13.39 10.63 14.08 10.40 13 11.90 9.70 12.61 10.47 12.96 10.38 13.33 10.28 14.09 10.84 14.84 10.60 15 12.43 9.91 13.19 10.69 13.57 10.59 13.97 10.49 14.78 11.05 15.59 10.81 14.61 10.71 15.48 11.02 16.34 11.02 14.48 10.92 14.92 10.82 15.80 11.37 16.68 11.12 16.34 11.02 14.48 10.92 14.92 10.82 15.80 11.37 16.68 11.12 11.22 13.51 10.36 14.40 11.13 14.78 11.03 15.23 10.93 16.12 11.47 17.02 11.22 11.22 13.51 10.36 14.40 11.15 14.82 11.04 15.28 10.93 16.12 11.47 17.02 11.22	un tomp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB	
13 11.90 9.70 12.61 10.47 12.96 10.38 13.33 10.28 14.09 10.84 14.84 10.60 15 12.43 9.91 13.19 10.69 13.57 10.59 13.97 10.49 14.78 11.05 15.59 10.81 14.61 10.71 15.48 11.05 15.59 10.81 14.61 10.71 15.48 11.02 16.34 11.02 14.48 10.92 14.92 10.82 15.80 11.37 16.68 11.12 11.22 14.92 10.82 15.80 11.37 16.68 11.12 14.48 10.92 14.92 10.82 15.80 11.37 16.68 11.12 11.22 14.92 10.82 15.80 11.37 16.68 11.12 11.22 13.51 10.36 14.40 11.15 14.82 11.04 15.28 10.95 16.19 11.50 17.10 11.24 15.22 10.20 11.24 17.00 11.24 11.24 15.28 10.91 </td <td>DB</td> <td>TC</td> <td>SHC</td> <td>-1</td>	DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-1
15 12.43 9.91 13.19 10.69 13.57 10.59 13.97 10.49 14.78 11.05 15.59 10.81 17 12.96 10.13 13.77 10.91 14.17 10.81 14.61 10.71 15.48 11.27 16.34 11.02 19 13.24 10.24 14.06 11.02 14.48 10.92 14.92 10.82 15.80 11.37 16.68 11.12 21 13.51 10.36 14.36 11.13 14.78 11.03 15.23 10.93 16.12 11.47 17.02 11.22 23 13.51 10.36 14.40 11.15 14.82 11.04 15.28 10.95 16.19 11.50 17.10 11.24 25 12.50 10.56 13.50 10.35 14.47 11.17 14.91 11.08 15.33 10.96 16.25 11.50 17.18 11.26 27 12.41 10.52 13.50 <td< td=""><td>11</td><td></td><td></td><td></td><td></td><td>11.37</td><td>9.49</td><td>12.02</td><td>10.26</td><td>12.35</td><td>10.16</td><td>12.70</td><td>10.07</td><td>13.39</td><td>10.63</td><td>14.08</td><td>10.40</td><td>-1</td></td<>	11					11.37	9.49	12.02	10.26	12.35	10.16	12.70	10.07	13.39	10.63	14.08	10.40	-1
17 12.96 10.13 13.77 10.91 14.17 10.81 14.61 10.71 15.48 11.27 16.34 11.02 19 13.24 10.24 14.06 11.02 14.48 10.92 14.92 10.82 15.80 11.37 16.68 11.12 11.22 13.51 10.36 14.36 11.13 14.78 11.03 15.23 10.93 16.12 11.47 17.02 11.22 13.51 10.36 14.40 11.15 14.82 11.04 15.28 10.95 16.19 11.50 17.10 11.24 12.50 10.56 13.50 10.35 14.43 11.16 14.86 11.06 15.33 10.96 16.25 11.50 17.10 11.24 12.6 12.41 10.52 13.50 10.35 14.47 11.17 14.91 11.08 15.33 10.96 16.25 11.50 17.18 11.26 12.01 10.34 13.29 10.27 14.23 11.08 14.68 10.99 15.13<	13					11.90	9.70	12.61	10.47	12.96	10.38	13.33	10.28	14.09	10.84	14.84	10.60	-1
19	15					12.43	9.91	13.19	10.69	13.57	10.59	13.97	10.49	14.78	11.05	15.59	10.81	-1
21 13.51 10.36 14.36 11.13 14.78 11.03 15.23 10.93 16.12 11.47 17.02 11.22 23 13.51 10.36 14.40 11.15 14.82 11.04 15.28 10.95 16.19 11.50 17.10 11.24 25 12.50 10.56 13.50 10.35 14.43 11.16 14.86 11.06 15.33 10.96 16.25 11.52 17.18 11.26 27 12.41 10.52 13.50 10.35 14.47 11.17 14.91 11.08 15.34 10.97 16.20 11.50 29 12.32 10.48 13.29 10.27 14.23 11.08 14.68 10.99 15.13 10.89 16.02 11.44 31 12.23 10.44 13.09 10.18 13.99 10.99 14.45 10.91 14.92 10.82 15.85 11.39 33 11.51 9.76 12.01 <td< td=""><td>17</td><td></td><td></td><td></td><td></td><td>12.96</td><td>10.13</td><td>13.77</td><td>10.91</td><td>14.17</td><td>10.81</td><td>14.61</td><td>10.71</td><td>15.48</td><td>11.27</td><td>16.34</td><td>11.02</td><td>-1</td></td<>	17					12.96	10.13	13.77	10.91	14.17	10.81	14.61	10.71	15.48	11.27	16.34	11.02	-1
23 13.51 10.36 14.40 11.15 14.82 11.04 15.28 10.95 16.19 11.50 17.10 11.24 25 12.50 10.56 13.50 10.35 14.43 11.16 14.86 11.06 15.33 10.96 16.25 11.52 17.18 11.26 27 12.41 10.52 13.50 10.35 14.47 11.17 14.91 11.08 15.34 10.97 16.20 11.50 29 12.32 10.48 13.29 10.27 14.23 11.08 14.68 10.99 15.13 10.89 16.02 11.44 31 12.23 10.44 13.09 10.18 13.99 10.99 14.45 10.91 14.92 10.82 15.85 11.39 33 11.51 9.76 12.01 10.34 12.89 10.10 13.75 10.90 14.23 10.83 14.71 10.75 15.67 11.33 35 11.28 <td< td=""><td>19</td><td></td><td></td><td></td><td></td><td>13.24</td><td>10.24</td><td>14.06</td><td>11.02</td><td>14.48</td><td>10.92</td><td>14.92</td><td>10.82</td><td>15.80</td><td>11.37</td><td>16.68</td><td>11.12</td><td>-9</td></td<>	19					13.24	10.24	14.06	11.02	14.48	10.92	14.92	10.82	15.80	11.37	16.68	11.12	-9
25 12.50 10.56 13.50 10.35 14.43 11.16 14.86 11.06 15.33 10.96 16.25 11.52 17.18 11.26 27 12.41 10.52 13.50 10.35 14.47 11.17 14.91 11.08 15.34 10.97 16.20 11.50 29 12.32 10.48 13.29 10.27 14.23 11.08 14.68 10.99 15.13 10.89 16.02 11.44 31 12.23 10.44 13.09 10.18 13.99 10.99 14.45 10.91 14.92 10.82 15.85 11.39 33 11.51 9.76 12.01 10.34 12.89 10.10 13.75 10.90 14.23 10.83 14.71 10.75 15.67 11.33 35 11.28 9.65 11.82 10.26 12.68 10.02 13.50 10.80 14.00 10.75 14.50 10.68 15.49 11.28 <	21					13.51	10.36	14.36	11.13	14.78	11.03	15.23	10.93	16.12	11.47	17.02	11.22	-
27 12.41 10.52 13.50 10.35 14.47 11.17 14.91 11.08 15.34 10.97 16.20 11.50 29 12.32 10.48 13.29 10.27 14.23 11.08 14.68 10.99 15.13 10.89 16.02 11.44 31 12.23 10.44 13.09 10.18 13.99 10.99 14.45 10.91 14.92 10.82 15.85 11.39 33 11.51 9.76 12.01 10.34 12.89 10.10 13.75 10.90 14.23 10.83 14.71 10.75 15.67 11.33 35 11.28 9.65 11.82 10.26 12.68 10.02 13.50 10.80 14.00 10.75 14.50 10.68 15.49 11.28 37 11.08 9.56 11.62 10.17 12.47 9.93 13.25 10.71 13.71 10.64 14.18 10.57 15.12 11.16 39 10.89 9.47 11.43 10.09 12.26 9.84 12.99	23					13.51	10.36	14.40	11.15	14.82	11.04	15.28	10.95	16.19	11.50	17.10	11.24	-{
29 12.32 10.48 13.29 10.27 14.23 11.08 14.68 10.99 15.13 10.89 16.02 11.44 31 12.23 10.44 13.09 10.18 13.99 10.99 14.45 10.91 14.92 10.82 15.85 11.39 33 11.51 9.76 12.01 10.34 12.89 10.10 13.75 10.90 14.23 10.83 14.71 10.75 15.67 11.33 35 11.28 9.65 11.82 10.26 12.68 10.02 13.50 10.80 14.00 10.75 14.50 10.68 15.49 11.28 37 11.08 9.56 11.62 10.17 12.47 9.93 13.25 10.71 13.71 10.64 14.18 10.57 15.12 11.16 39 10.89 9.47 11.43 10.09 12.26 9.84 12.99 10.61 13.43 10.54 13.86 10.46 14.74 11.04 41 10.70 9.38 11.23 10.00 12.04 <	25			12.50	10.56	13.50	10.35	14.43	11.16	14.86	11.06	15.33	10.96	16.25	11.52	17.18	11.26	-(
31 12.23 10.44 13.09 10.18 13.99 10.99 14.45 10.91 14.92 10.82 15.85 11.39 33 11.51 9.76 12.01 10.34 12.89 10.10 13.75 10.90 14.23 10.83 14.71 10.75 15.67 11.33 35 11.28 9.65 11.82 10.26 12.68 10.02 13.50 10.80 14.00 10.75 14.50 10.68 15.49 11.28 37 11.08 9.56 11.62 10.17 12.47 9.93 13.25 10.71 13.71 10.64 14.18 10.57 15.12 11.16 39 10.89 9.47 11.43 10.09 12.26 9.84 12.99 10.61 13.43 10.54 13.86 10.46 14.74 11.04 41 10.70 9.38 11.23 10.00 12.04 9.76 12.73 10.52 13.14 10.44 13.55 10.35 14.36 10.93	27			12.41	10.52	13.50	10.35	14.47	11.17	14.91	11.08	15.34	10.97	16.20	11.50			-
33 11.51 9.76 12.01 10.34 12.89 10.10 13.75 10.90 14.23 10.83 14.71 10.75 15.67 11.33 35 11.28 9.65 11.82 10.26 12.68 10.02 13.50 10.80 14.00 10.75 14.50 10.68 15.49 11.28 37 11.08 9.56 11.62 10.17 12.47 9.93 13.25 10.71 13.71 10.64 14.18 10.57 15.12 11.16 39 10.89 9.47 11.43 10.09 12.26 9.84 12.99 10.61 13.43 10.54 13.86 10.46 14.74 11.04 41 10.70 9.38 11.23 10.00 12.04 9.76 12.73 10.52 13.14 10.44 13.55 10.35 14.36 10.93	29			12.32	10.48	13.29	10.27	14.23	11.08	14.68	10.99	15.13	10.89	16.02	11.44			ΙT
35 11.28 9.65 11.82 10.26 12.68 10.02 13.50 10.80 14.00 10.75 14.50 10.68 15.49 11.28 37 11.08 9.56 11.62 10.17 12.47 9.93 13.25 10.71 13.71 10.64 14.18 10.57 15.12 11.16 39 10.89 9.47 11.43 10.09 12.26 9.84 12.99 10.61 13.43 10.54 13.86 10.46 14.74 11.04 41 10.70 9.38 11.23 10.00 12.04 9.76 12.73 10.52 13.14 10.44 13.55 10.35 14.36 10.93	31			12.23	10.44	13.09	10.18	13.99	10.99	14.45	10.91	14.92	10.82	15.85	11.39			2
37 11.08 9.56 11.62 10.17 12.47 9.93 13.25 10.71 13.71 10.64 14.18 10.57 15.12 11.16 39 10.89 9.47 11.43 10.09 12.26 9.84 12.99 10.61 13.43 10.54 13.86 10.46 14.74 11.04 41 10.70 9.38 11.23 10.00 12.04 9.76 12.73 10.52 13.14 10.44 13.55 10.35 14.36 10.93	33	11.51	9.76	12.01	10.34	12.89	10.10	13.75	10.90	14.23	10.83	14.71	10.75	15.67	11.33			3
39	35	11.28	9.65	11.82	10.26	12.68	10.02	13.50	10.80	14.00	10.75	14.50	10.68	15.49	11.28			5
41 10.70 9.38 11.23 10.00 12.04 9.76 12.73 10.52 13.14 10.44 13.55 10.35 14.36 10.93	37	11.08	9.56	11.62	10.17	12.47	9.93	13.25	10.71	13.71	10.64	14.18	10.57	15.12	11.16			7
	39	10.89	9.47	11.43	10.09	12.26	9.84	12.99	10.61	13.43	10.54	13.86	10.46	14.74	11.04			9
43 10.51 9.29 11.03 9.92 11.83 9.67 12.47 10.42 12.85 10.34 13.23 10.24 13.98 10.81	41	10.70	9.38	11.23	10.00	12.04	9.76	12.73	10.52	13.14	10.44	13.55	10.35	14.36	10.93			1
	43	10.51	9.29	11.03	9.92	11.83	9.67	12.47	10.42	12.85	10.34	13.23	10.24	13.98	10.81			1:

Heat	Mode					(kW)
Out	door	In	door a	ir tem	oeratu	re
air t	emp.			DB		
DB	WB	16	18	20	22	24
-19.8	-20	8.06	8.03	8.00	7.97	7.94
-17.7	-18	8.53	8.50	8.46	8.43	8.39
-15.7	-16	9.00	8.96	8.92	8.88	8.85
-13.5	-14	9.52	9.48	9.43	9.39	9.35
-11.5	-12	10.04	9.99	9.95	9.90	9.85
-9.5	-10	10.56	10.51	10.46	10.41	10.36
-7.5	-8	11.08	11.02	10.97	10.91	10.86
-5.5	-6	11.32	11.26	11.21	11.15	11.09
-3.0	-4	11.56	11.50	11.44	11.38	11.31
-1.0	-2	11.81	11.75	11.68	11.61	11.54
1.0	0	12.05	11.99	11.92	11.84	11.77
2.0	1	12.18	12.11	12.04	11.96	11.89
3.0	2	12.98	12.90	12.83	12.77	12.72
5.0	4	14.58	14.50	14.41	14.40	14.38
7.0	6	16.19	16.09	16.00	16.02	16.05
9.0	8	16.83	16.73	16.63	16.59	16.55
11.5	10	17.46	17.37	17.27	17.17	17.06
13.5	12	18.44	18.33	18.22	18.08	18.00
15.5	14	19.41	19.29	19.17	18.99	18.95
16.5	16	19.90	19.77	19.64	19.45	19.42

PFA003Z924 🛕

Model FDEN140VSPVF Indoor unit FDEN71VF (2 units) Outdoor unit FDC140VS Cool Mode

Outdoor							Indoo	or air te	empera	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an temp.	12 \	WB	14	WB	16	WB	18	WB	19	WB	20 '	WB	22	WB	24 \	ΝB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	9.49	12.02	10.26	12.35	10.16	12.70	10.07	13.39	10.63	14.08	10.40
13					11.90	9.70	12.61	10.47	12.96	10.38	13.33	10.28	14.09	10.84	14.84	10.60
15					12.43	9.91	13.19	10.69	13.57	10.59	13.97	10.49	14.78	11.05	15.59	10.81
17					12.96	10.13	13.77	10.91	14.17	10.81	14.61	10.71	15.48	11.27	16.34	11.02
19					13.24	10.24	14.06	11.02	14.48	10.92	14.92	10.82	15.80	11.37	16.68	11.12
21				13 13		10.36	14.36	11.13	14.78	11.03	15.23	10.93	16.12	11.47	17.02	11.22
23					13.51	10.36	14.40	11.15	14.82	11.04	15.28	10.95	16.19	11.50	17.10	11.24
25			12.50	10.56	13.50	10.35	14.43	11.16	14.86	11.06	15.33	10.96	16.25	11.52	17.18	11.26
27			12.41	10.52	13.50	10.35	14.47	11.17	14.91	11.08	15.34	10.97	16.20	11.50		
29			12.32	10.48	13.29	10.27	14.23	11.08	14.68	10.99	15.13	10.89	16.02	11.44		
31			12.23	10.44	13.09	10.18	13.99	10.99	14.45	10.91	14.92	10.82	15.85	11.39		
33	11.51	9.76	12.01	10.34	12.89	10.10	13.75	10.90	14.23	10.83	14.71	10.75	15.67	11.33		
35	11.28	9.65	11.82	10.26	12.68	10.02	13.50	10.80	14.00	10.75	14.50	10.68	15.49	11.28		
37	11.08	9.56	11.62	10.17	12.47	9.93	13.25	10.71	13.71	10.64	14.18	10.57	15.12	11.16		
39	10.89	9.47	11.43	10.09	12.26	9.84	12.99	10.61	13.43	10.54	13.86	10.46	14.74	11.04		
41	10.70	9.38	11.23	10.00	12.04	9.76	12.73	10.52	13.14	10.44	13.55	10.35	14.36	10.93		
43	10.51	9.29	11.03	9.92	11.83	9.67	12.47	10.42	12.85	10.34	13.23	10.24	13.98	10.81		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

Depending on the system control, there may be ranges where the operation is not c
These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m
Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

(kW)		Heat I	Mode					(kW)
	Ш	Out	door	ln	door a	ir tem	oeratui	re
DB	Ш	air t	emp.			DB		
WB	Ш	DB	WB	16	18	20	22	24
SHC	Ш	-19.8	-20	8.06	8.03	8.00	7.97	7.94
10.40	Ш	-17.7	-18	8.53	8.50	8.46	8.43	8.39
10.60	Ш	-15.7	-16	9.00	8.96	8.92	8.88	8.85
10.81	Ш	-13.5	-14	9.52	9.48	9.43	9.39	9.35
11.02	Ш	-11.5	-12	10.04	9.99	9.95	9.90	9.85
11.12	Ш	-9.5	-10	10.56	10.51	10.46	10.41	10.36
11.22	Ш	-7.5	-8	11.08	11.02	10.97	10.91	10.86
11.24	Ш	-5.5	-6	11.32	11.26	11.21	11.15	11.09
11.26	Ш	-3.0	-4	11.56	11.50	11.44	11.38	11.31
	Ш	-1.0	-2	11.81	11.75	11.68	11.61	11.54
	Ш	1.0	0	12.05	11.99	11.92	11.84	11.77
	Ш	2.0	1	12.18	12.11	12.04	11.96	11.89
	Ш	3.0	2	12.98	12.90	12.83	12.77	12.72
	Ш	5.0	4	14.58	14.50	14.41	14.40	14.38
	Ш	7.0	6	16.19	16.09	16.00	16.02	16.05
	Ш	9.0	8	16.83	16.73	16.63	16.59	16.55
	Ш	11.5	10	17.46	17.37	17.27	17.17	17.06
		13.5	12	18.44	18.33	18.22	18.08	18.00
	1	15.5	14	19.41	19.29	19.17	18.99	18.95
		16.5	16	19.90	19.77	19.64	19.45	19.42

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	I FDEN200VSPVF Indoor unit FDEN100VF (2 units) Outdoor unit FDC200VS														/S									
Cool M	ode															(kW)	He	eat N	∕lode					(kW)
Outdoor							Indo	or air t	emper	ature								Outo	loor	In	door a	ir temp	eratu	·e
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	L	air te				DB		
	12 \	ΝB	14 \	WB	16 \	WB	18 \	ΝB	19 \	WB	20 \	ΝB	22 \	ΝB	24 \	WB		DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-1	19.8	-20					
11					17.37	12.84	18.41	13.80	18.94	13.60	19.50	13.40	20.63	14.04	21.76	13.56	-1	17.7	-18					
13					17.90	13.03	18.99	13.99	19.54	13.78	20.13	13.58	21.31	14.21	22.49	13.72	-1	15.7	-16					
15					18.43	13.23	19.57	14.18	20.14	13.97	20.75	13.76	21.98	14.39	23.21	13.88	-1	13.5	-14	13.21	13.18	13.14	13.11	13.08
17		18.96 13.42 20.14 14.37 20.73 14.15 21.38 13.95 22.66 14.57 21.16 14.29 21.81 14.08 23.12 14.69 22.16 14.51 21.16 14.29 21.81 14.08 23.12 14.69 22.16 14.51 21.16 14.29 21.81 14.08 23.12 14.69 22.16 14.51 14.08 23.12 14.69 23.12															-1	11.5	-12	13.91	13.87	13.83	13.79	13.76
19		19.35 13.57 20.56 14.51 21.16 14.29 21.81 14.08 23.12 14.69 24															<u>-</u> :	9.5	-10	14.61	14.57	14.52	14.47	14.43
21		19.35 13.57 20.56 14.51 21.16 14.29 21.81 14.08 23.12 14.69 19.41 13.59 20.98 14.65 21.59 14.43 22.25 14.21 23.57 14.81															-	7.5	-8	15.31	15.26	15.21	15.16	15.10
23					19.31	13.55	20.86	14.61	21.47	14.39	22.12	14.17	23.43	14.77	24.73	14.23	-:	5.5	-6	15.64	15.58	15.52	15.46	15.40
25			17.35	13.77	19.20	13.51	20.74	14.57	21.35	14.35	21.99	14.13	23.28	14.73	24.57	14.19	-3	3.0	-4	15.96	15.89	15.82	15.76	15.69
27			17.28	13.74	19.10	13.48	20.62	14.53	21.22	14.31	21.83	14.08	23.04	14.67			-	1.0	-2	16.29	16.21	16.13	16.06	15.98
29			17.14	13.68	18.85	13.38	20.31	14.42	20.92	14.21	21.53	13.99	22.75	14.59			Ŀ	1.0	0	16.61	16.53	16.44	16.36	16.28
31			16.99	13.62	18.59	13.29	20.00	14.32	20.61	14.12	21.22	13.90	22.45	14.51			2	2.0	1	16.78	16.69	16.59	16.51	16.42
33	16.46	12.98	17.03	13.64	18.33	13.19	19.69	14.22	20.31	14.02	20.92	13.81	22.15	14.43			3	3.0	2	17.96	17.86	17.76	17.66	17.56
35	16.14	12.84	16.76	13.53	18.08	13.10	19.38	14.11	20.00	13.92	20.62	13.72	21.85	14.35			Ę	5.0	4	20.33	20.21	20.08	19.96	19.84
37	15.86	12.72	16.50	13.43	17.76	12.98	18.98	13.98	19.57	13.79	20.17	13.59	21.35	14.22			7	7.0	6	22.71	22.55	22.40	22.26	22.12
39	15.59	12.60	16.23	13.32	17.44	12.87	18.58	13.85	19.15	13.66	19.71	13.46	20.85	14.10			9	9.0	8	23.43	23.28	23.13	22.88	22.63
41	15.32	12.49	15.97	13.22	17.13	12.76	18.17	13.72	18.72	13.53	19.26	13.33	20.35	13.97			1	1.5	10	24.14	24.00	23.86	23.50	23.13
43	15.04	12.37	15.70	13.11	16.81	12.64	17.77	13.59	18.29	13.40	18.81	13.20	19.85	13.85			1:	3.5	12	25.41	25.24	25.07	24.77	24.43
																	1:	5.5	14	26.67	26.47	26.27	26.05	25.72
																	1	6.5	16	27.30	27.09	26.87	26.69	26.37

Outdoor unit FDC250VS

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Cool M	ode	12001	70. 7.		idoor (ai iic - i	DLIVI	2511	(Z driit	3)	Outuc	or um	. 10	0230 V		(kW)
Outdoor							Indo	or air t	emper	ature						
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an temp.	12 \	WB	14 \	WB	16	WB	18 \	WB	191	WB	20 \	NB	22 \	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					21.71	15.36	23.02	16.42	23.67	16.17	24.38	15.92	25.79	16.62	27.21	16.02
13					22.38	15.61	23.74	16.66	24.42	16.41	25.16	16.16	26.63	16.84	28.11	16.23
15	15 23.04 15.86 24.46 16.91 25.17 16.65 25.94 16.40 27.48 17.07 29.02 16.44															
17	17 23.70 16.11 25.18 17.16 25.92 16.90 26.72 16.64 28.32 17.30 29.92 16.66															
19	17 23.70 16.11 25.18 17.16 25.92 16.90 26.72 16.64 28.32 17.30 29.92 16.66															
21					24.26	16.33	26.22	17.53	26.99	17.26	27.82	16.99	29.47	17.63	31.12	16.96
23					24.13	16.28	26.07	17.48	26.84	17.21	27.65	16.94	29.28	17.57	30.91	16.90
25			21.69	16.50	24.00	16.23	25.92	17.42	26.68	17.16	27.49	16.88	29.10	17.52	30.71	16.85
27			21.60	16.46	23.88	16.18	25.77	17.37	26.53	17.10	27.29	16.82	28.80	17.44		
29			21.42	16.39	23.56	16.06	25.39	17.23	26.15	16.98	26.91	16.70	28.43	17.33		
31			21.24	16.31	23.24	15.93	25.00	17.10	25.77	16.85	26.53	16.58	28.06	17.23		
33	20.58	15.64	21.29	16.33	22.92	15.81	24.61	16.96	25.38	16.72	26.15	16.46	27.69	17.13		
35	20.17	15.45	20.96	16.20	22.60	15.69	24.23	16.83	25.00	16.60	25.77	16.34	27.31	17.03		
37	19.83	15.29	20.62	16.06	22.20	15.54	23.73	16.66	24.47	16.42	25.21	16.17	26.69	16.86		
39	19.49	15.14	20.29	15.92	21.80	15.39	23.22	16.49	23.93	16.25	24.64	16.00	26.06	16.69		
41	19.15	14.99	19.96	15.79	21.41	15.24	22.72	16.32	23.40	16.08	24.08	15.83	25.43	16.52		
43	18.81	14.84	19.63	15.65	21.01	15.10	22.22	16.15	22.86	15.91	23.51	15.66	24.81	16.36		
	18.81	14.84	19.63	15.65									_			

Indoor unit FDEN125VF (2 units)

Model FDEN250VSPVF

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

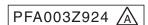
Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

Heat Mode (kW) Outdoor Indoor air temperature air temp. DB DB WB 16 18 20 22 24 -19.8 -20 -17.7 -18 -15.7 -16 -13.5 -14 16.52 | 16.47 | 16.43 | 16.39 | 16.35 17.39 17.34 17.29 17.24 17.19 -11.5 -12 -9.5 -10 18.26 18.21 18.15 18.09 18.04 -7.5 -8 19.14 19.07 19.01 18.94 18.88 -5.5 -6 19.55 19.47 19.40 19.32 19.24 -3.0 -4 19.95 | 19.87 | 19.78 | 19.70 | 19.61 -1.0 -2 20.36 20.26 20.17 20.07 19.98 1.0 20.77 20.66 20.55 20.45 20.35 20.97 20.86 20.74 20.64 20.53 2.0 3.0 2 22.45 | 22.32 | 22.19 | 22.07 | 21.95 5.0 4 25.42 | 25.26 | 25.10 | 24.95 | 24.80 7.0 28.38 28.19 28.00 27.82 27.65 6 9.0 29.28 29.10 28.91 28.60 28.28 8 11.5 10 30.18 30.00 29.83 29.37 28.91 13.5 12 31.76 31.55 31.33 30.97 30.53 15.5 14 33.34 33.09 32.84 32.57 32.15 16 34.13 33.86 33.59 33.37 32.96 16.5



(c) Triple type

Model FDEN140VNTVF Indoor unit FDEN50VF (3 units) Outdoor unit FDC140VN

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tomp.	12 \	WB	14 \	WB	16 \	ΝB	18	WB	19	WB	20	WB	22 \	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	8.98	12.02	9.63	12.35	9.55	12.70	9.48	13.39	9.96	14.08	9.78
13					11.90	9.21	12.61	9.87	12.96	9.80	13.33	9.72	14.09	10.21	14.84	10.02
15					12.43	9.45	13.19	10.11	13.57	10.04	13.97	9.97	14.78	10.45	15.59	10.27
17					12.96	9.69	13.77	10.36	14.17	10.29	14.61	10.22	15.48	10.71	16.34	10.52
19					13.24	9.82	14.06	10.48	14.48	10.41	14.92	10.35	15.80	10.82	16.68	10.63
21					13.51	9.94	14.36	10.61	14.78	10.54	15.23	10.47	16.12	10.94	17.02	10.75
23					13.51	9.94	14.40	10.63	14.82	10.56	15.28	10.49	16.19	10.97	17.10	10.77
25			12.50	10.06	13.50	9.94	14.43	10.64	14.86	10.57	15.33	10.51	16.25	10.99	17.18	10.80
27			12.41	10.01	13.50	9.94	14.47	10.66	14.91	10.59	15.34	10.51	16.20	10.97		
29			12.32	9.97	13.29	9.84	14.23	10.56	14.68	10.50	15.13	10.43	16.02	10.90		
31			12.23	9.92	13.09	9.75	13.99	10.45	14.45	10.40	14.92	10.35	15.85	10.84		
33	11.51	9.33	12.01	9.82	12.89	9.66	13.75	10.35	14.23	10.31	14.71	10.26	15.67	10.78		
35	11.28	9.21	11.82	9.72	12.68	9.56	13.50	10.24	14.00	10.22	14.50	10.18	15.49	10.71		
37	11.08	9.11	11.62	9.63	12.47	9.47	13.25	10.14	13.71	10.10	14.18	10.05	15.12	10.58		
39	10.89	9.01	11.43	9.53	12.26	9.37	12.99	10.03	13.43	9.98	13.86	9.93	14.74	10.44		
41	10.70	8.91	11.23	9.44	12.04	9.27	12.73	9.92	13.14	9.87	13.55	9.81	14.36	10.30		
43	10.51	8.82	11.03	9.34	11.83	9.18	12.47	9.81	12.85	9.75	13.23	9.69	13.98	10.17		

(kW)		Heat I	Mode					(kW)
	П	Out	door	In	door a	ir tem	oeratu	re
DB	П	air te	emp.			DB		
WB	П	DB	WB	16	18	20	22	24
SHC		-19.8	-20	8.06	8.03	8.00	7.97	7.94
9.78		-17.7	-18	8.53	8.50	8.46	8.43	8.39
10.02		-15.7	-16	9.00	8.96	8.92	8.88	8.85
10.27		-13.5	-14	9.52	9.48	9.43	9.39	9.35
10.52		-11.5	-12	10.04	9.99	9.95	9.90	9.85
10.63		-9.5	-10	10.56	10.51	10.46	10.41	10.36
10.75		-7.5	-8	11.08	11.02	10.97	10.91	10.86
10.77		-5.5	-6	11.32	11.26	11.21	11.15	11.09
10.80		-3.0	-4	11.56	11.50	11.44	11.38	11.31
		-1.0	-2	11.81	11.75	11.68	11.61	11.54
		1.0	0	12.05	11.99	11.92	11.84	11.77
		2.0	1	12.18	12.11	12.04	11.96	11.89
		3.0	2	12.98	12.90	12.83	12.77	12.72
		5.0	4	14.58	14.50	14.41	14.40	14.38
		7.0	6	16.19	16.09	16.00	16.02	16.05
		9.0	8	16.83	16.73	16.63	16.59	16.55
		11.5	10	17.46	17.37	17.27	17.17	17.06
		13.5	12	18.44	18.33	18.22	18.08	18.00
		15.5	14	19.41	19.29	19.17	18.99	18.95
		16.5	16	19.90	19.77	19.64	19.45	19.42

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Model FDEN140VSTVF Indoor unit FDEN50VF (3 units) Cool Mode Outdoor unit FDC140VS

COOI IVI	oue															(KVV)
0.44							Indo	or air t	emper	ature						
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an temp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	8.98	12.02	9.63	12.35	9.55	12.70	9.48	13.39	9.96	14.08	9.78
13					11.90	9.21	12.61	9.87	12.96	9.80	13.33	9.72	14.09	10.21	14.84	10.02
15					12.43	9.45	13.19	10.11	13.57	10.04	13.97	9.97	14.78	10.45	15.59	10.27
17					12.96	9.69	13.77	10.36	14.17	10.29	14.61	10.22	15.48	10.71	16.34	10.52
19					13.24	9.82	14.06	10.48	14.48	10.41	14.92	10.35	15.80	10.82	16.68	10.63
21					13.51	9.94	14.36	10.61	14.78	10.54	15.23	10.47	16.12	10.94	17.02	10.75
23					13.51	9.94	14.40	10.63	14.82	10.56	15.28	10.49	16.19	10.97	17.10	10.77
25			12.50	10.06	13.50	9.94	14.43	10.64	14.86	10.57	15.33	10.51	16.25	10.99	17.18	10.80
27			12.41	10.01	13.50	9.94	14.47	10.66	14.91	10.59	15.34	10.51	16.20	10.97		
29			12.32	9.97	13.29	9.84	14.23	10.56	14.68	10.50	15.13	10.43	16.02	10.90		
31			12.23	9.92	13.09	9.75	13.99	10.45	14.45	10.40	14.92	10.35	15.85	10.84		
33	11.51	9.33	12.01	9.82	12.89	9.66	13.75	10.35	14.23	10.31	14.71	10.26	15.67	10.78		
35	11.28	9.21	11.82	9.72	12.68	9.56	13.50	10.24	14.00	10.22	14.50	10.18	15.49	10.71		
37	11.08	9.11	11.62	9.63	12.47	9.47	13.25	10.14	13.71	10.10	14.18	10.05	15.12	10.58		
39	10.89	9.01	11.43	9.53	12.26	9.37	12.99	10.03	13.43	9.98	13.86	9.93	14.74	10.44		
41	10.70	8.91	11.23	9.44	12.04	9.27	12.73	9.92	13.14	9.87	13.55	9.81	14.36	10.30		
43	10.51	8.82	11.03	9.34	11.83	9.18	12.47	9.81	12.85	9.75	13.23	9.69	13.98	10.17		

Note(1)	These	data	show	average	statuses.	
	D	Jim	o 4la		0.044401	

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length: 7.5m

Level difference of Zero.

(3) Symbols are as follows

(3) Symbols are as follows.
TC: Total cooling capacity
SHC: Sensible heat capacity

(kW)		Heat I	Mode					(kW)
	Ш		door	In	door a	ir tem	peratu	е
DB	Ш	air te	emp.			DB		
WB	Ш	DB	WB	16	18	20	22	24
SHC	Ш	-19.8	-20	8.06	8.03	8.00	7.97	7.94
9.78	Ш	-17.7	-18	8.53	8.50	8.46	8.43	8.39
10.02	Ш	-15.7	-16	9.00	8.96	8.92	8.88	8.85
10.27	Ш	-13.5	-14	9.52	9.48	9.43	9.39	9.35
10.52	Ш	-11.5	-12	10.04	9.99	9.95	9.90	9.85
10.63	Ш	-9.5	-10	10.56	10.51	10.46	10.41	10.36
10.75	Ш	-7.5	-8	11.08	11.02	10.97	10.91	10.86
10.77	Ш	-5.5	-6	11.32	11.26	11.21	11.15	11.09
10.80	Ш	-3.0	-4	11.56	11.50	11.44	11.38	11.31
	Ш	-1.0	-2	11.81	11.75	11.68	11.61	11.54
	Ш	1.0	0	12.05	11.99	11.92	11.84	11.77
	Ш	2.0	1	12.18	12.11	12.04	11.96	11.89
	Ш	3.0	2	12.98	12.90	12.83	12.77	12.72
	Ш	5.0	4	14.58	14.50	14.41	14.40	14.38
	Ш	7.0	6	16.19	16.09	16.00	16.02	16.05
	Ш	9.0	8	16.83	16.73	16.63	16.59	16.55
	Ш	11.5	10	17.46	17.37	17.27	17.17	17.06
	П	13.5	12	18.44	18.33	18.22	18.08	18.00
	1	15.5	14	19.41	19.29	19.17	18.99	18.95
		16.5	16	19.90	19.77	19.64	19.45	19.42
	٠,							

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Model Cool Me		\200\	/STVF	- In	ndoor u	ınit F	DEN7	1VF (3	3 units) (Outdoo	r unit	FDC	200VS	6	(kW)	Heat	Mode					(kW)
0.44							Indo	or air t	emper	ature							Out	door	In	door a	ir temp	peratur	re
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air t	emp.			DB		
an temp.	12 '	ΝB	14 \	WB	16 \	WB	18	WB	19	WB	20 \	WB	22	WB	24	WB	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-20					
11					17.37	14.36	18.41	15.53	18.94	15.39	19.50	15.25	20.63	16.11	21.76	15.77	-17.7	-18					
13					17.90	14.57	18.99	15.74	19.54	15.60	20.13	15.46	21.31	16.32	22.49	15.97	-15.7	-16					
15					18.43	14.78	19.57	15.95	20.14	15.81	20.75	15.67	21.98	16.52	23.21	16.17	-13.5	-14	13.21	13.18	13.14	13.11	13.08
17		18.43 14.78 19.57 15.95 20.14 15.81 20.75 15.67 21.98 16.52 18.96 15.00 20.14 16.17 20.73 16.02 21.38 15.89 22.66 16.73															-11.5	-12	13.91	13.87	13.83	13.79	13.76
19		19.35 15.16 20.56 16.32 21.16 16.18 21.81 16.03 23.12 16.88														16.51	-9.5	-10	14.61	14.57	14.52	14.47	14.43
21											22.25						-7.5	-8	_			15.16	
23											22.12						-5.5	-6	_			15.46	
25					19.20		_		_							16.55	-3.0	-4	_			15.76	
27					19.10				_							\Box	-1.0	-2	_			16.06	_
29					18.85						_					\Box	1.0	0				16.36	_
31					18.59											\Box	2.0	1				16.51	_
33					18.33		_						_				3.0	2				17.66	-
35					18.08												5.0	4				19.96	
37					17.76										_		7.0	6	_			22.26	
39					17.44								_	_			9.0	8				22.88	-
41					17.13										_		11.5	10				23.50	
43	15.04	13.60	15.70	14.51	16.81	14.14	17.77	15.29	18.29	15.16	18.81	15.02	19.85	15.88			13.5	12				24.77	
																	15.5	14				26.05	
																	16.5	16	27.30	27.09	26.87	26.69	26.37

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(d) Double twin type

Model Cool Me		\200\	/SDVI	F Ir	ndoor i	unit l	FDENS	50VF (4 units) (Outdoo	or unit	FDC	200VS	3	(1.1.1.1.)	Hoat	Mode					(1444)
COOLINI	Jue						Indo	or oir t	omnor	oturo						(kW)		tdoor	In	door o	ir tomr	orotus	(kW)
Outdoor	18	DB	21	DB	22	DB		DB	emper	DB	20	DB	31	DB	22	DB		temp.	l in	door a	DB	peratur	e
air temp.		WB	_	WB	_	WB	_	WB		WB	_	WB	22		24	_	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8		10	10	20		
11	-10	0110	<u> </u>	0110	17.37	12.96	-		_		_		20.63		-	14.01	-17.7						
13					_		18.99	_	_				21.31		_	14.26	-15.7	+ -					
15						_							21.98	_	_	_	-13.5		13.21	13.18	13.14	13.11	13.08
17					_		_	_	_		_		22.66				-11.5	_	_	13.87			
19					19.35	13.89	20.56	14.77	21.16	14.67	21.81	14.57	23.12	15.20	24.42	14.92	-9.5	-10	14.61	14.57	14.52	14.47	14.43
21					19.41	13.92	20.98	14.96	21.59	14.85	22.25	14.75	23.57	15.37	24.89	15.09	-7.5	-8	15.31	15.26	15.21	15.16	15.10
23					19.31	13.87	20.86	14.90	21.47	14.80	22.12	14.70	23.43	15.32	24.73	15.03	-5.5	-6	15.64	15.58	15.52	15.46	15.40
25			17.35	13.75	19.20	13.82	20.74	14.85	21.35	14.75	21.99	14.65	23.28	15.26	24.57	14.98	-3.0	-4	15.96	15.89	15.82	15.76	15.69
27			17.28	13.71	19.10	13.77	20.62	14.80	21.22	14.69	21.83	14.58	23.04	15.17			-1.0	-2	16.29	16.21	16.13	16.06	15.98
29			17.14	13.64	18.85	13.65	20.31	14.66	20.92	14.56	21.53	14.46	22.75	15.06			1.0	0	16.61	16.53	16.44	16.36	16.28
31			16.99	13.57	18.59	13.53	20.00	14.52	20.61	14.43	21.22	14.33	22.45	14.95			2.0	1	16.78	16.69	16.59	16.51	16.42
33	16.46	13.03	17.03	13.59	18.33	13.41	19.69	14.38	20.31	14.31	20.92	14.21	22.15	14.83			3.0	2	17.96	17.86	17.76	17.66	17.56
35	16.14	12.86	16.76	13.45	18.08	13.29	19.38	14.25	20.00	14.17	20.62	14.09	21.85	14.72			5.0	4	_	20.21			
37	15.86				_		_		_				21.35				7.0	6	22.71	22.55	22.40	22.26	22.12
39	15.59		-					_	_				20.85				9.0	8	_	23.28			
41			_					_	_				20.35				11.5	10	_	24.00			
43	15.04	12.28	15.70	12.94	16.81	12.71	17.77	13.56	18.29	13.47	18.81	13.37	19.85	13.99			13.5	12	_	25.24			_
Note(1) Th																	15.5	14	_	26.47			
							es where ency of a				ducted c	ontinuou	sly.				16.5	16	27.30	27.09	26.87	26.69	26.37
(2) Ca	pacities	are base	d on the	following	ng condi	tions.	,	rempre										Г					
Le	orrespon evel diffe	erence of	Zero.	oiping le	ngth :7.5	m													PF	400	3Z9	24	A
	mbols a C : Tota			tv																			
	HC : Sei																						

Model Cool Mo		N250\	/SDVI	F Ir	ndoor ເ	ınit f	-DEN6	60VF (4 units	i) (Outdoo	or unit	FDC	250V	3	(kW)	Hea	Mode					(kW)
0.44	Indoor air temperature															Oı	ıtdoor	Indoor air temperature					
Outdoor air temp.	18 DB		21 DB		23 DB		26 DB		27 DB		28 DB		31 DB		33 DB		air temp.		DB				
	12 WB		14 WB		16 WB		18 WB		19 WB		20 WB		22 WB		24 WB		DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.	3 -20					
11					21.71	16.88	23.02	18.19	23.67	17.97	24.38	17.76	25.79	18.68	27.21	18.16	-17.	7 -18					
13					22.38	17.13	23.74	18.44	24.42	18.22	25.16	18.00	26.63	18.91	28.11	18.38	-15.	7 -16					
15					23.04	17.38	24.46	18.69	25.17	18.46	25.94	18.24	27.48	19.15	29.02	18.61	-13.	-14	16.52	16.47	16.43	16.39	16.35
17					23.70	17.64	25.18	18.94	25.92	18.71	26.72	18.49	28.32	19.39	29.92	18.83	-11.	-12	17.39	17.34	17.29	17.24	17.19
19					24.19	17.83	25.70	19.12	26.45	18.89	27.27	18.67	28.89	19.55	30.52	18.99	-9.5	-10	18.26	18.21	18.15	18.09	18.04
21					24.26	17.85	26.22	19.31	26.99	19.08	27.82	18.84	29.47	19.72	31.12	19.14	-7.5	-8	19.14	19.07	19.01	18.94	18.88
23					24.13	17.80	26.07	19.25	26.84	19.02	27.65	18.79	29.28	19.67	30.91	19.09	-5.5	-6	19.55	19.47	19.40	19.32	19.24
25			21.69	18.00	24.00	17.75	25.92	19.20	26.68	18.97	27.49	18.74	29.10	19.61	30.71	19.04	-3.0	-4	19.95	19.87	19.78	19.70	19.61
27			21.60	17.96	23.88	17.71	25.77	19.15	26.53	18.92	27.29	18.67	28.80	19.53			-1.0	-2	20.36	20.26	20.17	20.07	19.98
29			21.42	17.89	23.56	17.58	25.39	19.01	26.15	18.79	26.91	18.55	28.43	19.42			1.0	0	20.77	20.66	20.55	20.45	20.35
31			21.24	17.81	23.24	17.46	25.00	18.87	25.77	18.66	26.53	18.43	28.06	19.32			2.0	1	20.97	20.86	20.74	20.64	20.53
33	20.58	16.92	21.29	17.83	22.92	17.34	24.61	18.74	25.38	18.53	26.15	18.31	27.69	19.21			3.0	2	22.45	22.32	22.19	22.07	21.95
35	20.17	16.74	20.96	17.70	22.60	17.21	24.23	18.61	25.00	18.41	25.77	18.19	27.31	19.10			5.0	4	25.42	25.26	25.10	24.95	24.80
37	19.83	16.58	20.62	17.56	22.20	17.06	23.73	18.43	24.47	18.23	25.21	18.02	26.69	18.93			7.0	6	28.38	28.19	28.00	27.82	27.65
39	19.49	16.43	20.29	17.42	21.80	16.91	23.22	18.26	23.93	18.06	24.64	17.84	26.06	18.76			9.0	8	29.28	29.10	28.91	28.60	28.28
41	19.15	16.28	19.96	17.28	21.41	16.76	22.72	18.09	23.40	17.88	24.08	17.67	25.43	18.58			11.8	10	30.18	30.00	29.83	29.37	28.91
43	18.81	16.13	19.63	17.15	21.01	16.62	22.22	17.92	22.86	17.71	23.51	17.49	24.81	18.42			13.5	12	31.76	31.55	31.33	30.97	30.53
Note(1) Th	ese data	show av	erage st	atuses.													15.5	14	33.34	33.09	32.84	32.57	32.15
					nere may						ducted co	ntinuou	sly.				16.5	16	34.13	33.86	33.59	33.37	32.96

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

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(4) Duct connected-High static pressure type (FDU)

(a) Single type

Model FDU100VNVD FDU100VSVD

Indoor unit FDU100VD

Outdoor unit FDC100VN FDC100VS

Cool Mode

0.44					Indo	oor air t	empera	ture				
Outdoor air temp.	23°C	DB	26°C	DB	27°C	DB	28°C	DB	31°C	DB	33°C	DB
an temp.	16°C	WB	18°C	WB	19℃	:WB	20°C	:WB	22°C	WB	24°C	WB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	9.98	8.22	10.55	8.73	10.84	8.64	11.15	8.55	11.78	9.02	12.41	8.81
25	9.71	8.12	10.28	8.64	10.56	8.55	10.87	8.46	11.49	8.94	12.12	8.74
30	9.44	8.01	10.00	8.54	10.28	8.45	10.59	8.37	11.21	8.86		
35	9.05	7.86	9.68	8.43	10.00	8.36	10.30	8.28	10.90	8.77		
40	8.45	7.64	9.15	8.24	9.50	8.20	9.78	8.12	10.34	8.61		
43	8.00	7.47	8.72	8.10	9.08	8.06	9.40	8.00	10.05	8.53		

Heat Mode

	пеаі	IV	loue					
1			door		Indoor	air temp	erature	
1	air	r te	emp.			°CDB		
	°CDI	В	°CWB	16	18	20	22	24
]	-14.7	7	-15	6.89	6.51	6.13	5.75	5.50
l	-9.6		-10	7.40	7.38	7.00	6.62	6.24
]	-3.4		-4	7.53	7.51	7.49	7.11	6.74
J	1.8		1	8.55	8.52	8.06	7.45	6.99
l	4.9		4	10.28	10.14	9.33	8.47	7.84
1	7.0		6	11.35	11.27	11.20	10.92	10.40
1	11.2		10	12.19	12.10	12.02	11.73	10.69

PJD001Z306

Model FDU125VNVD FDU125VSVD

Indoor unit FDU125VD

Outdoor unit FDC125VN

FDC125VS

Cool Mode

OUDI WIOU												
Outdoor					Ind	oor air t	empera	ture				
air temp.	23°0	DB	26°0	DB	27°0	DB	28°0	DB	31°C	DB	33°C	DB
a tompi	16°C	WB .	18°C	WB	19°C	WB	20°C	:WB	22°C	:WB	24°C	WB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	12.31	10.15	12.97	10.76	13.30	10.65	13.66	10.53	14.38	11.10	15.10	10.82
25	12.05	10.05	12.71	10.67	13.03	10.55	13.39	10.44	14.11	11.02	14.83	10.75
30	11.79	9.95	12.44	10.58	12.77	10.47	13.13	10.36	13.84	10.94		
35	11.31	9.77	12.10	10.46	12.50	10.38	12.86	10.27	13.58	10.86		
40	10.56	9.48	11.44	10.23	11.88	10.17	12.23	10.08	12.93	10.68		
43	10.00	9.27	10.90	10.04	11.35	10.00	11.76	9.93	12.57	10.58		

Heat Mode

]		door		Indoor	air temp	erature	!
1	air te	emp.			°CDB		
	°CDB	°CWB	16	18	20	22	24
]	-14.7	-15	8.62	8.14	7.67	7.19	6.88
	-9.6	-10	9.25	9.22	8.75	8.28	7.81
]	-3.4	-4	9.41	9.39	9.36	8.89	8.42
J	1.8	1	10.68	10.65	10.08	9.32	8.74
	4.9	4	12.85	12.68	11.74	10.58	9.80
]	7.0	6	14.19	14.09	14.00	13.65	13.00
J	11.2	10	15.16	15.06	14.97	14.66	13.36

PJD001Z306

Model FDU140VNVD FDU140VSVD

Indoor unit FDU140VD

Outdoor unit FDC140VN FDC140VS

Cool Mode

Outdoor					Indo	oor air t	empera	ture				
Outdoor air temp.	23°C	DB	26°C	DB	27°C	DB	28°C	DB	31°C	DB	33°C	DB
an tomp.	16°C	:WB	18°C	:WB	19℃	:WB	20°C	:WB	22°C	:WB	24°C	WB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	10.47	13.91	11.10	14.31	10.99	14.62	10.85	15.23	11.35	15.85	11.02
25	12.92	10.39	13.78	11.06	14.21	10.96	14.48	10.80	15.04	11.29	15.59	10.95
30	12.73	10.32	13.65	11.01	14.10	10.92	14.35	10.76	14.84	11.23		
35	12.53	10.24	13.51	10.96	14.00	10.89	14.21	10.71	14.64	11.17		
40	11.83	9.96	12.59	10.63	12.97	10.53	13.27	10.41	13.86	10.94		
43	11.20	9.72	12.04	10.44	12.35	10.33	12.70	10.22	13.39	10.81		

Heat Mode

i icat ivi						
Out	door		Indoor	air temp	erature	
air te	emp.			°CDB		
°CDB	°CWB	16	18	20	22	24
-14.7	-15	9.85	9.31	8.76	8.22	7.86
-9.6	-10	10.57	10.54	10.00	9.46	8.92
-3.4	-4	10.75	10.73	10.69	10.16	9.63
1.8	1	12.21	12.17	11.52	10.65	9.99
4.9	4	14.69	14.49	13.36	12.09	11.20
7.0	6	16.18	16.09	16.00	15.60	14.86
11.2	10	17.47	17.36	17.26	16.75	15.27

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity SHC : Sensible heat capacity PJD001Z306

Model Cool Mo		200VS	SVF	Indo	or unit	FDL	J200VF	= (Outdoo	or unit	FDC	200VS	3			(kW)	Неа	Mode					(kW)
	040						Indoo	or air t	emper	ature						(1.11)		tdoor	1	door a	ir temr	neratui	, ,
Outdoor	18	DB	21	DB	23	DB	26			DB	28	DB	31	DB	33	DB		temp.	<u> </u>	<u> </u>	DB	Joratai	
air temp.	12 \			WB	16		18 \		19		20 \		22 \		24		DB	T wb	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.	_	i	10			
11					17.37	13.32	18.41	14.29	18.94	14.16	19.50	14.03	20.63	14.73	21.76	14.40	-17.	7 -18					
13					17.90	13.54	18.99	14.51	19.54	14.38	20.13	14.25	21.31	14.95	22.49	14.62	-15.	7 -16					
15					18.43	13.77	19.57	14.74	20.14	14.61	20.75	14.48	21.98	15.17	23.21	14.83	-13.	-14	13.21	13.18	13.14	13.11	13.08
17					18.96	13.99	20.14	14.97	20.73	14.83	21.38	14.71	22.66	15.40	23.94	15.05	-11.	-12	13.91	13.87	13.83	13.79	13.76
19					19.35	14.16	20.56	15.14	21.16	15.00	21.81	14.86	23.12	15.55	24.42	15.20	-9.5	-10	14.61	14.57	14.52	14.47	14.43
21					19.41	14.19	20.98	15.30	21.59	15.16	22.25	15.03	23.57	15.70	24.89	15.34	-7.5	-8	15.31	15.26	15.21	15.16	15.10
23					19.31	14.15	20.86	15.26	21.47	15.12	22.12	14.98	23.43	15.65	24.73	15.29	-5.5	-6	15.64	15.58	15.52	15.46	15.40
25					19.20		-				_		_			15.24	-3.0	-4		15.89			_
27			17.28	14.12	19.10	14.05	20.62	15.16	21.22	15.02	21.83	14.87	23.04	15.52			-1.0	-2	16.29	16.21	16.13	16.06	15.98
29					18.85		_								-		1.0	0	_	16.53			_
31					18.59		-						_				2.0	1	_	16.69			_
33					18.33		_						_		-		3.0	2		17.86			_
35	-				18.08										_		5.0	4	_	20.21			
37					17.76										_		7.0	6	_	22.55			
39					17.44												9.0	8	_	23.28			_
41					17.13												11.5	_	_	24.00			
43	15.04	12.66	15.70	13.41	16.81	13.09	17.77	14.04	18.29	13.92	18.81	13.79	19.85	14.48			13.5	_		25.24			
																	15.5	_		26.47			
																	16.5	16	27.30	27.09	26.87	26.69	26.37

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Model FDU250VSVF Indoor unit FDU250VF Outdoor unit FDC250VS Cool Mode

																(1/4/4/)
Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
dii terrip.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					21.71	18.50	23.02	20.07	23.67	19.89	24.38	19.71	25.79	20.87	27.21	20.43
13					22.38	18.76	23.74	20.33	24.42	20.14	25.16	19.97	26.63	21.12	28.11	20.67
15					23.04	19.02	24.46	20.59	25.17	20.40	25.94	20.22	27.48	21.37	29.02	20.92
17					23.70	19.28	25.18	20.85	25.92	20.66	26.72	20.48	28.32	21.62	29.92	21.16
19					24.19	19.48	25.70	21.04	26.45	20.85	27.27	20.66	28.89	21.79	30.52	21.32
21					24.26	19.51	26.22	21.23	26.99	21.04	27.82	20.85	29.47	21.97	31.12	21.49
23					24.13	19.46	26.07	21.17	26.84	20.98	27.65	20.79	29.28	21.91	30.91	21.43
25			21.69	19.61	24.00	19.40	25.92	21.12	26.68	20.93	27.49	20.74	29.10	21.86	30.71	21.37
27			21.60	19.57	23.88	19.36	25.77	21.06	26.53	20.87	27.29	20.67	28.80	21.77		
29			21.42	19.49	23.56	19.23	25.39	20.92	26.15	20.74	26.91	20.54	28.43	21.66		
31			21.24	19.42	23.24	19.10	25.00	20.78	25.77	20.61	26.53	20.42	28.06	21.54		
33	20.58	18.31	21.29	19.44	22.92	18.98	24.61	20.64	25.38	20.47	26.15	20.29	27.69	21.43		
35	20.17	18.13	20.96	19.30	22.60	18.85	24.23	20.50	25.00	20.34	25.77	20.17	27.31	21.32		
37	19.83	17.97	20.62	19.15	22.20	18.69	23.73	20.32	24.47	20.16	25.21	19.98	26.69	21.13		
39	19.49	17.81	20.29	19.01	21.80	18.54	23.22	20.14	23.93	19.98	24.64	19.80	26.06	20.95		
41	19.15	17.66	19.96	18.88	21.41	18.39	22.72	19.96	23.40	19.80	24.08	19.62	25.43	20.76		
43	18.81	17.51	19.63	18.74	21.01	18.23	22.22	19.79	22.86	19.61	23.51	19.43	24.81	20.58		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously

These data show the case where the operation frequency of a compressor is fixed. (2) Capacities are based on the following conditions. Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

(kW) Heat Mode (kW) Indoor air temperature Outdoor air temp DB WB 24 16 18 20 22 -19.8 -20 -18 -17.7 -15.7 -16 -13.5 -14 16.52 | 16.47 | 16.43 | 16.39 | 16.35 17.39 17.34 17.29 17.24 17.19 -11.5 -12 -9.5 -10 | 18.26 | 18.21 | 18.15 | 18.09 | 18.04 19.14 19.07 19.01 18.94 18.88 -7.5 -8 -5.5 -6 19.55 19.47 19.40 19.32 19.24 19.95 19.87 19.78 19.70 19.61 -3.0 -1.0 -2 20.36 20.26 20.17 20.07 19.98 1.0 0 20.77 20.66 20.55 20.45 20.35 2.0 1 20.97 20.86 20.74 20.64 20.53 3.0 22.45 22.32 22.19 22.07 21.95 5.0 25.42 | 25.26 | 25.10 | 24.95 | 24.80 7.0 28.38 28.19 28.00 27.82 27.65 29.28 29.10 28.91 28.60 28.28 30.18 30.00 29.83 29.37 28.91 11.5 10 12 31.76 31.55 31.33 30.97 30.53 13.5 15.5 14 33.34 33.09 32.84 32.57 32.15 16 34.13 33.86 33.59 33.37 32.96 16.5

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(5) Duct connected-Low / Middle static pressure type (FDUM) (a) Single type

Model FDUM100VNVF Indoor unit FDUM100VF Outdoor unit FDC100VN Cool Mode (kW)

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tomp	12 \	WB	14 \	WB	16	WB	18 \	WB	19 \	WB	20 \	ΝB	22 \	WB	24 \	NΒ
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	7.21	8.59	7.86	8.82	7.77	9.07	7.69	9.56	8.16	10.06	7.96
13					8.50	7.35	9.00	7.99	9.26	7.91	9.52	7.82	10.06	8.29	10.60	8.08
15					8.88	7.49	9.42	8.13	9.69	8.04	9.98	7.95	10.56	8.42	11.14	8.20
17					9.26	7.62	9.84	8.27	10.12	8.17	10.43	8.08	11.05	8.55	11.67	8.33
19					9.46	7.70	10.05	8.34	10.34	8.24	10.65	8.15	11.29	8.61	11.92	8.39
21					9.65	7.77	10.25	8.40	10.56	8.31	10.88	8.22	11.52	8.67	12.16	8.44
23					9.65	7.77	10.28	8.41	10.59	8.32	10.91	8.23	11.56	8.68	12.21	8.46
25			8.93	7.98	9.64	7.76	10.31	8.42	10.62	8.33	10.95	8.24	11.61	8.70	12.27	8.47
27			8.86	7.95	9.64	7.76	10.34	8.43	10.65	8.34	10.96	8.24	11.57	8.69		
29			8.80	7.93	9.50	7.71	10.17	8.38	10.49	8.29	10.81	8.20	11.45	8.65		
31			8.73	7.90	9.35	7.66	9.99	8.32	10.32	8.24	10.66	8.15	11.32	8.62		
33	8.22	7.34	8.58	7.84	9.21	7.61	9.82	8.26	10.16	8.19	10.51	8.11	11.19	8.58		
35	8.05	7.27	8.44	7.78	9.06	7.55	9.64	8.20	10.00	8.14	10.36	8.06	11.07	8.55		
37	7.92	7.21	8.30	7.73	8.91	7.50	9.46	8.14	9.79	8.07	10.13	8.00	10.80	8.48		
39	7.78	7.15	8.16	7.67	8.75	7.44	9.28	8.08	9.59	8.01	9.90	7.93	10.53	8.41		
41	7.64	7.09	8.02	7.62	8.60	7.38	9.09	8.02	9.38	7.94	9.68	7.86	10.26	8.34		
43	7.50	7.03	7.88	7.56	8.45	7.33	8.91	7.96	9.18	7.88	9.45	7.80	9.99	8.27		

Heat I	Mode					(kW)
	door	In	door a	ir temp	eratur	е
air te	emp.			DB		
DB	WB	16	18	20	22	24
-19.8	-20	5.64	5.62	5.60	5.58	5.56
-17.7	-18	5.97	5.95	5.92	5.90	5.87
-15.7	-16	6.30	6.27	6.25	6.22	6.19
-13.5	-14	6.66	6.63	6.60	6.57	6.54
-11.5	-12	7.03	6.99	6.96	6.93	6.90
-9.5	-10	7.39	7.36	7.32	7.29	7.25
-7.5	-8	7.75	7.72	7.68	7.64	7.60
-5.5	-6	7.92	7.88	7.85	7.80	7.76
-3.0	-4	8.10	8.05	8.01	7.97	7.92
-1.0	-2	8.27	8.22	8.18	8.13	8.08
1.0	0	8.44	8.39	8.34	8.29	8.24
2.0	1	8.52	8.47	8.42	8.37	8.32
3.0	2	9.08	9.03	8.98	8.94	8.90
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59

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Model FDUM100VSVF Indoor unit FDUM100VF Outdoor unit FDC100VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tomp	12 \	WB	14 \	WB	16 \	WB	18 \	WB	19 \	WB	20 \	ΝB	22 \	WB	24 \	NΒ
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	7.21	8.59	7.86	8.82	7.77	9.07	7.69	9.56	8.16	10.06	7.96
13					8.50	7.35	9.00	7.99	9.26	7.91	9.52	7.82	10.06	8.29	10.60	8.08
15					8.88	7.49	9.42	8.13	9.69	8.04	9.98	7.95	10.56	8.42	11.14	8.20
17					9.26	7.62	9.84	8.27	10.12	8.17	10.43	8.08	11.05	8.55	11.67	8.33
19					9.46	7.70	10.05	8.34	10.34	8.24	10.65	8.15	11.29	8.61	11.92	8.39
21					9.65	7.77	10.25	8.40	10.56	8.31	10.88	8.22	11.52	8.67	12.16	8.44
23					9.65	7.77	10.28	8.41	10.59	8.32	10.91	8.23	11.56	8.68	12.21	8.46
25			8.93	7.98	9.64	7.76	10.31	8.42	10.62	8.33	10.95	8.24	11.61	8.70	12.27	8.47
27			8.86	7.95	9.64	7.76	10.34	8.43	10.65	8.34	10.96	8.24	11.57	8.69		
29			8.80	7.93	9.50	7.71	10.17	8.38	10.49	8.29	10.81	8.20	11.45	8.65		
31			8.73	7.90	9.35	7.66	9.99	8.32	10.32	8.24	10.66	8.15	11.32	8.62		
33	8.22	7.34	8.58	7.84	9.21	7.61	9.82	8.26	10.16	8.19	10.51	8.11	11.19	8.58		
35	8.05	7.27	8.44	7.78	9.06	7.55	9.64	8.20	10.00	8.14	10.36	8.06	11.07	8.55		
37	7.92	7.21	8.30	7.73	8.91	7.50	9.46	8.14	9.79	8.07	10.13	8.00	10.80	8.48		
39	7.78	7.15	8.16	7.67	8.75	7.44	9.28	8.08	9.59	8.01	9.90	7.93	10.53	8.41		
41	7.64	7.09	8.02	7.62	8.60	7.38	9.09	8.02	9.38	7.94	9.68	7.86	10.26	8.34		
43	7.50	7.03	7.88	7.56	8.45	7.33	8.91	7.96	9.18	7.88	9.45	7.80	9.99	8.27		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions. Corresponding refrigerant piping length: 7.5m Level difference of Zero.

(3) Symbols are as follows. TC: Total cooling capacity SHC: Sensible heat capacity Heat Mode (kW) Outdoor Indoor air temperature air temp. DB DB WB 16 18 20 22 24 5.58 -19.8 -20 5.64 5.62 5.60 5.56 -17.7 -18 5.97 5.95 5.92 5.90 5.87 -15.7 -16 6.30 6.27 6.25 6.22 6.19 -13.5 -14 6.66 6.63 6.60 6.57 6.54 -11.5 6.90 -12 7.03 6.99 6.96 6.93 -9.5 -10 7.39 7.36 7.32 7.29 7.25 -7.5 -8 7.72 7.64 7.60 7.75 7.68 -5.5 -6 7.92 7.88 7.85 7.80 7.76 7.92 -3.0 -4 8.01 7.97 8.10 8.05 -1.0 -2 8.27 8.22 8.18 8.13 8.08 1.0 0 8.44 8.39 8.34 8.29 8.24 8.47 2.0 8.52 8.42 8.37 8.32 1 3.0 2 9.08 9.03 8.98 8.94 8.90 5.0 10.15 10.09 10.08 10.07 10.21 11.27 11.20 11.22 11.23 7.0 11.33 9.0 8 11.78 11.71 11.64 11.62 11.59 12.23 12.16 12.09 12.02 11.94 11.5 10 13.5 12 12.91 12.83 12.75 12.65 12.60 15.5 14 13.59 13.50 13.42 13.29 13.26 16.5 16 13.93 13.84 13.75 13.61 13.59

(kW)

PJR002Z417

Model Cool Me		W125\	VNVF	Ind	door ur	nit Fl	DUM12	25VF	Οι	ıtdoor	unit	FDC12	25VN			(kW)	Heat	Mode					(kW)
							Indo	or air t	emper	ature							Ou	tdoor	In	door a	ir tem	eratur	
Outdoor	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air	emp.			DB		
air temp.	12 \	ΝB	14 \	NB	16 \	ΝB	18 \	ΝB	19 \	NB	20 \	ΝB	22 \	NB	24 \	ΝB	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-20	7.06	7.03	7.00	6.97	6.95
11					10.15	7.92	10.74	8.53	11.03	8.42	11.34	8.32	11.96	8.74	12.57	8.49	-17.7	-18	7.46	7.43	7.41	7.37	7.34
13					10.63	8.10	11.26	8.71	11.57	8.60	11.91	8.49	12.58	8.91	13.25	8.65	-15.7	-16	7.87	7.84	7.81	7.77	7.74
15					11.10	8.28	11.78	8.89	12.11	8.77	12.47	8.67	13.20	9.09	13.92	8.82	-13.5	-14	8.33	8.29	8.26	8.22	8.18
17															14.59	8.99	-11.5	-12	8.78	8.74	8.70	8.66	8.62
19					11.82	8.56	12.56	9.16	12.92	9.05	13.32	8.94	14.11	9.35	14.90	9.07	-9.5	-10	9.24	9.19	9.15	9.11	9.06
21	21 12.06 8.65 12.82 9.26 13.19 9.14 13.60 9.03 14.40 9.43														15.20	9.14	-7.5	-8	9.69	9.65	9.60	9.55	9.50
23					12.06	8.65	12.85	9.27	13.23	9.15	13.64	9.04	14.45	9.45	15.27	9.16	-5.5	-6	9.91	9.86	9.81	9.75	9.70
25			11.16	8.88	12.06	8.65	12.89	9.28	13.27	9.17	13.68	9.06	14.51	9.46	15.34	9.18	-3.0	-4	10.12	10.07	10.01	9.96	9.90
27			11.08	8.84	12.05	8.65	12.92	9.29	13.31	9.18	13.69	9.06	14.47	9.45			-1.0	-2	10.33	10.28	10.22	10.16	10.10
29			11.00	8.81	11.87	8.58	12.71	9.22	13.11	9.11	13.51	9.00	14.31	9.41			1.0	0	10.55	10.49	10.43	10.36	10.30
31			10.92	8.77	11.69	8.51	12.49	9.14	12.90	9.04	13.32	8.94	14.15	9.36			2.0	1	10.65	10.59	10.53	10.47	10.40
33	10.27	8.23	10.72	8.69	11.51	8.44	12.27	9.06	12.70	8.97	13.13	8.88	13.99	9.31			3.0	2	11.36	11.29	11.22	11.18	11.13
35	10.07	8.14	10.55	8.62	11.33	8.37	12.06	8.99	12.50	8.91	12.94	8.82	13.83	9.27			5.0	4	12.76	12.69	12.61	12.60	12.58
37	9.90	8.06	10.38	8.54	11.13	8.29	11.83	8.90	12.24	8.82	12.66	8.73	13.50	9.17			7.0	6	14.16	14.08	14.00	14.02	14.04
39	9.72	7.98	10.20	8.47	10.94	8.22	11.60	8.82	11.99	8.74	12.38	8.64	13.16	9.07			9.0	8	14.72	14.64	14.56	14.52	14.49
41	9.55	7.90	10.02	8.39	10.75	8.14	11.37	8.74	11.73	8.65	12.09	8.55	12.82	8.98			11.5	10	15.28	15.20	15.11	15.02	14.93
43	9.38	7.83	9.85	8.32	10.56	8.07	11.14	8.66	11.47	8.56	11.81	8.46	12.48	8.89			13.5	12	16.13	16.04	15.94	15.82	15.75
																	15.5	14	16.98	16.88	16.77	16.62	16.58
																	16.5	16	17.41	17.30	17.19	17.02	16.99

PJR002Z417

Model		M125	VSVF	Ind	door ur	nit Fl	DUM12	25VF	Οι	ıtdoor	unit l	FDC12	25VS			
Cool M	ode															(kW)
Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tomp.	12 \	ΝB	14 \	ΝB	16 \	ΝB	18 \	NΒ	19 \	WB	20 \	ΝB	22 \	ΝB	24 \	ΝB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.15	7.92	10.74	8.53	11.03	8.42	11.34	8.32	11.96	8.74	12.57	8.49
13					10.63	8.10	11.26	8.71	11.57	8.60	11.91	8.49	12.58	8.91	13.25	8.65
15					11.10	8.28	11.78	8.89	12.11	8.77	12.47	8.67	13.20	9.09	13.92	8.82
17					11.58	8.46	12.29	9.07	12.65	8.96	13.04	8.85	13.82	9.26	14.59	8.99
19					11.82	8.56	12.56	9.16	12.92	9.05	13.32	8.94	14.11	9.35	14.90	9.07
21					12.06	8.65	12.82	9.26	13.19	9.14	13.60	9.03	14.40	9.43	15.20	9.14
23					12.06	8.65	12.85	9.27	13.23	9.15	13.64	9.04	14.45	9.45	15.27	9.16
25			11.16	8.88	12.06	8.65	12.89	9.28	13.27	9.17	13.68	9.06	14.51	9.46	15.34	9.18
27			11.08	8.84	12.05	8.65	12.92	9.29	13.31	9.18	13.69	9.06	14.47	9.45		
29			11.00	8.81	11.87	8.58	12.71	9.22	13.11	9.11	13.51	9.00	14.31	9.41		
31			10.92	8.77	11.69	8.51	12.49	9.14	12.90	9.04	13.32	8.94	14.15	9.36		
33	10.27	8.23	10.72	8.69	11.51	8.44	12.27	9.06	12.70	8.97	13.13	8.88	13.99	9.31		
35	10.07	8.14	10.55	8.62	11.33	8.37	12.06	8.99	12.50	8.91	12.94	8.82	13.83	9.27		
37	9.90	8.06	10.38	8.54	11.13	8.29	11.83	8.90	12.24	8.82	12.66	8.73	13.50	9.17		
39	9.72	7.98	10.20	8.47	10.94	8.22	11.60	8.82	11.99	8.74	12.38	8.64	13.16	9.07		
41	9.55	7.90	10.02	8.39	10.75	8.14	11.37	8.74	11.73	8.65	12.09	8.55	12.82	8.98		
43	9.38	7.83	9.85	8.32	10.56	8.07	11.14	8.66	11.47	8.56	11.81	8.46	12.48	8.89		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length: 7.5m

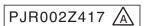
Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

Heat	Mode					(kW)
Out	door	In	door a	ıir tem	peratu	re
air t	emp.			DB		
DB	WB	16	18	20	22	24
-19.8	-20	7.06	7.03	7.00	6.97	6.95
-17.7	-18	7.46	7.43	7.41	7.37	7.34
-15.7	-16	7.87	7.84	7.81	7.77	7.74
-13.5	-14	8.33	8.29	8.26	8.22	8.18
-11.5	-12	8.78	8.74	8.70	8.66	8.62
-9.5	-10	9.24	9.19	9.15	9.11	9.06
-7.5	-8	9.69	9.65	9.60	9.55	9.50
-5.5	-6	9.91	9.86	9.81	9.75	9.70
-3.0	-4	10.12	10.07	10.01	9.96	9.90
-1.0	-2	10.33	10.28	10.22	10.16	10.10
1.0	0	10.55	10.49	10.43	10.36	10.30
2.0	1	10.65	10.59	10.53	10.47	10.40
3.0	2	11.36	11.29	11.22	11.18	11.13
5.0	4	12.76	12.69	12.61	12.60	12.58
7.0	6	14.16	14.08	14.00	14.02	14.04
9.0	8	14.72	14.64	14.56	14.52	14.49
11.5	10	15.28	15.20	15.11	15.02	14.93
13.5	12	16.13	16.04	15.94	15.82	15.75
15.5	14	16.98	16.88	16.77	16.62	16.58
16.5	16	17.41	17.30	17.19	17.02	16.99



Model Cool Me		M140	VNVF	Ind	door ur	nit Fl	DUM1	40VF	Οι	ıtdoor	unit	FDC14	40VN			(kW)	Hea	t Mode					(kW)
Outdoor							Indo	or air t	emper	ature							0	utdoor	In	door a	ir temp	oeratu	re
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	ai	temp.			DB		
an tomp.	12 \	ΝB	14 \	WB	16	ΝB	18	WB	19	WB	20 \	WB	22 '	WB	24 \	WB	DE	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19	8 -20	8.06	8.03	8.00	7.97	7.94
11					11.37	8.49	12.02	9.09	12.35	8.98	12.70	8.87	13.39	9.29	14.08	9.02	-17	7 -18	8.53	8.50	8.46	8.43	8.39
13					11.90	8.70	12.61	9.31	12.96	9.19	13.33	9.08	14.09	9.50	14.84	9.22	-15	7 -16	9.00	8.96	8.92	8.88	8.85
15			12.43 8.92 13.19 9.52 13.57 9.41 13.97 9.30 14.78 9.71 15 12.96 9.14 13.77 9.74 14.17 9.63 14.61 9.52 15.48 9.92 16															5 -14	9.52	9.48	9.43	9.39	9.35
17					12.96	9.14	13.77	9.74	14.17	9.63	14.61	9.52	15.48	9.92	16.34	9.63	-11	5 -12	10.04	9.99	9.95	9.90	9.85
19					13.24	9.25	14.06	9.85	14.48	9.74	14.92	9.63	15.80	10.02	16.68	9.73	-9.		10.56		10.46		10.36
21					13.51	9.37	14.36	9.97	14.78	9.85	15.23	9.74	16.12	10.13	17.02	9.83	-7.		_				10.86
23					13.51	9.37	14.40	9.99	14.82	9.87	15.28	9.75	16.19	10.15	17.10	9.85	-5.	-6	11.32	11.26	11.21	11.15	11.09
25			12.50	9.57	13.50	9.36	14.43	10.00	14.86	9.88	15.33	9.77	16.25	10.17	17.18	9.87	-3.) -4	11.56	11.50	11.44		
27			12.41	9.53	13.50	9.36	14.47	10.01	14.91	9.90	15.34	9.77	16.20	10.15			-1.) -2	_	-	11.68	_	11.54
29			12.32	9.49	13.29	9.27	14.23	9.92	14.68	9.81	15.13	9.70	16.02	10.09			1.0	0	12.05	11.99	11.92	11.84	11.77
31			12.23	9.45	13.09	9.19	13.99	9.83	14.45	9.73	14.92	9.63	15.85	10.04			2.	1	12.18	12.11	12.04	11.96	11.89
33	11.51	8.91	12.01	9.35	12.89		13.75		14.23	9.65	14.71	9.55	15.67	9.98			3.	2	12.98	12.90	12.83	12.77	12.72
35	11.28	8.80	11.82	9.27	12.68	9.02	13.50	9.64	14.00	9.57	14.50	9.48	15.49	9.93			5.	4	14.58	14.50	14.41	14.40	14.38
37	11.08	8.70	11.62	9.18	12.47	8.93	13.25	9.55	13.71	9.46	14.18	9.37	15.12	9.81			7.	6	16.19	16.09	16.00	16.02	16.05
39	10.89	8.61	11.43	9.09	12.26	8.85	12.99	9.45	13.43	9.36	13.86	9.26	14.74	9.69			9.	8	16.83	16.73	16.63	16.59	16.55
41	10.70	8.52	11.23	9.01	12.04	8.76	12.73	9.35	13.14	9.26	13.55	9.16	14.36	9.58			11.	10	17.46	17.37	17.27	17.17	17.06
43	10.51	8.43	11.03	8.92	11.83	8.67	12.47	9.26	12.85	9.16	13.23	9.05	13.98	9.46			13.	5 12	18.44	18.33	18.22	18.08	18.00
																	15.	5 14	19.41	19.29	19.17	18.99	18.95
																	16.	16	19.90	19.77	19.64	19.45	19.42

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Model FDUM140VSVF Indoor unit FDUM140VF Outdoor unit FDC140VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
о тот при	12 \	NΒ	14 \	WB	16 \	ΝB	18	WB	19 \	WB	20 \	NΒ	22 '	WB	24 \	NΒ
DB	TC			SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	8.49	12.02	9.09	12.35	8.98	12.70	8.87	13.39	9.29	14.08	9.02
13					11.90	8.70	12.61	9.31	12.96	9.19	13.33	9.08	14.09	9.50	14.84	9.22
15					12.43	8.92	13.19	9.52	13.57	9.41	13.97	9.30	14.78	9.71	15.59	9.43
17					12.96	9.14	13.77	9.74	14.17	9.63	14.61	9.52	15.48	9.92	16.34	9.63
19					13.24	9.25	14.06	9.85	14.48	9.74	14.92	9.63	15.80	10.02	16.68	9.73
21					13.51	9.37	14.36	9.97	14.78	9.85	15.23	9.74	16.12	10.13	17.02	9.83
23					13.51	9.37	14.40	9.99	14.82	9.87	15.28	9.75	16.19	10.15	17.10	9.85
25			12.50	9.57	13.50	9.36	14.43	10.00	14.86	9.88	15.33	9.77	16.25	10.17	17.18	9.87
27			12.41	9.53	13.50	9.36	14.47	10.01	14.91	9.90	15.34	9.77	16.20	10.15		
29			12.32	9.49	13.29	9.27	14.23	9.92	14.68	9.81	15.13	9.70	16.02	10.09		
31			12.23	9.45	13.09	9.19	13.99	9.83	14.45	9.73	14.92	9.63	15.85	10.04		
33	11.51	8.91	12.01	9.35	12.89	9.11	13.75	9.73	14.23	9.65	14.71	9.55	15.67	9.98		
35	11.28	8.80	11.82	9.27	12.68	9.02	13.50	9.64	14.00	9.57	14.50	9.48	15.49	9.93		
37	11.08	8.70	11.62	9.18	12.47	8.93	13.25	9.55	13.71	9.46	14.18	9.37	15.12	9.81		
39	10.89	8.61	11.43	9.09	12.26	8.85	12.99	9.45	13.43	9.36	13.86	9.26	14.74	9.69		
41	10.70	8.52	11.23	9.01	12.04	8.76	12.73	9.35	13.14	9.26	13.55	9.16	14.36	9.58		
43	10.51	8.43	11.03	8.92	11.83	8.67	12.47	9.26	12.85	9.16	13.23	9.05	13.98	9.46		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions. Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

(kW) Heat Mode (kW) Outdoor Indoor air temperature air temp. DB DB WB 16 18 20 22 24 -19.8 -20 8.06 8.03 8.00 7.97 7.94 -17.7 -18 8.53 8.50 8.46 8.43 8.39 -15.7 -16 9.00 8.96 8.92 8.88 8.85 -13.5 -14 9.52 9.48 9.43 9.39 9.35 -115 -12 10.04 9.99 9.95 9.90 9.85 -9.5 10.56 10.51 10.46 10.41 10.36 -10 -7.5 -8 11.08 | 11.02 | 10.97 | 10.91 | 10.86 -5.5 -6 11.32 11.26 11.21 11.15 11.09 -3.0 -4 11.56 11.50 | 11.44 | 11.38 | 11.31 -1.0 -2 11.81 11.75 11.68 11.61 11.54 12.05 11.99 11.92 11.84 11.77 1.0 2.0 12.18 12.11 12.04 11.96 11.89 3.0 2 12.98 12.90 12.83 12.77 12.72 5.0 4 14.58 14.50 14.41 | 14.40 | 14.38 7.0 6 16.19 | 16.09 | 16.00 | 16.02 | 16.05 9.0 16.83 16.73 16.63 16.59 16.55 8 11.5 10 | 17.46 | 17.37 | 17.27 | 17.17 | 17.06 13.5 18.44 18.33 18.22 18.08 18.00 12 14 19.41 19.29 19.17 18.99 18.95 15.5 19.90 19.77 19.64 19.45 19.42 16.5 16

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(b) Twin type

Model FDUM100VNPVF Indoor unit FDUM50VF (2 units) Outdoor unit FDC100VN Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tomp.	12	WB	14 \	WB	16 \	WB	18 \	ΝB	19 \	ΝB	20 \	ΝB	22 \	ΝB	24 \	NΒ
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	7.74	8.59	8.42	8.82	8.38	9.07	8.33	9.56	8.86	10.06	8.73
13					8.50	7.89	9.00	8.60	9.26	8.54	9.52	8.49	10.06	9.02	10.60	8.89
15					8.88	8.05	9.42	8.76	9.69	8.70	9.98	8.65	10.56	9.19	11.14	9.05
17					9.26	8.21	9.84	8.92	10.12	8.86	10.43	8.81	11.05	9.35	11.67	9.21
19					9.46	8.29	10.05	9.00	10.34	8.94	10.65	8.89	11.29	9.43	11.92	9.28
21					9.65	8.37	10.25	9.08	10.56	9.03	10.88	8.97	11.52	9.50	12.16	9.36
23					9.65	8.37	10.28	9.09	10.59	9.04	10.91	8.98	11.56	9.52	12.21	9.37
25			8.93	8.51	9.64	8.37	10.31	9.10	10.62	9.05	10.95	9.00	11.61	9.53	12.27	9.39
27			8.86	8.48	9.64	8.37	10.34	9.11	10.65	9.06	10.96	9.00	11.57	9.52		
29			8.80	8.45	9.50	8.31	10.17	9.05	10.49	9.00	10.81	8.95	11.45	9.48		
31			8.73	8.42	9.35	8.24	9.99	8.98	10.32	8.94	10.66	8.89	11.32	9.44		
33	8.22	7.80	8.58	8.35	9.21	8.19	9.82	8.91	10.16	8.88	10.51	8.84	11.19	9.39		
35	8.05	7.72	8.44	8.27	9.06	8.12	9.64	8.84	10.00	8.82	10.36	8.78	11.07	9.35		
37	7.92	7.66	8.30	8.13	8.91	8.06	9.46	8.77	9.79	8.74	10.13	8.70	10.80	9.27		
39	7.78	7.59	8.16	8.00	8.75	7.99	9.28	8.70	9.59	8.66	9.90	8.62	10.53	9.18		
41	7.64	7.49	8.02	7.86	8.60	7.93	9.09	8.63	9.38	8.59	9.68	8.54	10.26	9.09		
43	7.50	7.35	7.88	7.72	8.45	7.87	8.91	8.56	9.18	8.51	9.45	8.46	9.99	9.00		

(kW)	Heat I	Mode					(kW)
	Out	door	In	door a	ir tem	oeratu	re
DB	air te	emp.			DB		
NΒ	DB	WB	16	18	20	22	24
SHC	-19.8	-20	5.64	5.62	5.60	5.58	5.56
8.73	-17.7	-18	5.97	5.95	5.92	5.90	5.87
8.89	-15.7	-16	6.30	6.27	6.25	6.22	6.19
9.05	-13.5	-14	6.66	6.63	6.60	6.57	6.54
9.21	-11.5	-12	7.03	6.99	6.96	6.93	6.90
9.28	-9.5	-10	7.39	7.36	7.32	7.29	7.25
9.36	-7.5	-8	7.75	7.72	7.68	7.64	7.60
9.37	-5.5	-6	7.92	7.88	7.85	7.80	7.76
9.39	-3.0	-4	8.10	8.05	8.01	7.97	7.92
	-1.0	-2	8.27	8.22	8.18	8.13	8.08
	1.0	0	8.44	8.39	8.34	8.29	8.24
	2.0	1	8.52	8.47	8.42	8.37	8.32
	3.0	2	9.08	9.03	8.98	8.94	8.90
	5.0	4	10.21	10.15	10.09	10.08	10.07
	7.0	6	11.33	11.27	11.20	11.22	11.23
	9.0	8	11.78	11.71	11.64	11.62	11.59
	11.5	10	12.23	12.16	12.09	12.02	11.94
	13.5	12	12.91	12.83	12.75	12.65	12.60
	15.5	14	13.59	13.50	13.42	13.29	13.26
	16.5	16	13.93	13.84	13.75	13.61	13.59

PJR002Z417 🛕

Model FDUM100VSPVF Indoor unit FDUM50VF (2 units) Cool Mode Outdoor unit FDC100VS

OCCI IVI	ouc															(KVV)
Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
un tomp.	12	WB	14 \	WB	16 \	WB	18 \	ΝB	19 \	WB	20 \	ΝB	22 \	ΝB	24 \	NΒ
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	7.74	8.59	8.42	8.82	8.38	9.07	8.33	9.56	8.86	10.06	8.73
13					8.50	7.89	9.00	8.60	9.26	8.54	9.52	8.49	10.06	9.02	10.60	8.89
15					8.88	8.05	9.42	8.76	9.69	8.70	9.98	8.65	10.56	9.19	11.14	9.05
17					9.26	8.21	9.84	8.92	10.12	8.86	10.43	8.81	11.05	9.35	11.67	9.21
19					9.46	8.29	10.05	9.00	10.34	8.94	10.65	8.89	11.29	9.43	11.92	9.28
21					9.65	8.37	10.25	9.08	10.56	9.03	10.88	8.97	11.52	9.50	12.16	9.36
23					9.65	8.37	10.28	9.09	10.59	9.04	10.91	8.98	11.56	9.52	12.21	9.37
25			8.93	8.51	9.64	8.37	10.31	9.10	10.62	9.05	10.95	9.00	11.61	9.53	12.27	9.39
27			8.86	8.48	9.64	8.37	10.34	9.11	10.65	9.06	10.96	9.00	11.57	9.52		
29			8.80	8.45	9.50	8.31	10.17	9.05	10.49	9.00	10.81	8.95	11.45	9.48		
31			8.73	8.42	9.35	8.24	9.99	8.98	10.32	8.94	10.66	8.89	11.32	9.44		
33	8.22	7.80	8.58	8.35	9.21	8.19	9.82	8.91	10.16	8.88	10.51	8.84	11.19	9.39		
35	8.05	7.72	8.44	8.27	9.06	8.12	9.64	8.84	10.00	8.82	10.36	8.78	11.07	9.35		
37	7.92	7.66	8.30	8.13	8.91	8.06	9.46	8.77	9.79	8.74	10.13	8.70	10.80	9.27		
39	7.78	7.59	8.16	8.00	8.75	7.99	9.28	8.70	9.59	8.66	9.90	8.62	10.53	9.18		
41	7.64	7.49	8.02	7.86	8.60	7.93	9.09	8.63	9.38	8.59	9.68	8.54	10.26	9.09		
43	7.50	7.35	7.88	7.72	8.45	7.87	8.91	8.56	9.18	8.51	9.45	8.46	9.99	9.00		

(kW)		Heat I	Mode					(kW)
		Out	door	In	door a	ir tem	oeratu	re
DB		air te	emp.			DB		
NΒ	Ш	DB	WB	16	18	20	22	24
SHC		-19.8	-20	5.64	5.62	5.60	5.58	5.56
8.73		-17.7	-18	5.97	5.95	5.92	5.90	5.87
8.89		-15.7	-16	6.30	6.27	6.25	6.22	6.19
9.05		-13.5	-14	6.66	6.63	6.60	6.57	6.54
9.21		-11.5	-12	7.03	6.99	6.96	6.93	6.90
9.28		-9.5	-10	7.39	7.36	7.32	7.29	7.25
9.36		-7.5	-8	7.75	7.72	7.68	7.64	7.60
9.37		-5.5	-6	7.92	7.88	7.85	7.80	7.76
9.39		-3.0	-4	8.10	8.05	8.01	7.97	7.92
	Ш	-1.0	-2	8.27	8.22	8.18	8.13	8.08
		1.0	0	8.44	8.39	8.34	8.29	8.24
		2.0	1	8.52	8.47	8.42	8.37	8.32
		3.0	2	9.08	9.03	8.98	8.94	8.90
		5.0	4	10.21	10.15	10.09	10.08	10.07
	Ш	7.0	6	11.33	11.27	11.20	11.22	11.23
		9.0	8	11.78	11.71	11.64	11.62	11.59
		11.5	10	12.23	12.16	12.09	12.02	11.94
		13.5	12	12.91	12.83	12.75	12.65	12.60
	'	15.5	14	13.59	13.50	13.42	13.29	13.26
		16.5	16	13.93	13.84	13.75	13.61	13.59

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length: 7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

PJR002Z417

Model Cool Me		M125	VNPV	FI	ndoor	unit	FDUM	60VF	(2 unit	s)	Outdo	or uni	FD(C125V	N	(kW)	Heat	Mode					(kW)
Outdoor							Indo	or air t	emper	ature							Ou	tdoor	In	door a	ir tem	oeratui	'e
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air	temp.			DB		
un tompi	12 \	ΝB	14 \	WB	16 \	WB	18	WB	_	WB	20	WB	22 '	WB	24	WB	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-	7.06	7.03	7.00	6.97	6.95
11					10.15	_	10.74	9.45	11.03	9.37	11.34	9.30	11.96	9.84	12.57	9.65	-17.7	_	7.46	7.43	7.41	7.37	7.34
13					10.63		11.26		11.57		11.91				13.25		-15.7		7.87	7.84	7.81	7.77	7.74
15					11.10		11.78		12.11		12.47				13.92	-	-13.5	_	8.33	8.29	8.26	8.22	8.18
17					11.58		12.29		_		13.04				14.59	-	-11.5	_	8.78	8.74	8.70	8.66	8.62
19					11.82		12.56									-	-9.5	_	9.24	9.19	9.15	9.11	9.06
21					12.06		12.82		_					_	_		-7.5	_	9.69	9.65	9.60	9.55	9.50
23					12.06		12.85									_	-5.5		9.91	9.86	9.81	9.75	9.70
25			11.16		12.06		12.89		_		_		_		15.34	10.49	-3.0	-4	10.12	10.07	10.01	9.96	9.90
27			11.08		12.05		12.92		_								-1.0	+	10.33				_
29			11.00		11.87		12.71				_		_				1.0	0	10.55			10.36	-
31			10.92		11.69		12.49		_		_		_				2.0	1				10.47	-
33	10.27		10.72		11.51		12.27				13.13		13.99				3.0	2	11.36			_	
35	10.07		10.55		11.33		12.06		12.50		12.94		13.83	_			5.0	4				12.60	
37	9.90		10.38		11.13		11.83		12.24		12.66		13.50				7.0	6				14.02	-
39	9.72		10.20		10.94		11.60		11.99		12.38		13.16				9.0	8	14.72		_	14.52	
41	9.55		10.02		10.75		11.37		11.73		12.09		12.82	-			11.5	10				15.02	
43	9.38	8.50	9.85	9.09	10.56	8.89	11.14	9.60	11.47	9.53	11.81	9.46	12.48	10.00			13.5	_			_	15.82	
																	15.5	_			_	16.62	
																	16.5	16	17.41	17.30	17.19	17.02	16.99

PJR002Z417

Model Cool M		M125	VSPV	F I	ndoor	unit	FDUM	60VF	(2 unit	s)	Outdo	or unit	FD(C125V	S	(kW)		Heat N	Mode
Outdoor							Indo	or air t	emper	ature							П	Outo	door
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	П	air te	emp.
an tomp.	12 \	WB	14 \	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24	WB	П	DB	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	П	-19.8	-20
11					10.15	8.72	10.74	9.45	11.03	9.37	11.34	9.30	11.96	9.84	12.57	9.65	П	-17.7	-18
13					10.63	8.92	11.26	9.64	11.57	9.57	11.91	9.50	12.58	10.04	13.25	9.85	П	-15.7	-16
15					11.10	9.12	11.78	9.85	12.11	9.77	12.47	9.70	13.20	10.24	13.92	10.05	П	-13.5	-14
17					11.58	9.32	12.29	10.05	12.65	9.97	13.04	9.91	13.82	10.44	14.59	10.26	П	-11.5	-12
19					11.82	9.43	12.56	10.15	12.92	10.08	13.32	10.01	14.11	10.54	14.90	10.35	П	-9.5	-10
21					12.06	9.53	12.82	10.26	13.19	10.18	13.60	10.11	14.40	10.64	15.20	10.44	П	-7.5	-8
23					12.06	9.53	12.85	10.27	13.23	10.19	13.64	10.13	14.45	10.66	15.27	10.46	П	-5.5	-6
25			11.16	9.68	12.06	9.53	12.89	10.28	13.27	10.21	13.68	10.14	14.51	10.68	15.34	10.49	П	-3.0	-4
27			11.08	9.65	12.05	9.52	12.92	10.30	13.31	10.23	13.69	10.14	14.47	10.66			П	-1.0	-2
29			11.00	9.61	11.87	9.45	12.71	10.21	13.11	10.15	13.51	10.08	14.31	10.61			П	1.0	0
31			10.92	9.57	11.69	9.37	12.49	10.13	12.90	10.07	13.32	10.01	14.15	10.55			П	2.0	1
33	10.27	8.93	10.72	9.48	11.51	9.29	12.27	10.04	12.70	9.99	13.13	9.94	13.99	10.50			П	3.0	2
35	10.07	8.83	10.55	9.40	11.33	9.22	12.06	9.96	12.50	9.92	12.94	9.87	13.83	10.45			П	5.0	4
37	9.90	8.75	10.38	9.33	11.13	9.13	11.83	9.87	12.24	9.82	12.66	9.77	13.50	10.34			П	7.0	6
39	9.72	8.66	10.20	9.25	10.94	9.05	11.60	9.78	11.99	9.73	12.38	9.67	13.16	10.23			П	9.0	8
41	9.55	8.58	10.02	9.17	10.75	8.97	11.37	9.69	11.73	9.63	12.09	9.56	12.82	10.11			П	11.5	10
43	9.38	8.50	9.85	9.09	10.56	8.89	11.14	9.60	11.47	9.53	11.81	9.46	12.48	10.00			П	13.5	12
Note(1) Tl	nese data	show a	verage st	atuses.														15.5	14

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

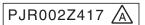
(2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity SHC: Sensible heat capacity

(kW) Indoor air temperature DB 18 20 22 24 16 7.06 7.03 7.00 6.97 6.95 7.46 7.43 7.41 7.37 7.34 7.74 7.87 7.84 7.81 7.77 8.33 8.29 8.26 8.22 8.18 8.78 8.74 8.70 8.66 8.62 9.19 9.06 9.24 9.15 9.11 9.69 9.65 9.60 9.55 9.50 9.91 9.86 9.81 9.75 9.70 10.12 10.07 10.01 9.96 9.90 10.33 10.28 10.22 10.16 10.10 10.55 10.49 10.43 10.36 10.30 10.65 10.59 10.53 10.47 10.40 11.36 11.29 11.22 11.18 11.13 12.76 | 12.69 | 12.61 | 12.60 | 12.58 14.16 | 14.08 | 14.00 | 14.02 | 14.04 14.72 | 14.64 | 14.56 | 14.52 | 14.49 15.28 15.20 15.11 15.02 14.93 16.13 | 16.04 | 15.94 | 15.82 | 15.75 16.98 16.88 16.77 16.62 16.58 16.5 | 16 | 17.41 | 17.30 | 17.19 | 17.02 | 16.99



Model Cool Me		W140\	/NPV	FΙ	ndoor	unit	FDUM	71VF	(2 units	s)	Outdo	or unit	FD(C140V	N	(kW)	Heat	Mode					(kW)
							Indo	or air t	emper	ature						Ìή		tdoor		door a	ir temr	oeratur	<u> </u>
Outdoor	18 E)B	21 [)B	23 [)B	26 [27 E		28 [)B	31 E)B	33 [)B		temp.	<u> </u>	<u> </u>	DB	, o. a.a.	<u> </u>
air temp.	12 V		14 V		16 V		18 V		19 V		20 V		22 W		24 V	_	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-20	8.06	8.03	8.00	7.97	7.94
11					11.37	10.18	12.02	11.07	12.35	10.97	12.70	10.87	13.39	11.53	14.08	11.29	-17.	-18	8.53	8.50	8.46	8.43	8.39
13							12.61										-15.	-16	9.00	8.96	8.92	8.88	8.85
15					12.43	10.58	13.19	11.48	13.57	11.37	13.97	11.27	14.78	11.93	15.59	11.67	-13.	-14	9.52	9.48	9.43	9.39	9.35
17					12.96	10.78	13.77	11.68	14.17	11.58	14.61	11.47	15.48	12.13	16.34	11.87	-11.8	-12	10.04	9.99	9.95	9.90	9.85
19					13.24	10.89	14.06	11.79	14.48	11.68	14.92	11.58	15.80	12.23	16.68	11.96	-9.5	-10	10.56	10.51	10.46	10.41	10.36
21					13.51	11.00	14.36	11.89	14.78	11.78	15.23	11.68	16.12	12.32	17.02	12.05	-7.5	-8	11.08	11.02	10.97	10.91	10.86
23					13.51	11.00	14.40	11.91	14.82	11.80	15.28	11.69	16.19	12.34	17.10	12.07	-5.5	-6	11.32	11.26	11.21	11.15	11.09
25			12.50	11.25	13.50	10.99	14.43	11.92	14.86	11.81	15.33	11.71	16.25	12.36	17.18	12.09	-3.0	-4	11.56	11.50	11.44	11.38	11.31
27			12.41	11.21	13.50	10.99	14.47	11.93	14.91	11.83	15.34	11.71	16.20	12.35			-1.0	-2	11.81	11.75	11.68	11.61	11.54
29			12.32	11.17	13.29	10.91	14.23	11.85	14.68	11.75	15.13	11.64	16.02	12.29			1.0	0	12.05	11.99	11.92	11.84	11.77
31			12.23	11.13	13.09	10.83	13.99	11.76	14.45	11.67	14.92	11.58	15.85	12.24			2.0	1	12.18	12.11	12.04	11.96	11.89
33	11.51	10.35	12.01	11.04	12.89	10.76	13.75	11.68	14.23	11.60	14.71	11.51	15.67	12.19			3.0	2	12.98	12.90	12.83	12.77	12.72
35	11.28	10.24	11.82	10.96	12.68	10.67	13.50	11.59	14.00	11.52	14.50	11.44	15.49	12.14			5.0	4	14.58	14.50	14.41	14.40	14.38
37				_	12.47		_				_			_			7.0	6	_			16.02	
39	10.89				12.26												9.0	8	16.83	16.73	16.63	16.59	16.55
41	10.70				12.04												11.5	10	_			17.17	
43	10.51	9.90	11.03	10.63	11.83	10.35	12.47	11.23	12.85	11.13	13.23	11.03	13.98	11.70			13.5	_				18.08	
																	15.5					18.99	
																	16.5	16	19.90	19.77	19.64	19.45	19.42

PJR002Z417 🛕

Model FDUM140VSPVF Indoor unit FDUM71VF (2 units) Outdoor unit FDC140VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
a tomp.	12 \	WB	14	WB	16	WB	18	WB	19	WB	20 \	WB	22 '	WB	24 \	NB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	10.18	12.02	11.07	12.35	10.97	12.70	10.87	13.39	11.53	14.08	11.29
13					11.90	10.38	12.61	11.28	12.96	11.17	13.33	11.06	14.09	11.73	14.84	11.48
15					12.43	10.58	13.19	11.48	13.57	11.37	13.97	11.27	14.78	11.93	15.59	11.67
17					12.96	10.78	13.77	11.68	14.17	11.58	14.61	11.47	15.48	12.13	16.34	11.87
19					13.24	10.89	14.06	11.79	14.48	11.68	14.92	11.58	15.80	12.23	16.68	11.96
21					13.51	11.00	14.36	11.89	14.78	11.78	15.23	11.68	16.12	12.32	17.02	12.05
23					13.51	11.00	14.40	11.91	14.82	11.80	15.28	11.69	16.19	12.34	17.10	12.07
25			12.50	11.25	13.50	10.99	14.43	11.92	14.86	11.81	15.33	11.71	16.25	12.36	17.18	12.09
27			12.41	11.21	13.50	10.99	14.47	11.93	14.91	11.83	15.34	11.71	16.20	12.35		
29			12.32	11.17	13.29	10.91	14.23	11.85	14.68	11.75	15.13	11.64	16.02	12.29		
31			12.23	11.13	13.09	10.83	13.99	11.76	14.45	11.67	14.92	11.58	15.85	12.24		
33	11.51	10.35	12.01	11.04	12.89	10.76	13.75	11.68	14.23	11.60	14.71	11.51	15.67	12.19		
35	11.28	10.24	11.82	10.96	12.68	10.67	13.50	11.59	14.00	11.52	14.50	11.44	15.49	12.14		
37	11.08	10.15	11.62	10.88	12.47	10.59	13.25	11.50	13.71	11.42	14.18	11.34	15.12	12.03		
39	10.89	10.07	11.43	10.80	12.26	10.51	12.99	11.41	13.43	11.33	13.86	11.23	14.74	11.92		
41	10.70	9.98	11.23	10.72	12.04	10.43	12.73	11.32	13.14	11.23	13.55	11.13	14.36	11.81		
43	10.51	9.90	11.03	10.63	11.83	10.35	12.47	11.23	12.85	11.13	13.23	11.03	13.98	11.70		

Note(1) These data show average statuses.

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m

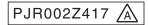
Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

(kW)	Heat I	Mode					(kW)
	Out	door	In	door a	ir tem	peratu	re
DB	air te	emp.			DB		
WB	DB	WB	16	18	20	22	24
SHC	-19.8	-20	8.06	8.03	8.00	7.97	7.94
11.29	-17.7	-18	8.53	8.50	8.46	8.43	8.39
11.48	-15.7	-16	9.00	8.96	8.92	8.88	8.85
11.67	-13.5	-14	9.52	9.48	9.43	9.39	9.35
11.87	-11.5	-12	10.04	9.99	9.95	9.90	9.85
11.96	-9.5	-10	10.56	10.51	10.46	10.41	10.36
12.05	-7.5	-8	11.08	11.02	10.97	10.91	10.86
12.07	-5.5	-6	11.32	11.26	11.21	11.15	11.09
12.09	-3.0	-4	11.56	11.50	11.44	11.38	11.31
	-1.0	-2	11.81	11.75	11.68	11.61	11.54
	1.0	0	12.05	11.99	11.92	11.84	11.77
	2.0	1	12.18	12.11	12.04	11.96	11.89
	3.0	2	12.98	12.90	12.83	12.77	12.72
	5.0	4	14.58	14.50	14.41	14.40	14.38
	7.0	6	16.19	16.09	16.00	16.02	16.05
	9.0	8	16.83	16.73	16.63	16.59	16.55
	11.5	10	17.46	17.37	17.27	17.17	17.06
	13.5	12	18.44	18.33	18.22	18.08	18.00
	15.5	14	19.41	19.29	19.17	18.99	18.95
	16.5	16	19.90	19.77	19.64	19.45	19.42



Model Cool Me		M200\	/SPV	F I	ndoor	unit	FDUM	100VF	(2 uni	ts)	Outd	oor un	it FC	C200	VS	(kW)	Heat	Mode					(kW)
Outdoor							Indo	or air t	emper	ature							Ou	tdoor	In	door a	ir temp	oeratui	re
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air	emp.			DB		
un tompi	12 \	WB	14 '	WB	16	WB	18	WB	19		20	WB	22 '	WB	24	WB	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	_					
11					17.37	14.83	18.41	16.12	18.94	15.94	19.50	15.77	20.63	16.71	21.76	16.29	-17.7	_					
13					_				19.54						_		-15.7	_					
15					_	_			20.14		_		_	_	_		-13.5	_	_		13.14		
17									20.73		_					-	-11.5	_		_	13.83		
19									21.16				_				-9.5	-10			14.52	_	
21									21.59		_					_	-7.5	_	-		15.21		
23									21.47							_	-5.5	_			15.52		
25					19.20				-	_	_		_	_		16.95	-3.0	_	_		15.82		
27			17.28		19.10						_						-1.0	-2	_		16.13		
29					18.85												1.0	0			16.44		
31					18.59				-	_			_	_			2.0	1	_		16.59		
33					18.33	_			-	_			_	_	_		3.0	2	_		17.76		
35				_	18.08				_				_		_		5.0	4	_		20.08		
37					17.76						_		_				7.0	6	_		22.40		
39					17.44								_				9.0	8	_		23.13		
41					17.13												11.5	10	_		23.86		
43	15.04	14.08	15.70	15.11	16.81	14.63	17.77	15.91	18.29	15.74	18.81	15.57	19.85	16.50			13.5	12	_		25.07		
																	15.5	14	_		26.27		
																	16.5	16	27.30	27.09	26.87	26.69	26.37

PJR002Z417

Model	_	M250	VSPV	F I	ndoor	unit	FDUM	125VF	(2 uni	its)	Outd	oor un	it FC	C250	VS	
Cool M	ode															(kW)
Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
un tompi	12 \	WB	14	WB	16	WB	18	WB	19	WB	20 \	WB	22 '	WB	24 \	NΒ
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					21.71	16.37	23.02	17.59	23.67	17.37	24.38	17.16	25.79	18.00	27.21	17.48
13					22.38	16.62	23.74	17.84	24.42	17.62	25.16	17.40	26.63	18.24	28.11	17.70
15	15 23.04 16.88 24.46 18.09 25.17 17.87 25.94 17.65 27.48 18.48 29.02 17.93															
17	17 23.70 17.14 25.18 18.35 25.92 18.12 26.72 17.90 28.32 18.72 29.92 18.17															
19	17 23.70 17.14 25.18 18.35 25.92 18.12 26.72 17.90 28.32 18.72 29.92 18.17															
21					24.26	17.36	26.22	18.73	26.99	18.49	27.82	18.26	29.47	19.06	31.12	18.48
23					24.13	17.31	26.07	18.67	26.84	18.44	27.65	18.21	29.28	19.01	30.91	18.42
25			21.69	17.48	24.00	17.26	25.92	18.62	26.68	18.39	27.49	18.15	29.10	18.95	30.71	18.37
27			21.60	17.44	23.88	17.21	25.77	18.56	26.53	18.33	27.29	18.09	28.80	18.86		
29			21.42	17.37	23.56	17.08	25.39	18.42	26.15	18.20	26.91	17.96	28.43	18.76		
31			21.24	17.29	23.24	16.96	25.00	18.28	25.77	18.07	26.53	17.84	28.06	18.65		
33	20.58	16.48	21.29	17.31	22.92	16.83	24.61	18.14	25.38	17.94	26.15	17.72	27.69	18.54		
35	20.17	16.29	20.96	17.17	22.60	16.71	24.23	18.01	25.00	17.81	25.77	17.60	27.31	18.43		
37	19.83	16.14	20.62	17.03	22.20	16.55	23.73	17.83	24.47	17.63	25.21	17.42	26.69	18.25		
39	19.49	15.98	20.29	16.89	21.80	16.40	23.22	17.65	23.93	17.45	24.64	17.24	26.06	18.08		
41	19.15	15.83	19.96	16.75	21.41	16.25	22.72	17.48	23.40	17.28	24.08	17.06	25.43	17.90		
43	18.81	15.68	19.63	16.62	21.01	16.10	22.22	17.31	22.86	17.10	23.51	16.89	24.81	17.73		

Note(1) These data show average statuses.

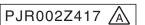
Depending on the system control, there may be ranges where the operation is not conducted continuously These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions. Corresponding refrigerant piping length :7.5m

Level difference of Zero.
(3) Symbols are as follows.

TC: Total cooling capacity SHC: Sensible heat capacity

Heat Mode Outdoor Indoor air temperature air temp. DB WB 18 20 22 24 -19.8 -20 -17.7 -18 -15.7 -16 -13.5 -14 16.52 16.47 16.43 16.39 16.35 -11.5 -12 17.39 | 17.34 | 17.29 | 17.24 | 17.19 18.26 18.21 18.15 18.09 18.04 -95 -10 -7.5 19.14 19.07 19.01 18.94 18.88 -5.5 -6 19.55 19.47 19.40 19.32 19.24 19.95 19.87 19.78 19.70 19.61 -3.0 -4 -1.0 20.36 20.26 20.17 20.07 19.98 1.0 20.77 20.66 20.55 20.45 20.35 20.97 20.86 20.74 20.64 20.53 2.0 3.0 22.45 22.32 22.19 22.07 21.95 25.42 25.26 25.10 24.95 24.80 5.0 4 7.0 6 28.38 28.19 28.00 27.82 27.65 9.0 29.28 29.10 28.91 28.60 28.28 30.18 30.00 29.83 29.37 28.91 11.5 10 13.5 12 31.76 31.55 31.33 30.97 30.53 33.34 33.09 32.84 32.57 32.15 15.5 14 16.5 16 34.13 33.86 33.59 33.37 32.96



(c) Triple type

Model FDUM140VNTVF Indoor unit FDUM50VF (3 units) Outdoor unit FDC140VN Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an tomp.	12	WB	14 \	WB	16	WB	18	WB	19	WB	20 \	WB	22 \	WB	24	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	10.11	12.02	10.96	12.35	10.89	12.70	10.82	13.39	11.46	14.08	11.27
13					11.90	10.33	12.61	11.19	12.96	11.12	13.33	11.04	14.09	11.69	14.84	11.50
15					12.43	10.55	13.19	11.42	13.57	11.35	13.97	11.27	14.78	11.92	15.59	11.73
17					12.96	10.78	13.77	11.65	14.17	11.58	14.61	11.51	15.48	12.16	16.34	11.97
19					13.24	10.90	14.06	11.77	14.48	11.70	14.92	11.62	15.80	12.27	16.68	12.07
21					13.51	11.02	14.36	11.89	14.78	11.81	15.23	11.74	16.12	12.38	17.02	12.18
23					13.51	11.02	14.40	11.90	14.82	11.83	15.28	11.76	16.19	12.40	17.10	12.21
25			12.50	11.18	13.50	11.01	14.43	11.92	14.86	11.84	15.33	11.78	16.25	12.42	17.18	12.23
27			12.41	11.14	13.50	11.01	14.47	11.93	14.91	11.86	15.34	11.78	16.20	12.41		
29			12.32	11.10	13.29	10.92	14.23	11.84	14.68	11.77	15.13	11.70	16.02	12.35		
31			12.23	11.06	13.09	10.84	13.99	11.74	14.45	11.68	14.92	11.62	15.85	12.29		
33	11.51	10.30	12.01	10.96	12.89	10.75	13.75	11.64	14.23	11.60	14.71	11.55	15.67	12.23		
35	11.28	10.19	11.82	10.87	12.68	10.66	13.50	11.54	14.00	11.51	14.50	11.47	15.49	12.16		
37	11.08	10.09	11.62	10.78	12.47	10.57	13.25	11.44	13.71	11.40	14.18	11.35	15.12	12.04		
39	10.89	9.99	11.43	10.69	12.26	10.48	12.99	11.34	13.43	11.29	13.86	11.23	14.74	11.91		
41	10.70	9.90	11.23	10.60	12.04	10.39	12.73	11.24	13.14	11.18	13.55	11.12	14.36	11.78		
43	10.51	9.81	11.03	10.51	11.83	10.30	12.47	11.14	12.85	11.08	13.23	11.01	13.98	11.66		

(kW)		Heat I	Mode					(kW)
	П	Out	door	In	door a	ir tem	oeratui	re
DB	Ш	air te	emp.			DB		
WB	Ш	DB	WB	16	18	20	22	24
SHC	Ш	-19.8	-20	8.06	8.03	8.00	7.97	7.94
11.27	Ш	-17.7	-18	8.53	8.50	8.46	8.43	8.39
11.50	Ш	-15.7	-16	9.00	8.96	8.92	8.88	8.85
11.73	Ш	-13.5	-14	9.52	9.48	9.43	9.39	9.35
11.97	Ш	-11.5	-12	10.04	9.99	9.95	9.90	9.85
12.07	Ш	-9.5	-10	10.56	10.51	10.46	10.41	10.36
12.18	Ш	-7.5	-8	11.08	11.02	10.97	10.91	10.86
12.21	Ш	-5.5	-6	11.32	11.26	11.21	11.15	11.09
12.23	Ш	-3.0	-4	11.56	11.50	11.44	11.38	11.31
	Ш	-1.0	-2	11.81	11.75	11.68	11.61	11.54
	Ш	1.0	0	12.05	11.99	11.92	11.84	11.77
	Ш	2.0	1	12.18	12.11	12.04	11.96	11.89
	Ш	3.0	2	12.98	12.90	12.83	12.77	12.72
	Ш	5.0	4	14.58	14.50	14.41	14.40	14.38
	Ш	7.0	6	16.19	16.09	16.00	16.02	16.05
	Ш	9.0	8	16.83	16.73	16.63	16.59	16.55
	П	11.5	10	17.46	17.37	17.27	17.17	17.06
	П	13.5	12	18.44	18.33	18.22	18.08	18.00
	'	15.5	14	19.41	19.29	19.17	18.99	18.95
		16.5	16	19.90	19.77	19.64	19.45	19.42

PJR002Z417 🛕

Model FDUM140VSTVF Indoor unit FDUM50VF (3 units) Outdoor unit FDC140VS Cool Mode

000																(ICVV)
Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
an temp.	12	WB	14	WB	16	WB	18	WB	19	WB	20	WB	22	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	10.11	12.02	10.96	12.35	10.89	12.70	10.82	13.39	11.46	14.08	11.27
13					11.90	10.33	12.61	11.19	12.96	11.12	13.33	11.04	14.09	11.69	14.84	11.50
15					12.43	10.55	13.19	11.42	13.57	11.35	13.97	11.27	14.78	11.92	15.59	11.73
17					12.96	10.78	13.77	11.65	14.17	11.58	14.61	11.51	15.48	12.16	16.34	11.97
19					13.24	10.90	14.06	11.77	14.48	11.70	14.92	11.62	15.80	12.27	16.68	12.07
21					13.51	11.02	14.36	11.89	14.78	11.81	15.23	11.74	16.12	12.38	17.02	12.18
23					13.51	11.02	14.40	11.90	14.82	11.83	15.28	11.76	16.19	12.40	17.10	12.21
25			12.50	11.18	13.50	11.01	14.43	11.92	14.86	11.84	15.33	11.78	16.25	12.42	17.18	12.23
27			12.41	11.14	13.50	11.01	14.47	11.93	14.91	11.86	15.34	11.78	16.20	12.41		
29			12.32	11.10	13.29	10.92	14.23	11.84	14.68	11.77	15.13	11.70	16.02	12.35		
31			12.23	11.06	13.09	10.84	13.99	11.74	14.45	11.68	14.92	11.62	15.85	12.29		
33	11.51	10.30	12.01	10.96	12.89	10.75	13.75	11.64	14.23	11.60	14.71	11.55	15.67	12.23		
35	11.28	10.19	11.82	10.87	12.68	10.66	13.50	11.54	14.00	11.51	14.50	11.47	15.49	12.16		
37	11.08	10.09	11.62	10.78	12.47	10.57	13.25	11.44	13.71	11.40	14.18	11.35	15.12	12.04		
39	10.89	9.99	11.43	10.69	12.26	10.48	12.99	11.34	13.43	11.29	13.86	11.23	14.74	11.91		
41	10.70	9.90	11.23	10.60	12.04	10.39	12.73	11.24	13.14	11.18	13.55	11.12	14.36	11.78		
43	10.51	9.81	11.03	10.51	11.83	10.30	12.47	11.14	12.85	11.08	13.23	11.01	13.98	11.66		

Note(1)	These	data	show	average	statuses.
	D	41	41.		1

Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

(2) Capacities are based on the following condition:

Corresponding refrigerant piping length :7.5m

Level difference of Zero.

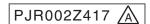
(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

Heat	Mode					(kW)
Out	door	In	door a	ir tem	oeratu	re
air t	emp.			DB		
DB	WB	16	18	20	22	24
-19.8	-20	8.06	8.03	8.00	7.97	7.94
-17.7	-18	8.53	8.50	8.46	8.43	8.39
-15.7	-16	9.00	8.96	8.92	8.88	8.85
-13.5	-14	9.52	9.48	9.43	9.39	9.35
-11.5	-12	10.04	9.99	9.95	9.90	9.85
-9.5	-10	10.56	10.51	10.46	10.41	10.36
-7.5	-8	11.08	11.02	10.97	10.91	10.86
-5.5	-6	11.32	11.26	11.21	11.15	11.09
-3.0	-4	11.56	11.50	11.44	11.38	11.31
-1.0	-2	11.81	11.75	11.68	11.61	11.54
1.0	0	12.05	11.99	11.92	11.84	11.77
2.0	1	12.18	12.11	12.04	11.96	11.89
3.0	2	12.98	12.90	12.83	12.77	12.72
5.0	4	14.58	14.50	14.41	14.40	14.38
7.0	6	16.19	16.09	16.00	16.02	16.05
9.0	8	16.83	16.73	16.63	16.59	16.55
11.5	10	17.46	17.37	17.27	17.17	17.06
13.5	12	18.44	18.33	18.22	18.08	18.00
15.5	14	19.41	19.29	19.17	18.99	18.95
16.5	16	19.90	19.77	19.64	19.45	19.42

(kW)



Model Cool M		M200\	VSTVI	F II	ndoor (unit l	FDUM	71VF ((3 units	s)	Outdo	or unit	FDC	C200V	S	(kW)	Hea	Mode					(kW
0.44							Indo	or air t	emper	ature							0	ıtdoor	In	door a	ir tem	peratu	re
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air	temp.			DB		
an temp.	12 \	ΝB	14 \	ΝB	16 \	ΝB	18 \	WB	19 \	WB	20 \	ΝB	22 \	WB	24 \	NΒ	DB	WB	16	18	20	22	24
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.	3 -20					
11					17.37	15.38	18.41	16.74	18.94	16.59	19.50	16.44	20.63	17.45	21.76	17.09	-17.	⁷ -18					
13					17.90	15.58	18.99	16.94	19.54	16.79	20.13	16.64	21.31	17.65	22.49	17.28	-15.	' -16					
15					18.43	15.78	19.57	17.14	20.14	16.99	20.75	16.84	21.98	17.84	23.21	17.46	-13.	-14	13.21	13.18	13.14	13.11	13.08
17					18.96	15.99	20.14	17.34	20.73	17.19	21.38	17.04	22.66	18.04	23.94	17.65	-11.	-12	13.91	13.87	13.83	13.79	13.76
19					19.35	16.14	20.56	17.49	21.16	17.33	21.81	17.18	23.12	18.17	24.42	17.78	-9.5	-10	14.61	14.57	14.52	14.47	14.43
21					19.41	16.16	20.98	17.64	21.59	17.48	22.25	17.32	23.57	18.30	24.89	17.90	-7.5	-8	15.31	15.26	15.21	15.16	15.10
23					19.31	16.12	20.86	17.60	21.47	17.44	22.12	17.28	23.43	18.26	24.73	17.86	-5.5	-6	15.64	15.58	15.52	15.46	15.40
25			17.35	16.28	19.20	16.08	20.74	17.56	21.35	17.40	21.99	17.24	23.28	18.22	24.57	17.82	-3.0	-4	15.96	15.89	15.82	15.76	15.69
27			17.28	16.25	19.10	16.04	20.62	17.51	21.22	17.35	21.83	17.18	23.04	18.15			-1.0	-2	16.29	16.21	16.13	16.06	15.98
29			17.14	16.20	18.85	15.95	20.31	17.40	20.92	17.25	21.53	17.09	22.75	18.06			1.0	0	16.61	16.53	16.44	16.36	16.28
31			16.99	16.13	18.59	15.85	20.00	17.29	20.61	17.15	21.22	16.99	22.45	17.97			2.0	1	16.78	16.69	16.59	16.51	16.42
33	16.46	15.16	17.03	16.15	18.33	15.75	19.69	17.18	20.31	17.05	20.92	16.89	22.15	17.89			3.0	2	17.96	17.86	17.76	17.66	17.56
35	16.14	15.01	16.76	16.04	18.08	15.65	19.38	17.08	20.00	16.94	20.62	16.80	21.85	17.80			5.0	4	20.33	20.21	20.08	19.96	19.84
37	15.86	14.89	16.50	15.93	17.76	15.53	18.98	16.94	19.57	16.80	20.17	16.65	21.35	17.66			7.0	6	22.71	22.55	22.40	22.26	22.12
39	15.59	14.77	16.23	15.82	17.44	15.41	18.58	16.80	19.15	16.66	19.71	16.51	20.85	17.51			9.0	8	23.43	23.28	23.13	22.88	22.63
41	15.32	14.65	15.97	15.65	17.13	15.29	18.17	16.66	18.72	16.52	19.26	16.37	20.35	17.37			11.5	10	24.14	24.00	23.86	23.50	23.13
43	15.04	14.52	15.70	15.39	16.81	15.17	17.77	16.52	18.29	16.38	18.81	16.23	19.85	17.23			13.5	12	25.41	25.24	25.07	24.77	24.43
Note(1) Th																	15.5	14	26.67	26.47	26.27	26.05	25.72
									ration is ssor is fi		ducted co	ontinuou	sly.				16.5	16	27.30	27.09	26.87	26.69	26.37

heef I hese data show average statuses.

Depending on the system control, there may be ranges where the operation is not or These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

PJR002Z417

(6) Floor standing type (FDF)(a) Single type

Model FDF100VNVDIndoor unitFDF100VDOutdoor unitFDC100VNCool Mode(kW)Heat Mode(kW)

Outdoor							Indoc	r air t	empe	rature						
Outdoor	18°0	DDB	21°0	DB	23°C	CDB	26°0	DB	27°0	CDB	28°C	DB	31°0	DB	33°0	DB
air temp.	12°C	WB	14°C	WB	16°C	CWB	18°C	CWB	19°C	CWB	20°C	WB	22°C	CWB	24°C	CWB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	7.02	8.59	7.61	8.82	7.55	9.07	7.49	9.56	7.93	10.06	7.79
13					8.50	7.18	9.00	7.77	9.26	7.71	9.52	7.65	10.06	8.09	10.60	7.95
15					8.88	7.34	9.42	7.93	9.69	7.87	9.98	7.82	10.56	8.25	11.14	8.11
17					9.26	7.50	9.84	8.09	10.12	8.03	10.43	7.98	11.05	8.42	11.67	8.27
19					9.46	7.59	10.05	8.18	10.34	8.12	10.65	8.06	11.29	8.50	11.92	8.35
21					9.65	7.67	10.25	8.26	10.56	8.20	10.88	8.15	11.52	8.57	12.16	8.42
23					9.65	7.67	10.28	8.27	10.59	8.21	10.91	8.16	11.56	8.59	12.21	8.44
25			8.93	7.79	9.64	7.67	10.31	8.28	10.62	8.23	10.95	8.17	11.61	8.61	12.27	8.46
27			8.86	7.76	9.64	7.67	10.34	8.29	10.65	8.24	10.96	8.17	11.57	8.59		
29			8.80	7.73	9.50	7.61	10.17	8.22	10.49	8.18	10.81	8.12	11.45	8.55		
31			8.73	7.70	9.35	7.54	9.99	8.15	10.32	8.11	10.66	8.06	11.32	8.51		
33	8.22	7.19	8.58	7.63	9.21	7.48	9.82	8.09	10.16	8.05	10.51	8.01	11.19	8.46		
35	8.05	7.10	8.44	7.57	9.06	7.42	9.64	8.01	10.00	7.99	10.36	7.95	11.07	8.42		
37	7.92	7.04	8.30	7.50	8.91	7.35	9.46	7.94	9.79	7.91	10.13	7.87	10.80	8.33		
39	7.78	6.97	8.16	7.44	8.75	7.29	9.28	7.87	9.59	7.83	9.90	7.79	10.53	8.24		
41	7.64	6.90	8.02	7.38	8.60	7.22	9.09	7.80	9.38	7.76	9.68	7.71	10.26	8.15		
43	7.50	6.84	7.88	7.32	8.45	7.16	8.91	7.73	9.18	7.68	9.45	7.63	9.99	8.07		

Outd	oor	Ind	door a	ir tem	peratu	ire
air te	mp.			°CDB		
°CDB	°CWB	16	18	20	22	24
-19.8	-20	5.64	5.62	5.60	5.58	5.56
-17.7	-18	5.97	5.95	5.92	5.90	5.87
-15.7	-16	6.30	6.27	6.25	6.22	6.19
-13.5	-14	6.66	6.63	6.60	6.57	6.54
-11.5	-12	7.03	6.99	6.96	6.93	6.90
-9.5	-10	7.39	7.36	7.32	7.29	7.25
-7.5	-8	7.75	7.72	7.68	7.64	7.60
-5.5	-6	7.92	7.88	7.85	7.80	7.76
-3.0	-4	8.10	8.05	8.01	7.97	7.92
-1.0	-2	8.27	8.22	8.18	8.13	8.08
1.0	0	8.44	8.39	8.34	8.29	8.24
2.0	1	8.52	8.47	8.42	8.37	8.32
3.0	2	9.08	9.03	8.98	8.94	8.90
5.0	4	10.21	10.15	10.09	10.08	10.07
7.0	6	11.33	11.27	11.20	11.22	11.23
9.0	8	11.78	11.71	11.64	11.62	11.59
11.5	10	12.23	12.16	12.09	12.02	11.94
13.5	12	12.91	12.83	12.75	12.65	12.60
15.5	14	13.59	13.50	13.42	13.29	13.26
16.5	16	13.93	13.84	13.75	13.61	13.59

PGA000Z772

ModelFDF100VSVDIndoor unitFDF100VDOutdoor unitFDC100VSCool Mode(kW)Heat Mode(kW)

Outdoor							Indoo	r air t	empe	ature						
air temp.	18°0	DB	21°0	DB	23°C	DB	26°0	DB	27°C	DB	28°C	DB	31°0	DB	33°C	CDB
all terrip.	12°C	WB	14°C	WB	16°C	WB	18°C	WB	19°C	WB	20°C	WB	22°C	WB	24°C	WB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	7.02	8.59	7.61	8.82	7.55	9.07	7.49	9.56	7.93	10.06	7.79
13					8.50	7.18	9.00	7.77	9.26	7.71	9.52	7.65	10.06	8.09	10.60	7.95
15					8.88	7.34	9.42	7.93	9.69	7.87	9.98	7.82	10.56	8.25	11.14	8.11
17					9.26	7.50	9.84	8.09	10.12	8.03	10.43	7.98	11.05	8.42	11.67	8.27
19					9.46	7.59	10.05	8.18	10.34	8.12	10.65	8.06	11.29	8.50	11.92	8.35
21					9.65	7.67	10.25	8.26	10.56	8.20	10.88	8.15	11.52	8.57	12.16	8.42
23					9.65	7.67	10.28	8.27	10.59	8.21	10.91	8.16	11.56	8.59	12.21	8.44
25			8.93	7.79	9.64	7.67	10.31	8.28	10.62	8.23	10.95	8.17	11.61	8.61	12.27	8.46
27			8.86	7.76	9.64	7.67	10.34	8.29	10.65	8.24	10.96	8.17	11.57	8.59		
29			8.80	7.73	9.50	7.61	10.17	8.22	10.49	8.18	10.81	8.12	11.45	8.55		
31			8.73	7.70	9.35	7.54	9.99	8.15	10.32	8.11	10.66	8.06	11.32	8.51		
33	8.22	7.19	8.58	7.63	9.21	7.48	9.82	8.09	10.16	8.05	10.51	8.01	11.19	8.46		
35	8.05	7.10	8.44	7.57	9.06	7.42	9.64	8.01	10.00	7.99	10.36	7.95	11.07	8.42		
37	7.92	7.04	8.30	7.50	8.91	7.35	9.46	7.94	9.79	7.91	10.13	7.87	10.80	8.33		
39	7.78	6.97	8.16	7.44	8.75	7.29	9.28	7.87	9.59	7.83	9.90	7.79	10.53	8.24		
41	7.64	6.90	8.02	7.38	8.60	7.22	9.09	7.80	9.38	7.76	9.68	7.71	10.26	8.15		
43	7.50	6.84	7.88	7.32	8.45	7.16	8.91	7.73	9.18	7.68	9.45	7.63	9.99	8.07		

Note(1) These data show average status.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows

TC :Total cooling capacity (kW)

SHC :Sensible heat capacity (kW)

	outdoor Indoor air temperature										
Outd	oor	Ind	door a	ir tem	peratu	ıre					
air te	mp.			°CDB							
°CDB	°CWB	16	18	20	22	24					
-19.8	-20	5.64	5.62	5.60	5.58	5.56					
-17.7	-18	5.97	5.95	5.92	5.90	5.87					
-15.7	-16	6.30	6.27	6.25	6.22	6.19					
-13.5	-14	6.66	6.63	6.60	6.57	6.54					
-11.5	-12	7.03	6.99	6.96	6.93	6.90					
-9.5	-10	7.39	7.36	7.32	7.29	7.25					
-7.5	-8	7.75	7.72	7.68	7.64	7.60					
-5.5	-6	7.92	7.88	7.85	7.80	7.76					
-3.0	-4	8.10	8.05	8.01	7.97	7.92					
-1.0	-2	8.27	8.22	8.18	8.13	8.08					
1.0	0	8.44	8.39	8.34	8.29	8.24					
2.0	1	8.52	8.47	8.42	8.37	8.32					
3.0	2	9.08	9.03	8.98	8.94	8.90					
5.0	4	10.21	10.15	10.09	10.08	10.07					
7.0	6	11.33	11.27	11.20	11.22	11.23					
9.0	8	11.78	11.71	11.64	11.62	11.59					
11.5	10	12.23	12.16	12.09	12.02	11.94					
13.5	12	12.91	12.83	12.75	12.65	12.60					
15.5	14	13.59	13.50	13.42	13.29	13.26					
16.5	16	13.93	13.84	13.75	13.61	13.59					

(kW)

 Model
 FDF125VNVD
 Indoor unit
 FDF125VD
 Outdoor unit
 FDC125VN

 Cool Mode
 (kW)
 Heat Mode

Outdoor							Indoo	r air t	empe	rature						
Outdoor	18°0	CDB	21°0	CDB	23°C	DB	26°0	DB	27°0	CDB	28°C	DB	31°0	DB	33°0	DB
air temp.	12°C	WB	14°C	CWB	16°C	WB	18°C	WB	19°C	CWB	20°C	WB	22°C	CWB	24°C	WB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.15	7.89	10.74	8.45	11.03	8.38	11.34	8.32	11.96	8.72	12.57	8.55
13					10.63	8.10	11.26	8.67	11.57	8.60	11.91	8.53	12.58	8.94	13.25	8.76
15					11.10	8.31	11.78	8.88	12.11	8.81	12.47	8.75	13.20	9.16	13.92	8.98
17					11.58	8.53	12.29	9.10	12.65	9.03	13.04	8.97	13.82	9.38	14.59	9.20
19					11.82	8.64	12.56	9.21	12.92	9.14	13.32	9.08	14.11	9.49	14.90	9.30
21					12.06	8.75	12.82	9.32	13.19	9.25	13.60	9.19	14.40	9.59	15.20	9.40
23					12.06	8.75	12.85	9.34	13.23	9.27	13.64	9.20	14.45	9.61	15.27	9.43
25			11.16	8.86	12.06	8.75	12.89	9.35	13.27	9.28	13.68	9.22	14.51	9.63	15.34	9.45
27			11.08	8.82	12.05	8.74	12.92	9.37	13.31	9.30	13.69	9.22	14.47	9.62		
29			11.00	8.78	11.87	8.66	12.71	9.28	13.11	9.22	13.51	9.15	14.31	9.56		
31			10.92	8.74	11.69	8.58	12.49	9.18	12.90	9.13	13.32	9.08	14.15	9.50		
33	10.27	8.22	10.72	8.64	11.51	8.49	12.27	9.09	12.70	9.05	13.13	9.00	13.99	9.44		
35	10.07	8.12	10.55	8.56	11.33	8.41	12.06	9.00	12.50	8.97	12.94	8.93	13.83	9.38		
37	9.90	8.03	10.38	8.48	11.13	8.32	11.83	8.90	12.24	8.86	12.66	8.82	13.50	9.26		
39	9.72	7.94	10.20	8.39	10.94	8.24	11.60	8.81	11.99	8.76	12.38	8.71	13.16	9.14		
41	9.55	7.85	10.02	8.30	10.75	8.15	11.37	8.71	11.73	8.66	12.09	8.60	12.82	9.02		
43	9.38	7.76	9.85	8.22	10.56	8.07	11.14	8.62	11.47	8.56	11.81	8.49	12.48	8.90		

Outd	oor	Inc	door a	ir tem	nerati	ıre
air te			2001 0	°CDB	porate	110
°CDB	°CWB	16	18	20	22	24
-19.8	-20	7.06	7.03	7.00	6.97	6.95
-17.7	-18	7.46	7.43	7.41	7.37	7.34
-15.7	-16	7.87	7.84	7.81	7.77	7.74
-13.5	-14	8.33	8.29	8.26	8.22	8.18
-11.5	-12	8.78	8.74	8.70	8.66	8.62
-9.5	-10	9.24	9.19	9.15	9.11	9.06
-7.5	-8	9.69	9.65	9.60	9.55	9.50
-5.5	-6	9.91	9.86	9.81	9.75	9.70
-3.0	-4	10.12	10.07	10.01	9.96	9.90
-1.0	-2	10.33	10.28	10.22	10.16	10.10
1.0	0	10.55	10.49	10.43	10.36	10.30
2.0	1	10.65	10.59	10.53	10.47	10.40
3.0	2	11.36	11.29	11.22	11.18	11.13
5.0	4	12.76	12.69	12.61	12.60	12.58
7.0	6	14.16	14.08	14.00	14.02	14.04
9.0	8	14.72	14.64	14.56	14.52	14.49
11.5	10	15.28	15.20	15.11	15.02	14.93
13.5	12	16.13	16.04	15.94	15.82	15.75
15.5	14	16.98	16.88	16.77	16.62	16.58
16.5	16	17.41	17.30	17.19	17.02	16.99

PGA000Z772

Model FDF125VSVDIndoor unitFDF125VDOutdoor unitFDC125VSCool Mode(kW)Heat Mode(kW)

Outdoor							Indoo	r air t	empei	rature						
Outdoor	18°0	DB	21°0	DB	23°C	DB	26°0	DB	27°C	DB	28°0	DB	31°0	CDB	33°C	DB
air temp.	12°C	CWB	14°C	CWB	16°C	CWB	18°C	WB	19°C	CWB	20°C	CWB	22°C	CWB	24°C	CWB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.15	7.89	10.74	8.45	11.03	8.38	11.34	8.32	11.96	8.72	12.57	8.55
13					10.63	8.10	11.26	8.67	11.57	8.60	11.91	8.53	12.58	8.94	13.25	8.76
15					11.10	8.31	11.78	8.88	12.11	8.81	12.47	8.75	13.20	9.16	13.92	8.98
17					11.58	8.53	12.29	9.10	12.65	9.03	13.04	8.97	13.82	9.38	14.59	9.20
19					11.82	8.64	12.56	9.21	12.92	9.14	13.32	9.08	14.11	9.49	14.90	9.30
21					12.06	8.75	12.82	9.32	13.19	9.25	13.60	9.19	14.40	9.59	15.20	9.40
23					12.06	8.75	12.85	9.34	13.23	9.27	13.64	9.20	14.45	9.61	15.27	9.43
25			11.16	8.86	12.06	8.75	12.89	9.35	13.27	9.28	13.68	9.22	14.51	9.63	15.34	9.45
27			11.08	8.82	12.05	8.74	12.92	9.37	13.31	9.30	13.69	9.22	14.47	9.62		
29			11.00	8.78	11.87	8.66	12.71	9.28	13.11	9.22	13.51	9.15	14.31	9.56		
31			10.92	8.74	11.69	8.58	12.49	9.18	12.90	9.13	13.32	9.08	14.15	9.50		
33	10.27	8.22	10.72	8.64	11.51	8.49	12.27	9.09	12.70	9.05	13.13	9.00	13.99	9.44		
35	10.07	8.12	10.55	8.56	11.33	8.41	12.06	9.00	12.50	8.97	12.94	8.93	13.83	9.38		
37	9.90	8.03	10.38	8.48	11.13	8.32	11.83	8.90	12.24	8.86	12.66	8.82	13.50	9.26		
39	9.72	7.94	10.20	8.39	10.94	8.24	11.60	8.81	11.99	8.76	12.38	8.71	13.16	9.14		
41	9.55	7.85	10.02	8.30	10.75	8.15	11.37	8.71	11.73	8.66	12.09	8.60	12.82	9.02		
43	9.38	7.76	9.85	8.22	10.56	8.07	11.14	8.62	11.47	8.56	11.81	8.49	12.48	8.90		

Note(1) These data show average status.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions. Corresponding refrigerant piping length: 7.5m Level difference of Zero.

(3) Symbols are as follows

TC :Total cooling capacity (kW) SHC :Sensible heat capacity (kW)

Outdoor Indoor air temperature °CDB air temp. °CDB °CWB 16 18 20 22 24 7.06 | 7.03 | 7.00 | 6.97 | 6.95 -19.8 -20 -17.7 7.46 7.43 7.41 7.37 7.34 -18 -15.7 -16 7.87 | 7.84 | 7.81 | 7.77 | 7.74 8.33 8.29 8.26 8.22 8.18 -13.5 -14 -11.5 -12 8.78 8.74 8.70 8.66 8.62 -9.5 -10 9.24 9.19 9.15 9.11 9.06 -7.5 9.69 9.65 9.60 9.55 9.50 9.91 | 9.86 | 9.81 | 9.75 | 9.70 -5.5 -6 -3.0 -4 10.12 10.07 10.01 9.96 9.90 -1.0 10.33 | 10.28 | 10.22 | 10.16 | 10.10 10.55 10.49 10.43 10.36 10.30 1.0 0 2.0 10.65 | 10.59 | 10.53 | 10.47 | 10.40 11.36 11.29 11.22 11.18 11.13 3.0 2 5.0 12.76 | 12.69 | 12.61 | 12.60 | 12.58 14.16 | 14.08 | 14.00 | 14.02 | 14.04 7.0 6 9.0 14.72 14.64 14.56 14.52 14.49 11.5 10 15.28 | 15.20 | 15.11 | 15.02 | 14.93 16.13 16.04 15.94 15.82 15.75 13.5 12 15.5 14 16.98 | 16.88 | 16.77 | 16.62 | 16.58 17.41 17.30 17.19 17.02 16.99 16.5 16

(kW)

Model FDF140VNVD Indoor unit FDF140VD Outdoor unit FDC140VN Cool Mode

ı	Outdoor							Indoo	r air t	empei	rature						
ı	Outdoor	18°0	DB	21°0	CDB	23°C	DB	26°0	DB	27°C	CDB	28°C	DB	31°0	DB	33°C	DB
ı	air temp.	12°C	WB	14°C	CWB	16°C	WB	18°C	WB	19°C	CWB	20°C	WB	22°C	WB	24°C	WB
ı	°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
ı	11					11.37	8.43	12.02	8.98	12.35	8.91	12.70	8.83	13.39	9.23	14.08	9.03
ı	13					11.90	8.67	12.61	9.23	12.96	9.16	13.33	9.08	14.09	9.48	14.84	9.28
ı	15					12.43	8.92	13.19	9.48	13.57	9.41	13.97	9.34	14.78	9.73	15.59	9.54
ı	17					12.96	9.17	13.77	9.74	14.17	9.66	14.61	9.60	15.48	9.99	16.34	9.79
ı	19					13.24	9.30	14.06	9.87	14.48	9.80	14.92	9.72	15.80	10.12	16.68	9.91
ı	21					13.51	9.43	14.36	10.00	14.78	9.93	15.23	9.85	16.12	10.24	17.02	10.03
ı	23					13.51	9.43	14.40	10.02	14.82	9.94	15.28	9.87	16.19	10.26	17.10	10.06
ı	25			12.50	9.53	13.50	9.43	14.43	10.03	14.86	9.96	15.33	9.89	16.25	10.29	17.18	10.09
ı	27			12.41	9.48	13.50	9.43	14.47	10.05	14.91	9.98	15.34	9.90	16.20	10.27		
ı	29			12.32	9.44	13.29	9.33	14.23	9.94	14.68	9.88	15.13	9.81	16.02	10.20		
ı	31			12.23	9.39	13.09	9.23	13.99	9.84	14.45	9.78	14.92	9.72	15.85	10.13		
ı	33	11.51	8.88	12.01	9.28	12.89	9.14	13.75	9.73	14.23	9.69	14.71	9.64	15.67	10.07		
ı	35	11.28	8.76	11.82	9.18	12.68	9.04	13.50	9.62	14.00	9.59	14.50	9.55	15.49	10.00		
ı	37	11.08	8.65	11.62	9.08	12.47	8.94	13.25	9.51	13.71	9.47	14.18	9.42	15.12	9.86		
ĺ	39	10.89	8.55	11.43	8.99	12.26	8.84	12.99	9.40	13.43	9.35	13.86	9.29	14.74	9.72		
ı	41	10.70	8.45	11.23	8.89	12.04	8.74	12.73	9.28	13.14	9.23	13.55	9.17	14.36	9.58		
İ	43	10.51	8.35	11.03	8.79	11.83	8.64	12.47	9.17	12.85	9.11	13.23	9.04	13.98	9.44		

						`
Outd	oor	Ind	door a	ir tem	peratu	ıre
air te	mp.			°CDB		
°CDB	°CWB	16	18	20	22	24
-19.8	-20	8.06	8.03	8.00	7.97	7.94
-17.7	-18	8.53	8.50	8.46	8.43	8.39
-15.7	-16	9.00	8.96	8.92	8.88	8.85
-13.5	-14	9.52	9.48	9.43	9.39	9.35
-11.5	-12	10.04	9.99	9.95	9.90	9.85
-9.5	-10	10.56	10.51	10.46	10.41	10.36
-7.5	-8	11.08	11.02	10.97	10.91	10.86
-5.5	-6	11.32	11.26	11.21	11.15	11.09
-3.0	-4	11.56	11.50	11.44	11.38	11.31
-1.0	-2	11.81	11.75	11.68	11.61	11.54
1.0	0	12.05	11.99	11.92	11.84	11.77
2.0	1	12.18	12.11	12.04	11.96	11.89
3.0	2	12.98	12.90	12.83	12.77	12.72
5.0	4	14.58	14.50	14.41	14.40	14.38
7.0	6	16.19	16.09	16.00	16.02	16.05
9.0	8	16.83	16.73	16.63	16.59	16.55
11.5	10	17.46	17.37	17.27	17.17	17.06
13.5	12	18.44	18.33	18.22	18.08	18.00
15.5	14	19.41	19.29	19.17	18.99	18.95
16.5	16	19.90	19.77	19.64	19.45	19.42

(kW) Heat Mode

(kW)

Heat Mode

PGA000Z772

(kW)

Model FDF140VSVD Indoor unit FDF140VD Outdoor unit FDC140VS Cool Mode

Indoor air temperature Outdoor 18°CDB 21°CDB 23°CDB 26°CDB 27°CDB 33°CDB 28°CDB 31°CDB air temp 12°CWB 14°CWB 16°CWB 18°CWB 19°CWB 20°CWB 22°CWB 24 °CWB TC SHC TC SHC TC SHC TC SHC TC SHC SHC SHC TC SHC CDB TC TC 11 11.37 8.43 12.02 8.98 12.35 8.91 12.70 8.83 13.39 9.23 14.08 9.03 13 11.90 8.67 12.61 9.23 12.96 9.16 13.33 9.08 14.09 9.48 14.84 9.28 15 12.43 8.92 13.19 9.48 13.57 9.41 13.97 9.34 14.78 9.73 15.59 17 9.66

9.54 12.96 9.17 13.77 9.74 14.17 14.61 9.60 15.48 9.99 16.34 9.79 13.24 9.30 14.06 9.87 19 14.48 9.80 14.92 9.72 15.80 10.12 16.68 9.91 21 13.51 9.43 14.36 10.00 14.78 9.93 15.23 9.85 16.12 10.24 17.02 10.03 15.28 9.87 23 13.51 9.43 14.40 10.02 14 82 9 94 16.19 10.26 17.10 10.06 25 12.50 9.53 13.50 9.43 14.43 10.03 14.86 9.96 15.33 9.89 16.25 10.29 17.18 10.09 27 12.41 9.48 13.50 9.43 14.47 10.05 14.91 9.98 15.34 9.90 16.20 10.27 29 12.32 9.44 13.29 9.33 14.23 9.94 14.68 9.88 15.13 9.81 16.02 10.20 31 12 23 9 39 13.09 9.23 13.99 9.84 14.45 9.78 14.92 9.72 15.85 10.13 33 12.01 9.28 12.89 14.23 9.69 14.71 9.64 11.51 8.88 9.14 13.75 9.73 15.67 10.07 35 11.28 8.76 11.82 9.18 12.68 9.04 13.50 9.62 14.00 9.59 14.50 9.55 15.49 10.00 37 11.08 8.65 11.62 9.08 12.47 8.94 9.51 14.18 9.42 15.12 9.86 13.25 13.71 9.47

Note(1) These data show average status.

10.89 8.55

10.70 8.45

10.51 8.35

39

41

43

Depending on the system control, there may be ranges where the operation is not conducted continuously.

12.99

12.47 9.17

9.40 13.43 9.35

13.14 9.23

12.85 9.11

13.86 9.29

13.55 9.17

13.23 9.04

14.74 9.72

14.36 9.58

13.98 9.44

These data show the case where the operation frequency of a compressor is fixed.

12.26 8.84

12.04 8.74 12.73 9.28

11.83 8.64

(2) Capacities are based on the following conditions. Corresponding refrigerant piping length: 7.5m Level difference of Zero.

11.43 8.99

11.23 8.89

11.03 8.79

(3) Symbols are as follows

TC :Total cooling capacity (kW) SHC :Sensible heat capacity (kW)

Outdoor Indoor air temperature CDB air temp. CDB CWB 18 20 8.06 8.03 8.00 7.97 7.94 -198 -20 -17.7 -18 8.53 | 8.50 | 8.46 | 8.43 | 8.39 -15.7 -16 9.00 | 8.96 | 8.92 | 8.88 | 8.85 -14 9.52 9.48 9.43 9.39 9.35 -13.5 -11.5 -12 10.04 9.99 9.95 9.90 9.85 -9.5 -10 10.56 10.51 10.46 10.41 10.36 -7.5 11.08 11.02 10.97 10.91 10.86 -8 11.21 11.15 11.09 -5.5 -6 11.32 11.26 -3.0 -4 11.56 11.50 11.44 11.38 11.31 -1.0 -2 11.81 11.75 11.68 11.61 11.54 1.0 0 12.05 11.99 11.92 11.84 11.77 2.0 1 12.18 | 12.11 | 12.04 | 11.96 | 11.89 12.98 12.90 3.0 2 12.83 12.77 12.72 5.0 4 14.58 14.50 14.41 14.40 14.38 7.0 16.19 | 16.09 | 16.00 | 16.02 | 16.05 6 9.0 8 16.83 16.73 16.63 16.59 16.55 11.5 10 17.46 17.37 17.27 | 17.17 | 17.06 13.5 12 18.44 18.33 18.22 18.08 18.00 15.5 14 19.41 19.29 19.17 18.99 18.95 16.5 19.90 19.77 19.64 19.45 19.42 16

(b) Twin type

 Model
 FDF140VNPVD
 Indoor unit
 FDF71VD (2 units)
 Outdoor unit
 FDC140VN

 Cool Mode
 (kW)
 Heat Mode
 (kW)

Outdoor							Indoo	r air t	empe	rature						
Outdoor air temp.	18°0	DB	21°0	CDB	23°C	CDB	26°0	DB	27°0	CDB	28°0	CDB	31°0	DB	33°C	DB
all tellip.	12°C	WB	14°C	CWB	16°C	CWB	18°C	WB	19°C	CWB	20°C	CWB	22°C	WB	24°C	WB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	9.05	12.02	9.77	12.35	9.65	12.70	9.53	13.39	10.04	14.08	9.75
13					11.90	9.25	12.61	9.97	12.96	9.84	13.33	9.72	14.09	10.22	14.84	9.92
15					12.43	9.45	13.19	10.16	13.57	10.04	13.97	9.91	14.78	10.41	15.59	10.10
17					12.96	9.65	13.77	10.36	14.17	10.23	14.61	10.11	15.48	10.60	16.34	10.28
19					13.24	9.75	14.06	10.46	14.48	10.34	14.92	10.20	15.80	10.69	16.68	10.37
21					13.51	9.86	14.36	10.57	14.78	10.44	15.23	10.30	16.12	10.78	17.02	10.45
23					13.51	9.86	14.40	10.58	14.82	10.45	15.28	10.32	16.19	10.80	17.10	10.47
25			12.50	10.12	13.50	9.85	14.43	10.59	14.86	10.46	15.33	10.33	16.25	10.82	17.18	10.49
27			12.41	10.09	13.50	9.85	14.47	10.61	14.91	10.48	15.34	10.34	16.20	10.80		
29			12.32	10.05	13.29	9.77	14.23	10.52	14.68	10.40	15.13	10.27	16.02	10.75		
31			12.23	10.01	13.09	9.70	13.99	10.44	14.45	10.33	14.92	10.20	15.85	10.70		
33	11.51	9.38	12.01	9.92	12.89	9.62	13.75	10.36	14.23	10.25	14.71	10.14	15.67	10.65		
35	11.28	9.28	11.82	9.84	12.68	9.54	13.50	10.27	14.00	10.18	14.50	10.07	15.49	10.60		
37	11.08	9.19	11.62	9.76	12.47	9.46	13.25	10.18	13.71	10.08	14.18	9.97	15.12	10.50		
39	10.89	9.10	11.43	9.68	12.26	9.38	12.99	10.10	13.43	9.99	13.86	9.88	14.74	10.40		
41	10.70	9.02	11.23	9.60	12.04	9.30	12.73	10.01	13.14	9.90	13.55	9.78	14.36	10.29		
43	10.51	8.93	11.03	9.52	11.83	9.22	12.47	9.92	12.85	9.81	13.23	9.69	13.98	10.19		

Outd	oor	Ind	door a	ir tem	peratu	ıre
air te	mp.			°CDB		
°CDB	°CWB	16	18	20	22	24
-19.8	-20	8.06	8.03	8.00	7.97	7.94
-17.7	-18	8.53	8.50	8.46	8.43	8.39
-15.7	-16	9.00	8.96	8.92	8.88	8.85
-13.5	-14	9.52	9.48	9.43	9.39	9.35
-11.5	-12	10.04	9.99	9.95	9.90	9.85
-9.5	-10	10.56	10.51	10.46	10.41	10.36
-7.5	-8	11.08	11.02	10.97	10.91	10.86
-5.5	-6	11.32	11.26	11.21	11.15	11.09
-3.0	-4	11.56	11.50	11.44	11.38	11.31
-1.0	-2	11.81	11.75	11.68	11.61	11.54
1.0	0	12.05	11.99	11.92	11.84	11.77
2.0	1	12.18	12.11	12.04	11.96	11.89
3.0	2	12.98	12.90	12.83	12.77	12.72
5.0	4	14.58	14.50	14.41	14.40	14.38
7.0	6	16.19	16.09	16.00	16.02	16.05
9.0	8	16.83	16.73	16.63	16.59	16.55
11.5	10	17.46	17.37	17.27	17.17	17.06
13.5	12	18.44	18.33	18.22	18.08	18.00
15.5	14	19.41	19.29	19.17	18.99	18.95
16.5	16	19.90	19.77	19.64	19.45	19.42

PGA000Z772

ModelFDF140VSPVDIndoor unitFDF71VD (2 units)Outdoor unitFDC140VSCool Mode(kW)Heat Mode(kW)

Outdoor							Indoo	r air t	emper	ature						
air temp.	18°C	DB	21°0	DB	23°C	CDB	26°0	DB	27°C	DB	28°C	DB	31°0	CDB	33°C	DB
all tellip.	12°C	WB	14°C	WB	16°C	CWB	18°C	WB	19°C	WB	20°C	WB	22 °C	CWB	24°C	WB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	9.05	12.02	9.77	12.35	9.65	12.70	9.53	13.39	10.04	14.08	9.75
13					11.90	9.25	12.61	9.97	12.96	9.84	13.33	9.72	14.09	10.22	14.84	9.92
15					12.43	9.45	13.19	10.16	13.57	10.04	13.97	9.91	14.78	10.41	15.59	10.10
17					12.96	9.65	13.77	10.36	14.17	10.23	14.61	10.11	15.48	10.60	16.34	10.28
19					13.24	9.75	14.06	10.46	14.48	10.34	14.92	10.20	15.80	10.69	16.68	10.37
21					13.51	9.86	14.36	10.57	14.78	10.44	15.23	10.30	16.12	10.78	17.02	10.45
23					13.51	9.86	14.40	10.58	14.82	10.45	15.28	10.32	16.19	10.80	17.10	10.47
25			12.50	10.12	13.50	9.85	14.43	10.59	14.86	10.46	15.33	10.33	16.25	10.82	17.18	10.49
27			12.41	10.09	13.50	9.85	14.47	10.61	14.91	10.48	15.34	10.34	16.20	10.80		
29			12.32	10.05	13.29	9.77	14.23	10.52	14.68	10.40	15.13	10.27	16.02	10.75		
31			12.23	10.01	13.09	9.70	13.99	10.44	14.45	10.33	14.92	10.20	15.85	10.70		
33	11.51	9.38	12.01	9.92	12.89	9.62	13.75	10.36	14.23	10.25	14.71	10.14	15.67	10.65		
35	11.28	9.28	11.82	9.84	12.68	9.54	13.50	10.27	14.00	10.18	14.50	10.07	15.49	10.60		
37	11.08	9.19	11.62	9.76	12.47	9.46	13.25	10.18	13.71	10.08	14.18	9.97	15.12	10.50		
39	10.89	9.10	11.43	9.68	12.26	9.38	12.99	10.10	13.43	9.99	13.86	9.88	14.74	10.40		
41	10.70	9.02	11.23	9.60	12.04	9.30	12.73	10.01	13.14	9.90	13.55	9.78	14.36	10.29		
43	10.51	8.93	11.03	9.52	11.83	9.22	12.47	9.92	12.85	9.81	13.23	9.69	13.98	10.19		

Note(1) These data show average status.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions. Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows TC :Total cooling capacity (kW)

SHC :Sensible heat capacity (kW)

Outd	oor	Indoor air temperature							
air te	mp.			°CDB					
°CDB	°CWB	16	18	20	22	24			
-19.8	-20	8.06	8.03	8.00	7.97	7.94			
-17.7	-18	8.53	8.50	8.46	8.43	8.39			
-15.7	-16	9.00	8.96	8.92	8.88	8.85			
-13.5	-14	9.52	9.48	9.43	9.39	9.35			
-11.5	-12	10.04	9.99	9.95	9.90	9.85			
-9.5	-10	10.56	10.51	10.46	10.41	10.36			
-7.5	-8	11.08	11.02	10.97	10.91	10.86			
-5.5	-6	11.32	11.26	11.21	11.15	11.09			
-3.0	-4	11.56	11.50	11.44	11.38	11.31			
-1.0	-2	11.81	11.75	11.68	11.61	11.54			
1.0	0	12.05	11.99	11.92	11.84	11.77			
2.0	1	12.18	12.11	12.04	11.96	11.89			
3.0	2	12.98	12.90	12.83	12.77	12.72			
5.0	4	14.58	14.50	14.41	14.40	14.38			
7.0	6	16.19	16.09	16.00	16.02	16.05			
9.0	8	16.83	16.73	16.63	16.59	16.55			
11.5	10	17.46	17.37	17.27	17.17	17.06			
13.5	12	18.44	18.33	18.22	18.08	18.00			
15.5	14	19.41	19.29	19.17	18.99	18.95			
16.5	16	19.90	19.77	19.64	19.45	19.42			

ModelFDF200VSPVDIndoor unitFDF100VD (2 units)Outdoor unitFDC200VSCool Mode(kW)Heat Mode(kW)

Outdoor							Indoo	r air te	emper	ature						
1	18°C	DB	21°C	CDB	23°C	CDB	26°0	CDB	27°0	CDB	28°0	DB	31°C	DB	33°C	DB
air temp.	12°C	WB.	14°C	CWB	16℃	CWB	18°C	CWB	19°C	CWB	20°C	WB	22°C	CWB	24°C	CWB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					17.37	14.52	18.41	15.69	18.94	15.58	19.50	15.47	20.63	16.34	21.76	16.06
13					17.90	14.74	18.99	15.92	19.54	15.80	20.13	15.69	21.31	16.57	22.49	16.28
15					18.43	14.97	19.57	16.14	20.14	16.03	20.75	15.92	21.98	16.79	23.21	16.50
17					18.96	15.19	20.14	16.37	20.73	16.25	21.38	16.15	22.66	17.02	23.94	16.72
19					19.35	15.36	20.56	16.54	21.16	16.42	21.81	16.31	23.12	17.18	24.42	16.87
21					19.41	15.39	20.98	16.71	21.59	16.59	22.25	16.47	23.57	17.33	24.89	17.02
23					19.31	15.35	20.86	16.66	21.47	16.54	22.12	16.42	23.43	17.28	24.73	16.97
25			17.35	15.35	19.20	15.30	20.74	16.61	21.35	16.49	21.99	16.38	23.28	17.23	24.57	16.92
27			17.28	15.32	19.10	15.25	20.62	16.56	21.22	16.44	21.83	16.32	23.04	17.15		
29			17.14	15.25	18.85	15.15	20.31	16.44	20.92	16.33	21.53	16.21	22.75	17.05		
31			16.99	15.19	18.59	15.04	20.00	16.31	20.61	16.21	21.22	16.09	22.45	16.95		
33	16.46	14.38	17.03	15.20	18.33	14.93	19.69	16.19	20.31	16.09	20.92	15.98	22.15	16.85		
35	16.14	14.23	16.76	15.08	18.08	14.82	19.38	16.07	20.00	15.98	20.62	15.87	21.85	16.75		
37	15.86	14.09	16.50	14.96	17.76	14.68	18.98	15.91	19.57	15.81	20.17	15.71	21.35	16.58		
39	15.59	13.96	16.23	14.84	17.44	14.55	18.58	15.76	19.15	15.66	19.71	15.54	20.85	16.42		
41	15.32	13.83	15.97	14.73	17.13	14.42	18.17	15.60	18.72	15.50	19.26	15.38	20.35	16.25		
43	15.04	13.69	15.70	14.60	16.81	14.29	17.77	15.44	18.29	15.34	18.81	15.22	19.85	16.09		

Outd	oor	Ind	door a	ir tem	peratu	ire
air te	mp.			°CDB		
°CDB	°CWB	16	18	20	22	24
-19.8	-20					
-17.7	-18					
-15.7	-16					
-13.5	-14	13.21	13.18	13.14	13.11	13.08
-11.5	-12	13.91	13.87	13.83	13.79	13.76
-9.5	-10	14.61	14.57	14.52	14.47	14.43
-7.5	-8	15.31	15.26	15.21	15.16	15.10
-5.5	-6	15.64	15.58	15.52	15.46	15.40
-3.0	-4	15.96	15.89	15.82	15.76	15.69
-1.0	-2	16.29	16.21	16.13	16.06	15.98
1.0	0	16.61	16.53	16.44	16.36	16.28
2.0	1	16.78	16.69	16.59	16.51	16.42
3.0	2	17.96	17.86	17.76	17.66	17.56
5.0	4	20.33	20.21	20.08	19.96	19.84
7.0	6	22.71	22.55	22.40	22.26	22.12
9.0	8	23.43	23.28	23.13	22.88	22.63
11.5	10	24.14	24.00	23.86	23.50	23.13
13.5	12	25.41	25.24	25.07	24.77	24.43
15.5	14	26.67	26.47	26.27	26.05	25.72
16.5	16	27.30	27.09	26.87	26.69	26.37

PGA000Z772

ModelFDF250VSPVDIndoor unitFDF125VD (2 units)Outdoor unitFDC250VSCool Mode(kW)Heat Mode(kW)

Outdoor							Indoo	r air te	emper	ature						
air temp.	18°C	DB	21°0	CDB	23°C	CDB	26°0	CDB	27°C	CDB	28°0	CDB	31°0	CDB	33°C	CDB
all tellip.	12°C	WB	14°C	CWB	16°CWB		18°CWB		19°C	CWB	20°C	WB	22°C	CWB	24°C	CWB
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					21.71	16.40	23.02	17.54	23.67	17.40	24.38	17.28	25.79	18.10	27.21	17.76
13					22.38	16.70	23.74	17.84	24.42	17.70	25.16	17.58	26.63	18.40	28.11	18.05
15					23.04	17.00	24.46	18.14	25.17	18.01	25.94	17.88	27.48	18.70	29.02	18.35
17					23.70	17.30	25.18	18.45	25.92	18.31	26.72	18.19	28.32	19.01	29.92	18.65
19					24.19	17.53	25.70	18.67	26.45	18.53	27.27	18.40	28.89	19.22	30.52	18.85
21					24.26	17.56	26.22	18.90	26.99	18.76	27.82	18.63	29.47	19.43	31.12	19.05
23					24.13	17.50	26.07	18.83	26.84	18.69	27.65	18.56	29.28	19.36	30.91	18.98
25			21.69	17.40	24.00	17.44	25.92	18.77	26.68	18.63	27.49	18.49	29.10	19.29	30.71	18.91
27			21.60	17.36	23.88	17.38	25.77	18.70	26.53	18.57	27.29	18.41	28.80	19.18		
29			21.42	17.27	23.56	17.24	25.39	18.54	26.15	18.41	26.91	18.26	28.43	19.05		
31			21.24	17.18	23.24	17.09	25.00	18.37	25.77	18.25	26.53	18.11	28.06	18.91		
33	20.58	16.47	21.29	17.21	22.92	16.94	24.61	18.21	25.38	18.09	26.15	17.96	27.69	18.78		
35	20.17	16.25	20.96	17.05	22.60	16.80	24.23	18.05	25.00	17.94	25.77	17.81	27.31	18.64		
37	19.83	16.08	20.62	16.88	22.20	16.62	23.73	17.84	24.47	17.72	25.21	17.60	26.69	18.42		
39	19.49	15.90	20.29	16.73	21.80	16.44	23.22	17.62	23.93	17.51	24.64	17.38	26.06	18.20		
41	19.15	15.73	19.96	16.57	21.41	16.27	22.72	17.42	23.40	17.29	24.08	17.16	25.43	17.97		
43	18.81	15.56	19.63	16.41	21.01	16.09	22.22	17.21	22.86	17.08	23.51	16.94	24.81	17.76		

Note(1) These data show average status.

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions. Corresponding refrigerant piping length :7.5m

Level difference of Zero.
(3) Symbols are as follows

TC :Total cooling capacity (kW) SHC :Sensible heat capacity (kW)

Outdoor Indoor air temperature air temp. °CDB °CDB °CWB 18 20 22 24 16 -19.8 -20 -17.7 -18 -15.7 -16 -13.5 -14 16.52 | 16.47 | 16.43 | 16.39 | 16.35 17.39 17.34 17.29 17.24 17.19 -11.5 -12 -9.5 -10 18.26 | 18.21 | 18.15 | 18.09 | 18.04 -7.5 19.14 19.07 19.01 18.94 18.88 -8 -5.5 -6 19.55 | 19.47 | 19.40 | 19.32 | 19.24 19.95 | 19.87 | 19.78 | 19.70 | 19.61 -3.0 -4 -1.0 -2 20.36 20.26 20.17 20.07 19.98 1.0 0 20.77 20.66 20.55 20.45 20.35 2.0 1 20.97 | 20.86 | 20.74 | 20.64 | 20.53 3.0 2 22.45 | 22.32 | 22.19 | 22.07 | 21.95 25.42 25.26 25.10 24.95 24.80 5.0 4 7.0 6 28.38 28.19 28.00 27.82 27.65 29.28 29.10 28.91 28.60 28.28 9.0 8 11.5 30.18 30.00 29.83 29.37 28.91 10 31.76 31.55 31.33 30.97 30.53 13.5 12 33.34 33.09 32.84 32.57 32.15 15.5 14 16.5 16 34.13 | 33.86 | 33.59 | 33.37 | 32.96

(7) Wall mounted type (SRK) (a) Twin type

Model SRK100VNPZJX Indoor unit SRK50ZJX-S1 (2 units) Outdoor unit FDC100VN Cool Mode (kW)

Outdoor							Indo	or air t	emper	ature						
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
dii tomp.	12	WB	14	WB	16	WB	18	WB	19 \	WB	20 \	WB	22 \	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					8.12	6.78	8.59	7.32	8.82	7.26	9.07	7.21	9.56	7.61	10.06	7.47
13					8.50	6.94	9.00	7.48	9.26	7.43	9.52	7.37	10.06	7.77	10.60	7.63
15					8.88	7.11	9.42	7.65	9.69	7.59	9.98	7.54	10.56	7.94	11.14	7.80
17					9.26	7.27	9.84	7.82	10.12	7.76	10.43	7.71	11.05	8.11	11.67	7.97
19					9.46	7.36	10.05	7.90	10.34	7.85	10.65	7.79	11.29	8.19	11.92	8.04
21					9.65	7.44	10.25	7.99	10.56	7.93	10.88	7.88	11.52	8.27	12.16	8.12
23					9.65	7.44	10.28	8.00	10.59	7.94	10.91	7.89	11.56	8.29	12.21	8.14
25			8.93	7.55	9.64	7.44	10.31	8.01	10.62	7.96	10.95	7.90	11.61	8.30	12.27	8.16
27			8.86	7.52	9.64	7.44	10.34	8.02	10.65	7.97	10.96	7.91	11.57	8.29		
29			8.80	7.49	9.50	7.38	10.17	7.95	10.49	7.91	10.81	7.85	11.45	8.25		
31			8.73	7.46	9.35	7.31	9.99	7.88	10.32	7.84	10.66	7.79	11.32	8.20		
33	8.22	6.98	8.58	7.39	9.21	7.25	9.82	7.81	10.16	7.78	10.51	7.74	11.19	8.16		
35	8.05	6.89	8.44	7.32	9.06	7.18	9.64	7.74	10.00	7.71	10.36	7.68	11.07	8.12		
37	7.92	6.83	8.30	7.26	8.91	7.12	9.46	7.67	9.79	7.63	10.13	7.60	10.80	8.02		
39	7.78	6.76	8.16	7.19	8.75	7.05	9.28	7.59	9.59	7.56	9.90	7.51	10.53	7.93		
41	7.64	6.69	8.02	7.13	8.60	6.99	9.09	7.52	9.38	7.48	9.68	7.43	10.26	7.84		
43	7.50	6.62	7.88	7.07	8.45	6.92	8.91	7.45	9.18	7.40	9.45	7.35	9.99	7.75		

Heat Mode (kW) Outdoor Indoor air temperature										
		In	door a		oeratu	re				
	emp.			DB						
DB	WB	16	18	20	22	24				
-19.8	-20	5.64	5.62	5.60	5.58	5.56				
-17.7	-18	5.97	5.95	5.92	5.90	5.87				
-15.7	-16	6.30	6.27	6.25	6.22	6.19				
-13.5	-14	6.66	6.63	6.60	6.57	6.54				
-11.5	-12	7.03	6.99	6.96	6.93	6.90				
-9.5	-10	7.39	7.36	7.32	7.29	7.25				
-7.5	-8	7.75	7.72	7.68	7.64	7.60				
-5.5	-6	7.92	7.88	7.85	7.80	7.76				
-3.0	-4	8.10	8.05	8.01	7.97	7.92				
-1.0	-2	8.27	8.22	8.18	8.13	8.08				
1.0	0	8.44	8.39	8.34	8.29	8.24				
2.0	1	8.52	8.47	8.42	8.37	8.32				
3.0	2	9.08	9.03	8.98	8.94	8.90				
5.0	4	10.21	10.15	10.09	10.08	10.07				
7.0	6	11.33	11.27	11.20	11.22	11.23				
9.0	8	11.78	11.71	11.64	11.62	11.59				
11.5	10	12.23	12.16	12.09	12.02	11.94				
13.5	12	12.91	12.83	12.75	12.65	12.60				
15.5	14	13.59	13.50	13.42	13.29	13.26				
16.5	16	13.93	13.84	13.75	13.61	13.59				

PCA001Z630 A

(kW)

Model SRK100VSPZJX Indoor unit SRK50ZJX-S1 (2 units) Outdoor unit FDC100VS Cool Mode

Cool M	(NV)														Heat	Mode		
Outdoor							Indo	or air t	emper	ature							Ou	tdoor
Outdoor air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB	air	temp.
an temp.	12	WB	14 \	WB	16	WB	18	WB	19 \	ΝB	20 \	WB	22	WB	24 \	WB	DB	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	-19.8	-20
11					8.12	6.78	8.59	7.32	8.82	7.26	9.07	7.21	9.56	7.61	10.06	7.47	-17.7	-18
13					8.50	6.94	9.00	7.48	9.26	7.43	9.52	7.37	10.06	7.77	10.60	7.63	-15.7	-16
15					8.88	7.11	9.42	7.65	9.69	7.59	9.98	7.54	10.56	7.94	11.14	7.80	-13.5	-14
17					9.26	7.27	9.84	7.82	10.12	7.76	10.43	7.71	11.05	8.11	11.67	7.97	-11.5	-12
19					9.46	7.36	10.05	7.90	10.34	7.85	10.65	7.79	11.29	8.19	11.92	8.04	-9.5	-10
21					9.65	7.44	10.25	7.99	10.56	7.93	10.88	7.88	11.52	8.27	12.16	8.12	-7.5	-8
23					9.65	7.44	10.28	8.00	10.59	7.94	10.91	7.89	11.56	8.29	12.21	8.14	-5.5	-6
25			8.93	7.55	9.64	7.44	10.31	8.01	10.62	7.96	10.95	7.90	11.61	8.30	12.27	8.16	-3.0	-4
27			8.86	7.52	9.64	7.44	10.34	8.02	10.65	7.97	10.96	7.91	11.57	8.29			-1.0	-2
29			8.80	7.49	9.50	7.38	10.17	7.95	10.49	7.91	10.81	7.85	11.45	8.25			1.0	0
31			8.73	7.46	9.35	7.31	9.99	7.88	10.32	7.84	10.66	7.79	11.32	8.20			2.0	1
33	8.22	6.98	8.58	7.39	9.21	7.25	9.82	7.81	10.16	7.78	10.51	7.74	11.19	8.16			3.0	2
35	8.05	6.89	8.44	7.32	9.06	7.18	9.64	7.74	10.00	7.71	10.36	7.68	11.07	8.12			5.0	4
37	7.92	6.83	8.30	7.26	8.91	7.12	9.46	7.67	9.79	7.63	10.13	7.60	10.80	8.02			7.0	6
39	7.78	6.76	8.16	7.19	8.75	7.05	9.28	7.59	9.59	7.56	9.90	7.51	10.53	7.93			9.0	8
41	7.64	6.69	8.02	7.13	8.60	6.99	9.09	7.52	9.38	7.48	9.68	7.43	10.26	7.84			11.5	10
43	7.50	6.62	7.88	7.07	8.45	6.92	8.91	7.45	9.18	7.40	9.45	7.35	9.99	7.75			13.5	12

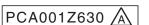
Depending on the system control, there may be ranges where the operation is not conducted continuously. These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions.

Corresponding refrigerant piping length :7.5m Level difference of Zero.

(3) Symbols are as follows. TC: Total cooling capacity SHC : Sensible heat capacity

Indoor air temperature Outdoor air temp. DB DB WB 20 24 16 18 22 -19.8 -20 5.64 5.62 5.60 5.58 5.56 -17.7 5.97 5.92 5.90 5.87 -18 5.95 -15.7 -16 6.30 6.27 6.25 6.22 6.19 -13.5 -14 6.66 6.63 6.60 6.57 6.54 6.90 -12 6.93 -11.5 7.03 6.99 6.96 -9.5 -10 7.39 7.36 7.32 7.29 7.25 -7.5 -8 7.75 7.72 7.68 7.64 7.60 7.85 7.76 -5.5 -6 7.92 7.88 7.80 -3.0 -4 8.10 8.05 8.01 7.97 7.92 8.13 8.08 8 27 8 18 -1.0 -2 8 22 8.29 8.24 1.0 0 8.44 8.39 8.34 2.0 8.52 8.47 8.42 8.37 8.32 3.0 2 8.90 9.08 | 9.03 | 8.98 8.94 5.0 10.21 10.15 10.09 10.08 10.07 11.33 | 11.27 | 11.20 | 11.22 | 11.23 7.0 9.0 8 11.78 11.71 11.64 11.62 11.59 11.5 10 12.23 | 12.16 | 12.09 | 12.02 | 11.94 13.5 12 12.91 | 12.83 | 12.75 | 12.65 | 12.60 15.5 14 | 13.59 | 13.50 | 13.42 | 13.29 | 13.26 16 | 13.93 | 13.84 | 13.75 | 13.61 | 13.59 16.5



(kW)

Model SRK125VNPZJX Indoor unit SRK60ZJX-S1 (2 units) Outdoor unit FDC125VN (kW) Heat Mode Cool Mode Indoor air temperature Outdooi 18 DB 21 DB 23 DB 26 DB 27 DB 28 DB 31 DB 33 DB air temp 12 WB 14 WB 16 WB 18 WB 19 WB 20 WB 22 WB 24 WB DB TC SHC 7.69 11 10.15 10.74 8.24 11.03 8.16 11.34 8.08 11.96 8.46 12.57 8.26 13 10.63 7.90 11.26 8.44 11.57 8.36 11.91 8.28 12.58 8.66 13.25 8.46 15 11.10 8.10 11.78 8.65 12.11 8.57 12.47 8.49 13.20 8.87 13.92 8.66 17 11.58 8.31 12.29 8.86 12.65 8.78 13.04 8.70 13.82 9.08 14.59 8.87 19 8.42 12.56 9.18 8.97 11.82 8.97 12.92 8.88 13.32 8.80 14.11 14.90 21 12.06 8.53 12.82 9.08 13.19 8.99 13.60 8.91 14.40 9.28 15.20 9.06 23 12.06 8.53 12.85 9.09 13.23 9.01 13.64 8.93 14.45 9.30 15.27 9.08 25 11.16 8.66 12.06 8.53 12.89 9.11 13.27 9.02 13.68 8.94 14.51 9.32 15.34 9.11 27 12 05 9.31 11 08 8 62 8 52 12 92 9 12 13.31 9 04 13 69 8 95 14 47 29 11.00 8.44 14.31 9.25 8.59 11.87 12.71 9.03 13.11 8.96 13.51 8.88 31 10.92 8.55 11.69 8.36 12.49 8.94 12.90 8.87 13.32 8.80 14.15 9.20 33 10.27 8.06 10.72 8.45 11.51 8.28 12.27 8.85 12.70 8.80 13.13 8.73 13.99 9.14 35 10.07 7.95 10.55 8.37 11.33 8.20 12.06 8.76 12.50 8.72 12.94 8.66 13.83 9.08 37 9.90 7.87 10.38 8.29 11.13 11.83 12.24 12.66 13.50 8.97 8.12 8.67 8.62 8.56 7.78 11.99 39 9.72 10.20 8.21 10.94 8.03 11.60 8.58 8.52 12.38 8.45 13.16 8.86 41 9.55 7.69 10.02 8.13 10.75 7.95 11.37 8.49 11.73 8.42 12.09 8.35 12.82 8.74 43 9.38 7.61 9.85 8.05 10.56 7.87 11.14 8.39 11.47 8.32 11.81 8.24 12.48 8.63

Heat I	vioae					(KVV)					
	door	Indoor air temperature DB									
air te	emp.			DB							
DB	WB	16	18	20	22	24					
-19.8	-20	7.06	7.03	7.00	6.97	6.95					
-17.7	-18	7.46	7.43	7.41	7.37	7.34					
-15.7	-16	7.87	7.84	7.81	7.77	7.74					
-13.5	-14	8.33	8.29	8.26	8.22	8.18					
-11.5	-12	8.78	8.74	8.70	8.66	8.62					
-9.5	-10	9.24	9.19	9.15	9.11	9.06					
-7.5	-8	9.69	9.65	9.60	9.55	9.50					
-5.5	-6	9.91	9.86	9.81	9.75	9.70					
-3.0	-4	10.12	10.07	10.01	9.96	9.90					
-1.0	-2	10.33	10.28	10.22	10.16	10.10					
1.0	0	10.55	10.49	10.43	10.36	10.30					
2.0	1	10.65	10.59	10.53	10.47	10.40					
3.0	2	11.36	11.29	11.22	11.18	11.13					
5.0	4	12.76	12.69	12.61	12.60	12.58					
7.0	6	14.16	14.08	14.00	14.02	14.04					
9.0	8	14.72	14.64	14.56	14.52	14.49					
11.5	10	15.28	15.20	15.11	15.02	14.93					
13.5	12	16.13	16.04	15.94	15.82	15.75					
15.5	14	16.98	16.88	16.77	16.62	16.58					
16.5	16	17.41	17.30	17.19	17.02	16.99					

PCA001Z630

Model SRK125VSPZJX Indoor unit SRK60ZJX-S1 (2 units) Outdoor unit FDC125VS Cool Mode

Outdoor							Indo	or air t	emper	ature						
air temp.	18	DB	21	DB	23	DB	26	DB	27	DB	28	DB	31	DB	33	DB
dii tomp.	12	WB	14 \	ΝB	16 WB		18 WB		19 \	WB	20 \	WB	22 \	WB	24 \	WB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					10.15	7.69	10.74	8.24	11.03	8.16	11.34	8.08	11.96	8.46	12.57	8.26
13					10.63	7.90	11.26	8.44	11.57	8.36	11.91	8.28	12.58	8.66	13.25	8.46
15					11.10	8.10	11.78	8.65	12.11	8.57	12.47	8.49	13.20	8.87	13.92	8.66
17					11.58	8.31	12.29	8.86	12.65	8.78	13.04	8.70	13.82	9.08	14.59	8.87
19					11.82	8.42	12.56	8.97	12.92	8.88	13.32	8.80	14.11	9.18	14.90	8.97
21					12.06	8.53	12.82	9.08	13.19	8.99	13.60	8.91	14.40	9.28	15.20	9.06
23					12.06	8.53	12.85	9.09	13.23	9.01	13.64	8.93	14.45	9.30	15.27	9.08
25			11.16	8.66	12.06	8.53	12.89	9.11	13.27	9.02	13.68	8.94	14.51	9.32	15.34	9.11
27			11.08	8.62	12.05	8.52	12.92	9.12	13.31	9.04	13.69	8.95	14.47	9.31		
29			11.00	8.59	11.87	8.44	12.71	9.03	13.11	8.96	13.51	8.88	14.31	9.25		
31			10.92	8.55	11.69	8.36	12.49	8.94	12.90	8.87	13.32	8.80	14.15	9.20		
33	10.27	8.06	10.72	8.45	11.51	8.28	12.27	8.85	12.70	8.80	13.13	8.73	13.99	9.14		
35	10.07	7.95	10.55	8.37	11.33	8.20	12.06	8.76	12.50	8.72	12.94	8.66	13.83	9.08		
37	9.90	7.87	10.38	8.29	11.13	8.12	11.83	8.67	12.24	8.62	12.66	8.56	13.50	8.97		
39	9.72	7.78	10.20	8.21	10.94	8.03	11.60	8.58	11.99	8.52	12.38	8.45	13.16	8.86		
41	9.55	7.69	10.02	8.13	10.75	7.95	11.37	8.49	11.73	8.42	12.09	8.35	12.82	8.74		
43	9.38	7.61	9.85	8.05	10.56	7.87	11.14	8.39	11.47	8.32	11.81	8.24	12.48	8.63		

Depending on the system control, there may be ranges where the operation is not conducted continuously These data show the case where the operation frequency of a compressor is fixed.

(2) Capacities are based on the following conditions Corresponding refrigerant piping length :7.5m

Level difference of Zero.

(3) Symbols are as follows.
TC: Total cooling capacity
SHC: Sensible heat capacity

(kW)	Heat I	Mode					(kW)
	Out	door	In	door a	ir tem	oeratui	re
DB	air te	emp.			DB		
ΝB	DB	WB	16	18	20	22	24
SHC	-19.8	-20	7.06	7.03	7.00	6.97	6.95
8.26	-17.7	-18	7.46	7.43	7.41	7.37	7.34
8.46	-15.7	-16	7.87	7.84	7.81	7.77	7.74
8.66	-13.5	-14	8.33	8.29	8.26	8.22	8.18
8.87	-11.5	-12	8.78	8.74	8.70	8.66	8.62
8.97	-9.5	-10	9.24	9.19	9.15	9.11	9.06
9.06	-7.5	-8	9.69	9.65	9.60	9.55	9.50
9.08	-5.5	-6	9.91	9.86	9.81	9.75	9.70
9.11	-3.0	-4	10.12	10.07	10.01	9.96	9.90
	-1.0	-2	10.33	10.28	10.22	10.16	10.10
	1.0	0	10.55	10.49	10.43	10.36	10.30
	2.0	1	10.65	10.59	10.53	10.47	10.40
	3.0	2	11.36	11.29	11.22	11.18	11.13
	5.0	4	12.76	12.69	12.61	12.60	12.58
	7.0	6	14.16	14.08	14.00	14.02	14.04
	9.0	8	14.72	14.64	14.56	14.52	14.49
	11.5	10	15.28	15.20	15.11	15.02	14.93
	13.5	12	16.13	16.04	15.94	15.82	15.75
	15.5	14	16.98	16.88	16.77	16.62	16.58
	16.5	16	17.41	17.30	17.19	17.02	16.99



(b) Triple type

 Model
 SRK140VNTZJX
 Indoor unit
 SRK50ZJX-S1 (3 units)
 Outdoor unit
 FDC140VN

 Cool Mode
 (kW) He

Outdoor							Indo	or air t	emper	ature						
air temp.	18 [OB	21 [OB	23 [OB	26 [OB	27 I	OB	28 [OB	31 [OB	33 [)B
un tomp.	12 V	٧B	14 V	VB	16 V	VB	18 V	VB	19 V	VΒ	20 V	VB	22 V	VB	24 V	VB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	9.84	12.02	10.65	12.35	10.57	12.70	10.49	13.39	11.10	14.08	10.90
13					11.90	10.06	12.61	10.88	12.96	10.80	13.33	10.72	14.09	11.33	14.84	11.13
15					12.43	10.28	13.19	11.10	13.57	11.02	13.97	10.95	14.78	11.56	15.59	11.36
17					12.96	10.51	13.77	11.33	14.17	11.25	14.61	11.18	15.48	11.79	16.34	11.59
19					13.24	10.63	14.06	11.45	14.48	11.37	14.92	11.29	15.80	11.90	16.68	11.69
21					13.51	10.74	14.36	11.57	14.78	11.49	15.23	11.41	16.12	12.01	17.02	11.80
23					13.51	10.74	14.40	11.58	14.82	11.50	15.28	11.43	16.19	12.03	17.10	11.82
25			12.50	10.91	13.50	10.74	14.43	11.59	14.86	11.52	15.33	11.44	16.25	12.05	17.18	11.85
27			12.41	10.87	13.50	10.74	14.47	11.61	14.91	11.54	15.34	11.45	16.20	12.03		
29			12.32	10.83	13.29	10.65	14.23	11.51	14.68	11.45	15.13	11.37	16.02	11.97		
31			12.23	10.79	13.09	10.56	13.99	11.42	14.45	11.36	14.92	11.29	15.85	11.92		
33	11.51	10.06	12.01	10.68	12.89	10.48	13.75	11.32	14.23	11.27	14.71	11.22	15.67	11.85		
35	11.28	9.95	11.82	10.60	12.68	10.39	13.50	11.22	14.00	11.19	14.50	11.14	15.49	11.79		
37	11.08	9.85	11.62	10.51	12.47	10.30	13.25	11.13	13.71	11.08	14.18	11.02	15.12	11.67		
39	10.89	9.76	11.43	10.42	12.26	10.21	12.99	11.02	13.43	10.97	13.86	10.91	14.74	11.54		
41	10.70	9.67	11.23	10.33	12.04	10.12	12.73	10.92	13.14	10.86	13.55	10.79	14.36	11.42		
43	10.51	9.58	11.03	10.24	11.83	10.03	12.47	10.82	12.85	10.75	13.23	10.68	13.98	11.29		

	Heat I	Mode					(kW)
	Out	door	In	door a	ir tem	oeratui	re
П	air te	emp.			DB		
П	DB	WB	16	18	20	22	24
Ш	-19.8	-20	8.06	8.03	8.00	7.97	7.94
П	-17.7	-18	8.53	8.50	8.46	8.43	8.39
П	-15.7	-16	9.00	8.96	8.92	8.88	8.85
П	-13.5	-14	9.52	9.48	9.43	9.39	9.35
П	-11.5	-12	10.04	9.99	9.95	9.90	9.85
	-9.5	-10	10.56	10.51	10.46	10.41	10.36
	-7.5	-8	11.08	11.02	10.97	10.91	10.86
	-5.5	-6	11.32	11.26	11.21	11.15	11.09
П	-3.0	-4	11.56	11.50	11.44	11.38	11.31
П	-1.0	-2	11.81	11.75	11.68	11.61	11.54
Ш	1.0	0	12.05	11.99	11.92	11.84	11.77
Ш	2.0	1	12.18	12.11	12.04	11.96	11.89
Ш	3.0	2	12.98	12.90	12.83	12.77	12.72
Ш	5.0	4	14.58	14.50	14.41	14.40	14.38
П	7.0	6	16.19	16.09	16.00	16.02	16.05
П	9.0	8	16.83	16.73	16.63	16.59	16.55
П	11.5	10	17.46	17.37	17.27	17.17	17.06
П	13.5	12	18.44	18.33	18.22	18.08	18.00
•	15.5	14	19.41	19.29	19.17	18.99	18.95
	16.5	16	19.90	19.77	19.64	19.45	19.42

PCA001Z630 🛕

Model SRK140VSTZJX Indoor unit SRK50ZJX-S1 (3 units) Outdoor unit FDC140VS Cool Mode

COOI IVI	ol Mode (kW)															
Outdoor	Indoor air temperature															
Outdoor air temp.	18 [)B	21 I	DB	23 [)B	26 [DB	27 I	OB	28 [OB .	31 [DB	33 [)B
an temp.	12 V	٧B	14 WB		16 WB		18 WB		19 V	٧B	20 V	VB	22 V	٧B	24 V	VB
DB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
11					11.37	9.84	12.02	10.65	12.35	10.57	12.70	10.49	13.39	11.10	14.08	10.90
13					11.90	10.06	12.61	10.88	12.96	10.80	13.33	10.72	14.09	11.33	14.84	11.13
15					12.43	10.28	13.19	11.10	13.57	11.02	13.97	10.95	14.78	11.56	15.59	11.36
17		12.96 10.51 13.77 11.33 14.17 11.25 14.61 11.18 15.48 11.7									11.79	16.34	11.59			
19					13.24	10.63	14.06	11.45	14.48	11.37	14.92	11.29	15.80	11.90	16.68	11.69
21					13.51	10.74	14.36	11.57	14.78	11.49	15.23	11.41	16.12	12.01	17.02	11.80
23					13.51	10.74	14.40	11.58	14.82	11.50	15.28	11.43	16.19	12.03	17.10	11.82
25			12.50	10.91	13.50	10.74	14.43	11.59	14.86	11.52	15.33	11.44	16.25	12.05	17.18	11.85
27			12.41	10.87	13.50	10.74	14.47	11.61	14.91	11.54	15.34	11.45	16.20	12.03		
29			12.32	10.83	13.29	10.65	14.23	11.51	14.68	11.45	15.13	11.37	16.02	11.97		
31			12.23	10.79	13.09	10.56	13.99	11.42	14.45	11.36	14.92	11.29	15.85	11.92		
33	11.51	10.06	12.01	10.68	12.89	10.48	13.75	11.32	14.23	11.27	14.71	11.22	15.67	11.85		
35	11.28	9.95	11.82	10.60	12.68	10.39	13.50	11.22	14.00	11.19	14.50	11.14	15.49	11.79		
37	11.08	9.85	11.62	10.51	12.47	10.30	13.25	11.13	13.71	11.08	14.18	11.02	15.12	11.67		
39	10.89	9.76	11.43	10.42	12.26	10.21	12.99	11.02	13.43	10.97	13.86	10.91	14.74	11.54		
41	10.70	9.67	11.23	10.33	12.04	10.12	12.73	10.92	13.14	10.86	13.55	10.79	14.36	11.42		
43	10.51	9.58	11.03	10.24	11.83	10.03	12.47	10.82	12.85	10.75	13.23	10.68	13.98	11.29		

Note(1)	These	data	show	average	statuses.
	TO.	1.1	- 1		. 1

Depending on the system control, there may be ranges where the operation is not conducted continuously.

These data show the case where the operation frequency of a compressor is fixed. (2) Capacities are based on the following conditions.

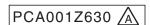
Capacities are based on the following conditions:
 Corresponding refrigerant piping length :7.5m
 Level difference of Zero.

(3) Symbols are as follows.

TC: Total cooling capacity

SHC: Sensible heat capacity

(kW) Heat Mode (kW) Outdoor Indoor air temperature air temp. DB DB WB 20 24 16 18 22 -19.8 -20 8.06 8.03 8.00 7.97 7.94 -17.7 8.43 -18 8.53 8.50 8.46 8.39 -15.7 -16 9.00 8.96 8.92 8.88 8.85 -13.5 -14 9.52 9.48 9.43 9.39 9.35 9.85 -11.5 -12 10.04 9.99 9.95 9.90 -9.5 -10 10.56 10.51 10.46 10.41 10.36 -7.5 11.08 | 11.02 | 10.97 | 10.91 | 10.86 11.32 11.26 11.21 11.15 11.09 -5.5 -3.0 11.56 | 11.50 | 11.44 | 11.38 | 11.31 11.81 11.75 11.68 11.61 11.54 -1 0 -2 1.0 0 12.05 11.99 11.92 11.84 11.77 2.0 12.18 | 12.11 | 12.04 | 11.96 | 11.89 12.98 12.90 12.83 12.77 12.72 3.0 2 5.0 14.58 | 14.50 | 14.41 | 14.40 | 14.38 16.19 | 16.09 | 16.00 | 16.02 | 16.05 7.0 6 9.0 8 16.83 16.73 16.63 16.59 16.55 11.5 10 17.46 | 17.37 | 17.27 | 17.17 | 17.06 18.44 | 18.33 | 18.22 | 18.08 | 18.00 13.5 12 15.5 14 19.41 19.29 19.17 18.99 18.95 16.5 16 | 19.90 | 19.77 | 19.64 | 19.45 | 19.42

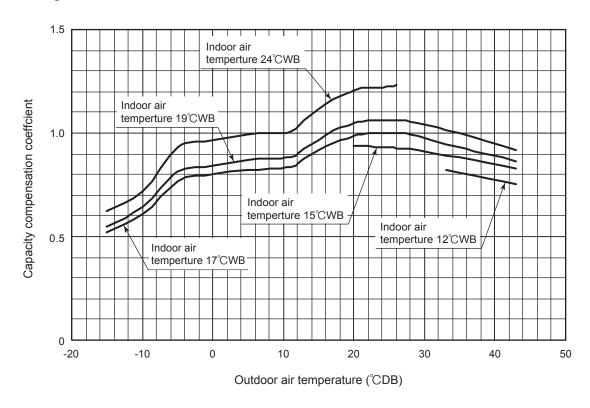


[References data]

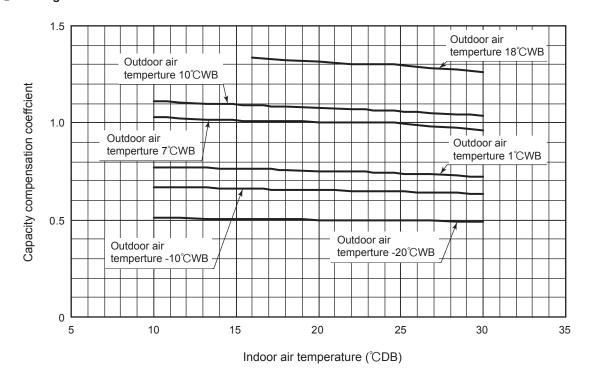
Capacity variation against outdoor and indoor temperature at rated capacity condition.

(I) Models FDC100, 125, 140VN, 100, 125, 140VS

1 Cooling

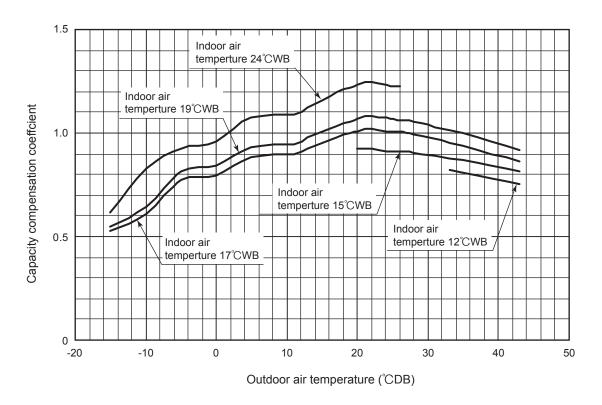


2 Heating

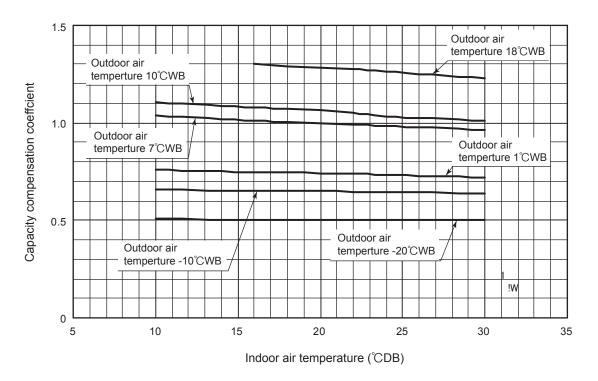


(II) Model FDC200VS

1 Cooling

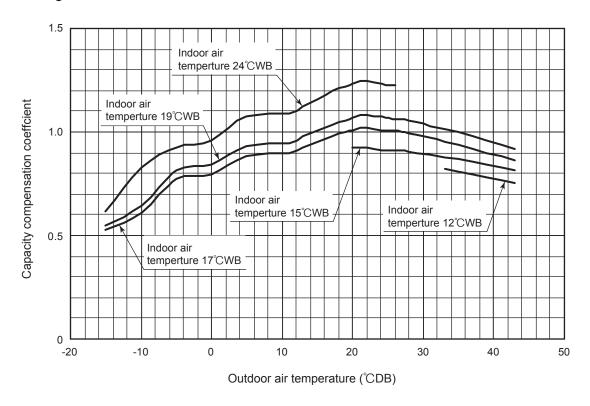


2 Heating

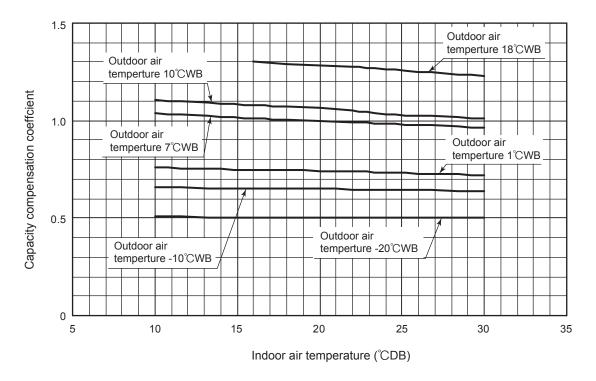


(III) Model FDC250VS

1 Cooling



2 Heating



1.9.2 Correction of cooling and heating capacity in relation to air flow rate control (fan speed)

Fan speed	P-Hi or Hi ⁽¹⁾	Me	Lo
Coefficient 1.00		0.97	0.95

Note (1) FDU and SRK models only

1.9.3 Correction of cooling and heating capacity in relation to one way length of refrigerant piping

It is necessary to correct the cooling and heating capacity in relation to the one way equivalent piping length between the indoor and outdoor units.

Models 100 ~ 140

Equivale	nt piping length (1)(n	n)	7.5	10	15	20	25	30	35	40	45	50	55
Heating			1	1	1	1	1	0.998	0.998	0.993	0.993	0.988	0.988
	100 model		1	0.991	0.978	0.964	0.951	0.937	0.924	0.910	0.897	0.883	0.870
	125 model	φ 15.88	1	0.986	0.968	0.950	0.932	0.914	0.896	0.878	0.860	0.842	0.824
Cooling	140 model		1	0.985	0.966	0.946	0.927	0.907	0.888	0.868	0.849	0.829	0.810
Cooming	100 model		1.016	1.013	1.007	1.002	0.996	0.991	0.985	0.980	0.974	0.969	0.963
	125 model	ϕ 19.05	1.022	1.018	1.009	1.001	0.992	0.984	0.975	0.967	0.958	0.950	0.941
	140 model		1.026	1.021	1.011	1.002	0.992	0.983	0.973	0.964	0.954	0.945	0.935

Note (1) Calculate the equivalent length using the following formula.

However, install the piping so that the piping length is within +5 m of the limit length (actual length) for the respective types.

Models 200, 250

Models	200, 230																
Equivale	ent piping length (1) (m)	7.5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
Heating			1	0.998	0.995	0.991	0.988	0.984	0.981	0.977	0.974	0.970	0.967	0.963	0.960	0.956	0.953
	200 model	4 25 4	1.007	1.005	1.002	0.998	0.995	0.991	0.988	0.984	0.981	0.977	0.974	0.970	0.967	0.963	0.960
	250 model	ϕ 25.4	1.012	1.008	1.002	0.996	0.990	0.984	0.978	0.972	0.966	0.960	0.953	0.947	0.941	0.935	0.929
Cooling	200 model	φ 22.22	1	0.997	0.991	0.984	0.978	0.971	0.965	_	_	_	_	_	_	_	_
Cooling	250 model	Ψ 22.22	1	0.995	0.985	0.975	0.965	0.954	0.944	_	_	_	_	_	_	_	_
	200 model	4 20 50	1.010	1.009	1.007	1.005	1.003	1.001	0.999	0.997	0.995	0.993	0.991	0.989	0.987	0.985	0.983
	250 model	ϕ 28.58	1.016	1.015	1.011	1.008	1.004	1.001	0.997	0.994	0.990	0.987	0.983	0.980	0.976	0.973	0.969

Note (1) Calculate the equivalent length using the following formula.

However, install the piping so that the piping length is within +5 m of the limit length (actual length) for the respective types.

• Equivalent Length =Actual Length + (Equivalent bend length x number of bends in the piping.) Equivalent length per bend.

Gas Pipe Diameter (mm)	φ 12.7	φ 15.88	φ 19.05	φ 22.22	φ25.4	ϕ 28.58
Equivalent Bend Length	0.20	0.25	0.30	0.35	0.40	0.45

1.9.4 Height difference between the indoor unit and outdoor unit

When the outdoor unit is located below indoor units in cooling mode, or when the outdoor unit is located above indoor units in heating mode, the correction coefficient mentioned in the below table should be subtracted from the value in the above table.

Height difference between the indoor unit and outdoor unit in the vertical height difference	5m	10m	15m	20m	25m	30m
Adjustment coefficient	0.99	0.98	0.97	0.96	0.95	0.94

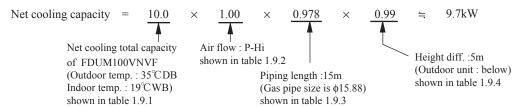
Piping length limitations

Item Model	100, 125, 140	200, 250			
Max. one way piping length	50m	70m			
Max. vertical height difference	Outdoor unit is higher 30m Outdoor unit is lower 15m				

Note (1) Values in the table indicate the one way piping length between the indoor and outdoor units.

How to obtain the cooling and heating capacity

Example : The net cooling capacity of the model FDUM100VNVF with the air flow "P-High", the piping length of 15m, the outdoor unit located 5m lower than the indoor unit, indoor wet-bulb temperature at 19.0° C and outdoor dry-bulb temperature 35° C is



1.10 APPLICATION DATA

1.10.1 Installation of indoor unit

(1) Ceiling cassette-4way type (FDT)

This manual is for the installation of an indoor unit.

For electrical wiring work (Indoor), refer to page 244. For remote controller installation, refer to page 259. For wireless kit installation, refer to page 478. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to page 273. This unit always be used with the panel.

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels [AWARNING] and [ACAUTION] <u>AWARNING</u>: Wrong installation would cause serious consequences such as injuries or death. ACAUTION: Wrong installation might cause serious consequences depending on circumstances. Both mentions the important items to protect your health and safety so strictly follow them by any means.
- The meanings of "Marks" used here are as shown on the right:

over the user's manual to the new user when the owner is changed.

Never do it under any circumstances. After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit. Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand

MARNING

Installation should be performed by the specialist.

If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn of the unit



Install the system correctly according to these installation manuals.

Improper installation may cause explosion, injury, water leakage, electric shock, and fire



● Check the density refered by the foumula (accordance with ISO5149).

If the density exceeds the limit density, please consult the dealer and installate the ventilation system Use the genuine accessories and the specified parts for installation.



If parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the

Ventilate the working area well in case the refrigerant leaks during installation.



If the refrigerant contacts the fire, toxic gas is produced ●Install the unit in a location that can hold heavy weight.

Improper installation may cause the unit to fall leading to acciden



• Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes Improper installation may cause the unit to fall leading to accident Do not mix air in to the cooling cycle on installation or removal of the air conditioner.



If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and injur Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.

Power source with insufficient capacity and improper work can cause electric shock and fire.



• Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal.

Loose connections or hold could result in abnormal heat generation or fire

• Check for refrigerant gas leakage after installation is completed.



● Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services Improper fitting may cause abnormal heat and fire

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If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced. Use the specified pipe, flare nut, and tools for R410A.

Using existing parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle



Tighten the flare nut according to the specified method by with torque wrench. If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long period



• Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can

Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also



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cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak. ■Connect the nines for refrigeration circuit securely in installation work before compressor is operated. If the compressor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due

to abnormal high pressure in the system. • Stop the compressor before removing the pipe after shutting the service valve on pump down work.

If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circ and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle.

Only use prescribed optional parts. The installation must be carried out by the qualified installer. If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire

● Do not repair by yourself. And consult with the dealer about repair. Improper repair may cause water leakage, electric shock or fire

Consult the dealer or a specialist about removal of the air conditioner. Improper installation may cause water leakage, electric shock or fir

 Turn off the power source during servicing or inspection work. If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan

• Do not run the unit when the panel or protection guard are taken off.

Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get

Shut off the power before electrical wiring work.

It could cause electric shock, unit failure and improper running

PJF012D016C ⚠

Perform earth wiring surely.

Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could

Farth leakage breaker must be installed.

 Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.

 Do not install the indoor unit near the location where there is possibility of flammable gas leakages If the gas leaks and gathers around the unit, it could cause fire.

Do not install and use the unit where corrosive gas (such as sulfurous acid gas etc.) or flammable gas (such

It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire.

Indoor unit is not waterproof. It could cause electric shock and fire.

It could cause the damage of the items.

 Do not install nor use the system near equipments which generate electromagnetic wave or high harmonics. Equipments like inverter equipment, private power generator, high-frequency medical equipment, or telecommunication equipment might influence the air conditioner and cause a malfunction and breakdown. Or the air conditioner might

Do not install the remote controller at the direct sunlight.

- Do not install the indoor unit in the locations listed below (Re sure to install the indoor unit)
- infrared specification unit)



Pay attention not to damage the drain pan by weld sputter when brazing work is done near the unit.

Improper connection of the drain pipe may cause dropping water into room and damaging user's belongings Do not share the drain pipe for indoor unit and GHP (Gas Heat Pump system) outdoor unit.

 Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping wor If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can

• For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps and not to make air-bleeding.

Check if the drainage is correctly done during commissioning and ensure the space for inspection and mai

Ensure the insulation on the pipes for refrigeration circuit so as not to condense water

Do not install the outdoor unit where is likely to be a nest for insects and small animals

Pav extra attention, carrying the unit by hand.

Do not operate the system without the air filter.

Do not touch any button with wet hands.

Do not touch the refrigerant piping with bare hands when in operation.

Do not clean up the air conditioner with water.

Do not control the operation with the circuit breaker

It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury

se unit failure and electric shock due to a short circ If the earth leakage breaker is not installed, it can cause electric shocks Using the incorrect one could cause the system failure and fire Do not use any materials other than a fuse of correct capacity where a fuse should be used Connecting the circuit by wire or copper wire could cause unit failure and fire as thinner, petroleum etc.) may be generated or accumulated, or volatile flammable substances are handled. Secure a space for installation, inspection and maintenance specified in the manual. 0 Insufficient space can result in accident such as personal injury due to falling from the installation place Do not use the indoor unit at the place where water splashes such as laundry. Do not use the indoor unit for a special purpose such as food storage, cooling for precision instrument, preservation of animals, plants, and a work of art. influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause iamming, It could cause breakdown or deformation of the remote contr Do not install the indoor unit at the place listed below Places where flammable gas could leak. Places where carbon fiber, metal powder or any powder is floated. Place where the substances which affect the air conditioner are generated such as suffide gas, chloride gas, acid, alkali or ammonic atmospheres. Places where cosmetics or special sprays are frequently used. Highly salted area such as beach. Heavy snow area Places where the system is affected by Places exposed to oil mist or steam directly. On vehicles and ships smoke from a chimney Places where machinery which generates high harmonics is used. Altitude over 1000m out not instant the induor unit in the evaluations inset unew does are in instant the induor unit. Locations with any obstacles which can prevent inlet and outlet air of the unit. Locations where vibration can be amplified due to insufficient strength of structure. Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (in case of the initiate uspecificated unity. Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m) Locations where drainage cannot run off safely. It can affect performance or function and etc... Do not put any valuables which will break down by getting wet under the air conditioner ion could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damag Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use. 0 If sputter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. To avoid damaging, keep the indoor unit packed or cover the indoor unit. Install the drain pipe to drain the water surely according to the installation manual. Toxic exhaust gas would flow into room and it might cause serious damage (some poisoning or deficiency of oxygen) user's health and safety. 0 occur, which can cause serious accidents Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuables. Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the user to keep the surroundings clean. Carry the unit with 2 people if it is heavier than 20kg, Do not use the plastic straps but the grabbing place, moving the unit by hand. Use protective gloves in order to avoid injury by the aluminum fin. Make sure to dispose of the packaging material. tals like nail and woods are used in the packag It may cause the breakdown of the system due to clogging of the heat exchanger. The pipe during operation would become e very hot or cold according to the operating condition, and it could cause a burn or It could cause electric shock. Do not turn off the power source immediately after stopping the operation.

1Before installation

Install correctly according to the installation manual. Confirm the following points:

OUnit type/Power supply specification OPipes/Wires/Small parts OAccessory items

Accessory item

For un	it hanging		For refrigerant pipe			For drain pipe			
Flat washer (M10)	Level gauge	Pipe cover(big)	Pipe cover (small)	Strap	Pipe cover(big)	Pipe cover(small)	Drain hose	Hose clamp	
0		9	6		0	0			
8	1	1	1	4	1	1	1	1	
For unit hanging	For unit hanging and adjustment	For heat insulation of gas pipe	For heat insulation of liquid tube	For pipe cover fixing	For heat insulation of drain socket	For heat insulation of drain socket	For drain pipe connecting	For drain hose mounting	

2 Selection of installation location for the indoor unit

- ① Select the suitable areas to install the unit under approval of the user
 - Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on
 - · Areas where there is enough space to install and service.
 - · Areas where it can be drained properly. Areas where drain pipe descending slope can be
 - Areas where there is no obstruction of airflow on both air return grille and air supply port.
 - · Areas where fire alarm will not be accidentally activated by the air conditioner.
 - Areas where the supply air does not short-circuit.
 Areas where it is not influenced by draft air.

 - · Areas not exposed to direct sunlight.
 - Areas where dew point is lower than around 28°C and relative humidity is lower than 80%. This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air conditioner is operated under the severer condition than mentioned

If there is a possibility to use it under such a condition, attach additional insulation of 10 to 20mm thick for entire surface of indoor unit, refrigeration pipe and drain pipe.

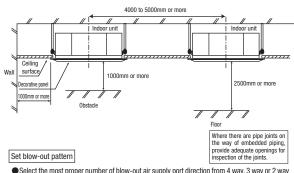
- Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.)
- · Areas where any items which will be damaged by getting wet are not placed such as food, table wares, server, or medical equipment under the unit.
- Areas where there is no influence by the heat which cookware generates.
- · Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
- Areas where lighting device such as fluorescent light or incandescent light doesn't affect the operation.

(A beam from lighting device sometimes affects the infrared receiver for the wireless remote controller and the air conditioner might not work properly.)

- 2)Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.
- 3 If there are 2 units of wireless type, keep them away for more than 6m to avoid malfunction due to cross communication.
- 4When plural indoor units are installed nearby, keep them away for more than 4 to 5m.

Space for installation and service

- When it is not possible to keep enough space between indoor unit and wall or between indoor units, close the air supply port where it is not possible to keep space and confirm there is no short circuit of airflow
- Install the indoor unit at a height of more than 2.5m above the floor.



- Select the most proper number of blow-out air supply port direction from 4 way, 3 way or 2 way according to the shape of the room and installation position. (1 way is not available.)
- If it is necessary to change the number of air supply port, prepare the covering materials.
- Instruct the user not to use low fan speed when 2way or 3way air supply is used.
- Do not use 2way air supply port under high temperature and humidity environment. (Otherwise it could cause condensation and leakage of water.)
- It is possible to set the airflow direction port by port independently. Refer to the user's manual

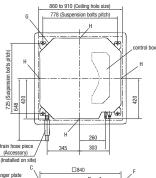
3 Preparation before installation

- If suspension bolt becomes longer, do reinforcement of earthquake resistant

When suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt.

- OIn case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength.
- When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt. ● Prepare four (4) sets of suspension bolt, nut and spring washer (M10 or M8) on site.

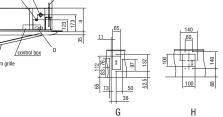
Ceiling opening, Suspension bolts pitch, Pipe position



		(mm)
Series	Туре	а
Single Split (PAC) series	40 to 71 type	246
	100 to 140 type	298
VRF (KX)	28 to 71 type	246
series	90 to 160 type	298

Gas piping

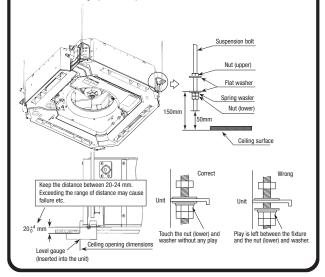
	B	Liquid piping
1	С	Drain piping
	D	Hole for wiring
	F	Suspension bolts
	G	Outside air opening for ducting
/∰ H 260	Н	Air outlet opening for ducting
piece 345 303		
n site)		
C B40 F		
a bolt B A		
oliece 345 303 site 345 303 site 345 303 F	п	Air duvet opening for ductin



(4) Installation of indoor unit

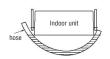
Work procedure

- Prepare a ceiling hole with the size of from 860mm × 860mm to 910mm × 910mm referring to the template attached in the package.
- Arrange the suspension bolt at the right position (725mm×778mm).
- Make sure to use four suspension bolts and fix them so as to be able to hold 500N load.
- Ensure that the lower end of the suspension bolt should be 50mm above the ceiling plane. Temporarily put the four lower nuts 150mm above the ceiling plane and the upper nuts on distant place from the lower nuts in order not to obstruct hanging the indoor unit or adjust the indoor unit position, and then hang the indoor unit
- Adjust the indoor unit position after hanging it by inserting the level gauge attached on the package into the air supply port and checking if the gap between the ceiling plane and the indoor unit is appropriate. In order to adjust the indoor unit position, adjust the lower nuts while the upper nuts are put on distant place. Confirm there is no backlash between the hanger plate for suspension bolt and the lower nut and washer



(4) Installation of indoor unit (continued)

- Make sure to install the indoor unit horizontally. Confirm the levelness of the indoor unit with a level gauge or transparent hose filled with water. Keep the height difference at both ends of the indoor unit within 3mm.
- 7. Tighten four upper nuts and fix the unit after height and levelness adjustment.



Caution

- Do not adjust the height by adjusting upper nuts. It will cause unexpected stress on the indoor unit and it will lead to deformation of the unit, failure of attaching a panel, and generating noise from the fan.
- Make sure to install the indoor unit horizontally and set the gap between the unit underside and the ceiling plane properly. Improper installation may cause air leakage, dew condensation, water leakage and noise.
- Even after decorative panel attached, still the unit height can be adjusted finely. Refer to the installation manual for decorative panel for details.
- Make sure there is no gap between decoration panel and ceiling surface, and between decoration panel and the indoor unit. The gap may cause air leakage, dew condensation and water leakage.
- In case decorative panel is not installed at the same time, or ceiling material is installed after the unit installed, put the cardboard template for installation attached on the package (packing material of cardboard box) on the bottom of the unit in order to avoid dust coming into the indoor unit

5Refrigerant pipe

Caution

- Be sure to use new pipes for the refrigerant pipes. Use the flare nut attached to the product or a nut compatible with JIS 8607, Class 2.
 Reparding whether existing pipes can be reused or not, and the washing method, refer to the instruction manual of the
- outdoor unit, catalogue or technical data.

 1) In case of reuse: Do not use old flare nut, but use the one attached to the unit or compatible with JIS B 8607, Class 2.

 2) In case of reuse: Flare the end of pipe replaced partially for R410A.





Direction of the	Min nine	Protruding dimer	nsion for flare, mm	Flare O.D.	Flare nut	
d d	Pipe dia. Min. pipe wall thickness		utch type)		tightening torque	
mm mm		For R410A	Conventional tool	mm		
6.35	0.8			8.9 ~ 9.1	14 ~ 18	
9.52	0.8			$12.8 \sim 13.2$	32 ~ 42	
12.7	0.8	0 ~ 0.5	0.7 ~ 1.3	16.2 ~ 16.6	49 ~ 61	
15.88	1			19.3 ~ 19.7	68 ~ 72	
19.05	1.2	1		23.6 ~ 24.0	100 ~ 120	

- Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H3300) for refrigeration pipe installation.
 - In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.
- Do not use any refrigerant other than R410A.
- Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc.
- Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc.
- •Use special tools for R410 refrigerant.

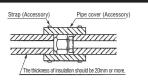
Work procedure

- 1. Remove the flare nut and blind flanges on the pipe of the indoor unit.
- ** Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them
 - (Gas may come out at this time, but it is not abnormal.)
- Pay attention whether the flare nut pops out. (as the indoor unit is sometimes pressured.)
- - *Do a flare connection as follows:
 - Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them.
 - When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it by spanner with the specified torque mentioned in the table below. Make sure to hold the pipe on the indoor unit securely by a spanner when tightening the nut in order to avoid unexpected stress on the copper pipe.
- Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached straps.
 - Make sure to insulate both gas pipes and liquid pipes completely.
 - *Incomplete insulation may cause dew condensation or water dropping.
- 4. Refrigerant is charged in the outdoor unit.
 - As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.

5Refrigerant pipe (continued)

Caution

Refrigerating machine oil should not be applied to the threads of union or external surface of flare. It is because, even if the same tightening forque is applied, the oil is likely to decrease the slide friction force on the threads and increase, in turn, the axial component force so that it could crack the flare by the stress corrosion. Refrigerating machine oil may be applied to the internal surface of flare over the surface of the root of the stress that the surface of the root of the root of the surface of the root of the surface of the root of the surface of the root of the root of the surface of the root of th



6 Drain pipe

Caution

- Install the drain pipe according to the installation manual in order to drain properly.
- Imperfection in draining may cause flood indoors and wetting the household goods, etc.

 Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is generated. Toxic gas would flow into the room and it would cause serious damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell.
- Connect the pipe securely to avoid water leakage from the joint.
- Insulate the pipe properly to avoid condensation drop.
- Check if the water can flow out properly from both the drain outlet on the indoor unit and the end
 of the drain pipe after installation.
- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap
 in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from
 the pipe during commissioning. Also, keep sufficient space for inspection and maintenance.

Work procedure

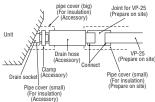
 Make sure to insert the drain hose (the end mode of soft PVC) to the end of the step part of drain socket.

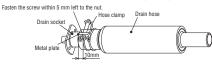
Attach the hose clamp to the drain hose around 10mm from the end, and fasten the screw within 5mm left to the nut.

Drag socket The step part Drain hose

No adhesive allowed

Do not apply adhesives on this end

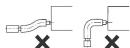




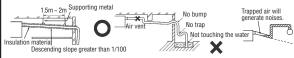
- Prepare a joint for connecting VP-25 pipe, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP-25 pipe (prepare on site). XAs for drain pipe, apply VP-25 made of rigid PVC which is on the market.
- Make sure that the adhesive will not get into the supplied drain hose.

 It may ease the flexible part broken after the adhesive is dried up and gets rigid.
- It may cause the flexible part broken after the adhesive is dried up and gets rigid.

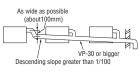
 The flexible drain hose is intended to absorb a small difference at installation of the unit or drain pipes. Intentional bending, expanding may cause the flexible hose broken and water leakage.



- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway.
 - Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the pipe as close place to the unit as possible when connecting the drain pipe.
 - Do nt set up air vent.



• When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.

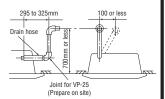


- 4. Insulate the drain pipe.
- Be sure to insulate the drain socket and rigid PVC pipe installed indoors otherwise it may cause dew condensation and water leakage.
 - After drainage test implementation, cover the drain socket part with pipe cover (small size), then
 use the pipe cover (big size) to cover the pipe cover (small size), clamps and part of the drain
 hose, and fix and wrap it with tapes to wrap and make joint part gapless.

6 Drain pipe (continued)

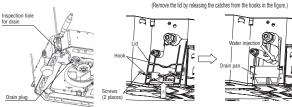
Drain up

 The position for drain pipe outlet can be raised up to 700mm above the ceiling. Use elbows for installation to avoid obstacles inside ceiling. If the horizontal drain pipe is too long before vertical pipe, the backflow of water will increase when the unit is stopped, and it may cause overflow of water from the drain pan on the indoor unit. In order to avoid overflow, keep the horizontal pipe length and offset of the pipe within the limit shown in the figure below.



Drain test

- After installation of drain pipe, make sure that drain system work in good condition and no water leakage from joint and drain pan. Check if the motor sound of drain pump is normal or not.
- Do drain test even if installation of heating season.
 For new building cases, make sure to complete the test before hanging the ceiling.
- 1 Fill water of approx 1,000 cc in the drain pan of the main unit. Take care not to wet electrical equipment such as the drain pump, etc Inject water through the blow outlet using a feed water pump, or the like, or through the refrigerant pipe joint.
 - When injecting water through the blow outlet
- ●When removing the lid to inject water through the refrigerant joint (1) Remove screws at 2 places. (2) While pressing the lid in the direction ①, pull and remove the lid in the direction ②.



- 2. Make sure that water is drained out properly and there is no water leakage from any joints of the drain pipe at the test. Confirm that the water is properly drained out while the drain motor is operating. At the
- drain socket (transparent), it is possible to check if the water is drained out properly. Unplug the drain plug on the indoor unit to remove remaining water on the drain pan after the test, and re-plug it. And insulate the drain pipe properly finally.

Drain pump operation

OIn case electrical wiring work finished

Drain pump can be operated by remote controller (wired).

For the operation method, refer to Operation for drain pump in the installation manual for wiring work.

OIn case electrical wiring work not finished

Drain numn will run continuously when the din switch "SW7-1" on the indoor unit PCB is turned ON, the Connect The CNB is disconnected, and then the power supply (230VAC on the terminal block ① and ②) is turned ON. Make sure to turn OFF "SW7-1" and reconnect the Connector CNB after the test.

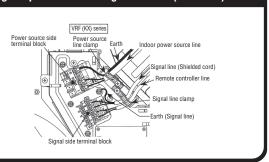
7Wiring-out position and wiring connection

- Electrical installation work must be performed according to the installation manual by an
 electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.
 - Be sure to use an exclusive circuit.
- Use specified cord, fasten the wiring to the terminal securely, and hold the cord securely in order not to apply unexpected stress on the terminal.
- Do not put both power source line and signal line on the same route. It may cause miscommunication and malfunction.
- Be sure to do D type earth work
- For the details of electrical wiring work, see attached instruction manual for electrical wiring work
- Remove a lid of the control box (3 screws) and the wiring cover (2 screws).
- Hold each wiring inside the unit and fasten them to terminal block securely. Fix the wiring with clamps.
- 4. Install the removed parts back to original place.





Wiring-out position and wiring connection (continued)



®Panel installation

- Attach the panel on the indoor unit after electrical wiring work.
- Refer to attached manual for panel installation for details

9Check list after installation

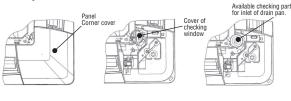
Check the following items after all installation work completed.

Check if;	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Supply voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
There is mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks airflow on air inlet and outlet?	Insufficient capacity	

(10) How to check the dirt of drain pan (Maintenance)

The method of checking the dirt of drain pan

- It is possible to check the dirt for inlet of drain pan without detaching the panel. (Inspection is not possible when the high efficient filter and option spacer is installed.)
- Open the air return grille and remove the panel corner cover on drain pan side.
- Remove the cover of inspection window. (1screw)
- Check the drain pan from the inspection window.
 - If the drain pan is very dirty, remove the drain pan and clean it.
- After checking of the dirty of drain pan, restore the cover of the inspection window securely. Improper restoration of the cover may cause dew condensation and water



Attention for removing drain pan

• The fixing components have been attached the with drain pan. Pay attention to these components during installation and removing. Take off the hanging hook after removing four screws. During the installation of drain pan, fix the drain pan firmly by using four screws after hanging it up with the fixing hook.



PANEL INSTALLATION MANUAL

PJF012D003C ∕€\

Read this manual together with the indoor unit's installation manual

★ WARNING

- Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal.

 Loose connection or hold will cause abnormal heat generation or fire.
- Make sure the power supply is turned off when electric wiring work.

 Otherwise, electric shock, malfunction and improper running may occur

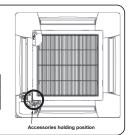


Before installation

- Follow installation manual carefully, and install the panel properly. Check the following items.

 O Accessories

Access	ories							
Bolt	9-	4 pieces	For panel installation					
Strap		4 pieces	For avoiding the corner panel from falling					
Screw	Screw \$\ 4 \text{ pieces} For fixing the corner panel							
Note: Ac	Note: Accessories are laid in the position removing the corner panel.							



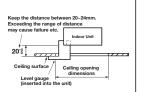
② Checking the indoor unit installation position

- · Read this manual together with the air conditioner installation manual carefully.
- Check if the opening size for the indoor unit is correct with the level gauge supplied in the indoor unit
- Check if the gap between the ceiling plane and the indoor unit is correct by inserting the level gauge into the air outlet port of the indoor unit. (See below drawing)
- · Adjust the installation elevation if necessary.

If there is a height difference beyond the design limit between the installation level of the indoor unit and the ceiling plane, the panel may be subject to excessive stress during installation, it may cause distortion and damage.

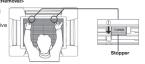
The installation level of the indoor unit can be adjusted finely from the opening provided on the corner, even after panel is attached.
(Refer to

Attaching the panel for details.)



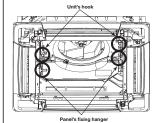
③ Removing the air return grille

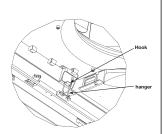
Hold the stoppers on the air return grille (2 places) toward OPEN direction, open the air return grille.
 Remove the hooks of the air return grille from the decorativ panel while it is in the open position.



6 Attaching the panel

- Lift up the hanger (2 places) on the panel for temporary support.
 Hang the panel on the hook on the indoor unit.



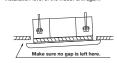


2. Fix the panel on the indoor unit

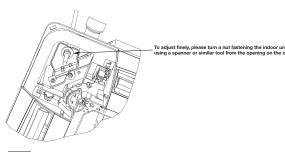
· Fasten the panel on the indoor unit with the four bolts supplied with the panel

Improperly tightened hanging bolts can cause the problems listed below, so make sure that you have tightened them securely. Air leakage Air leakage along the ceiling

If there is a gap remaining between the ceiling and the decorative panel even after the hanging bolts are tightened, adjust the installation level of the indoor unit again.



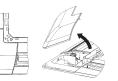
It is possible to adjust the installation height of the indoor unit with the panel attached as long as there is no influence on the drain pipe inclination and/or the indoor unit levelness.



re there is no stress given on the panel when adjusting the height of the indoor void unexpected distortion. It may cause the distortion of panel or failing to

Removing a corner panel

Pull the corner panel toward the direction indicated by the arrow and remove it. (Same way for all four corner panels)



⑤ Orientation of the panel installation

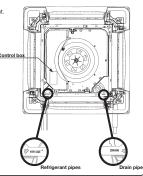
- Take note that there is an orientation to install the panel.

 Attach the panel with the orientation shown on the right.

 Align the "PIPE SIDE" mark (on the panel) with the refrigerant pipes on the indoor unit.

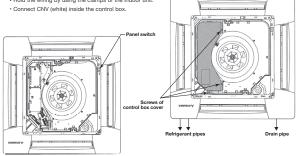
 Align the "DRAIN" mark (on the panel) with the drain pipe on the indoor unit.

In case the orientation of the panel is not correct, it will lead to air leakage and also it is not possible to connect the louver motor wiring.



① Electrical wiring

- 1. After removing three screws of control box, detach the cover of control box (the hatched part).
- 2. Connect the connector for louver motor (white 20P). · Hold the wiring by using the clamps of the indoor unit.
- · Hold the connector inside the control box
- 3. Connect the connector for panel switch.
- · Hold the wiring by using the clamps of the indoor unit.

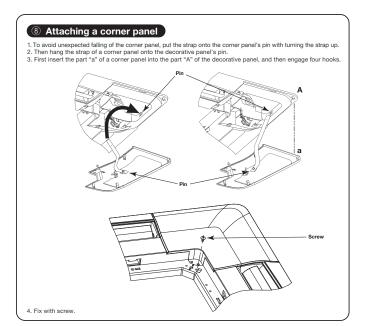


motor (white) Clamps of unit main body

If the air return grill is opened, the panel switch is turned off so that the air-conditioner cannot be operated a

CAUTION

more. To start the air conditioner, close the air return grill.



How to set the airflow direction

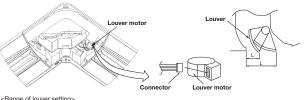
It is possible to change the movable range of the louver on the air outlet from the wired remote controller. Once the top and bottom position is set, the louver will swing within the range between the top and the bottom when swing operation is chosen. It is also possible to apply different setting to each louver.

For the setting method of the louver's operating range, refer to the instruction manual of the wired remote

- If it is necessary to fix the louver position manually, follow the procedure mentioned below.

 1. Shut off the main power switch.

 2. Unplug the connector of the louver motor which you want to fix the position. Make sure to insulate unplugged connectors electrically with a viny! tape.
- 3. Adjust the louver position slowly by hand so as to be within the applicable range mentioned below table.



<Range of louver setting>

Vertical airflow direction Dimension L (mm) Horizontal 0° Downwards 45° 43 26

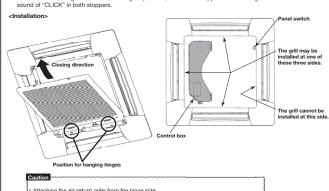
- Any automatic control or operation from the remote controller will be disabled on the louver whose position is fixed in the above way.
- Do not set a louver beyond the specified range. Failure to observe this instruction may result in dripping, dew condensation, the fouling of the ceiling and the malfunctioning of the unit.

Mattaching the air return grille

To attach the air return grille, follow the procedure described in <a>Beamoving the air return grille in the reverse order. 1. Hang the hooks of the air return grille in the hole of the panel. (The hooks of the grille can be hanged in three side

of the panel as following.)

2. After the grille is hanged, close the grille while the stoppers on the grille (2 places) are kept pressed to "OPEN" direction. When the grille comes to the original position, release the stoppers to hold the grille. Make sure to hear the sound of "CLICK" in both stoppers.



- Attaching the air return grille from the hinge side.

 Be careful in air return grille attaching, unstable attaching may cause grille falling.

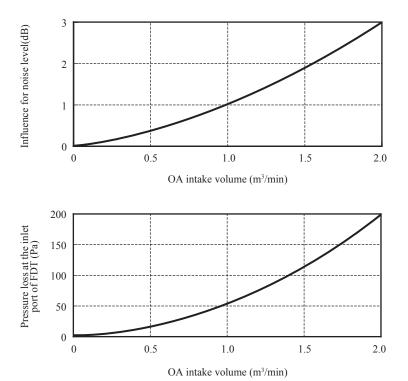
 Repair or replace the distorted, broken stopper at once, or the grille falling may occur.

OUTDOOR AIR (OA) INTAKE FOR FDT

If it is required to intake OA through FDT unit, make sure to check following points carefully in order to conform to the requirement of customer.

If the OA intake volume through FDT unit is not satisfied with the required ventilation air volume, consider to install an independent ventilation system.

- 1) Be sure to calculate cooling/heating load considering the ventilation heat load and to decide the air-conditioning system.
- 2) Be sure the OA intake volume to FDT unit should not exceed 20% of the Supply Air (SA) volume of FDT unit and it should be less than 2m³/min.
- Be sure to decide the OA intake volume considering the mixed air temperature will be within the usage temperature range of FDT unit.
 - Especially in following case, please consider to intake OA after processing OA or reducing the OA intake volume.
- Be sure to equip a suitable filter for OA intaken in order to protect the dust.
 (Because OA does not pass through the filter equipped on FDT unit)
- 5) Be sure to insulate OA duct.
 (If not, it may have dew condensation.)
- 6) Be sure to interlock the booster fan for OA with the fan of FDT unit by using CNT connector. (If not, the dust trapped on the filter of FDT unit may be blown out to the room by the OA being intaken during the fan of FDT unit stopping)
- 7) Be sure to select a suitable booster fan for OA considering the pressure loss in the OA duct and the pressure loss at the inlet port of FDT with following diagram.
 - (Please take into consideration the noise level as well)



<Selection of booster fan>

Booster fan should have a static pressure calculated with following formula

Static pressure of booster fan

= the pressure loss at the inlet port of FDT (from above diagram)

+ Pressure loss in the OA duct (In case of ϕ 100 duct, 5Pa/m is required)

Select the booster fan from the fan characteristic diagram

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(2) Ceiling cassette-4way compact type (FDTC)

PJA012D786

This manual is for the installation of an indoor unit.

For electrical wiring work (Indoor), refer to page 244. For remote controller installation, refer to page 259. For wireless kit installation, refer to page 480. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to page 273.

This unit must always be used with the panel.

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, [AWARNING] and [ACAUTION] <u>AWARNING</u>: Wrong installation would cause serious consequences such as injuries or death. ACAUTION: Wrong installation might cause serious consequences depending on circumstances
- Both mentions the important items to protect your health and safety so strictly follow them by any means. The meanings of "Marks" used here are as shown as follows:

Never do it under any circumstances. • Always do it according to the instruction.

 After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit. Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand over the user's manual to the new user when the owner is changed.

↑ WARNING

Installation should be performed by the specialist.

If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn of the unit

Install the system correctly according to these installation manuals.

Improper installation may cause explosion, injury, water leakage, electric shock, and fire

• When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage, referred by the formula (accordance with ISO5149).

If the density of refrigerant exceeds the limit, please consult the dealer and install the ventilation system, otherwise lack of oxygen can occur, which can cause serious accidents.

lacktriangle Use the genuine accessories and the specified parts for installation.

If parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the unit.

Ventilate the working area well in case the refrigerant leaks during installation.

If the refrigerant contacts the fire, toxic gas is produce

Install the unit in a location that can hold heavy weight

Improper installation may cause the unit to fall leading to ac

• Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes. on may cause the unit to fall leading to accid

Do not mix air in to the cooling cycle on installation or removal of the air conditioner.

If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and injurie

•Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.

Power source with insufficient capacity and improper work can cause electric shock and fire.

•Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in

order not to apply unexpected stress on the terminal. Loose connections or hold could result in abnormal heat generation or fire

♠ Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel property

Improper fitting may cause abnormal heat and fire.

● Check for refrigerant gas leakage after installation is completed.

If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced

Ouse the specified pipe, flare nut, and tools for R410A

Using existing parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle

● Tighten the flare nut according to the specified method by with torque wrench.

If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long p

Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can occur. us gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak

● Connect the pipes for refrigeration circuit securely in installation work before compressor is operated. If the compressor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due

to abnormal high pressure in the syste Stop the compressor before removing the pipe after shutting the service valve on pump down work. If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circui and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle.

Only use prescribed optional parts. The installation must be carried out by the qualified installer. If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire

• Do not repair by yourself. And consult with the dealer about repair.

Improper repair may cause water leakage, electric shock or fire Consult the dealer or a specialist about removal of the air conditioner.

●Turn off the power source during servicing or inspection work.

If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan

Do not run the unit when the panel or protection guard are taken off.

Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get burned, or electric shock.

Shut off the power before electrical wiring work.

It could cause electric shock, unit failure and improper running

Perform earth wiring surely.

Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock due to a short circui

Earth leakage breaker must be installed.

If the earth leakage breaker is not installed, it can cause electric shocks

 Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all Using the incorrect one could cause the system failure and fire.

• Do not use any materials other than a fuse of correct capacity where a fuse should be used. ting the circuit by wire or copper wire could cause unit failure and fire Do not install the indoor unit near the location where there is possibility of flammable gas leakag

If the gas leaks and gathers around the unit, it could cause fire.

 Do not install and use the unit where corrosive gas (such as sulfurous acid gas etc.) or flammable gas (such as thinner, petroleum etc.) may be generated or accumulated, or volatile flammable substances are handled. It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire

 Secure a space for installation, inspection and maintenance specified in the manual. Insufficient space can result in accident such as personal injury due to falling from the installation place

Do not use the indoor unit at the place where water splashes such as laundry.

Indoor unit is not waterproof. It could cause electric shock and fire. Do not use the indoor unit for a special purpose such as food storage, cooling for precision instrument, preservation of animals, plants, and a work of art.

It could cause the damage of the items.

 Do not install nor use the system near equipments which generate electromagnetic wave or high harmonics. Equipments like inverter equipment, private power generator, high-frequency medical equipment, or telecommunication

equipment might influence the air conditioner and cause a malfunction and breakdown. Or the air conditioner might influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause jamming

 Do not install the remote controller at the direct sunlight. It could cause breakdown or deformation of the remote control

Do not install the indoor unit at the place listed below.

Places where flammable gas could leak. Places where carbon fiber, metal powder or any powder is floated. Place where the substances which affect the air conditioner are generated such as suffide gas, chloride gas, acid, alkaji or ammonic atmospheres.

Places exposed to oil mist or steam directly. On vehicles and ships

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Places where machinery which generates high harmonics is used.

Places where cosmetics or special sprays are

frequently used. Highly salted area such as beach

Heavy snow area
Places where the system is affected by smoke from a chimney. Altitude over 1000m

Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation)

Locations with any obstacles which can prevent finel and outlet air of the unit Locations where vibration can be amplified due to insufficient strength of structure. Locations where vibration can be amplified due to insufficient strength of structure. Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (in case of the infrared specification unit)

Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m)

Locations where drainage cannot run off safely. It can affect performance or function and etc.

Do not put any valuables which will break down by getting wet under the air conditioner.

Condensation could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damages user's belongings.

Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use

It could cause the unit falling down and injury. Pay attention not to damage the drain pan by weld sputter when brazing work is done near the unit.

If sputter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. To avoid damaging, keep the indoor unit packed or cover the indoor unit.

 Install the drain pipe to drain the water surely according to the installation manual. Improper connection of the drain pipe may cause dropping water into room and damaging user's belongings

 Do not share the drain pipe for indoor unit and GHP (Gas Heat Pump system) outdoor unit. Toxic exhaust gas would flow into room and it might cause serious damage (some poisoning or deficiency of oxygen) to user's health and safety

 Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents

• For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps. and not to make air-bleeding. Check if the drainage is correctly done during commissioning and ensure the space for inspection and mainte

 Ensure the insulation on the pipes for refrigeration circuit so as not to condense water. Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuables

 Do not install the outdoor unit where is likely to be a nest for insects and small animals. Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the use keep the surroundings clean.

 Pay extra attention, carrying the unit by hand. Carry the unit with 2 people if it is heavier than 20kg. Do not use the plastic straps but the grabbing place, moving the by hand. Use protective gloves in order to avoid injury by the aluminum fin.

Make sure to dispose of the packaging material.

Leaving the materials may cause injury as metals like nail and woods are used in the package

 Do not operate the system without the air filter. It may cause the breakdown of the system due to clogging of the heat exchanger.

Do not touch any button with wet hands. It could cause electric shock

 $\ensuremath{\bullet}$ Do not touch the refrigerant piping with bare hands when in operation.

The pipe during operation would become very hot or cold according to the operating condition, and it could cause a burn

Do not clean up the air conditioner with water.

It could cause electric shock Do not turn off the power source immediately after stopping the operation

Be sure to $\underline{\text{wait}}$ for more than 5 $\underline{\text{min}}$ utes. Otherwise it could cause water leakage or breakdown

Do not control the operation with the circuit breaker.

It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury

① Before installation

- Install correctly according to the installation manual.
- Confirm the following points:
 - O Unit type/Power supply specification O Pipes/Wires/Small parts O Accessory items

Accessory itme

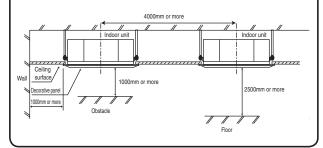
For unit	hanging	For refrigerant pipe		For draom pipe				
Flat washer (M10)	Level gauge (Insulation)	Pipe cover(big)	Pipe cover (small)	Strap	Pipe cover(big)	Pipe cover(small)	Drain hose	Hose clamp
0		1	6		0	0	®	()
8	4	1	1	4	1	1	1	1
For unit hanging			For heat insulation of liquid tube	For pipe cover	insulation			For drain hose mounting

2 Selection of installation location for the indoor unit

- ① Select the suitable areas to install the unit under approval of the user
- Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
- Areas where there is enough space to install and service.
- Areas where it can be drained properly. Areas where drain pipe descending slope can be taken.
- Areas where there is no obstruction of airflow on both air return grille and air supply port.
- Areas where fire alarm will not be accidentally activated by the air conditioner.
- Areas where the supply air does not short-circuit.
- Areas where it is not influenced by draft air.
- Areas not exposed to direct sunlight.
- Areas where dew point is lower than around 28°C and relative humidity is lower than 80% This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air conditioner is operated under the severer condition than mentioned above. If there is a possibility to use it under such a condition, attach additional insulation of 10 to
- 20mm thick for entire surface of indoor unit, refrigeration pipe and drain pipe.
- Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.) Areas where any items which will be damaged by getting wet are not placed such as food, table wares, server, or medical equipment under the unit.
- Areas where there is no influence by the heat which cookware generates
- Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
- Areas where lighting device such as fluorescent light or incandescent light doesn't affect the operation.
 - (A beam from lighting device sometimes affects the infrared receiver for the wireless remote controller and the air conditioner might not work properly.)
- ② Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.
- ③ If there are 2 units of wireless type, keep them away for more than 5m to avoid malfunction due to cross communication.
- ① When plural indoor units are installed nearby, keep them away for more than 4m.

Space for installation and service

- When it is not possible to keep enough space between indoor unit and wall or between indoor units, close the air supply port where it is not possible to keep space and confirm there is no short circuit
- Install the indoor unit at a height of more than 2.5m above the floor

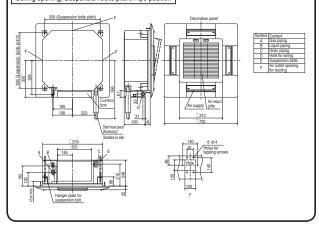


③ Preparation before installation

- If suspension bolt becomes longer, do reinforcement of earthquake resistant. O For grid ceiling
- When suspension bolt length is over 500mm, or the gap between the ceiling and roof is over
- 700mm, apply earthquake resistant brace to the bolt.
- O In case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength.
- When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt.

 Prepare four (4) sets of suspension bolt, nut and spring washer (M10 or M8) on site.

Ceiling opening, Suspension bolts pitch, Pipe position



4 Installation of indoor unit

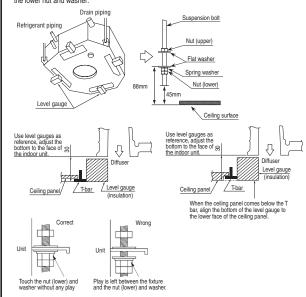
Work procedure

- This units is designed for 2 x 2 grid ceiling. If necessary, please detach the T bar temporarily before you install it. If it is installed on a ceiling other than 2 x 2 grid ceiling, provide an inspection port on the control box
- Arrange the suspension bolt at the right position (530mmx530mm).

 Make sure to use four suspension bolts and fix them so as to be able to hold 500N load.
- Ensure that the lower end of the suspension bolt should be 45mm above the ceiling plane Temporarily put the four lower nuts 88mm above the ceiling plane and the upper nuts on distant place from the lower nuts in order not to obstruct hanging the indoor unit or adjust the indoor unit position, and then hang the indoor unit.

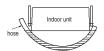


Adjust the indoor unit position after hanging it by inserting the level gauge attached on the package into the air supply port and checking if the gap between the ceiling plane and the indoor unit is appropriate. In order to adjust the indoor unit position, adjust the lower nuts while the upper nuts are put on distant place. Confirm there is no backlash between the hanger plate for suspension bolt and the lower nut and washer.



4 Installation of indoor unit (continued)

- Make sure to install the indoor unit horizontally. Confirm the levelness of the indoor unit with a level gauge or transparent hose filled with water. Keep the height difference at both ends of the indoor unit within 3mm.
- Tighten four upper nuts and fix the unit after height and levelness adjustment



Caution

- Do not adjust the height by adjusting upper nuts. It will cause unexpected stress on the indoor unit
 and it will lead to deformation of the unit, failure of attaching a panel, and generating noise from the
- Make sure to install the indoor unit horizontally and set the gap between the unit underside and the ceiling plane properly. Improper installation may cause air leakage, dew condensation, water leakage and noise.
- Even after decorative panel attached, still the unit height can be adjusted finely. Refer to the installation manual for decorative panel for details.
- Make sure there is no gap between decoration panel and ceiling surface, and between decoration panel and the indoor unit. The gap may cause air leakage, dew condensation and water leakage.
 In case decorative panel is not installed at the same time, or ceiling material is installed after the
- unit installed, put the cardboard template for installation attached on the package (packing material of cardboard box) on the bottom of the unit in order to avoid dust coming into the indoor unit.

5 Refrigerant pipe

Caution

- Use the new refrigerant pipe
- When re-using the existing pipe system for R22 or R407C, pay attention to the following items. Change the flare nuts with the attached ones (JIS category 2), and reprocess the flare parts.
- Do not use thin-walled pipes.

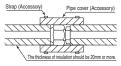
 Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H3300) for
 - refrigeration pipe installation.
 In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.
- Do not use any refrigerant other than R410A.
- Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc. Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc
- Use special tools for R410 refrigerant.

Work procedure

- Remove the flare nut and blind flanges on the pipe of the indoor unit.
 - ** Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them
 - (Gas may come out at this time, but it is not abnormal.)
- Pay attention whether the flare nut pops out. (as the indoor unit is sometimes pressured.)
- Make a flare on liquid pipe and gas pipe, and connect the refrigeration pipes on the indoor unit.
 Bend the pipe with as big radius as possible and do not bend the pipe repeatedly. In addition, do not twist and crush the pipes.
- X Do a flare connection as follows
- Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe and then remove them
- When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it by spanner with the specified torque mentioned in the table below. Make sure to hold the pipe on the indoor unit securely by a spanner when tightening the nut in order to avoid unexpected stress on the copper pipe.
- Cover the flare connection part of the indoor unit with attached insulation material after a gas
 - leakage inspection, and tighten both ends with attached straps.

 Make sure to insulate both gas pipes and liquid pipes completely
 - * Incomplete insulation may cause dew condensation or water dropping
- Refrigerant is charged in the outdoor unit.
 As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit

Pipe diameter	Tightening torque N·m		
ф 6.35	14 to 18		
ф 9.52	34 to 42		
ф 12.7	49 to 61		
ф 15.88	68 to 82		
ф 19.05	100 to 120		



6 Drain pipe

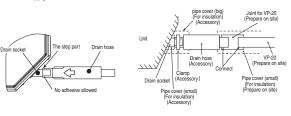
Caution

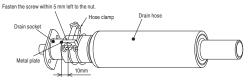
- Install the drain pipe according to the installation manual in order to drain properly.
 Imperfection in draining may cause flood indoors and wetting the household goods etc.
- Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is generated. Toxic gas would flow into the room and it would cause serious damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell.
- Connect the pipe securely to avoid water leakage from the joint. Insulate the pipe properly to avoid condensation drop.
- Check if the water can flow out properly from both the drain outlet on the indoor unit and the end of the drain pipe after installation.
- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from the pipe during commissioning. Also, keep sufficient space for inspection and

6 Drain pipe (continued)

Work procedure

- Make sure to insert the drain hose (the end mode of soft PVC) to the end of the step part of drain
 - Attach the hose clamp to the drain hose around 10mm from the end, and fasten the screw within 5mm left to the nut.
 - Do not apply adhesives on this end.

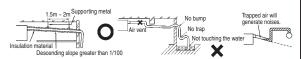




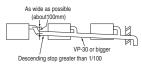
- Prepare a joint for connecting VP-20 pipe, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP-20 pipe (prepare on site).
- * As for drain pipe, apply VP-20 made of rigid PVC which is on the market.
- Make sure that the adhesive will not get into the supplied drain hose.
- It may cause the flexible part broken after the adhesive is dried up and gets rigid.
- Do not bend or make an excess offset on the drain hose as shown in the picture Bend or excess offset will cause drain leakage.



- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway
 - Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the pipe as close place to the unit as possible when connecting the drain pipe
 - Do not set up air vent.



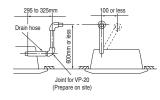
When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



- 4. Insulate the drain pipe.
 - Be sure to insulate the drain socket and rigid PVC pipe installed indoors otherwise it may cause
 dew condensation and water leakage.
 - After drainage test implementation, cover the drain socket part with pipe cover (small size). then use the pipe cover (big size) to cover the pipe cover (small size), clamps and part of the drain hose, and fix and wrap it with tapes to wrap and make joint part gapless.

Drain up

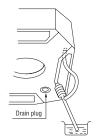
 The position for drain pipe outlet can be raised up to 600mm above the ceiling. Use elbows for installation to avoid obstacles inside ceiling. If the horizontal drain pipe is too long before vertical pipe, the backflow of water will increase when the unit is stopped, and it may cause overflow of water from the drain pan on the indoor unit. In order to avoid overflow, keep the horizontal pipe length and offset of the pipe within the limit shown in the figure below.



6 Drain pipe (continued)

Drain test

- After installation of drain pipe, make sure that drain system work in good condition and no water leakage from joint and drain pan. Check if the motor sound of drain pump is normal or not.
- Do drain test even if installation of heating season.
- For new building cases, make sure to complete the test before hanging the ceiling.
- 1. Pour water of about 1000cc into the drain pan in the indoor unit by pump so as not to get the electrical component wet.
- Make sure that water is drained out properly and there is no water leakage from any joints of the drain pipe at the test. Confirm that the water is properly drained out while the drain motor is operating. At the drain socket (transparent), it is possible to check if the water is drained out properly.
- 3. Unplug the drain plug on the indoor unit to remove remaining water on the drain pan after the test, and re-plug it. And insulate the drain pipe properly finally.



Drain pump operation

O In case electrical wiring work finished

Drain pump can be operated by remote controller (wired).

For the operation method, refer to Operation for drain pump in the installation manual for wiring work.

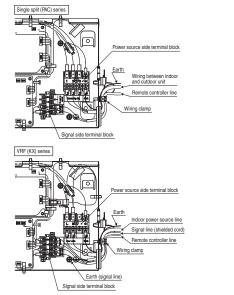
O In case electrical wiring work not finished

Drain pump will run continuously when the dip switch "SW7-1" on the indoor unit PCB is turned ON, the Connector CNB is disconnected, and then the power supply (220-240VAC on the terminal block [1 and 2] or [L and N]) is turned ON.

Make sure to turn OFF "SW7-1" and reconnect the Connector CNB after the test

Wiring-out position and wiring connection

- Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country. Be sure to use an exclusive circuit.
- Use specified cord, fasten the wiring to the terminal securely, and hold the cord securely in order not to apply unexpected stress on the terminal.
- Do not put both power source line and signal line on the same route. It may cause miscommunication and malfunction.
- Be sure to do D type earth work.
- For the details of electrical wiring work, see attached instruction manual for electrical wiring work.
- 1. Remove a lid of the control box (1 screws).
- 2. Hold each wiring inside the unit and fasten them to terminal block securely.
- 3. Fix the wiring with clamp.
- 4. Install a lid of the control box back to original place.



® Panel installation

- After wiring work finished, install the panel on the indoor unit.
- Refer to attached panel installation manual for details. (see next page)

Accessory items

ı						
l	1	Hook	70	1 piece	For fixing temporarily	
l	2	Chain	Acceptage.	2 pieces		
l	3	Bolt	(Tamana	4 pieces	For installing the panel	
l	4	Screw	(m)	1 piece	For attaching a hook	
ı	5	Screw	(Jun	2 pieces	For attaching a chain	

- Attach the panel on the indoor unit after electrical wiring work.
- Refer to attached manual for panel installation for details. (See next page)

Check the following items after all installation work completed.

Check if	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Supply voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
There is mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks airflow on air inlet and outlet?	Insufficient capacity	

PANEL INSTALLATION MANUAL

PJA012D783 🛕

Please read this manual together with the indoor unit's installation manual.

⚠ WARNING

Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal.

Loose connection or hold will cause abnormal heat generation or fire.

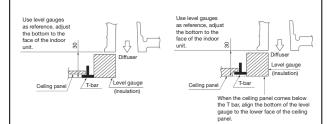


Make sure the power supply is turned off when electric wiring work.
 Otherwise, electric shock, malfunction and improper running may occur.



① Checking the indoor unit installation position

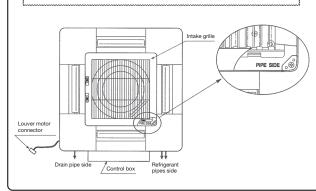
- Read this manual together with the air conditioner installation manual carefully.
- Check if the gap between the ceiling plane and the indoor unit is correct by inserting the level gauge into the air outlet port of the indoor unit. (See below drawing)
- Adjust the installation elevation if necessary.
 Remove the level gauge before you attach the panel



$ig(ext{@ Orientation of the panel and return air grille installation } ig)$

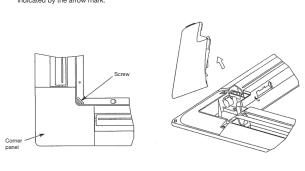
- 1. Take note that there is an orientation to install the panel.
- Attach the panel with the orientation shown on the below.
 Align the "PIPE SIDE" mark (on the panel) with the refrigerant pipes on the indoor unit.
- 2. The intake grille can also be attached in a rotated position by 90 degrees.

In case the orientation of the panel is not correct, it will lead to air leakage and also it is not possible to connect the louver motor wiring



③ Removing a corner panel

• Unscrew the screw from the corner area, pull the corner panel toward the direction indicated by the arrow mark.



4 Attaching a corner panel • First insert the part "a" of a corner panel into the part "A" of the cover panel, engage two hooks and tighten the screw

⑤ Panel installation

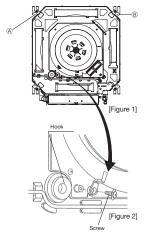
• Install the panel on the unit after completing the electrical wiring

Accessories

1	Hook	70	1 piece	For fixing temporarily
2	Chain	rescores	2 pieces	
3	Screw	(Dames	4 pieces	For hoisting the panel
4	Screw	Q)min	1 piece	For attaching a hook
5	Screw	(Jun	2 pieces	For attaching a chain

1. Screw in two bolts out of the four supplied with the panel by about slightly less than 5mm.

(mark (A)(B)) [Figure 1]

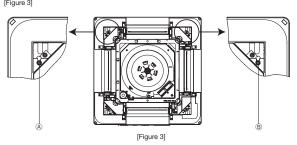


4. Please remove the screw of a corner panel and remove a corner panel. (four places)

2. Attach the hook supplied with the panel to the main body with the hook fixing screw (1 screw).

5. A panel is hooked on two bolts (mark (A)B)).

[Figure 2] 3. Open the intake grille.



DATA LOADING

In case the louver No to be set is uncertain, set any louver temporarily.

The louver will swing once when the setting is completed and it is possible to confirm

is completed and it is possible to confirm the louver No and the position. After that, choose the correct louver No and set the top and bottom position.

П

Upper position > (2)

NO.2

NO.1 NO.3

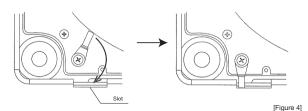
___NO.4

the position of the louver

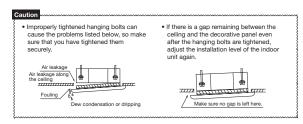
NOTICE

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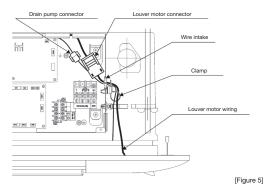
6. Please rotate a hook, put in the slot on the panel, and carry out fixing the panel temporarily. [Figure 4]



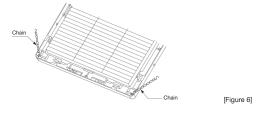
7. Tighten the two bolts used for fixing the panel temporarily and the other two.



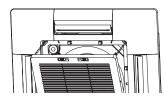
- 8. Please open the lid of a control box.
- $^{\circ}$. Like drain pump wiring, please band together by the clamp and put in louver motor wiring into a control box. [Figure 5]
- 10. Please connect a louver motor connector. [Figure 5]



11. Attach two chains to the intake grille with two screws. [Figure 6]



- 12. Replace the corner panels. Please also close a chain with a screw together then. [Figure 7]
- 13. Close the intake grill



[Figure 7]

Make sure there is no stress given on the panel when adjusting the height of the indoor unit to avoid unexpected distortion. It may cause the distortion of panel or failing to close the air return grille.

How to set the airflow direction

It is possible to change the movable range of the louver on the air outlet from the wired remote controller. Once the top and bottom position is set, the louver will swing within the range between the top and the bottom when swing operation is chosen. It is also possible to apply different setting to each louver.

Note: This function is not able to be set with wireless remote control or simple remote control (RCH-HS).

1 Stop the air conditioner and press © SET button and

LOUVER button simultaneously for three seconds or more
The following is displayed if the number of the indoor units connected to
remote controller is one. Go to step 4.

--≂= No.Ĭ ▲-The following is displayed if the number of the indoor units connected to the remote controller are more than one

"&\$ SELECT I/U" -1/U000 A-

-≅¬N₀.1 ▲-

2 Press ▲ or ▼ button. (selection of indoor unit) Select the indoor unit of which the louver is set. [EXAMPLE]

"1/U000 Å"⇔"1/U001 \$"⇔"1/U002 \$"⇔
"1/U003 \$"

3 Press O SET button. (determination of indoor unit)

Selected indoor unit is fixed.

[EXAMPLE]

*[/100] * (displayed for two seconds) -DATA LOADING -

4 Press ▲ or ▼ button. (selection of louver No.) Select the louver No. to be set according to the right figure. [EXAMPLE]

_______ কিন্মি.l ▲"⇔"কন্মo.2 ¢"⇔"কন্মo.3 ¢"⇔ "কন্মo.4 ♥"

5 Press SET button. (Determination of louver No.) The louver No. to be set is confirmed and the display shows the upper limit of the movable range.

Press ▲ or ▼ button. (selection of upper limit position)

Select the upper limit of louver movable range. "position 1" is the most horizontal, and "position 6" is the most downward. "position 1" is to return to the factory setting. If you need to change the setting to the default setting, use "position --".

ne cetaut setting, use "position --",
"%, IFFRS1 9" (the most horizontal)

--" %, IFFRS2 4"

--" %, IFFRS3 4"

--" %, IFFRS4 6"

--" %, IFFRS4 6"

--" %, IFFRS5 4" (the most downwards)

--" %, IFFRS6 4" (return to the default setting)

7 Press SET button. (Fixing of the upper limit position)

The upper limit position is fixed and the setting position is displayed for two seconds. Then proceed to lower limit position selection display.

8 Press ▲ or ▼ button. (Selection of lower limit position)

Select the lower limit position of louver.

Select the lower limit position of louver.

"position 1" is the most horizontal, and "position 6" is the most downwards.

"position 1" is ore trunt to the factory setting. If you need to change the setting to the default setting, use "position --".

He, I, IUMR ? (the most downwards)
He, I, UMR ? (the most downwards)
He, I, UMR 4 †
He, I, UMR 5 †
He, I, UMR 5 †
He, I, UMR 6 †
He most downwards)
He, I, UMR 6 †
He most doesnewards)

9 Press SET button. (Fixing of the lower limit position)

Upper limit position and lower limit position are fixed, and the set positions are displayed for two seconds, then setting is completed. After the setting is completed, the louver which was set moves from the original position to the lower limit position, and goes back to the original position again. (This operation is not performed if the indoor unit and/or indoor unit fan is in operation.)

[EXAMPLE]

(displayed for two seconds) No.1 U2 L6

SET COMPLETE

10 Press () ONOFF button.

Louver adjusting mode ends and returns to the original display.
For setting the swing range of other louvers, return to 1 and proceed same procedure respoctivoly. Caution -----

If the upper limit position number and the lower limit position number are set to the same position, the louver is fixed at that position auto swing does not function.

ATTENTION

If you press RESET button during settings, the display will return to previous display. If you press ONF putton during settings, the mode will be ended and return to original display, and the settings that have not been completed will become invalid.

When plural remote controllers are connected, louver setting operation cannot be set by slave remote

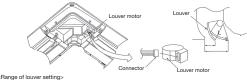
- to it is necessary to fix the louver position manually, follow the procedure mentioned below.

 1. Shut off the main power switch.

 2. Unplug the connector of the louver motor which you want to fix the position.

 Make sure to insulate unplugged connectors electrically with a virily tape.

 3. Adjust the louver position slowly by hand so as to be within the applicable range mentioned below table.



Vertical airflow direction Horizontal 23° Down
Dimension L (mm) 40 %It can be set between 24~40mm freely

- Any automatic control or operation from the remote controller will be disabled on the louver whose
 position is fixed in the above way.
 Do not set a louver beyond the specified range. Failure to observe this instruction may result in
 dripping, dew condensation, the fouling of the ceiling and the malfunctioning of the unit.

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(3) Ceiling suspended type (FDEN)

This manual is for the installation of an indoor unit

For electrical wiring work (Indoor), refer to page 244. For remote controller installation, refer to page 259. For wireless kit installation, refer to page 482. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to the page 273.

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, [AWARNING] and [ACAUTION] WARNING: Wrong installation would cause serious consequences such as injuries or death. ACAUTION: Wrong installation might cause serious consequences depending on circumstances Both mentions the important items to protect your health and safety so strictly follow them by any means.
- The meanings of "Marks" used here are as shown as follows:
- After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit. Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand over the user's manual to the new user when the owner is changed.

⚠ WARNING

Installation should be performed by the specialist.

If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn of the unit.

Install the system correctly according to these installation manuals.

Improper installation may cause explosion, injury, water leakage, electric shock, and fire

•When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage, referred by the formula (accordance with ISO5149).

If the density of refrigerant exceeds the limit, please consult the dealer and install the ventilation system, otherwise lack of oxygen can occur, which can cause serious accidents.

Ouse the genuine accessories and the specified parts for installation.

If parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the unit

Ventilate the working area well in case the refrigerant leaks during installation.

If the refrigerant contacts the fire, toxic gas is produce

●Install the unit in a location that can hold heavy weight

●Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes. n may cause the unit to fall leading to acciden

Do not mix air in to the cooling cycle on installation or removal of the air conditioner

If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and inju

Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.

Power source with insufficient capacity and improper work can cause electric shock and fire

Ouse specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal.

ons or hold could result in abnormal heat generation or fire

●Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services

roper fitting may cause abnormal heat and fire.

Check for refrigerant gas leakage after installation is completed.

If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced.

Ouse the specified pipe, flare nut, and tools for R410A.

sting parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle

Tighten the flare nut according to the specified method by with torque wrench.

If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long period

• Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can occur Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak.

 $\blacksquare \textbf{Connect the pipes for refrigeration circuit securely in installation work before compressor is operated. }$ sor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due to abnormal high pressure in the system

Stop the compressor before removing the pipe after shutting the service valve on pump down work If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle.

Only use prescribed optional parts. The installation must be carried out by the qualified installer.

If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire

Do not repair by yourself. And consult with the dealer about repair. r repair may cause water leakage, electric shock or fire.

Consult the dealer or a specialist about removal of the air conditioner.

per installation may cause water leakage, electric shock or fir ●Turn off the power source during servicing or inspection work

If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan

●Do not run the unit when the panel or protection guard are taken off.

Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get

Shut off the power before electrical wiring work.

It could cause electric shock, unit failure and in

⚠ CAUTION

Perform earth wiring surely.

Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth cou cause unit failure, electric shock and fire due to a short circuit

Earth leakage breaker must be installed.

 Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.

Using the incorrect one could cause the system failure and fire

 Do not use any materials other than a fuse of correct capacity where a fuse should be used. Connecting the circuit by wire or copper wire could cause unit failure and fire.

Do not install the indoor unit near the location where there is possibility of flammable gas leakages

If the gas leaks and gathers around the unit, it could cause fire. Do not install and use the unit where corrosive gas (such as sulfurous acid gas etc.) or flammable gas (su
as thinner, petroleum etc.) may be generated or accumulated, or volatile flammable substances are handle

It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire Secure a space for installation, inspection and maintenance specified in the manual.

Insufficient space can result in accident such as personal injury due to falling from the installation place

 Do not use the indoor unit at the place where water splashes such as laundry. Indoor unit is not waterproof. It could cause electric shock and fire.

 Do not use the indoor unit for a special purpose such as food storage, cooling for precision instrument, preservation of animals, plants, and a work of art,

It could cause the damage of the items. Do not install nor use the system near equipments which generate electromagnetic wave or high harmonic

Equipments like inverter equipment, private power generator, high-frequency medical equipment, or telecommunicatic equipment might influence the air conditioner and cause a malfunction and breakdown. Or the air conditioner might influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause iam

 Do not install the remote controller at the direct sunlight. It could cause breakdown or deformation of the remote controlled

Do not install the indoor unit at the place listed below.

Places where flammable gas could leak.

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Places where carbon fiber, metal powder or any powder is floated. Place where the substances which affect the air conditioner are generated

such as sulfide gas, chloride gas, acid, alkali or ammonic atmospheres. Places exposed to oil mist or steam directly.

Places exposed to our most of common of the - Altitude over 1000m

Places where cosmetics or special sprays

frequently used. Highly salted area such as beach

Heavy snow area Places where the system is affected by smoke from a chimney.

 Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit.) corroting to the installation manual for each model because each indoor unit has each limitation) Locations with any obstacles which can prevent inlet and outlet air of the unit Locations where without one are partified due to instillient strength of structure. Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (in case of the infrared receivements unit).

infrared specification unit) Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m)

Locations where drainage cannot run off safely.
 It can affect performance or function and etc..

Do not put any valuables which will break down by getting wet under the air conditioner.

n could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it dama Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use. It could cause the unit falling down and injury.

 Pay attention not to damage the drain pan by weld sputter when brazing work is done near the unit. If sputter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. To avoid damaging, keep the indoor unit packed or cover the indoor unit.

• Install the drain pipe to drain the water surely according to the installation manual.

 Do not share the drain pipe for indoor unit and GHP (Gas Heat Pump system) outdoor unit Toxic exhaust gas would flow into room and it might cause serious damage (some poisoning or deficiency of oxygen

user's health and safety. Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work

If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of ox occur, which can cause serious accidents. For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps,

Check if the drainage is correctly done during commissioning and ensure the space for inspection and mainte

 Ensure the insulation on the pipes for refrigeration circuit so as not to condense water. Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuables Do not install the outdoor unit where is likely to be a nest for insects and small animals

Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the us

 Pay extra attention, carrying the unit by hand. Carry the unit with 2 people if it is heavier than 20kg. Do not use the plastic straps but the grabbing place, moving the u by hand. Use protective playes in order to avoid injury by the aluminum fin

 Make sure to dispose of the packaging material. Leaving the materials may cause injury as metals like nail and woods are used in the package

 Do not operate the system without the air filter. It may cause the breakdown of the system due to clogging of the heat exchanger

 Do not touch any button with wet hands. It could cause electric shock

• Do not touch the refrigerant piping with bare hands when in operation.

The pipe during operation would become very hot or cold according to the operating condition, and it could cause a burn

 Do not clean up the air conditioner with wate It could cause electric shock.

Do not turn off the power source immediately after stopping the operation

Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or br

Do not control the operation with the circuit breaker.
It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury

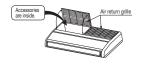
①Before installation

- Install correctly according to the installation manual.
- Confirm the following points:

OUnit type/Power supply specification OPipes/Wires/Small parts OAccessory items

Accessory item

l	For un	it hanging	F	or refrigerant	pipe		F	or drain pipe	9		For air return grille
	Flat washer (M10)	Paper pattern	Pipe cover (large)	Pipe cover (small)	Strap	Drain hose (with clamp)	Hose clamp	Fixing bracket	Screw	Heay insulation	Screw
	0		6			@DIIII)	()		P		
ı	8	1	1	1	4	1	1	1	2	1	4
	For unit hanging	For unit hanging and adjustment	For heat insulation of gas pipe	For heat insulation of liquid pipe		For drain pipe connection	For drain hose mounting	For fixing of drain hose	For installing of fixing bracket	For drain hose	For fixing air return grille
•											



②Selection of installation location for the indoor unit

- $\ensuremath{\textcircled{1}}$ Select the suitable areas to install the unit under approval of the user.
 - Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
 - · Areas where there is enough space to install and service.
 - · Areas where it can be drained properly. Areas where drain pipe descending slope can be taken.
 - · Areas where there is no obstruction of airflow on both air return grille and air supply port.
 - · Areas where fire alarm will not be accidentally activated by the air conditioner.
 - · Areas where the supply air does not short-circuit.
 - · Areas where it is not influenced by draft air.
 - Areas not exposed to direct sunlight.

Areas where dew point is lower than around 23°C and relative humidity is lower than 80% This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air conditioner is operated under the severer condition than mentioned above.

- · Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.)
- Areas where any items which will be damaged by getting wet are not placed such as food, table wares, server, or medical equipment under the unit.
- Areas where there is no influence by the heat which cookware generates.
 Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
- · Areas where lighting device such as fluorescent light or incandescent light doesn't affect the operation.

(A beam from lighting device sometimes affects the infrared receiver for the wireless remote controller and the air conditioner might not work properly.)

- ② Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.
- 3 If there are 2 units of wireless type, keep them away for more than 6m to avoid malfunction due to cross communication.
- When plural indoor units are installed nearby, keep them away for more than 4 to 5m.

Space for installation and service 4000~5000mm or more 100mm \Box 150mm or more 5mm or mor Obstacle

③Preparation before installation

- $\bullet \mbox{If suspension bolt becomes longer, do reinforcement of earthquake resistant.}$ O For arid ceiling
 - When suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt.
- O In case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength.
- When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt
- Prepare four (4) sets of suspension bolt, nut and spring washer (M10) on site

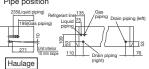
③Preparation before installation (continued)

Pitch of suspension bolts and pipe position

Pitch of suspension bolts

			(mm)
Series	type	Α	В
Single Split (PAC)	40 to 50 type	1070	1022
series	60 to 71 type	1320	1272
	100 to 140 type	1620	1572
	36 to 56type	1070	1022
VRF (KX) series	71type	1320	1272
	112 to 140 type	1620	1572

Pipe position



Location of pipe outlets

*The outlet through which the pipings are taken out is available in three directions.

- available in three directions.

 **Pipes can be taken out in 3 directions (rear, right or
- Out out holes using nippers, etc.
 Out out holes to take out pipes along the cutoff line on the rear cover.
 Out out the top face cover aligning to the piping
- position. When taking pipe out to right-hand side, cut out a
- hole along the groove at the inside of side panel.

 After installing pipes and wires, seal clearances around pipes and wires with putty, etc. to shut of dust.

Make sure to install the covers at rear and top in order t wake sure to install the covers at real and top in order to protect the inside of unit from intrusion of dust or protect wires from damages by sharp edges. When taking them out to the right-hand side, remove burrs or sharp edges from the cutout.



put it with the intake grille facing upward.

•Move the box as close to the installation area as possible packed.

•If it must be unpacked, wrap the unit with a nylon sling, and be careful not to damage the unit.

olf you need to lay the unit on a floor after unpacking, always

 Remove the air return grille. Slide stoppers (4 places) of the catches, then pull out the pins (4 or 6 places).

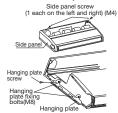
Preparation before instalation



3. Remove the hanging plate. Remove the screw, and then loosen the fixing bolts.

2. Remove the side panel.

side panel by sliding it toward the direction indicated by the arrow mark



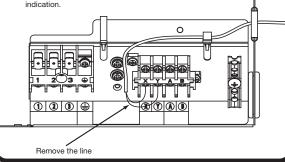
Installation of remote controller

Up to two receiver or wired remote controller can be installed in one indoor unit

- When both wired and wireless remote controller are used It is necessary to set wired or wireless remote controller as slave. (For the method of changing the setting, refer to the installtion manual attached to remote controller or wireless kit.)
- When wired remote controller are used only (wireless type) It is necessary to remove the line that is connected to the receiver. Remove signal line connected to the receiver from primary side of terminal block (X, Y)

ATTENTION

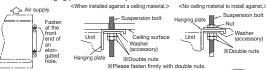
- ①Insulate with tape the removed line.
- 2The LED of that removed connector will not be able to make any indication



5Installation of indoor unit

Work procedure

- Select the suspension bolt locations and the pipe hole location (1) Use enclosed paper pattern as a reference, and drill the holes for the suspension bolts and pipe. *Decide the locations based on direct measurements
 - (2) Once the locations are properly placed, the paper pattern can be removed.
- 2. Install the suspension bolts in place.
- 3. Fix with 4 suspension bolts, which can endure load of 500N.
- 4. Check the measurements given at the right figure for the length of the suspension bolt:
- 5. Fasten the hanging plate onto the suspension bolts.



Hanging plate

(For left-side drain connection, give the

- 6. Install the unit to the hanging plate
- (1) Slide the unit in from front side to get it hanged on the hanging plate with the bolts.
 (2) Fasten the four fixing bolts (M8: 2
 - each on the left and right sides) firmly. (3) Fasten the two screws (M4: 1 each on
- the left and right sides). **⚠WARNINIG**: Hang a side panel on from the

panel side to the rear side and then fasten it securely onto the indoor unit with screws. *To ensure smooth drain flow, install the unit with

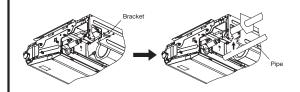
a descending slope toward the drain outlet

⚠ CAUTION: Do not give the reversed slope, which may cause water leaks

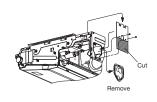
6 Refrigerant pipe (continued)

The pipe can be connected from three different directions. (back, reight, top)

 When the pipe is routed through the back.
 If the bracket is removed, piping work will become easy. *After piping, reinstall the removed bracket.



When the pipe is routed through the back Cut the removed top cover, and install to the rear panel instead of rear cover



6Refrigerant pipe

Caution

- When re-using the existing pipe system for R22 or R407C, pay attention to the following items.

 Change the flare nuts with the attached ones (JIS category 2), and reprocess the flare parts · Do not use thin-walled pipes.
- Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H3300) for refrigeration pipe installation.
 In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes Do not use any refrigerant other than R410A.
- Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc.

 Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt
- or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc. •Use special tools for R410 refrigerant.

Work procedure

- Remove the flare nut and blind flanges on the pipe of the indoor unit.
 - **Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them (Gas may come out at this time, but it is not abnormal.)
- Pay attention whether the flare nut pops out. (as the indoor unit is sometimes pressured.) 2. Make a flare on liquid pipe and gas pipe, and connect the refrigeration pipes on the indoor unit.
- When taking out the pipe to rear or top, install it together with the electric wire[®], passing them through the attached cover.
- Seal clearances with putty, etc. to shut off dust.
- *Bend the pipe with as big radius as possible and do not bend the pipe repe In addition, do not twist and crush the pipes.

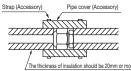
*Do a flare connection as follows:

- ●Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected
- stress to the copper pipe, and then remove them.

 •When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it by spanner with the specified torque mentioned in the table below. Make sure to hold the pipe on the indoor unit securely by a spanner when tightening the nut in order to avoid unexpected stress on the copper pipe.
- Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached straps.
 - Make sure to insulate both gas pipes and liquid pipes completely.
- %Incomplete insulation may cause dew condensation or water dropping 4. Refrigerant is charged in the outdoor unit.

As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.

Tightening torque N·m Pipe diameter ø 6.35 ø 9.52 34 to 42 49 to 61 ø 12.7 ø 15.88 68 to 82 100 to 12



⑦Drain pipe

The drain pipes may face out towards the back to the left, or to the right side.

Hanging plate

- Install the drain pipe according to the installation manual in order to drain properly. Imperfection in draining may cause flood indoors and wetting the household goods, etc
- Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful andinflammable gas is generated. Toxic gas would flow into the room and it would cause serious damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell. Connect the pipe securely to avoid water leakage from the joint.

- Insulate the pipe properly to avoid condensation drop. Check if the water can flow out properly from both the drain outlet on the indoor unit and the end of the drain pipe after installation.
- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from the pipe during commissioning. Also, keep sufficient space for inspection and maintenance.

Work procedure

- 1. Insert drain hose completely to the base, and tighten the drain hose clamp securely. (adhesive must not be used.) * When plumbing on the left side, move the rubber plug and the cylindrical insulating materials by the pipe connecting hole on the left side of the unit to the right side.
- Beware of a possible outflow of water that a occur upon removal of a drain plug.
- 2. Fix the drain hose at the lowest point with a hose clamp supplied as an accessory. as illustrated in the right drawing by laying it without leaving a slack.
 - Take head of electrical cables so that they may not run beneath the drain hose
- A drain hose must be clamped down with a hose clamp
- There is a possibility that drain water overflows.

 3. Connect VP-20(prepare on site) to drain hose. (adhesive must not be used.)
- W Use commercially available rigid PVC general pipe VP-20 for drain pipe. Do not to make the up-down bending and trap in the mid-way while assuming that the drain pipes is downhill. (more than 1/100)
- Never set up air vent.
 Insulate the drain pipe.
- Insulate the drain hose clamp with the heat insulation supplied as accessories.
- When the unit is installed in a humid place, consider precautions against dew condensation such as heat insulation for the drain pipe.

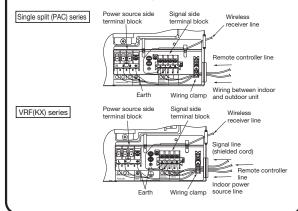
Drain test

- After installation of drain pipe, make sure that drain system work in good condition and no water leakage from joint and drain pan.
- Do drain test even if installation of heating season

®Wiring-out position and wiring connection

- Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a powe provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the
- Be sure to use an exclusive circuit.
- Use specified cord, fasten the wiring to the terminal securely, and hold the
- cord securely in order not to apply unexpected stress on the terminal.

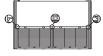
 Do not put both power source line and signal line on the same route. It may cause miscommunication and malfunction.
- Be sure to do D type earth work.
 For the details of electrical wiring work, see attached instruction manual for electrical wiring work.
- Remove a lid of the electrical box (2 screws).
- Hold each wiring inside the unit and connect to a terminal block surely. Fix the wiring by clamps.
- 4. Install the removed parts back to original place.



Mattaching the air return grille

- The air return grille must be attached when electrical cabling work is completed.
- 1. Fix the chains tied to the air return 2. Close the air return grille. grille onto the indoor unit with screws supplied as accessories (4 pieces).
 - This completes the unit installtion work.





®Check list after installation

Check the following items after all installation work completed.

Check if	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Supply voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
There is mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks airflow on air inlet and outlet?	Insufficient capacity	

11 How to set the airflow direction

It is possible to change the movable range of the louver on the air outlet from the wired remote controller. Once the top and bottom position is set, the louver will swing within the range between the top and the bottom when swing operation is chosen. It is also possible to apply different setting to each louver. Note: This function is not able to be set with wireless remote controller or simple remote controll

- Stop the air conditioner and press SET button and LOUVER button simultaneously for three seconds or
 - The following is displayed if the number of the indoor units connected to the remote controller is one. Go to step 4.
 - "≒¬No. 1 ≜"

 The following is displayed if the number of the indoor units connected to the remote controller are more than one. - 60 SELECT I./U -



2. Press ▲or ▼ button.(selection of indoor unit) ● Select the indoor unit of which the louver is set.

3. Press SET button.(determination of indoor unit) •Selected indoor unit is fixed.

"I/U001" (displayed for two

"≶⊃i‰1 #."

4. Press₄ory button.(selection of louver No.)

◆Select the louver No. to be set according to the right figure.

- 5. Press O SET button.(Determination of louver No.)
- The louver No. to be set is confirmed and the display shows the upper limit of the movable range.

 [EXAMPLE] If No.1 louver is selected,

 "No.1 UFFE? 0" — current upper limit position

- 6. Press ▲ or ▼ button.(selection of upper limit position)

 Select the upper limit of louver movable range.

 "position 1" is the most horizontal, and "position 6" is the most downward.

 "position --" is to return to the factory setting.

 If you need to change the setting to the default

systems, use "position --".

"No. LIFFER T" (the most horizotal)

"No. LIFFER T" (the most horizotal)

"No. LIFFER S"

"The most downwards)

"No. LIFFER S"

"The most downwards)



- 7. Press SET button. (Fixing of the upper limit position)
 The upper limit position is fixed and the setting position is displayed for two seconds. Then proceed to lower limit position selection display.

[EXAMPLE]
No.1 LIPPER2 (displayed for two second

- 8. Press ▲or ▼button.(Selection of lower limit position)
 Select the lower limit position of louver.
 "position 1" is the most horizontal, and "position 6 "is the most downwards. "position --" is to return to the factory setting. If you need to change the setting to the default setting, use "position --".

No.1 LONGRS \$
No.1 LONGRS \$ (the most downwards)
No.1 LONGRS \$ (return to the default setting)

- 9. Press SET button.(Fixing of the lower limit position)
- Upper limit position and lower limit position are fixed, and the set positions are displayed for two seconds, then setting is completed.

 After the setting is completed, the louver which was set moves from the original position to the lower limit position, and goes back to the original position again. (This operation is not performed if the indoor unit and/or indoor unit fan is in operation.)

[Example] No.1 U2 L6



10.Press ⊕oNOFF button.

•Louver adjusting mode ends and returns to the original display.

If the upper limit position number and the lower limit position number are set to the same position, the louver is fixed at that position auto swing does not funtion.

If you press. If PESET button during settings, the display will return to previous display. If you press DONOFF button during settings, the mode will be ended and return to original display, and the settings that have not been completed will become invalid.

When plural remote controllers are connected, louver setting operation cannot be set by slave remote controller

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(4) Duct connected-High static pressure type (FDU)

(a) Models FDU100-140

This manual is for the installation of an indoor unit

For electrical wiring work (Indoor), refer to page 244. For remote controller installation, refer to 259. For wireless kit installation, refer to page 486. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to page 273.

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, <u>AWARNING</u> and <u>ACAUTION</u> AWARNING: Wrong installation would cause serious consequences such as injuries or death ACAUTION: Wrong installation might cause serious consequences depending on circumstances. Both mentions the important items to protect your health and safety so strictly follow them by any means.
- The meanings of "Marks" used here are as shown on the right: Never do it under any circumstances. • Always do it according to the instruction.
- After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit. Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand over the user's manual to the new user when the owner is changed.

⚠WARNING

Installation should be performed by the specialist.

If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn

Install the system correctly according to these installation manuals.

Improper installation may cause explosion, injury, water leakage, electric shock, and fin Check the density refered by the foundia (accordance with ISO5149).

If the density exceeds the limit density, please consult the dealer and installate the ventilation system.

Use the genuine accessories and the specified parts for installation.

If parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the unit

Ventilate the working area well in case the refrigerant leaks during installation. If the refrigerant contacts the fire, toxic gas is produce

Install the unit in a location that can hold heavy weight.

Improper installation may cause the unit to fall leading to accident

● Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes ation may cause the unit to fall leading to accident

Do not mix air in to the cooling cycle on installation or removal of the air conditioner.

If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and injuries

Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit. Power source with insufficient capacity and improper work can cause electric shock and fire

Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in

order not to apply unexpected stress on the terminal. Loose connections or hold could result in abnormal heat generation or fire.

Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services

panel property. Improper fitting may cause abnormal heat and fire

● Check for refrigerant gas leakage after installation is completed.

If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced

Use the specified pipe, flare nut, and tools for R410A.

Using existing parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle

Tighten the flare nut according to the specified method by with torque wrench. If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long period

● Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can

Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also

cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak.

• Connect the pipes for refrigeration circuit securely in installation work before compressor is operated.

If the compressor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due to abnormal high pressure in the system

Stop the compressor before removing the pipe after shutting the service valve on pump down work. If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit

and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle.

Only use prescribed optional parts. The installation must be carried out by the qualified installer.

If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire

Do not repair by yourself. And consult with the dealer about repair Improper repair may cause water leakage, electric shock or fire

Consult the dealer or a specialist about removal of the air conditioner. Improper installation may cause water leakage, electric shock or fire.

● Turn off the power source during servicing or inspection work.

If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan

● Do not run the unit when the panel or protection guard are taken off. Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get

burned, or electric shock.

Shut off the power before electrical wiring work.

It could cause electric shock, unit failure and improper running

PJD012D052 🛦

⚠ CAUTION

Perform earth wiring surely.

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Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock due to a short circuit.

Earth leakage breaker must be installed.

If the earth leakage breaker is not installed, it can cause electric shocks

 Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.

Using the incorrect one could cause the system failure and fire

 Do not use any materials other than a fuse of correct capacity where a fuse should be used. Connecting the circuit by wire or copper wire could cause unit failure and fire

 Do not install the indoor unit near the location where there is possibility of flammable gas leakage If the das leaks and dathers around the unit, it could cause fire

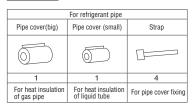
Do not install and use the unit where corrosive gas (such as sulfurous acid gas etc.) or flammable gas (such as thinner, petroleum etc.) may be generated or accumulated, or volatile flammable substances are handled It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire. Secure a space for installation, inspection and maintenance specified in the manual 0 Insufficient space can result in accident such as personal injury due to falling from the installation place Do not use the indoor unit at the place where water splashes such as laundry. Indoor unit is not waterproof. It could cause electric shock and fire. Do not use the indoor unit for a special purpose such as food storage, cooling for precision instrument, preservation of animals, plants, and a work of art. It could cause the damage of the items. Do not install nor use the system near equipments which generate electromagnetic wave or high harmonics. Equipments like inverter equipment, private power generator, high-frequency medical equipment, or telecommunication equipment might influence the air conditioner and cause a malfunction and breakdown. Or the air conditioner might influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause jamming. Do not install the remote controller at the direct sunlight. It could cause breakdown or deformation of the remote controller Do not install the indoor unit at the place listed below. Places where flammable gas could leak. Places where carbon fiber, metal powder or any powder is floated. Place where the substances which affect the air conditioner are generated Places where cosmetics or special sprays are frequently used. Highly salted area such as beach. such as sulfide das, chloride das, acid, alkali or ammonic atmospheres. Heavy snow area Places where the system is affected by Places exposed to oil mist or steam directly On vehicles and ships Places where machinery which generates high harmonics is used smoke from a chimney Altitude over 1000m Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation) Locations with any obstacles which can prevent inlet and outlet air of the unit Locations where vibration can be amplified due to insufficient strength of structure. Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (in case of the (\setminus) Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m) Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m) Locations where drainage cannot run off safely. It can affect performance or function and etc.. Do not put any valuables which will break down by getting wet under the air conditioner. Condensation could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damages user's be Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use It could cause the unit falling down and injury. Pay attention not to damage the drain pan by weld sputter when brazing work is done near the unit. If sputter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. 0 To avoid damaging, keep the indoor unit packed or cover the indoor unit. Install the drain pipe to drain the water surely according to the installation manual. 0 Improper connection of the drain pipe may cause dropping water into room and damaging user's belongings Do not share the drain pipe for indoor unit and GHP (Gas Heat Pump system) outdoor unit Toxic exhaust gas would flow into room and it might cause serious damage (some poisoning or deficiency of oxygen) to user's health and safety. Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents. For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps. and not to make air-bleeding. 0 Check if the drainage is correctly done during commissioning and ensure the space for inspection and maintenance Ensure the insulation on the pipes for refrigeration circuit so as not to condense water 0 Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuable Do not install the outdoor unit where is likely to be a nest for insects and small animals Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the user to Pay extra attention, carrying the unit by hand. Carry the unit with 2 people if it is heavier than 20kg. Do not use the plastic straps but the grabbing place, moving the unit by hand. Use protective gloves in order to avoid injury by the aluminum fin. Make sure to dispose of the packaging material. Ø Leaving the materials may cause injury as metals like nail and woods are used in the package Do not operate the system without the air filter. It may cause the breakdown of the system due to clogging of the heat exchanger Do not touch any button with wet hands. It could cause electric shock • Do not touch the refrigerant piping with bare hands when in operation. The pipe during operation would become very hot or cold according to the operating condition, and it could cause a burn or fr Do not clean up the air conditioner with water It could cause electric shock Do not turn off the power source immediately after stopping the operation. Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown Do not control the operation with the circuit breaker. It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury

OThis model is middle static ducted type air conditioning unit. Therefore, do not use this model for direct blow type air conditioning unit.

1) Before installation

- Install correctly according to the installation manual
- Confirm the following points:
- OUnit type/Power supply specification
- OPipes/Wires/Small parts
- OAccessory items

Accessory item





	For drain pipe						
Pipe cover(big)	Pipe cover(small)	Drain hose	Hose clamp				
6		Ø	(3)				
1	1	1	1				
For heat insulation of drain socket	For heat insulation of drain socket	For drain pipe connecting	For drain hose mounting				

②Selection of installation location for the indoor unit

- ① Select the suitable areas to install the unit under approval of the user.
- Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
- Areas where there is enough space to install and service.
- Areas where it can be drained properly. Areas where drain pipe descending slope can be
- Areas where there is no obstruction of airflow on both air return grille and air supply port.
 Areas where fire alarm will not be accidentally activated by the air conditioner.
- · Areas where the supply air does not short-circuit.
- Areas where it is not influenced by draft air.
- · Areas not exposed to direct sunlight.
- Areas where dew point is lower than around 28°C and relative humidity is lower than 80% This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air conditioner is operated under the severer condition than mentioned

If there is a possibility to use it under such a condition, attach additional insulation of 10 to 20mm thick for entire surface of indoor unit, refrigeration pipe and drain pipe.

- Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.) Areas where any items which will be damaged by getting wet are not placed such as food. table wares, server, or medical equipment under the unit.
- Areas where there is no influence by the heat which cookware generates.
- · Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
- · Areas where lighting device such as fluorescent light or incandescent light doesn't affect the operation.

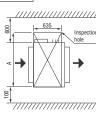
(A beam from lighting device sometimes affects the infrared receiver for the wireless remote controller and the air conditioner might not work properly.)

2) Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

Space for installation and service

 Make installation altitude over 2.5m. (Indoor Unit)

Installation Space



		UNIT: mr
Multi type	71	90, 112, 140
Single type	71	100, 125, 140
A	1200	1720

③Preparation before installation

If suspension bolt becomes longer, do reinforcement of earthquake resistant.

OFor grid ceiling

Multi type Single type

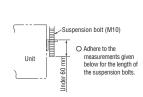
When the suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt.

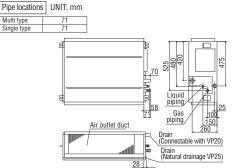
OIn case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength.

When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt.

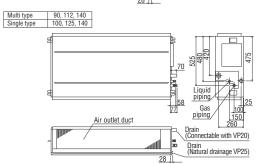
Prepare four (4) sets of suspension bolt, nut and spring washer (M10) on site

Suspension Bolt Location 560

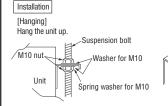




100, 125, 140 1406



4 Installation of indoor unit



If the measurements between the unit and the ceiling hole do not match upon installation, it may be adjusted with the long holed installation tool

Adjustment for horizontality

OEither use a level vial, or adjust the level according to the method below.

 Adjust so the bottom side of the unit will be leveled with the water surface as illustrated below. Pour water Water surface 0~5mm Let the pipe side be slightly sloped

Olf the unit is not leveled, it may cause malfunctions or inoperation of the float switch.

⑤Duct Work

A corrugated board (for preventing sputtering) is attached to the main body of the air conditioner (on the outlet port). Do not remove it until connecting the duct.

① ● The air conditioner main unit does not have an air filter. Incorporate it into the easy-to-clean suction grille.

(2) Blowout duct

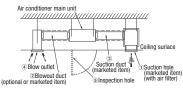
- The ducts should be at their minimum lengths.
- •Keep the bends to a minimum. (The bending radius should be as large as possible.)







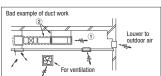
- Conduct the duct work before ceiling attachment.
- (3)Suction duct
- Make sure to insulate the duct to prevent dewing on it.
- (4) Location and form of blow outlet should be selected so that air from the outlet will be distributed all over the room, and equipped with a device to control air volume.
- Make sure provide an inspection hole on the ceiling. It is indispensable to service elecric equipment, motor, functional components and cleaning of heat exchanger.



Bad example of duct work

- ①If a duct is not provided at the suction side but it is substituted with the space over the ceiling, humidity in the space will increase by the influence of capacity of ventilation fan, strength of wind blowing against the out door air louver, weather (rainy day) and others.
- a)Moisture in air is likely to condense over the external plates of the unit and to drip on the ceiling. Unit should be operated under the conditions as listed in the above table and within the limitation of wind volume. When the building is a concrete structure, especially immediately after the construction, humidity tends to rise even if the space over the ceiling is not substituted in place of a duct. In such occasion, it is necessary to insulate the entire unit with glass wool (25mm), (Use a wire net or equivalent to hold the glass wool in place.)
- b)It may run out the allowable limit of unit operation (Example: When outdoor air temperature is 35°C DB, suction air temperature is 27°C WB) and it could result in such troubles as compressor overload, etc.
- c)There is a possibility that the blow air volume may exceed the allowable range of operation due to the capacity of ventilation fan or strength of wind blowing against external air louver so that drainage from be heat exchanger may fall to reach the drain pan but leak outside
- (Example: drip on to the ceiling) with consequential water leakage in the room.

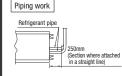
 ②If vibration damping is not conducted between the unit and the duct, and between the unit and the slab, vibration will be transmitted to the duct and vibration noise may occur. Also, vibration may be transmitted from the unit to the slab. Vibration damping must be performed.



6Refrigerant pipe

Caution

- Ise the new refrigerant pine
- When re-using the existing pipe system for R22 or R407C, pay attention to the following items · Change the flare nuts with the attached ones (JIS category 2), and reprocess the flare parts.
- Do not use thin-walled pipes.
- Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H3300) for refrigeration pipe installation. In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.
- Do not use any refrigerant other than R410A.
- Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc.
- Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc.
- •Use special tools for R410 refrigerant.



When conducting piping work, make sure to allow the pipes to be aligned in a straight line for at least 250 mm, as shown in the left illustration. (This is necessary for the drain pump to function)

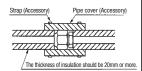
6Refrigerant pipe (continued)

Work procedure

- Remove the flare nut and blind flanges on the pipe of the indoor unit
- * Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then
 - (Gas may come out at this time, but it is not abnormal.)
- Pay attention whether the flare nut pops out. (as the indoor unit is sometimes pressured.)
- Make a flare on liquid pipe and gas pipe, and connect the refrigeration pipes on the indoor unit. \times Bend the pipe with as big radius as possible and do not bend the pipe repeatedly. In addition, do not twist and crush the pipes.
 - Do a flare connection as follows:
- Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them.
- When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it by spanner with the specified torque mentioned in the table below. Make sure to hold the pipe on the indoor unit securely by a spanner when tightening the nut in order to avoid unexpected stress on the copper pipe.
- Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached straps.
 - Make sure to insulate both gas pipes and liquid pipes completely.
 Incomplete insulation may cause dew condensation or water dropping.
- Refrigerant is charged in the outdoor unit.

As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.

Pipe diameter	Tightening torque N·m
ф 6.35	14 to 18
ф 9.52	34 to 42
ф 12.7	49 to 61
ф 15.88	68 to 82
ф 19.05	100 to 120



7Drain pipe

Caution

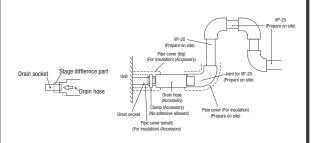
- Install the drain pipe according to the installation manual in order to drain properly.
- Imperfection in draining may cause flood indoors and wetting the household goods, etc. • Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is generated. Toxic gas would flow into the room and it would cause serious
- damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell.
- Connect the pipe securely to avoid water leakage from the joint. Insulate the pipe properly to avoid condensation drop
- Check if the water can flow out properly from both the drain outlet on the indoor unit and the end
- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from the pipe during commissioning. Also, keep sufficient space for inspection and maintenance.

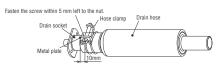
Work procedure

- 1. Make sure to insert the drain hose (the end mode of soft PVC) to the end of the step part of drain socket.
 - Attach the hose clamp to the drain hose around 10mm from the end, and fasten the screw within 5mm left to the nut.
 - Do not apply adhesives on this end.

of the drain pipe after installation.

Do not use acetone-based adhesives to connect to the drain socket.

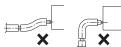




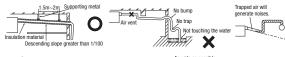
7 Drain pipe (continued)

- 2 Prepare a joint for connecting VP-20 pine, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP-20 pipe (prepare on site). **As for drain pipe, apply VP-20 made of rigid PVC which is on the market.

 • When installing drain pipe, use VP-20 for the pipe goes up the closest to the unit, and
 - VP-25 or higher number product for farther pipes.
 - Make sure that the adhesive will not get into the supplied drain hose. It may cause the flexible part broken after the adhesive is dried up and gets rigid.
 - The flexible drain hose is intended to absorb a small difference at installation of the unit. or drain pipes. Intentional bending, expanding may cause the flexible hose broken and



- 3. Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway.
 - Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the pipe as close place to the unit as possible when connecting the drain pipe.
 - Do not set up air vent.



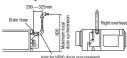
 When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



- 4. Insulate the drain pipe
 - Be sure to insulate the drain socket and rigid PVC pipe installed indoors otherwise it may cause dew condensation and water leakage.
 - * After drainage test implementation, cover the drain socket part with pipe cover (small size), then use the pipe cover (big size) to cover the pipe cover (small size), clamps and part of the drain hose, and fix and wrap it with tapes to wrap and make joint part gapless.

Drain up

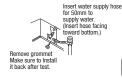
 The position for drain pipe outlet can be raised up to 600mm above the ceiling. Use elbows for installation to avoid obstacles inside ceiling. If the horizontal drain pipe is too long before vertical pipe, the backflow of water will increase when the unit is stopped, and it may cause overflow of water from the drain pan on the indoor unit. In order to avoid overflow, keep the horizontal pipe length and offset of the pipe within the limit shown in the figure below.

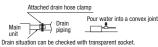


Otherwise, the construction point makes it same as drain pipe construction.

- Conduct a drain test after completion of the electrical work
- During the trail, make sure that drain flows properly through the piping and that no water leaks from connections.
- In case of a new building, conduct the test before it is furnished with the ceiling. Be sure to conduct this test even when the unit is installed in the heating season

- Supply about 1000 cc of water to the unit through the air outlet by using a feed water pump. Supply about 1000 cc of water to the unit
 Check the drain while cooling operation.

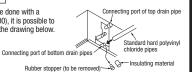




If the electrical work has not been completed, connect a convex joint in the drain pipe connection to provide a water inlet. Then, check if water leaks from the piping system and that drain flows through the drain pipe normally.

Outline of bottom drain piping work

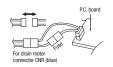
 If the bottom drain piping can be done with a descending gradient (1/50-1/100), it is possible to connect the pipes as shown in the drawing below.



Uncoupling the drain motor connector

Uncouple the connector CNR for the drain motor

Note: If the unit is run with the connector coupled. drain water will be discharged from the upper drain pipe joint, causing a water leak.



7 Drain pipe (continued)

Drain pump operation

Oln case electrical wiring work finished

Drain pump can be operated by remote controller (wired).

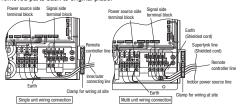
For the operation method, refer to Operation for drain pump in the installation manual for wiring

Oln case electrical wiring work not finished

Drain pump will run continuously when the dip switch "SW7-1" on the indoor unit PCB is turned ON, the Connector CNB is disconnected, and then the power supply (230VAC on the terminal block ① and ②) is turned ON. Make sure to turn OFF "SW7-1" and reconnect the Connector CNB after the test.

8 Wiring-out position and wiring connection

- Electrical installation work must be performed according to the installation manual by an
 electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.
 - Be sure to use an exclusive circuit.
- Use specified cord, fasten the wiring to the terminal securely, and hold the cord securely in order not to apply unexpected stress on the terminal
- Do not put both power source line and signal line on the same route. It may cause miscommunication and malfunction
- Be sure to do D type earth work.
- For the details of electrical wiring work, see attached instruction manual for electrical wiring
- Remove a lid of the control box (2 screws). Hold each wiring inside the unit and fasten them to terminal block securely.
- Fix the wiring with clamps.
 Install the removed parts back to original place



9Check list after installation

Check the following items after all installation work completed.

Check if	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Supply voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
There is mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks airflow on air inlet and outlet?	Insufficient capacity	

(11) Tap selection on blower unit (when the high peformance filter is used)

The fan tap's factory setting is "Standard." If you want to change it to the high static-pressure setting, you can avail yourself of the following two methods. Use one of the two methods to set the fan tap. Make sure to perform the functional setting with remote controller.

Select [I/U FUNCTION] in the functional setting mode, and change the function number [02] [FAN SPEED SET].

For operation method, refer to the user's manual of the remote controller

	Function r	umber A	Function	al content B	Setting content C	Default setting
	02		Fan Speed Set		Standard	0
					High Speed 1	
				Pa		
	Static		ard Tap	60		
	Pressure	High Spe	ed 1 Tap	130		

- **⚠** CAUTION

If the external static pressure is 60Pa or less, do not set the fan speed to High speed 1. If High speed 1 setting is done, air outlet speed from indoor unit will increase and waterdrop may be blown out and wet the ceiling or the furniture.

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(b) Models FDU200, 250

This manual is for the installation of an indoor unit.

For electrical wiring work (Indoor), refer to page 248. For remote controller installation, refer to page 259. For wireless kit installation, refer to page 486. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to page 273.

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, [AWARNING] and [ACAUTION]. AWARNING: Wrong installation would cause serious consequences such as injuries or death. ACAUTION : Wrong installation might cause serious consequences depending on circumstances. Both mentions the important items to protect your health and safety so strictly follow them by any means.
- The meanings of "Marks" used here are as shown on the right: Never do it under any circumstances. Always do it according to the instruction.

over the user's manual to the new user when the owner is changed.

 After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the
customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit. Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand

△ WARNING

Installation should be performed by the specialist.

0 If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn

• Install the system correctly according to these installation manuals.

ion may cause explosion, injury, water leakage, electric shock, and fire Check the density refered by the foumula (accordance with ISO5149).

If the density exceeds the limit density, please consult the dealer and installate the ventilation system

• Use the genuine accessories and the specified parts for installation.

If parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the unit.

Ventilate the working area well in case the refrigerant leaks during installation.

If the refrigerant contacts the fire, toxic gas is produc

• Install the unit in a location that can hold heavy weight. Improper installation may cause the unit to fall leading to acci

• Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes.

Improper installation may cause the unit to fall leading to accident

Do not mix air in to the cooling cycle on installation or removal of the air conditioner.

If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and injuries

• Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.

Power source with insufficient capacity and improper work can cause electric shock and fire.

• Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal.

Loose connections or hold could result in abnormal heat generation or fire.

●Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel property.

Improper fitting may cause abnormal heat and fire

• Check for refrigerant gas leakage after installation is completed.

If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced

Use the specified pipe, flare nut, and tools for R410A. Using existing parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle.

● Tighten the flare nut according to the specified method by with torque wrench. If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long period.

● Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can

Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also

cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak. • Connect the pipes for refrigeration circuit securely in installation work before compressor is operated. If the compressor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due

to abnormal high pressure in the system

• Stop the compressor before removing the pipe after shutting the service valve on pump down work. If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle.

• Only use prescribed optional parts. The installation must be carried out by the qualified installer.

If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire

Do not repair by yourself. And consult with the dealer about repair

Improper repair may cause water leakage, electric shock or fire

Consult the dealer or a specialist about removal of the air conditioner. Improper installation may cause water leakage, electric shock or fire

Turn off the power source during servicing or inspection work.

If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan • Do not run the unit when the panel or protection guard are taken off.

Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get burned, or electric shock

Shut off the power before electrical wiring work.

It could cause electric shock, unit failure and improper running

⚠ CAUTION

Perform earth wiring surely.

Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock due to a short circuit.

Earth leakage breaker must be installed.

If the earth leakage breaker is not installed, it can cause electric shocks.

 Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.

Using the incorrect one could cause the system failure and fire.

 Do not use any materials other than a fuse of correct capacity where a fuse should be used. Connecting the circuit by wire or copper wire could cause unit failure and fire.

 Do not install the indoor unit near the location where there is possibility of flammable gas leakages If the das leaks and gathers around the unit, it could cause fire

Do not install and use the unit where corrosive gas (such as sulfurous acid gas etc.) or flammable gas (such as thinner, petroleum etc.) may be generated or accumulated, or volatile flammable substances are handled. It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire.

Secure a space for installation, inspection and maintenance specified in the manual.

Insufficient space can result in accident such as personal injury due to falling from the installation place Do not use the indoor unit at the place where water splashes such as laundry.

Indoor unit is not waterproof. It could cause electric shock and fire Do not use the indoor unit for a special purpose such as food storage, cooling for precision

instrument, preservation of animals, plants, and a work of art. It could cause the damage of the items.

 Do not install nor use the system near equipments which generate electromagnetic wave or high harmonics. Equipments like inverter equipment, private power generator, high-frequency medical equipment, or belecommunication equipment might influence the air conditioner and cause a malfunction and breakdown. Or the air conditioner might influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause jamming.

 Do not install the remote controller at the direct sunlight. It could cause breakdown or deformation of the remote controller

Do not install the indoor unit at the place listed below.

Places where flammable gas could leak

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- Places where carbon fiber, metal powder or any powder is floated.
 Place where the substances which affect the air conditioner are generated
- such as sulfide gas, chloride gas, acid, alkali or ammonic atmospheres. Places exposed to oil mist or steam directly.
- On vehicles and ships
 Places where machinery which generates high harmonics is used
- Places where cosmetics or special sprays are frequently used.
 Highly salted area such as beach
- Heavy snow area
- Places where the system is affected by
- smoke from a chin Altitude over 1000m
- Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit
 according to the installation manual for each model because each indoor unit has each limitation)

Locations with any obstacles which can prevent inlet and outlet air of the unit Locations where vibration can be amplified due to insufficient strength of structure.

Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (in case of the

infrared specification unit)

Locations where an equipment affected by high harmonics is placed. (TV set or radio receiver is placed within 5m)

Locations where drainage cannot run off safely It can affect performance or function and etc.

Do not put any valuables which will break down by getting wet under the air conditioner.

ation could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damages user's be Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use

It could cause the unit falling down and injury. Pay attention not to damage the drain pan by weld sputter when brazing work is done near the unit.

If sputter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. To avoid damaging, keep the indoor unit packed or cover the indoor unit. Install the drain pipe to drain the water surely according to the installation manual.

Improper connection of the drain pipe may cause dropping water into room and damaging user's belongings Do not share the drain pipe for indoor unit and GHP (Gas Heat Pump system) outdoor unit

Toxic exhaust gas would flow into room and it might cause serious damage (some poisoning or deficiency of oxygen) to ser's health and safety. Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work

If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accide

• For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps and not to make air-bleeding. Check if the drainage is correctly done during commissioning and ensure the space for inspection and maintenance

Ensure the insulation on the pipes for refrigeration circuit so as not to condense water.

Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuable

 Do not install the outdoor unit where is likely to be a nest for insects and small animals. Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the user to keep the surroundings clean

 Pay extra attention, carrying the unit by hand. Carry the unit with 2 people if it is heavier than 20kg. Do not use the plastic straps but the grabbing place, moving the unit

by hand. Use protective gloves in order to avoid injury by the aluminum fin. Make sure to dispose of the packaging material.

Leaving the materials may cause injury as metals like nail and woods are used in the package Do not operate the system without the air filter.

It may cause the breakdown of the system due to clogging of the heat exchanger Do not touch any button with wet hands.

It could cause electric shock

Do not touch the refrigerant piping with bare hands when in operation. The pipe during operation would become very hot or cold according to the operating condition, and it could cause a burn or frost

Do not clean up the air conditioner with water

It could cause electric shock

Do not turn off the power source immediately after stopping the operation

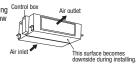
Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown

Do not control the operation with the circuit breaker.

It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury

-225-

OThis model is high static ducted type air conditioning unit. Therefore, do not use this model for direct blow type air conditioning unit.



1Before installation

- Install correctly according to the installation manual.
- Confirm the following points:

OUnit type/Power supply specification OPines/Wires/Small parts OAccessory item



Accessories storage position (during packing) Documents and accessories (Secure with adhesive tape)

2 Selection of installation location for the indoor unit

- (1) Select the suitable areas to install the unit under approval of the user
 - Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
 - Areas where there is enough space to install and service.
 - Areas where it can be drained properly. Areas where drain pipe descending slope can be taken
- Areas where there is no obstruction of airflow on both air return grille and air supply port.
- · Areas where fire alarm will not be accidentally activated by the air conditioner.
- Areas where the supply air does not short-circuit.
 Areas where it is not influenced by draft air.
- Areas not exposed to direct sunlight
- Areas where dew point is lower than around 28°C and relative humidity is lower than 80% This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air conditioner is operated under the severer condition than mentioned above.

If there is a possibility to use it under such a condition, attach additional insulation of 10 to ,20mm thick for entire surface of indoor unit, refrigeration pipe and drain pipe.

- Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.)
 Areas where any items which will be damaged by getting wet are not placed such as food, table wares, server, or medical equipment under the unit.
- Areas where there is no influence by the heat which cookware generates.
 Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
- · Areas where lighting device such as fluorescent light or incandescent light doesn't affect the

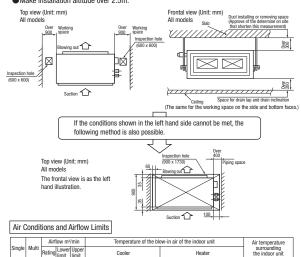
(A beam from lighting device sometimes affects the infrared receiver for the wireless remote controller and the air conditioner might not work properly.)

②Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If

the strength is not enough, it could cause injury due to unit falling.

Space for installation and service

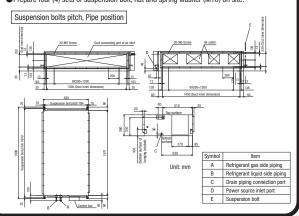
Make installation altitude over 2.5m.



			flow m³/min		Temperature of the bl	Air temperature	
Single	Multi	Rating	Lower limit	Upper limit	Cooler	Heater	surrounding the indoor unit
200	224	51	38	65	Upper limit 26°C WB When outdoor temperature is 35°C Lower limit 16°C WB When outdoor temperature is 15°C		Dew point temperature
250	280	68	51	87	Refer to the technical document published by our company for more details.		50011 25 0

3Preparation before installation

- If suspension bolt becomes longer, do reinforcement of earthquake resistant. OFor grid ceiling
- When the suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt.
- Oln case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength
- When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt. Prepare four (4) sets of suspension bolt, nut and spring washer (M10) on site.

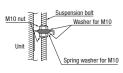


(4) Installation of indoor unit

Installation

[Hanging]

OHang the unit up.

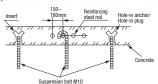


Olf the measurements between the unit and the ceiling hole do not match upon installation, it may be adjusted with the long holed installation tool.



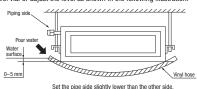
[Method for Fixing the Suspension Bolt]

OSecure the suspension bolt with one of the methods shown in the following illustration.



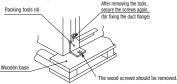
Horizontal Adjustment

OUse a level vial or adjust the level as shown in the following illustration.

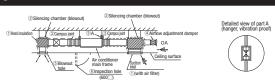


Olf it is not horizontal, the float switch malfunctions or does not function.

The packing tools (4) are not necessary. Packing tools (4) should be removed.

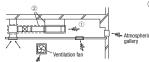


5Duck work



- ①Air filters are not provided with the main frame of the air conditioner. Assemble on to the suction grill which can be cleaned easily.
- ②Fit the silencing chamber according to the noise level tolerance inside the installation room. If it is particularly necessary to keep the noise level low, further silencing devices is required (always install them in offices, and conference rooms).
- ③In order to keep the vibration from transferring to the ceiling and the slab, use a campus joint for the duct and a vibration proof rubber for the main frame.
- Attach an airflow adjustment damper to the connection point of the OA duct so airflow adjustment may be possible after installation.
- ⑤For the blowing outlet, select a shape and location where air may circulate, and a structure where airflow may be controlled.
- ⑥An inspection hole must be made in the ceiling surface. This is necessary for the repair and maintenance of the electrical parts, motor and functional parts, as well as for cleaning the heat exchanger.
- ①Insulation must be performed for the duct to prevent water condensation on the duct. The thickness of the insulating material is 65 mm (JISA 9501).

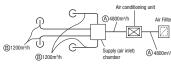
A bad example of duct work



- ①If the suction duct is not used, and the attic is used as a suction duct, the attic will become extremely humid depending on the performance of the ventilation fan, the strength of wind blowing to the atmospheric gallery and the climate (e.g., rainy days).
- a. Condensation occurs on the outer board of the unit and water may fall on the ceiling. Use the unit according to the air conditions in the above table and airflow limits. In concrete constructions, high humidity can occur in new constructions even when the attic is not used as a suction duct. In this case, insulate the entire unit with glass wool (25 mm) (use a metal net to hold the wool).
- b. Operation of the unit may exceed its limits (for example, when the temperature of the suction air is 24 °C with the outdoor temperature of 35 °C DB). In such a cases, problems such as an overload of the compressor may occur.
- c. The volume of the air blowing in may increase due to the performance of the ventilation fan and the wind strength blowing against the atmospheric gallery. The air usage limit may be exceeded, and the water from the heat exchanger will not be able to drain to the drain pan. Instead it will drain outside and cause a water leak (to the ceiling).
- ②If vibration damping is not conducted between the unit and the duct, and between the unit and the slab, vibration will be transmitted to the duct and vibration noise may occur. Also, vibration may be transmitted from the unit to the slab. Vibration damping must be performed.

Simple setting method for duct measurement

The following shows the method when duct is used at one side of 250mm as 1Pa/m by frictional resistance per the unit length of the duct, and in case of 250 type (single unit)/280 type (multi unit), 60Hz rating airflow for a example.



	Ü	
	Airflow	Duct (mm x mm)
A	4800m³/h (80m³/min)	250 x 950
®	1200m³/h (20m³/min)	250 x 310

OCalculation of duct resistance (Simplified calculate as following table)

Straight piping port	Calculate at 1Pa per 1m length to 1Pa/m		
Bending port	Calculate at 3 to 4 m straight pipe per 1 piece of binding pipe		
Air outlet port	Calculate at 25Pa		
Chamber	Calculate at 50Pa per 1 piece		
Air inlet grille (with filter)	Calculate at 40Pa per 1 piece		

(mm×mm) 250× 60 250× 90 m³/h (m³/min) 100 200 90 300 250× 400 450 (7.5) 250× 140 250× 250× 500 170 600 (10) 250× 190 250× 1,000 • 1,200 (20) 1,400 250 X 250 X 250 X 250 X (B) 310 350 1 600 250× 390 250× 390 250× 430 250× 470 250× 560 1,800 (30) 2,000 2,400 (40) 3.000 (50) 250× 650 3 500 250× 740 250× 830 4,000

4.500

5,000 5,500

4 800 (80)

6,000 (100)

(A)

[Simplified duct dimension

Duct type

Quadrangle duct

250× 920

250× 950

250×1000

250×1180

selection table

6Refrigerant pipe

Caution

Use the new refrigerant pipe.

When re-using the existing pipe system for R22 or R407C, pay attention to the following items.

- Change the flare nuts with the attached ones (JIS category 2), and reprocess the flare parts.
- Do not use thin-walled pipes.
- Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H3300) for refrigeration pipe installation.
 In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.
 Do not use any refrigerant other than R410A.
- Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc.

 Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or
- water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc.
- •Use special tools for R410 refrigerant.
- The indoor unit pipes allow the maintenance panel to be removed. Therefore, regardless of the piping direction, there should be a straight section of 400 mm or more.

Work procedure

- When brazing work, perform it while cool down around the brazing port with wet towels to prevent the overheating.
- After check the gas leak test, install the heat insulation (prepare on site) to the brazing port of the indoor unit.
 - •Be sure to perform the heat insulation both of gas side piping with liquid side piping. ※If heat insulation does not install to the pipes, dew condensation may occurs and it may cause the water leakage.

The thickness of the heat insulation should be more than 20mm.

3. Refrigerant is charged in the outdoor unit.

As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.

Single unit			Multi unit			
Type 200	Liquid piping	φ 9.52	Type 224	Liquid piping	φ 9.52	Flaring
Type 200	Gas piping	s piping \$\phi\$ 25.4 Gas piping	Gas piping	ф 19.05	Flaring	
Type 250	Liquid piping	ф 12.7	Type 280	Liquid piping	φ 9.52	Flaring
Type 250	Gas piping	φ 25.4	Type 260	Gas piping	φ 22.22	Flaring

7 Drain pipe

Caution

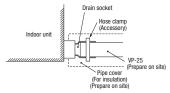
- Install the drain pipe according to the installation manual in order to drain properly.

 Important in indexining manual indexes and wetting the household goods at a second property.
- Imperfection in draining may cause flood indoors and wetting the household goods, etc.

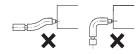
 Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is generated. Toxic gas would flow into the room and it would cause serious damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell.
- Connect the pipe securely to avoid water leakage from the joint.
- Insulate the pipe properly to avoid condensation drop.
- Check if the water can flow out properly from both the drain outlet on the indoor unit and the end of
 the drain pipe after installation.
- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap
 in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from
 the pipe during commissioning. Also, keep sufficient space for inspection and maintenance.

Work procedure

- Insert the supplied drain hose (the end made of soft PVC) to the step of the drain socket on the indoor unit and fix it securely with the clamp.
 - Do not apply adhesives on this end.



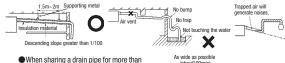
- Prepare a joint for connecting VP-25 pipe, adhere and connect the joint to the drain hose (the
 end made of rigid PVC), and adhere and connect VP-25 pipe (prepare on site).
 XAs for drain pipe, apply VP-25 made of rigid PVC which is on the market.
 - Make sure that the adhesive will not get into the supplied drain hose.
 - It may cause the flexible part broken after the adhesive is dried up and gets rigid.
 - The flexible drain hose is intended to absorb a small difference at installation of the unit or drain pipes. Intentional bending, expanding may cause the flexible hose broken and water leakage.



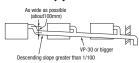
7 Drain pipe (continued)

- 3. Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway.

 Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the
 - pipe as close place to the unit as possible when connecting the drain pipe.
 - Do not set up air vent.



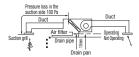
one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



- 4. Insulate the drain pipe.
- Be sure to insulate the drain socket and rigid PVC pipe installed indoors otherwise it may cause dew condensation and water leakage.
 - * After drainage test implementation, cover the drain socket part with pipe cover (small size), then use the pipe cover (big size) to cover the pipe cover (small size), clamps and part of the drain hose, and fix and wrap it with tapes to wrap and make joint part gapless.

Caution

When the duct is connected and the blowing device is operated, the pressure inside the unit becomes negative to the atmospheric pressure



Example: As shown in the above illustration, if the pressure loss of the suction grill, air filter, and the suction side of the duct is 100 Pa, the drain water level during operation is 10mm higher than when it is not operating.

Fixing Traps

The pressure loss varies depending on the clogging in the air filter. Therefore, make one trap (during the piping work) to prevent water from remaining in the drain pan. It is necessary to make a trap with a structure that allows cleaning. Use the T joint as demonstrated in the left illustration. Also, set the trap height as shown in the left illustration. Arrange the trap near to the unit



 Make one trap along the drain pipe as the left illustration.

H1 = 100 mm or the static pressure of the blowing device H2 = 1/2 H1 or 50 \sim 100 mm

Drain test

Upon completion of drain piping, check by running water through it.

ORemove the side panel and gradually pour 1000 cc of water into the drain pan. Ensure that the water drains smoothly.

Also, ensure that there are no water leaks from the connections and joints.

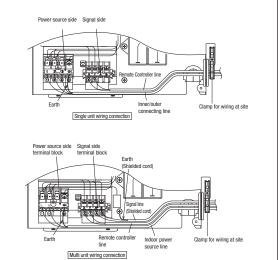


®Wiring-out position and wiring connection

 Electrical installation work must be performed according to the installation manual by an
electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.

Be sure to use an exclusive circuit.

- Use specified cord, fasten the wiring to the terminal securely, and hold the cord securely in order not to apply unexpected stress on the terminal.
- Do not put both power source line and signal line on the same route. It may cause miscommunication and malfunction.
- Be sure to do D type earth work
- For the details of electrical wiring work, see attached instruction manual for electrical wiring
- Remove a lid of the control box (2 screws) and a hook which is located on top of it.
- 2. Hold each wiring inside the unit and fasten them to terminal block securely.
- 3. Fix the wiring with clamps.
- 4. Install the removed parts back to original place.



9Check list after installation

Check the following items after all installation work completed.

Check if	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Supply voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
There is mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks airflow on air inlet and outlet?	Insufficient capacity	

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(5) Duct connected-Low / Middle static pressure type (FDUM)

This manual is for the installation of an indoor unit.

For electrical wiring work (Indoor), refer to page 252. For remote controller installation, refer to page 259. For wireless kit installation, refer to page 486. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to page 273.

SAFETY PRECAUTIONS

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, <u>AWARNING</u> and <u>ACAUTION</u> MARNING: Wrong installation would cause serious consequences such as injuries or death. ACAUTION: Wrong installation might cause serious consequences depending on circumstances.
- Both mentions the important items to protect your health and safety so strictly follow them by any means. ●The meanings of "Marks" used here are as shown on the right:
- Never do it under any circumstances. • Always do it according to the instruction.

 After completing the installation, do commissioning to confirm there are no abnormalities, and explain to the customers about "SAFETY PRECAUTIONS", correct operation method and maintenance method (air filter cleaning, operation method and temperature setting method) with user's manual of this unit. Ask your customers to keep this installation manual together with the user's manual. Also, ask them to hand over the user's manual to the new user when the owner is changed.

↑ WARNING

Installation should be performed by the specialist

If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn

Install the system correctly according to these installation manuals.

Improper installation may cause explosion, injury, water leakage, electric shock, and fire

Check the density refered by the foundula (accordance with ISO5149).

If the density exceeds the limit density please consult the dealer and installate the ventilation system

•Use the genuine accessories and the specified parts for installation.

0 If parts unspecified by our company are used it could cause water leakage, electric shock, fire, and injury due to overturn of the unit

Ventilate the working area well in case the refrigerant leaks during installation.

If the refrigerant contacts the fire, toxic gas is produced

Install the unit in a location that can hold heavy weight mproper installation may cause the unit to fall leading to accid

● Install the unit properly in order to be able to withstand strong winds such as typhoons, and earthquakes.

Improper installation may cause the unit to fall leading to accidents

Do not mix air in to the cooling cycle on installation or removal of the air conditioner. If air is mixed in, the pressure in the cooling cycle will rise abnormally and may cause explosion and injuries

Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.

Power source with insufficient capacity and improper work can cause electric shock and fire.

• Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in

order not to apply unexpected stress on the terminal. Loose connections or hold could result in abnormal heat generation or fire.

●Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services

panel property.

Improper fitting may cause abnormal heat and fire.

Check for refrigerant gas leakage after installation is completed.

If the refrigerant gas leaks into the house and comes in contact with a fan heater, a stove, or an oven, toxic gas is produced.

 \bullet Use the specified pipe, flare nut, and tools for R410A.

Using existing parts (R22) could cause the unit failure and serious accident due to explosion of the cooling cycle ● Tighten the flare nut according to the specified method by with torque wrench.

If the flare nut were tightened with excess torque, it could cause burst and refrigerant leakage after a long period

● Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulfide gas can

Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak.

● Connect the pipes for refrigeration circuit securely in installation work before compressor is operated.

If the compressor is operated when the service valve is open without connecting the pipe, it could cause explosion and injuries due o abnormal high pressure in the system

• Stop the compressor before removing the pipe after shutting the service valve on pump down work.

If the pipe is removed when the compressor is in operation with the service valve open, air would be mixed in the refrigeration circuit and it could cause explosion and injuries due to abnormal high pressure in the cooling cycle.

•Only use prescribed optional parts. The installation must be carried out by the qualified installer.

If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.

Do not repair by yourself. And consult with the dealer about repair pair may cause water leakage, electric shock or fin

Consult the dealer or a specialist about removal of the air conditioner.

nstallation may cause water leakage, electric shock or fire Turn off the power source during servicing or inspection work.

If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan

Do not run the unit when the nanel or protection guard are taken off.

Touching the rotating equipment, hot surface, or high voltage section could cause an injury to be caught in the machine, to get burned, or electric shock

Shut off the power before electrical wiring work.

It could cause electric shock, unit failure and improper runr

⚠ CAUTION

Perform earth wiring surely.

Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock or fire due to a short circuit.

Earth leakage breaker must be installed.

If the earth leakage breaker is not installed, it could cause electric shocks or fire

 Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.

Jsing the incorrect one could cause the system failure and fire

 Do not use any materials other than a fuse of correct capacity where a fuse should be used. Connecting the circuit by wire or copper wire could cause unit failure and fire.

Do not install the indoor unit near the location where there is possibility of flammable gas leakages

If the gas leaks and gathers around the unit, it could cause fire. Do not install and use the unit where corrosive gas (such as sulfurous acid gas etc.) or flammable gas (such

as thinner, petroleum etc.) may be generated or accumulated, or volatile flammable substances are It could cause the corrosion of heat exchanger, breakage of plastic parts etc. And inflammable gas could cause fire.

cure a space for installation, inspection and maintenance specified in the manua

Insufficient space can result in accident such as personal injury due to falling from the installation place

Do not use the indoor unit at the place where water splashes such as laundry.

Indoor unit is not waterproof. It could cause electric shock and fire. Do not use the indoor unit for a special purpose such as food storage, cooling for precision

instrument, preservation of animals, plants, and a work of art. It could cause the damage of the items. Do not install nor use the system near equipments which generate electromagnetic wave or high harmonics

Equipments like inverter equipment, private power generator, high-frequency medical equipment, or telecommunicati equipment might influence the air conditioner and cause a maffunction and breakdown. Or the air conditioner might influence medical equipments or telecommunication equipments, and obstruct their medical activity or cause jammin

Do not install the remote controller at the direct sunlight.

It could cause breakdown or deformation of the remote controller Do not install the indoor unit at the place listed below.

Places where flammable gas could leak

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Places where carbon fiber, metal powder or any powder is floated. Place where the substances which affect the air conditioner are generated

such as sulfide cas, chloride cas, acid, alkali or ammonic atmospheres. Source as Source ago, vinious gas, acid, almai or annious anniospineres.
Places exposed to oil mist or steam directly.
On vehicles and ships
Places where machinery which generates high harmonics is used.

Places where cosmetics or special sprays

frequently used. Highly salted area such as beach.

Heavy snow area

Places where the system is affected by smoke from a chimney. Altitude over 1000m

Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation)

Locations with any obstacles which can prevent inlet and outlet air of the unit

Locations where vibration can be amplified due to insufficient strength of structure Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam. (in case of the

Ducations where the finite of exercise to be unless shingling in the strong ignit ceans, into infrared specification unit)

Locations where an equipment affected by high harmonics is placed, (TV set or radio receiver is pla-to-cations where drainage cannot run off safely,
It can affect performance or function and etc..

Do not put any valuables which will break down by getting wet under the air conditioner

tion could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damages user's belongings. Do not use the base frame for the outdoor unit which is corroded or damaged after a long period of use.

It could cause the unit falling down and injury. Pay attention not to damage the drain pan by weld sputter when brazing work is done near the unit

sputter entered into the unit during brazing work, it could cause damage (pinhole) of drain pan and leakage of water. o avoid damaging, keep the indoor unit packed or cover the indoor unit. 0

 Install the drain pipe to drain the water surely according to the installation manual. Improper connection of the drain pipe may cause dropping water into room and damaging user's belongings

 Do not share the drain pipe for indoor unit and GHP (Gas Heat Pump system) outdoor unit. Toxic exhaust gas would flow into room and it might cause serious damage (some poisoning or deficiency of oxygen) to user's health and safety.

 Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents.

For drain pipe installation, be sure to make descending slope of greater than 1/100, not to make traps, and not to make air-bleeding.

Check if the drainage is correctly done during commissioning and ensure the space for inspection and maintenance Ensure the insulation on the pipes for refrigeration circuit so as not to condense water.

Incomplete insulation could cause condensation and it would wet ceiling, floor, and any other valuables

 Do not install the outdoor unit where is likely to be a nest for insects and small animals. Insects and small animals could come into the electronic components and cause breakdown and fire. Instruct the user to keep the surroundings clean.

 Pay extra attention, carrying the unit by hand. Carry the unit with 2 people if it is heavier than 20kg. Do not use the plastic straps but the grabbing place, moving the unit by hand. Use protective gloves in order to avoid injury by the aluminum fin.

Make sure to dispose of the packaging material.

Leaving the materials may cause injury as metals like nail and woods are used in the package Do not operate the system without the air filter.

It may cause the breakdown of the system due to clogging of the heat exchanger. Do not touch any button with wet hands.

It could cause electric shock Do not touch the refrigerant piping with bare hands when in operation.

The pipe during operation would become very hot or cold according to the operating condition, and it could cause a burn or fr

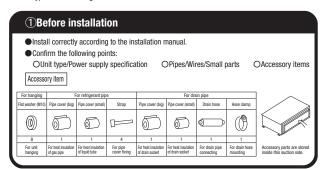
 Do not clean up the air conditioner with water. It could cause electric shock.

Do not turn off the power source immediately after stopping the operation

Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdon Do not control the operation with the circuit breaker.

It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury

OThis model is middle static ducted type air conditioning unit. Therefore, do not use this model for direct blow type air conditioning unit.



2 Selection of installation location for the indoor unit

- ① Select the suitable areas to install the unit under approval of the user.
 - Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use
 a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
 - Areas where there is enough space to install and service.
 - Areas where it can be drained properly. Areas where drain pipe descending slope can be taken.
 - Areas where there is no obstruction of airflow on both air return grille and air supply port.
 - Areas where fire alarm will not be accidentally activated by the air conditioner.
 - · Areas where the supply air does not short-circuit.
 - · Areas where it is not influenced by draft air.
 - · Areas not exposed to direct sunlight.
 - Areas where dew point is lower than around 28°C and relative humidity is lower than 80%. This indoor unit is tested under the condition of JIS (Japan Industrial Standard) high humidity condition and confirmed there is no problem. However, there is some risk of condensation drop if the air conditioner is operated under the severer condition than mentioned above. If there is a possibility to use it under such a condition, attach additional insulation of 10 to 20mm thick for entire surface of indoor unit, refrigeration pipe and drain pipe.
 - Areas where TV and radio stays away more than 1m. (It could cause jamming and noise.)
 - Areas where any items which will be damaged by getting wet are not placed such as food, table wares, server, or medical equipment under the unit.
 - · Areas where there is no influence by the heat which cookware generates.
 - · Areas where not exposed to oil mist, powder and/or steam directly such as above fryer.
 - Areas where lighting device such as fluorescent light or incandescent light doesn't affect the operation.

(A beam from lighting device sometimes affects the infrared receiver for the wireless remote controller and the air conditioner might not work properly.)

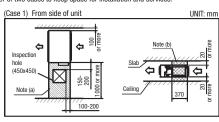
② Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

Space for installation and service

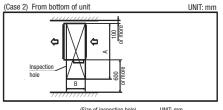
Make installation altitude over 2.5m.

(Indoor Unit)

Select either of two cases to keep space for installation and services.

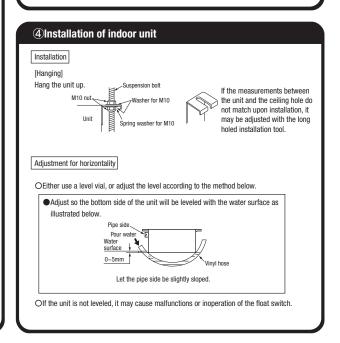


Notes (a) There must not be obstacle to draw out fan motor. ((marked area) (b) Install refrigerant pipe, drain pipe, and wiring so as not to cross (marked area (Case 2) From bottom of unit UNIT: mm



(Size of inspe	ction hole)	UNIT: mm
Single type	50	60-71	100-140
Multi type	22-56	71-90	112-160
A	1100	1300	1720
В	62	20	725

3Preparation before installation If suspension bolt becomes longer, do reinforcement of earthquake resistant. OFor grid ceiling When the suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt. Oln case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength. When suspension bolt length is over 1000mm, apply the earthquake resistant brace to the bolt. Prepare four (4) sets of suspension bolt, nut and spring washer (M10) on site. Suspension Bolt Location Return duct O Adhere to the measurements given below for the length of the suspension bolts. Air supply duct Single type Pipe locations UNIT: mm drain pipe connection VP20 Refrigerant gas pipe (For natural drainage) drain pipe connection VP20 (PVC pipe) Refrigerant liquid pipe Multi type drain pipe connection VP20



natural drainage)

Refrigerant gas pipe

Refrigerant liquid pipe

5Duct Work

- ① A corrugated board (for preventing sputtering) is attached to the main body of the air conditioner (on the outlet port). Do not remove it until connecting the duct.
- An air filter can be provided on the main body of the air conditioner (on the inlet port). Remove it when connecting the duct on the inlet port.

2 Blowout duct

Use rectangular duct to connect with unit.
 Duct size for each unit is as shown below.

			OIVIT. IIIII
Single type	50	60-71	100-140
Multi type	22-56	71-90	112-140
Α	682	882	1202
В	172	172	172
		4	-

- Duct should be at their minimum length.
- •We recommend to use sound and heat insulated duct to prevent it from condensation.
- Connect duct to unit before ceiling attachment.

3 Inlet port

- When shipped the inlet port lies on the back.
- When connecting the duct to the inlet port, remove the air filter if it is fitted to the inlet port.
- When placing the inlet port to carry out suction from the bottom side, use the following procedure to replace the suction duct joint and the bottom plate.



Remove the screws which fasten the bottom plate and the duct joint on the nlet port side of the unit.

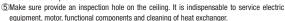


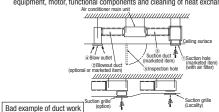
 Replace the removed bottom plate and duct joint.

Secure with a band, etc.

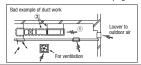


- Fit the duct join with a screw; fit the bottom plate
- Make sure to insulate the duct to prevent dewing on it.
- (4)Install the specific blowout duct in a location where the air will circulate to the entire room.
 - Conduct the installation of the specific blowout hole and the connection of the duct before attaching them to the ceiling.
 - •Insulate the area where the duct is secured by a band for dew condensation prevention.





- ①If a duct is not provided at the suction side but it is substituted with the space over the ceiling, humidity in the space will increase by the influence of capacity of ventilation fan, strength of wind blowing against the out door air louver, weather (rainy day) and others.
- a)Moisture in air is likely to condense over the external plates of the unit and to drip on the ceiling. Unit should be operated under the conditions as listed in the above table and within the limitation of wind volume. When the building is a concrete structure, especially immediately after the construction, humidity tends to rise even if the space over the ceiling is not substituted in place of a duct. In such occasion, it is necessary to insulate the entire unit with glass wool in glace.)
- b)It may run out the allowable limit of unit operation (Example: When outdoor air temperature is 35°C DB, suction air temperature is 27°C WB) and it could result in such troubles as compressor overload, etc..
- c)There is a possibility that the blow air volume may exceed the allowable range of operation due to the capacity of ventilation fan or strength of wind blowing against external air louver so that drainage from be heat exchanger may fall to reach the drain pan but leak outside (Example: drip on to the ceiling) with consequential water leakage in the room.
- ②If vibration damping is not conducted between the unit and the duct, and between the unit and the slab, vibration will be transmitted to the duct and vibration noise may occur. Also, vibration may be transmitted from the unit to the slab. Vibration damping must be performed.



⑤Duct Work (continued)

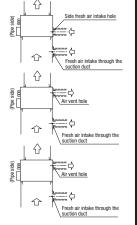
Connecting the air intake/vent ducts

1)Fresh Air Intake

[for air intake duct only]

OUse the side fresh air intake hole, or supply through a part of the suction duct.

[for simultaneous air intake/vent]
OIntake air through the suction duct.
(the side cannot be used)



②Air Vent

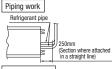
OUse the side air vent hole. (always use together with the air intake)

Olnsulate the duct to protect it from dew condensation.

6Refrigerant pipe

Caution

- Use the new refrigerant pipe.
- When re-using the existing pipe system for R22 or R407C, pay attention to the following items.
- · Change the flare nuts with the attached ones (JIS category 2), and reprocess the flare parts.
- · Do not use thin-walled pipes.
- Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H3300) for refrigeration pipe installation. In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.
- Do not use any refrigerant other than R410A.
- Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And air getting into refrigeration circuit may cause over-pressure and resultant it may result in bursting, etc.
- Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc.
- Use special tools for R410A refrigerant.



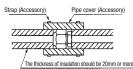
When conducting piping work, make sure to allow the pipes to be aligned in a straight line for at least 250 mm, as shown in the left illustration. (This is necessary for the drain pump to function)

Work procedure

- Remove the flare nut and blind flanges on the pipe of the indoor unit.
 - Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them. (Gas may come out at this time, but it is not abnormal.)
- Pay attention whether the flare nut pops out. (as the indoor unit is sometimes pressured.)
- Make a flare on liquid pipe and gas pipe, and connect the refrigeration pipes on the indoor unit.
 Bend the pipe with as big radius as possible and do not bend the pipe repeatedly. In addition, do not twist and crush the pipes.
 - *Do a flare connection as follows:
 - Make sure to loosen the flare nut with holding the nut on pipe side with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them.
 - When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it by spanner with the specified torque mentioned in the table below. Make sure to hold the pipe on the indoor unit securely by a spanner when tightening the nut in order to avoid unexpected stress on the copper pipe.
- Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached straps.
- Make sure to insulate both gas pipes and liquid pipes completely.
- ※Incomplete insulation may cause dew condensation or water dropping.
- 4. Refrigerant is charged in the outdoor unit.

As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.

Pipe diameter	Tightening torque N·m
φ 6.35	14 to 18
φ 9.52	34 to 42
φ 12.7	49 to 61
ф 15.88	68 to 82
φ 19.05	100 to 120



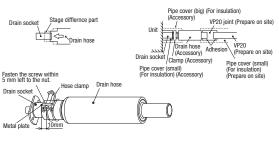
7Drain pipe

Caution

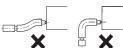
- Install the drain pipe according to the installation manual in order to drain properly.
 Imperfection in draining may cause flood indoors and wetting the household goods, etc.
- Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is generated. Toxic gas would flow into the room and it would cause serious damage to user's health and safety (some poisoning or deficiency of oxygen). In addition, it may cause corrosion of heat exchanger and bad smell.
- Connect the pipe securely to avoid water leakage from the joint.
- Insulate the pipe properly to avoid condensation drop.
- Check if the water can flow out properly from both the drain outlet on the indoor unit and the end
 of the drain pipe after installation.
- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway. In addition, do not put air vent on the drain pipe. Check if water is drained out properly from the pipe during commissioning. Also, keep sufficient space for inspection and maintenance.

Work procedure

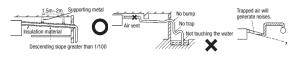
- Make sure to insert the drain hose (the end mode of soft PVC) to the end of the step part of drain socket.
 - Attach the hose clamp to the drain hose around 10mm from the end, and fasten the screw within 5mm left to the nut.
 - Do not apply adhesives on this end.
 - Do not use acetone-based adhesives to connect to the drain socket.



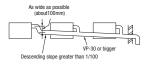
- Prepare a joint for connecting VP-20 pipe, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP-20 pipe (prepare on site).
 ※As for drain pipe, apply VP-20 made of rigid PVC which is on the market.
 - Make sure that the adhesive will not get into the supplied drain hose.
 It may cause the flexible part broken after the adhesive is dried up and gets rigid.
 - The flexible drain hose is intended to absorb a small difference at installation of the unit or drain pipes. Intentional bending, expanding may cause the flexible hose broken and water leakage.



- Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trao in the midway.
 - Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the pipe as close place to the unit as possible when connecting the drain pipe.
 - Do not set up air vent.



•When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.

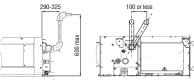


- 4. Insulate the drain pipe.
 - Be sure to insulate the drain socket and rigid PVC pipe installed indoors otherwise it may cause dew condensation and water leakage.
 - After drainage test implementation, cover the drain socket part with pipe cover (small size), then use the pipe cover (big size) to cover the pipe cover (small size), clamps and part of the drain hose, and fix and wrap it with tapes to wrap and make joint part gapless.

7 Drain pipe (continued)

Drain up

• The position for drain pipe outlet can be raised up to 600mm above the ceiling. Use elbows for installation to avoid obstacles inside ceiling. If the horizontal drain pipe is too long before vertical pipe, the backflow of water will increase when the unit is stopped, and it may cause overflow of water from the drain pan on the indoor unit. In order to avoid overflow, keep the horizontal pipe length and offset of the pipe within the limit shown in the figure below.



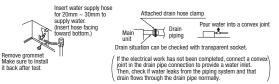
Otherwise, the construction point makes it same as drain pipe construction

Drain test

- 1. Conduct a drain test after completion of the electrical work.
- During the trail, make sure that drain flows properly through the piping and that no water leaks from connections.
- 3. In case of a new building, conduct the test before it is furnished with the ceiling.
- 4. Be sure to conduct this test even when the unit is installed in the heating season.

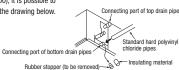
Procedures

- 1. Supply about 1000 cc of water to the unit through the air outlet by using a feed water pump.
- 2. Check the drain while cooling operation.



Outline of bottom drain piping work

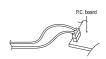
 If the bottom drain piping can be done with a descending gradient (1/50-1/100), it is possible to connect the pipes as shown in the drawing below.



Uncoupling the drain motor connector

 Uncouple the connector CNR for the drain motor as illustrated in the drawing on the right.

Note: If the unit is run with the connector coupled, drain water will be discharged from the upper drain pipe joint, causing a water leak.

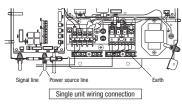


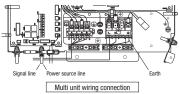
®Wiring-out position and wiring connection

• Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.

Be sure to use an exclusive circuit.

- Use specified cord, fasten the wiring to the terminal securely, and hold the cord securely in order not to apply unexpected stress on the terminal.
- Do not put both power source line and signal line on the same route. It may cause miscommunication and malfunction.
- For the details of electrical wiring work, see attached instruction manual for electrical wiring work.
- 1. Remove a lid of the control box (2 screws).
- 2. Hold each wiring inside the unit and fasten them to terminal block securely.
- 3. Fix the wiring with clamps.
- 4 Install the removed parts back to original place





9 External static pressure setting

You can set External Static Pressure (E.S.P.) by either method of MANUAL SETTING or AUTO-MATIC SETTING by remote controller.

Indoor unit will control fan-speed to keep rated air flow volume at each fan speed setting (Lo-Uhi)

You can set required E.S.P. by wired remote controller that calculated with the set air flow rate and pressure loss of the duct connected.

Select No.1-10 (10Pa-100Pa) from following table according to calculation result. Refer to technical manual for details of air flow characteristic.

Setting No.	1	2	3	4	5	6	7	8	9	10
External Static Pressure (Pa)	10	20	30	40	50	60	70	80	90	100

- * When you set No.11-19 by remote controller, unit will control fan-speed with setting of No.10 Factory default is at No.5.
- How to set E.S.P by wired remote controller
 - 1 Push " " marked button(E.S.P button).
 - 2 Select indoor unit No. by using \$\display\$ button.
 - $\ensuremath{\mathfrak{J}}$ Select setting No. by using $\ensuremath{\clubsuit}$ button and set E.S.P. by $\ensuremath{\square}$ button. See detailed procedure in technical manual.



E.S.P. button

Caution

Notice

Be sure to set E.S.P. according to actual duct connected.

Wrong settings causes excessive air flow volume or water drop blown out.

2 AUTOMATIC SETTING

Indoor unit will recognize E.S.P. by itself automatically and select appropriate fan speed No.1-10.

- How to start automatic setting
 - 1, 2 Same setting as MANUAL SETTING.
 - ③ Select [AUT] by using ♦ button and press button □.
 - 2 After setting E.S.P. at "AUT", operate unit in FAN mode with certain fan speed (Lo-Uhi).

Indoor unit fan will run automatically and recognize E.S.P. by itself.

The operation for automatic E.S.P recognition will last about 6 minutes, and it will be stopped after recognition is completed.

Caution

- Be sure to execute AUTOMATIC SETTING by remote controller AFTER ducting work is completed. When duct specification is changed after AUTOMATIC SETTING, be sure to execute AUTOMATIC SETTING again after power resetting and turning on again.
- Be sure to execute AUTOMATIC SETTING before trial cooling operation.
- (See ELECTRICAL WIRING WORK INSTRUCTION about trial cooling operation)
- Before AUTOMATIC SETTING, be sure to check that return air filter in duct is installed and damper is opened.

Wrong procedure causes excessive air flow or water drop blown out

Notice

- During operation for automatic recognition (the Auto Operation), fan rotates with certain speeds regardless of set fan speed by remote controller.
- When duct is set with low static pressure (around 10-50Pa), even if indoor unit operate with higher air flow volume than rated one, but it is not abnormal
- When you changed operation mode or stop operation with ON/OFF button during Auto Operation, the Auto operation will be canceled.
- In such case, be sure to execute AUTOMATIC SETTING again according to above procedure.

10 Check list after installation

Check the following items after all installation work completed.

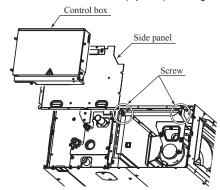
Check if	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Supply voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
No mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks airflow on air inlet and outlet?	Insufficient capacity	
Is setting of E.S.P finished?	Excessive air flow, water drop blow out	

(2) Replacement procedure of the fan unit

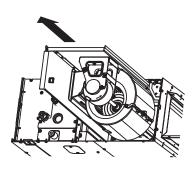
Notes(1) The unit is a heavy item. It must be supported securely and handled with care not to drop when it is necessary to replace. (2) For the maintenance space, refer to page 230.

(a) Model FDUM50VF

1) Remove the control box and the side panel, and remove the screws marked in the circles (2 places) in the figure.

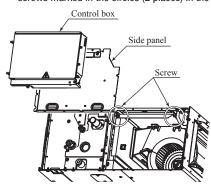


2) Take out the fan unit in the arrow direction.

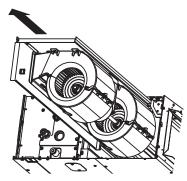


(b) Models FDUM60VF, 71VF

1) Remove the control box and the side panel, and remove the screws marked in the circles (2 places) in the figure.

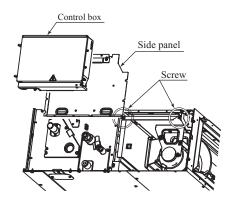


2) Take out the fan unit in the arrow direction.

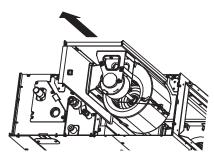


(c) Models FDUM100VF, 125VF, 140VF

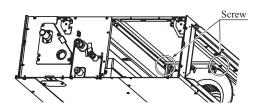
 Remove the control box and the side panel, and remove the screws marked in the circles (2 places) from the unit located at the near side.



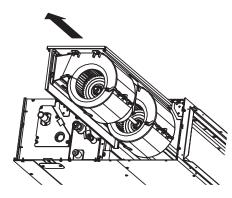
2) Take out the fan unit located at the near side in the arrow direction.



3) Remove the screws marked in the circles (2 places) from the fan unit located at the far side.



4) Take out the fan unit in the arrow direction.

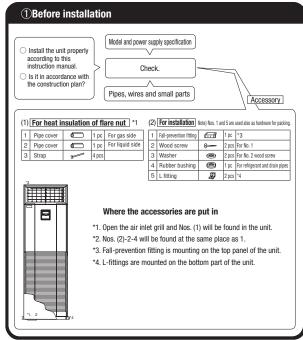


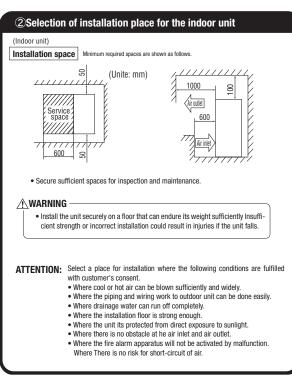
(6) Floor standing type (FDF)

PGA012D404

This, madual is for the installation of abindular unit. For electrical viring vider (biddon), refer to page 25% For remote controller installation, refered page 26% For electrical winning work (biddon), and	ier to page retrigetant
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Total Time! / Whole installation might cause serious consequences depending of bircumstances. Selfu mentions the important thems no undect your health and safety as strictly follow them by any ■ The meanings of *Macris* used here are as shown or the fulfit.	means.
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Intelligent demander, representatively and reporting and property analysis of the fair conditiones. © Do not must air in fat the capting ericle on installation or reproval of the air conditiones.	
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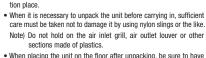






Carrying-in

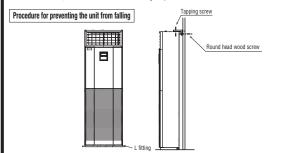
ATTENTION: · Carry in the unit kept in a package as near as possible to the installa-

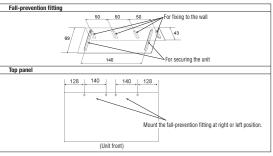


· When placing the unit on the floor after unpacking, be sure to have its front face at the top.

3 Carrying-in and installation of the unit (Continued)

Be sure to fix the unit with L-fittings and the fall-prevention fitting.

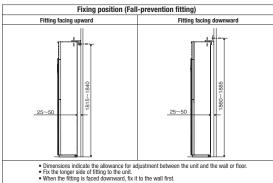




(1) Fixing the unit with the fall-prevention fitting



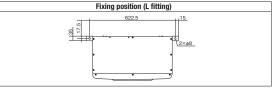
- (1)Loosen screws (2 pcs) and remove the fallprevention fitting.
- 2)Select a position to fix the fall-prevention fitting as illustrated and fix it to the top of unit and the
 - · The fixing positon of the fall-prevention fitting is as illastrated below



(2) Fixing the unit with the L-fittings



- ①Remove the L-fittings mounted on the unit with
- ②Turn over the L-fitting and fix it to the unit and either the floor or the wall as illustrated.
 - · Fixing position of the L-fittings are as illustrated



ATTENTION:

Install the unit on the level.
Inclination must be less than 1°in fore-aft and right-left directions.

4 Refrigerant piping

Caution

Use the new refrigerant pipe.

When re-using the existing pipe system for R22 or R407C, pay attention to the following items.

- Change the flare nuts with the attached ones (JIS category 2), and reprocess the flare parts.
- · Do not use thin-walled pipes.
- Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H3300) for refrigeration pipe installation.

In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.

Do not use any refrigerant other than R410A.

Using other refrigerant except R410A (R22 etc.) may degrade inside refrigeration oil. And if air getting into refrigerant circuit, it may cause anomaously high pres and may result in burst, etc.

- Store the copper pipes indoors and seal the both end of them until they are brazed in order to avoid any dust, dirt or water getting into pipe. Otherwise it will cause degradation of refrigeration oil and compressor breakdown, etc.
- Use special tools for R410 refrigerant.

Work procedure

- 1. Remove the flare nuts and flare caps from the pipes of the indoor unit.
 - ** Make sure to loosen the flare nut by holding the flared male fitting with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the copper pipe, and then remove them.

(Gas may come out a little at this time, but it is no anomaly.)

Pay attention that the flare nut may pop out.

(Because it is sometimes pressurized in the indoor unit)

Make a flare on liquid pipe and gas pipe, and connect the refrigrant pipes to the indoor unit.

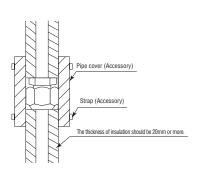
**Bend the pipe with as big radius as possible and do not bend the pipe repeatedly. In addition, do not twist and crush the pipes.

- Make sure to loosen the flare nut by holding the flared male fitting with a spanner and giving torque to the nut with another spanner in order to avoid unexpected stress to the cooper pipe, and then remove them.
- When fastening the flare nut, align the refrigeration pipe with the center of flare nut, screw the nut for 3-4 times by hand and then tighten it with a spanner within the specified torque mentioned in the table below.

Make sure to hold the flared male fitting on the indoor unit side with another spanner when tightening the nut in order to avoid unexpected stress on the copper pipe.

- Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached straps.
 - Make sure to insulate both gas pipes and liquid pipes completely.
 - ★Incomplete insulation may cause dew condensation and dew dropping.
- 4. Refrigerant is pre-charged in the outdoor unit.

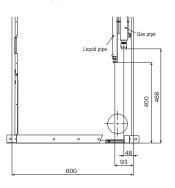
As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.



Pipe diameter	Tightening torque N⋅m
ф 6.35	14 to 18
φ 9.52	34 to 42
φ 12.7	49 to 61
ф 15.88	68 to 82
ф 19.05	100 to 120

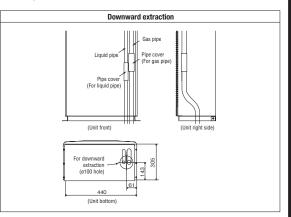
4 Refrigerant piping (Continued)

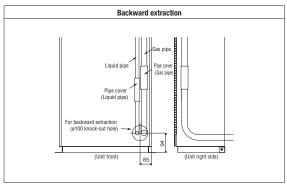
Pipe and wire extracting position

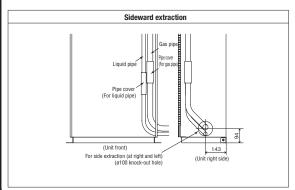


ATTENTION:

Do not cut off the flange at the hole on the base plate for the downward extraction.







5Drain pipe

↑ WARNING

• Do not insert the drain pipe directly in the drain ditch where toxic gases such as sulffuric gas are produced.
Toxic gas may flow into the room.

∴CAUTION

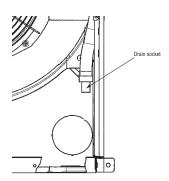
• Install the drain pipe properly according to the installation manu And insulate it to prevent from dew condensation.

Improper installation of drain pipe may cause damage of furniture drainage water leaked or dew condensation.

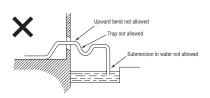
Procedure

- 1. Connect the drain socket to the drain pipe (PV-20) provided at site and fix the joint with
- adhesive tape, or the like.

 2. When the pipe provided at site runs through a room, insulate the pipe with a commercial insulator (Polyethylene foam: Specific gravity 0.03, thickness 15 mm or more) to prevent dewing.







- Insulate the drain pipe to prevent dewing. (Especially in room and unit)
- Incline the drain pipe downward to the outlet (1/50 1/100). Upward bend or trap is not allowed on the way.
- Use a commercial hard polyvinyl chloride pipe, PV-20, for the drain pipe. <Use of adhesive agent is prohibited.>

6Wire extracting position and wire connecton

Control box position and power cable connection

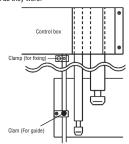
- Electric work must be made by qualified electricians according to the "Engineering standards concerning electric equipment", "Extension wiring regulations" and the electric wiring work manual. Be sure to use dedicated electric circuits.
- Make sure to use specified wires for wiring, and connect them securely. Clamp the wires to protect the terminal connection from external force.

 • Make sure to protect the unit with the D-type grounding work.
- For details of wiring work, refer to the attached electric wiring work manual.

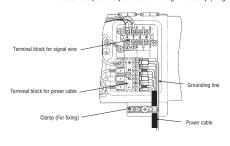


Procedure

- (1) Remove the control box cover (fixed with a screw).
- 2Introduce wires in the unit and connect securely on the terminals.
- $\ensuremath{\mathfrak{3}}$ Fix each wire with a clamp (for fixing).
- (4)Install removed parts as they were.



. Make sure to pass the power cable through the clamp (for guide).



7Check list after installation

Check the following items after all installation work completed.

Check if;	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for gas leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Supply voltage is same as mentioned in the model name plate?	PCB burnt out, not working at all	
There is mis-wiring or mis-connection of piping?	PCB burnt out, not working at all	
Earth wiring is connected properly?	Electric shock	
Cable size comply with specified size?	PCB burnt out, not working at all	
Any obstacle blocks airflow on air inlet and outlet?	Insufficient capacity	

RKY012A007B ∕€\

(7) Wall mounted type (SRK)

- . This installation manual illustrates the method of installing an indoor
- . For electrical wiring work, please see instructions set out on the backside.
- · For outdoor unit installation and refrigerant piping, please refer to page 273.
- A wired remote control unit is supplied separately as an optional part.
- . When install the unit, he sure to check whether the selection of installation place, power supply specifications, usage limitation (piping length, height differences between indoor and outdoor units, power supply voltage and etc.) and installation spaces.

SAFETY PRECAUTIONS

- · Read the "SAFETY PRECAUTIONS" carefully first of all and strictly follow it during the installation work in order to protect vourself.
- The precautionary items mentioned below are distinguished into two levels. MARNING and ACAUTION.
- ▲ WARNING: Wrong installation would cause serious consequences such

as injuries or death. A CAUTION : Wrong installation might cause serious consequences

depending on circumstances. Both mentions the important items to protect your health and safety so strictly • If unusual noise can be heard during operation, consult the dealer.

follow them by any means. Be sure to confirm no anomaly on the equipment by commissioning after completed installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.

- . Keep the installation manual together with owner's manual at a place where any user can read at any time. Moreover if necessary, ask to hand them to a
- For installing qualified personnel, take precautions in respect to themselves by using suitable protective clothing, groves, etc., and then perform the installation works.
- . Please pay attention not to fall down the tools, etc. when installing the unit at the high position.
- The meanings of "Marks" used here are shown as follows:





Always do it according to the

♠ WARNING

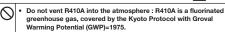


- Installation must be carried out by the qualified installer. If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury as a result of a system malfunction. Do not carry out the installation and maintenance work except. The electrical installation must be carried out by the qualified the by qualified installer.
- Install the system in full accordance with the installation manual. Incorrect installation may cause bursts, personal injury, water leaks, electric
- Be sure to use only for household and residence. If this appliance is installed in inferior environment such as machine shop
- and etc. it can cause malfunction. Use the original accessories and the specified components for
- installation. If parts other than those prescribed by us are used, It may cause water
- leaks, electric shocks, fire and personal injury.
- Install the unit in a location with good support. Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.
- Ventilate the working area well in the event of refrigerant leakage during installation If the refrigerant comes into contact with paked flames, poisonous gas is
- produced.
- When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage, referred by the formula (accordance with ISO5149).
- If the density of refrigerant exceeds the limit, please consult the dealer and install the ventilation system, otherwise lack of oxygen can occur, which can cause serious accident.
- After completed installation, check that no refrigerant leaks from the system
- If refrigerant leaks into the room and comes into contact with an oven or other hot surface, poisonous gas is produced.
- Use the prescribed pipes, flare nuts and tools for R410A. Using existing parts (for R22 or R407C) can cause the unit failure and serious accidents due to burst of the refrigerant circuit.

- . Tighten the flare nut by torque wrench with specified method. If the flare nut were tightened with excess torque, this may cause burst and
 - refrigerant leakage after a long period electrician in accordance with "the norm for electrical work" and
 - "national wiring regulation", and the system must be connected to the dedicated circuit.
 - Power supply with insufficient capacity and incorrect function done by improper work can cause electric shocks and fire.
 - Be sure to shut off the power before starting electrical work. Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment
 - Be sure to use the cables conformed to safety standard and cable ampacity for power distribution work.
 - Unconformable cables can cause electric leak, anomalous heat production This appliance must be connected to main power supply by means
 - of a circuit breaker or switch (fuse:16A) with a contact separation of at least 3mm.
 - When plugging this appliance, a plug conforming to the norm IFC60884-1 must be used
 - Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent overloading the terminal blocks.
 - Loose connections or cable mountings can cause anomalous heat
 - Arrange the wiring in the control box so that it cannot be pushed up further into the box. Install the service panel correctly. Incorrect installation may result in overheating and fire.
 - Be sure to switch off the power supply in the event of installation inspection or servicing.
 - If the power supply is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan. . Be sure to wear protective goggles and gloves while at work.
 - Earth leakage breaker must be installed.
 - If the earth leakage breaker is not installed, it can cause electric shocks

- Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulphide gas can occur. Poisonous gases will flow into the room through drainage pipe and
 - seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak. Ensure that no air enters in the refrigerant circuit when the unit is
 - installed and removed
 - If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury.
- Do not processing, splice the power cord, or share a socket with other power plugs.
- This may cause fire or electric shock due to defecting contact, defecting insulation and over-current etc.
- Do not bundling, winding or processing for the power cord. Or, do not deforming the power plug due to tread it. This may cause fire or heating

⚠ WARNING



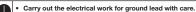
Do not run the unit with removed panels or protections. Touching rotating equipments, hot surfaces or high voltage parts can cause can cause fire or burst.

personal injury due to entrapment, burn or electric shocks.

. Do not perform any change of protective device itself or its setup

The forced operation by short-circuiting protective device of pressure switch and temperature controller or the use of non specified component

↑ CAUTION



Do not connect the ground lead to the gas line, water line, lightning conductor or telephone line's ground lead. Incorrect grounding can cause unit faults such as electric shocks due to short-circuiting.

Use the circuit breaker of correct capacity, Circuit breaker should be the one that disconnect all poles under over current. Using the incorrect one could cause the system failure and fire

- Install isolator or disconnect switch on the power supply wiring in accordance with the local codes and regulations
- The isolator should be locked in OFF state in accordance with EN60204-1. Be sure to install indoor unit properly according to the installation manual in order to run off the drainage smoothly.

and damaging personal property

Install the drainage pipe to run off drainage securely according to the installation manual.

Incorrect installation of the drainage pipe can cause dropping water into the room and damaging personal property.

- Be sure to install the drainage pipe with descending slope of 1/100 or more, and not to make traps and air-bleedings. Check if the drainage runs off securely during commissioning and ensure
- the space for inspection and maintenance.
- Secure a space for installation, inspection and maintenance specified in the manual

Insufficient space can result in accident such as personal injury due to

- . Do not install the unit in the locations listed below.
- . Locations where any substances that can affect the unit such as sulphide gas, chloride gas, acid and alkaline can occur
- Vehicles and shins
- · Locations where cosmetic or special sprays are often used.
- . Locations with direct exposure of oil mist and steam such as kitchen and machine plant
- Locations where any machines which generate high frequency harmonics occur such as in laundries. are used.
- Locations with salty atmospheres such as coastlines
- . Locations with heavy snow (If installed, be sure to provide base flame and snow hood mentioned in the manual).
- Locations where the unit is exposed to chimney smoke
- . Locations at high altitude (more than 1000m high).
- Locations with ammonic atmospheres.
- . Locations where heat radiation from other heat source can affect the unit.
- · Locations without good air circulation.
- Locations with any obstacles which can prevent inlet and outlet air of the unit. Locations where short circuit of air can occur (in case of multiple units)
- Locations where strong air blows against the air outlet of outdoor unit.
- . Locations where something located above the unit could fall. It can cause remarkable decrease in performance, corrosion and damage of components, malfunction and fire.
- Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation)
- Locations with any obstacles which can prevent inlet and outlet air of the
- . Locations where vibration can be amplified due to insufficient strength of
- . Locations where the infrared receiver is exposed to the direct sunlight or the strong light beam (in case of the infrared specification unit).
- set or radio receiver is placed within 5m).
- Locations where drainage cannot run off safety It can affect performance or function and etc.
- Do not install the unit near the location where leakage of combustible gases can occur.

falling from the installation place.

- . For installation work, be careful not to get injured with the heat exchanger, piping flare portion or screws etc.
- Be sure to insulate the refrigerant pipes so as not to condense the ambient air moisture on them.
- Insufficient insulation can cause condensation, which can lead to moisture damage on the ceiling, floor, furniture and any other valuables.
- · When perform the air conditioner operation (cooling or drying opera-Improper installation of indoor unit can cause dropping water into the room tion) in which ventilator is installed in the room. In this case, using the air conditioner in parallel with the ventilator, there is the possibility that drain water may backflow in accordance with the room lapse into the negative pressure status. Therefore, set up the opening port such as incorporate the air into the room that may appropriate to ventilation (For example; Open the door a little). In addition, just as above, so set up the opening port if the room lapse into negative pressure status due to register of the wind for the high rise apartment etc.
 - Be sure to perform air tightness test by pressurizing with nitrogen gas after completed refrigerant piping work.

If the density of refrigerant exceeds the limit in the event of refrigerant leakage in the small room, lack of oxygen can occur, which can cause serious accidents

If leaked gases accumulate around the unit, it can cause fire.

 Locations where carbon fiber, metal powder or any powder is floating.
 Do not install the unit where corrosive gas (such as sulfurous acid gas etc.) or combustible gas (such as thinner and petroleum gases can accumulate or collect, or where volatile combustible substances are handled

Corrosive gas can cause corrosion of heat exchanger, breakage of plastic parts and etc. And combustible gas can cause fire.

- . Do not use the indoor unit at the place where water splashes may
- Since the indoor unit is not waterproof, it can cause electric shocks and fire . Do not install nor use the system close to the equipment that
- generates electromagnetic fields or high frequency harmonics. Equipment such as inverters, standby generators, medical high frequency equipments and telecommunication equipments can affect the system, and cause malfunctions and breakdowns. The system can also affect medical equipment and telecommunication equipment, and obstruct its function or
- . Do not place any variables which will be damaged by getting wet under the indoor unit.

When the relative humidity is higher than 80% or drainage pipe is clogged condensation or drainage water can drop and it can cause the damage of

- . Do not install the remote control at the direct sunlight.
- It can cause malfunction or deformation of the remote control. Do not use the unit for special purposes such as storing foods. cooling precision instruments and preservation of animals, plants of
- It can cause the damage of the items.
- Do not use any materials other than a fuse with the correct rating in the location where fuses are to be used.
- Connecting the circuit with copper wire or other metal thread can cause unit failure and fire.
- Do not touch any buttons with wet hands. It can cause electric shocks
- · Locations where an equipment affected by high harmonics is placed (TV · Do not touch any refrigerant pipes with your hands when the system is in operation.

During operation the refrigerant pipes become extremely hot or extremely cold depending the operating condition, and it can cause burn injury or frost injury.

S	tandard accessories (Installation kit) Accessories for indoor unit	Q'ty
1	Installation board (Attached to the rear of the indoor unit)	1
2	Wireless remote control	1
3	Remote control holder	1
4	Tapping screws (for installation board 4dia. by 25mm)	4
(5)	Wood screw (for remote control switch holder 3.5(mm). by 16mm)	2
6	Battery [R03(AAA,Micro) 1.5V]	2
7	Air-cleaning filters	2
8	Filter holders (Attached to the front panel of indoor unit)	2
9	Insulation (#486 50 x 100 t3)	1

	Option parts	Q'ty
а	Sealing plate	1
b	Sleeve	1
©	Inclination plate	1
(d)	Putty	1
е	Drain hose (extention hose)	1
Ŧ	Piping cover (for insulation of connection piping)	1

	Necessary tools for the installation work
1	Plus headed driver
2	Knife
3	Saw
4	Tape measure
5	Hammer
6	Spanner wrench
7	Torque wrench $\begin{pmatrix} 14.0 \sim 61.0 \text{N} \cdot \text{m} \\ (1.4 \sim 6.1 \text{kgf} \cdot \text{m}) \end{pmatrix}$
8	Hole core drill (65mm in diameter)
9	Wrench key (Hexagon) [4m/m]
10	Flaring tool set (Designed specifically for R410A)
11	Gas leak detector (Designed specifically) for R410A
12	Gauge for projection adjustment (Used when flare is made by using) conventional flare tool
13	Pipe bender

SELECTION OF INSTALLATION LOCATION

(Install at location that meets the following conditions, after getting approval from the customer)

- O Where there is no obstructions to the air flow and where the cooled and heated air can be evenly distributed.
- O A solid place where the unit or the wall will not vibrate.
- O A place where there will be enough space for servicing. (Where space mentioned below can be secured)
- O Where wiring and the piping work will be easy to conduct.

 O The place where receiving part is not exposed to the direct rays of the sun or the strong rays of the street lighting.
- O A place where it can be easily drained.
 O A place separated at least 1m away from the television or the radio. (To prevent interference to images and sounds.)
- O Places where this unit is not affected by the high frequency equipment or electric equipment. O Avoid installing this unit in place where there is much oil mist. O Places where there is no electric equipment or household under the installing unit.

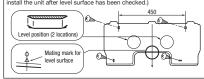
Wireless remote control

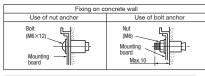
- O A place where the air conditioner can be received the signal surely during operating the wireless remote control.
- O Places where there is no affected by the TV and radio etc.

O Do not place where exposed to direct sunlight or near heat devices such as a stove. INSTALLATION OF INDOOR UNIT

Installation of Installation board

Look for the inside wall structures (Intersediats support or pillar and finally install the unit after level surface has been checked.)





wetted by leaked water or dewing. 2 Wireless remote control OAdjustment of the installation board in the horizontal direction is to be conducted with four screws in a temporary tightened state. 3 Remote control holder

Indoor side

Outdoor side

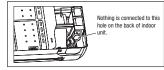
(5) Wood screws

△ CAUTION

Completely seal the hole on

the wall with putty. Otherwise, furniture, or other, may be

OAdjust so the board will be level by turning the board with the standard hole as the center.



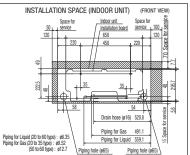
Relation between setting plate and indoor unit

7.0 cm minimum from the ceiling

Sleeve

(sold separately

1 Installation hoard

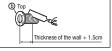


Piping is possible in the rear, left, left rear, left downward, right or downward direction.

Drilling of holes and fixture of sleeve (Option parts)

When drilling the wall that contains a metal lath, wire lath or metal plate, be sure to use pipe hole sleeve sold separately.







Standard hole

O In case of rear piping draw out, cut off the lowe and the right side portions of the sleeve collar

Installing the support of piping

In case of piping in the right rear direction







that goes through the O Always tape the wiring with the piping.

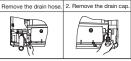
Sufficient care must be taken not to damage the panel when connecting pipes.

• Matters of special notice when piping from left or central/rear of tha unit. [Top view]



[Drain hose changing procedures]

Piping in the left direction



O Remove the screw and O Remove it with hand or O Insert the drain cap which was removed O Insert the drain hose securely, drain hose, making it



occur.

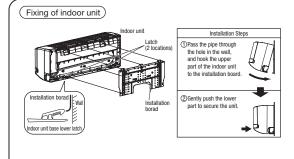
at procedure "2" securely using a hexagonal wrench etc.
Note: Be careful that If it is not Inserted securely, water leakage may

Piping in the right direction

4. Connect the drain hose.

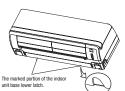
making rotate. And install the Note: Be careful that If it is not Inserted securely, water leakage may occur.

12 • PAC-T-17

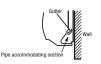


- How to remove the indoor unit from the installation board
- ① Push up at the marked portion of the indoor unit base lower latch, and slightly pull it toward you. (both right and left hand sides) (The indoor unit base lower latch can be removed from the installation board)

 2 Push up the indoor unit upward. So the indoor unit will be removed from the installation



Since this air conditioner has been designed to collect dew drops on the rear surface to the drain pan, do not attach the power cord above the gutter.



Drainage

- Avoid the following drain piping.
- drainage is all right. Otherwise water leak may occur.









The gap to the ground is

When the extended drain hose is indoor, securely insulate it with a heat insulator available in the market

CONNECTION OF REFRIGERANT PIPINGS

Preparation Keep the openings of the pipes covered with tapes etc. to prevent dust, sand, etc. from entering them.



O Install the removed flared nuts to the pipes to be connected,

Dimension A Liquid side #6 35 · 9 1 (mm) Gas side ø9.52 : 13.2 (mm) ø12.7 : 16.6 (mm)

Do not apply refrigerating machine



Flaring work

Measurement B (mm) Clutch type flare tool for Conventional (B22) flare tool Copper pipe diameter Clutch type Wing nut type ø6.35 0.0 - 0.5 1.0 - 1.5 1.5 - 2.0 a9 52 00-05 10-15 1.5 - 2.0 ø12.7 0.0 - 0.5 1.0 - 1.5 2.0 - 2.5

Use a flare tool designed for R410A or a conventional flare tool. Please note that measurement B (protrusion from the flaring block) will vary depending on the type of a flare tool in use. for a covertional flare tool is used, please use a copper pipe gauge or a similar instrument to check protrusion so that you can keep measurement B to a correct value.

Do not apply excess torque to the flared nuts. Otherwise, the flared nuts may checkdepending

Connection



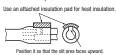
O Connect the pipes on both liquid and gas sides. O Tighten the nuts to the following torque. Liquid side (ø6.35) : 14.0 - 18.0 N·m (1.4 - 1.8 kgf·m) Gas side (ø9.52) : 34.0 - 42.0 N·m (3.4 - 4.2 kgf·m) (ø12.7) : 49.0 - 61.0 N·m (4.9 - 6.1 kgf·m)

(Insulation of the connection portion)

Cover the coupling with insulator and then cover it with tapes.

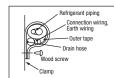


then flared the pipes



• Cover the indoor unit's flare-connected joints, after they are checked for a gas leak, with an indoor unit heat insulating material and then wrap them with a tape with an attached insulation pad placed over the heat insulating material's slit area.

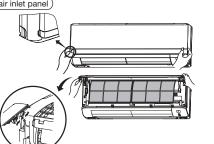
Finishing work and fixing



Cover the exterior portion with outer tape and shape the piping so it will match the contours of the route that the piping to take. Also fix the wiring and pipings to the wall with

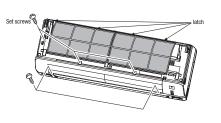
Open/close and detachment/attachment of the air inlet panel

- O To open, pull the panel at both ends of lower part and release latches, then pull up the panel until you feel resistance (The panel stops at approx, 60° open position)
- O To close, hold the panel at both ends of lower part to lower downward and push it slightly until the latch works.
- O To remove, pull up the panel to the position
- shown in right illustration and pull it toward you. O To install, insert the panel arm into the slot on the front panel from the position shown in right illustration, hold the panel at both ends of lower part, lower it downward slowly, then push it slightly until the latch warks.



How to remove and fit the front panel

- O Removing
- Remove the air inlet panel. 2 Remove the 5 set screws
- Remove the 4 latches in the upper section.
- Move the lower part of the panel forward and push upwards to remove.
- O Fitting
- ① Do remove the air filter.
- 2 Cover the body with the front panel.
- 3 Fit the 4 latches in the upper section.
- 4 Tighten the 5 set screws.
- 5 Fit the air filter.
- 6 Fit the air inlet panel.



ELECTRICAL WIRING WORK

Preparation of indoor unit

Mounting of connecting wires

- Open the air inlet panel.
- ② Remove the service panel.
- Remove the wiring clamp
- 4 Connect the connecting wire securely to the terminal block. Connect the connection wire securely to the terminal.
 - block. If the wire is not affixed completely, contact will be poor, and it is dangerous as the terminal block may heat up and catch fire.
 - 2) Take care not to confuse the terminal numbers for indoor and outdoor connections.
- 3) Fix the connection wire using the wiring clamp.
- (5) Fix the connecting wire by wiring clamp.
- 6 Attach the service panel.
- Olose the air inlet panel.

△ CAUTION

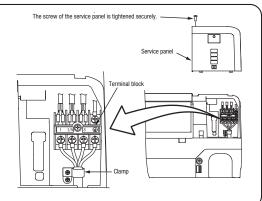
In case of faulty wiring connection, the indoor unit stops, and then the run lamp turns on and the timer lamp blinks.

Use cables for interconnection wiring to avoid loosening of the CENELEC code for cables Required field cables.

H05RNR4G1.5 (example) or 245IEC57

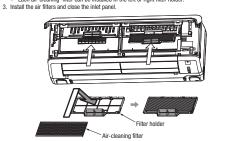
H Harmonized cable type

- 05 300/500 volts
- Natural-and/or synth, rubber wire insulation
- Polychloroprene rubber conductors insulation Stranded core
- 4or5 Number of conductors
- One conductor of the cable is the earth conductor (vellow/areen)
- 1.5 Section of copper wire (mm2)



Installing the air-cleaning filters

- 1. Open the air inlet panel and remove the air filters.
- 2. Install the filter holders, with the air-cleaning filters installed in the holders. In the air conditioner
- . Each air-cleaning filter can be installed in the left or right filter holder.



INSTALLATION OF REMOTE CONTROL SWITCH

Mounting method of battery

OUncover the wireless remote control, and mount the batteries [R03(AAA,Micro),×2 pieces] in the body regularly. (Fit the poles with the indication marks, ⊕ & ⊖ without fall)







Fixing to pillar or wall

OConventionally, operate the remote control switch by holding in your hand Avoid installing it on a clay wall etc.



INSTALLATION TEST CHECK POINTS

Check the following points again after completion of the installation, and before turning on the power. Conduct a test run again and ensure that the unit operates properly. At the same time, explain to the customer how to use the unit and how to take care of the unit following the user's manual.

After installation

- The power supply voltage is correct as the rating.
- No gas leaks from the joints of the operational valve.
- Power cables and crossover wires are securely fixed to the terminal board.
- The screw of the service panel is tightened securely.
- Operational valve is fully open.
- The pipe joints for indoor and outdoor pipes have been insulated.

Test run

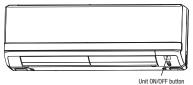
- Air conditioning operation is normal.
- No abnormal noise.
- Water drains smoothly.
- Protective functions are not working
- The remote control is normal.
- Operation of the unit has been explained to the customer.
 - (Three-minutes restart preventive timer)
 - When the air conditioner is restarted or when changing the operation, the unit will not start operating for approximately 3 minutes.
 - This is to protect the unit and it is not a malfunction.

HOW TO RELOCATE OR DISPOSE OF THE UNIT

O in order to protect the environment, he sure to pump down (recovery of refrigerant). • Forced cooling operation O Pump down is the method of recovering refrinerant from the indoor unit to the outdoor unit when the pipes are removed from the unit.

<How to pump down>

- 1 Connect charge hose to service port of outdoor unit.
- 2 Liquid side : Close the liquid valve with hexagon wrench key. Gas side : Fully open the gas valve Carry out cooling operation . (If indoor temperature is low, operate
- forced cooling operation.) 3 After low pressure gauge become 0.01MPa, stop cooling operation and close the gas valve.
- Turn on a power supply again after a while after turn off a power supply. Then press continually the ON/OFF button 5 seconds or more.



CONCERNING TERMINAL CONNECTION FOR AN INTERFACE

- Remove the front panel and lid of control.
- There is a terminal (respectively marked with CNS) for the indoor control board.
- In connecting an interface connect to the respective terminal securely with the connection harness supplied with an optional "Interface connection kit SC-BIKN-E" and fasten the connection harness onto the indoor control box with the clamp supplied with the kit.
- For more details, please refer to the user's manual of your "Interface connection kit SC-BIKN-E".

(8) Effective range of cool/hot wind (Reference)

(a) FDT series

Guideline for ceiling height

For Speed Setting		Mo	del	
Fan Speed Setting	FDT40VF50VF60VF	FDT71VF	FDT100VF	FDT125VF,140VF
Hi	2.7m	3.0m	3.2m	3.6m
PHi	3.5m	3.8m	4.3m	4.5m

Notes (1) If the ceiling height is over 3m, please consider to add circulators.

This table shows reference values in case of four outlet.

If you shut some outlets, they are different.

Fan speed setting can be changed by using a wired remote controller.

(b) FDEN series

Model	Effective range
FDEN40VF, 50VF	7.5m
FDEN60VF, 71VF	8.0m
FDEN100VF, 125VF, 140VF	9.0m

[Conditions] 1. Height of unit: 2.4 - 3.0 (m) above floor level

2. Fan speed: Hi

3. Location: Free space without obstacles

4. The effective range means the horizontal distance for wind to reach the floor.

5. Wind speed at the effective range: 0.5 m/s

(c) FDF series

Model	Effective range
FDF71VD	5m
FDF100VD, 125VD, 140VD	8m

[Conditions] 1. Fan speed: Hi

2. Location: Free space without obstacles

3. The effective range means the horizontal distance for the wind to reach the floor.

4. Wind speed at the effective range: 0.5 m/s

1.10.2 Electric wiring work installation

(1) FDT, FDTC, FDEN, FDU100-140 Series

Electrical wiring work must be performed by an electrician qualified by a local power provider according to the electrical installation technical standards and interior wiring regulations applicable to the installation site.

Security instructions

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- \bullet The precautionary items mentioned below are distinguished into two levels, $\boxed{\triangle \text{WARNING}}$ and $\boxed{\triangle \text{CAUTION}}$.

AWARNING: Wrong installation would cause serious consequences such as injuries or death.

ACATION: Wrong installation might cause serious consequences depending on circumstances. Both mentions the important items to protect your health and safety so strictly follow them by any means.

- Accord with following items. Otherwise, there will be the risks of electric shock and fire caused by overheating or short circuit.

∆WARNING

- Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.
- Power source with insufficient capacity and improper work can cause electric shock and fire.
- Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal. Loose connections or hold could result in abnormal heat generation or fire.
- Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel property. Improper fitting may cause abnormal heat and fire.
- Use the genuine optional parts. And installation should be performed by a specialist.
- If you install the unit by yourself, it could cause water leakage, electric shock and fire
- Do not repair by yourself. And consult with the dealer about repair. Improper repair may cause water leakage, electric shock or fire.
- Consult the dealer or a specialist about removal of the air conditioner.
 Improper installation may cause water leakage, electric shock or fire.
- Turn off the power source during servicing or inspection work.
 If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan.
- Shut off the power before electrical wiring work.
 It could cause electric shock, unit failure and improper running.

∆CAUTION

Perform earth wiring surely.

Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock due to a short circuit.

● Earth leakage breaker must be installed.

If the earth leakage breaker is not installed, it can cause electric shocks.

 Make sure to install earth leakage breaker on power source line. (countermeasure thing to high harmonics.)

Absence of breaker could cause electric shock.

 Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.
 Using the incorrect one could cause the system failure and fire.

Do not use any materials other than a fuse of correct capacity where a fuse should be used.

Connecting the circuit by wire or copper wire could cause unit failure and fire.

Use power source line of correct capacity.

Using incorrect capacity one could cause electric leak, abnormal heat generation and fire.

Do not mingle solid cord and stranded cord on power source and signal side terminal block.

In addition, do not mingle difference capacity solid or stranded cord.

Inappropriate cord setting could cause loosing screw on terminal block, bad electrical contact, smoke and fire.

Do not turn off the power source immediately after stopping the operation. Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown.

Do not control the operation with the circuit breaker.

It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury.

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1 Electrical Wiring Connection

- Use three-core cable as wiring between indoor and outdoor unit. As for detail, refer to "INSTAL-LATION MANUAL" of outdoor Unit.
- Set earth of D-type.
- Keep "remote controller line" and "power source line" away from each other on constructing of unit outside.
- Run the lines (power source, remote controller and "between indoor and outdoor unit") upper ceiling through iron pipe or other tube protection to avoid the damage by mouse and so on.
- Do not add cord in the middle of line route (of power source, remote controller and "between indoor and outdoor unit") on outside of unit. If connecting point is flooded, it could cause problem as for electric or communication. (In the case that it is necessary to set connecting point on the way, perform thorough waterproof measurement.)
- Do not connect the power source line [220V/240V/380V/415V] to signal side terminal block. Otherwise, it could cause failure.
- Screw the line to terminal block without any looseness, certainly.
- Do not turn on the switch of power source, before all of line work is done.
- Connection of the line ("Between indoor and outdoor unit", Earth and Remote controller)
- ①Remove lid of control box before connect the above lines, and connect the lines to terminal block according to number pointed on label of terminal block.

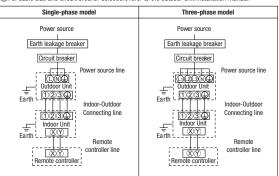
In addition, pay enough attention to confirm the number to lines, because there is electrical polarity except earth line. Furthermore, connect earth line to earth position of terminal block of power source.

- ②Install earth leakage breaker on power source line. In addition, select the type of breaker for inverter circuit as earth leakage breaker.
- (3) If the function of selected earth leakage breaker is only for earth-fault protection, hand switch (switch itself and type "B" fuse) or circuit breaker is required in series with the earth leakage breaker.
- (4) Install isolator or disconnect switch on the power supply wiring in accordance with the local codes and regulations.

The isolator should be set in the box with key to prevent touching by another person when servicing

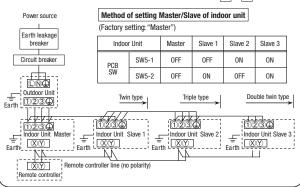
Cable connection for single unit installation

- ①As for connecting method of power source, select from following connecting patterns. In principle, do not directly connect power souce line to inside unit.
- As for exceptional connecting method of power souce, discuss with the power provider of the country with referring to technical documents, and follow its instruction.
- ②For cable size and circuit breaker selection, refer to the outdoor unit installation manual



Cable connection for a V multi configuration installation

- ①Connect the same pairs number of terminal block "①, ②, and ③"and " \otimes and \otimes " between master and slave indoor units.
- ②Do the same address setting of all inside units belong to same refrigerant system by rotary switch SW2 on indoor unit's PCB (Printed circuit board).
- ③Set slave indoor unit as "slave 1" through "slave 3" by address switch SW5-1, 5-2 on PCB.



2 Remote Control, Wiring and functions

- DO NOT install it on the following places
- ①Places exposed to direct sunlight
- 2 Places near heat devices
- 3High humidity places
- 4 Hot surface or cold surface enough to generate condensation
- ⑤Places exposed to oil mist or steam directly.
- 6 Ineven surface

Installation and wiring of remote controller

①Install remote controller referring to the attached installation manual.

②Wiring of remote controller should use 0.3mm² ×2 core wires or cables.

The insulation thickness is 1mm or more. (on-site configuration)

③Maximum prolongation of remote control wiring is 600 m.

If the prolongation is over 100m, change to the size below.

But, wiring in the remote controller case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

mino commoduring coodionii Bo cai	orar about contact ian
100 - 200m	$0.5 \text{mm}^2 \times 2 \text{ cores}$
Under 300m	$0.75 mm^2 \times 2 cores$
Under 400m	$1.25 \text{mm}^2 \times 2 \text{ cores}$
Under 600m	$2.0 mm^2 \times 2 cores$

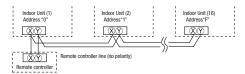
- Avoid using multi-core cables to prevent malfunction.
- ⑤Keep remote controller line away from earth (frame or any metal of building).
- ⑥Make sure to connect remote controller line to the remote controller and terminal block of indoor unit. (No polarity)

Control plural indoor units by a single remote controller.

- ①A remote controller can control plural indoor units (Up to 16).
- In above setting, all plural indoor units will operate under same mode and temperature setting ② Connect all indoor units with 2 core remote controller line
- ③Set unique remote control communication address from "0" to "F" to each inside unit by the rotary switch SW2 on the indoor unit's PCB.

After a unit is energized, it is possible to display an indoor unit address by pressing

AIR CON NO. button on the remote control unit. Press the
or
button to make sure
that all indoor units connected are displayed in order.



Confirming method of indoor units

When indoor unit address number is displayed on remote controller, pushing the \bigcirc (MODE) button to make the indoor unit with that number blow air (Display example:" I/U001 \gtrapprox ") Push the \bigcirc (MODE) button again to stop the operation.

 $\label{thm:condition} \mbox{However, this operation is invalid on the air-conditioning running.}$

Master/ slave setting when more than one remote control unit are used

A maximum of two remote control units can be connected to one indoor unit (or one group of indoor units.)

The air conditioner operation follows the last operation of the remote controller regardless of the master/slave setting of it.

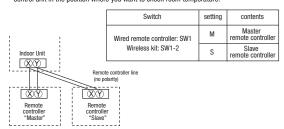
Acceptable combination is "two (2) wired remote controllers", "one (1) wired remote controller

and one (1) wireless kit" or "two (2) wireless kits".

Set SW1 (wired remote controller) or SW1-2 (wireless kit) to "Slave" for the slave remote control

unit. It was factory set to "Master" for shipment.

Note: The setting "Remote control unit sensor enabled" is only selectable with the master remote control unit in the position where you want to check room temperature.



3Trial operation

The method of trial cooling operation

Operate the remote control unit as follows.

- 1. Starting a cooling test run.
- ①Start the system by pressing the ①ON/OFF button.
- ②Select " & (Cool)" with the (MODE) button.
- ③Press the TEST button for 3 seconds or longer.

The screen display will switch to \$\mathbb{R} TEST RUN ▼ "

The screen display will switch to: TEST RUN ".

2. Ending a cooling test run.

Pressing the OON/OFF button, the (TEMP) button or (MODE) button will end a cooling test run. (Cooling test run will end after 30 minutes pass.)

" 掌 TEST RUN " shown on the screen will go off.

Checking operation data

Operation data can be checked with remote control unit operation.

- 1. Press the CHECK button.
- The display change " OPER DATA ▼
- 2. Press the (SET) button while OPER DATA is displayed.
- When only one indoor unit is connected to remote controller, " DATA LOADING" is displayed (blinking indication during data loading).

Next, operation data of the indoor unit will be displayed. Skip to step 7.

 When plural indoor units is connected, the smallest address number of indoor unit among all connected indoor unit is displayed.

[Example]:

⊕ SELECT I/U " (blinking 1 seconds)
I/U000 ▲ " blinking.

- Select the indoor unit number you would like to have data displayed with the
 button.
- Determine the indoor unit number with the (SET) button.

(The indoor unit number changes from

blinking indication to continuous indication) If 1000 $\,$ " (The address of selected indoor unit is blinking for 2 seconds.)

rediffici		Data Item			
01	*	(Ope ration Mode)			
02	SET TEMPc	(Set Temperature)			
03	RETURN AIR℃	(Return Air Temperature)			
04	@SENSORc	(Remote Controller ThermistorTemperature)			
05	THI-R1c	(Indoor Unit Heat Exchanger Thermistor / U Bend)			
06	THI-R2c	(Indoor Unit Heat Exchanger Thermistor /Capillary)			
07	THI-R36	(Indoor Unit Heat Exchanger Thermistor /Gas Header)			
08	I/U FANSPEED	(Indoor Unit Fan Speed)			
09	DEMANDHz	(Frequency Requirements)			
10	ANSWERHz	(Response Frequency)			
11	I/U EEVP	(Pulse of Indoor Unit Expansion Value)			
12	TOTAL I/U RUN	_H (Total Running Hours of The Indoor Unit)			
21	OUTDOORc	(Outdoor Air Temperature)			
22	THO-R1°c	(Outdoor Unit Heat Exchanger Thermistor)			
23	THO-R2c	(Outdoor Unit Heat Exchanger Thermistor)			
24	COMPHz	(Compressor Frequency)			
25	HPMPa	(High Pressure)			
26	LPMPa	(Low Pressure)			
27	Tdc	(Discharge Pipe Temperature)			
28	COMP BOTTOM_&	(Comp Bottom Temperature)			
29	CTAMP	(Current)			
30	TARGET SH6	(Target Super Heat)			
31	SHtc	(Super Heat)			
32	TDSHc	(Discharge Pipe Super Heat)			
33	PROTECTION No	(Protection State No. of The Compressor)			
34	O/U FANSPEED	(Outdoor Unit Fan Speed)			
35	63H1	(63H1 On/Off)			
36	DEFROST	(Defrost Control On/Off)			
37	TOTAL COMP RUN_	H (Total Running Hours of The Compressor)			
38	0/U EEV 1P	(Pulse of The Outdoor Unit Expansion Valve EEVC)			
39	0/U EEV2P	(Pulse of The Outdoor Unit Expansion Valve EEVH)			
*/D	P 11 2				

**Depending on outdoor unit model, there are data not shown

DATA LOADING " (A blinking indication appears while data loaded.)

Next, the operation data of the indoor unit is indicated.

7. Upon operation of the 🛕 🔻 button, the current operation data is displayed in order from data number 01.

The items displayed are in the above table.

XDepending on models, the items that do not have $\underline{\text{corresponding}}$ data are not displayed.

- 8. To display the data of a different indoor unit, press the AIR CON NO. button, which allows you to go back to the indoor unit selection screen.
- 9. Pressing the ON/OFF button will stop displaying data.

Pressing the (RESET) button during remote control unit operation will undo your last operation and allow you to go back to the previous screen.

Off two (2) remote controllers are connected to one (1) inside unit, only the master controller is available for trial operation and confirmation of operation data. (The slave remote controller is not available.)

Trail operation of drain pump

Drain pump operation from remote control unit is possible. Operate a remote control unit by following the steps described below.

1. To start a forced drain pump operation.

①Press the TEST button for three seconds or longer.

The display will change " ‡ TEST RUN ▼ "

②Press the ▼ button once and cause " DRAIN PUMP ♦ " to be displayed.

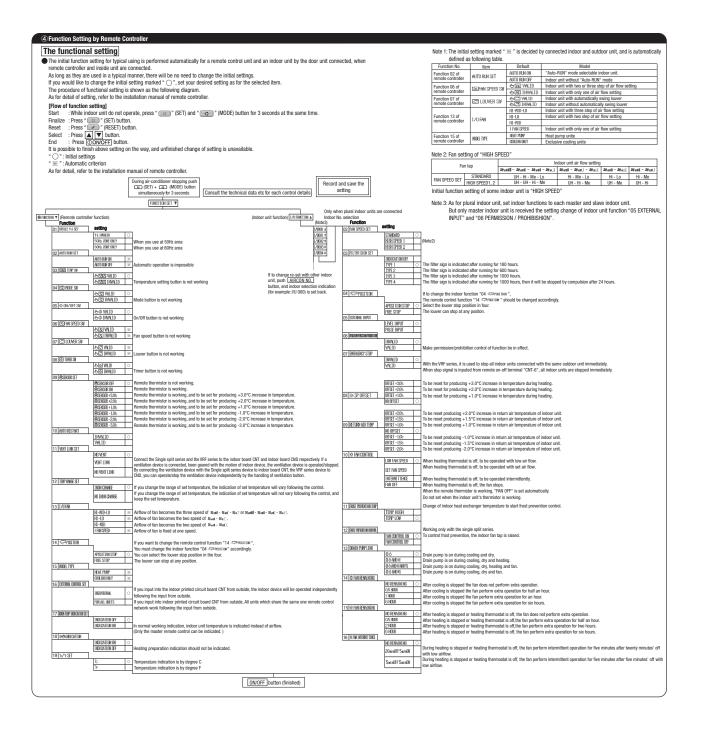
(SET) button is pressed, a drain pump operation will start.

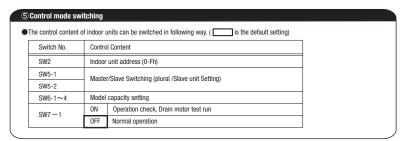
Display: " ⊕ ☑ TO STOP "

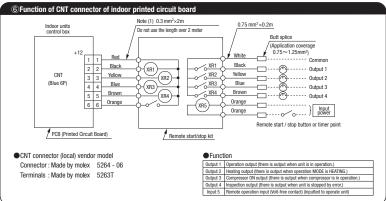
To cancel a drain pump operation.

①If either ② (SET) or ③ON/OFF button is pressed, a forced drain pump operation will stop. The air conditioning system will become OFF.

(a) If two (2) remote controllers are connected to one (1) inside unit, only the master controller is available for trial operation and confirmation of operation data. (The slave remote controller is not available.)







Out Out Out	Function Iput 1 Operation out Iput 2 Heating output Iput 3 Compressor 0 Iput 4 Inspection out	put (there is output whe of (there is output when on output (there is outp	operation MODE is HEATING.)
Out Out Out	Function Iput 1 Operation out Iput 2 Heating output Iput 3 Compressor 0 Iput 4 Inspection out	ut (there is output when ON output (there is outp	operation MODE is HEATING.)
Out Out Out	tput 1 Operation out tput 2 Heating output tput 3 Compressor 0 tput 4 Inspection out	ut (there is output when ON output (there is outp	operation MODE is HEATING.)
Out Out Out	tput 1 Operation out tput 2 Heating output tput 3 Compressor 0 tput 4 Inspection out	ut (there is output when ON output (there is outp	operation MODE is HEATING.)
Out Out	tput 2 Heating output tput 3 Compressor 0 tput 4 Inspection out	ut (there is output when ON output (there is outp	operation MODE is HEATING.)
Out Out	tput 3 Compressor 0 tput 4 Inspection out	ON output (there is outp	
			ut when compressor is in operation.)
Inp			en unit is stopped by error.)
	out 5 Remote opera	tion input (Volt-free cor	ntact) (Inputted to operate unit)
rror Co	ide of indoor	unit	
isplay on	LED on indoor	r circuit board	
remote -	red (checking)	green (normal)	Content
	Off	Continuous blinking	Normal
Off	Off	Off	Fault on power, indoor power off or lack phase
E1	Off	Continuous blinking	Fault on the transmission between indoor circuit board and remote control
	Not sure	Not sure	Indoor computer abnormal
			Fault on outdoor-indoor transmission Indoor heat exchange sensor interrupter
-	-	-	short-circuit Indoor air inhaling sensor broken or
_	-		short-circuit The temperature of heat exchange
		-	abnormal
			Float SW actions (only with FS) Excess number of remote controller
			connections The communication fault for master/slar
-	-		indoor units
			Fan motor abnormal Configuration fault on running checking
			model
			Remote controller sensor interrupted Outdoor unit checking (outdoor circuit bo
over E30	Off	Continuous blinking	LED checking)
the 📥	button.		
r 2 secon	ıds.)		
laved for	3 seconds and a	ddress of indoor	nit is displayed.
. ,			
are not di	splayed.		
un			r unit alaction oc
n which	allows you to go	hack to the indoor	
n, which	allows you to go	back to the indoo.	unii siection screen.
rill undo y	your last operation	on and allow you	r unit slection screen. to go back to the previous scre tion and confirmation of operation
is record	pisping on memorial m	play on index interest in the play on index interest in the play on index in the play of t	emote introlete red (checking) green (normal) red (checking) green (normal) off off off off off off off off off of

(2) FDU200, 250 Series

PSB012D999

Electrical wiring work must be performed by an electrician qualified by a local power provider according to the electrical installation technical standards and interior wiring regulations applicable to the installation site

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, [AWARNING] and ACAUTION.

AWARNING: Wrong installation would cause serious consequences such as injuries or death. ACAUTION: Wrong installation might cause serious consequences depending on circumstances. Both mentions the important items to protect your health and safety so strictly follow them by any means

- The meanings of "Marks" used here are as shown on the right:
- Never do it under any circumstances. Always do it according to the instruction.
- Accord with following items. Otherwise, there will be the risks of electric shock and fire caused by overheating or short circuit.

↑ WARNING

- Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.
- Power source with insufficient capacity and improper work can cause electric shock and fire
- Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal. Loose connections or hold could result in abnormal heat generation or fire.
- Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel property. Improper fitting may cause abnormal heat and fire.
- •Use the genuine optional parts, And installation should be performed by a
- specialist.
 If you install the unit by yourself, it could cause water leakage, electric shock and fire
- Do not repair by yourself. And consult with the dealer about repair. Improper repair may cause water leakage, electric shock or fire
- Consult the dealer or a specialist about removal of the air conditioner. Improper installation may cause water leakage, electric shock or fire
- Turn off the power source during servicing or inspection work. If the power is supplied during servicing or inspection work, it could cause electric
- shock and injury by the operating fan. Shut off the power before electrical wiring work.
- It could cause electric shock, unit failure and improper running.

△CAUTION

- Perform earth wiring surely.
- Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth 4 wiring. Improper earth could cause unit failure and electric shock due to a short circuit.
- Earth leakage breaker must be installed
- If the earth leakage breaker is not installed, it can cause electric shocks
- Make sure to install earth leakage breaker on power source line. (countermeasure thing to high harmonics.) Absence of breaker could cause electric shock
- Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.
 Using the incorrect one could cause the system failure and fire
- Do not use any materials other than a fuse of correct capacity where a fuse
- Connecting the circuit by wire or copper wire could cause unit failure and fire.
- Use power source line of correct capacity. Using incorrect capacity one could cause electric leak, abnormal heat generation and fire.
- Do not mingle solid cord and stranded cord on power source and signal side terminal block In addition, do not mingle difference capacity solid or stranded cord. Inappropriate cord setting could cause loosing screw on terminal block, bad electrical
- Do not turn off the power source immediately after stopping the operation.
- Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or
- Do not control the operation with the circuit breaker.

 It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury.

Control mode switching The control content of indoor units can be switched in following way. (is the default setting) Switch No. Control Content SW2 Indoor unit address (0-Fh) SW5-1 Master/Slave Switching (plural /Slave unit Setting) SW5-2 Model capacity setting SW6-1~4 ON Operation check, Drain motor test run SW7 - 1 0FF Normal operation

1 Electrical Wiring Connection

- Electrical wiring work must be performed by an electlician an qualified by a local power provider. These wiring specifications are determined on the assumption that the following instructions are observed:

 - (3) Do not use cords other than coper ones.

 Do not use any supply line lighter than one specified in parentheses for each type below.

 -braided cord (code designation 60245 (EC 51), if allowed in the relevant part 2;

 -ordinary tough rubber sheathed cord (code designation 60245 EC 53);

 -latt bwin insect cord (code designation 60227 EC 61);

 -ordinary polyvinyl chloride sheathed cord (code designation 60227 EC 53);
- 2 Connect the power supply to the outdoor unit.

 3 Pay extra attention so as not to confuse signal line and power source line connection, because an error in their connection can be burn all the boards at once.
- Screw the line to terminal block without any looseness, certainly
- Do not turn on the switch of power source, before all of line work is done.
- Provide a dedicated branching circuit and never share a branching circuit with other equipment. If shared, disconnection at the circuit breaker may occur, which can cause secondary damage.
- Use three-core cable as wiring between indoor and outdoor unit. As for detail, refer to 'INSTALLATION MANUAL" of outdoor Unit.
- Set earth of D-type.

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 Do not add cord in the middle of line (of indoor power source, remote controller and signal) route on outside of unit. If connecting point is flooded, it could cause problem as for electric or communication.

(In the case that it is necessary to set connecting point on the signal line way, perform thorough waterproof measurement.)

- Run the lines (power source, remote controller and "between indoor and outdoor unit") upper ceiling through iron pipe or other tube protection to avoid the damage by mouse and so on.
- Keen "remote controller line" and "power source line" away from each other on constructing
- Do not connect the power source line [220V/240V/380V/415V] to signal side terminal block.
- Otherwise, it could cause failure.
- Connection of the line ("Between indoor and outdoor unit", Earth and Remote controller) Onnection of the line ("Between indoor and outdoor unit"), Earth and Remote controller)

 Nemowe lid of control box before connect the above lines, and connect the lines to terminal block according to number pointed on table of terminal block.
 In addition, pay enough attention to confirm the number to lines, because there is electrical polarity except earth line.
 Furthermore, connect earth line to earth position of terminal block of power source.

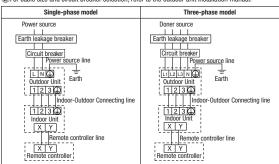
 It is a learth leakage breaker on power source line. In addition, select the type of breaker for inverter circuit as earth leakage breaker is only for earth-leaful protection, hand switch (switch listed and type "8" fuse) or circuit breaker is required in series with the earth leakage breaker.

 It is install isolator of scionnect switch on the power supply winking in accordance with the local codes and regulations.

 The isolator should be set in the box with key to prevent touching by another person when servicing.

Cable connection for single unit installation

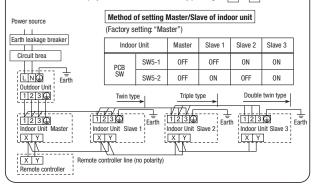
- ①As for connecting method of power source, select from following connecting patterns. In principle, do not directly connect power souce line to inside unit.
- *As for exceptional connecting method of power souce, discuss with the power provider of the country with referring to technical documents, and follow its instruction.
- 2) For cable size and circuit breaker selection, refer to the outdoor unit installation manual.



Cable connection for a V multi configuration installation

- ①Connect the same pairs number of terminal block "①, ②, and ③"and " X and Y " between master and slave indoor units.
- ②Do the same address setting of all inside units belong to same refrigerant system by rotary switch SW2 on indoor unit's PCB (Printed circuit board).

 ③Set slave indoor unit as "slave 1" through "slave 3" by address switch SW5-1, 5-2 on PCB.
- When the ARCONNO. button on the remote control unit is pressed after turning on the power, an indoor unit's address number will be displayed. Do not fail to confirm that the connected indoor unit's numbers are displayed on the remote control unit by pressing the 🛕 or 🔻 button.



2 Remote Control, Wiring and functions

- DO NOT install it on the following places
- ①Places exposed to direct sunlight
- 2 Places near heat devices
- 3High humidity places
- 4)Hot surface or cold surface enough to generate condensation
- ⑤Places exposed to oil mist or steam directly.
- (6)Uneven surface

Installation and wiring of remote controller

①Install remote controller referring to the attached installation manual.

②Wiring of remote controller should use 0.3mm² ×2 core wires or cables. The insulation thickness is 1mm or more. (on-site configuration)

3 Maximum prolongation of remote control wiring is 600 m.

If the prolongation is over 100m, change to the size below.

But, wiring in the remote controller case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

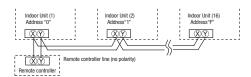
- Avoid using multi-core cables to prevent malfunction.
- ⑤Keep remote controller line away from earth (frame or any metal of building).
- ⑥Make sure to connect remote controller line to the remote controller and terminal block of indoor unit. (No polarity)

Control plural indoor units by a single remote controller.

①A remote controller can control plural indoor units (Up to 16).

In above setting, all plural indoor units will operate under same mode and temperature setting. ②Connect all indoor units with 2 core remote controller line.

③Set unique remote control communication address from "0" to "F" to each inside unit by the rotary switch SW2 on the indoor unit's PCB.



Master/ slave setting when more than one remote control unit are used

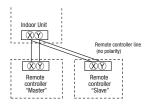
A maximum of two remote control units can be connected to one indoor unit (or one group of indoor units.)

The air conditioner operation follows the last operation of the remote controller regardless of the master/slave setting of it.

Acceptable combination is "two (2) wired remote controllers", "one (1) wired remote controller and one (1) wireless kit" or "two (2) wireless kits".

Set one to "Master" and the other to "Slave".

Note:The setting "Remote control unit sensor enabled" is only selectable with the master remote control unit in the position where you want to check room temperature.



$\ensuremath{\mathfrak{3}}$ Operation and confirmation from remote controller

Operation from RC-EX1A

Operation from RC-E4, RC-E5

Check the number of units connected in the remote control system.
 It checks sub units of twin, triple or W-twin connection.

'Menu"⇒"Next"⇒"Service & Maintenance"⇒ 'Input password"⇒"IU address" Press AIR CON NO button to display the IU address. Press the ▼or Abutton and check addresses of connected indoor units one by one.

2 Check if each unit is connected properly in the remote control system. It cannot check main and sub units of twin, triple or W-twin connection.

When the operation is stopped, "Menu"⇒
"Next"⇒"Service & Maintenance"⇒
"Input password"⇒"IU address"⇒"check run mode"

If AIR CON NO. button is pressed when the operation is stopped, the indoor unit address is displayed. If you select one of addresses for connected indoor units by pressing the 🔽 or 🛦 button and press the 🕡 (MODE) button, the unit starts to blow a

3 Setting main/slave remote controllers

"Menu" ⇒ "Next" ⇒ "R/C function settings" ⇒
"Input password" ⇒ "Main/Sub of R/C"

Set SW1 to "Slave" for the slave remote control unit

4 Checking operation data

"Menu" ⇒ "Next" ⇒ "Service & Maintenance" = "Input password" ⇒ "Operation data"

Press the (□HECK) button. ⇒ "(PRRANTA v" is displayed. ⇒ Press the □□ (SET) button. ⇒ "MRANTAN is displayed. ⇒ "Press the "\(^2\) SEBIJI III button. ⇒ "Select one of addresses for connected indoor units by pressing the \(^2\) or \(^2\) button. ⇒ "Press the □□ (SET) button. ⇒ "NINTANDINTA" is displayed. ⇒ Select data by pressing the \(^2\) or \(^2\) button.

5 Checking inspection display

"Menu"⇒"Next"⇒"Service & Maintenance"⇒
"Input password"⇒"Inspection display"

Press the CHECK button. ⇒ ▼ button. ⇒
ERR DATA. ⇒ Press the ⑤ (SET) button. ⇒
"DATA LOADING" is displayed. ⇒ Data.

6 Cooling test run from remote controller

"Menu" ⇒ "Next" ⇒ "Installation settings" ⇒
"Input password" ⇒ "Test run" ⇒
"Cooling test run" ⇒ "Start"

13 Start the system by pressing the [GONOFE] button.
(2 Select * g. (Cool)* with the [GONOFE] button.
(3 Press the [TEST] button for 3 seconds or longer.
The screen display will swint but \$\text{STS} \text{ IN } \nabla \text{ V}\$
(4 When the [GOO] (SET) button is pressed while * \nabla \text{ TEST } \text{ IN } \nabla \text{ V}\$
is indicated, a cooling test run will start.
The screen display will switch \nabla \text{TEST } \text{ IN } \nabla \text{ V}

7 Trial operation of drain pump from remote controller

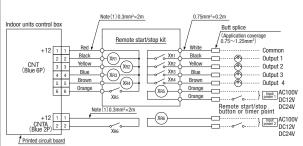
"Menu"⇒"Next"⇒"Installation settings"⇒
"Input password"⇒"Test run"⇒
"Drain pump test run"⇒"Run"

(1) Press the TEST button for three seconds or longer.
The display will change * © TIST RNI ▼ *

2 Press the ▼] button once and cause * (6/NIH PUP * * to be displayed.

3 When the □ SET button is pressed, a drain pump operation will start. Display: * → (2) 10 STIP *

$\ensuremath{\textcircled{4}}$ Function of CNT connector of indoor printed circuit board



Note (1): Do not use the length over 2 meter

●CNT connector (local) vendor model Connector : Made by molex 5264-06 Terminals : Made by molex 5263 T

Function

Output 1	Air condi	Air conditioner operation output (When the air conditioner ON: XR1 = ON)			
Output 2	Heating of	output			
Output 3	Thermos	hermostat ON output (When the thermostat ON: XR3 = ON)			
Output 4	Air condi	tioner check ON (When checking air conditioner: XR4 = ON)			
	At shipping	XR5 OFF ⇒ ON: Air conditioner operates.			
Input		X _{R5} ON ⇒ OFF: Air conditioner stops.			
	*Functions and controls may vary depending on the switching at site.				
		X_{R6} OFF \Rightarrow ON: Air conditioner operates.			
Input 2 (FDT etc.)		X _{R6} ON ⇒ OFF: Air conditioner stops.			
(1 D1 616.)	*Function	ns and controls may vary depending on the switching at site.			

* Refer to I/U settings.

CNTA connector is installed on FDT, etc. Refer to the spec. drawings.

CNTA connector (local) yender model.

CNTA connector (local) vendor model Connector: Made by JST XAP02V-1-E Terminals: Made by JST SXA-01T-P0.6

© Operation and setting from remote controller

- A: Refer to the instruction manual for RC-EX series.
 B: Refer to the installation manual for RC-EX series.
 C: Loading a utility software vie Internet

 O: Nearly same function setting and operations are possible.

Setting & display item	Description	RC-EX series	
Remote Controller network		1	Ť
Control plural indoor units by a single remote controller	A remote controller can control plural indoor units up to 16 (in one group of remote controller network). An address is set to each indoor unit.	0	
Master/slave setting of remote controllers	A maximum of two remote controllers (include option wireless) can be connected to one indoor unit. Set one to "Master" and the other to "Slave".	В	
OP screen, Switch manipulation		Α	T
Menu	"Control", "Settings", or "Details" can be selected. (319.)	Α	Τ
Operation mode	"Cooling", "Heating", "Fan", "Dry" or "Auto" can be set.	Α	Ι
Set temp.	"Set temperature" can be set by 0.5°C interval.	Α	Τ
Air flow direction	"Air flow direction". [Individual flap control setting] can be set.	Α	Т
Fan speed	"Fan speed" can be set.	Α	Γ
Timer setting	"Timer operation" can be set.	Α	I
ON/OFF	"On/Off operation of the system" can be done.	Α	
High power SW	"High power operation" or "Normal operation" can be selected.	Α	
Energy-saving SW	"Energy-saving operation" or "Normal operation" can be selected.	Α	\perp
Energy-saving settin		Α	
Auto OFF timer [Administrator password]	For preventing the timer from keeping ON, set hours to stop operation automatically with this timer. -The selectable range of setting time is from 30 to 240 minutes (10minutes interval) -When setting is "Valid", this timer will activate whenever the ON timer is set.	А	
Peak-cut timer [Administrator password]	Power consumption can be reduced by restricting the maximum capacity. Set the [Start time], the [End time] and the capacity limit % (Peak-cut %). -4-operation patterns per day can be set at maximum. -The setting time can be changed by 5-minutes interval. -The selectable range of capacity limit % (Peak-cut %) is from 0% to 40-80% (20% interval). -Holiday setting is available.	А	
Automatic temp. set back [Administrator password]	After the elapse of the set time period, the current set temp. will be set back to the [Set back temp.] -The setting can be done in cooling and heating mode respectively. -The selectable range of the set time is from 20 min. to 120 min. (10 min. interval). -Set the [Set back temp.] by 1°C interval.	А	
ndividual flap control setting	oct are [oct addr. tamp.] by . C. marran	A	$^{+}$
Individual flap control setting	The moving range (the positions of upper limit and lower limit) of the flap for individual air outlet port can be set.	A	1
rentilation	The moving range (the positions or upper limit and lower limit) of the hap for movindarian outlet port can be set.	_ A	+
External ventilation (In combination with ventilator)	On/Off operation of the external ventilator can be done. -The settings of [Interlock] with AC (air-conditioner), [Single operation] of ventilator or operation [invalid] of ventilation can be done through [Ventilation settings] in the [Remote controller] menu.	А	
ilter sign reset		Α	Т
Filter sign reset	The filter sign can be reset.	В	Τ
Setting next cleaning date	The next cleaning date can be set.	Α	T
nitial settings			t
Clock setting	The current date and time can be set or revised.	Α	T
Date and time display	[Display] or [Hide] the date and/or time can be set, and the [12H] or [24H] display can be set.	Α	T
Summer time	When select [Valid], the +1hour adjustment of current time can be set. When select [Invalid], the [Summer time] adjustment can be reset.	Α	T
Contrast	The contrast of LCD can be adjusted higher or lower.	Α	T
Backlight	Switching on/off a light can be set and the period of the lighting time can be set within the range of 5sec-90sec (5sec interval).	Α	T
Controller sound	It can set with or without [Controller sound (beep sound)] at touching panel.	Α	Т
imer settings		Α	Т
Set On timer by hour	The period of time to start operation after stopping can be set. -The period of set time can be set within the range of 1hour-12hours (1hr interval). -The operation mode, set temp and fan speed at starting operation can be set.	А	
Set Off timer by hour	The period of time to stop operation after starting can be set. -The period of set time can be set within the range of 1hour-12hours (1hr interval).	А	
B Set On timer by clock	The clock time to start operation can be set. -The set clock time can be set by 5 minutes interval. -[Once (one time only)] or [Everyday] operation can be switched. -The operation mode, set temp and fan speed at starting operation can be set.	А	
Set Off timer by clock	The clock time to stop operation can be set. -The set clock time can be set by 5 minutes interval. -[Once (one time only)] or [Everyday] operation can be switched.	А	
Confirmation of timer settings	Status of timer settings can be seen.	Α	\top
eekly timer			T
Weekly timer [Administrator password]	On timer and Off timer on weekly basis can be set. -8-operation patterns per day can be set at a maximum. -The setting clock time can be set by 5 minutes interval. -Holiday setting is available. -The operation mode, set temp and fan speed at starting operation can be set.	А	
Homo loguo modo	g -p		\vdash
Home leave mode [Administrator password]	When leaving home for a long period like a vacation leave, the unit can be operated to maintain the room temperature not to be hotter in summer or not to be colder in winter. -The judgment to switch the operation mode (Cooling⇔Heating) is done by the both factors of the set temp. and outdoor air temp. -The set temp, and fan speed can be set.	A	

	Setting & display item	Description	RC-EX	
Δ	dministrator settings	[Administrator password]	series A	RC
	Enable/Disable setting	*Enable/Disable setting of operation can be set. [On/Off] [Change set temp.] [Change operation mode] [Change air flow direction]	A	+
۱'	Litable/Disable setting	[Individual flap control setting][Fan speed] [High power operation] [Energy-saving operation] [Timer settings] [Weekly timer setting]	A	_
		Request for administrator password can be set. [Individual flap control setting] [Weekly timer] [Energy-saving setting] [Home leave mode] [Administrator settings]	l '`	~
2	Silent mode timer	The period of time to operate the outdoor unit by prioritizing the quietness can be set.		†
		•The [Start time] and the [End time] for operating outdoor unit in silent mode can be set. •The period of the operation time can be set once a day by 5 minutes interval.	Α	4
3	Setting temp. range	The upper/lower limit of indoor temp, setting range can be set.		
		•The limitation of indoor temp. setting range can be set for each operation mode in cooling and heating.	Α	4
4 [Temp. increment setting	The temp increment setting can be changed by 0.5°C or 1.0°C.	Α	
5	RC display setting	Register [Room name] [Name of I/U]		
		Display [indoor temp.] or not.	Α	
		Display [inspection code] or not. Display [Heating stand-by] [Defrost operation] [Auto cooling/heating] or not	' '	
_				1
6	Change administrator password	The administrator password can be changed. (Default setting is "0000")	A	4
	atallar astinas	The administrator password can be reset.	В	+
	staller settings	[Service password]	В	+
1	Installation date	The [Installation date] can be registeredWhen registering the [Installation date], the [Next service date] is displayed automatically. (For changing the [Next service date], please refer the item of [Service & Maintenance].)	В	
2	Service contact	The [Service contact] can be registered and can be displayed on the RC.		+
۱ ٔ	Service contact	•The [Contact company] can be registered within 10 characters. •The [Contact phone] can be registered within 13 digits.	В	
3	Test run	On/Off operation of the test run can be done.		+
-	Cooling test run	The [Cooling test run] can be done at 5°C of set temp. for 30 minutes.		
	Drain pump test run	Only the drain pump can be operated.	В	
		The [Test run] operation can be done with fixed compressor Hz set by installer.	1	
4	Static pressure adjustment	In case of combination with only the ducted indoor unit which has a function of static pressure adjustment, the static pressure is adjustable.	В	
- 1	Change auto-address	The set address of each indoor unit decided by auto-address setting method can be changed to any other address. (For multiple KX units only)	В	
6	Address setting of Main IU	Main indoor unit address can be set.		
		•Only the Main indoor unit can change operation mode and the Sub indoor units dominated by the Main indoor unit shall follow.	В	4
	2 6 11 111	•The Main indoor unit can domain 10 indoor units at a maximum.	_	+
r	C function settings	[Service password]	В	1
. 1	Main/Sub RC setting RC sensor	The setting of [Main/Sub RC] can be changed.	В	1
2		The offset value of [RC sensor] sensing temp. can be set respectively in heating and cooling.	В	-
3	9 RC sensor adjustment	The offset value of [RC sensor] sensing temp. can be set respectively in heating and cooling. The setting range of offset value is ±3°C both in cooling and heating.	В	4
	12 Operation mode	The [Valid/Invalid] setting of [Auto][Cooling][Heating] and [Dry] can be done respectively.	В	1
- 1	13 Fan speed	The setting of [Fan speed] can be done from following patterns. •1-speed, 2-speeds (Hi-Me), 2-speeds (Hi-Lo), 3-speeds, 4-speeds.	В	
٦	14 External input	The applicable range ([Individual] or [All units]) of CnT input to the multiple indoor units connected in one control system.		
6	T External input	- [Individual] : Only the unit received CnT input signal - [All units] : All the units connected to one control system received CnT input signal.	В	
- 1	15 Ventilation setting	The setting of [Invalid] operation of ventilator, [Interlock] with AC or [Independent] of ventilator can be selected.		Τ,
	v	When setting [Interlock], the operation of external ventilator is interlocked with the operation of AC •When setting [Independent], only the operation of external ventilator is available.	В	
8	16 Flap control	The [Flap control] method can be switched to [Stop at fixed position] or [Stop at any position] - [Stop at fixed position] : Stop the flap at a certain position	В	
		among the designated 4 positions. •[Stop at any position]: Stop the flap at any arbitrary position just after the stopping command from RC was sent.		
	17 Auto-restart	The operation control method after recovery of power blackout happened during operation can be set.	В	
- 1	18 Auto temp. setting	[Valid] or [Invalid] of [Auto temp. setting] can be selected.	В	+
_	19 Auto fan speed setting	[Valid] or [Invalid] of [Auto fan speed setting] can be selected.	В	+
	U settings	[Service password]	В	+
- 1	High ceiling	The fan tap of indoor fan can be changed. •[Standard] [High ceiling 1] [High ceiling 2] can be selected.	В	(
ŀ	Filter sign	The setting of filter sign display timer can be done from following patterns.	В	
- 1	External input 1	The content of control by external input can be changed. The selectable contents of control are [On/Off] [Permission/Prohibition] [Cooling/heating] [Emergency stop]	B B	
1	External input 1 signal	The type of external input signal ([Level input]/[Pulse input]) can be changed.	_	+
- 1	External input 2 External input 2 signal	-The selectable contents of control are [On/Off] [Permission/Prohibition] [Cooling/heating] [Emergency stop] The type of external input signal ([Level input]/[Pulse input]) can be changed.	B B	+
: h		The type of external input signal ([Level input/]/Pulse input/) can be changed. The judgment temp. of heating thermo-off can be adjusted within the range from 0 to +3°C (1°C interval)	В	_
	Return air sensor adjust.	The sensing temp, of return air temp, sensor built in the indoor unit can be adjusted within the range of ±2°C.	В	1
		The sensing temp, or return air temp, sensor built in the indoor unit can be adjusted within the range of ±2 C. The fan control method at heating thermo-off can be changed. The selectable fan control methods are [Low] [Set fan speed] [Intermittent] [Stop].	В	1
_ H	Anti-frost temp.	The judgment temp. of anti-frost control for the indoor unit in cooling can be changed to [Temp. High] or [Temp. Low].	В	
ı	Anti-frost control	When the anti-frost control of indoor unit in cooling can be changed to premp. Highly or premp. Lowy.	В	
- 1	Drain pump operation	In any operation mode in addition to cooling and dry mode, the setting of drain pump operation can be done.	В	
ŀ		The time period of residual fan operation after stopping or thermo-off in cooling mode can be set.	В	
		The time period of residual fan operation after stopping or thermo-off in locoting mode can be set. The time period of residual fan operation after stopping or thermo-off in heating mode can be set.	В	
- 1		The fan operation rule following the residual fan operation after stopping or thermo-off in heating mode can be set.	В	
- 1	Fan circulator operation	In case that the fan is operated as the circulator, the fan control rule can be set.	В	+
- 1	· · · · · · · · · · · · · · · · · · ·	When only the OA processing units are operated, control pressure value can be changed.	В	
- 1	Auto operation mode	The [Auto rule selection] for switching the operation mode automatically can be selected from 3 patterns.	В	Ť
- 1	Thermo. rule setting	When selecting [Outdoor air temp. control], the judgment temp can be offset by outdoor temp	В	T
- 1	Auto fan speed control	Under the [Auto fan speed control] mode, the switching range of fan speed can be selected from following 2 patterns [Auto 1] [Auto 2]. •[Auto 1] : Hi ⇔Me⇔Lo•[Auto 2] : P-hi⇔Hi⇔Me⇔Lo	В	\top
	ervice & Maintenance	[Service password]	В	\top
	IU address No.	Max. 16 indoor units can be connected to one remote controller, and all address No. of the connected indoor units can be displayed.		1
		•The indoor unit conforming to the address No. can be identified by selecting the address No. and tapping [Check] to operate the indoor fan.	В	
	Next service date	The [Next service date] can be registered. The [Next service date] and [Service contact] is displayed on the [Periodical check] message screen.	AB	\perp
- 1	Operation data	Total 39 items of [Operation data] for indoor unit and outdoor unit can be displayed.	В	
4	Error history	[Date and time of error occurred] [I/U address] [Error code] for Max. 16 latest cases of error history can be displayed.	В	
Ì	Display anomaly data	The operation data just before the latest error stop can be displayed.	В	I
-	Reset periodical check	The timer for the periodical check can be reset.	В	(
5	Saving I/U settings	The I/U settings memorized in the indoor PCB connected to the remote controller can be saved in the memory of the remote controller.	В	
6	Special settings	[Erase I/U address] [CPU reset] [Initializing] [Touch panel calibration]	В	
.In	spection		Α	
		The address No. of anomalous indexyloudders unit and array and are displayed	l ^A	
	Confirmation of Inspection	The address No, of anomalous indoor/outdoor unit and error code are displayed.	l	

(8) FDUM Series

Electrical wiring work must be performed by an electrician qualified by a local power provider according to the electrical installation technical standards and interior wiring regulations applicable to the installation site

Security instructions

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, △WARNING and ACAUTION .

AWARNING: Wrong installation would cause serious consequences such as injuries or death. ACAUTION: Wrong installation might cause serious consequences depending on circumstances. Both mentions the important items to protect your health and safety so strictly follow them by any means.

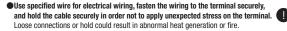
- The meanings of "Marks" used here are as shown on the right:

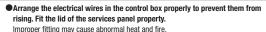
 Never do it under any circumstances. Always do it according to the instruction.
- Accord with following items. Otherwise, there will be the risks of electric shock and fire caused by overheating or short circuit.

*∧***WARNING**

●Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit

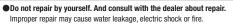
Power source with insufficient capacity and improper work can cause electric shock and fire.





Use the genuine optional parts. And installation should be performed by a

specialist. If you install the unit by yourself, it could cause water leakage, electric shock and fire



Consult the dealer or a specialist about removal of the air conditioner.

Improper installation may cause water leakage, electric shock or fire.

●Turn off the power source during servicing or inspection work If the power is supplied during servicing or inspection work, it could cause electric shock and injury by the operating fan.

Shut off the power before electrical wiring work.

It could cause electric shock, unit failure and improper running.

^CAUTION

Perform earth wiring surely.

Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth wiring. Improper earth could cause unit failure and electric shock or fire due to a short circuit.



If the earth leakage breaker is not installed, it could cause electric shocks or fire.

Make sure to install earth leakage breaker on power source line. (countermeasure thing to high harmonics.)

Absence of breaker could cause electric shock.

• Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.

Using the incorrect one could cause the system failure and fire.

Do not use any materials other than a fuse of correct capacity where a fuse should be used

Connecting the circuit by wire or copper wire could cause unit failure and fire.

Use power source line of correct capacity.

Using incorrect capacity one could cause electric leak, abnormal heat generation and fire.

Do not mingle solid cord and stranded cord on power source and signal side terminal block.

In addition, do not mingle difference capacity solid or stranded cord. Inappropriate cord setting could cause loosing screw on terminal block, bad electrical

Do not turn off the power source immediately after stopping the operation. Be sure to wait for more than 5 minutes. Otherwise it could cause water leakage or breakdown

Do not control the operation with the circuit breaker. It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury

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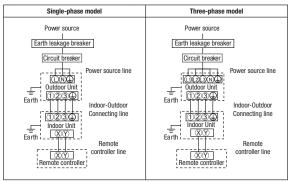
①Electrical Wiring Connection

- Use three-core cable as wiring between indoor and outdoor unit. As for detail, refer to "INSTAL-LATION MANUAL" of outdoor Unit.
- Set earth of D-type.
- Keep "remote controller line" and "power source line" away from each other on constructing of unit outside
- Run the lines (power source, remote controller and "between indoor and outdoor unit") upper ceiling through iron pipe or other tube protection to avoid the damage by mouse and so on.
- Do not add cord in the middle of line route (of power source, remote controller and "between indoor and outdoor unit") on outside of unit. If connecting point is flooded, it could cause problem as for electric or communication. (In the case that it is necessary to set connecting point on the way, perform thorough waterproof measurement.)
- Do not connect the power source line [220V/240V/380V/415V] to signal side terminal block. Otherwise it could cause failure
- Screw the line to terminal block without any looseness, certainly.
- Do not turn on the switch of power source, before all of line work is done.
- Connection of the line ("Between indoor and outdoor unit", Earth and Remote controller) ①Remove lid of control box before connect the above lines, and connect the lines to terminal
- block according to number pointed on label of terminal block. In addition, pay enough attention to confirm the number to lines, because there is electrical
- polarity except earth line. Furthermore, connect earth line to earth position of terminal block of power source.
- 2)Install earth leakage breaker on power source line. In addition, select the type of breaker for inverter circuit as earth leakage breaker.
- 3 If the function of selected earth leakage breaker is only for earth-fault protection, hand switch (switch itself and type "B" fuse) or circuit breaker is required in series with the earth leakage hreaker
- (4) Install isolator or disconnect switch on the power supply wiring in accordance with the local codes and regulations.

The isolator should be set in the box with key to prevent touching by another person when

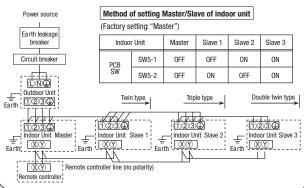
Cable connection for single unit installation

- ①As for connecting method of power source, select from following connecting patterns. In principle, do not directly connect power souce line to inside unit.
 - * As for exceptional connecting method of power source, discuss with the power provider of the country with referring to technical documents, and follow its instruction
- ②For cable size and circuit breaker selection, refer to the outdoor unit installation manual



Cable connection for a V multi configuration installation

- ①Connect the same pairs number of terminal block "①, ②, and ③"and " ② and ⑨" bet master and slave indoor units.
- 2) Do the same address setting of all inside units belong to same refrigerant system by rotary switch SW2 on indoor unit's PCB (Printed circuit board).
- ③Set slave indoor unit as "slave 1" through "slave 3" by address switch SW5-1, 5-2 on PCB. 4When the AIR CON NO. button on the remote control unit is pressed after turning on the power, an
- indoor unit's address number will be displayed. Do not fail to confirm that the connected indoor unit's numbers are displayed on the remote control unit by pressing the \blacktriangle or \blacktriangledown button.



2 Remote Control, Wiring and functions

- DO NOT install it on the following places
- ①Places exposed to direct sunlight
- 2 Places near heat devices
- 3 High humidity places
- 4)Hot surface or cold surface enough to generate condensation
- ⑤Places exposed to oil mist or steam directly.
- 6 Uneven surface

Installation and wiring of remote controller

1) Install remote controller referring to the attached installation manual.

②Wiring of remote controller should use 0.3mm² ×2 core wires or cables.

The insulation thickness is 1mm or more. (on-site configuration)

3) Maximum prolongation of remote control wiring is 600 m. If the prolongation is over 100m, change to the size below.

But, wiring in the remote controller case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

100 - 200m	$0.5 \text{mm}^2 \times 2 \text{ cores}$
Under 300m	$0.75 mm^2 \times 2 cores$
Under 400m	$1.25 mm^2 \times 2 cores$
Under 600m	2.0mm ² × 2 cores

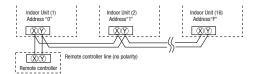
- 4) Avoid using multi-core cables to prevent malfunction.
- ⑤Keep remote controller line away from earth (frame or any metal of building).
- ⑥Make sure to connect remote controller line to the remote controller and terminal block of indoor unit. (No polarity)

Control plural indoor units by a single remote controller.

- ①A remote controller can control plural indoor units (Up to 16).
- In above setting, all plural indoor units will operate under same mode and temperature setting ②Connect all indoor units with 2 core remote controller line.
- ③Set unique remote control communication address from "0" to "F" to each inside unit by the rotary switch SW2 on the indoor unit's PCB.

After a unit is energized, it is possible to display an indoor unit address by pressing

[AIR CON NO.] button on the remote control unit. Press the
a or
button to make sure that all indoor units connected are displayed in order.



Confirming method of indoor units

When indoor unit address number is displayed on remote controller, pushing the \bigcirc (MODE) button to make the indoor unit with that number blow air (Display example:" I/U00| \lessapprox ") Push the \bigcirc (MODE) button again to stop the operation.

However, this operation is invalid on the air-conditioning running.

Master/ slave setting when more than one remote control unit are used

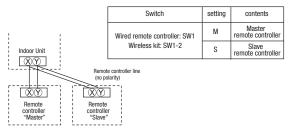
A maximum of two remote control units can be connected to one indoor unit (or one group of indoor units.)

The air conditioner operation follows the last operation of the remote controller regardless of the master/slave setting of it.

Acceptable combination is "two (2) wired remote controllers", "one (1) wired remote controller and one (1) wireless kit" or "two (2) wireless kits".

Set SW1 (wired remote controller) or SW1-2 (wireless kit) to "Slave" for the slave remote control unit. It was factory set to "Master" for shipment.

Note:The setting "Remote control unit sensor enabled" is only selectable with the master remote control unit in the position where you want to check room temperature.



3Trial operation

The method of trial cooling operation

Operate the remote control unit as follows.

- 1. Starting a cooling test run.
- ①Start the system by pressing the ①ON/OFF button.
- ②Select " \$ (Cool)" with the (MODE) button.
- ③Press the TEST button for 3 seconds or longer.

The screen display will switch to: " ‡ TEST RUN ▼ "

The screen display will switch to " A TEST RUN".

2. Ending a cooling test run.

Pressing the OONOFF button, the (TEMP) button or (MODE) button will end a cooling test run. (Cooling test run will end after 30 minutes pass.)

" ☼ TEST RUN " shown on the screen will go off.

Checking operation data

Operation data can be checked with remote control unit operation.

- 1. Press the CHECK button.
- The display change " OPER DATA ▼ '
 2. Press the (SET) button while
- " OPER DATA ▼ " is displayed.
- When only one indoor unit is connected to remote controller, " DATA LDADINO" is displayed (blinking indication during data loading).

Next, operation data of the indoor unit will be displayed. Skip to step 7.

 When plural indoor units is connected, the smallest address number of indoor unit among all connected indoor unit is displayed.

[Example]:

- 5. Select the indoor unit number you would like to have data displayed with the w button.
- Determine the indoor unit number with the O (SET) button.

(The indoor unit number changes from blinking indication to continuous indication)

" I/U000 " (The address of selected indoor unit is blinking for 2 seconds.)

Number		Data Item
01	**	(Operation Mode)
02	SET TEMP &	(Set Temperature)
03	RETURN AIRc	(Return Air Temperature)
04	■SENSOR &	(Remote Controller ThermistorTemperature)
05	THI-R1c	(Indoor Unit Heat Exchanger Thermistor / U Bend)
06	THI-R2c	(Indoor Unit Heat Exchanger Thermistor /Capillary)
07	THI-R3c	(Indoor Unit Heat Exchanger Thermistor /Gas Header)
08	I/U FANSPEED	(Indoor Unit Fan Speed)
09	DEMANDHz	(Frequency Requirements)
10	ANSWER Hz	(Response Frequency)
11	I/U EEVP	(Pulse of Indoor Unit Expansion Value)
12	TOTAL I/U RUN	H (Total Running Hours of The Indoor Unit)
21	OUTDOORc	(Outdoor Air Temperature)
22	THO-R1℃	(Outdoor Unit Heat Exchanger Thermistor)
23	THO-R26	(Outdoor Unit Heat Exchanger Thermistor)
24	COMPHz	(Compressor Frequency)
25	HPMPa	(High Pressure)
26	LPMPa	(Low Pressure)
27	Tdc	(Discharge Pipe Temperature)
28	COMP BOTTOM_6	(Comp Bottom Temperature)
29	CTAMP	(Current)
30	TARGET SH	(Target Super Heat)
31	SH°c	(Super Heat)
32	TDSHc	(Discharge Pipe Super Heat)
33	PROTECTION No	(Protection State No. of The Compressor)
34	O/U FANSPEED	(Outdoor Unit Fan Speed)
35	63H1	(63H1 On/Off)
36	DEFROST	(Defrost Control On/Off)
37	TOTAL COMP RUN_	H (Total Running Hours of The Compressor)
38	0/U EEV1P	(Pulse of The Outdoor Unit Expansion Valve EEVC)
39	0/U EEV2P	(Pulse of The Outdoor Unit Expansion Valve EEVH)
≫Deper	nding on outdoor unit	t model, there are data not shown.

" DATA LOADING " (A blinking indication appears while data loaded.)

Next, the operation data of the indoor unit is indicated.

7. Upon operation of the 🛕 🔻 button, the current operation data is displayed in order from data number 01.

The items displayed are in the above table.

*Depending on models, the items that do not have corresponding data are not displayed.

- 8. To display the data of a different indoor unit, press the AIR CON NO. button, which allows you to go back to the indoor unit selection screen.
- 9. Pressing the ①ON/OFF button will stop displaying data.

Pressing the (RESET) button during remote control unit operation will undo your last operation and allow you to go back to the previous screen.

Off two (2) remote controllers are connected to one (1) inside unit, only the master controller is available for trial operation and confirmation of operation data. (The slave remote controller is not available.)

Trail operation of drain pump

Drain pump operation from remote control unit is possible. Operate a remote control unit by following the steps described below.

To start a forced drain pump operation.

①Press the TEST button for three seconds or longer.

The display will change " ♯ TEST RUN ▼ '

②Press the ▼ button once and cause " DRAIN PUMP ♦ " to be displayed.

③When the (SET) button is pressed, a drain pump operation will start.

Display: " (TO STOP "

2. To cancel a drain pump operation.

①If either ③ (SET) or ③ON/OFF button is pressed, a forced drain pump operation will stop. The air conditioning system will become OFF.

Off two (2) remote controllers are connected to one (1) inside unit, only the master controller is available for trial operation and confirmation of operation data. (The slave remote controller is not available.)

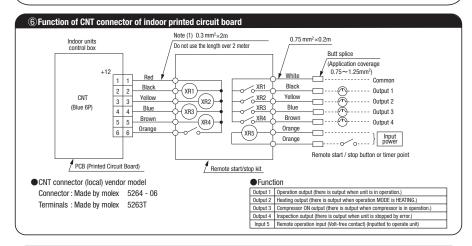
4 Function Setting by Remote Controller

Refer to page 246.

⑤ Control mode switching

●The control content of indoor units can be switched in following way. (______ is the default setting)

Switch No.	Contro	Control Content		
SW2	Indoor	unit address (0-Fh)		
SW5-1	Maste	Master/Slave Switching (plural /Slave unit Setting)		
SW5-2	Master/olave ownerling (planar/olave unit octaing)			
SW6-1~4	Model capacity setting			
SW7 — 1	ON	Operation check, Drain motor test run		
5W7 1	0FF	Normal operation		



7Troubleshooting

The operation data is saved when the situation of abnormal operation happen, and the data can be confirmed by remote controller

[Operating procedure]

1. Press the CHECK button.

- 4

The display change " OPER DATA ▼ " 2. Once, press the button, and the display change FRROR DATA

3. Press the (SET) button and abnormal operation data mode is started.

 ${\bf 4}.$ When only one indoor unit is connected to remote controller, following is displayed.

1) The case that there is history of abnormal operation.

→ Error code and " DATA LOADING" is displayed. [Example]: [E8] (ERROR CODE)

"DATA LOADING" is displayed (blinking indication during data loading). Next, the abnormal operation data of the indoor unit will be displayed. Skip to step 8.

2)The case that there is not history of abnormal operation.

→ " NO ERROR " is displayed for 3 seconds and this mode is closed.

5. When plural indoor units is connected, following is displayed. ①The case that there is history of abnormal operation.

→ Error code and the smallest address number of indoor unit among all connected indoor unit is displayed.

[Example]: [E8] (ERROR CODE) ≜ " blinking . TANOOO

②The case that there is not history of abnormal operation.

→ Only address number is displayed.

6. Select the indoor unit number you would like to have data displayed with the 🔼 🔻 button.

7. Determine the indoor unit number with the \bigcirc (SET) button. [Example]: [E8] (ERROR CODE)

▲ " (The address of selected indoor unit is blinking for 2 seconds.) " I/U000

[E8] "DATA LOADING" (A blinking indication appears while data loaded.)

Next, the abnormal operation data is indicated.

If the $indoor \underline{unit}$ doing normal operation is selected, NO ERROR " is displayed for 3 seconds and address of indoor unit is displayed.

8. By the 🛕 🔻 button, the abnormal operation data is displayed.

Displayed data item is based on (3) Trial operation

*Depending on models, the items that do not have corresponding data are not displayed.

9. To display the data of a different indoor unit, press the AIR CON No. button, which allows you to go back to the indoor unit slection screen. 10.Pressing the ON/OFF button will stop displaying data

Pressing the (RESET) button during remote control unit operation will undo your last operation and allow you to go back to the previous screen.

Off two (2) remote controllers are connected to one (1) indoor unit, only the master controller is available for trial operation and confirmation of operation data. (The slave remote controller is not available.)

Error Code of indoor unit

Display on remote	LED on indoo	r circuit board	Content
controller	red (checking) green (normal)		Content
	Off	Continuous blinking	Normal
Off	Off	Off	Fault on power, indoor power off or lack phase
E1	Off	Continuous blinking	Fault on the transmission between indoor circuit board and remote control
	Not sure	Not sure	Indoor computer abnormal
E5	Blinking twice	Continuous blinking	Fault on outdoor-indoor transmission
E6	Blinking once	Continuous blinking	Indoor heat exchange sensor interrupted o short-circuit
E7	Blinking once	Continuous blinking	Indoor air inhaling sensor broken or short-circuit
E8	Blinking once	Continuous blinking	The temperature of heat exchange abnormal
E9	Blinking once	Continuous blinking	Float SW actions (only with FS)
	Blinking twice	Continuous blinking	Drain pump over current
E10	Off	Continuous blinking	Excess number of remote controller connections
E14	Blinking for three times	Continuous blinking	The communication fault for master/slave indoor units
F16	Blinking once	Continuous blinking	Fan motor (1) abnormal
E10	Blinking twice	Continuous blinking	Fan motor (2) abnormal
E19	Blinking once	Continuous blinking	Configuration fault on running checking model
F20	Blinking once	Continuous blinking	Fan motor (1) abnormal rotation
1 20	Blinking twice	Continuous blinking	Fan motor (2) abnormal rotation
E28	Off	Continuous blinking	Remote controller sensor interrupted
Over E30	Off	Continuous blinking	Outdoor unit checking (outdoor circuit board LED checking)

PGA012D405

(4) FDF Series

Electrical wiring work must be performed by an electrician qualified by a local power provider according to the electrical installation technical standards and interior wiring regulations applicable to the installation site.

- Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the installation work in order to protect yourself.
- The precautionary items mentioned below are distinguished into two levels, [AWARNING] and ACAUTION .

<u>AWARNING</u>: Wrong installation would cause serious consequences such as injuries or death. Both mentions the important items to protect your health and safety so strictly follow them by any means.

- The meanings of "Marks" used here are as shown on the right:

 Never do it under any circumstances. Always do it according to the instruction.
- Accord with following items. Otherwise, there will be the risks of electric shock and fire caused by overheating or short circuit.

∆WARNING

Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.

Power source with insufficient capacity and improper work can cause electric shock and fire.

- Use specified wire for electrical wiring, fasten the wiring to the terminal securely, and hold the cable securely in order not to apply unexpected stress on the terminal. Loose connections or hold could result in abnormal heat generation or fire.
- Arrange the electrical wires in the control box properly to prevent them from rising. Fit the lid of the services panel property.

Improper fitting may cause abnormal heat and fire.



Use the genuine optional parts. And installation should be performed by a specialist.

If you install the unit by yourself, it could cause water leakage, electric shock and fire.



Do not repair by yourself. And consult with the dealer about repair. Improper repair may cause water leakage, electric shock or fire.



Consult the dealer or a specialist about removal of the air conditioner. Improper installation may cause water leakage, electric shock or fire.



 Turn off the power source during servicing or inspection work. If the power is supplied during servicing or inspection work, it could cause electric



Shut off the power before electrical wiring work.

shock and injury by the operating fan.

It could cause electric shock, unit failure and improper running.



^CAUTION

Perform earth wiring surely.

Do not connect the earth wiring to the gas pipe, water pipe, lightning rod and telephone earth. wiring. Improper earth could cause unit failure and electric shock due to a short circuit.



If the earth leakage breaker is not installed, it can cause electric shocks.



Make sure to install earth leakage breaker on power source line (countermeasure thing to high harmonics.)

Absence of breaker could cause electric shock



• Use the circuit breaker of correct capacity. Circuit breaker should be the one that disconnect all poles under over current.

Using the incorrect one could cause the system failure and fire.



Do not use any materials other than a fuse of correct capacity where a fuse should be used.

Connecting the circuit by wire or copper wire could cause unit failure and fire

Use nower source line of correct canacity.

Using incorrect capacity one could cause electric leak, abnormal heat generation and fire.

Do not mingle solid cord and stranded cord on power source and signal side terminal block.

In addition, do not mingle difference capacity solid or stranded cord. Inappropriate cord setting could cause loosing screw on terminal block, bad electrical contact smoke and fire





• Do not control the operation with the circuit breaker.

It could cause fire or water leakage. In addition, the fan may start operation unexpectedly and it may cause injury



(1) Electrical Wiring Connection

- Use three-core cable as wiring between indoor and outdoor unit. As for detail, refer to "INSTALLATION MANUAL" of

- outdoor Unit.
 Set earth of D-type.
 Reep "remote controller line" and "power source line" away from each other on constructing of unit outside.
 Run the lines (power source, remote controller and "between indoor and outdoor unit") upper ceiling through iron
- Frain terilines (power source, teriline controller and between indoor and outdoor unit) puper ceiming intogrit no pipe or other tube protection to avoid the damage by mouse and so on.

 Do not add cord in the middle of line route (of power source, remote controller and "between indoor and outdoor unit") on outside of unit. If connecting point is flooded, it could cause problem as for electric or communication, (in the case that it is necessary to set connecting point on the way, perform thorough waterproof measurement,)

 Do not connect the power source line [220V/240V/380V/415V] to signal side terminal block. Otherwise, it could cause failure.

- cause railure.

 Screw the line to terminal block without any looseness, certainly.

 Do not turn on the switch of power source, before all of line work is done.

 Connection of the line ("Between indoor and outdoor unit", Earth and Remote controller)

 Remove lid of control box before connect the above lines, and connect the lines to terminal block according to number pointed on label of terminal block. In addition, pay enough attention to confirm the number to lines, because there is electrical polarity except earth

- in acution, pay enough attention to colimit the intime to earth position of terminal block of power source.

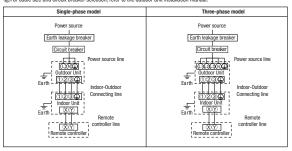
 [2] Install earth leakage breaker on power source line. In addition, select the type of breaker for inverter circuit as earth leakage breaker.

 [3] if the function of selected earth leakage breaker is only for earth-fault protection, hand switch (switch itself and type "B" lisso) or circuit breaker is required in series with the earth leakage breaker.

 [4] Install the local switch near the unit.

Cable connection for single unit installation

- ①As for connecting method of power source, select from following connecting patterns. In principle, do not directly connect power souce line to inside unit.
- As for exceptional connecting method of power souce, discuss with the power provider of the country with referring to technical documents, and follow its instruction
- 2) For cable size and circuit breaker selection, refer to the outdoor unit installation manual

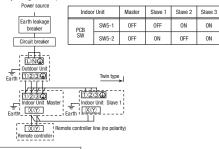


Cable connection for a V multi configuration installation

- ①Connect the same pairs number of terminal block "①, ②, and ③"and "②and ①" between master and slave indoor units.
- ②Do the same address setting of all inside units belong to same refrigerant system by rotary switch SW2 on indoor
- unit's PCB (Printed circuit board). (3) Set slave indoor unit as "slave 1" through "slave 3" by address switch SW5-1, 5-2 on PCB.
- When the AIR CON NO. button on the remote control unit is pressed after turning on the power, an indoor unit's address number will be displayed. Do not fail to confirm that the connected indoor unit's numbers are displayed on the remote control unit by pressing the 🛕 or 🔻 button

Method of setting Master/Slave of indoor unit



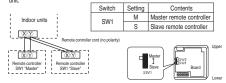


Switch and wiring specification

Refer to the installation manual attached to the outdoor unit.

2 Wiring for the remote controller

• For each indoor unit, one more remote controller can be connected in addition to the one which is built in the main



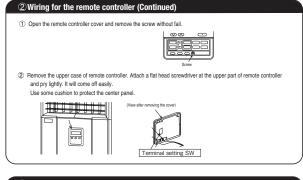
Set SW1 to "Slave" for the slave remote controller. It was factory set to "Master" for shipment.

Note: The setting "Remote controller thermistor enabled" is only selectable with the master remote controller in the position where you

want to check room temperature.

oner operation follows the last operation of the remote controller regardless of the master/ slave setting of it.

When setting the remote controller built in the main unit to the "Slave": Remove the cover and change the setting of switch as follows



③Function Setting by Remote Controller

Installation and wiring of remote controller

- ①Wiring of remote controller should use 0.3mm² × 2 core wires or cables. (on-site configuration)
- ②Maximum prolongation of remote controller wiring is 600 m.
 If the prolongation is over 100m, change to the size below.

But, wiring in the remote controller case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

......0.5mm² × 2 cores0.75mm² × 2 cores1.25mm² × 2 cores20mm² × 2 cores

The indication when power source is supplied

When power source is turned on, the following is displayed on the remote controller until the

communication between the remote controller and indoor unit settled.

Master remote controller : "@WAIT@ N"
Slave remote controller : "@WAIT@ S"

At the same time, a mark or a number will be displayed for two seconds first.

This is the software's administration number of the remote controller, not an error cord.

#The left mark is only an example. Other marks may appear.

When remote controller cannot communicate with the indoor unit for half an hour, the below indication willappear. Check wiring of the indoor unit and the outdoor unit etc.

90



How to set function

Stop air-conditioner and press ○ (SET) ○ (MODE) buttons at the same time for over three seconds, and the "FUNCTION SET ▼ " will be displayed.



2. Press (SET) button

3. Make sure which do you want to set, *□ FUNCTION ▼* (remote controller function) or **I/U FUNCTION ▲* (indoor unit function).



5. Press (SET) button.

I/U FUNCTION ▲ 6. [On the occasion of remote controller function selection]

① "DATA LOADING" (Indication with blinking) → Display is changed to "01 GRILLE ↑↓ SET".

2 Press ▲ or ▼ button.
"No. and function'are indicated by turns on the remote controller function to AUTO RUN SET Function No.

Press (SET) button.
The current setting of selected function is indicated.
(for example) "AUTO RUN ON"

If "02 AUTO RUN SET" is selected.



SET COMPLETE

[On the occasion of indoor unit function selection]

① "DATA LOADING" (Blinking for 2 to 23 seconds to read the data)

Indication is changed to "02 FAN SPEED SET". Go to ②.

If plural indoor units are connected to a remote controller, the indication is "I/U 000" (blinking) — The lowest number of the indoor unit connected is indicated.

<u>I/U000</u> ▲

(2) Press ▲ or ▼ button.

Select the number of the indoor unit you are to set If you select "ALL UNIT ▼", you can set the same setting with all unites.

(3) Press (SET) button.

2 Press A or W button.

No. and function are indicated by turns on the indoor unit function table, then you can select from them (For example)

2 Press A or W button.

No. and function are indicated by turns on the indoor unit function table, then you can select from them (For example)

Function No.

FAN SPEED SET ← Function

③Function Setting by Remote Controller (Continued)

STANDARD Setting

④ Press ▲ or ▼ button

© Press \(\bigcup \) SET jution.
SET COMPLETE will be indicated, and the setting will be completed.
Then native "No. and function" indication returns, set as the same procedure if you want to set continuously , and if to finish, go to 7.

SET COMPLETE

When plural indoor units are connected to a remote controller, press the AIRCON NO. button, which allows you to go back to the indoor unit selection screen. (example "I/U 000 ▲")

7. Press ON/OFF button.

- It is possible to finish by pressing ONOFF button on the way, but unfinished change of setting is unavailable. During setting, if you press () (RESET) button, you return to the previous screen. Setting is memorized in the controller and it is saved independently of power failure.

[How to check the current setting]
When you select from "No. and funcion" and press set button by the previous operation, the "Setting" displayed first is the cur

setting.

(But. if you select "ALL UNIT ▼". the setting of the lowest number indoor unit is displayed.)

The functional setting

●The initial function setting for typical using is performed automatically by the indoor unit connected, when remote controller and indoor unit are connected.

As long as they are used in a typical manner, there will be no need to change the initial settings.

If you would like to change the initial setting marked "○", set your desired setting as for the selected item.

The procedure of functional setting is shown as the following diagram.

The range of temperature setting

When shipped, the range of set temperature differs depending on the operation mode as below. Heating: 16~300C (55~860F)

Except heating (cooling, fan, dry, automatic) : 18~30ûC (62~86ûF)

Oupper limit and lower limit of set temperature can be changed with remote controller.

Upper limit setting: valid during heating operation. Possible to set in the range of 20 to 300C (68 to 860F).

Lower limit setting: valid except heating (automatic, cooling, fan, dry) Possible to set in the range of 18 to 260C (62 to

en you set upper and lower limit by this function, control as below.

1. When @TEMP RANGE SET, remote controller function of function setting mode is "INDN CHANGE" (factory setting), [If upper limit value is set]

During heating, you cannot set the value exceeding the upper limit.

[If lower limit value is set]

During operation mode except heating, you cannot set the value below the lower limit.

2. When @ TEMP RANGE SET, remote controller function of function setting mode is "NO INDN CHANGE" [If upper limit value is set]

During healting, even if the value exceeding the upper limit is set, upper limit value will be sent to the indoor unit. But, the indication is the same as the temperature set.

[If lower limit value is set]

During except heating, even if the value lower than the lower limit is set, lower limit value will be sent to the indoor unit. But, the indication is the same as the temperature set.

ow to set upper and lower limit value

Stop the air-conditioner, and press (SET) and (MODE) button at the same time for over three

Security.

The indication changes to "FUNCTION SET ▼".

Press ∰ button once, and change to the "TEMP RANGE ▲ " indication.

Press ⊆" (SET) button, and enter the temperature range setting mode.

Select "UPPER LIMIT ▼" or "LOWER LIMIT ▲ " by using ▲ " by ution.

Select UPPER LIMIT ▼ or LOWER LIMIT ▲ by using ▲ ▼ button.

Press C SET button to fix.

When "UPPER LIMIT ▼ 'is selected (valid during heating)

① Indication: "♣ ∨ \ SET UP" → "UPPER 200C ∨ "
② Select the upper limit value with temperature setting button □ □ ... Indication example: "UPPER 260C ∨ \ "
(blinking)
③ Press □ SET button to fix. Indication example: "UPPER 260C" (Displayed for two seconds)

After the fixed upper limit value displayed for two seconds, the indication will return to "UPPER LIMIT ▼".

7. When "LOWER LIMIT A "is selected (valid during cooling, dry, fan, automatic)

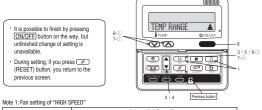
① Indication: "

② Select the lower limit value with temperature setting button [♡]. Indication example: "LOWER 240C∨ ∧"

(SET) button to fix. Indication for example: "LOWER 24ûC" (Displayed for two seconds) Seriess □ (OSE) Journal on its indication for example: LOWER 24UC* (Displayed for two seconds)

After the fixed lower limit value displayed for two seconds, the indication will return to "LOWER LIMIT \(\blue{\pi}\)*.

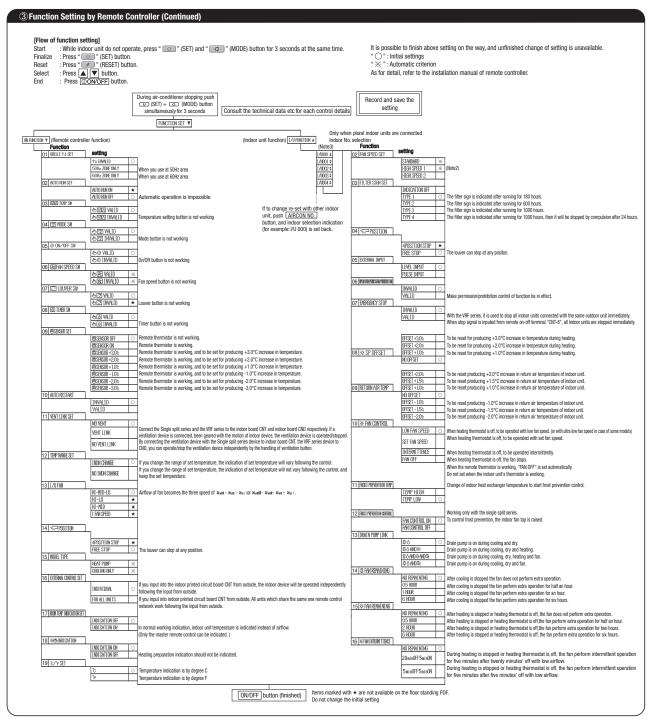
8. Press (ONOFF) button to finish.



Fan tap Initial function setting of some indoor unit is "HIGH SPEED"

Note 2: As for plural indoor unit, set indoor functions to each master and slave indoor unit.

But only master indoor unit is received the setting change of indoor unit function "05 EXTERNAL INPUT" and "06 PERMISSION / PROHIBISHION".



The method of trial cooling operation Operate the remote control unit as follows. 1. Starting a cooling test run. ①Start the system by pressing the ②ONOFF button. ②Select "素 (Cool)" with the ② (MODE) button. ③Press the TEST button for 3 seconds or longer. The screen display will switch to TEST RUN ▼ " ** TEST RUN ▼ " 2. Ending a cooling test run. Pressing the ②ONOFF button, the ③ (MODE) button or ② (MODE) button will end a cooling test run. (Cooling test run will end after 30 minutes pass.) ** TEST RUN ▼ shown on the screen will go off.

4 Trial operation (Continued)

Checking operation data

Operation data can be checked with remote control unit operation.

- 1. Press the CHECK button.
- 2. Press the \bigcirc (SET) button while OPER DATA \blacktriangledown " is displayed.
- When only one indoor unit is connected to remote controller, "DATA LOADING" is displayed (blinking indication during data loading).

Next, operation data of the indoor unit will be displayed. Skip to step 7.

4. When plural indoor units is connected, the smallest address number of indoor unit among all connected indoor unit is displayed. [Example]:

5. Select the indoor unit number you would like to have data displayed with thebutton.

6. Determine the indoor unit number with the OSET) button.

Number		Data Item	
01	\$	(Ope ration Mode)	
02	SET TEMPc	(Set Temperature)	
03	RETURN AIR6	(Return Air Temperature)	
04	■SENSORc	(Remote Controller ThermistorTemperature)	
05	THI-R16	(Indoor Unit Heat Exchanger Thermistor / U Bend)	
06	THI-R2_c	(Indoor Unit Heat Exchanger Thermistor /Capillary)	
07	THI-R3c	(Indoor Unit Heat Exchanger Thermistor /Gas Header)	
08	I/U FANSPEED	(Indoor Unit Fan Speed)	
09	DEMANDHz	(Frequency Requirements)	
10	ANSWERHz	(Response Frequency)	
11	I/U EEVP	(Pulse of Indoor Unit Expansion Value)	
12	TOTAL I/U RUN	H (Total Running Hours of The Indoor Unit)	
21	OUTDOORc	(Outdoor Air Temperature)	
22	THO-R1c	(Outdoor Unit Heat Exchanger Thermistor	
23	THO-R2c	(Outdoor Unit Heat Exchanger Thermistor)	
24	COMPHz	(Compressor Frequency)	
25	HPMPa	(High Pressure)	
26	LPMPa	(Low Pressure)	
27	Tdb	(Discharge Pipe Temperature)	
28	COMP BOTTOMc	(Comp Bottom Temperature)	
29	CTAMP	(Current)	
30	TARGET SH	(Target Super Heat)	
31	SH%	(Super Heat)	
32	TDSHt	(Discharge Pipe Super Heat)	
33	PROTECTION No	(Protection State No. of The Compressor)	
34	O/U FANSPEED	(Outdoor Unit Fan Speed)	
35	63H1	(63H1 On/Off)	
36	DEFROST	(Defrost Control On/Off)	
37	TOTAL COMP RUN_	H (Total Running Hours of The Compressor)	
38	0/U EEV1P	(Pulse of The Outdoor Unit Expansion Valve EEVC)	
39	0/U EEV2P	(Pulse of The Outdoor Unit Expansion Valve EEVH)	

*Depending on outdoor unit model, there are data not shown.

(The indoor unit number changes from blinking indication to continuous indication)

 $I / U000 \ \ \ \ \ "$ (The address of selected indoor unit is blinking for 2 seconds.)

" $\mbox{DATA\,LOADING}\,$ " (A blinking indication appears while data loaded.)

Next, the operation data of the indoor unit is indicated.

7. Upon operation of the button, the current operation data is displayed in order from data number 01.

The items displayed are in the above table.

*Depending on models, the items that do not have corresponding data are not displayed.

- 8. To display the data of a different indoor unit, press the AIR CON NO. button, which allows you to go back to the indoor unit selection screen.
- 9. Pressing the ON/OFF button will stop displaying data.

Pressing the (RESET) button during remote control unit operation will undo your last operation and allow you to go back to the previous screen.

5Control mode switching

● The control content of indoor units can be switched in following way.

(is the default setting)

Switch No.	Control Content			Control Content	
SW2	Indoor unit address (0-Fh)				
SW5-1	- Master/Slave Switching (plural /Slave unit Setting)				
SW5-2					
SW6-1~4	Model capacity setting				
SW7 —1	ON	Operation check, Drain motor test run			
SW7 1	0FF	Normal operation			

7Troubleshooting

The operation data is saved when the situation of abnormal operation happen, and the data can be confirmed by remote controller.

Error Code of indoor unit

Display on remote	LED on indoor circuit board		Content
controller red (checking) green (normal)		green (normal)	Content
	Off	Continuous blinking	Normal
Off	Off	Off	Fault on power, indoor power off or lack phase
E1	Off	Continuous blinking	Fault on the transmission between indoor circuit board and remote control
	Not sure	Not sure	Indoor computer abnormal
E5	Blinking twice	Continuous blinking	Fault on outdoor-indoor transmission
E6	Blinking once	Continuous blinking	Indoor heat exchange sensor interrupted or short-circuit
E7	Blinking once	Continuous blinking	Indoor air inhaling sensor broken or short-circuit
E8	Blinking once	Continuous blinking	The temperature of heat exchange abnormal
E9	Blinking once	Continuous blinking	Float SW actions (only with FS)
E10	Off	Continuous blinking	Excess number of remote controller connections
E14	Blinking for three times	Continuous blinking	The communication fault for master/slave indoor units
E16	Blinking once	Continuous blinking	Fan motor abnormal
E19	Blinking once	Continuous blinking	Configuration fault on running checking model
E28	Off	Continuous blinking	Remote controller sensor interrupted
Over E30	Off	Continuous blinking	Outdoor unit checking (outdoor circuit board LED checking)

[Operating procedure]

1. Press the CHECK button.

The display change " OPER DATA ▼ "

2. Once, press the volume button, and the display change ERROR DATA volume.

- 3. Press the (SET) button and abnormal operation data mode is started.
- 4. When only one indoor unit is connected to remote controller, following is displayed.
- 1) The case that there is history of abnormal operation.

 \rightarrow Error code and " <code>DATALOADING</code> " is displayed.

[Example]: [E8] (ERROR CODE)

" <code>DATA LOADING</code>" is displayed (blinking indication during data loading).

Next, the abnormal operation data of the indoor unit will be displayed. Skip to step 8.

②The case that there is not history of abnormal operation.

- → " NO ERROR " is displayed for 3 seconds and this mode is closed.
- 5. When plural indoor units is connected, following is displayed.

 $\label{eq:theorems} \ensuremath{\text{\textcircled{1}}} \text{The case that there is history of abnormal operation.}$

→ Error code and the smallest address number of indoor unit among all connected indoor unit is displayed.

[Example]: [E8] (ERROR CODE)

2)The case that there is not history of abnormal operation.

→ Only address number is displayed.

Select the indoor unit number you would like to have data displayed with the button.

7. Determine the indoor unit number with the (SET) button.

[Example]: [E8] (ERROR CODE)

I/U000 $$\bot$$ " (The address of selected indoor unit is blinking for 2 seconds.)

[E8] " $\mbox{DATA LOADING}$ " (A blinking indication appears while data loaded.)

Next, the abnormal operation data is indicated.

If the indoor unit doing normal operation is selected, " NO ERROR " is displayed for 3 seconds and address of indoor unit is displayed.

8. By the 🛕 🔻 button, the abnormal operation data is displayed.

Displayed data item is based on 3 Trial operation

*Depending on models, the items that do not have corresponding data are not displayed.

9. To display the data of a different indoor unit, press the AIR CON No. button, which allows you to go back to the indoor unit slection screen.

10.Pressing the OON/OFF button will stop displaying data.

Pressing the (RESET) button during remote control unit operation will undo your last operation and allow you to go back to the previous screen.

Off two (2) remote controllers are connected to one (1) indoor unit, only the master controller is available for trial operation and confirmation of operation data. (The slave remote controller is not available.)

1.10.3 Installation of wired remote controller (option)

PJA012D730

(1) Model RC-E5

Read together with indoor unit's installation manual.

MWARNING

Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the

Loose connection or hold will cause abnormal heat generation or fire.



Make sure the power supply is turned off when electric wiring work. Otherwise, electric shock, malfunction and improper running may occur.



ACAUTION

- DO NOT install the remote controller at the following places in order to avoid malfunction.
 - (1) Places exposed to direct sunlight
- (4) Hot surface or cold surface enough to generate condensation
- (2) Places near heat devices
- (5) Places exposed to oil mist or steam directly
- (3) High humidity places
 - (6) Uneven surface



DO NOT leave the remote controller without the upper case.

In case the upper cace needs to be detached, protect the remote controller with a packaging box or bag in order to keep it away from water and dust.



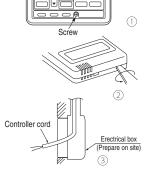
Accessories	Remote controller, wood screw (ø3.5×16) 2 pieces		
Prepare on site	Remote controller cord (2 cores) the insulation thickness in 1mm or more.		
	[In case of embedding cord] Erectrical box, M4 screw (2 pieces)		
	[In case of exposing cord] Cord clamp (if needed)		

Installation procedure

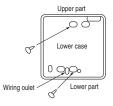
- Open the cover of remote controller, and remove the screw under the buttons without fail.
- 2 Remove the upper case of remote controller. Insert a flat-blade screwdriver into the dented part of the upper part of the remote controller, and wrench slightly.

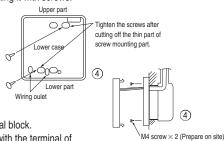


3 Embed the erectrical box and remote controller cord beforehand.



Prepare two M4 screws (recommended length is 12-16mm) on site, and install the lower case to erectrical box. Choose either of the following two positions in fixing it with screws.

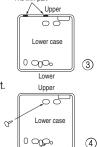




- Connect the remote controller cord to the terminal block. Connect the terminal of remote controller (X,Y) with the terminal of indoor unit (X,Y). (X and Y are no polarity)
- Install the upper case as before so as not to catch up the remote controller cord, and tighten with the screws.

[In case of exposing cord]

- You can pull out the remote controller cord from left upper part or center upper part. Cut off the upper thin part of remote controller lower case with a nipper or knife, and grind burrs with a file etc.
- ④ Install the lower case to the flat wall with attached two wooden screws.



Lowe

The thin part

S Connect the remote controller cord to the terminal block.

Connect the terminal of remote controller (X,Y) with the terminal of indoor unit (X,Y).

(X and Y are no polarity)
Wiring route is as shown in the right diagram depending on the pulling out direction.

Y) Board Upper case
Board Upper case
Board Upper case
Board Upper case
Board Upper case
Board In case of pulling out from upper left upper center

Upper

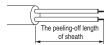
Sheath

Upper

The wiring inside the remote controller case should be within 0.3mm² (recommended) to 0.5mm². The sheath should be peeled off inside the remote controller case.

The peeling-off length of each wire is as below.

Pulling out from upper left	Pulling out from upper center
X wiring : 215mm	X wiring : 170mm
Y wiring: 195mm	Y wiring: 190mm



- Install the upper case as before so as not to catch up the remote controller cord, and tighten with the screws.
- In case of exposing cord, fix the cord on the wall with cord clamp so as not to slack.

Installation and wiring of remote controller

- ① Wiring of remote controller should use 0.3mm² × 2 core wires or cables. (on-site configuration)
- 2 Maximum prolongation of remote controller wiring is 600 m.

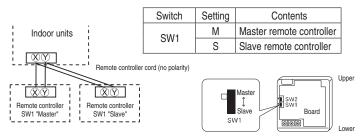
If the prolongation is over 100m, change to the size below.

But, wiring in the remote controller case should be under 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.

100 - 200m	$\cdots 0.5$ mm ² \times 2 cores
Under 300m	·····0.75mm ² × 2 cores
Under 400m	·····1.25mm ² × 2 cores
Under 500m	·····2.0mm ² × 2 cores

Master/ slave setting when more than one remote controllers are used

A maximum of two remote controllers can be connected to one indoor unit (or one group of indoor units.)



Set SW1 to "Slave" for the slave remote controller. It was factory set to "Master" for shipment. Note: The setting "Remote controller thermistor enabled" is only selectable with the master remote

controller in the position where you want to check room temperature.

The air conditioner operation follows the last operation of the remote controller regardless of the master/ slave setting of it.

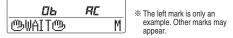
The indication when power source is supplied

When power source is turned on, the following is displayed on the remote controller until the communication between the remote controller and indoor unit settled.

Master remote controller : "@WAIT@ M"
Slave remote controller : "@WAIT@ S"

At the same time, a mark or a number will be displayed for two seconds first.

This is the software's administration number of the remote controller, not an error cord.



When remote controller cannot communicate with the indoor unit for half an hour, the below indication will appear.

Check wiring of the indoor unit and the outdoor unit etc.



The range of temperature setting

When shipped, the range of set temperature differs depending on the operation mode as below.

Heating: 16~30°C (55~86°F)

Except heating (cooling, fan, dry, automatic): 18~30°C (62~86°F)

●Upper limit and lower limit of set temperature can be changed with remote controller.

Upper limit setting: valid during heating operation. Possible to set in the range of 20 to 30°C (68 to 86°F). Lower limit setting: valid except heating (automatic, cooling, fan, dry) Possible to set in the range of 18 to 26°C (62 to 79°F).

When you set upper and lower limit by this function, control as below.

 When @TEMP RANGE SET, remote controller function of function setting mode is "INDN CHANGE" (factory setting), [If upper limit value is set]

During heating, you cannot set the value exceeding the upper limit.

[If lower limit value is set]

During operation mode except heating, you cannot set the value below the lower limit.

When @ TEMP RANGE SET, remote controller function of function setting mode is "NO INDN CHANGE" [If upper limit value is set]

During heating, even if the value exceeding the upper limit is set, upper limit value will be sent to the indoor unit. But, the indication is the same as the temperature set.

[If lower limit value is set]

During except heating, even if the value lower than the lower limit is set, lower limit value will be sent to the indoor unit. But, the indication is the same as the temperature set.

How to set upper and lower limit value

1. Stop the air-conditioner, and press (SET) and (MODE) button at the same time for over three seconds .

The indication changes to "FUNCTION SET ▼".

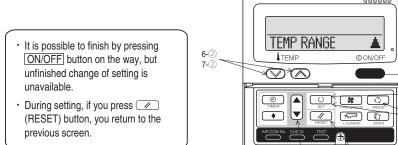
- 2. Press ▼ button once, and change to the "TEMP RANGE ▲ " indication.
- 3. Press (SET) button, and enter the temperature range setting mode.
- 4. Select "UPPER LIMIT ▼" or "LOWER LIMIT ▲" by using ▲ ▼ button.
- 5. Press (SET) button to fix.
- 6. When "UPPER LIMIT ▼" is selected (valid during heating)
 - ① Indication: " \bigcirc \lor \land SET UP" \rightarrow "UPPER 30°C \lor "
 - ② Select the upper limit value with temperature setting button ☑ △. Indication example: "UPPER 26°C ∨ ∧" (blinking)
 - ③ Press ◯ (SET) button to fix. Indication example: "UPPER 26°C" (Displayed for two seconds)

 After the fixed upper limit value displayed for two seconds, the indication will return to "UPPER LIMIT ▼".
- 7. When "LOWER LIMIT **\(\Lambda \)**" is selected (valid during cooling, dry, fan, automatic)
 - ① Indication: " \oplus \vee \wedge SET UP" \rightarrow "LOWER 18°C \wedge "
 - ② Select the lower limit value with temperature setting button $\boxed{\ }$ $\boxed{\ }$. Indication example: "LOWER 24°C $\lor \land$ " (blinking)
 - ③ Press (SET) button to fix. Indication for example: "LOWER 24°C" (Displayed for two seconds) After the fixed lower limit value displayed for two seconds, the indication will return to "LOWER LIMIT ▼".

3 • 5 • 6-3

Previous button

8. Press ON/OFF button to finish.



The functional setting

The initial function setting for typical using is performed automatically by the indoor unit connected, when remote controller and indoor unit are connected.

As long as they are used in a typical manner, there will be no need to change the initial settings.

If you would like to change the initial setting marked " O ", set your desired setting as for the selected item. The procedure of functional setting is shown as the following diagram.

Flow	οf	function	settinal
1 10 11	v	IUIICUOII	Setting

: Stop air-conditioner and press " " (SET) and
" " " (MODE) buttons at the same time for over three seconds.
: Press " " (SET) button.
: Press | | | | button.
: Press | | | | button.
: Press | | | | button. Start Record and keep the setting Reset

Select It is possible to finish above setting on the way.

and unfinished change of setting is unavailable.

" .: Initial settings
" *: Automatic criterion

Consult the technical data etc. for each control details

Stop air-conditioner and press (MODE) buttons t the same time for over three seconds

FUNCTION SET ▼ To next page ☐ FUNCTION ▼ (Remote controller function) **Function** setting 01 6MAEF 3E Validate setting of ESP:External Static Pressure 600 ESP INVALID Invalidate setting of ESP 02 AUTO RUN SE Automatical operation is impossible 03 I ☑ △ TEMP SW UNVALI € Temperature setting button is not working 04 🖾 MODE SW (SEE INVALI Mode button is not working 05 O ON/OFF SW On/Off button is not working 06 FAN SPEED SW 용절 INVALID Fan speed button is not working 07 🖾 LOUVER SW Louver button is not working 08 @ TIMER SW ७७ VALID ७७ INVALID Timer button is not working 09 SENSOR SE ESENSOR OF Remote thermistor is not working. Remote thermistor is working.

Remote thermistor is working.

Remote thermistor is working, and to be set for producing +3.0°C increase in temperature.

Remote thermistor is working, and to be set for producing +2.0°C increase in temperature.

Remote thermistor is working, and to be set for producing +1.0°C increase in temperature. © SENSOR +2.0° © SENSOR +1.0° Remote thermistor is working, and to be set for producing -1.0°C increase in temperature. Remote thermistor is working, and to be set for producing -2.0 °C increase in temperature. Remote thermistor is working, and to be set for producing -3.0 °C increase in temperature. 10 AUTO RESTART * 11 VENT LINK SET NO VENT In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board (in case of VRF series, by connecting it to CND of the indoor printed circuit board), the operation of ventilation device is linked with the operation of indoor unit. VENT LTNK operation of indoor unit.

In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board (in case of VRF series, by connecting it to CND of the indoor printed circuit board), you can operate /stop the ventilation device independently by

(VENT) button. NO VENT LINK 12 TEMP RANGE SET If you change the range of set temperature, the indication of set temperature INDN CHANGE will vary following the control.

If you change the range of set temperature, the indication of set temperature will not vary following the control, and keep the set temperature. NO INDN CHANG 13 I/U FAN Airflow of fan becomes of ﴿مَالَا خُمُولُ اللَّهِ مَا اللَّهِ اللَّهِ اللَّهِ اللَّهِ اللَّهِ اللَّهِ اللَّهِ ا Airflow of fan becomes of & aut - & au 1) Airflow of fan becomes of & all- & all.
Airflow of fan is fixed at one speed. If you change the remote controller function "14 🖘 POSITION", you must change the indoor function "04 🖘 POSITION" accordingly. 14 ⇒¬POSITION You can select the louver stop position in the four. The louver can stop at any position. 4POSITION STO 15 MODEL TYPE COOLENG ONLY 16 EXTERNAL CONTROL SET If you input signal into CNT of the indoor printed circuit board from external, the indoor unit will be operated independently according to the input from external. If you input into CNT of the indoor printed circuit board from external, all units which connect to the same remote controller are operated according to the input from external. INDIVIDUAL FOR ALL UNITS 17 ROOM TEMP INDICATION SET INDICATION OFF In normal working indication, indoor unit temperature is indicated instead of airflow (Only the master remote controller can be indicated.) 18 №®INDICATION Heating preparation indication should not be indicated. 19 %/°E SET Temperature indication is by degree C Temperature indication is by degree F To next page

Note (1)*The mark cannot use SRK series

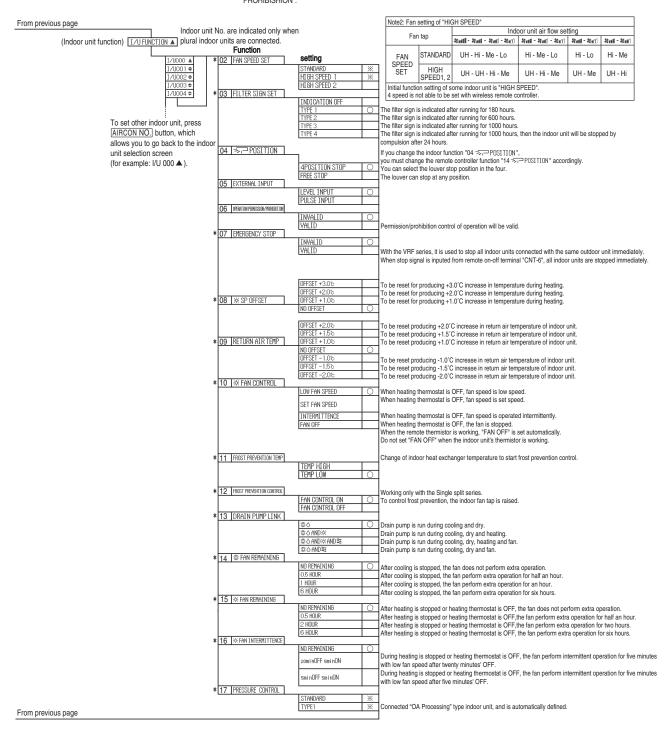
ON/OFF button (finished)

Note 1: The initial setting marked "%" is decided by connected indoor and outdoor unit, and is automatically defined as following table.

Function No.	Item	Default	Model
Remote controller	AUTO RUN SET	AUTO RUN ON	"Auto-RUN" mode selectable indoor unit.
function02		AUTO RUN OFF	Indoor unit without "Auto-RUN" mode
Remote controller	[∞]FAN SPEED SW	6종 VALID	Indoor unit with two or three step of air flow setting
function06		⊕⊠ INVALID	Indoor unit with only one of air flow setting
Remote controller	☑ LOUVER SW	⊕⊡ VALID	Indoor unit with automatically swing louver
function07		& ☑ INVALID	Indoor unit without automatically swing louver
Remote controller	I/U FAN	HI-MID-LO	Indoor unit with three step of air flow setting
unction13		HI-LO	Indoor unit with two step of air flow setting
		HI-MID	
		1 FAN SPEED	Indoor unit with only one of air flow setting
Remote controller	MODEL TYPE	HEAT PUMP	Heat pump unit
function15		COOLING ONLY	Exclusive cooling unit

Note 3: As for plural indoor unit, set indoor functions to each master and slave indoor unit.

But only master indoor unit is received the setting change of indoor unit function "05 EXTERNAL INPUT" and "06 PERMISSION / PROHIBISHION".



How to set function



- 2. Press (SET) button.
- Make sure which do you want to set, "☐ FUNCTION ▼" (remote controller function) or "I/U FUNCTION ▲" (indoor unit function).
- 4. Press ▲ or ▼ button.

Selecct "■ FUNCTION ▼" (remote controller function) or "I/U FUNCTION ▲" (indoor unit function).



5. Press (SET) button.

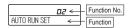
① "DATA LOADING" (Indication with blinking)

Display is changed to "01 🗗 🖾 ESP SET".

② Press ▲ or ▼ button.

"No. and function are indicated by turns on the remote controller function table, then you can select from them. (For example)

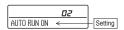
6. [On the occasion of remote controller function selection]



③ Press (SET) button.

The current setting of selected function is indicated.

(for example) "AUTO RUN ON" ← If "02 AUTO RUN SET" is selected.



Press or button. Select the setting.



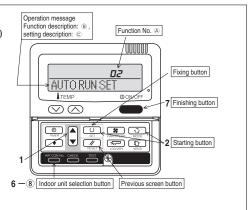
⑤ Press ◯ (SET)

"SET COMPLETE" will be indicated, and the setting will be completed.

Then after "No. and function" indication returns, Set as the same procedure if you want to set continuously ,and if to finish, go to 7.



7. Press ON/OFF button. Setting is finished.



[On the occasion of indoor unit function selection]

"DATA LOADING" (Blinking for 2 to 23 seconds to read the data)
 Indication is changed to "02 FAN SPEED SET".

[Note]

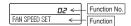
 If plural indoor units are connected to a remote controller, the indication is "I/U 000" (blinking) ← The lowest number of the indoor unit connected is indicated.



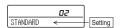
- (2) Press ▲ or ▼ button. Select the number of the indoor unit you are to set If you select "ALL UNIT ▼", you can set the same setting with all unites.
- (3) Press (SET) button.
- Press or button.

"No. and function" are indicated by turns on the indoor unit function table, then you can select from them.

(For example)



③ Press ○ (SET) button. The current setting of selected function is indicated. (For example) "STANDARD" ← If "02 FAN SPEED SET" is



- ④ Press ▲ or ▼ button. Select the setting.
- Press (SET) button. "SET COMPLETE" will be indicated, and the setting will be completed.

Then after "No. and function" indication returns, set as the same procedure if you want to set continuously , and if to finish, go to 7.



※ When plural indoor units are connected to a remote controller, press the AIRCON NO. button, which allows you to go back to the indoor unit selection screen. (example "I/U 000 ▲")

- It is possible to finish by pressing ON/OFF button on the way, but unfinished change of setting is unavailable.
- During setting, if you press (RESET) button, you return to the previous screen.
- Setting is memorized in the controller and it is saved independently of power failure.

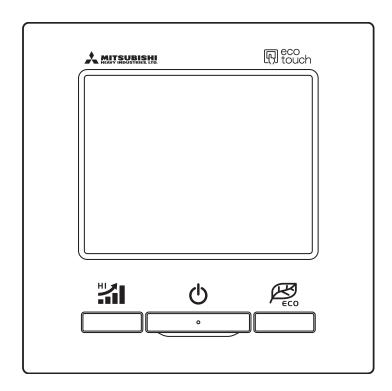
[How to check the current setting]

When you select from "No. and funcion" and press set button by the previous operation, the "Setting" displayed first is the current setting.

(But, if you select "ALL UNIT ▼ ", the setting of the lowest number indoor unit is displayed.)

PJZ012D077 🛕

eco touch REMOTE CONTROL RC-EX1A INSTALLATION MANUAL



1. Safety Precautions

This installation manual describes the installation methods and precautions related to the remote control. Use this manual together with the user's manuals for the indoor unit, outdoor unit and other optional equipment. Please read this manual carefully before starting the installation work to install the unit properly.

Safety precautions

Please read this manual carefully before starting installation work to install the unit properly. Every one of the followings is important information to be observed strictly.

∴WARNING	Failure to follow these instructions properly may result in serious consequences such as death, severe injury, etc
∴CAUTION	Failure to follow these instructions properly may cause injury or property damage.

It could have serious consequences depending on the circumstances.

The following pictograms are used in the text.



•Keep this manual at a safe place where you can consult with whenever necessary. Show this manual to installers when moving or repairing the unit. When the ownership of the unit is transferred, the "Installation Manual" should be given to a new owner.

<u>∧</u>WARNING

Ask a professional contractor to carry out installation work according to the installation manual. Improper installation work may result in electric shocks, fire or break-down.



Shut OFF the main power supply before starting electrical work.

Otherwise, it could result in electric shocks, break-down or malfunction.



Do not install the unit in appropriate environment or where inflammable gas could generate, flow in, accumulate or leak.

If the unit is used at places where air contains dense oil mist, steam, organic solvent vapor, corrosive gas (ammonium, sulfuric compound, acid, etc) or where acidic or alkaline solution, special spray, etc. are used, it could cause electric shocks, break-down, smoke or fire as a result of significant deterioration of its performance or corrosion.



Do not install the unit where water vapor is generated excessively or condensation occurs.

It could cause electric shocks, fire or break-down.



Use the specified cables for wiring, and connect them securely with care to protect electronic parts from external forces.



Improper connections or fixing could cause heat generation, fire, etc.



If dew, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.



When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.

It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.



The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.

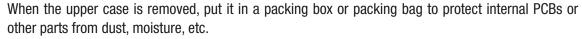
A CAUTION

Do not install the remote control at following places.

It could cause break-down or deformation of remote control.

- (1) Where it is exposed to direct sunlight
- (2) Near the equipment to generate heat
- (3) Where the surface is not flat







2. Accessories & Prepare on site

Accessories

R/C main unit, wood screw (ø3.5 x 16) 2 pcs User's Manual, Installation Manual

Parts procured at site

Item name	Q'ty	Remark
Switch box For 1 piece or 2 pieces (JIS C8340 or equivalent)	1	These are not required when installing
Thin wall steel pipe for electric appliance (JIS C8305 or equivalent)	As required	directly on a wall.
Lock nut, bushing (JIS C8330 or equivalent)	As required	
Lacing (JIS C8425 or equivalent)	As required	Necessary to run R/C cable on the wall.
Putty	Suitably	For sealing gaps
Molly anchor	As required	
R/C cable (0.3 mm ² x 2 pcs)	As required	See right table when longer than 100 m

When the cable length is longer than 100 m, the max size for wires used in the R/C case is $0.5~\text{mm}^2$. Connect them to wires of larger size near the outside of R/C. When wires are connected, take measures to prevent water, etc. from entering inside.

< 200 m	0.5 mm ² x 2-core
< 300 m	0.75 mm ² x 2-core
< 400 m	1.25 mm ² x 2-core
< 600 m	2.0 mm ² x 2-core

3. Remote control installation procedure

Determine where to install the remote control

Installation "Using a switch box"

"Installed directly on a wall"

Wiring direction "Backward"

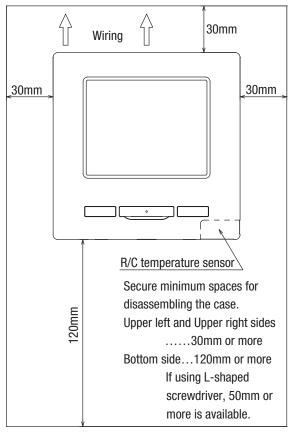
"Upper center", "Upper left"

Cautions for selecting installation place

- (1) Installation surface must be flat and sufficiently strong. R/C case must not be deformed.
- (2) Where the R/C can detect room temperatures accurately. This is a must when detecting room temperatures with the temperature sensor of R/C.
 - · Install the R/C where it can detect the average temperature in the room.
 - · Install the R/C separated from a heat source sufficiently.
 - · Install the R/C where it will not be influenced by the turbulence of air when the door is opened or closed.

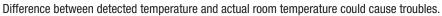
Select a place where the R/C is not exposed to direct sunlight or blown by winds from the air conditioner or temperatures on the wall surface will not deviate largely from actual room temperature.

Installation space



Request

Be sure not to install R/C at a place where temperatures around the installation surface of R/C may differ largely from actual room temperature.



The correction for detected temperature by the R/C cannot offset such temperature difference because it corrects the detected temperatures itself.



Request

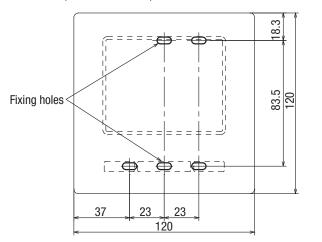
Do not install the R/C at a place where it is exposed to direct sunlight or where surrounding air temperature exceeds 40° C or drops below 0° C.



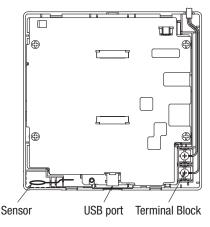
It could cause discoloration, deformation, malfunction or breakdown.

Installation procedure

Dimensions (Viewed from front)







- ① To remove the upper case from the bottom cases of R/C
 - · Insert the tip of flat head screwdriver or the like in the recess at the lower part of R/C and twist it lightly to remove.

Take care to protect the removed upper case from moisture or dust.



19

② Connect wires from X and Y terminals of R/C to X and Y terminals of indoor unit.

R/C wires (X, Y) have no polarity.

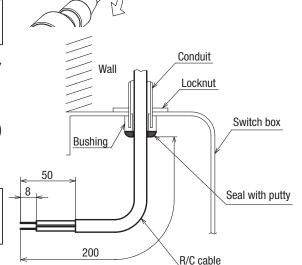
In case of embedding wiring (When the wiring is retrieved "Backward")

③ Embed the switch box and the R/C wires beforehand.

0

Seal the inlet hole for the R/C wiring with putty.

 If dust or insect enters, it could cause electric shocks, fire or breakdown.

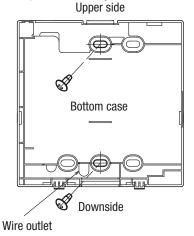


4 When wires are passed through the bottom case, fix the bottom case at 2 places on the switch box.

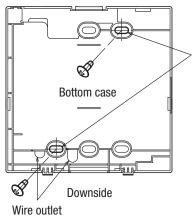
Upper side

Upper side

Switch box for 1 pc



Switch box for 2 pcs



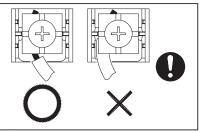
Cut out the thin wall part at the screw mounting section with a knife or the like before tightening the screw.

- (5) When fixing the bottom case diagonally at 2 places, cut out the thin wall section on the case.
- ⑥ Fix wires such that the wires will run around the terminal screws on the top case of R/C.

Cautions for wire connection

Use wires of no larger than 0.5 mm² for wiring running through the remote control case, Take care not to pinch the sheath.

Tighten by hand (0.7 N·m or less) the wire connection. If the wire is connected using an electric driver, it may cause failure or deformation.

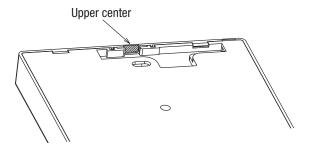


Wiring hole on bottom case

Install the upper case with care not to pinch wires of R/C.

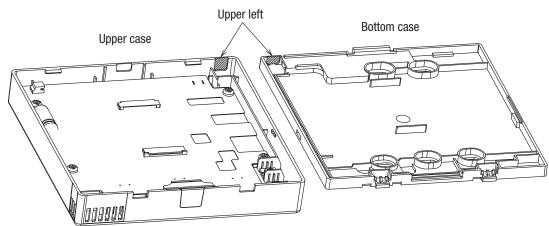
In case of exposing wiring (When the wiring is taken out from the "upper center" or "upper left" of R/C)

3 Cut out the thin wall sections on the cases for the size of wire.



When taking the wiring out from the upper center, open a hole before separating the upper and bottom cases. This will reduce risk of damaging the PCB and facilitate subsequent work.

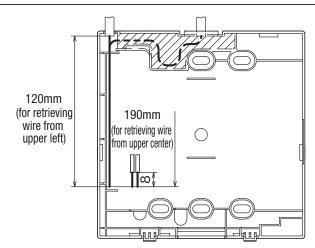
When taking the wiring out from the upper left, take care not to damage the PCB and not to leave any chips of cut thin wall inside.

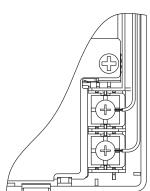


If the hole is cut too large, moisture, dust or insects may enter. Seal gaps with putty or the like.



- 4 Fix the bottom R/C case on a flat surface with wood screws.
- ⑤ In case of the upper center, pass the wiring behind the bottom case. (Hatched section)
- ⑥ Fix wires such that the wires will run around the terminal screw of the top case of R/C.
- Install the top case with care not to pinch wires of R/C.



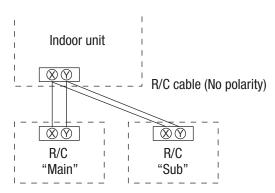


Main/Sub setting when more than one remote control are used

Main-Sub setting for use of two or more R/Cs

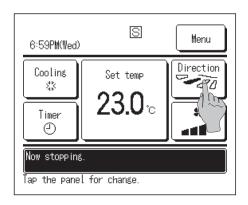
Up to two units of R/\bar{C} can be used at the maximum for 1 indoor unit or 1 group. One is main R/\bar{C} and the other is sub R/\bar{C} .

Operating range is different depending on the main or sub R/C.



Set the "Main" and "Sub" as described at Section 7 of installation manual attached to the remote control.

R/C function	Main	Sub
Run/Stop, setting temperature, fan speed and flap direction operations	0	0
High power and energy-saving operations	0	0
Energy-saving setting	0	_
R/C sensor	0	_
Test run menu operation	0	_
Room temperature range setting	0	_
Indoor unit settings	0	_
Individual flap control	0	_
Operation data display	0	_
Error history display	0	0



Note: Connection to personal computer

It can be set from a personal computer via the USB port (mini-B). Connect after removing the cover for USB port of upper case.

Replace the cover after use.

If dust, insect, etc. enters, it could cause electric shocks or breakdown.



Special software is necessary for the connection.

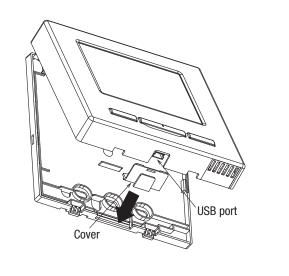
For details, view the web site or refer to the engineering data.

Do not connect to a personal computer without using the special software.

Do not connect the personal computer to the USB simultaneously with other USB devices.



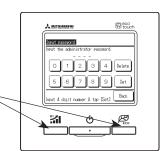
It could cause malfunction or breakdown of R/C or personal computer. $\,$



Note: Initializing of password

Administrator password (for daily setting items) and service password (for installation, test run and maintenance) are used.

- O The administrator password at factory default is "0000". This setting can be changed (Refer to User's Manual). When the administrator password is forgotten, it can be initialized, if the [Highpower] and the [Energy-saving] buttons are pushed simultaneously for 5 seconds on the administrator password input screen.
- Service password is "9999", which cannot be changed.
 When the administrator password is input, the service password is also accepted.



Note: Combination of R/C and indoor unit

- (1) It can be used as the combination of Main and Sub with RC-E3 to -E5 type of wireless R/C (optional part).
- (2) It can be combined with FD-V or FD-KX E6 type and later types of indoor units
- (3) In cases of combination with FD-V or FD-KX E6 type unit, there are some controlling items which cannot be used. If operating such items, the message "Invalid request" is displayed.

For details, refer to the installation manual attached to the remote control.

1.10.4 Installation of outdoor unit

(1) Models FDC100-140VN, 100-140VS

PRECAUTIONS FOR SAFETY

- When installing the equipment, carefully read the Precautions for safety and make sure that safety is maintained.
- The safety items contain important information regarding safety. Be sure to follow them. The symbols used and their meanings are as follows.

WARNING: Improper installation could result in serious accident causing death or serious injury.

CAUTION: Improper installation could result in serious accident.

- After installation, along with confirming that no abnormalities were seen from the operation test. Explain operating methods as well as maintenance methods to the user of this equipment, based on the owner's manual.
- For 3 phase power source outdoor unit, EN61000-3-2 and EN60555-3 are not applicable as consent by the utility company or notification to the utility company is given before usage.
- 3 pháse power source unit, both indoor and outdoor, is suitable for installation in a commercial and light industrial environment. If installed as a house-hold appliance it could cause electromagnetic interference.
- 5 and 6 HP units of single phase power source are equipment complying with IEC 61000-3-12.
- Ask the customer to keep this manual together with the operation manual

♠ WARNING

- Ask your dealer or a specialized service provider to install the unit. Improper installation work performed on the part of a user can result in water leaks, electric shocks and/or a fire
- Carry out installation work properly in accordance with this installation manual. Improper installation work could result in water leaks, electric shocks, or a fire.
- •When installing a unit in a small room, it is necessary to take appropriate precautions so that a refrigerant leak, if occurs, may not cause a buildup in excess of the concentration limit. For information on such precautions to prevent an excessive buildup, contact your dealer. If refrigerant leaks and builds up beyond the concentration limit it can cause a lack-of-oxygen accident.
- Install the unit securely onto a structure that can withstand its weight with a good safety margin. Installation onto a structure that is not strong enough can cause an accident such as a fall or drop of the unit.
- Install the unit according to the installation instructions so that it can withstand strong winds, such as typhoons, and earthquakes. Improper installation work can cause an accident such as a fall of the unit.
- Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.
- In wiring, ensure solid cable connection using the specified cables and fasten cables securely so that the terminal block may not be subject to external force working through cables. Improper connection or fastening can cause heat generation and a resultant fire.
- In wiring, arrange cables suitably so that they may be contained neatly in place and then attach a lid and/or a service panel securely. Improper installation can cause heat generation and a resultant fire.
- Prevent any substance other than the specified refrigerant (R410A) such as air from entering the refrigerant cycle in installing or moving the air conditioning system Contamination by air or a foreign substance can cause an abnormal pressure buildup inside the refrigerant cycle and a resultant explosion and personal injury.
- Use only parts supplied with the unit and specified supply parts for installation. The use of parts other than those approved by the manufacturer may cause a fall of the unit, water leaks, a fire, electric shocks, refrigerant leaks, performance degradation or control failures.
- Do not lay drain piping into a sewer where a toxic gas such as sulfuric gas is generated. There is a danger that a toxic gas will flow back into the room.
- If refrigerant gas leaks during installation work, ventilate the room. Refrigerant gas, if it comes into contact with bare fire, can cause the generation of a toxic gas.
- When installation work is completed, check the system for refrigerant gas leaks. If refrigerant gas leaks indoors and comes into contact with bare fire such as that of a fan heater, stove or cooking stove, it can cause the generation of a toxic gas.
- Sling the unit at the specified points with ropes properly rated for its weight in hoisting it for haulage. An improper hauling method can cause a fall of the unit resulting in death or serious personal injury.
- Always turn off power before you work inside the unit such as for installation or servicing. A failure to observe this instruction can cause a danger of receiving electric shocks.
- Do not open the operation valves (both liquid and gas valves) until refrigerant piping work, an air-tightness test and an air purge are completed. When refrigerant gas leaks during piping work, stop brazing pipes and ventilate the room. Refrigerant gas, when it comes into contact with bare fire, can cause the generation of a toxic gas.

Inverter driven single split PAC

100V • 125V • 140V

Designed for R410A refrigerant

Check before installation work

[Accessory]



- Model name and power source
- Refrigerant piping length
- Piping, wiring and miscellaneous small parts
- Indoor unit installation manual

♠ CAUTION

 Ground the unit. Do not connect the ground wire to gas piping, water piping, a lightning rod, or telephone ground wires. Improper grounding can result in electric shocks or fire when any trouble or earth leakage occurs.



- Be sure to install an earth leakage breaker. A failure to install an earth leakage breaker may result in the outbreak of fire or electric shocks.
- Do not install the unit in an area where a danger of flammable gas leaks exists. If a flammable gas does leak and build up around the unit, it can cause a fire.
- Install drain piping in accordance with the installation manual to ensure proper drainage and keep its temperature to prevent dew condensation. Improper piping work can cause water leaks and a soaking of household effects.
- Do not install the outdoor unit where winds from its fan blow directly onto a plant, etc. Winds can affect adversely to the plant, etc.
- Secure a space for inspection and maintenance as specified in the manual. An insufficient space can result in an accident such as a fall from the installation point and a resultant personal injury
- When the outdoor unit is installed on a roof top or at an elevated point, provide permanent ladders and handrails along the access route and fences and handrails around the outdoor unit
- In tightening a flare nut, use double spanners and observe the specified tightening torque. Care must be taken so as not to over-tighten a nut and damage the flare part. (Refer to the tightening torque) A loose or damaged flare part can cause a refrigerant gas leak and a resultant lack-of-oxygen accident.
- Dress the refrigerant piping with a heat insulation material for prevention of dew condensation. Improper heat insulation to prevent dew condensation can cause leaking or dripping water and a resultant soaking of household effects.
- When refrigerant piping work is completed, check it for air tightness with nitrogen gas and make sure that it does not have any leak. A refrigerant gas leak in a narrow room beyond the concentration limit can cause a lack-of-oxygen accident.

Notabilia as a unit designed for R410A

- Do not use any refrigerant other than R410A. R410A will rise to pressure about 1.6 times higher than that of a conventional refrigerant. A cylinder containing R410A has a pink indication mark on the top.
- A unit designed for R410A has adopted a different size indoor unit operation valve charge port and a different size check joint provided in the unit to prevent the charging of a wrong refrigerant by mistake. The processed dimension of the flared part of a refrigerant pipe and a flare nut's parallel side measurement have also been altered to raise strength against pressure. Accordingly, you are required to arrange dedicated R410A tools listed in the table on the right before installing or servicing this unit.
- Do not use a charge cylinder. The use of a charge cylinder will cause the refrigerant composition to change, which results in performance degradation.
- In charging refrigerant, always take it out from a cylinder in the liquid phase.
- All indoor units must be models designed exclusively for R410A. Check connectable indoor unit models in a catalog, etc. (A wrong indoor unit, if connected into the system, will impair proper system operation)

	Dedicated R410A tools				
a)	Gauge manifold				
b)	Charge hose				
c)	Electronic scale for refrigerant charging				
d)	Torque wrench				
e)	Flare tool				
f)	Protrusion control copper pipe gauge				
g)	Vacuum pump adapter				
h)	Gas leak detector				

1. HAULAGE AND INSTALLATION (Take particular care in carrying in or moving the unit, and always perform such an operation with two or more persons.)

When a unit is hoisted with slings for haulage, take into consideration the offset of its gravity center position. A CAUTION When a unit is noisieu with shings for manage, and the shings for

1) Delivery

- Deliver the unit as close as possible to the installation site before removing it from the packaging.
- When some compelling reason necessitates the unpacking of the unit before it is carried in, use nylon slings or protective wood pieces so as not to damage the unit by ropes lifting it.



2) Portage

• The right hand side of the unit as viewed from the front (diffuser side) is heavier. A person carrying the right hand side must take heed of this fact. A person carrying the left hand side must hold with his right hand the handle provided on the front panel of the unit and with his left hand the corner column section.

3) Selection of installation location for the outdoor unit

Be sure to select a suitable installation place in consideration of following conditions.

- O A place where it is horizontal, stable and can endure the unit weight and will not allow vibration transmittance of the unit.
- O A place where it can be free from possibility of bothering neighbors due to noise or exhaust air from the unit
- O A place where the unit is not exposed to oil splashes.
- A place where it can be free from danger of flammable gas leakage.
- O A place where drain water can be disposed without any trouble.
- O A place where the unit will not be affected by heat radiation from other heat source.
- A place where snow will not accumulate.
- O A place where the unit can be kept away 5m or more from TV set and/or radio receiver in order to avoid any radio or TV interference.
- O A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
- O A place where the unit will not be affected by electromagnetic waves and/or high-harmonic waves generated by other equipment. O A place where chemical substances like sulfuric gas, chloric gas, acid and alkali (including ammonia), which can harm the
- unit, will not be generated and not remain. O A place where strong wind will not blow against the outlet air blow of the unit.

4) Caution about selection of installation location

- (1) If the unit is installed in the area where the snow will accumulate, following measures are required. The bottom plate of unit and intake, outlet may be blocked by snow.
- 1.Install the unit on the base so that the bottom is higher than snow cover surface.



2. Provide a snow hood to the outdoor unit on site. Regarding outline of a snow hood, refer to our technical manual



3.Install the unit under eaves or providen the roof on site



Since drain water generated by defrost control may freeze, following measures are required.

- Don't execute drain piping work by using a drain elbow and drain grommets (optional parts). [Refer to Drain piping work.]
- Recommend setting Defrost Control (SW3-1) and Snow Guard Fan Control (SW3-2), [Refer to Setting SW3-1, SW3-2,]

- (2) If the unit can be affected by strong wind, following measures are required.

 Strong wind can cause damage of fan (fan motor), or can cause performance degradation, or can trigger anomalous stop
- of the unit due to rising of high pressure. 1.Install the outlet air blow side of the 2.Install the outlet air blow side of





the unit in a position perpendicular

3.The unit should be installed on the stable and level foundation. If the foundation is not level. tie down the unit with wires.

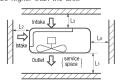


5) Installation space

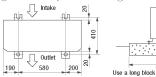
unit to face a wall of building, or

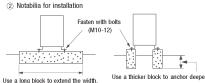
- Walls surrounding the unit in the four sides are not acceptable.
- There must be a 1-meter or larger space in the above.
- Where a danger of short-circuiting exists, install guide louvers.
- When more than one unit are installed, provide sufficient intake space consciously so that short-circuiting may not occur
- Where piling snow can bury the outdoor unit, provide proper snow guards.
- A barrier wall placed in front of the exhaust diffuser must not be higher than the unit.

			(mm
	10	00V~140	OV
Size Example installation	I	II	Ш
L1	Open	Open	500
L2	300	5	Open
L3	150	300	150
14	5	5	5



6) Installation





- In installing the unit, fix the unit's legs with bolts specified on the left.
- The protrusion of an anchor bolt on the front side must be kept within 15 mm.
- Securely install the unit so that it does not fall over during earthquakes or strong winds, etc.
- Refer to the left illustrations for information regarding concrete foundations.
- Install the unit in a level area. (With a gradient of 5 mm or less.)

Improper installation can result in a compressor failure, broken piping within the unit and abnormal noise generation.

7) To run the unit for a cooling operation, when the outdoor temperature is -5° C or lower.

• When the outdoor air temperature is -5°C or lower, provide a snow hood to the outdoor unit on site. So that strong wind will not blow against the outdoor heat exchanger directly. Regarding outline of a snow hood, refer to our technical manual.

2. REFRIGERANT PIPING WORK

1) Restrictions on unit installation and use

- Check the following points in light of the indoor unit specifications and the installation site.
 Observe the following restrictions on unit installation and use. Improper installation can result in a compressor failure or performance degradation.

		Marks appearting in the drawing							
		One-way pipe length difference	from the first branching po	int to the indoor u	nit	< 3m	≧ 3m		
Descriptions	Mod	el for outdoor units	Dimensional Iimitations	Single type	Twin type	Triple type A	Triple type B		
One-way pipe length of	100V,125V		≤ 50m			-	_		
refrigerant piping	140V		≥ 50111	L	L+L1+L2	L+L1+L2+L3	L+La+L1+L2+L3		
Main pipe length	100V,125V		≤ 50m	_		_	_		
man pipe length	140V		■ 00III	_	L	L	L		
One-way pipe length between the first branching point from to the second branching point	140V		≦ 5m	_	-	_	La		
One-way pipe length after the first	100V,125V 140V		- ≦30m	-	14.10	_	_		
branching point					L1, L2	L1, L2, L3	L1 (1)		
One-way pipe length after the first branching point and second branching point	140V		≦ 27 m	_	-	-	La+L2, La+L3 (1)		
One-way nine length difference	Twin type		≦ 10m			-	_		
One-way pipe length difference from the first branching point to	Triple type	140V	≦ 3m	_	L1-L2	L1-L2 , L2-L3 , L3-L1			
the indoor unit	in pie type	1404	≦ 10m			_	L-(La+L2), L1-(La+L3) (1)		
One-way pipe length difference from the second branching point to the indoor unit	140V		≦ 10m	_	-	-	L2—L3		
Elevation difference between	When the outdoor unit is positioned higher,		When the outdoor unit is positioned higher,		≦ 30m		н	н	Н
indoor and outdoor units	When the outo	loor unit is positioned lower,	≦ 15m	н н		п	п		
Elevation difference between indoor units			≦ 0.5m	_	h	h1, h2, h3	h1, h2, h3		

- The use restrictions appearing in the table above are applicable to the standard pipe size combinations shown in the table below. Where an existing pipe system is utilized, different one-way pipe length restrictions should apply depending on its pipe size. For more information, see "6. UTILIZATION OF EXISTING PIPING."
- With the triple pipe connection, the way of use is different when the difference of one-way pipe length after the first branching point is 3m to 10m. For details, refer to the above table and right figure.

Note (1) Install the indoor units so that L + L1 becomes the longest one-way pipe.

Keep the pipe length difference between L1 and (La + L2) or (La + L3) within 10m.

2) Determination of pipe size

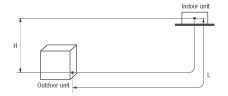
• Determine refrigerant pipe size pursuant to the following guidelines based on the indoor unit specifications.

		Model 100V		Model 125V			Model 140V		
		Gas pipe	Liquid pipe	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe
		φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52
0	utdoor unit connected	Flare	Flare	Flare	Flare	Flare	Flare	Flare	Flare
Refrig	erant piping (branch pipeL)	φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52
	Indoor unit connected	φ15.88	φ9.52	φ15.88	φ9.52			φ15.88	φ9.52
In the case of a single type	Capacity of indoor unit	Model 100V	Model VA40	Model 125V	Model VA50] '	_	Model 140V	Model VA60
	Branching pipe set	DIS-1	NA1	DIS	-WA1	DIS	S-WA1	DIS-	WA1
	Refrigerant piping (branch pipe L1,L2)	φ12.7	φ9.52	φ12.7	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52
In the case of a twin type	Indoor unit connected	φ12.7	φ6.35	φ12.7	φ6.35	φ15.88	φ6.35	φ15.88	φ9.52
	Capacity of indoor unit	Model 50V×2, Model VA20×2		Model 6	Model 60V×2 Model VA25×2		VA25×2	Model 71V×2, Model 30V×2	
	Branching pipe set							DIS-	TA1
	Refrigerant piping (branch pipe L1,L2,L3)							φ12.7	φ9.52
In the case of a triple type A	Indoor unit connected] -	_	_		1	_	φ12.7	φ6.35
	Capacity of indoor unit							Model 50Vx3, Model VA20x3	
	Branching pipe set							DIS-	NA1
	Refrigerant piping (branch pipe La)							φ15.88	φ9.52
	Refrigerant piping (branch pipe L1)							φ12.7	φ9.52
In the case of a triple type B	Indoor unit connected	1	_	-	-		_	DIS-	WA1
	Refrigerant piping (branch pipe L2,L3)							φ12.7	φ9.52
	Indoor unit connected	1						φ12.7	φ6.35
	Capacity of indoor unit	1						Model 50V×3,	Model VA20×3

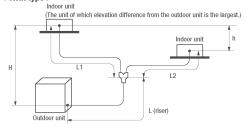
⚠ CAUTION

- When the 50V or 60V model is connected as an indoor unit, always use a φ9.52 liquid pipe for the branch (branching pipe indoor unit) and a different diameter joint supplied with the branching pipe set for connection with the indoor unit (φ6.35 on the liquid pipe side). If a ϕ 6.35 pipe is used for connection with a branching pipe, a refrigerant distribution disorder may occur, causing one of the indoor units to fall short of
- A riser pipe must be a part of the main. A branching pipe set should be installed horizontally at a point as close to an indoor unit as possible.
 A branching part must be dressed with a heat-insulation material supplied as an accessory.
 For the details of installation work required at and near a branching area, see the installation manual supplied with your branching pipe set.

< Single type >



< Twin type >

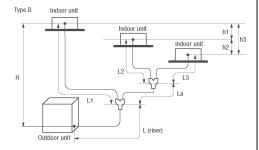


< Triple type >

Type A Indoor unit (The unit of which elevation difference from the outdoor unit is the largest.) Indoor unit L (riser)

< Triple type >

Outdoor unit

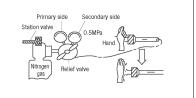


About brazing

Brazing must be performed under a nitrogen gas flow.

Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created. causing a critical failure from capillary tube or expansion valve clogging.





3) Refrigerant pipe wall thickness and material

- Select refrigerant pipes of the table shown on the right wall thickness and material as specified for each pipe size.
- This unit uses R410A. Always use 1/2H pipes having a 1.0mm or thicker wall for \$\phi\$19.05 or larger pipes, because 0-type pipes do not meet the pressure resistance requirement.

Pipe diameter [mm]	6.35	9.52	12.7	15.88	22.22	25.4	28.58
Minimum pipe wall thickness [mm]	8.0	0.8	0.8	1.0	1.0	1.0	1.0
Pipe material*	0-type pipe	0-type pipe	0-type pipe	0-type pipe	1/2H-type pipe	1/2H-type pipe	1/2H-type pipe

Flared pipe end: A (mm)

-0.4

9.1

13.2

16.6

19.7

Copper

pipe outer

diameter

 $\phi 6.35$

 $\phi 9.52$

φ12 7

 ϕ 15.88

*Phosphorus deoxidized seamless copper pipe C1220T, JIS H3300

NOTE

 Select pipes having a wall thickness larger than the specified minimum pipe thickness.

4) On-site piping work

⚠IMPORTANT

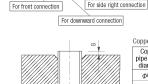
• Take care so that installed pipes may not touch components within a unit. If touching with an internal component, it will generate abnormal sounds and/or vibrations.

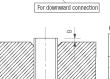
How to remove the service panel

First remove the five screws (x mark) of the service panel and push it down into the direction of the arrow mark and then remove it by pulling it toward you.

- The pipe can be laid in any of the following directions: side right, front, rear and downward.
- Remove a knock-out plate provided on the pipe penetration to open a minimum necessary area and attach an edging material supplied as an accessory by cutting it to an appropriate length before laying a pipe.
- Carry out the on site piping work with the operation valve fully closed.
- Give sufficient protection to a pipe end (compressed and blazed, or with an adhesive tape) so that water or foreign matters may not enter the piping.
- Bend a pipe to a radius as large as practical.(R100~R150) Do not bend a pipe repeatedly to correct its form. • Flare connection is used between the unit and refrigerant pipe. Flare a pipe after engaging a flare nut onto it. Flare dimensions for R410A are different from those for conventional R407C. Although we recommend the use of flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a protrusion control gauge.







For rear connection

Copper pipe protrusion for flaring: B (mm)							
Copper pipe outer	In the case of a rigid (clutch) type						
diameter	With an R410A tool	With a conventional tool					
$\phi 6.35$	0~0.5	0.7- 1.0					
φ9.52							
φ12.7		0.7~1.3					
φ15.88							

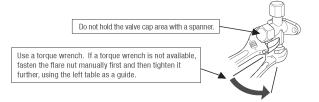
Tighten a flare joint securely with a double spanner.



Do not apply force beyond proper fastening torque in tightening the flare nut.

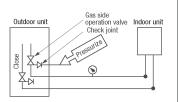
Fix both liquid and gas service valves at the valve main bodies as illustrated on the right, and then fasten them, applying appropriate fastening torque.

Operation valve size (mm)	Tightening torque (N-m)	Tightening angle (°)	Recommended length of a tool handle (mm)
φ6.35 (1/4")	14~18	45~60	150
φ9.52 (3/8")	34~42	30~45	200
φ12.7 (1/2")	49~61	30~45	250
φ15.88 (5/8")	68~82	15~20	300



5) Air tightness test

- ① Although outdoor and indoor units themselves have been tested for air tightness at the factory, check the connecting pipes after the installation work for air tightness from the operation valve's check joint equipped on the outdoor unit side. While conducting a test, keep the operation valve shut all the time.
- a) Raise the pressure to 0.5 MPa, and then stop, Leave it for five minutes to see if the pressure drops.
- b) Then raise the pressure to 1.5 MPa, and stop. Leave it for five more minutes to see if the pressure drops.
- c) Then raise the pressure to the specified level (4.15 MPa), and record the ambient temperature and the pressure.
- d) If no pressure drop is observed with an installation pressurized to the specified level and left for about one day, it is acceptable. When the ambient Temperature fall 1°C, the pressure also fall approximately 0.01 MPa. The pressure, if changed, should be compensated for.
- e) If a pressure drop is observed in checking e) and a) d), a leak exists somewhere. Find a leak by applying bubble test liquid to welded parts and flare joints and repair it. After repair conduct an air-tightness test again.
- ② In conducting an air-tightness test, use nitrogen gas and pressurize the system with nitrogen gas from the gas side. Do not use a medium other than nitrogen gas under any circumstances.



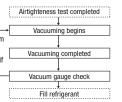
6) Evacuation

<Work flow> When the system has remaining moisture inside or a leaky point, the vacuum gauge indicator will rise.

Check the system for a leaky point and then draw air to create a vacuum again.

Run the vacuum pump for at least one hour after the vacuum gauge shows -101kPa or lower, (-755mmHg or lower)

Confirm that the vacuum gauge indicator does not rise even if the system is left for one hour or more.



Pay attention to the following points in addition to the above for the R410A and compatible machines.

- To prevent a different oil from entering, assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R407C, etc.).
- OUse a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.

7) Additional refrigerant charge

(1) Calculate a required refrigerant charge volume from the following table.

Single type>

Comigic typ					
Item Capacity	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
Model 100V					
Model 125V	2.0	0	0.06	3.8	30
Model 140V					

<Twin. triple. W-twin type>

Item	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Additional char per meter of re (liquid pipe)	ge volume (kg) frigerant piping	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge	
Capacity		charge volume (m)	Main pipe	Branch pipe	at the factory (kg)		
Model 100V							
Model 125V	2.0	0	0.06		3.8	30	
Model 140V							

- A standard refrigerant charge volume means a refrigerant charge volume for an installation with 0m long refrigerant piping.
- This unit contains factory charged refrigerant covering 30m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 30m refrigerant piping. When refrigerant piping exceeds 30m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 30m.
- When refrigerant piping is shorter than 3m, reduce refrigerant by 1kg from the factory charged volume and adjust to 2.8kg.
- If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, see "6. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

Model 100~140V Additional charge volume (kg) = { Main pipe length (m) - Length covered without additional charge 30 (m) } x 0.06 (kg/m) + Total length of branch pipes (m) x 0.06 (kg/m)

*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

To charge refrigerant again, recover refrigerant from the system first and then charge the volume calculated from the above table (Standard refrigerant charge volume + branch pipes charge volume)

(2) Charging refrigerant

- Since R410A refrigerant must be charged in the liquid phase, you should charge it, keeping the container cylinder upside down or using a refrigerant cylinder equipped with a siphon tube.
- Charge refrigerant always from the liquid side service port with the operation valve shut. When you find it difficult to charge a required amount, fully open the outdoor unit valves on both liquid and gas sides and charge refrigerant from the gas (suction) side service port, while running the unit in the cooling mode. In doing so, care must be taken so that refrigerant may be discharged from the cylinder in the liquid phase all the time. When the cylinder valve is throttled down or a dedicated conversion tool to change liquid-phase refrigerant into mist is used to protect the compressor, however, adjust charge conditions so that refrigerant will gasify upon entering the unit.
- In charging refrigerant, always charge a calculated volume by using a scale to measure the charge volume.
- When refrigerant is charged with the unit being run, complete a charge operation within 30 minutes. Running the unit with an insufficient quantity of refrigerant for a long time can cause a compressor failure.

NOTE Put down the refrigerant volume calculated from the pipe length onto the caution label attached on the back side of the service panel

8) Heating and condensation prevention

- (1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
- (2) Use a heat insulating material that can withstand 120°C or a higher temperature. Poor heat insulating capacity can cause heat insulating problems or cable deterioration.
 - Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.
 - All gas pipes must be securely heat insulated in order to prevent damage from dripping water that comes from the condensation formed on them during a cooling operation or personal injury from burns because their surface can reach quite a high temperature due to discharged gas flowing inside during a heating operation.
 - Wrap indoor units' flare joints with heat insulating parts (pipe cover) for heat insulation (both gas and liquid pipes).
 - Give heat insulation to both gas and liquid side pipes. Bundle a heat insulating material and a pipe tightly together so that no gaps may be left between them and wrap them together with a connecting cable by a dressing tape.
 - Although it is verified in a test that this air conditioning unit shows satisfactory performance under JIS condensation test conditions, both gas and liquid pipes need to be dressed with 20 mm or thicker heat insulation materials above the ceiling where relative humidity exceeds 70%.

Band (accessory Pipe cover (accessory) Wires for connecting indoor Exterior tape and outdoor units Gas piping Liquid piping insulation

3. DRAIN PIPING WORK

• Execute drain piping by using a drain elbow and drain grommets supplied separately as optional parts, where water drained from the outdoor unit is a problem.



- O There are 3 drain holes provided on the bottom plate of an outdoor unit to discharge condensed water.
- O When condensed water needs to be led to a drain, etc., install the unit on a flat base (supplied separately as an optional part) or concrete blocks.
- Oconnect a drain elbow as shown in the illustration and close the other two drain holes with grommets.

4. ELECTRICAL WIRING WORK For details of electrical cabling, refer to the indoor unit installation manual.

Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country. Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.

- •Do not use any supply cord lighter than one specified in parentheses for each type below.
- braided cord (code designation 60245 IEC 51).
- ordinary tough rubber sheathed cord (code designation 60245 IEC 53)
- flat twin tinsel cord (code designation 60227 IEC 41):

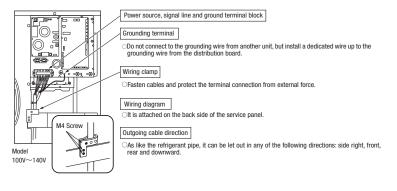
Do not use anything lighter than polychloroprene sheathed flexible cord (code designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.

- Ground the unit. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or telephone grounding wire. If impropery grounded, an electric shock or malfunction may result.
- •A grounding wire must be connected before connecting the power cable. Provide a grounding wire longer than the power cable.
- •The installation of an impulse withstanding type earth leakage breaker is necessary. A failure to install an earth leakage breaker can result in an acccident such as an electric shock or a fire.
- •Do not turn on the power until the electrical work is completeted
- •Do not use a condensive capacitor for power factor improvement under any circumstances. (It dose not improve power factor, while it can cause an abnormal overheat accident)
- For power supply cables, use conduits.
- Do not lay electronic control cables (remote control and signaling wires) and other cables together outside the unit. Laying them
 together can result in the malfunctioning or a failure of the unit due to electric noises.
- Fasten cables so that may not touch the piping, etc.
- When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection and then attach the cover securely. (Improper cover attachment can result in malfunctioning or a failure of the unif, if water penetrates into the box.)
- Always use a three-core cable for an indoor-outdoor connecting cable. Never use a shield cable.

Power cable, indoor-outdoor connecting wires

 Always perform grounding system installation work with the power cord unplugged.

- Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
- In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.
- Grounding terminals are provided in the control box.











VCT cabtyre cable

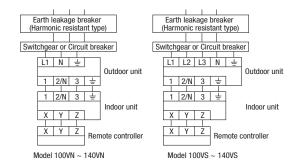
VVF flat cable

4-core cable

Shield cable



Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.



Model	Power source	Power cable thickness(mm²)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness × number	
100VN	Single phase 3 wire						
125VN	220-240V 50Hz	5.5	24	25			
140VN	140VN 220V 60Hz				φ1.6mm	φ1.6mm x 3	
100VS	3 phase 4 wire				φ1.611111	Ψ1.0ππ × σ	
125VS	380-415V 50Hz		15	27			
140VS	OVS 380V 60Hz						

At the connection with the duct type indoor unit.

And the connection with the date type indoor time.									
Model	Power source	Power cable thickness (mm²)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness × number			
100VN	Single phase 3 wire		25	24					
125VN	220-240V 50Hz 220V 60Hz 3 phase 4 wire 380-415V 50Hz 380V 60Hz	5.5	27	22					
140VN		8	28	32	φ1.6mm	φ1.6mm x 3			
100VS			16	26	φ 1.0	, , ,			
125VS		3.5	18	23					
140VS			19	21					

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgear or Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.
- The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

- Before conduct a test run, do not fail to make sure that the operation valves are closed.
- Turn on power 6 hours prior to a test run to energize the crank case heater.
- In case of the first operation after turning on power, even if the unit does not move for 30 minutes, it is not a breakdown.
- Always give a 3-minute or longer interval before you start the unit again whenever it is stopped.
- Removing the service panel will expose high-voltage live parts and high-temperature parts, which are quite

Take utmost care not to incur an electric shock or burns. Do not leave the unit with the service panel open.

- When you operate switches (SW3, SW5) for on-site setting, be careful not to touch a live part.
- CAUTION You cannot check discharge pressure from the liquid operation valve charge port.
 - The 4-way valve (20S) is energized during a heating operation.
 - When power supply is cut off to reset the unit, give 3 or more minutes before you turn on power again after power is cut off. If this procedure is not observed in turning on power again, "Communication error between outdoor and indoor unit" may occur.

1) Test run method

- (1) A test run can be initiated from an outdoor unit by using SW3-3 and SW3-4 for on-site setting.
- (2) Switching SW3-3 to ON will start the compressor.
- (3) The unit will start a cooling operation, when SW3-4 is OFF, or a heating operation, when SW3-4 is ON.
- (4) Do not fail to switch SW3-3 to OFF when a test run is completed.

SW-3-3 SW-3-4 0FF Cooling during a test run ON ON Heating during a test run Normal or After the test operation 0FF

2) Checking the state of the unit in operation

Use check joints provided on the piping before and after the four-way valve installed inside the outdoor unit for checking discharge pressure and suction pressure. As indicated in the table shown on the right, pressure detected at each point will vary depending on whether a cooling or heating operation has been selected.

	Check joint of the pipe	Charge port of the gas operation valve
Cooling operation	Discharge pressure (High pressure)	Suction pressure (Low pressure)
Heating	Suction pressure (Low pressure)	Discharge pressure (High pressure)

3) Setting SW3-1, SW3-2, on-site

- (1) Defrost control switching (SW3-1)
 - ·When this switch is turned ON, the unit will run in the defrost mode more frequently.
- •Set this switch to ON, when installed in a region where outdoor temperature falls below zero during the season the unit is run for a heating operation.
- (2) Snow guard fan control (SW3-2)
- ·When this switch is turned on, the outdoor unit fan will run for 10 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running.
- ·When the unit is used in a very snowy country, set this switch to ON.

4) Failure diagnosis in a test run

Error indicated on the		(The cycles of 5 seconds)	Fallows accord	A - E		
remote control unit	Red LED	Green LED	Failure event	Action		
E34	Blinking once	Blinking continuously	Open phase	Check power cables for loose contact or disconnection		
E40	Blinking once	Blinking continuously	63H1 actuation or operation with operation valves shut (occurs mainly during a heating operation)	Check whether the operation valves are open. If an error has been canceled when 3 minutes have elapsed.		
E49	E49 Blinking once Blinking continuously		Low pressure error or operation with operation valves shut (occurs mainly during a cooling operation)	since a compressor stop, you can restart the unit by effecting Check Reset from the remote control unit.		

• If an error code other than those listed above is indicated, refer to the wiring diagram of the outdoor unit and the indoor unit.

5) The state of the electronic expansion valve.

The following table illustrates the steady states of the electronic expansion valve

The following table indicates the steady states of the electronic expansion valve.								
	When power is turned on		nes to a normal stop	When the unit comes to an abnormal stop				
	When power is turned on	During a cooling operation	During a heating operation	During a cooling operation	During a heating operation			
Valve for a cooling operation	Complete shut position	Complete shut position	Full open position	Full open position	Full open position			
Valve for a heating operation	Full open position	Full open position	Complete shut position	Full open position	Full open position			

6) Heed the following on the first operation after turning on the circuit breaker.

This outdoor unit may start in the standby mode (waiting for a compressor startup), which can continue up to 30 minutes, to prevent the oil level in the compressor from lowering on the first operation after turning on the circuit breaker. If that is the case, do not suspect a unit failure.

A failure to observe these instructions can result in a compressor breakdown.

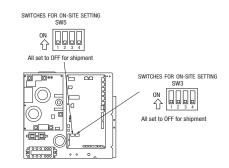
Items to checkbefore a test run

• When you leave the outdoor unit with power supplied to it, be sure to close the panel.

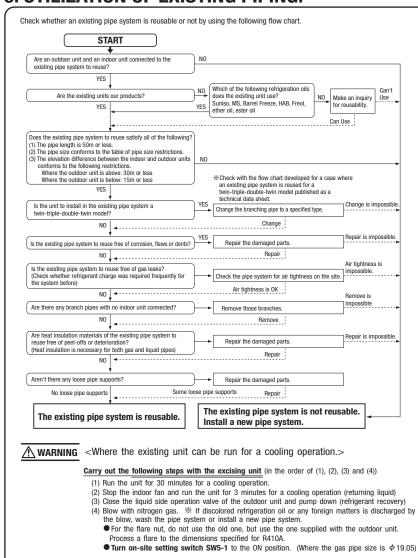
Item No.used in the installation manual	Item	Check item			
		If brazed, was it brazed under a nitrogen gas flow?			
	Refrigerant	Were air-tightness test and vacuum extraction surely performed?			
2	plumbing	Are heat insulation materials installed on both liquid and gas pipes?			
		Are operation valves surely opened for both liquid and gas systems?			
		Have you recorded the additional refrigerant charge volume and refrigerant pipe length on the panel's label?			
		Is the unit free of cabling errors such as uncompleted connection, an absent or reversed phase?			
		Are properly rated electrical equipments used for circuit breakers and cables?			
		Doesn't cabling cross-connect between units, where more than one unit are installed?			
		Aren't indoor-outdoor signal wires connected to remote control wires?			
4	Electric	Do indoor-outdoor connecting cables connect between the same terminal numbers?			
·	wiring	Are either VCT cabtyre cables or WF flat cables used for indoor-outdoor connecting cables?			
		Does grounding satisfy the D type grounding (type III grounding) requirements?			
		Is the unit grounded with a dedicated grounding wire not connected to another unit's grounding wire?			
		Are cables free of loose screws at their connection points?			
		Are cables held down with cable clamps so that no external force works onto terminal connections?			
	In deep work	Is indoor unit installation work completed?			
_	Indoor unit	Where a face cover should be attached onto an indoor unit, is the face cover attached to the indoor unit?			

Test run procedure Always carry out a test run and check the following in order as listed.

Turn	The contents of operation	Check		
1	Open the gas side operation valve fully.			
2	Open the liquid side operation valve fully.			
3	Close the panel.			
4	Where a remote control unit is used for unit setup on the installation site, follow instructions for unit setup on the installation site with a remote control unit.			
(6)	SW3-3 ON / SW3-4 OFF: the unit will start a cooling operation.			
(3)	SW3-3 ON / SW3-4 ON: the unit will start a heating operation.			
6	When the unit starts operation, press the wind direction button provided on the remote control unit to check its operation.			
7	Place your hand before the indoor unit's diffuser to check whether cold (warm) winds come out in a cooling (heating) operation.			
8	Make sure that a red LED is not blinking.			
9	When you complete the test run, do not forget to turn SW3-3 to the OFF position.			
10	Where options are used, check their operation according to the respective instruction manuals.			



6. UTILIZATION OF EXISTING PIPING



- <Table of pipe size restrictions>
- ⊚:Standard pipe size ○:Usable
- △:Restricted to shorter pipe length limits

Additional	Additional charging amount of refrigerant per 1m		0.06kg/m		kg/m
Pipe size	Liquid pipe	φ9.52	φ9.52	φ12.7	φ12.7
ripe size	Gas pipe		φ19.05	φ15.88	φ19.05
	Usability	0	○※1	\triangle	△※1
100V	Maximum one-way pipe length	50	50	25	25
	Length covered without additional charge	30	30	φ12.7 φ15.88	15
	Usability	0	○%1	\triangle	△※1
125V	Maximum one-way pipe length	50	50	25	25
	Length covered without additional charge	30	30	15	15
	Usability	0	○※1	Δ	△※1
140V	Maximum one-way pipe length	50	50	25	25
	Length covered without additional charge	30	30	15	15

- ¾1 Because of its insufficient pressure resistance, turn the dip switch SW5-1 provided on the outdoor unit board to the ON position for ϕ 19.05 \times t1.0.
 - (In the case of a twin-triple-double-twin model, this also applies to the case where ϕ 19.05 \times t1.0 is used in a pipe system after the first branching point.
 - However, you need not turn the dip switch SW5-1 to the ON position, if 1/2H pipes or pipes having 1.2 or thicker walls are
- %2 When the main pipe length exceeds 40m, a significant capacity drop may be experienced due to pressure loss in the liquid pipe system. Use ϕ 12.7 for the liquid main.
- 3 Keep the total pipe length, not one-way pipe length, below the specified maximum nine length
- When refrigerant piping is shoter than 3m, reduce refrigerant by 1kg from factory charged volume and adjust to 2.8kg.
- Any combinations of pipe sizes not listed in the table or marked with × in the table are not usable.

<Pipe system after the branching pipe>

- ○:Standard pipe size ○:Usable ×:Not usable
- Any combinations of pipe sizes not listed in the table or marked with × in the table are not usable.

			After 1st branch *4			After 2nd branch			
Addition	Additional charging amount of refrigerant per 1m			0.06kg/m			0.06kg/m		
Dina sina	Liqui	d pipe	φ9.52		φ9.52 φ9.52				
Pipe size	Gas pipe		φ12.7	φ15.88	φ19.05 % 1	φ12.7	φ15.88	φ19.05 % 1	
Model	Combination type	Combination of capacity							
100V	Twin	50+50	0	0	×	-	_	-	
125V	Twin	60+60	0	0	×	-	_	-	
	Twin	71+71	×	0	0	_	_	_	
140V	Triple A	50+50+50	0	0	×	-	-	-	
	Triple B	50+50+50	×	○ ※ 5	○※5	0	0	×	

- *4 Piping size after branch should be equal or smaller than main pipe size.
- 3.5 Piping size from first branch to indoor unit should be $\phi 9.52$ (Liquid) $/\phi 12.7$ (Gas).
- <The model types of existing units of which branching pipes are reusable.> Models later than Type 8.
 - ●FDC * * * 8 □ □ □
 - FDCP * * * 8 □ □ □

The branching pipes used with models other than those listed above are not reusable because of their insufficient pressure resistance. Please use our genuine branching pipes for R410A.

• * * are numbers representing horsepower. $\Box \Box \Box$ is an alphanumeric letter.

Formula to calculate additional charge volume

Additional charge volume (kg) = {Main pipe length (m) - Length covered without additional charge shown in the table (m)} × Additional charge volume per meter of pipe shown in the table (kg/m) + Total length of branch pipes (m) × Additional charge volume per meter of pipe shown in the table (kg/m)

* If you obtain a negative figure as a result of calculation, no additional refrigerant needs to be charged. **Example)** When an 140V (single installation) is installed in a 20m long existing pipe system (liquid ϕ 12.7, gas ϕ 19.05). the quantity of refrigerant to charge additionally should be (20m-15m) x 0.08kg/m = 0.4 kg.

- <Where the existing unit cannot be run for a cooling operation.> Wash the pipe system or install a new pipe system.
- If you choose to wash the pipe system, contact our distributor in the area.

PSB012D923L

Inverter driven single split PAC 200V · 250V Designed for R410A refrigerant

This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to page 204, When install the unit, be sure to check whether the selection of installation place, power supply specifications, usage limitation (piping length, height differences between indoor and outdoor units, power supply voltage and etc.) and installation spaces

SAFETY PRECAUTIONS

- We recommend you to read this "SAFETY PRECAUTIONS" carefully before the installation work in order to gain full advantage of the functions of the unit and to avoid malfunction due to mishandling.
- The precautions described below are divided into WARNING and CAUTION. The matters with possibilities leading to serious consequences such as death or serious personal injury due to erroneous handling are listed in the AWARNING and the matters with possibilities leading to personal injury or damage of the unit due to erroneous handling including probability leading to serious consequences in some cases are listed in ACAUTION . These are very important precautions for safety. Be sure to observe all of them without fail.
- The meaning of "Marks" used here are as shown below.

Never do it under any circumstance.

(2) Models FDC200, 250VS

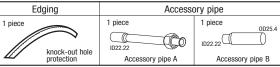


Always do it according to the instruction

- For this outdoor unit, EN61000-3-2 is not applicable if consent by the utility company or nortification to the utility company is given before usage.
- Be sure to confirm no anomaly on the equipment by commissioning after completed installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.
- Keep the installation manual together with owner's manual at a place where any user can read at any time. Moreover if necessary, ask to hand them to a new user

Check before installation work

[Accessory 1 Edging



- Model name and power source
- Refrigerant piping length
- Piping, wiring and miscellaneous small parts
- Indoor unit installation manual

WARNING



Installation must be carried out by the qualified installer. If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury, as a result of a system

Install the system in full accordance with the instruction manual.

Use the original accessories and the specified components for installation.

- Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire.
- If parts other than those prescribed by us are used, it may cause fall of the unit, water leaks, electric shocks, fire, refrigerant leak, substandard performance, control failure and personal injury.
- When installing in small rooms, take prevention measures not to exceed the density limit of refrigerant in the event of leakage accordance with ISO5149. Consult the expert about prevention measures, If the density of refrigerant exceeds the limit in the event of leakage, lack of oxygen can occur, which

can cause serious accidents.

- Ventilate the working area well in the event of refrigerant leakage during installation. If the refrigerant comes into contact with naked flames, poisonous gas is produced.
- After completed installation, check that no refrigerant leaks from the system.
- If refrigerant leaks into the room and comes into contact with an oven or other hot surface, poisonous gas is produced.
- Hang up the unit at the specified points with ropes which can support the weight in lifting for portage. And to avoid jolting out of alignment, be sure to hang up the unit at 4-point support.

An improper manner of portage such as 3-point support can cause death or serious personal injury due to falling of the unit

- Install the unit in a location with good support.
- Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.
- Ensure the unit is stable when installed, so that it can withstand earthquakes and strong winds. Unsuitable installation locations can cause the unit to fall and cause material damage and personal injury.
- The electrical installation must be carried out by the qualified electrician in accordance with "the norm for electrical work" and "national wiring regulation", and the system must be connected to the dedicated circuit.
- Power supply with insufficient capacity and incorrect function done by improper work can cause electric shocks and fire,
- Be sure to shut off the power before starting electrical work.
- Failure to shut off the power can cause electric shocks, unit failure or incorrect function of equipment.
- Be sure to use the cables conformed to safety standard and cable ampacity for power distribution work. Unconformable cables can cause electric leak, anomalous heat production or fire.
- Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent overloading the terminal blocks

Loose connections or cable mountings can cause anomalous heat production or fire.

Arrange the wiring in the control box so that it cannot be pushed up further into the box. Install the service panel correctly. Incorrect installation may result in overheating and fire.



- Do not perform brazing work in the airtight room It can cause lack of oxygen.
- Use the prescribed pipes, flare nuts and tools for R410A. Using existing parts (for R22 or R407C) can cause the unit failure and serious accidents due to burst of the refrigerant circuit.
- Tighten the flare nut by using double spanners and torque wrench according to prescribed method. Be sure not to

Loose flare connection or damage on the flare part by tightening with excess torque can cause burst or refrigerant leaks which may result in lack of oxygen.

● Do not open the service valves for liquid line and gas line until completed refrigerant piping work, air tightness test and evacuation.

If the compressor is operated in state of opening service valves before completed connection of refrigerant piping work, you may incur frost bite or injury from an abrupt refrigerant outflow and air can be sucked into refrigerant circuit, which can cause burst or personal injury due to anomalously high pressure in the refrigerant

- Only use prescribed optional parts. The installation must be carried out by the qualified installer.
- If you install the system by yourself, it can cause serious trouble such as water leaks, electric shocks, fire.
- Do not perform any change of protective device itself or its setup condition The forced operation by short-circuiting protective device of pressure switch and temperature controller or the use of non specified component can cause fire or burst.
- Be sure to switch off the power supply in the event of installation, inspection or servicing.
- If the power supply is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan.
- Consult the dealer or an expert regarding removal of the unit. Incorrect installation can cause water leaks, electric shocks or fire
- Stop the compressor before closing valve and disconnecting refrigerant pipes in case of pump down operation. If disconnecting refrigerant pipes in state of opening service valves before compressor stopping, you may incur frost bite or injury from an abrupt refrigerant outflow and air can be sucked, which can cause burst or personal injury due to anomalously high pressure in the refrigerant circuit
- Ensure that no air enters in the refrigerant circuit when the unit is installed and removed. If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and



shocks.

nersonal injury.

- Be sure to fix up the service panels. Incorrect fixing can cause electric shocks or fire due to intrusion of dust or water
- Do not perform any repairs or modifications by yourself. Consult the dealer if the unit requires repair. If you repair or modify the unit, it can cause water leaks, electric shocks or fire.



Notabilia as a unit designed for R410A

- Do not use any refrigerant other than R410A. R410A will rise to pressure about 1.6 times higher than that of a conventional refrigerant. A cylinder containing R410A has a pink indication mark on the top.
- A unit designed for R410A has adopted a different size indoor unit operation valve charge port and a different size check joint provided in the unit to prevent the charging of a wrong refrigerant by mistake. The processed dimension of the flared part of a refrigerant pipe and a flare nut's parallel side measurement have also been altered to raise strength against pressure. Accordingly, you are required to arrange dedicated R410A tools listed in the table on the right before installing or servicing this unit.
- Do not use a charge cylinder. The use of a charge cylinder will cause the refrigerant composition to change, which results in performance degradation.
- In charging refrigerant, always take it out from a cylinder in the liquid phase.
- All indoor units must be models designed exclusively for R410A. Check connectable indoor unit models in a catalog, etc. (A wrong indoor unit, if connected into the system, will impair proper system operation)

	Dedicated R410A tools					
a)	Gauge manifold					
b)	Charge hose					
c)	Electronic scale for refrigerant charging					
d)	Torque wrench					
e)	Flare tool					
f)	Protrusion control copper pipe gauge					
g)	Vacuum pump adapter					
h)	Gas leak detector					

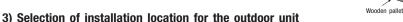
1. HAULAGE AND INSTALLATION (Take particular care in carrying in or moving the unit, and always perform such an operation with two or more persons.)

△CAUTION

When a unit is hoisted with slings for haulage, take into consideration the offset of its gravity center position. If not properly balanced, the unit can be thrown off-balance and fall.

1) Delivery

- Deliver the unit as close as possible to the installation site before removing it from the packaging.
- When some compelling reason necessitates the unpacking of the unit before it is carried in, use nylon slings or protective wood pieces so as not to damage the unit by ropes lifting it.



Be sure to select a suitable installation place in consideration of following conditions.

- O A place where it is horizontal, stable and can endure the unit weight and will not allow vibration transmittance of the unit.
- A place where it can be free from possibility of bothering neighbors due to noise or exhaust air from the unit
- O A place where the unit is not exposed to oil splashes.
- O A place where it can be free from danger of flammable gas leakage.
- A place where drain water can be disposed without any trouble.
- O A place where the unit will not be affected by heat radiation from other heat source.
- A place where snow will not accumulate.
- O A place where the unit can be kept away 5m or more from TV set and/or radio receiver in order to avoid any radio or TV interference.
- O A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
- O A place where the unit will not be affected by electromagnetic waves and/or high-harmonic waves generated by other equipment.
- O A place where chemical substances like sulfuric gas, chloric gas, acid and alkali (including ammonia), which can harm the unit, will not be generated and not remain.
- O A place where strong wind will not blow against the outlet air blow of the unit

4) Caution about selection of installation location

- (1) If the unit is installed in the area where the snow will accumulate, following measures are required. The bottom plate of unit and intake, outlet may be blocked by snow.
- 1.Install the unit on the base so that the bottom is higher than snow cover surface.



2 Provide a snow hood to the outdoor unit on site Regarding outline of a snow hood, refer to our technical



3.Install the unit under eaves or provide the roof on site



Since drain water generated by defrost control may freeze, following measures are required.

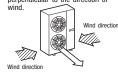
- Don't execute drain piping work by using a drain elbow and drain grommets (optional parts). [Refer to Drain piping work.]
- Recommend setting Defrost Control (SW3-1) and Snow Guard Fan Control (SW3-2). [Refer to Setting SW3-1, SW3-2.]
- (2) If the unit can be affected by strong wind, following measures are required.

Strong wind can cause damage of fan (fan motor), or can cause performance degradation, or can trigger anomalous stop of the unit due to rising of high pressure

unit to face a wall of building, or provide a fence or a windbreak



1.Install the outlet air blow side of the 2.Install the outlet air blow side of the unit in a nosition perpendicular to the direction of



3.The unit should be installed on the stable and level foundation. If the foundation is not level. tie down the unit with wires



2) Portage

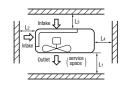
• The right hand side of the unit as viewed from the front (diffuser side) is heavier. A person carrying the right hand side must take heed of this fact. A person carrying the left hand side must hold with his right hand the handle provided on the front panel of the unit and with his left hand the corner column section.



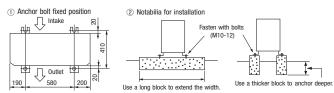
5) Installation space

- Walls surrounding the unit in the four sides are not acceptable.
- There must be a 1-meter or larger space in the above.
- Where a danger of short-circuiting exists, install guide louvers.
- When more than one unit are installed, provide sufficient intake space consciously so that short-circuiting may not occur.
- Where piling snow can bury the outdoor unit, provide proper snow guards.
- A barrier wall placed in front of the exhaust diffuser must not be higher than the unit.

			(mm	
	200V, 250V			
Size Example installation	I	II	Ш	
L1	Open	Open	500	
L2	300	5	Open	
L3	150	300	150	
L4	5	5	5	



6) Installation



- In installing the unit, fix the unit's legs with bolts specified on the left.
- The protrusion of an anchor bolt on the front side must be kept within 15 mm.
- Securely install the unit so that it does not fall over during earthquakes or strong winds, etc.
- Refer to the left illustrations for information regarding concrete foundations.
- Install the unit in a level area. (With a gradient of 5 mm or less.)

Improper installation can result in a compressor failure, broken piping within the unit and abnormal noise generation.

7) To run the unit for a cooling operation, when the outdoor temperature is -5°C or lower.

● When the outdoor air temperature is -5°C or lower, provide a snow hood to the outdoor unit on site. So that strong wind will not blow against the outdoor heat exchanger directly. Regarding outline of a snow hood, refer to our technical manual.

1) Restrictions on unit installation and use

- Check the following points in light of the indoor unit specifications and the installation site.
 Observe the following restrictions on unit installation and use. Improper installation can result in a compressor failure or performance degradation.

							Ma	urks appearting in the drawing				
		lne-way pip	e length difference from the	first branching	point to the ind	oor unit	< 3m	≥ 3m				
Restrictions		Model fo	r outdoor units	Dimensional restrictions	Single type	Twin type	Triple type A	Triple type B	W-twin type			
	2000/ Liquid Bining Ø9.52				≤ 40m			L+L1, L+L2, L+L3	L+L1m			
One-way pipe length of refrigerant piping	2001	Erquiu i ipiiig	φ12.7	≤ 70m	< 70m		2.21()		L+La+L1, L+La+L2			
	200V- 250V	Gas piping	φ25.4 or φ28.58 φ22.22	≤ 35m	-	L+L2	L+L1, L+La+L2, L+La+L3 (2) (type B)	Prohibitation of the use	L+Lb+L3, L+Lb+L4			
	2300		φ22.22	≤ 40m								
	200V	Liquid Piping	φ9.52 φ12.7	≥ 40m	-			L+L1 (1)				
Main pipe length	\vdash		φ12.7 φ25.4 or φ28.58	≤ 70m	- L	L		L				
	200V- 250V	Gas piping	φ23.4 01 ψ26.36	≤ 35m	< 25m			Prohibitation of the use				
One-way pipe length between the first branching	200V		,				_	La				
point from to the second branching point	250V	250V		JV ≤		≤ 5m	-	-	La	Prohibitation of the use	1 -	
One-way pipe length after the first branching	200V			- 00			L1, L2, L3	L1 (1)	La+L1, L+La+L2			
point	250V	50V ≤ 30m		-	-	L1, La+L2, L+La+L3 (2) (type B)	Prohibitation of the use	Lb+L3, Lb+L4				
One-way pipe length after the first branching point and second branching point	200V			≤ 27m	-	-	_	La+L2, La+L3(1)	-			
	Twin ty	Twin type		≤ 10m			_					
		200V		≤ 3m]		L1-L2 , L2-L3 , L3-L1					
One-way pipe length difference from the first	Triple ty	pe		≤ 10m	_	111-121	-	L1-(La+L2), L1-(La+L3) (1)	_			
branching point to the indoor unit		250V		≤ 3m		1 1	L1-(La+L2) , L1-(La+L3) , L2-L3 (2) (type B)	Prohibitation of the use				
	W-twin t	ype 200V-	250V	≤ 10m			-	=	L1-L2 , L3-L4 (L1+La)-(L3+Lb) , (L1+La)-(L4+Lb) (L2+La)-(L3+Lb) , (L2+La)-(L4+Lb)			
One-way pipe length difference from the second branching point to the indoor unit		≤ 10m	-	-	-	L2—L3	L1-L2 , L3-L4					
Total pipe length after the second branching point	t			≤ 15m	-	-	_	-	L1+L2, L3+L4			
Elevation difference between indoor and outdoor	When	the outdoor	unit is positioned higher,	≤ 30m	н	н	н	н	н			
units	When	the outdoor	unit is positioned lower,	≤ 15m					н			
Elevation difference between indoor units				≤ 0.5m	_	h	h1, h2, h3	h1, h2, h3	h1, h2, h3, h4, h5, h6			

△ CAUTION

- For model 200V, always use \$\phi\$12.7mm liquid pipes, when the length of the main "L" exceeds 40m. If \$\phi\$9.52mm pipes are used in an installation having over 40m piping, they can cause performance degradation and/or water leaks from an indoor unit.

 The use restrictions appearing in the table above are applicable to the standard pipe size combinations shown in the table below. Where an existing pipe system is utilized, different one-way pipe length restrictions should apply depending on its pipe size. For more information, see "6. UTILIZATION OF EXISTING PIPING."

With the triple pipe connection, the way of use is different when the difference of one-way pipe length after the first branching point is 3m to 10m. For details, refer to the above table and right figure.

Note (1) Install the indoor units so that L+L1 becomes the longest one-way pipe. Keep the pipe length difference between L1 and (La+L2) or (La+L3) within 10m. Note (2) Connect the unit that is the maximum capacity with L1.

2) Determination of pipe size

Determine refrigerant pipe size pursuant to the following guidelines based on the indoor unit specifications.

		Mode	1 200V			Mode	1 250V		
	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe	
0.4	Outdoor unit connected		φ9.52	φ22.22	φ12.7	φ22.22	φ12.7	φ22.22	φ12.7
			Flare	Brazing	Flare	Brazing	Flare	Brazing	Flare
Refrigeran	t piping (branch pipeL)	φ22.22	φ9.52 or φ12.7	φ22.22	φ12.7	φ22.22	φ12.7	φ22.22	φ12.7
In the case of asingle type	Indoor unit connected	φ25.4	φ9.52	φ25.4	φ12.7		_	_	_
ill tile case of astrigie type	Capacity of indoor unit	Model 200	V, Model VA80	Model 250V, N	Nodel VA100		_		
	Branching pipe set	DIS	S-WB1	DIS-					
In the case of atwin type	Refrigerant piping (branch pipe L1,L2)	φ15.88	φ9.52	φ15.88	φ9.52				
in the case or atwin type	Indoor unit connected	φ15.88	φ9.52	φ15.88	φ9.52		_	-	-
	Capacity of indoor unit	Model 100V×	2, Model VA40×2	Model 125V×2,	Model VA50×2				
	Branching pipe set	DI	S-TB1						
In the case of a triple type A	Refrigerant piping (branch pipe L1,L2,L3)	φ15.88	φ9.52			-		-	
in the case of a triple type A	Indoor unit connected	φ15.88	φ9.52		_				
	Capacity of indoor unit	Model 71V×3, Model VA30×3							
	Branching pipe set	DIS	S-WB1	DIS-	WB1	DIS-WB1		DIS-1	VB1
	Refrigerant piping (branch pipe La,L1)	φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52
	Branching pipe set	DIS-WA1		DIS-I			-WA1	DIS-1	
In the case of a triple type B	Refrigerant piping (branch pipe L2,L3)	φ15.88	φ9.52	φ12.7	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52
	Indoor unit connected	φ15.88	φ9.52	φ12.7	φ6.35	φ15.88	φ9.52	φ15.88	φ6.35
Capacity of indoor unit		Model 71V×3	, Model VA30×3	Model 60V×	2+ Model 125V	Model 71V×2+Model 100V Model VA30×2+Model VA40		Model VA25×2+Model VA50	
	Branching pipe set	DIS	S-WA1	DIS-1	WB1	DIS-	-WB1		
	Refrigerant piping (branch pipe La,Lb)	φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52	1	
In the case of a W-twin tyne	In the case of a W-twin type Branching pipe set Refrigerant piping (branch pipe L1,L2,L3,L4)		WA1 × 2	DIS-WA	11 × 2	DIS-WA1 × 2		1	
in the case of a W-twin type			φ9.52	φ12.7	φ9.52	φ12.7	φ9.52	-	
	Indoor unit connected	φ12.7	φ6.35	φ12.7	φ6.35 φ12.7 φ6.35				
	Capacity of indoor unit	Model 50V×4,	Model VA20×4	Model	60V×4	Model 1	VA25×4		

⚠ CAUTION

- When the model 50V or model 60V model is connected as an indoor unit, always use a φ9.52 liquid pipe for the branch (branching pipe indoor unit) and a different diameter joint supplied with the branching pipe set for connection with the indoor unit (φ6.35 on the liquid pipe side).
- If a 66.35 pie is used for connection with a branching pie, a refigerant distribution disorder may occur, causing one of the indoor units to fall short of the rated capacity.

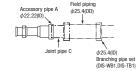
 A riser pipe must be a part of the main. A branching pie, a refigerant distribution disorder may occur, causing one of the indoor units to fall short of the rated capacity.

 A riser pipe must be a part of the main. A branching pipe as the should be installed horizontally at a point as close to an indoor unit as possible.

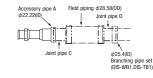
 A branching part must be dressed with a heat-insulation material supplied as an accessor.
- For the details of installation work required at and near a branching area, see the installation manual supplied with your branching pipe set.

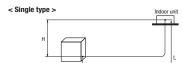
3) How to use pipe reducer.

- φ22.22(0D) size of the refrigerant gas pipe can be used by using accessory pipe A,B.
 - Accessory pine B Accessory pipe A φ22.22(ID) φ22.22(ID) Field piping \$\phi 22.22(0D)\$ φ25.4(ID) Branching pipe set (DIS-WR1 DIS-TR1)
- \$\phi\$25.4(0D) size of the refrigerant gas pipe can be used by using accessory pipe A and joint pipe C. Ready joint C yourself. Need not accessory pipe B

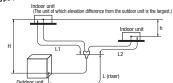


φ28.58(OD) size of the refrigerant gas pipe can be used by using accessory pipe A and joint pipe C,D. Ready joint C and D yourself.



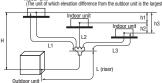


< Twin type >

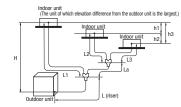


< Triple type > Type A

Indoor unit
(The unit of which elevation difference from the outdoor unit is the largest.)



< Triple type >



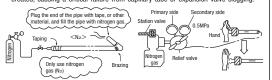
< W-twin type >

(The unit of which elevation difference from the outdoor unit is the largest.)

About brazing

Brazing must be performed under a nitrogen gas flow.

Without nitrogen gas, a large quantity of foreign matters (oxidized film) are created, causing a critical failure from capillary tube or expansion valve clogging.



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4) Refrigerant pipe wall thickness and material

- Select refrigerant pipes of the table shown on the right wall thickness and material as specified for each pipe size.
- This unit uses R410A. Always use 1/2H pipes having a 1.0mm or thicker wall for ϕ 19.05 or larger pipes because 0-type pipes do not meet the pressure resistance requirement.

	Pipe diameter [mm]	6.35	9.52	12.7	15.88	22.22	25.4	28.58
Эе	Minimum pipe wall thickness [mm]	0.8	0.8	0.8	1.0	1.0	1.0	1.0
20	Pipe material*	0-type pipe	0-type pipe	0-type pipe	0-type pipe	1/2H-type pipe	1/2H-type pipe	1/2H-type pipe

 Select pipes having a wall thickness larger than the specified minimum pipe thickness.

*Phosphorus deoxidized seamless copper pipe C1220T, JIS H3300

5) On-site piping work

⚠IMPORTANT

● Take care so that installed pipes may not touch components within a unit. If touching with an internal component, it will generate abnormal sounds and/or vibrations.

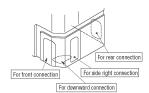
How to remove the service panel

First remove the five screws (\mathbf{x} mark) of the service panel and push it down into the direction of the arrow mark and then remove it by pulling it toward you.

- The pipe can be laid in any of the following directions: side right, front, rear and downward.
- •Remove a knock-out plate provided on the pipe penetration to open a minimum necessary area and attach an edging material supplied as an accessory by cutting it to an appropriate length before laying a pipe.
- Carry out the on site piping work with the operation valve fully closed
- Give sufficient protection to a pipe end (compressed and blazed, or with an adhesive tape) so that water or foreign matters may not enter the piping.
- •Bend a pipe to a radius as large as practical.(R100~R150) Do not bend a pipe repeatedly to correct its form.
- •Flare connection is used between the unit and refrigerant pipe. Flare a pipe after engaging a flare nut onto it. Flare dimensions for R410A are different from those for conventional R407C. Although we recommend the use of flaring tools designed specifically for R410A, conventional flaring tools can also be used by adjusting the measurement of protrusion B with a protrusion control gauge.
- •Use accessory pipes.
- For detailed installation procedures, consult with the installation manual attached to your accessory pipe.
- The pipe should be anchored every 1.5m or less to isolate the vibration.
- Tighten a flare joint securely with a double spanner.

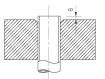






NOTE

Model 200V



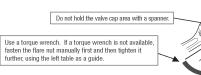
cobber bibe	production for flaming.	D (IIIII)					
Copper pipe outer	In the case of a rigid (clutch) type						
diameter	With an R410A tool	With a conventional too					
φ6.35							
φ9.52	0~0.5	0.7~1.3					
φ12.7	0~0.5						
φ15.88							



Do not apply force beyond proper fastening torque in tightening the flare nut.

Fix both liquid and gas service valves at the valve main bodies as illustrated on the right, and then fasten them, applying appropriate fastening torque.

:	Operation valve size (mm)	Tightening torque (N-m)	Tightening angle	Recommended length of a tool handle (mm)
	φ6.35 (1/4")	14~18	45~60	150
	φ9.52 (3/8")	34~42	30~45	200
	φ12.7 (1/2")	49~61	30~45	250
	φ15.88(5/8")	68~82	15~20	300
	ø19.05(3/4")	100~120	15~20	450



6) Air tightness test

- ① Although outdoor and indoor units themselves have been tested for air tightness at the factory, check the connecting pipes after the installation work for air tightness from the operation valve's check joint equipped on the outdoor unit side. While conducting a test, keep the operation valve shut all the time.
 - a) Raise the pressure to 0.5 MPa, and then stop. Leave it for five minutes to see if the pressure drops.
 - b) Then raise the pressure to 1.5 MPa, and stop. Leave it for five more minutes to see if the pressure drops.
- c) Then raise the pressure to the specified level (4.15 MPa), and record the ambient temperature and the pressure.
- d) If no pressure drop is observed with an installation pressure also fall approximately 0.01 MPa. The pressure, if changed, should be compensated for.
- e) If a pressure drop is observed in checking e) and a) d), a leak exists somewhere. Find a leak by applying bubble test liquid to welded parts and flare joints and repair it. After repair, conduct an air-tightness test again.
- 2 In conducting an air-tightness test, use nitrogen gas and pressurize the system with nitrogen gas from the gas side. Do not use a medium other than nitrogen gas under any circumstances,

Outdoor unit operation valve Indoor unit Check (pint

7) Evacuation

<Work flow>

When the system has remaining moisture inside or a leaky point, the vacuum gauge indicator will rise.

Check the system for a leaky point and then draw air to create a vacuum again.

Run the vacuum pump for at least one hour after the vacuum gauge shows -101kPa or lower. (-755mmHg or lower)
Confirm that the vacuum gauge indicator does not rise even if the system is left for one hour or more.

Airtighteness test completed Vacuuming begins M Vacuuming completed If Vacuuming auge check Fill refrigerant

Pay attention to the following points in addition to the above for the R410A and compatible machines.

○To prevent a different oil from entering, assign dedicated tools, etc. to each refrigerant type. Under no circumstances must a gauge manifold and a charge hose in particular be shared with other refrigerant types (R22, R4076, etc.).
○Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.

8) Additional refrigerant charge

(1) Calculate a required refrigerant charge volume from the following table.

<Single type

<single th="" typ<=""><th>e></th><th></th><th></th><th></th><th></th></single>	e>					
Item Capacity	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge	
Medal 000V			0.06 (Liquid piping ϕ 9.52)	5.4		
Model 200V	3.6	0	0.12 (Liquid piping ϕ 12.7)	3.4	30	
Model 250V			0.12	7.2		

<Twin, triple, W-twin type>

LIWIII, IIIPIG	, w-twill type>						
Item	Standard refrigerant Pipe length for per meter of		Additional charg per meter of refi (liquid pipe)		Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge	
Capacity		charge volume (m)	Main pipe	Branch pipe	at the factory (kg)	reingerant charge	
Model V200	3.6	0	0.06		5.4	30	
Model V250			0.12	0.06	7.2		

- A standard refrigerant charge volume means a refrigerant charge volume for an installation with 0m long refrigerant piping.
- This unit contains factory charged refrigerant covering 30m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 30m refrigerant piping.
- When refrigerant piping exceeds 30m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 30m.
- When refrigerant piping is shoter than 3m, reduce refrigerant by 1kg from factory charged volume and adjust to 4.4kg(Model 200V) or 6.2kg(Model 250V).

 If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, see "6. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

Model 200V	In the case of ϕ 9.52mm liquid piping	Additional charge volume (kg) = { Main pipe length (m) - Length covered without additional charge 30 (m) } x 0.06 (kg/m) + Total length of branch pipes (m) x 0.06 (kg/m)
Wodel 2009	In the case of ϕ 12.7mm liquid piping	Additional charge volume (kg) = { Main pipe length (m) - Length covered without additional charge 30 (m) } x 0.12 (kg/m) + Total length of branch pipes (m) x 0.06 (kg/m)
Model 250V		Additional charge volume (kg) = { main type length (m) = Length covered without additional charge 50 (m) / X 0.12 (kg/m) + Total length of brainen types (m) X 0.00 (kg/m)

*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

• To charge refrigerant again, recover refrigerant from the system first and then charge the volume calculated from the above table (Standard refrigerant charge volume + branch pipes charge volume)

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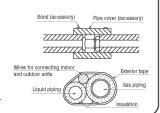
(2) Charging refrigerant

- Since R410A refrigerant must be charged in the liquid phase, you should charge it, keeping the container cylinder upside down or using a refrigerant cylinder equipped with a siphon tube.
- Charge refrigerant always from the liquid side service port with the operation valve shut. When you find it difficult to charge a required amount, fully open the outdoor unit valves on both liquid and gas sides and charge refrigerant from the gas (suction) side service port, while running the unit in the cooling mode. In doing so, care must be taken so that refrigerant may be discharged from the cylinder in the liquid phase all the time. When the cylinder valve is throttled down or a dedicated conversion tool to change liquid-phase refrigerant into mist is used to protect the compressor, however, adjust charge conditions so that refrigerant will gasify upon entering the unit.
- In charging refrigerant, always charge a calculated volume by using a scale to measure the charge volume.
- When refrigerant is charged with the unit being run, complete a charge operation within 30 minutes. Running the unit with an insufficient quantity of refrigerant for a long time can cause a compressor failure.

NOTE Put down the refrigerant volume calculated from the pipe length onto the caution label attached on the back side of the service panel.

9) Heating and condensation prevention

- (1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
- (2) Use a heat insulating material that can withstand 120°C or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.
- Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.
- All gas pipes must be securely heat insulated in order to prevent damage from dripping water that comes from the condensation formed on them during a cooling operation or personal injury from burns because their surface can reach quite a high temperature due to discharged gas flowing inside during a heating operation.
- Wrap indoor units' flare joints with heat insulating parts (pipe cover) for heat insulation (both gas and liquid pipes).
- Give heat insulation to both gas and liquid side pipes. Bundle a heat insulating material and a pipe tightly together so that no gaps may be left between them and wrap them together with a connecting cable by a dressing tane.
- Although it is verified in a test that this air conditioning unit shows satisfactory performance under JIS condensation test conditions, both gas and liquid pipes need to be dressed with 20 mm or thicker heat insulation materials above the ceiling where relative humidity exceeds 70%.



3. DRAIN PIPING WORK

 Execute drain piping by using a drain elbow and drain grommets supplied separately as optional parts, where water drained from the outdoor unit is a problem.



- There are 3 drain holes provided on the bottom plate of an outdoor unit to discharge condensed water.
- O When condensed water needs to be led to a drain, etc., install the unit on a flat base (supplied separately as an optional part) or concrete blocks.
- O Connect a drain elbow as shown in the illustration and close the other two drain holes with grommets.

4. ELECTRICAL WIRING WORK For details of electrical cabling, refer to the indoor unit installation manual.

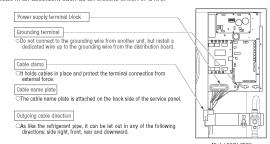
Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country. Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country

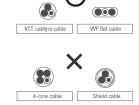
- *Do not use any supply cord lighter than one specified in parentheses for each type below
- braided cord (code designation 60245 IEC 51),
- ordinary tough rubber sheathed cord (code designation 60245 IEC 53)
- flat twin tinsel cord (code designation 60227 IEC 41):

Do not use anything lighter than polychloroprene sheathed flexible cord (code designation 60245 IEC57) for supply cords of parts of appliances for outdoor use.

- . Ground the unit. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or telephone grounding wire. If impropery grounded, an electric shock or malfunction may result.
- •A grounding wire must be connected before connecting the power cable. Provide a grounding wire longer than the power cable.
- •The installation of an impulse withstanding type earth leakage breaker is necessary. A failure to install an earth leakage breaker can result in an accordent such as an electric shock or a fire.

- Do not turn on the power until the electrical work is completeted
- Do not use a condensive capacitor for power factor improvement under any circumstances. (It dose not improve power factor, while it can cause an abnormal overheat accident)
- For power supply cables, use conduits.
- •Do not lay electronic control cables (remote control and signaling wires) and other cables together outside the unit. Laying them together can result in the malfunctioning or a failure of the unit due to electric noises.
- · Fasten cables so that may not touch the piping, etc.
- When cables are connected, make sure that all electrical components within the electrical component box are free of loose connector coupling or terminal connection and then attach the cover securely. (Improper cover attachment can result in malfunctioning or a failure of the unit, if water penetrates into the box.)
- Always use a three-core cable for an indoor-outdoor connecting cable. Never use a shield cable.
- Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
- In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.
- Grounding terminals are provided in the control box.



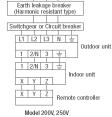


Power cable, indoor-outdoor connecting wires

 Always perform grounding system installation work with the power cord unplugged.



Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.



					Model 200V, 28	OUV	
Mod	del	Power source	Power cable thickness (mm²)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness × number
200	VC	3 phase 4 wire 380-415V 50Hz	3.5	19	21	φ1.6mm	44.0
250	VC	380V 60Hz	5.5	22	31	φτ.υΙΙΙΙΙ	φ1.6mm x 3

s	Model	Power source	Power cable thickness (mm²)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness × number
7	200V	3 phase 4 wire 380-415V 50Hz		24	29	φ1.6mm	41 Cmm v 2
	250V	380V 60Hz	5.5	27	26	φ1.011111	φ1.6mm x 3

- The specifications shown in the above table are for units without heaters. For units with heaters, refer to the installation instructions or the construction instructions of the indoor unit.
- Switchgar or Circuit breaker capacity which is calculated from MAX. over current should be chosen along the regulations in each country.

 The cable specifications are based on the assumption that a metal or plastic conduit is used with no more than three cables contained in a conduit and a voltage drop is 2%. For an installation falling outside of these conditions, follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

5. TEST RUN

• Before conduct a test run, do not fail to make sure that the operation valves are closed.

WARNING Turn on power 6 hours prior to a test run to energize the crank case heater.

A failure to observe these instructions can result in a compressor breakdown.

• Always give a 3-minute or longer interval before you start the unit again whenever it is stopped. Removing the service panel will expose high-voltage live parts and high-temperature parts, which are guite dangerous. Take utmost care not to incur an electric shock or burns. Do not leave the unit with the service panel open.

• When you operate switches (SW3, SW5) for on-site setting, be careful not to touch a live part.

CAUTION • You cannot check discharge pressure from the liquid operation valve charge port.

• The 4-way valve (20S) is energized during a heating operation.

• When power supply is cut off to reset the unit, give 3 or more minutes before you turn on power again after power is cut off. If this procedure is not observed in turning on power again, "Communication error between outdoor and indoor unit" may occur.

1) Test run method

(1) A test run can be initiated from an outdoor unit by using SW3-3 and SW3-4 for on-site setting.

(2) Switching SW3-3 to ON will start the compressor.

(3) The unit will start a cooling operation, when SW3-4 is OFF, or a heating operation, when SW3-4 is ON.

(4) Do not fail to switch SW3-3 to OFF when a test run is completed.

SW-3-3	SW-3-4	
ON	0FF	Cooling during a test run
UN	ON	Heating during a test run
0FF	_	Normal or After the test operation

2) Checking the state of the unit in operation

Use check joints provided on the piping before and after the four-way valve installed inside the outdoor unit for checking discharge pressure and suction pressure.

As indicated in the table shown on the right, pressure detected at each point will vary depending on whether a cooling or heating operation has been selected.

	Check joint of the pipe	Charge port of the gas operation valve
Cooling operation	Discharge pressure (High pressure)	Suction pressure (Low pressure)
Heating operation	Suction pressure (Low pressure)	Discharge pressure (High pressure)

3) Setting SW3-1, SW3-2, J7 on-site

(1) Defrost control switching (SW3-1)

•When this switch is turned ON, the unit will run in the defrost mode more frequently.

·Set this switch to ON, when installed in a region where outdoor temperature falls below zero during the season the unit is run for a heating

(2) Snow guard fan control (SW3-2)

·When this switch is turned on, the outdoor unit fan will run for 10 seconds in every 10 minutes, when outdoor temperature falls to 3°C or lower and the compressor is not running.

·When the unit is used in a very snowy country, set this switch to ON.

(3) Higth pressure control (J7)

•When the option parts that change air flow from outlet are used, cut (open) J7. Cut the jumper wire into two parts and ensure that they are kept isolated from each other.

$$\bigcup_{\text{Cut}}^{\text{J7}} \longrightarrow \bigcup_{\text{Cut}}^{\text{J7}} \bigcup_{\text{J}}^{\text{J7}} \bigcup_{\text{J}}^{\text{J7}$$

4) Failure diagnosis in a test run

Error indicated on the Printed circuit board LED(The cycles		(The cycles of 5 seconds)	Failure event	Action			
remote control unit	Red LED	Green LED	rallule event	Action			
E34		Blinking continuously		Check power cables for loose contact or disconnection			
E40	Blinking once	Blinking continuously	63H1 actuation or operation with operation valves shut (occurs mainly during a heating operation)	Check whether the operation valves are open. If an error has been canceled when 3 minutes have elapsed.			
E49	Blinking once Blinking continuously		Low pressure error or operation with operation valves shut (occurs mainly during a cooling operation)	since a compressor stop, you can restart the unit by effecting Check Reset from the remote control unit.			

• If an error code other than those listed above is indicated, refer to the wiring diagram of the outdoor unit and the indoor unit.

5) The state of the electronic expansion valve.

The following table indicates the steady states of the electronic expansion valve.										
	When power is turned on	When the unit com	nes to a normal stop	When the unit comes to an abnormal stop						
	when power is turned on	During a cooling operation		During a cooling operation	During a heating operation					
Valve for a cooling operation	Complete shut position	Complete shut position	Full open position	Full open position	Full open position					
Valve for a heating operation	Full open position	Full open position	Complete shut position	Full open position	Full open position					

6) Heed the following on the first operation after turning on the circuit breaker.

This outdoor unit may start in the standby mode (waiting for a compressor startup), which can continue up to 30 minutes, to prevent the oil level in the compressor from lowering on the first operation after turning on the circuit breaker. If that is the case, do not suspect a unit failure.

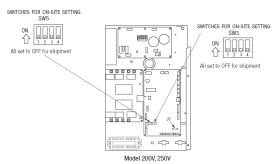
Items to checkbefore a test run

 When you leave the outdoor unit with power supplied to it, be sure to close the panel.

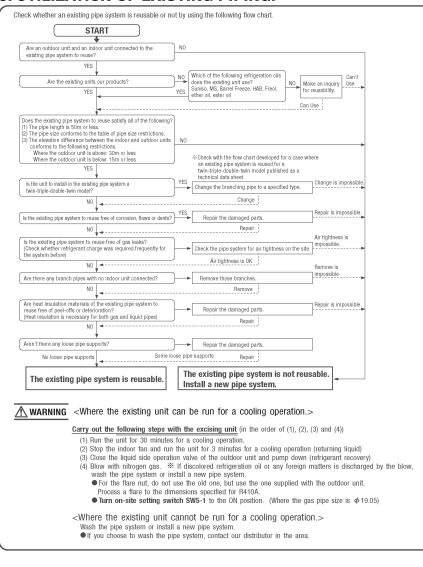
Item No.used in the installation manual	Item	Check item	Check
		If brazed, was it brazed under a nitrogen gas flow?	
	Refrigerant plumbing	Were air-tightness test and vacuum extraction surely performed?	
2		Are heat insulation materials installed on both liquid and gas pipes?	
		Are operation valves surely opened for both liquid and gas systems?	
		Have you recorded the additional refrigerant charge volume and refrigerant pipe length on the panel's label?	
	Electric wiring	Is the unit free of cabling errors such as uncompleted connection, an absent or reversed phase?	
		Are properly rated electrical equipments used for circuit breakers and cables?	
		Doesn't cabling cross-connect between units, where more than one unit are installed?	
		Aren't indoor-outdoor signal wires connected to remote control wires?	
4		Do indoor-outdoor connecting cables connect between the same terminal numbers?	
7		Are either VCT cabtyre cables or WF flat cables used for indoor-outdoor connecting cables?	
		Does grounding satisfy the D type grounding (type III grounding) requirements?	
		Is the unit grounded with a dedicated grounding wire not connected to another unit's grounding wire?	
		Are cables free of loose screws at their connection points?	
		Are cables held down with cable clamps so that no external force works onto terminal connections?	
_	Indoor unit	Is indoor unit installation work completed?	
		Where a face cover should be attached onto an indoor unit, is the face cover attached to the indoor unit?	

Test run procedure • Always carry out a test run and check the following in order as listed.

Turn	The contents of operation	Check
1	Open the gas side operation valve fully.	
2	Open the liquid side operation valve fully.	
(3)	Close the panel.	
(4)	Where a remote control unit is used for unit setup on the installation site, please follow instructions for unit setup on the installation site with a remote control unit.	
(5)	SW3-3 ON / SW3-4 OFF: the unit will start a cooling operation.	
(9)	SW3-3 ON / SW3-4 ON: the unit will start a heating operation.	
6	When the unit starts operation, press the wind direction button provided on the remote control unit to check its operation.	
7	Place your hand before the indoor unit's diffuser to check whether cold (warm) winds come out in a cooling (heating) operation.	
(8)	Make sure that a red LED is not blinking.	
9	When you complete the test run, do not forget to turn SW3-3 to the OFF position.	
(10)	Where options are used, check their operation according to the respective instruction manuals,	



6. UTILIZATION OF EXISTING PIPING.



<Table of pipe size restrictions> @:Standard pipe size O:Usable \triangle:Restricted to shorter pipe length limits Cool \(\psi: Cooling capacity drop \times:Not usable \)

Additional charging amount of refrigerant per 1 m		0.06kg/m			0.12kg/m			0.2kg/m		
Pipe size	Liquid pipe	ф9.52	φ9.52	φ9.52	φ12.7	φ12.7	φ12.7	φ15.88	φ15.88	φ15.88
	Gas pipe	φ22.22	φ 25.4 ^{® 2}	φ28.6 ^{®2}	φ 22.22	φ25.4	φ28.6	φ 22.22	φ25.4	φ28.6
200V	Usability	0	0	0	0	△※3	△※3	△※3	△※3	×
	Maximum one-way pipe length	35	70	70	35	70	70	24	24	×
	Length covered without additional charge	30	30	30	30	15	15	9	9	×
250V	Usability	×	×	×	0	0	0	△※3	△※3	△※3
	Maximum one-way pipe length	×	×	×	35	70	70	40	40	40
	Length covered without additional charge	×	×	×	30	30	25	18	18	13

- **1 Because of its insufficient pressure resistance, turn the dip switch SW5-1 provided on the outdoor unit board to the ON position for φ19.05 × t1.0.
- (In the case of a twin-triple-double-twin model, this also applies to the case where ϕ 19.05 \times 11.0 is used in a pipe system after the first branching point.

 However, you need not turn the dip switch SW5-1 to the ON position, if 1/2H pipes or pipes having 1.2 or thicker walls are used.
- *2 When the main pipe logget exceeds 40m, a significant capacity drop may be experienced due to pressure loss in the liquid pipe system. Use \(\phi = 12.7 \) for the liquid main.
- *3 Keep the total pipe length, not one-way pipe length, below the specified maximum pipe length.
- When refrigerant piping is shoter than 3m, reduce refrigerant by 1kg from factory charged volume and djust to 4.4kg(Model 200V) or 6.2kg(Model 250V).
- Any combinations of pipe sizes not listed in the table or marked with \times in the table are not usable
- Any combinations of pipe sizes not listed in the table or marked with × in the table are not usable.

				After 1st branch ※4			After 2nd branch			
Addition	Additional charging amount of refrigerant per 1m			0.06kg/m			0.06kg/m			
Dinastra	Liqui	φ9.52			φ9.52					
Pipe size	Gas	φ12.7	φ15.88	ϕ 19.05 *1	φ12.7	φ15.88	ϕ 19.05 *1			
Model	Combination type	Combination of capacity								
	Twin	100+100	×	0		_	-	_		
200V	Triple A	71+71+71	×	0	0	_	-	_		
2004	Triple B	71+71+71	×	0	○ ※5	×	0	0		
	Double twin	50+50+50+50	×	0	0	0	0	×		
	Twin	125+125	×	0	0	-	-	-		
	Triple A	-	-	-	-	-	-	-		
250V	Triple B	60+60+125	×	0	○ ※5	0	×	×		
	Triple B	71+71+100	×	0	○ ※5	×	0	×		
	Double twin	60+60+60+60	×	0	0	0	0	×		

- *4 Piping size after branch should be equal or smaller than main pipe size.
- 3.5 Piping size from first branch to indoor unit should be ϕ 9.52 (Liquid) $/\phi$ 15.88 (Gas).
- <The model types of existing units of which branching pipes are reusable.>

Models later than Type 8.

- F D C * * * 8 □ □ □
- ●FDCP***8□□□

The branching pipes used with models other than those listed above are not reusable because of their insufficient pressure resistance. Please use our genuine branching pipes for R410A.

• * * * are numbers representing horsepower. \square \square is an alphanumeric letter.

Formula to calculate additional charge volume

Additional charge volume (kg) = {Main pipe length (m) - Length covered without additional charge shown in the table (m}) × Additional charge volume per meter of pipe shown in the table (kg/m) + Total length of branch pipes (m) × Additional charge volume per meter of pipe shown in the table (kg/m)

If you obtain a negative figure as a result of calculation, no additional refrigerant needs to be charged.
Example) When an 250V (twin installation) is installed in a 40m long existing pipe system

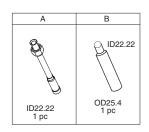
(main pipe length 30m, liquid ϕ 15.88, gas ϕ 25.4; pipe length after branching pipe 5m x 2, liquid ϕ 9.52, gas ϕ 15.88), the quantity of refrigerant to charge additionally should be (30m-18m) x 0.2kg/m + 5m x 2 x 0.06kg/m = 3.0 kg.



(3) Method for connecting the accessory pipe (Models FDC200,250)

Be sure to use the accessory pipe to connect the operation valve on the gas side with the field pipe.

- ① Referring to Table ① and Table ②, prepare the straight pipe and the elbow in the field, which are used in the construction examples (A) ~ (D) applicable to the connecting direction.
- ② Firstly, use the accessory pipe to assemble the connecting pipe assembly outside the outdoor unit.
 - As shown in the figures of construction examples \bigcirc \sim \bigcirc applicable to the connecting direction(chain double dashed line), braze the accessory pipe and the parts prepared in the above \bigcirc .
- 3 After assembly of the connecting pipe, connect it to the service valve on the gas side inside the outdoor unit.
- Tighten the flare nut with appropriate torque.
- ④ After connection of the connecting pipe assembly to the service valve on the gas side, braze the connecting pipe assembly and the field pipe.



Appropriate torque					
φ 19.05	100~120N·m				

Table ① Parts used for the connecting pipe assembly

No.	Name	Qty.	Remarks	
1	Accessory pipe A	1	Accessories	
2	Straight pipe ①	1	Procured in the field	
3	Straight pipe ②	1 or 0	Procured in the field (Not required for downward direction)	
4	Elbow	1 or 0	Procured in the field (Not required for downward direction)	

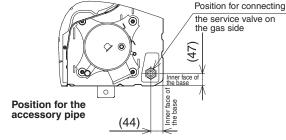


Table 2 Length of the straight pipe (prepared in the field)

	Pipe size	Downward	® Forward	© Rightward	Backward
Straight pipe 1	φ22.22×t1.6	above 415mm	185~235mm	185~235mm	185~235mm
Straight pipe2	φ22.22×t1.6	-	above 125mm	above 125mm	above 405mm

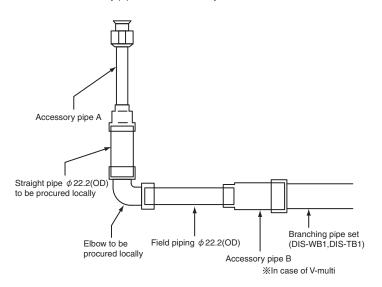
- Be sure to use pipes of 1/2H material, and wall thickness above 1mm. (Pressure resistance of O-type pipe is not enough)
- Switch ON SW5-1 on the control PCB, if O-type pipe must be used and bent with the bender.
 During heating operation, the high-pressure protection may be actuated under the condition lower than the normal pressure, and the heating capacity may decrease.

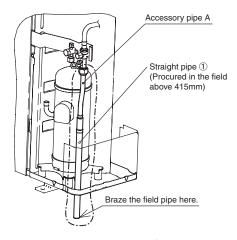
About brazing

Be sure to braze while supplying nitrogen gas.

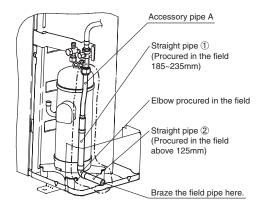
If no nitrogen gas is supplied, a large amount of impurity (oxidized fi lm) will be generated, which may clog the capillary tube and the expansion valve, resulting in fatal malfunction.

Branching pipe set can be used by using the accessory pipe B.
 When φ22.22(OD) size of the indoor unitgas pipe is used, the accessory pipe B is unnecessory.

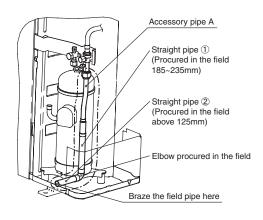




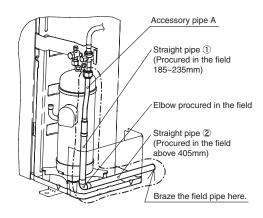
Construction example (A) (Downward)



Construction example © (Rightward)



Construction example (B) (Forward)



Construction example (D) (Backward)

1.10.5 Instructions for branching pipe set (DIS-WA1, WB1, TA1, TB1)

PSB012D865 For R410A

WARNING / CAUTION

- This set is for R410A refrigerant.
- Select a branching pipe set correctly rated for the combined total capacity of connected indoor units and install it according to this manual. An improperly installed branching pipe set can cause degraded performance or an abnormal unit stop.

 Provide good heat insulation to the pipes by following instructions contained in this manual.
- Improper heat insulation can result in degraded performance or a water leak accident from condensation.
- Please make sure that only parts supplied as accessories or the manufacturer's approved parts are used in installing the unit, because a leak of refrigerant can result in a lack-of-oxygen accident, if it reaches a concentration beyond the tolerable limit.

This manual explains how to use a branching pipe set that is indispensable in connecting pipes for a twin/triple/W-twin configuration installation (system). For the details of piping work, unit installation work and electrical installation work, please refer to the installation manuals and installation guides supplied with your outdoor and indoor units.

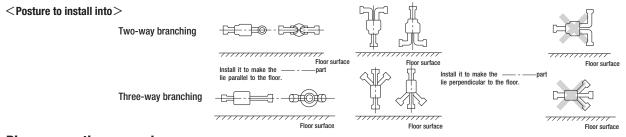
1. Branching pipe set specifications

- (2) Connect pipes as illustrated in the table below. The pipe from an outdoor unit must be brazed to the pipe connection port "①" and the pipes from indoor units to "②," "③" and "④."

Branching pipe set type	Supported outdoor/inc	loor unit combinations	Part lists					
brancining pipe set type	Outdoor unit model Indoor unit model E		Branching pipe set for a liquid pipe	Branching pipe set for a gas pipe	Different diameter pipe joint	Heat insulation material		
	3HP	1.5HP+1.5HP	ID9.52	ID15.88	Joint A			
	4HP	2HP+2HP 1.5HP+2.5HP			ID9.52 2 pieces			
DIS-WA1		2.5HP+2.5HP			(for indoor unit side connection)	Call I		
(Two-way branching set)	5HP	2HP+3HP	ID9.52 3		Joint B 2 pieces			
	6HP	3HP+3HP 2HP+4HP	1 piece	1 piece ID15.88	0D15.88 D12.7	One each for liquid and gas		
	8HP -	4HP+4HP	ID9.52	_ID15.88				
DIS-WB1 (Two-way branching set)		3HP+5HP			Joint C 1 piece 0D12.7 ID9.52			
	10HP	5HP+5HP	1 piece 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 piece ID15.88		One each for liquid and gas		
DIS-TA1 (Three-way branching set)	6HP	2HP+2HP+2HP	109.52 1 piece	ID12.7 ① 0 0 ID15.88 1 piece	Joint A ID9.52	One each for liquid and gas		
DIS-TB1 (Three-way branching set)	8HP	3HP+3HP+3HP	109.52 (2) (3) 109.52 (4) 1 piece	1 piece	Joint A 2 pieces	One each for liquid and gas		

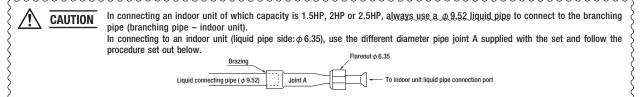
(3) To connect pipes for a Double Twin installation (involving 4 indoor units), please see 2-7. "Double Twin configuration." (4) A branching pipe set must always be installed into the posture as illustrated in the drawing below.

ID stands for inner diameter and OD, outer diameter.



2. Pipe connecting procedure

Braze the different diameter pipe joint found in the set matching the connected outdoor and indoor unit capacities according to the instructions set out below.



2-1 DIS-WA1

	WA1		
	ombinations Indoor unit model	Liquid branching pipe	Gas branching pipe
3HP	1.5HP+1.5HP		Joint B
	2HP+2HP	Flare joint (φ 6.35) →- Joint A	Joint B 3 ID12.7
4HP	1.5HP+2.5HP	Connecting pipe (\$\phi\$ 9.52) ID9.52 CAUTION Reference Joint A Flare joint	ID12.7 ** A ID12.7 ID12.7 ID12.83 ID12.7 ID15.88 ID1
	2.5HP+2.5HP	(φ6.35)	Joint B D15.88 D15.88 D15.88 D15.88 D15.88
5HP	2HP+3HP	Flare joint $(\phi 6.35)$ Joint A Connecting pipe $(\phi 9.52)$ $(\phi 9.$	Joint B
	3HP+3HP	ID9.52 ID9.52 ID9.52	ID15.88 ID15.88 ID15.88
6НР	2HP+4HP	Flare joint $(\phi 6.35)$ — Joint A Connecting pipe $(\phi 9.52)$ $(\phi $	Joint B (2) ID15.88 ID15.88

2-2 DIS-WB1

	ombinations Indoor unit model	Liquid branching pipe	Gas branching pipe
8HP	3HP+5HP	ID9.52	ID15.88
G.II	4HP+4HP	Joint C ID9.52	ID15.88
10HP	5HP+5HP	ID9.52 ID12.73 2 ID9.52	ID15.88 ID25.4] (2) ID15.88

2-3 DIS-TA1 Applicable to the difference in length of pipes after the branch being less than 3 m * Connection is not allowed when the difference in length of pipes is larger than 3 m.

	ombinations Indoor unit model	Liquid branching pipe	Gas branching pipe
6НР	2HP+2HP+2HP	Connecting pipe Joint A (ϕ 9.52) Plane Flare Joint A (ϕ 9.52) Plane Flare Joint ϕ 6.35) Joint A CAUTION Reference	① ② ③ ④ ID15.88 J

2-4 DIS-TB1 Applicable to the difference in length of pipes after the branch being less than 3 m *Connection is not allowed when the difference in length of pipes is larger than 3 m.

Supported c	ombinations	Liquid branching pipe	Gas branching pipe
Outdoor unit model	Indoor unit model	Liquid branching pipe	das branching pipe
8НР	3HP+3HP+3HP	ID9.52 3————————————————————————————————————	① ② ③ ④ ID25.4 J

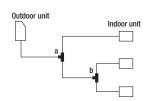
DOLD Model list

-	025000	
	model name	
	FDTA251R	
	FDENA251R	
	FDKNA251R	
	FDURA251R	
	FDUMA252R	

Note When connect the indoor unit of an old model that is shown in the model list, use the joint supplied with the branch piping set like *A

2-5. Triple type for same model/same capacity or different model/same capacity

When the difference in length of pipes after the branch is longer than 3 m and shorter than 10 m

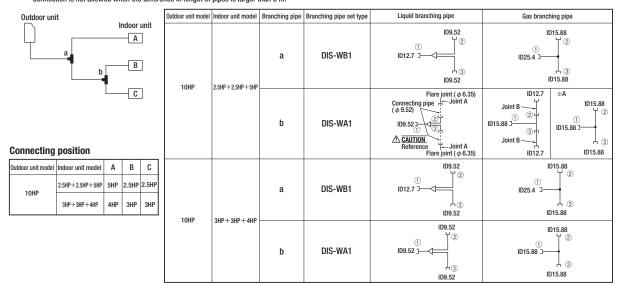


utdoor unit model	Indoor unit model	Branching pipe	Branching pipe set type	Liquid branching pipe	Gas branching pipe
		a		Flare joint $(\phi 6.35)$ Joint A Connecting pipe $(\phi 9.52)$ \bigcirc	Joint B 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
6НР	2HP+2HP+2HP	+2HP b	DIS-WA1	Flare joint $(\phi 6.35)$ Connecting pipe $(\phi 9.52)$ ID9.52 $(\phi 9.52)$	Joint B
		a	DIS-WB1	ID9.52 ID9.52 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	ID15.88 ID25.4 3 3 ID15.88
8HP	3HP+3HP+3HP	b	DIS-WA1	1D9.52 1D9.52 1D9.52	ID15.88 ② ID15.88 ③ ID15.88 ③

2-6. Triple type for same model/different capacity or different model/different capacity

Applicable to the difference in length of pipes after the branch being less than 3 m

* Connection is not allowed when the difference in length of pipes is larger than 3 m.



Note When connect the indoor unit of an old model that is shown in the model list, use the joint supplied with the branch piping set like # A.

2-7. Double Twin type

Pipes should be connected as follows for a Double Twin installation (4 connected indoor units. The capacity of an outdoor unit available for this configuration is either RHP or 10HP only):

Outdoor unit capacity	Indoor unit capacity	Branching pipe	Branching pipe set type	Outdoor unit model	Liquid branching pipe	Gas branching pipe	
8HP 10HP	2HP×4 units 2.5HP×4 units			8HP	ID9.52 (2) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	ID15.88	
		a	DIS-WB1		ID9.52	1	
Outdoor unit b Indoor u			10HP		ID9.52 ID12.7 3	ID25.4 3 (3) ID15.88	
a	— <u> </u>		D10 1114	8НР	Flare joint (ϕ 6.35) Connecting pipe Joint A (ϕ 9.52)	ID12.7 Joint B	
		b	DIS-WA1	10HP	D9.52 —	D15.88	

Note When connect the indoor unit of an old model that is shown in the model list, use the joint supplied with the branch piping set like * A.

3. Heat insulation work

(1) Condensation can also occur on liquid pipes with this model. Please provide good heat insulation to both liquid and gas pipes.

(2) For the heat insulation of a branching pipe, always use the heat insulation material supplied with the set and provide heat insulation according to the instructions set out below.

Heat insulation material (for pipe insulation, etc.) to be procured locally

Heat insulation material covering the installation's piping

Branching pipe's heat insulation

It has an adhesive layer on the entire inner face.
 Remove a separator and wrap it around the branching pipe.

2. Apply a heat insulation material (to be procured locally) to the joint between the branching pipe's heat insulation and the heat insulation material covering the installation's piping as described above and wrap a tape over the gap shown as a hatched (///) area to complete dressing of the piping.

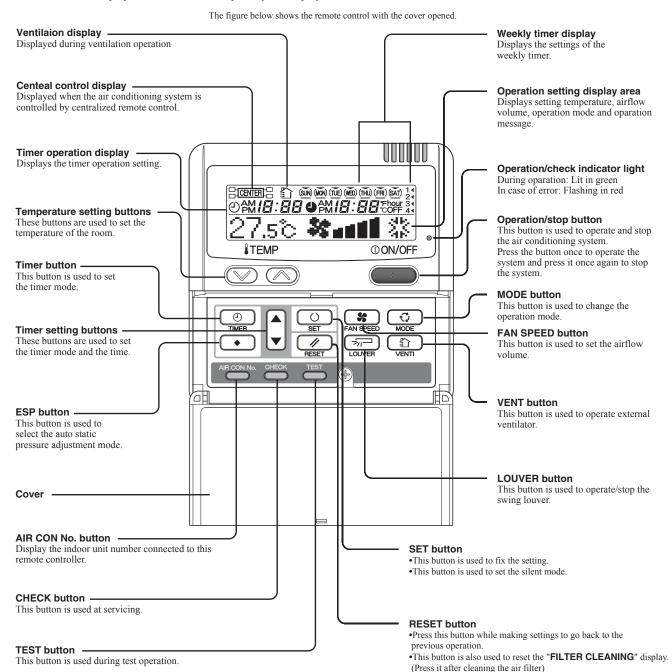
1.11 OUTLINE OF OPERATION CONTROL BY MICROCOMPUTER

1.11.1 Remote controller

(1) Wired remote controller Model RC-E5

The figure below shows the remote controller with the cover opened. Note that all the items that may be displayed in the liquid crystal display area are shown in the figure for the sake of explanation

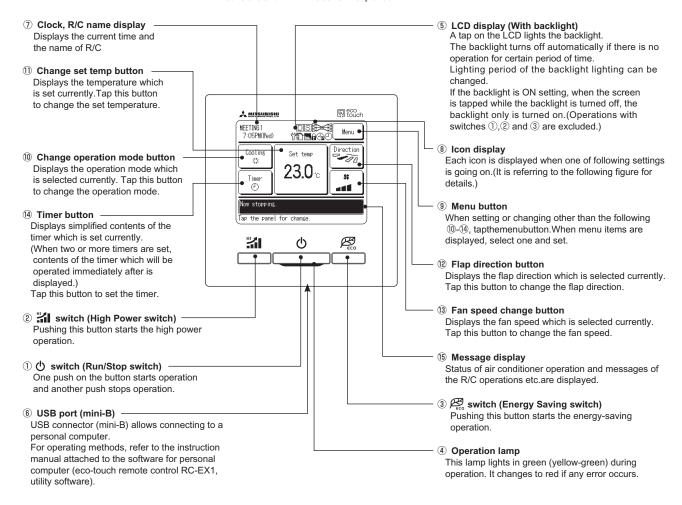
Characters displayed with dots in the liquid crystal display area are abbreviated.



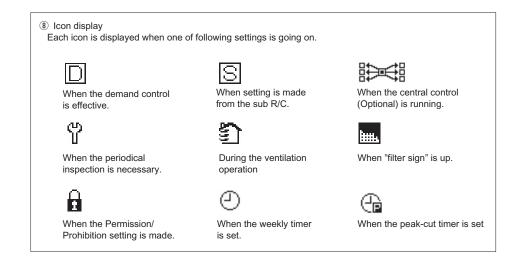
^{*} All displays are described in the liguid crystal display for explanation.

Model RC-EX1A

All icons are shown for the sake of explanation.

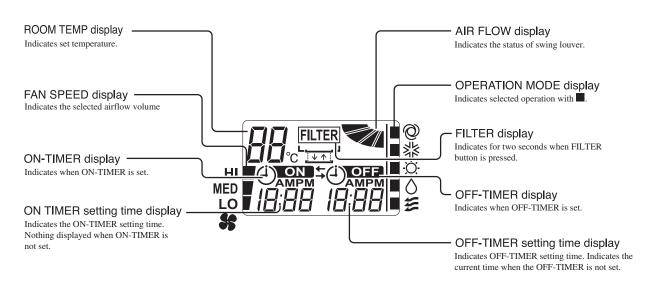


Touch panel system, which is operated by tapping the LCD screen with a finger, is employed for any operations other than the ① Run/Stop, ② High power and ③ Energy-saving switches.

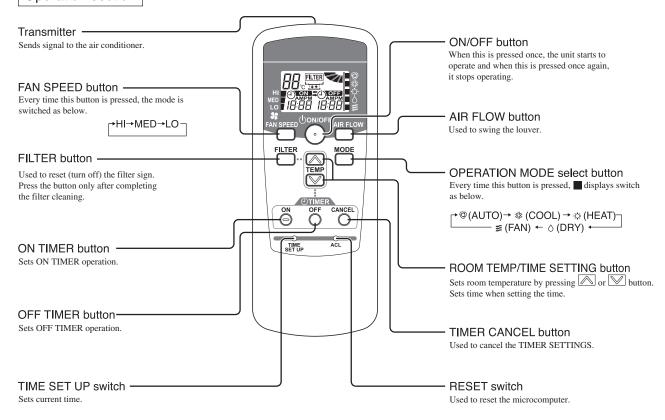


(2) Wireless remote controller

Indication section



Operation section

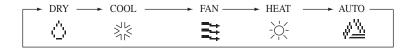


 $[\]ensuremath{^{*}}$ All displays are described in the liquid crystal display for explanation

1.11.2 Operation control function by the wired remote controller

Model RC-E5

(1) Switching sequence of the operation mode switches of remote controller



(2) CPU reset

This functions when "CHECK" and "ESP" buttons on the remote controller are pressed simultaneously. Operation is same as that of the power supply reset.

(3) Power failure compensation function (Electric power supply failure)

- This becomes effective if "Power failure compensation effective" is selected with the setting of remote controller function.
- Since it memorizes always the condition of remote controller, it starts operation according to the contents of memory no sooner than normal state is recovered after the power failure. Although the auto swing stop position and the timer mode are cancelled, the weekly timer setting is restored with the holiday setting for all weekdays.

After recovering from the power failure, it readjusts the clock and resets the holiday setting for each weekday so that the setting of weekly timer becomes effective.

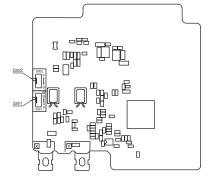
• Content memorized with the power failure compensation are as follows.

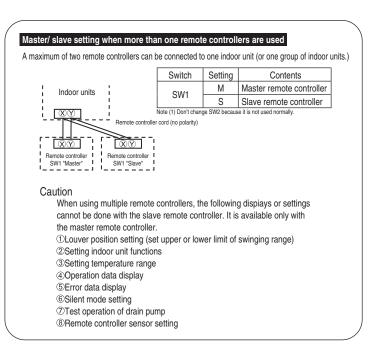
Note (1) Items®, ② and ® are memorized regardless whether the power failure compensation is effective or not while the setting of silent mode is cancelled regardless whether the power failure compensation is effective or not.

- ① At power failure Operating/stopped

 If it had been operating under the off timer mode, sleep timer mode, the state of stop is memorized. (Although the timer mode is cancelled at the recovery from power failure, the setting of weekly timer is changed to the holiday setting for all weekdays.)
- ② Operation mode
- 3 Airflow volume mode
- ④ Room temperature setting
- ⑤ Louver auto swing/stop
 - However, the stop position (4-position) is cancelled so that it returns to Position (1).
- "Remote controller function items" which have been set with the remote controller function setting ("Indoor function items" are saved in the memory of indoor unit.)
- ② Upper limit value and lower limit value which have been set with the temperature setting control
- Sleep timer and weekly timer settings (Other timer settings are not memorized.)

[Parts layout on remote controller PCB]

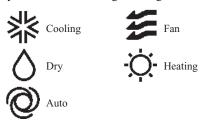


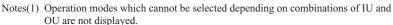


Model RC-EX1A

(1) Switching sequence of the operation mode switches of remote controller

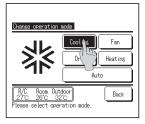
- (a) Tap the change operation mode button on the TOP screen.
- (b) When the change operation mode screen is displayed, tap the button of desired mode.
- (c) When the operation mode is selected, the display returns to the TOP screen. Icons displayed have the following meanings.





(2) When the Auto is selected, the cooling and heating switching operation is performed automatically according to indoor and outdoor temperatures.

Menu 6:53PM(Wed irection 20 Cooling 23.0 \$\$ -11

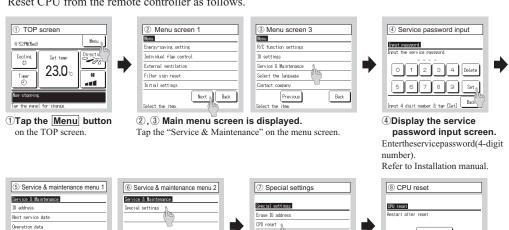


(2) CPU reset

Error display

Savins IU settings

Reset CPU from the remote controller as follows.



5, 6 Service & maintenance menus are displayed.



and OU connected are reset

nower failure).

CPU reset

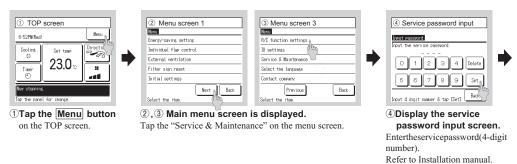
All microcomputers on the R/C operated, other R/Cs, IUs and OUs are reset (State of restoration after power failure). Tap [Yes] to reset CPU

Back

(3) Power failure compensation function (Electric power supply failure)

Back

Enable the Auto-restart function from the remote controller as follows.





5,6,7 Display the R/C setting menu screens.



Enable: It returns to the state be fore the supply power failure as soon as the power is restored (After the end of the primary control at the power on).

Disable: It stops after the restoration of power supply, regardless the state of operation before the power failure.

Set the state of operation to be started when the power supply is restored after a power failure.

- Since it memorizes always the condition of remote controller, it starts operation according to the contents of memory no sooner than normal state is recovered after the power failure. Although the auto swing stop position and the timer mode are cancelled, the weekly timer setting is restored with the holiday setting for all weekdays.
 - After recovering from the power failure, it readjusts the clock and resets the holiday setting for each weekday so that the setting of weekly timer becomes effective.
- Content memorized with the power failure compensation are as follows.
 - Note (1) Items®, ② and ® are memorized regardless whether the power failure compensation is effective or not while the setting of silent mode is cancelled regardless whether the power failure compensation is effective or not.
 - ① At power failure Operating/stopped

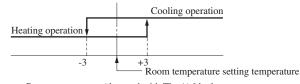
 If it had been operating under the off timer mode, sleep timer mode, the state of stop is memorized. (Although the timer mode is cancelled at the recovery from power failure, the setting of weekly timer is changed to the holiday setting for all weekdays.)
 - ② Operation mode
 - 3 Airflow volume mode
 - ④ Room temperature setting
 - ⑤ Louver auto swing/stop
 - However, the stop position (4-position) is cancelled so that it returns to Position (1).
 - (a) "Remote controller function items" which have been set with the remote controller function setting ("Indoor function items" are saved in the memory of indoor unit.)
 - ① Upper limit value and lower limit value which have been set with the temperature setting control
 - Sleep timer and weekly timer settings (Other timer settings are not memorized.)

1.11.3 Operation control function by the indoor controller

(I) FDT, FDTC, FDEN, FDU, FDUM, FDF series

(1) Auto operation

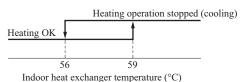
(a) If "Auto" mode is selected by the remote controller, the heating and the cooling are automatically switched according to the difference between outdoor air temperature and setting temperature and the difference between setting temperature and return air temperature. (When the switching of cooling mode ↔ heating mode takes place within 3 minutes, the compressor does not operate for 3 minutes by the control of 3-minute timer.) This will facilitate the cooling/heating switching operation in intermediate seasons and the adaptation to unmanned operation at stores, etc (ATM corner of bank).



Room temperature (detected with Thi-A) [deg]

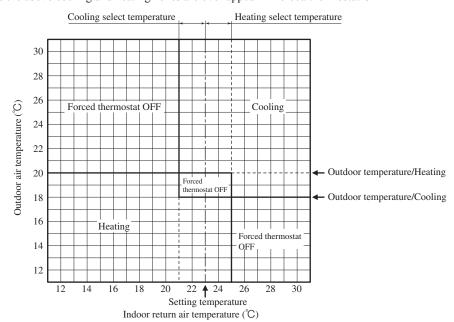
Notes (1) Temperature range of switching cooling/heating mode can be changed by RC-EX1A from $\pm 1.0 \sim \pm 4.0$.

- (2) Room temperature control during auto cooling/auto heating is performed according to the room temperature setting temperature. (DIFF: ±1 deg)
- (3) If the indoor heat exchanger temperature rises to 59°C or higher during heating operation, it is switched automatically to cooling operation. In addition, for 1 hour after this switching, the heating operation is not performed, regardless of the temperature shown at right.

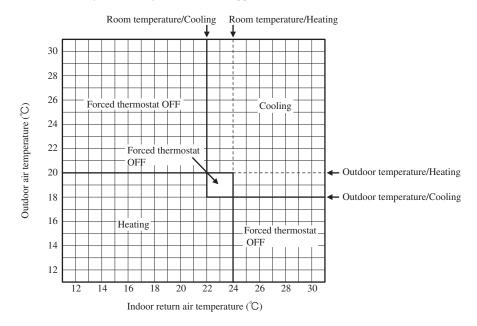


- (b) In cases of VF series only, the following automatic controls are performed other than (a) above.
 - ① Cooling or heating operation mode is judged according to the conditions of the "Judgment based on Setting temperature + Cooling select temperature and Indoor return air temperature" and the "Judgment based on Outdoor temperature".
 - In "Setting temperature Cooling select temperature < Indoor return air temperature" and "Outdoor temperature/Cooling < Outdoor return air temperature"

 Operation mode: Cooling
 - •"Setting temperature + Heating select temperature > Indoor return air temperature" and "Outdoor temperature/Heating > Outdoor air temperature" ⇒ Operation mode: Heating
 - •The outdoor air temperature of the above judgment conditions is sampled at every 10 minutes.
 - ·In the range where the above cooling and heating zones are overlapped ⇒ Forced thermostat OFF



- ② Regardless of the setting temperature, the cooling or heating operation mode is judged according to the "Judgment based on Room temperature/Cooling or Heating and Outdoor temperature/Cooling or Heating".
 - In case of "Room temperature/Cooling < Indoor return air temperature" and "Outdoor temperature/Cooling < Outdoor air temperature" \Rightarrow Operation mode: Cooling
 - In case of "Room temperature/Heating > Indoor return air temperature" and "Outdoor temperature /Heating > Outdoor air temperature" \Rightarrow Operation mode: Heating
- The outdoor air temperature of the above judgment conditions is sampled at every 10 minutes.
- · In the range where the above cooling and heating zones are overlapped ⇒ Forced thermostat OFF



(2) Operations of functional items during cooling/heating

Operation	Cooling			Heating			
Functional item	Thermostat ON	Thermostat OFF	Fan	Thermostat ON	Thermostat OFF	Hot start (Defrost)	Dehumidify
Compressor	0	×	×	0	×	0	O/×
4-way valve	×	×	×	0	0	○(×)	×
Outdoor unit fan	0	×	×	0	×	○(×)	O/×
Indoor unit fan	0	0	0	O/×	O/×	O/×	O/×
Drain pump ⁽³⁾	0	× ⁽²⁾	× ⁽²⁾		O/× ⁽²⁾		Thermostat ON: O Thermostat OFF: X ⁽²⁾

Note (1) \bigcirc : Operation \times : Stop \bigcirc/\times : Turned ON/OFF by the control other than the room temperature control.

- (2) ON during the drain motor delay control.
- (3) Drain pump ON setting may be selected with the indoor unit function setting of the wired remote controller.

(3) Dehumidifying operation

Return air temperature thermistor [Thi-A (by the remote controller when the remote controller thermistor is enabled)] controls the indoor temperature environment simultaneously.

- (a) Operation is started in the cooling mode. When the difference between the return air temperature and the setting temperature is 2°C or less, the indoor unit fan tap is brought down by one tap. That tap is retained for 3 minutes after changing the indoor unit fan tap.
- (b) If the return air temperature exceeds the setting temperature by 3°C during dehumidifying operation, the indoor unit fan tap is raised. That tap is retained for 3 minutes after changing the indoor unit fan tap.
- (c) If the thermostat OFF is established during the above control, the indoor unit fan tap at the thermostat ON is retained so far as the thermostat is turned OFF.

(4) Timer operation

(a) RC-EX5

(i) Sleep timer

Set the duration of time from the present to the time to turn off the air-conditioner.

It can be selected from 10 steps in the range from "OFF 1 hour later" to "OFF 10 hours later". After the sleep timer setting, the remaining time is displayed with progress of time in the unit of hour.

(ii) OFF timer

Time to turn OFF the air-conditioner can be set in the unit of 10 minutes.

(iii) ON timer

Time to turn ON the air-conditioner can be set. Indoor temperature can be set simultaneously.

(iv) Weekly timer

Timer operation (ON timer, OFF timer) can be set up to 4 times a day for each weekday.

(**v**) Timer operations which can be set in combination

Item	Timer	OFF timer	ON timer	Weekly timer
Timer		×	0	×
OFF timer	×		0	×
ON timer	0	0		×
Weekly timer	×	×	×	

Note (1) ○: Allowed ×: Not

(b) RC-EX1A

(i) Sleep timer

Set the time from the start to stop of operation. The time can be selected in the range from 30 to 240 minutes (in the unit of 10-minute).

Note (1) Enable the "Sleep timer" setting from the remote controller. If the setting is enabled, the timer operates at every time.

(ii) Set OFF timer by hour

Set the time to stop the unit after operation, in the range from 1 to 12 hours (in the unit of hour).

(iii) Set ON timer by hour

Set the time to start the unit after the stop of operation, in the range from 1 to 12 hours (in the unit of hour). It is allowed also to set simultaneously the indoor temperature, operation mode, air flow rate and warm-up enabled/disabled.

(iv) Set ON timer by clock

Set the time to start operation. The time can be set in the unit of 5-minute. This setting can be activated only once or at every time. It is allowed also to set simultaneously the indoor temperature, operation mode, air flow rate and warm-up enabled/disabled.

Note (1) It is necessary to set the clock to use this timer.

(V) Set OFF timer by clock

Set the time to stop operation. The time can be set in the unit of 5-minute. This setting can be activated only once or at every time.

Note (1) It is necessary to set the clock to use this timer.

(vi) Weekly timer

Set the ON or OFF timer for a week. Up to 8 patterns can be set for a day. The day-off setting is provided for holidays and non-business days.

Note (1) It is necessary to set the clock to use the weekly timer.

(vii) Combination of patterns which can be set for the timer operations

	Sleep time	Set OFF timer by hour	Set ON timer by hour	Set OFF timer by clock	Set ON timer by clock	Weekly timer
Sleep time		×	×	0	0	0
Set OFF timer by hour	×		×	×	×	×
Set ON timer by hour	×	×		×	×	×
Set OFF timer by clock	0	×	×		0	×
Set ON timer by clock	0	×	×	0		×
Weekly timer	0	×	×	×	×	

Note (1) \bigcirc : Allowed \times : Not

⁽²⁾ Since the ON timer, sleep timer and OFF timer are set in parallel, when the times to turn ON and OFF the airconditioner are duplicated, the setting of the OFF timer has priority.

(5) Remote controller display during the operation stop

When the operation is stopped (the power supply is turned ON), it displays preferentially the "Room temperature", "Center/Remote", "Filter sign", "Inspection" and "Timer operation".

(6) Hot start (Cold draft prevention at heating)

(a) Operating conditions

When either one of following conditions is met, the hot start control is performed.

- (i) From stop to heating operation
- (ii) From cooling to heating operation
- (iii) Form heating thermostat OFF to ON
- (iv) After completing the defrost control (only on units with thermostat ON)

(b) Contents of operation

- (i) Indoor fan motor control at hot start
 - 1) Within 7 minutes after starting heating operation, the fan mode is determined depending on the condition of thermostat (fan control with heating thermostat OFF).
 - a) Thermostat OFF
 - ① Operates according to the fan control setting at heating thermostat OFF.
 - ② Even if it changes from thermostat OFF to ON, the fan continues to operate with the fan control at thermostat OFF till the heat exchanger thermistor (ThI-R1 or R2, whichever higher) detects 35°C or higher.
 - 3 When the heat exchanger thermistor (ThI-R1 or R2, whichever higher) detects 35°C or higher, the fan operates with the set airflow volume.
 - b) Thermostat ON
 - ① When the heat exchanger thermistor (ThI-R1 or R2, whichever higher) detects 25°C or lower, the fan is turned OFF and does not operate.
 - 2 When the heat exchanger thermistor (ThI-R1 or R2, whichever higher) detects 25°C or higher, the fan operates with the fan control at heating thermostat OFF.
 - 3 When the heat exchanger thermistor (ThI-R1 or R2, whichever higher) detects 35°C or higher, the fan operates with the set airflow volume.
 - c) If the fan control at heating thermostat OFF is set at the "Set airflow volume" (from the remote controller), the fan operates with the set airflow volume regardless of the thermostat ON/OFF.
 - 2) Once the fan motor is changed from OFF to ON during the thermostat ON, the indoor fan motor is not turned OFF even if the heat exchanger thermistor detects lower than 25°C.
 - Note (1) When the defrost control signal is received, it complies with the fan control during defrosting.
 - 3) Once the hot start is completed, it will not restart even if the temperature on the heat exchanger thermistor drops.
- (ii) During the hot start, the louver is kept at the horizontal position.
- (iii) When the fan motor is turned OFF for 7 minutes continuously after defrosting, the fan motor is turned ON regardless of the temperatures detected with the indoor heat exchanger thermistors (ThI-R1, R2).

(c) Ending condition

- (i) If one of following conditions is met during the hot start control, this control is terminated, and the fan is operated with the set airflow volume.
 - 1) Heat exchanger thermistor (ThI-R1 or R2, whichever higher) detects 35°C or higher.
 - 2) It has elapsed 7 minutes after starting the hot start control.

(7) Hot keep

Hot keep control is performed at the start of the defrost control.

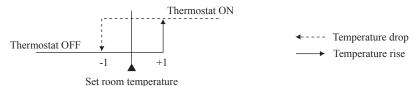
- (a) Control
 - 1) When the indoor heat exchanger temperature (detected with Thi-R1 or R2) drops to 35°C or lower, the speed of indoor fan is changed to the lower tap at each setting.
 - 2) During the hot keep, the louver is kept at the horizontal position.
- (b) Ending condition

When the indoor fan is at the lower tap at each setting, it returns to the set airflow volume as the indoor heat exchanger temperature rises to 45°C or higher.

(8) Thermostat operation

(a) Cooling

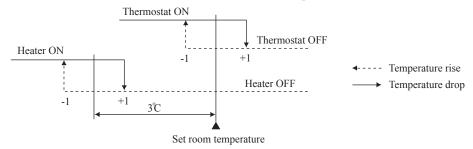
- 1) Thermostat is operated with the room temperature control.
- 2) Thermostat is turned ON or OFF relative to the set room temperature as shown below.



3) Thermostat is turned ON when the room temperature is in the range of -1 < Set temperature < +1 at the start of cooling operation (including from heating to cooling).

(b) Heating

- 1) Thermostat is operated with the room temperature control.
- 2) Thermostat is turned ON or OFF relative to the set room temperature as shown below.



3) Thermostat is turned ON when the room temperature is in the range of -1 < Set point < +1 at the start of cooling operation (including from cooling to heating).

(c) Fan control during heating thermostat OFF

- 1) Following fan controls during the heating thermostat OFF can be selected with the indoor function setting of the wired remote controller.
 - ① Low fan speed (Factory default), ② Set fan speed, ③ Intermittence, ④ Fan OFF
- 2) When the "Low fan speed (Factory default)" is selected, the following taps are used for the indoor fans.
 - · For DC motor: ULo tap
- 3) When the "Set fan speed" is selected, it is operated with the set fan speed also in the thermostat OFF condition.
- 4) If the "Intermittence" is selected, following controls are performed:
 - a) If the thermostat is turned OFF during the heating operation, the indoor unit moves to the hot control and turns OFF the indoor fan if the heat exchanger thermistors (both ThI-R1 and R2) detect 25°C or lower.
 - b) Indoor fan OFF is fixed for 5 minutes. After the 5 minutes, the indoor fan is operated at ULo for 2 minutes. In the meantime the louver is controlled at level.
 - c) After operating at ULo for 2 minutes, the indoor fan moves to the state of a) above.
 - d) If the thermostat is turned ON, it moves to the hot start control.
 - e) When the heating thermostat is turned OFF, the remote controller displays the temperature detected at the fan stop and revises the temperature later when the indoor fan changes from ULo to stop.
 - The remote controller uses the operation data display function to display temperatures and updates values of temperature even when the indoor fan is turned OFF.
 - f) When the defrosting starts while the heating thermostat is turned OFF or the thermostat is turned OFF during defrosting, the indoor fan is turned OFF. (Hot keep or hot start control takes priority.) However, the suction temperature is updated at every 7-minute.
 - g) When the heating thermostat is turned ON or the operation is changed to another mode (including stop), this control is stopped immediately, and the operating condition is restored.
- 5) When the "Fan OFF" is selected, the fan on the indoor unit of which the thermostat has been turned OFF, is turned OFF.

(9) Filter sign

As the operation time (Total ON time of ON/OFF switch) accumulates to 180 hours (1), "FILTER CLEANING" is displayed on the remote controller. (This is displayed when the unit is in trouble and under the centralized control, regardless of ON/OFF)

Note (1) Time setting for the filter sign can be made as shown below using the indoor function of wired remote controller "FILTER SIGN SET". (It is set at 1 at the shipping from factory.)

Filter sign setting	Function
TYPE 1	Setting time: 180 hrs (Factory default)
TYPE 2	Setting time: 600 hrs
TYPE 3	Setting time: 1,000 hrs
TYPE 4	Setting time: 1,000 hrs (Unit stop) (2)

(2) After the setting time has elapsed, the "FILTER CLEANING" is displayed and, after operating for 24 hours further (counted also during the stop), the unit stops.

(10) Compressor inching prevention control

(a) 3-minute timer

When the compressor has been stopped by the thermostat, remote controller operation switch or anomalous condition, its restart will be inhibited for 3 minutes. However, the 3-minute timer is invalidated at the power on the electric power source for the unit.

- (b) 3-minute forced operation timer
 - 1) Compressor will not stop for 3 minutes after the compressor ON. However, it stops immediately when the unit is stopped by means of the ON/OFF switch or by when the thermister turned OFF the change of operation mode.
 - 2) If the thermostat is turned OFF during the forced operation control of heating compressor, the louver position (with the auto swing) is returned to the level position.
 - Note (1) The compressor stops when it has entered the protective control.

(11) Drain pump control

- (a) This control is operated when the inverter frequency is other than 0 Hz during the cooling operation and automatic cooling and dehumidifying operations.
- (b) Drain pump ON condition continues for 5 minutes even when it enters the OFF range according to 1) above after turning the drain pump ON, and then stops. The 5-minute delay continues also in the event of anomalous stop.
- (c) The drain pump is operated with the 5-minute delay operation when the compressor is changed from ON to OFF.
- (d) Even in conditions other than the above (such as heating, fan, stop, cooling thermostat OFF), the drain pump control is performed by the drain detection.
- (e) Following settings can be made using the indoor function setting of the wired remote controller.

 - 2) 攀合 部 : Drain pump is run during cooling, dry and heating.
 - 3) 攀台部D崇台ND慧: Drain pump is run during cooling, dry, heating and fan.
 - 4) 攀合配置: Drain pump is run during cooling, dry and fan.

(12) Drain motor (DM) control

(a) Drain detection switch is turned ON or OFF with the float switch (FS) and the timer.



- [*1] Drain detection switch is turned "ON" when the float switch "Open" is detected for 3 seconds continuously in the drain detectable space.
- [*2] Drain detection switch is turned "OFF" when the float switch "Close" is detected for 10 seconds continuously.
- 1) It detects always from 30 seconds after turning the power ON.
 - a) There is no detection of anomalous draining for 10 seconds after turning the drain pump OFF.
 - b) Turning the drain detection switch "ON" causes to turn ON the drain pump forcibly.
 - c) Turning the drain detection switch "OFF" releases the forced drain pump ON condition.

(b) Indoor unit performs the control A or B depending on each operating condition.

Indoor unit operation mode					
	Stop (1) Cooling Dehumidifying Fan (2) Heating				
Compressor ON	Control A				
Compressor OFF	Control B				

Note (1) Including the stop from the cooling, dehumidifying, fan and heating, and the anomalous stop (2) Including the "Fan" operation according to the mismatch of operation modes

1) Control A

- a) If the float switch detects any anomalous draining condition, the unit stops with the anomalous stop (displays E9) and the drain pump starts. After detecting the anomalous condition, the drain motor continues to be ON.
- b) It keeps operating while the float switch is detecting the anomalous condition.

2) Control B

If the float switch detects any anomalous drain condition, the drain motor is turned ON for 5 minutes, and at 10 seconds after the drain motor OFF it checks the float switch. If it is normal, the unit is stopped under the normal mode or, if there is any anomalous condition, E9 is displayed and the drain motor is turned ON. (The ON condition is maintained during the drain detection.)

(13) Operation check/drain pump test run operation mode

- (a) If the power is turned on by the dip switch (SW7-1) on the indoor PCB when electric power source is supplied, it enters the mode of operation check/drain pump test run. It is ineffective (prohibited) to change the switch after turning power on.
- (b) When the communication with the remote controller has been established within 60 seconds after turning power on by the dip switch (SW7-1) ON, it enters the operation check mode. Unless the remote controller communication is established, it enters the drain pump test run mode.
 - Note (1) To select the drain pump test run mode, disconnect the remote controller connector (CNB) on the indoor PCB to shut down the remote controller communication.
- (c) Operation check mode

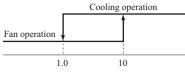
There is no communication with the outdoor unit but it allows performing operation in respective modes by operating the remote controller.

(d) Drain pump test run mode

As the drain pump test run is established, the drain pump only operates and during the operation protective functions by the microcomputer of indoor unit become ineffective.

(14) Cooling, dehumidifying frost protection

(a) To prevent frosting during cooling mode or dehumidifying mode operation, the of compressor speed is reduced if the indoor heat exchanger temperature (detected with Thi-R) drops to 1.0 °C or lower at 4 minutes after the start of compressor operation. If the indoor unit heat exchanger temperature is 1.0 °C or lower after 1 minutes, the compressor speed is reduced further. If it becomes 2.5 °C or higher, the control terminates. When the indoor heat exchanger temperature has become as show below after reducing the compressor speed, it is switched to the fan operation. For the selection of indoor fan speed, refer to item 2).



Indoor heat exchanger temperature (°C)

(b) Selection of indoor fan speed

If it enters the frost prevention control during cooling operation (excluding dehumidifying), the indoor unit fan speed is switched.

- 1) When the indoor return air detection temperature (detected with Thi-A) is 23°C or higher and the indoor heat exchanger temperature (detected with Thi-R) detects the compressor frequency drop start temperature A°C+1°C, of indoor unit fan speed is increased by 20rpm.
- 2) If the phenomenon of 1) above is detected again after the acceleration of indoor unit fan, indoor unit fan speed is increased further by 20rpm.

Note (1) Indoor unit fan speed can be increased by up to 2 taps.

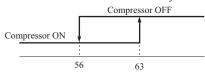
• Compressor frequency drop start temperature

Symbol Item	A
Temperature - Low (Factory default)	1.0
Temperature - High	2.5

Note (1) Frost prevention temperature setting can be selected with the indoor unit function setting of the wired remote controller.

(15) Heating overload protection

(a) If the indoor heat exchanger temperature (detected with Thi-R) at 63°C or higher is detected for 2 seconds continuously, the compressor stops. When the compressor is restarted after a 3-minute delay, if a temperature at 63°C or higher is detected for 2 seconds continuously within 60 minutes after initial detection and if this is detected 5 times consecutively, the compressor stops with the anomalous stop (E8). Anomalous stop occurs also when the indoor heat exchanger temperature at 63°C or higher is detected for 6 minutes continuously.



Indoor heat exchanger temperature (°C)

(b) Indoor unit fan speed selection

If, after second detection of heating overload protection up to fourth, the indoor fan is set at Me and Lo taps when the compressor is turned ON, the indoor fan speed is increased by 1 tap.

(16) Anomalous fan motor

- (a) After starting the fan motor, if the fan motor speed is 200rpm or less is detected for 30 seconds continuously and 4 times within 60 minutes, then fan motor stops with the anomalous stop (E16).
- (b) If the fan motor fails to reach at -50 rpm less than the required speed, it stops with the anomalous stop (E20).

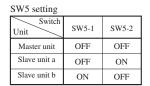
(17) Plural unit control - Control of 16 units group by one remote controller

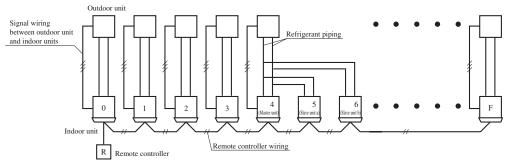
(a) Function

One remote controller switch can control a group of multiple number of unit (Max. 16 indoor units). "Operation mode" which is set by the remote controller switch can operate or stop all units in the group one after another in the order of unit No. (1). Thermostat and protective function of each unit function independently.

Note (1) Unit No. is set by SW2 on the indoor unit control PCB. Unit No. setting by SW2 is necessary for the indoor unit only. In cases of the twin and triple specification, it is necessary set for the master and the slave units. This can be selected by SW5. (All are set for the master unit at the shipping from factory.)

SW2: For setting of 0 – 9, A – F SW5: For setting of master and slave units (See table shown at right.)





(2) Unit No. may be set at random unless duplicated, it should be better to set orderly like 0, 1, 2..., F to avoid mistake.

(b) Display to the remote controller

- 1) Center or each remote controller basis, heating preparation: the youngest unit No. among the operating units in the remote mode (or the center mode unless the remote mode is available) is displayed.
- 2) Inspection display, filter sign: Any of unit that starts initially is displayed.
- 3) Confirmation of connected units
- a) In case of RC-E5 remote controller

Pressing "AIR CON No." button on the remote controller displays the indoor unit address. If "▲" "▼" button is pressed at the next, it is displayed orderly starting from the unit of youngest No.

b) In case of RC-EX1A remote controller
If you touch the buttons in the order of "Menu" → "Next" → "Service & Maintenance" → "IU address" on the TOP screen of remote controller, the indoor units which are connected are displayed.

In case of anomaly

- a) If any anomaly occurs on a unit in a group (a protective function operates), that unit stops with the anomalous stop but any other normal units continue to run as they are.
- Signal wiring procedure

Signal wiring between indoor and outdoor units should be made on each unit same as the normal wiring. For the group control, lay connect with sires wiring between rooms using terminal blocks (X, Y) of remote

Connect the remote controller communication wire separately from the power supply wire or wires of other electric devices (AC220V or higher).

(18) High ceiling control

When sufficient air flow rate cannot be obtained from the indoor unit which is installed at a room with high ceiling, the air flow rate can be increased by changing the fan tap. To change the fan tap, use the indoor unit function "FAN SPEED SET" on the wired remote controller.

Fan tap		Indoor unit airflow setting					
		2011 - 2011 - 2010 - 2010	\$241 - \$240 - \$240	8ad - 8ad	30a11 - 30a1()		
T FAN SPEED SET	STANDARD	PHi - Hi - Me - Lo	Hi - Me - Lo	Hi - Lo	Hi - Me		
	HIGH SPEED1, 2	PHi - PHi - Hi - Me	PHi - Hi - Me	PHi - Me	PHi - Hi		

Notes (1) Factory default is Standard.

- (2) At the hot-start and heating thermostat OFF, or other, the indoor unit fan is operated at the low speed tap of each setting.
- (3) This function is not able to be set with wireless remote controls or simple remote control (RCH-E3)

(19) Abnormal temperature thermistor (return air/indoor heat exchanger) wire/short-circuit detection

Broken wire detection

When the return air temperature thermistor detects -20°C or lower or the heat exchanger temperature thermistor detect -40°C or lower for 5 seconds continuously, the compressor stops. After a 3-minute delay, the compressor restarts but, if it is detected again within 60 minutes after the initial detection for 6 minutes continuously, stops again (the return air temperature thermistor: E7, the heat exchanger temperature thermistor: E6).

Short-circuit detection

If the heat exchanger temperature thermistor detects 70°C or higher for 5 seconds continuously at 2 minutes and 20 seconds after the compressor ON during cooling operation, the compressor stops (E6).

(20) External input/output control (CnT or CnTA)

Be sure to connect the wired remote controller to the indoor unit. Without wired remote controller remote operation by CnT is not possible to perform.

·All model

(1)Operation output (CnT-2: XR1) CnTA Blue (2)Heating output (CnT-3: XR2) ③Thermostat ON output (CnT-4: XR3) Blue (4)Error output (CnT-5: XR4) (5) Remote operation input (CnT-6: Volt-free contact)

·FDT, FDUM only

Note (1) CnTA function can be changed by RC-EX1A.

Priority order for combinations of CnT and CnTA input.

			CnTA						
		① Operation stop level	② Operation stop pulse	③ Operation permission/prohibition	4 Operation permission/prohibition pulse	⑤ Cooling/heating selection level	6 Cooling/heating selection pulse	7 Emergency stop	
	① Operation stop level	CnT ①	CnT ①	CnT 1 +CnTA 2	CnT ①	CnT ① /CnTA ⑤	CnT ① /CnTA ⑥	CnT ① <cnta td="" ⑦<=""></cnta>	
	② Operation stop pulse	CnT ②	CnT ②	CnT ② +CnTA ③	CnT ②	CnT 2 /CnTA 5	CnT 2 /CnTA 6	CnT ② <cnta td="" ⑦<=""></cnta>	
CnT	③ Operation permission/prohibition level	CnT ③ >CnTA ①	CnT ③ >CnTA ②	CnT ③ +CnTA ③	CnT ③	CnT ③ /CnTA ⑤	CnT 3 /CnTA 6	CnT ③ <cnta td="" ⑦<=""></cnta>	
Cni	Operation permission/prohibition pulse	CnT ④	CnT ④	CnT 4 +CnTA 3 **	CnT 4	CnT 4 /CnTA 5	CnT 4 /CnTA 6	CnT 4 <cnta 7<="" td=""></cnta>	
	(5) Cooling/heating selection level	CnT (5) /CnTA (1)	CnT (5) /CnTA (2)	CnT (5) /CnTA (3)	CnT (5) /CnTA (4)	CnT (5)	CnT (5)	CnT (5) /CnTA (7)	
	Cooling/heating selection pulse	CnT 6 /CnTA 1	CnT 6 /CnTA 2	CnT 6 /CnTA 3	CnT 6 /CnTA 4	CnT 6	CnT 6	CnT 6 /CnTA 7	

Note (1) Following operation commands are accepted when the operation prohibition is set with CnTA as indicated with *.

Individual operation command from remote controller, test run command from outdoor unit and operation command from optional device, CNT input.

Reference: Explanation on the codes and the combinations of codes in the table above

- 1. In case of CnT "Number", the CnT "Number" is adopted and CnTA is invalidated.
- 2. In case of CnTA "Number", the CnTA "Number" is adopted and CnT is invalidated.
- 3. In case of CnT "Number"/CnTA "Number", the CnT "Number" and the CnTA "Number" become independent functions each other.
- 4. In case of CnT "Number" + CnTA "Number", the CnT "Number" and the CnTA "Number" become competing functions each other.
- In case of CnT "Number" > CnTA "Number", the function of CnT "Number" supersedes that of CnTA "Number".
 In case of CnT "Number" < CnTA "Number", the function of CnTA "Number" supersedes that of CnT "Number".

(The "Number" above means ① - ⑦ in the table.)

(a) Output for external control (remote display)

Following output connectors (CnT) are provided on the indoor control PCB for monitoring operation status.

- ① **Operation output:** Outputs DC12V signal for driving relay during operation
- **2 Heating output:** Outputs DC12V signal for driving relay during heating operation
- 3 Thermostat ON output: Outputs DC12V signal for driving relay when compressor is operating.
- **Error output:** Outputs DC12V signal for driving relay when anomalous condition occurs.

(b) Remote operation input

Remote operation input connector (CnT-6 or CnTA) is provided on the indoor control PCB.

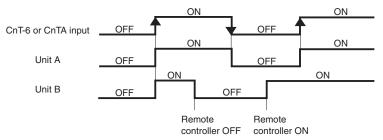
However remote operation by CnT-6 or CnTA is not effective, when "Center mode" is selected by center controller.

In case of plural unit (twin, triple, double twin), remote operation input to CnT-6 or CnTA on the slave indoor unit is invalid

Only the "LEVEL INPUT" is acceptable for external input, however when the indoor function setting of "Level input (Factory default)" or "Pulse input" is selected by the function for "External input" of the wired remote controller, operation status will be changed as follows.

1) In case of "Level input" setting (Factory default)

Input signal to CnT-6 or CnTA is OFF→ON unit ON Input signal to CnT-6 or CnTA is ON→OFF unit OFF Operation is not inverted.

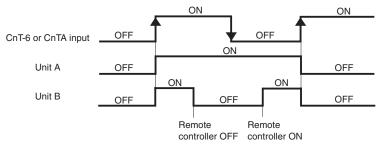


Note: The latest operation has priority

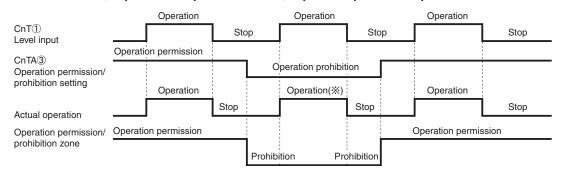
It is available to operate/stop by remote controller or center controller

In case of "Pulse input" setting (Local setting)

It is effective only when the input signal to CnT-6 or CnTA is changed OFF→ON, and at that time unit operation [ON/ OFF] is inverted.

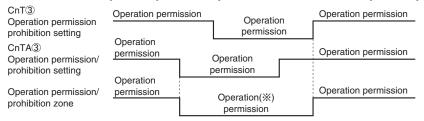


3) In case of CnT ① Operation stop level > CnTA ③ Operation permission/prohibition level



(*) CnT level input supersedes CnTA operation prohibition.

4) In case of CnT 3 Operation permission/prohibition level + CnTA 3 Operation permission/prohibition level

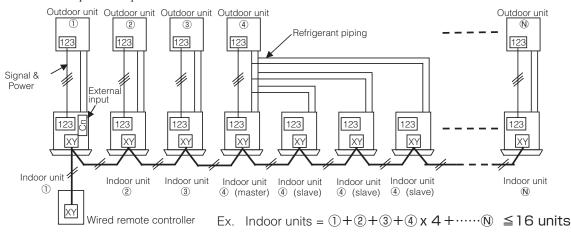


(*) Operation prohibition zone is determined by the OR judgment between CnT Operation prohibition zone and CnTA Operawtion prohibition zone.

(c) Remote operation

In case of multiple units (Max. 16 indoor units group) are connected to one wired remote controller

When the indoor function setting of wired remote controller for "External control set" is changed from "Individual (Factory default)" to "For all units", all units connected in one wired remote controller system can be controlled by external operation input.



	Individual operation	on (Factory default)	All units operation (Local setting)		
	ON	OFF	ON	OFF	
CnT-6 or CnTA	Only the unit directly connected to the remote controller can be operated.	Only the unit directly connected to the remote controller can be stopped opeartion.	All units in one remote controller system can be operated.	All units in one remote controller system can be stopped operation.	
	Unit ① only	Unit ① only	Units ① – 🕥	Units ① – 🕦	

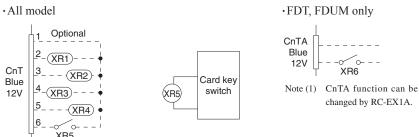
When more than one indoor unit (Max. 16 indoor units) are connected in one wired remote controller system:

- (1) With the factory default, external input to CnT-6 or CnTA is effective for only the unit ①.
- (2) When setting "For all unit" (Local setting), all units in one remote controller system can be controlled by external input to CnT-6 or CnTA on the indoor unit ①.
- (3) External input to CnT-6 or CnTA on the other indoor unit than the unit (1) is not effective.

(21) Operation permission/prohibition

(In case of adopting card key switches or commercially available timers)

When the indoor function setting of wired remote controller for "Operation permission/prohibition" is changed from "Invalid (Factory default)" to "Valid", following control becomes effective.



	Normal operation (Factory default)		Operation permission/prohibition mode "Valid" (Local setting)	
CuT (an	ON	OFF	ON	OFF
CnT-6 or CnTA	Operation	Stop	Operation permission*1	Operation prohibition (Unit stops)

*1 Only the "LEVEL INPUT" is acceptable for external input, however when the indoor function setting of "Level input (Factory default)" or "Pulse input" is selected by the function for "External input" of the wired remote controller, operation status will be changed as follows.

In case of "Level input" setting	In case of "Pulse input" setting
Unit operation from the wired remote controller becomes available*(1)	Unit starts operation *(2)

- *(1) In case that "Operation permission/prohibition mode" setting is "Valid" and "External input" setting is "Level input (Factory default)";
 - ① When card key switch is ON (CnT-6 or CnTA ON: Operation permission), start/stop operation of the unit from the wired remote controller becomes available.
 - ② When card key switch is OFF (CnT-6 or CnTA OFF: Operation prohibition), the unit stops operation in conjunction with OFF signal, and start/stop operation of the unit from the wired remote controller becomes not available.
- *(2) In case that "Operation permission/prohibition mode" setting is "Valid" and "External input" setting is "Pulse input (Local setting)";
 - ① When card key switch is ON (Operation permission), the unit starts operation in conjunction with ON signal. and also start/stop operation of the unit from the wired remote controller becomes available.
 - ② When card key switch is OFF (Operation prohibition), the unit stops operation in conjunction with OFF signal, and start/stop operation of the unit from the wired remote controller becomes not available.
- (3) This function is invalid only at "Center mode" setting done by central controller.

(22) Selection of cooling/heating external input function

- (i) When "External input 1 setting: Cooling/heating" is set for the indoor unit function from remote controller, the cooling or heating is selected with CnT-6 or CnTA.
- (ii) When the External input 1 method selection: Level input is set for the indoor unit function:
 - CnT-6 or CnTA: OPEN \rightarrow Cooling operation mode
 - CnT-6 or CnTA: CLOSE → Heating operation mode
- (iii) When the External input 1 method selection: Pulse input is set for the indoor unit function:
 If the external input is changed OPEN → CLOSE, operation modes are inverted (Cooling → Heating or Heating → Cooling).
- (iv) If the cooling/heating selection signal is given by the external input, the operation mode is transmitted to the remote controller.
 - Selection of cooling/heating external input function

External input selection	External input method	Operation			
		External terminal input (CnT or CnTA)	OFF ON OFF ON OFF Cooling zone Heating zone, Cooling zone Heating zone, Cooling zone Heating zone,		
	(5) Level	Cooling/heating	Cooling Heating Cooling Cooling		
External input calcution		Cooling/heating (Competitive)	Cooling Heating Cooling Auto, cooling, dry mode command 1 1 Heating, auto, heating mode commund from remote controller from remote controller		
External input selection Cooling/heating selection		External terminal input (CnT or CnTA)	OFF Heating zone The sering "Cooling-phasing selection", the cooling-phasing is selected by the current operation mode. During heating: Set at the heating zone (cooling prohibition zone). During cooling, day, and and fan mode Set at cooling zone theating prohibition zone).		
		Cooling/heating	Auto Cooling Cooling		
		Cooling/heating (Competitive)	Auto Cooling Heating Cooling		

Notes (1) Regarding the priority order for combinations of CnT and CnTA, refer to Page 307.

(23) Fan control at heating startup

(a) Start conditions

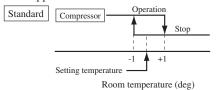
At the start of heating operation, if the difference of setting temperature and return air temperature is 5°C or higher after the end of hot start control, this control is performed.

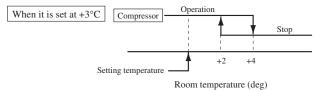
- (b) Contents of control
 - 1) Sampling is made at each minute and, when the indoor unit heat exchanger temperature (detected with Thi-R) is 37°C or higher, present number of revolutions of indoor unit fan speed is increased by 10min⁻¹.
 - 2) If the indoor unit heat exchanger temperature drops below 37°C at next sampling, present number of revolutions of indoor unit fan speed is reduced by 10min⁻¹.
- (c) End conditions

Indoor fan speed is reduced to the setting airflow volume when the compressor OFF is established and at 30 minutes after the start of heating operation.

(24) Room temperature detection temperature compensation during heating

With the standard specification, the compressor is turned ON/OFF with the thermostat setting temperature. When the thermostat is likely to turn OFF earlier because the unit is installed at the ceiling where warm air tends to accumulate, the setting can be changed with the wired remote controller indoor unit function "\$ SP OFFSET". The compressor and the heater are turned ON/OFF at one of the setting temperature +3, +2 or +1°C in order to improve the feeling of heating. The setting temperature, however, has the upper limit of 30°C.





(25) Return air temperature compensation

This is the function to compensate the deviation between the detection temperature by the return air temperature thermistor and the measured temperature after installing the unit.

- 1) It is adjustable in the unit of 0.5°C with the wired remote controller indoor unit function "RETURN AIR TEMP".
 - +1.0°C, +1.5°C, +2.0°C
- -1.0°C, -1.5°C, -2.0°C
- 2) Compensated temperature is transmitted to the remote controller and the compressor to control them.

Note (1) The detection temperature compensation is effective on the indoor unit thermistor only

(26) High power operation (RC-EX1A only)

It operates at with the set temp. fixed at 16°C for cooling, 30°C for heating and maximum indoor fan speed for 15 minutes maximum.

(27) Energy-saving operation (RC-EX1A only)

It operates with the setting temperature fixed at 28°C for cooling, 22°C for heating or 25°C for auto. (Maximum capacity is restricted at 80%.)

(28) Warm-up control (RC-EX1A only)

Operation will be started 5 to 60 minutes before use according to the forecast made by the microcomputer which calculates when the operation should be started in order to warm up the indoor temperature near the setting temperature at the setting time of operation start.

(29) Home leave mode (RC-EX1A only)

When the unit is not used for a long period of time, the room temperature is maintained at a moderate leval, avoiding extremely hot or cool temperature.

- (a) Cooling or heating is operated according to the outdoor temperature (factory setting 35°C for cooling, 0°C for heating) and the set temp. (factory setting 33°C for cooling, 10°C for heating)
- (b) Set temp and indoor fan speed can be set by RC-EX1A.

(30) Auto temp. setting (RC-EX1A only)

Setting temperature is adjusted automatically at the adequate temperature the center set temp. is 24°C by correcting the outdoor air temperature.

(31) Fan circulator operation (RC-EX1A only)

When the fan is used for circulation, the unit is operated as follows depending on the setting with the remote controller.

- 1) If the invalid is selected with the remote controller, the fan is operated continuously during the fan operation. (mormal fan mode)
- 2) If the valid is selected with the remote controller, the fan is operated or stopped when on the difference of the remote controller temperature sensor and the indoor unit return air temperature sensor becomes bigger than 3°C.

(32) The operation judgment is executed every 5 minutes (RC-EX1A only)

Setting temperature Ts is changed according to outdoor temperature

This control is valid with cooling and heating mode. (NOT auto mode)

- 1) Operate 5 minutes forcedly.
- 2) Setting temperature is adjusted every 10 minutes.
 - (a) Cooling mode.
 - Ts = outdoor temperature offset value
 - (b) Heating mode.
 - Ts = outdoor temperature offset value
- 3) If the return air temperature lower than 18°C or return air temperature becomes lower than 25°C, unit goes thermo OFF.

(33) Auto fan speed control (RC-EX1A only)

In order to reach the room temperature to the set temperature as quickly as possible, the airflow rate is increased when the set temperature of thermostat differs largely from the return air temperature. According to temperature difference between set temperature and return air temperature, indoor fan tap are controlled automatically.

- Auto 1: Changes the indoor unit fan tap within the range of $Hi \leftrightarrow Me \leftrightarrow Lo$.
- Auto 2: Changes the indoor unit fan tap within the range of PHi \leftrightarrow Hi \leftrightarrow Me \leftrightarrow Lo.

(34) IU overload alarm (RC-EX1A only)

When the indoor air temperature becomes higher or lower than the temperature set with the remote controller by more than 5 to 10° C at 30 minutes after starting operation, the signal is transmitted to the external output (CNT). Receipt of the signal by the external output is indicated by lighting an LED or other prepared onsite.

(II) SRK Series

(1) Unit ON/OFF button

If the remote control is malfunctioning, this button may be used to turn the unit on and off.

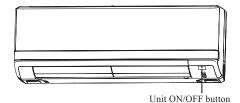
(a) Operation

Push the button once to place the unit in the automatic mode. Push it once more to turn the unit off.

(b) Details of operation

The unit will go into the automatic mode in which it automatically determines, from room temperature (as detected by sensor), whether to go into the cooling, thermal dry or heating modes.

Function Operation mode	Roon temperature setting	Fan speed	Swing contral	Timer switch
Cooling	About 24°C			
Thermal dry	About 25°C	Auto	Auto	Continuous
Heating	About 26°C			



(2) Auto restart function

(a) Auto restart function records the operational status of the air-conditioner immediately prior to be switched off by a power cut, and then automatically resumes operations after the power has been restored.

Jumper wire (J170)

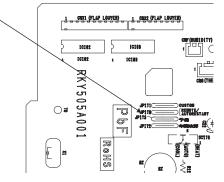
(b) The following settings will be cancelled:

· Timer settings

Timer setting

Notes (1) Auto restart function is set at on when the air-conditioner is shipped from the factory. Consult with your dealer if this function needs to be switched off.

- (2) When power failure occurs, the timer setting is cancelled. Once power is resumed, reset the timer.
- (3) If the jumper wire (J170) "AUTO RESTART" is cut, auto restart is disabled. (See the diagram at right)



(3) Auto swing control

(a) Louver control

- 1) Press the "LOUVER" button to operate the swing louver when the air conditioner is operating.
 - "AUTO -" is displayed for 3 seconds and then the swing louver moves up and down continuously.
- 2) To fix the swing louver at a position, press one time the "LOUVER" button while the swing louver is moving so that four stop positions are displayed one after another per second.
 - When a desired stop position is displayed, press the "LOUVER" button again. The display stops, changes to show the "STOP 1—" for 5 seconds and then the swing louver stops.
- (b) Automatic louver level setting during heating

At the hot start with the heating thermostat OFF, regardless whether the auto swing switch is operated or not (auto swing or louver stop), the louver takes the level position (In order to prevent the cold start). The louver position display LCD continues to show the display which has been shown before entering this control.

(c) Louver-free stop control

When the louver-free stop has been selected with the indoor function of wired remote controller ">POSITION", the louver motor stops when it receives the stop signal from the remote controller. If the auto swing signal is received from the remote controller, the auto swing will start from the position where it was before the stop.

(4) Timer operation

(a) Timer

Set the duration of time from the present to the time to turn off the air-conditioner.

It can be selected from 10 steps in the range from "OFF 1 hour later" to "OFF 10 hours later". After the clock timer setting, the remaining time is displayed with progress of time in the unit of hour.

(b) OFF timer

Time to turn OFF the air-conditioner can be set in the unit of 10 minutes.

(c) ON timer

Time to turn ON the air-conditioner can be set. Indoor temperature can be set simultaneously.

(d) Weekly timer

Timer operation (ON timer, OFF timer) can be set up to 4 times a day for each weekday.

(e) Timer operations which can be set in combination

Item	Timer	OFF timer	ON timer	Weekly timer
Timer		×	0	×
OFF timer	×		0	×
ON timer	0	0		×
Weekly timer	×	×	×	

Note (1) ○: Allowed ×: Not

(5) Remote controller display during the operation stop

When the operation is stopped (the power supply is turned ON), it displays preferentially the "Room temperature", "Center/Remote", "Filter sign", "Inspection" and "Timer operation".

(6) Outline of heating or cooling operation

(a) Operation of major functional components in heating mode

	Heating						
	Thermostat ON	Thermostat OFF	Failure				
Compressor	ON	OFF	OFF				
Indoor fan motor	ON	ON(HOT KEEP)	OFF				
Outdoor fan motor	ON	OFF	OFF				
4-way valve	ON	ON	OFF (3 minutes ON)				

(b) Operation of major functional components in Cooling mode

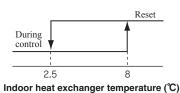
	Cooling					
	Thermostat ON	Thermostat OFF	Failure			
Compressor	ON	OFF	OFF			
Indoor fan motor	ON	ON	OFF			
Outdoor fan motor	ON	OFF	OFF (few minutes ON)			
4-way valve	OFF	OFF	OFF			

(7) Frost prevention control

- (a) Operating conditions
 - 1) More than 8 minutes after starting the compressor.
 - 2) Indoor heat exchanger temperature (detected with Th2) is lower than $2.5\,^{\circ}\mathrm{C}$

(b) Contents of frosting operation

Function	During this control	Reset	
Compressor ON/OFF command	Forced stop	Operation command	
Indoor fan motor	Depending on the airflow setting with the remonstroller		



(c) Resetting condition: Indoor heat exchanger temperature (Th2) is higher than 8 °C.

(8) Indoor fan motor protection

When the air conditioner is operating and the indoor fan motor is turned ON, if the indoor fan motor has operated at 300 rpm or under for more than 30 seconds, the unit enters first in the stop mode and then stops the entire system.

(9) Serial signal transmission error protection

- (a) **Purpose:** Prevents malfunction resulting from error on the indoor \leftrightarrow outdoor signals.
- (b) Detail of operation: If the compressor is operating and a serial signal cannot be received from the indoor control with outdoor control having serial signals continues for 7 minute and 35 seconds, the compressor is stopped. After the compressor has been stopped, it will be restarted after the compressor start delay if a serial signal can be received again from the indoor control.

(10) Plural unit control - Control of 16 units group by one remote controller

(a) Function

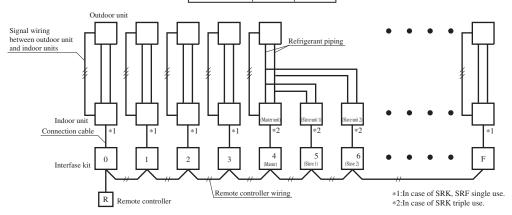
One remote controller switch can control a group of multiple number of unit (Max. 16 indoor units). "Operation mode" which is set by the remote controller switch can operate or stop all units in the group one after another in the order of unit No.⁽¹⁾. Thermostat and protective function of each unit function independently.

Note (1) Unit No. is set by SW1 on the interface PCB. Unit No. setting by SW1 is necessary for the interface only. In cases of the twin and triple specification, it is necessary set for the master and the slave units. This can be selected by SW3. (All are set for the master unit at the shipping from factory.)

SW1: For setting of 0-9, A-FSW3: For setting of master and slave units (See table shown at right.)

SW3 setting (For interface PCB)

Switch	SW3-1	SW3-2
Master	OFF	OFF
Slave1	OFF	ON
Slave2	ON	OFF



(2) Unit No. may be set at random unless duplicated, it should be better to set orderly like 0, 1, 2..., F to avoid mistake.

(b) Display to the remote controller

- 1) Center or each remote controller basis, heating preparation: the youngest unit No. among the operating units in the remote mode (or the center mode unless the remote mode is available) is displayed.
- 2) Inspection display: Any of unit that starts initially is displayed.
- 3) Confirmation of connected units

 Pressing "AIR CON No." button on the remote controller displays the indoor unit address. If "▲" "▼" button is pressed at the next, it is displayed orderly starting from the unit of youngest No.

4) In case of anomaly

a) If any anomaly occurs on a unit in a group (a protective function operates), that unit stops with the anomalous stop but any other normal units continue to run as they are.

b) Signal wiring procedure

Signal wiring between indoor and outdoor units should be made on each unit same as the normal wiring. For the group control, lay connect with sires wiring between rooms using terminal blocks (X, Y) of interface kit. Connect the remote controller communication wire separately from the power supply wire or wires of other electric devices (AC220V or higher).

(11) Filter sign

As the operation time (Total ON time of ON/OFF switch) accumulates to 180 hours (1), "Filter cleaning" is displayed on the remote controller. (This is displayed when the unit is in trouble and under the centralized control, regardless of ON/OFF)

Note (1)Time setting for the filter sign can be made as shown below using the indoor function of wired remote controller "FILTER SIGN SET". (It is set at 1 at the shipping from factory.)

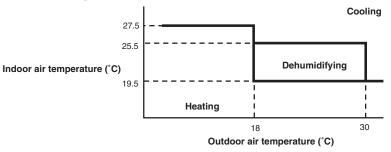
Filter sign setting	Function
Setting 1	Setting time: 180 hrs (Factory default)
Setting 2	Setting time: 600 hrs
Setting 3	Setting time: 1,000 hrs
Setting 4	Setting time: 1,000 hrs (Unit stop) (2)

(2) After the setting time has elapsed, the "FILTER CLEANING" is displayed and, after operating for 24 hours further (counted also during the stop), the unit stops.

(12) Outline of automatic operation

(a) Determination of operation mode

The unit checks the indoor air temperature and the outdoor air temperature, determines the operation mode, and then begins in the automatic operation.



- **(b)** The unit checks the temperature every hour after the start of operation and, if the result of check is not same as the previous operation mode, changes the operation mode.
- (c) When the unit is started again within one hour after the stop of automatic operation or when the automatic operation is selected during heating, cooling or dehumidifying operation, the unit is operated in the previous operation mode.

1.11.4 Operation control function by the outdoor controller

(1) Determination of compressor speed (frequency)

Required frequency

(a) Cooling/dehumidifying operation

Unit: rps

Model		100	125	140	200	250
Max. required frequency	Usual operation	90	105	105	100	120
	Silent mode, outdoor temperature $\leq 15^{\circ}$ C	60	80	85	70	80
Min. required free	Min. required frequency		20	20	30	30
Heating operation Unit: rp					Unit: rps	
	Model			140	200	250

(b)	Heating operation						Unit: rps
		Model	100	125	140	200	250
	Max. required frequency	Usual operation	90	105	110	100	120
		Silent mode	60	80	85	70	80
	Min. required free	quency	20	20	20	30	30

- (c) If the indoor unit fan speed becomes "Me" or "Lo", Max required frequentcy goes down accordingly depending on indoor unit model.
- (d) Max. required frequency under high outdoor air temperature in cooling mode Maximum required frequency is selected according to the outdoor air temperature (Tho-A).

Unit: rps

Model		100	125	140	200	250
Max. required	Outdoor air temperature is 40°C or higher	75	90	96	75	98
frequency	Outdoor air temperature is 46°C or higher	75	75	75	66	66

(e) Max. required frequency under outdoor air temperature in heating mode

Maximum required frequency is selected according to the outdoor air temperature (Tho-A).

Unit: rps

Model		100	125	140	200	250
Max. required frequency	Outdoor air temperature is 18°C or higher	60	80	85	70	80

- (f) Selection of max. required frequency by heat exchanger temperature
 - 1) Maximum required frequency is selected according to the outdoor unit heat exchanger temperature (Tho-R) during cooling/dehumidifying or according to the indoor unit heat exchanger temperature (Thi-R) during heating mode.
 - 2) When there are 3 indoor unit heat exchanger temperatures (Thi-R), whichever the highest applies,

Unit: rps

Model		100	125	140	200	250	
Max. required	Cooling/ dehumidifying	Outdoor unit heat exchanger temperature is 56°C or higher	90	100	100	100	120
frequency	Heating	Indoor unit heat exchanger temperature is 56°C or higher	90	100	100	100	120

Note (1) Value in () are for the 3 phase models.

- (g) When any of the controls from (a) to (f) above may duplicate, whichever the smallest value among duplicated controls is taken as the maximum required frequency.
- (h) During heating, it is operated with the maximum required frequency until the indoor unit heat exchanger temperature becomes 40°C or higher.

(2) Compressor start control

- (a) Compressor starts upon receipt of the thermostat ON signal from the indoor unit.
- (b) However, at initial start after turning the power supply breaker, it may enter the standby state for maximum 30 minutes (" PREPARATION" is displayed on the remote controller) in order to prevent the oil loss in the compressor.

If the cooling/dehumidifying/heating operation is selected from the remote controller when the outdoor unit is in the standby state, " PREPARATION" is displayed for 3 seconds on the remote controller.

(3) Compressor soft start control

(a) Compressor protection start I

[Control condition] Normally, the compressor operation frequency is raised in this start pattern.

[Control contents] a) Starts with the compressor's target frequency at **A** rps.

- However, when the ambient air temperature (Tho-A) is 35°C or higher during cooling/dehumidifying or the indoor return air temperature (ThI-A) is 25°C or higher during heating, it starts at **C** rps.
- b) At 30 seconds after the start of compressor, its target frequency changes to **B** rps and the compressor is operated for 2 4 minutes with its operation frequency fixed at **B** rps.

Model	Operation mode	A rps	B rps	C rps
100-140	Cooling/Dehumidifying	55	55	30
100-140	Heating	55	55	30
200, 250	Cooling/Dehumidifying	55	55	30
200, 250	Heating	55	55	30

(b) Compressor protection start III

[Control condition] Number of compressor starts is only 1 counted after the power supply breaker ON.

[Control contents] Operates by selecting one of following start patterns according to the operation mode and the outdoor air temperature (Tho-A).

- 1) Low frequency operation control during cooling/dehumidifying
 - [Control condition] Upon establishing the conditions of compressor protection start III, the low frequency operation control is performed during cooling/dehumidifying.

[Control contents]

- ① Starts with the compressor's target frequency at **A** rps. When the outdoor air temperature (Tho-A) is 35°C or higher, it starts at **C** rps.
- ② At 30 seconds after the compressor start, the compressor's target frequency is changed to **B** rps and the compressor's operation frequency is fixed for 10 minutes.

Model	Operation mode	A rps	B rps	C rps
100-140	Cooling/Dehumidifying	55	55	30
200, 250	Cooling/Dehumidifying	55	30	30

2) Low frequency operation control during heating

[Control condition] When the conditions of compressor protection start III are established and one of following conditions

- ① and ② is satisfied, the low number of revolutions operation control is performed during heating.
- ① At 30 minutes or more after turning the power supply breaker on
- ② Compressor underneath temperature (Tho-H) is 4°C or higher and the difference from the outdoor air temperature (Tho-A) becomes 4°C or higher. [model 200, 250 only]

[Control contents]

- ① Starts the compressor with its target frequency at **A** rps. However, when the indoor unit return air temperature (ThI-A) is 25°C or higher, it start at **C** rps.
- ② At 30 seconds after the start of compressor, the compressor's target frequency is changed to **B** rps and the compressor's operation frequency is fixed for 10 minutes.

-				
Model	Operation mode	A rps	B rps	C rps
100-140	Heating	55	55	30
200, 250	Heating	55	30	30

(4) Outdoor unit fan control

(a) Outdoor unit fan tap and fan motor speed

Unit: min-1

Model	Mode		Fan motor tap					
		① speed	② speed	③ speed	④ speed	⑤ speed	6 speed	⑦ speed
100-140	Cooling/Dehumidifying	200	350	600	740	820	870	910 (950)(2)
	Heating	200	350	600	740	820	870	910 (950)(2)
		① speed	② speed	3 speed	@ speed	⑤ speed	6 speed	⑦ speed
200, 250	Cooling/Dehumidifying	200	370	560 (600)(3)	820	850	910	950
	Heating	200	370	560 (600)(3)	820	850	910	950

Notes (1) Fan motor speed for model 200 and 250 are same for both top and bottom lines

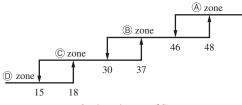
- (2) Value in () are for the model 125, 140.
- (3) Value in () are for the model 250.

(b) Fan tap control during Cooling/Defumidifying operation

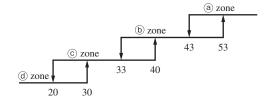
Fan taps are selected depending on the outdoor unit heat exchanger temperature (Tho-R1, R2) and the outdoor air temperature (Tho-A). Note (1) It is detected by Tho-R1 or R2, whichever the higher.

	(A) zone	® zone	© zone	© zone
a zone	Tap 5	Tap 5	Tap 5	Tap 4
b zone	Tap 5	Tap 5	Tap 4 ⁽¹⁾	Tap 3
© zone	Tap 4	Tap 4 ⁽¹⁾	Tap 3	Tap 2
(d) zone	Tap 3	Tap 3	Tap 2	Tap 1

Note (1) If the "silent mode start" signal is received from the remote controller, the speed changes from Tap 4 to Tap 3.



Outdoor air temp. (°C)



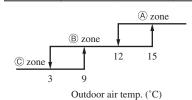
Outdoor unit heat exchanger temp. (°C)

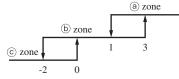
(c) Fan tap control during heating operation

Fan taps are selected depending on the outdoor unit heat exchanger temperature (Tho-R1, R2) and the outdoor air temperature (Tho-A). Note (1) It is detected by Tho-R1 or R2, whichever the lower.

	(A) zone	® zone	© zone
@ zone	Tap 3	Tap 3	Tap 4
(b) zone	Tap 3	Tap 4 ⁽¹⁾	Tap 5
© zone	Tap 4	Tap 5	Tap 6

Note (1) If the "silent mode start" signal is received from the remote controller, the speed changes from Tap 4 to Tap 3.



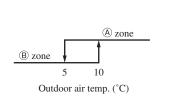


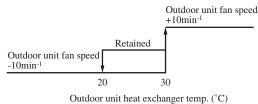
Outdoor unit heat exchanger temp. (°C)

(d) Outdoor unit fan control at cooling low outdoor air

1) When all the following conditions are established after the start of compressor, the following control is implemented. If the outdoor air temperature (Tho-A) is in the zone (B) in the cooling/dehumidifying mode, it has elapsed 20 seconds from the start of outdoor unit fan and the outdoor unit fan is at the tap 1 speed, the outdoor unit fan speed is controlled according to the outdoor unit heat exchanger temperature (Tho-R1, R2).

Note (1) It is detected with Tho-R1 or R2, whichever the higher.





- 2) The outdoor unit heat exchanger temperature is detected always and, when the number of revolutions of the outdoor fan speed has been increased or decreased, there is no change of fan speed for 20 seconds.
- 3) Rage of the outdoor unit fan speed under this control is as follows.
 - a) Lower limit: 130rpm
 - b) Upper limit: 500rpm
- 4) As any of the following conditions is established, this control terminates.
 - a) When the outdoor air temperature is in the zone (A) and the outdoor unit heat exchanger temperature at 30°C or higher is established for 40 seconds or more continuously.
 - b) When the outdoor fan speed is 500rpm and the outdoor unit heat exchanger temperature at 30°C or higher is established for 40 seconds or more continuously.
 - When the outdoor unit heat changer temperature at 45°C or higher is established for 40 seconds or more.

(e) Outdoor unit fan control by the power transistor radiator fin temperature

When all the following conditions are established later than 3 minutes after the start of compressor, the following control is implemented.

- 1) Cooling/dehumidifying
 - a) Outdoor air temperature Tho-A \geq 33°C
 - b) Compressor's actual frequency $\geq \mathbf{A}$ rps
 - c) Power transistor radiator fin temperature $\geq \mathbf{C}$ °C

2) Heating

- a) Outdoor air temperature Tho-A 16°C
- b) Compressor's actual frequency $\geq \mathbf{B}$ rps
- c) Power transistor radiator fin temperature $\geq \mathbf{C}$ °C

3) Control contents

- a) Raises the outdoor unit fan tap by 1 tap.
- b) When the sampling is for 60 minutes and the value of power transistor radiator fin temperature (Tho-P) is as follows
- i) When the power transistor radiator fin temperature (Tho-P) \geq **C** °C, the outdoor unit fan tap is raised by 1 speed further.
- ii) When \mathbf{C} °C > power transistor radiator fin temperature (Tho-P) $\geq \mathbf{D}$ °C, present outdoor unit fan tap is maintained.
- iii) When the power transistor radiator fin temperature (Tho-P) \geq **D** °C, the outdoor unit fan tap is dropped by 1 speed.

4) Ending conditions

When the operation under the condition of item ii), ③ above and with the outdoor unit fan tap, which is determined by the item 2) is detected 2 times consecutively.

• Compressor's frequency and power transistor radiator fin temperature

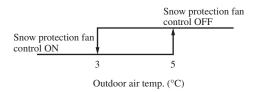
Model Item	A	В	С	D
100-140	85	85	72	68
200, 250	70	70	80	75

(f) Caution at the outdoor unit fan start control (3 phase models only)

When the outdoor unit fan is running at 400min⁻¹ before operating the compressor, it may operate with the compressor only, without starting up the outdoor fan This is normal.

(g) Snow protection fan control

If the dip switch (SW3-2) on the outdoor unit control PCB is turned ON, the outdoor unit fan is operated for 30 seconds at 4 tap speed once in every 10 minutes depending on the outdoor air temperature (detected with Tho-A) in the stop mode or anomalous stop mode.



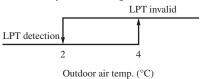
(5) Defrosting

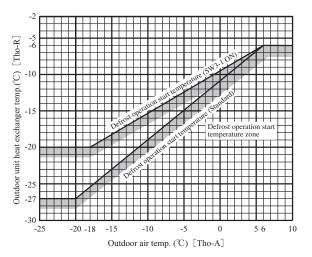
(a) Defrosting start conditions

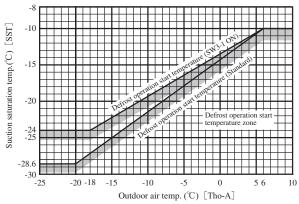
If all of the following defrosting conditions A or conditions B are met, the defrosting operation starts.

1) Defrosting conditions A

- a) Cumulative compressor operation time after the end of defrosting has elapsed 37 minutes, and the cumulative compressor operation time after the start of heating operation (remote controller ON) has elapsed 30 minutes.
- b) After 5 minutes from the compressor ON
- c) After 5 minutes from the start of outdoor unit fan
- d) After satisfying all above conditions, if temperatures of the outdoor unit heat exchanger temperature thermistor (Tho-R1, R2) and the outdoor air temperature thermistor (Tho-A) become lower than the defrosting start temperature as shown by the right figure for 15 seconds continuously, or the suction gas saturation temperature (SST) and the outdoor air temperature (Tho-A), which are obtained from the value detected by the low pressure sensor (LPT) stay for 3 minutes within the range below the defrosting operation start temperature as shown by the right figure. However, it excludes for 10 minutes after the start of compressor and the outdoor air temperature is as shown by the lower figure.







2) Defrosting conditions B

- a) When previous defrosting end condition is the time out of defrosting operation and it is in the heating operation after the cumulative compressor operation time after the end of defrosting has become 30 minutes.
- b) After 5 minutes from the start of compressor
- c) After 5 minutes from the start of outdoor unit fan

(b) Defrosting end conditions

When any of the following conditions is satisfied, the defrosting end operation starts.

- 1) When it has elapsed 8 minutes and 20 seconds after the start of defrosting. (After 10 minutes and 20 seconds for model, 200 and 250)
- When the outdoor unit heat exchanger temperatures (Tho-R1, R2), whichever the lower, becomes 12°C or higher for 10 seconds continuously.

(c) Switching of defrosting control with SW3-1

1) If SW3-1 on the outdoor unit control PCB is turned to ON, it becomes easier to enter the defrosting operation. Use this when installing a unit at snowing regions.

2) Control contents

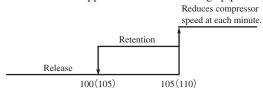
- a) It allows entering the defrosting operation under the defrosting condition A when the cumulative heating operation time becomes 30 minutes. It is 37 minutes at SW3-1 OFF (Factory default).
- b) It allows entering the defrosting operation under the defrosting condition B when the cumulative heating operation time becomes 25 minutes. It is 30 minutes at SW3-1 OFF (Factory default).
- c) It allows the defrosting operation with the outdoor unit heat exchanger temperature (Tho-R) and suction pressure saturation temperature (SST) being higher than normal.

(6) Protective control/anomalous stop control by compressor's number of revolutions

(a) Compressor discharge pipe temperature protection

1) Protective control

As the discharge pipe temperature (detected with Tho-D) exceeds the setting value, the compressor speed (frequency) is controlled to suppress the rise of discharge pipe temperature.

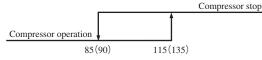


Note (1) Value in () are for the model 200, 250.

Discharge pipe temperature (°C)

2) Anomalous stop control

- a) If the discharge pipe temperature (detected with Tho-D) exceeds the setting value, the compressor stops.
- b) When it is detected 2 times within 60 minutes or after continuous 60 minutes, including the stop of compressor, E36 is displayed on the remote controller and it enters the anomalous stop mode.



Note (1) Value in () are for the model 200, 250.

Discharge pipe temperature (°C)

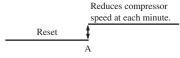
3) Reset of anomalous stop mode

As it drops to the reset value of 85°C (90°C) or lower for 45 minutes continuously, it becomes possible to restart from the remote controller.

Note (1) Value in () are for the model 200, 250.

(b) Cooling high pressure protection

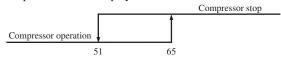
- 1) Protective control
 - a) When the outdoor air temperature (Tho-A) is 40°C or higher and the outdoor unit heat exchanger temperature (Tho-R) exceeds the setting value, the compressor speed (frequency) is controlled to suppress the rise of high pressure.
 - b) Control value A is updated to an optimum value automatically according to the operating conditions.



Control value A
54-60°C

Outdoor unit heat exchanger temp. (°C)

- 2) Anomalous stop control
 - a) As the outdoor unit heat exchanger temperature (Tho-R) exceeds the setting value, the compressor stops.
 - b) If it is detected 5 times within 60 minutes or 65°C or higher continues for 60 minutes, including the stop of compressor, E35 is displayed on the remote controller and it enters the anomalous stop mode.



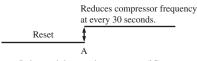
Outdoor unit heat exchanger temp. (°C)

3) Reset of anomalous stop mode

As it reaches the reset value of 51°C or lower, it becomes possible to restart from the remote controller.

(c) Heating high pressure protection

- 1) Protective control
 - a) As the indoor unit heat exchanger temperature (Thi-R) exceeds the setting value, the compressor speed (frequency) is controlled to suppress the rise of high pressure.
 - b) Control value A is updated to an optimum value automatically according to the operating conditions.



	Existing piping adaptation swi	tch: SW5-1 (SW8-1: model 80)	
Model	OFF (Shipping) ON		
	Control value A (°C)		
100-140	48-54	16.50	
200, 250	52-58	46-52	

Indoor unit heat exchanger temp. (°C)

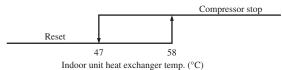
Note (1) Adaptation to existing piping is at ON.

2) Anomalous stop control

Operation control function by the indoor unit controller - See the heating overload protection, page 306.

3) Adaptation to existing piping, stop control

If the existing piping adaptation switch, SW5-1, is turned ON, the compressor stops to protect existing piping when the indoor unit heat exchanger temperature (Thi-R) exceeds the setting value.



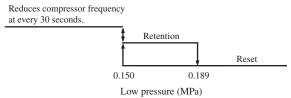
(d) Anomaly detection control by the high pressure switch (63H1)

- 1) If the pressure rises and operates the high pressure switch (opens at 4.15MPA/closes at 3.15MPa), the compressor stops.
- 2) Under any of the following conditions, E40 is displayed and it enters the anomalous stop mode.
 - a) When it occurs 5 times within 60 minutes that pressure rises and the compressor is stopped by 63H1.
 - b) When 63H1 has been in the open state for 60 minutes continuously, including the stop of compressor.

(e) Low pressure control

1) Protective control

If the value detected by the low pressure sensor (LPT) exceeds the setting value, the compressor speed (frequency) is controlled to restrain the drop of pressure.

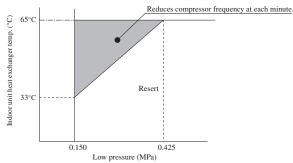


2) Anomalous stop control

- a) When a value detected by the low pressure sensor (LPT) satisfies any of the following conditions, the compressor stops to run for its protection.
 - i) When the low pressure drops to 0.079MPa or under for 15 seconds continuously.
 - ii) At 10 minutes after the start of compressor, the suction overheat becomes 30°C and the low pressure becomes 0.15MPa or under for 60 seconds continuously.
- b) E49 is displayed under any of the following conditions and it enters the anomalous stop mode.
 - i) When the low pressure drops 3 times within 60 minutes and the compressor stops under any of the above conditions.
 - ii) When a value detected with the low pressure sensor becomes 0.079MPa or under for 5 minutes, including the stop of compressor.
- c) However, when the control condition ① is established during the compressor protection start III, E49 is displayed at initial stop and it enters the anomalous stop mode.

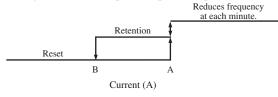
(f) Compressor pressure ratio protection control

- During heating operation, if the indoor unit heat exchanger temperature (Thi-R) and the low pressure sensor (LPT)
 exceed the setting values at 10 minutes after the start of compressor, the compressor speed (frequency) is controlled
 to protect the compressor.
- 2) This control is not performed during the outdoor fan ON and for 10 minutes from the start of outdoor unit fan.
- 3) This control is not performed during defrosting operation and at 10 minutes after the reset of defrosting operation.
- 4) When there are 3 indoor unit heat exchanger temperatures (Thi-R), the highest temperature is detected.



(g) Over-current protection current safe controls I, II

Detecting the outdoor unit inverter input (primary) current and the output (secondary) current, if the current values exceed setting values, the compressor speed (frequency) is controlled to protect the inverter.



(Fig. C) The control value "A" and the reset value vary depending on the compressor speed.

4	24
or reset valve (A)	22
a v	Control valve A
2	20
se	18
r r	16 Reset valve B
	Reservative B
<u>f</u>	14
Control	40 50 60 70 80 90 100 110 120 130
0	
	Compressor speed (frequency) (rps)

		Coo	ling	Hea	ting
Model		Control value A	Reset value B	Control value A	Reset value B
	100	13.5 (23.0)	12.5 (22.0)	13.5 (23.0)	12.5 (22.0)
Primary current side	125, 140	13.5 (23.0)	12.5 (22.0)	13.5 (23.0)	12.5 (22.0)
	200	17.0	16.0	17.0	16.0
	250	20.0	19.0	20.0	19.0
	100	13.0 (Fig.C)	12.0 (Fig.C)	13.0 (Fig.C)	12.0 (Fig.C)
Secandary current side	125, 140	13.0 (Fig.C)	12.0 (Fig.C)	13.0 (Fig.C)	12.0 (Fig.C)
	200	NT 4 1 4 1			
	250	[Not implemented		

Note (1) Value in () are for the single phase models.

(h) Power transistor temperature protection

1) Protective control

If the power transistor temperature (detected with TIP) exceeds the setting value, the compressor speed (frequency) is controlled to suppress the rise of power transistor temperature.



2) Anomalous stop control (model 200, 250 only)

- a) If the power transistor temperature rises further, the protective switch in the power transistor operates to protect
 the compressor and the power transistor.
- b) Under any of the following condition, E41 is displayed and it enters the anomalous stop mode.

i) When the protective switch in the power transistor operates 5 times within 60 minutes and the compressor stops.

(i) Anomalous power transistor current

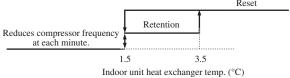
- Prevents over-current on the inverter. If the current value in the power transistor exceeds the setting value, the compressor stops.
- 2) If the current value in the power transistor exceeds the specified value and the compressor stops 4 times within 30 minutes, E42 is displayed on the remote controller and it enters the anomalous stop mode.

(j) Anomalous inverter PCB

If the power transistor detects any anomaly for 15 minutes, including the stop of compressor, E51 is displayed on the remote controller and it enters the anomalous stop mode.

(k) Anti-frost control by the compressor frequency control

- If the indoor unit heat exchanger temperature (detected with Thi-R) exceeds the setting value at 4 minutes after the start of compressor, the compressor speed (frequency) is controlled to initiate the anti-frost control of indoor unit heat exchanger.
- 2) When there are 3 indoor unit heat exchanger temperatures (Thi-R), the lowest temperature is detected.



3) Regarding the anti-frost control by the operation stop, refer to the operation control function by the indoor unit controller and the cooling, dehumidifying frost prevention of page 305.

(I) Dewing prevention control

[Control condition] During cooling and dehumidifying operation, if all the following conditions are established, the compressor speed (frequency) is reduced to prevent dewing and water splash.

- ① Cooling electronic expansion valve aperture (EEVC) is 500 pulses.
- ② Suction overheat is 10°C or higher.
- 3 Compressor speed (frequency) is 60 rps or higher.

[Control contents]

- ① When the suction overheat is 10°C or higher, the compressor speed (frequency) is reduced at each
- ② Compressor speed (frequency) does not rise till the cooling expansion valve becomes 460 pulses.
- 3 This control takes 60 rps as its lower limit so that compressor speed is not controlled when it is less than 60 rps.

(m) Refrigerant quantity shortage protection

Under the compressor protection start III control during cooling and dehumidifying operations, the following control is performed by detecting the indoor unit heat exchanger temperature (Thi-R) and the indoor unit return air temperature (Thi-A).

[Control condition] When the state that the indoor unit heat exchanger temperature (Th_I-R) does not become lower than the indoor unit return air temperature (Th_I-A) by 4°C or more continues for 1 minute.

[Control contents] It judges that the flowing of refrigerant in to the indoor unit is insufficient so that the compressor is stopped and E57 is displayed on the remote controller.

(n) Broken wire detection on temperature thermistor and low pressure sensor

1) Outdoor unit heat exchanger thermistor, outdoor air thermistor and low pressure sensor

If the following is detected for 5 second continuously within 2 minutes to 2 minutes and 20 seconds after the compressor ON, the compressor stops. After a delay of 3 minutes, it restarts but, if the same is detected repeatedly 3 times within 40 minutes, the compressor stops with the anomalous stop.

Note (1) During defrosting and for 3 minutes after the end of defrosting, it is not detected.

- Outdoor unit heat exchanger thermistor: -50°C or lower
- Outdoor air temperature thermistor: -45 or lower
- Low pressure sensor: 0V or under or 4.0V or over
- Discharge pipe temperature thermistor, suction pipe temperature thermistor and underneath temperature thermistor (model 200, 250 only)

If the following is detected for 5 second continuously within 10 minutes to 10 minutes and 20 seconds after the compressor ON, the compressor stops. After a delay of 3 minutes, it restarts but, if the same is detected repeatedly 3 times within 40 minutes, the compressor stops with the anomalous stop.

Note (1) During defrosting and for 3 minutes after the end of defrosting, it is not detected.

- Discharge pipe temperature thermistor: -10°C or lower
- Suction pipe temperature thermistor: -50 or lower
- Underneath temperature thermistor: -50°C or lower

(o) Fan motor error

- 1) If the fan speed of 100rpm or under is detected for 30 second continuously under the outdoor unit fan control (with the operation command of fan tap at ① speed or higher), the compressor stops.
- 2) When the fan motor speed drops to 100rpm or under 5 times within 60 minutes and the compressor stops, it enters the anomalous stop mode with E48 displayed on the remote controller.

(p) Anomalous stop by the compressor start stop

- 1) When it fails to shift to the compressor DC motor's rotor position defection operation at 5 seconds after establishing the compressor start condition, the compressor stops temporarily and restarts 3 minutes later.
- 2) If it fails to shift to the position detection operation again at second time, it judges the anomalous compressor start and stops the compressor by the anomalous stop (E59).

(q) Anomalous compressor rotor lock (model 200, 250 only)

After shifting to the compressor rotor's position detection operation, if fails again to detect the rotor position, the compressor stops.

Compressor restarts 3 minutes later but, if it is operated 4 times within 15 minutes, the anomalous stop (E60) occurs.

(7) Silent mode

- (a) As "Silent mode start" signal is received from the remote controller, it operates by dropping the outdoor unit fan tap and the compressor speed (frequency).
- (b) For details, refer to items (1) and (4) above.

(8) Test run

(a) It is possible to operate from the outdoor unit using the dip switch on the outdoor unit control PCB.

SW3-3	ON	SW3-4	OFF	Cooling test run
	ON		ON	Heating test run
	OFF	N	Normal and end of test run	

Make sure to turn SW3-3 to OFF after the end of operation.

(b) Test run control

- 1) Operation is performed at the maximum compressor speed (frequency), which is determined for each model.
- 2) Each protective control and error detection control are effective.
- If SW3-4 is switched during test run, the compressor is stoped for once by the stop control and the cooling/heating operation is switched.
- 4) Setting and display of remote controller during test run

Item Mode	Contents of remote controller setting/display
Cooling test run	Setting temperature of cooling is 5°C.
Heating test run	Setting temperature of heating (preparation) is 30°C.

(9) Pump-down control

Turning ON the pump-down switch SW1 for 2 seconds during the operation stop or anomalous stop (excluding the thermostat OFF), the pump-down operation is performed. (This is invalid when the indoor unit is operating. This is effective even when the indoor unit is stopped by the anomalous stop or the power supply is turned OFF.)

(a) Control contents

- 1) Close the service valve at the liquid side. (It is left open at the gas side.)
- 2) Compressor is started with the target speed (frequency) at 55 rps in the cooling mode.
- 3) Red and green lamps (LED) flash continuously on the outdoor unit control PCB.
- Each of protection and error detection controls, excluding the low pressure control, anti-frost control and dewing prevention control, is effective.
- 5) Outdoor unit fan is controlled as usual.
- 6) Electronic expansion valve is fully opened.

(b) Control ending conditions

Stop control is initiated depending on any of the following conditions.

- 1) Low pressure of 0.087MPa or lower is detected for 5 seconds continuously.
 - a) Red LED: Light, Green LED: Flashing, Remote controller: Displays stop.
 - b) It is possible to restart when the low pressure is 0.087MPa or higher.
 - c) Electronic expansion valve (cooling/heating) is kept fully open.
- 2) Stop by the error detection control
 - a) Red LED: Flashing, Green LED: Flashing
 - b) Restart is prohibited. To return to normal operation, reset the power supply.
 - c) Electronic expansion valve (cooling/heating) is left fully open.
- 3) When the cumulative operation time of compressor under the pump-down control becomes 5 minutes.
 - a) Red LED: OFF, Green LED: Flashing, Remote controller: Stop
 - b) It is possible to pump-down again.
 - c) Electronic expansion valve (cooling/heating) is left fully open.

Note (1) After the stop of compressor, close the service valve at the gas side.

Caution: Since pressing the pump-down switch cancels communications with the indoor unit, the indoor unit and the remote controller display "Transmission error – E5". This is normal.

(10) Base heater ON/OFF output control (optional)

(a) Base heater ON conditions

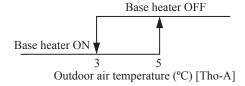
When all of following conditions are met, the base heater is turned ON.

- Outdoor air temperature (detected with Tho-A) is 3°C or lower.
- · In the heating mode
- · When the compressor is turned ON

(b) Base heater OFF conditions

When either one of following conditions is met, the base heater is turned OFF.

- · Outdoor air temperature (detected with Tho-A) is 5°C or higher.
- · When the compressor stop has been detected for 30 minutes continuously
- · In the cooling or dehumidifying mode



1.12 MAINTENANCE DATA

1.12.1 Diagnosing of microcomputer circuit

(1) Selfdiagnosis function

(a) Check Indicator Table

Whether a failure exists or not on the indoor unit and outdoor unit can be know by the contents of remote controller error code, indoor/outdoor unit green LED (power pilot lamp and microcomputer normality pilot lamp) or red LED (check pilot lamp).

Note (1) SRK series only.

At the indoor unit side, errors are displayed with the combination of RUN light and TIMER light on the display panel.

(i) Indoor unit

1) FDT, FDTC, FDEN, FDU, FDUM, FDF series

Remote	controller	Indoor co	ntrol PCB	Outdoor c	ontrol PCB	Location of			Reference
Error code	Red LED	Red LED	Green LED (1)	Red LED	Green LED (1)	trouble	Description of trouble	Repair method	page
		Stays OFF	Keeps flashing	Stays OFF	Keeps flashing	_	Normal operation	_	_
No-indication	Stays OFF	Stays OFF	Stays OFF	2 times flash	Stays OFF	Indoor unit power supply	Power OFF, broken wire/blown fuse, broken transformer wire	Repair	366
		*	Keeps	G. OFF	Keeps	Remote controller wires	Poor connection, breakage of remote controller wire * For wire breaking at power ON, the LED is OFF.	Repair	267
		3 times flash	flashing	Stays OFF	flashing	Remote controller	Defective remote controller PCB	Replacement of remote controller	367
	IT ® or ECT I/U	Stays OFF	Keeps flashing	2 times flash	Keeps flashing	Indoor-outdoor units connection wire	Poor connection, breakage of indoor-outdoor units connection wire	Repair	368-372
						Remote controller	Improper setting of master and slave by remote controller		
F 1		Stays OFF	* Keeps	Stays OFF	Keeps	Remote controller wires (Noise)	Poor connection of remote controller signal wire (White) * For wire breaking at power ON, the LED is OFF Intrusion of noise in remote controller wire	Repair	374
		Says Of f	flashing	Sulys Of I	flashing	Remote controller indoor control PCB	*• Defective remote controller or indoor control PCB (defective communication circuit)?	Replacement of remote controller or PCB	374
		2 times flash	Keeps flashing	2[6] times flash	Keeps flashing	Indoor-outdoor units connection wire	Poor connection of wire between indoor-outdoor units during operation (disconnection, loose connection) Anomalous communication between indoor-outdoor units by noise, etc.	Repair	
F5		2 times	Keeps	CA OFF	Keeps	(Noise)	CPU-runaway on outdoor control PCB	Power reset or Repair	
		flash	flashing	Stays OFF	flashing	Outdoor control PCB	*• Occurrence of defective outdoor control PCB on the way of power supply (defective communication circuit)?	Replacement of PCB	375
		2 times	Keeps	Stays OFF	Stays OFF	Outdoor control PCB	Defective outdoor control PCB on the way of power supply	Replacement	
		flash	flashing		,	Fuse	Blown fuse	1	
E 5		1 time flash	Keeps	Stays OFF	Keeps	Indoor heat exchanger tempera- ture thermistor	Defective indoor heat exchanger temperature thermistor (defective element, broken wire, short-circuit) Poor contact of temperature thermistor connector	Replacement, repair of temperature thermistor	376
			flashing		flashing	Indoor control PCB	* Defective indoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	
E7		1 time flash	Keeps flashing	Stays OFF	Keeps flashing	Indoor return air temperature therm- istor	Defective indoor return air temperature thermistor (defective element, broken wire, short-circuit) Poor contact of temperature thermistor connector	Replacement, repair of temperature thermistor	377
	Keeps		nasning		nasning	Indoor control PCB	*• Defective indoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	
	flashing					Installation or oper- ating condition	Heating over-load (Anomalously high indoor heat exchanger temperature)	Repair	
E8		1 time flash	Keeps flashing	Stays OFF	Keeps flashing	Indoor heat exchanger tempera- ture thermistor	Defective indoor heat exchanger temperature thermistor (short-circuit)	Replacement of temperature therm- istor	378
						Indoor control PCB	*• Defective indoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	
						Drain trouble	Defective drain pump (DM), broken drain pump wire, disconnected connector	Replacement, repair of DM	
F9		1 time flash	Keeps	Stays OFF	Keeps	Float switch	Anomalous float switch operation (malfunction)	Repair	379
		i tillie nasii	flashing	Stays OFF	flashing	Indoor control PCB	*- Defective indoor control PCB (Defective float switch input circuit) *- Defective indoor control PCB (Defective DM drive output circuit)?	Replacement of PCB	3/9
]					Option	Defective optional parts (At optional anomalous input setting)	Repair	
E IC	3	Stays OFF	Keeps flashing	Stays OFF	Keeps flashing	Number of con- nected indoor units	When multi-unit control by remote controller is performed, the number of units is over	Repair	380
E 1	{	3 times flash	Keeps flashing	Stays OFF	Keeps flashing	Indoor unit No. set- ting	•No master is assigned to slaves.	Repair	381
<u> </u>	4					Remote controller wires	•Anomalous remote controller wire connection, broken wire between master and slave units	n 1	
E IE	5	1(2) time flash	Keeps flashing	Stays OFF	Keeps flashing	Fan motor Indoor power PCB	Defective fan motor Defective indoor power PCB	Replacement, repair Replacement	382
E IE		1 time flash	Keeps flashing	Stays OFF	Keeps flashing	Address setting error	Address setting error of master and slave indoor units	Repair	383
E 15		1 time flash	Keeps flashing	Stays OFF	Keeps flashing	Indoor control PCB	Improper operation mode setting	Repair	384
	1		- moining	1	- monning		ı		

Remote c	ontroller	Indoor co	ntrol PCB	Outdoor co	ontrol PCB	Location of			Reference
Error code	Red LED	Red LED	Green LED (1)	Red LED	Green LED (1)	trouble	Description of trouble	Repair method	page
con	,	1(2) time	Keeps	Stavs OFF	Keeps	Fan motor	Indoor fan motor rotation speed anomaly	Replacement, repair	385
בבח		flash	flashing	Stays OFF	flashing	Indoor power PCB	Defective indoor power PCB	Replacement	363
E21		1time flash	Keeps flashing	Stays OFF	Keeps flashing	Panel switch detection	Defective panel switch operation (FDT only)	Repair	386
E28		Stays OFF	Keeps flashing	Stays OFF	Keeps flashing	Remote controller temperature therm- istor	Broken wire of remote controller temperature thermistor	Repair	387

Note (1) Normal indicator lamp (Indoor, outdoor units: Green) extinguishes (or lights continuously) only when CPU is anomalous. It keeps flashing in any trouble other than anomalous CPU.

2) SRK series

Remote c	ontroller	Indoor un	it display	Outdoor c	ontrol PCB	Location of			Reference
Error code	Red LED	RUN light	TIMER light	Red LED	Green LED	trouble	Description of trouble	Repair method	page
		ON	Stays OFF	Stays OFF	Keeps flashing	-	•Normal operation	_	_
		_	_	2 times flash	Stays OFF	Indoor unit power supply	•Power OFF, broken wire/blown fuse, broken transformer wire	Repair	417
				2 times	Keeps	Remote controller wires	 Poor connection, breakage of remote controller wire * For wire breaking at power ON, the LED is OFF. 	Repair	418
No-indication	Stays OFF			flash	flashing	Remote controller	Defective remote controller PCB	Replacement of remote controller	416
140 marcanon	Stays Of F	2 times flash	ON	Stays OFF	Keeps flashing	Indoor room temperature sensor	Defective indoor room temperature sensor(defective element, broken wire, short-circuit) Poor contact of temperature sensor connector	Replacement, repair of temperature sensor	419
		nusii			nasimig	Indoor control PCB	Defective indoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	
		Stays OFF	Keeps flashing	Stays OFF	Keeps flashing	Limit switch, air inlet panel	Limit switch operate Defective limit switch (Poor contact of limit switch connector) Set is defective air inlet panel	Replacement, repair	420
						Indoor control PCB	Defective indoor control PCB (Defective limit switch input circuit)?	Replacement of PCB	
⊕WAI INSPE		_	_	2 times flash	Keeps flashing	Indoor-outdoor units connection wire	Poor connection, breakage of indoor-outdoor units connection wire	Repair	421-425
						Remote controller	Improper setting of master and slave by remote controller		
F!					Keeps	Remote controller wires (Noise)	Poor connection of remote controller signal wire (White) For wire breaking at power ON, the LED is OFF Intrusion of noise in remote controller wire	Repair	427
_ '		_	_	Stays OFF	flashing	Remote controller indoor control PCB	*• Defective remote controller or indoor control PCB (defective communication circuit)?	Replacement of remote controller or PCB	427
		ON	6 times flash	2 times flash	Keeps flashing	Indoor-outdoor units connection wire	Poor connection of wire between indoor-outdoor units during operation (disconnection, loose connection) Anomalous communication between indoor-outdoor units by noise, etc.	Repair	
E5		ON	6 times	Stays OFF	Keeps	(Noise)	•CPU-runaway on outdoor control PCB	Power reset or Repair	428
		0.11	flash	Smy5 011	flashing	Outdoor control PCB	*•Occurrence of defective outdoor control PCB on the way of power supply (defective communication circuit)?	Replacement of PCB	420
		ON	6 times flash	Stays OFF	Stays OFF	Outdoor control PCB	Defective outdoor control PCB on the way of power supply	Replacement	
	Keeps					Fuse	•Blown fuse	Darlessand assis	
	flashing	1 time flash	ON	Stays OFF	Keeps	Indoor heat exchanger tempera ture sensor 1	Defective indoor heat exchanger temperature sensor 1 (defective element, broken wire, short-circuit) Poor contact of temperature sensor 1 connector	Replacement, repair of temperature sensor 1	
					flashing	Indoor control PCB	Defective indoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	
E5		3 times	ON	Ctore OFF	Keeps	Indoor heat exchanger tempera ture sensor 2	Defective indoor heat exchanger temperature sensor 2 (defective element, broken wire, short-circuit) Poor contact of temperature sensor 2 connector	Replacement, repair of temperature sensor 2	429
		flash	ON	Stays OFF	flashing	Indoor control PCB	*Defective indoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	
E 10		_	_	Stays OFF	Keeps flashing	Number of con- nected indoor units	When multi-unit control by remote controller is performed, the number of units is over	Repair	430
E 14		3 times flash	Keeps flashing	Stays OFF	Keeps flashing	Indoor unit No. set- ting	•No master is assigned to slaves.	Repair	431
_ ' '		nasning nasning Rer		Remote controller wires	•Anomalous remote controller wire connection, broken wire between master and slave units				
E 16		6 times	ON	Stays OFF	Keeps	Fan motor	Defective fan motor	Replacement, repair	432
_ 'U		flash		-	flashing	Pamata controllar		Replacement	
E28		-	_	Stays OFF	Keeps flashing	Remote controller temperature therm- istor	Broken wire of remote controller temperature thermistor	Repair	433

Note (1) *mark in the Description of trouble means that, in ordinary diagnosis, it cannot identify the cause definitely, and, if the trouble is repaired by replacing the part, it is judged consequently that the replaced part was defective.

^{(2) *} mark in the Description of trouble means that, in ordinary diagnosis, it cannot identify the cause definitely, and, if the trouble is repaired by replacing the part, it is judged consequently that the replaced part was defective.

(ii) Outdoor unit

1) FDT, FDTC, FDEN, FDU, FDUM, FDF series

Remote co	ntroller	Indoor co	ntrol PCB	Outdoor co	ontrol PCB	Outdoor inve	nter PCB				
Error code	Red LED	Red LED	Green LED (1)	Red LED	Green LED (1)	Yellow LED (3)or Red LED (4)	Green LED (2)	Location of trouble	Description of trouble	Repair method	Reference page
								Installation or operating condition	Higher outdoor heat exchanger temperature	Repair	
E35		Stays OFF	Keeps flashing	1 time flash	Keeps flashing			Outdoor heat exchanger temperature thermistor	Defective outdoor heat exchanger temperature thermistor	Replacement of temperature thermistor	388
								Outdoor control PCB	*• Defective outdoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	
								Installation or operating condition	Higher discharge temperature	Repair	
E36		Stays OFF	Keeps flashing	1 time flash	Keeps flashing			Discharge pipe temperature thermistor	Defective discharge pipe temperature thermistor	Replacement, repair of temperature thermistor	389
								Outdoor control PCB	*• Defective outdoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	
<i></i>		G. OFF	Keeps	1 0.1	Keeps	Keeps		Outdoor heat exchanger temperature thermistor	Defective outdoor heat exchanger temperature thermistor, broken wire or poor connector connection	Replacement, repair of temperature thermistor	200
E37		Stays OFF	flashing	1 time flash	flashing	flashing		Outdoor control PCB	*• Defective outdoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	390
E 38		G. OFF	Keeps	1 0.1	Keeps			Outdoor air temperature thermistor	Defective Outdoor air temperature thermistor, broken wire or poor connector connection	Replacement, repair of temperature thermistor	201
		Stays OFF	flashing	1 time flash	flashing			Outdoor control PCB	*• Defective outdoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	391
E39		Ct OFF	Keeps	1 4	Keeps			Discharge pipe temperature thermistor	Defective discharge pipe temperature thermistor, broken wire or poor connector connection	Replacement, repair of temperature thermistor	202
		Stays OFF	flashing	1 time flash	flashing			Outdoor control PCB	*• Defective outdoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	392
E40		Stays OFF	Keeps	1 time flash	Keeps			Installation or operating condition	• Rising high pressure (Operation of 63H1) • Service valve closing operation	Repair	393
_ ''		,	flashing		flashing			Outdoor control PCB	*• Defective outdoor control PCB (Defective 63H input circuit)?	Replacement of PCB	
E41		Stays OFF	Keeps flashing	1 time flash	Keeps flashing	2 times flash or 6 times flash		Inverter PCB or radiator fin	Power transistor overheat	Replacement of PCB or Repair	394•395
E42		Stays OFF	Keeps	1 time flash	Keeps	1 time flash or		Outdoor control PCB compressor	Current cut (Anomalous compressor over-current)	Replacement of PCB	396•397
L 11		Stays Of 1	flashing	1 unic nasii	flashing	5 times flash	Keeps	Installation or operating condition	Service valve closing operation	Repair	390 391
E45		Stays OFF	Keeps	1 time flash	Keeps		flashing	Outdoor control PCB	Anomalous outdoor control PCB communication	Service valve opening check	398
		_	flashing		flashing			Inverter PCB	Anomalous inverter PCB communication	Replacement of PCB	
E48		Stays OFF	Keeps flashing	1 time flash	Keeps flashing			Outdoor fan motor	Anomalous outdoor fan motor A D S S S S S S S S S S S S S S S S S S	Replacement, repair	399
F					- Imagining	Keeps flashing		Outdoor control PCB Installation or operating	*• Defective outdoor control PCB (Defective motor input circuit)?	Replacement of PCB	\vdash
сио		Ct OFF	Keeps	1 4 6	Keeps			condition	Low pressure error	Repair Replacement, repair of	400•401
E49		Stays OFF	flashing	1 time flash	flashing			Low pressure sensor	connector connection	sensor Replacement of control	400*401
						2 times flash		Outdoor control PCB	*• Defective outdoor control PCB (Defective sensor input circuit)?	PCB	
E5 !		Stays OFF	Keeps flashing	1 time flash	Keeps flashing	or 6 times flash		Inverter PCB	Anomalous inverter PCB	Replacement of PCB	402
E53		Stays OFF	Keeps	1 time flash	Keeps			Suction pipe temperature thermistor	Defective suction pipe temperature thermistor, broken wire or poor connector connection	Replacement, repair of temperature thermistor	403
		Stays Of F	flashing	T time nasii	flashing			Outdoor control PCB	*• Defective outdoor PCB (Defective thermistor input circuit)?	Replacement of control PCB	103
E54		Stays OFF	Keeps	1 time flash	Keeps			Low pressure sensor	Defective low pressure sensor	Replacement of sensor	404
		,.	flashing		flashing	Keeps		Outdoor control PCB	Defective outdoor control PCB (Defective sensor input circuit)?	Replacement of control PCB	
E55		Stays OFF	Keeps	1 time flash	Keeps	flashing		Compressor underneath temperature thermistor	Defective compressor underneath temperature thermistor (Models 200, 250 only)	Replacement of temperature thermistor	405
			flashing		flashing			Outdoor control PCB	Defective outdoor control PCB (Defective thermistor input circuit)? (Models 200, 250 only)	Replacement of control PCB	
E57		Stays OFF	Keeps flashing	1 time flash	Keeps flashing			Operation status	Shortage in refrigerant quantity	Repair Service valve opening	406
						Stays OFF or		Installation status	Service valve closing operation	check	
E 59 E 60		Stays OFF	Keeps flashing	5 times flash	Keeps flashing	4 times flash		Compressor inverter PCB	Anomalous compressor startup	Replacement	407•408
E 50		Stays OFF	Keeps flashing	1 time flash	Keeps flashing	Keeps flashing		Compressor	Anomalous compressor rotor position detection (Models 200, 250 only) dontify the covered definitely and if the trouble is repaired.	Replacement	409

Note (1) * mark in the Description of trouble means that, in ordinary diagnosis, it cannot identify the cause definitely, and, if the trouble is repaired by replacing the part, it is judged consequently that the replaced part was defective.

⁽²⁾ This LED is installed on models FDC200, 250VS

⁽³⁾ This LED is installed on models FDC100-140VN, FDC100-140VS

⁽⁴⁾ This LED is installed on models FDC200, 250VS

2) SRK series

Remote co	ntroller	Indoor un	it display	Outdoor c	ontrol PCB	Outdoor inventer PCB				Reference
Error code	Red LED	RUN light	TIMER light	Red LED	Green LED	Yellow LED	Location of trouble	Description of trouble	Repair method	page
							Installation or operating condition	Higher outdoor heat exchanger temperature	Repair	
E35		ON	Keeps flashing	1 time flash	Keeps flashing		Outdoor heat exchanger temperature thermistor	Defective outdoor heat exchanger temperature thermistor	Replacement of temperature thermistor	434
							Outdoor control PCB	*• Defective outdoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	
							Installation or operating condition	Higher discharge temperature	Repair	
E36		ON	5 times flash	1 time flash	Keeps flashing		temperature thermistor	Defective discharge pipe temperature thermistor	Replacement, repair of temperature thermistor	435
			THOSE STATES				Outdoor control PCB	*• Discharge pipe Defective outdoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	
E37		Keeps	2 times	1 time flash	Keeps	Keeps flashing	Outdoor heat exchanger temperature thermistor	Defective outdoor heat exchanger temperature thermistor, broken wire or poor connector connection	Replacement, repair of temperature thermistor	436
י כם		flashing	flash	1 time nasn	flashing	g	Outdoor control PCB	*• Defective outdoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	150
E 38		Keeps	1.: 0.1	1.6 0.1	Keeps		Outdoor air temperature thermistor	Defective Outdoor air temperature thermistor, broken wire or poor connector connection	Replacement, repair of temperature thermistor	427
C 20		flashing	I time Hash	1 time flash	flashing		Outdoor control PCB	*• Defective outdoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	437
c 20		Keeps	4 times	1.6 0.1	Keeps		Discharge pipe temperature thermistor	Defective discharge pipe temperature thermistor, broken wire or poor connector connection	Replacement, repair of temperature thermistor	100
E39		flashing	flash	1 time flash	flashing		Outdoor control PCB	*• Defective outdoor control PCB (Defective temperature thermistor input circuit)?	Replacement of PCB	438
E40		_	_	1 time flash	Keeps		Installation or operating condition	• Rising high pressure (Operation of 63H1) • Service valve closing operation	Repair	439
ער ב				1 time nasii	flashing		Outdoor control PCB	*• Defective outdoor control PCB (Defective 63H input circuit)?	Replacement of PCB	439
E41	Keeps	_	-	1 time flash	Keeps flashing	6 times flash	Inverter PCB or radiator fin	Power transistor overheat	Replacement of PCB or Repair	440
E42	flashing	OM	1 dina dia b	1 45 91	Keeps		Outdoor control PCB compressor	Current cut (Anomalous compressor over-current)	Replacement of PCB	441-442
ביב		ON	1 time flash	1 time flash	flashing	1 time flash	Installation or operating condition	Service valve closing operation	Repair	441•442
E45		_	_	1 time flash	Keeps		Outdoor control PCB	Anomalous outdoor control PCB communication	Replacement of PCB	443
- '-					flashing		Inverter PCB	Anomalous inverter PCB communication		
E48		ON	7 times flash	1 time flash	Keeps flashing	V	Outdoor fan motor	Anomalous outdoor fan motor A D G G G G G G G G G G G G G G G G G G	Replacement, repair	444
			110311		Hushing	Keeps flashing	Outdoor control PCB Installation or operating	*• Defective outdoor control PCB (Defective motor input circuit)?	Replacement of PCB	\vdash
							condition	Low pressure error Service valve closing operation	Repair	
E49		_	-	1 time flash	Keeps flashing		Low pressure sensor	Anomalous low pressure, broken wire of low pressure sensor or poor connector connection	Replacement, repair of sensor	445•446
							Outdoor control PCB	*• Defective outdoor control PCB (Defective sensor input circuit)?	Replacement of control PCB	
E5 1		ON	4 times flash	1 time flash	Keeps flashing	6 times flash	Inverter PCB	Anomalous inverter PCB	Replacement of PCB	447
E53		Keeps	4 times	1 time flash	Keeps		Suction pipe temperature thermistor	Defective suction pipe temperature thermistor, broken wire or poor connector connection	Replacement, repair of temperature thermistor	448
		flashing	flash	i time nasn	flashing		Outdoor control PCB	*• Defective outdoor PCB (Defective thermistor input circuit)?	Replacement of control PCB	448
ССИ			-	1 4 0 1	Keeps	Keeps	Low pressure sensor	Defective low pressure sensor	Replacement of sensor	449
E54				1 time flash	flashing	flashing	Outdoor control PCB	Defective outdoor control PCB (Defective sensor input circuit)?	Replacement of control PCB	447
ccn		7 times	ON	1 time flash	Keeps		Operation status	Shortage in refrigerant quantity	Repair	450
		flash	ON	ı unic nası	flashing		Installation status	Service valve closing operation	Service valve opening check	450
E57 E59		-	ı	5 times flash	Keeps flashing	Stays OFF	Compressor, inverter PCB	•Anomalous compressor startup	Replacement	451•452

Note (1) * mark in the Description of trouble means that, in ordinary diagnosis, it cannot identify the cause definitely, and, if the trouble is repaired by replacing the part, it is judged consequently that the replaced part was defective.

(iii) Optional controller in-use

1) FDT, FDTC, FDEN, FDU, FDUM, FDF series

		Indoor unit	control PCB	Outdoor unit	control PCB	Description of trouble	Repair method
Error code	Red LED	Red LED	Green LED	Red LED	Green LED	Description of trouble	
E 75	Keeps flashing	Stays OFF	Keeps flashing	Stays OFF	Keeps flashing	Communication error (Defective communication circuit on the main unit of SC-SL2N-E or SC-SL3N-E) ete.	Replacement

2) SRK series

		Indoor unit o	lisplay panel	Outdoor unit	control PCB		
Error code	Red LED	RUN light	TIMER light	Red LED	Green LED	Description of trouble	Repair method
E 75	Keeps flashing	-	-	Stays OFF	Keeps flashing	Communication error (Defective communication circuit on the main unit of SC-SL2N-E or SC-SL3N-E) ete.	Replacement

(iv) Display sequence of error codes or inspection indicator lamps

■ Occurrence of one kind of error

Displays are shown respectively according to errors.

■ Occurrence of plural kinds of error

Section	Category of display
Error code on remote controller	Displays the error of higher priority (When plural errors are persisting)
Red LED on indoor control PCB	E 1>E5>····>E 10>E35>·····Eb0
Red LED on outdoor control PCB	• Displays the present errors. (When a new error has occurred after the former error was reset.)

■ Error detecting timing

Section	Error description	Error code	Error detecting timing
	Drain trouble (Float switch activated)	E9	Whenever float switch is activated after 30 second had past since power ON.
	Communication error at initial operation	"'BWAIT'B"	No communication between indoor and outdoor units is established at initial operation.
	Remote controller communication circuit error	ΕI	Communication between indoor unit and remote controller is interrupted for mote than 2 minutes continuously after initial communication was established.
	Communication error during operation	E5	Communication between indoor and outdoor units is interrupted for mote than 2 minutes continuously after initial communication was established.
Indoor	Excessive number of connected indoor units by controlling with one remote controller	E 10	Whenever excessively connected indoor units is detected after power ON.
	Return air temperature thermistor anomaly	En	-50 (-45) °C or lower is detected for 5 (15) seconds continuously within 60 minutes after initial detection of this anomalous temperature.
	Indoor heat exchanger temperature thermistor anomaly	E6	-50 (-28) °C or lower is detected for 5 (15) seconds continuously within 60 minutes after initial detection of this anomalous temperature. Or 70°C or higher is detected for 5 seconds continuously. (SRK series removes)
	Outdoor air temperature thermistor anomaly	E 38	-45°C or lower is detected for 5 seconds continuously 3 times within 40 minutes after initial detection of this anomalous temperature. Or -45°C or higher is detected for 5 seconds continuously within 20 seconds after compressor ON.
	Outdoor heat exchanger temperature thermistor anomaly	E37	-50°C or lower is detected for 5 seconds continuously 3 times within 40 minutes after initial detection of this anomalous temperature. Or -50°C or lower is detected for 5 seconds continuously within 20 seconds after compressor ON.
Outdoor	Discharge pipe temperature thermistor anomaly	E39	-10°C or lower is detected for 5 seconds continuously 3 times within 40 minutes after initial detection of this anomalous temperature.
	Suction pipe temperature thermistor anomaly	E53	-50°C or lower is detected for 5 seconds continuously 3 times within 40 minutes after initial detection of this anomalous temperature.
	Low pressure sensor anomaly	E54	0V or lower or 3.49V or higher is detected for 5 seconds continuously 3 times within 40 minutes after initial detection of this anomalous pressure.
-	Underneath temperature thermistor anomaly	E55	-50°C or lower is detected for 5 seconds continuously 3 times within 40 minutes after initial detection of this anomalous temperature.

Note (1) Value in () are for the SRK series.

■ Error log and reset

Error indicator	Memorized error log	Reset	
Remote controller display	Higher priority error is memorized.	Stop the unit by pressing the ON/OFF	
Red LED on indoor control PCB	Not memorized.	switch of remote controller.If the unit has recovered from anomaly, it	
Red LED on outdoor control PCB	Memorizes a mode of higher priority.	can be operated.	

■ Resetting the error log

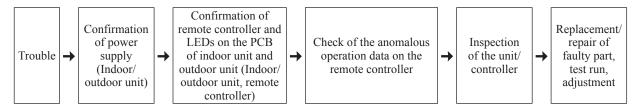
- Resetting the memorized error log in the remote controller
 Holding down "CHECK" button, press "TIMER" button to reset the error log memorized in the remote controller.
- Resetting the memorized error log

The remote controller transmits error log erase command to the indoor unit when "VENTI" button is pressed while holding down "CHECK" button.

Receiving the command, the indoor unit erase the log and answer the status of no error.

(2) Troubleshooting procedure

When any trouble has occurred, inspect as follows. Details of respective inspection method will be described on later pages.



(3) Troubleshooting at the indoor unit

(a) FDT, FDTC, FDEN, FDU, FDUM, FDF series

With the troubleshooting, find out any defective part by checking the voltage (AC, DC), resistance, etc. at respective connectors at around the indoor PCB, according to the inspection display or operation status of unit (the compressor does not run, fan does not run, the 4-way valve does not switch, etc.), and replace or repair in the unit of following part.

(i) Replacement part related to indoor PCB's

Control PCB, power supply PCB, temperature thermistor (return air, indoor heat exchanger), remote controller switch, limit switch, transformer and fuse

Note (1) With regard to parts of high voltage circuits and refrigeration cycle, judge it according to ordinary inspection methods.

(ii) Instruction of how to replace indoor control PCB

SAFETY PRECAUTIONS Read the "SAFETY PRECAUTIONS" carefully first of all and then strictly follow it during the replacement in order to protect yourself. The precautionary items mentioned below are distinguished into two levels, WARNING and CAUTION. Both mentions the important items to protect your health and safety so strictly follow them by any means. After completing the replacement, do commissioning to confirm there are no anomaly. WARNING Replacement should be performed by the specialist. If you replace the PCB by yourself, it may lead to serious trouble such as electric shock or fire. Replace the PCB correctly according to these instructions. Improper replacement may cause electric shock or fire. Shut off the power before electrical wiring work. Replacement during the applying the current would cause the electric shock, unit failure or improper running. It would cause the damage of connected equipment such as fan motor,etc. Fasten the wiring to the terminal securely, and hold the cable securely so as not to apply unexpected stress on the terminal. Loose connections or hold could result in abnormal heat generation or fire. Check the connection of wiring to PCB correctly before turning on the power, after replacement. Defectiveness of replacement may cause electric shock or fire CAUTION In connecting connector onto the PCB, connect not to deform the PCB. It may cause breakage or malfunction. Insert connecter securely, and hook stopper. It may cause fire or improper running. Bundle the cables together so as not to be pinched or be tensioned. It may cause malfunction or electric shock for disconnection or deformation.

PSB012D990B

♦ Model FDT, FDUM series

Control PCB

Replace and set up the PCB according to this instruction.

 $\ensuremath{\textcircled{1}}$ Set to an appropriate address and function using switch on PCB.

Select the same setting with the removed PCB.

are came county that are removed to 2.						
item	switch	Content of control				
Address	SW2	Plural indoor units control by 1 remote controlle			e controller	
Master /Slave		Master	Slave1	Slave2	Slave3	
	SW5-1	_	_	0	0	
setting	SW5-2	_	0	_	0	
Test run	SW7-1	_	Normal			
1 GSL IUII	3447-1	0	Operation c	heck/drain me	otor test run	

O:ON -:OFF

2 Set to an appropriate capacity using the model selector switch(SW6).

Select the same capacity with the PCB removed from the unit.

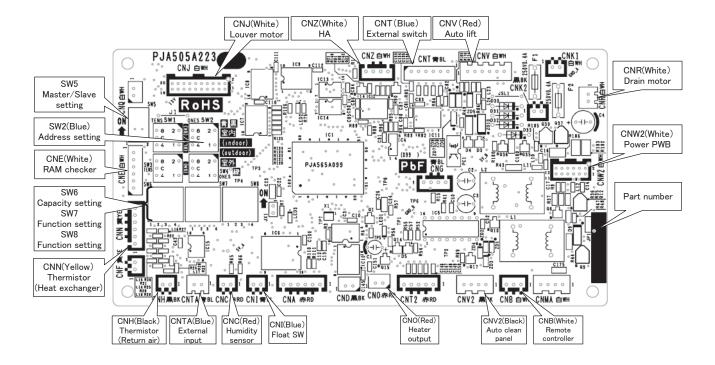
SW6	-1	-2	-3	-4
50V	0	_	0	_
60V	0	0	0	_
71V	0	_	_	0

SW6	-1	-2	-3	-4
100V	0	0	١	0
125V	_	١	0	0
140V	0	_	0	0



Example setting for 50V

- 3 Replace the PCB
 - 1. Exchange PCB after detaching all connectors connected with the PCB.
 - 2. Fix the PCB so as not to pitch the wiring.
 - 3. Connect connectors to the PCB. Match the wiring connector to the connector color on the PCB and connect it.
- 4 Control PCB



Power PCB

This PCB is a general PCB. Replace the PCB according to this instruction.

PSB012D992

PSB012D993

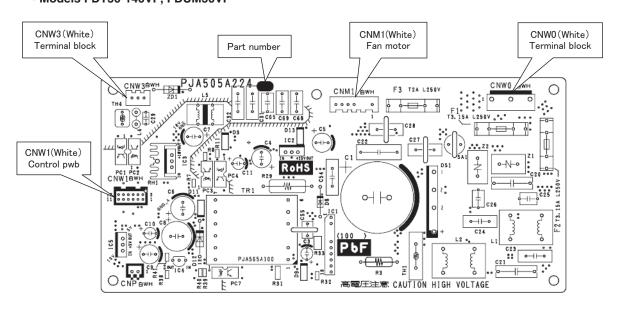
① Replace the PCB

- 1. Unscrew terminal of the wiring(yellow/green) connected to Terminal block (CNWO) from the box.
- 2. Replace the PCB only after all the wirings connected to the connector are removed.
- 3. Fix the board such that it will not pinch any of the wires.
- 4. Reconnect the wirings to the PCB. Wiring connector color should match with the color of connector of the PCB.
- 5. Screw back the terminal of wiring, that was removed in 1.

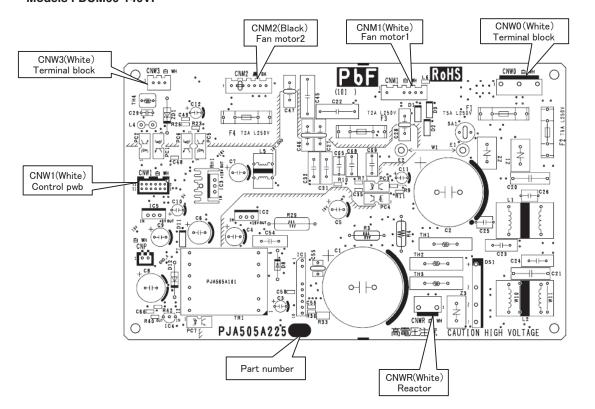
② Power PCB

Parts mounting are different by the kind of PCB.

• Models FDT50-140VF, FDUM50VF



• Models FDUM60-140VF



PSB012D931F/c

♦ Model FDTC series

Control PCB

Replace and set up the PCB according to this instruction.

① Set to an appropriate address and function using switch on PCB.

Select the same setting with the removed PCB.

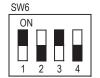
item	switch	Content of control		
Address	SW2	Plural indoor units control by 1 remote controller		
Test run	run SW7-1	_	Normal	
restruit	3007-1	0	Operation check/drain motor test run	

O:ON -:OFF

② Set to an appropriate capacity using the model selector switch(SW6).

Select the same capacity with the PCB removed from the unit.

SW6	-1	-2	-3	-4
50VF	0		0	_
60VF	0	0	0	-

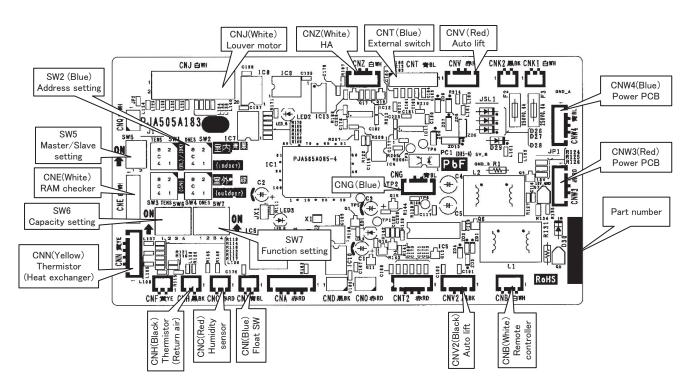


Example setting for 50VF

3 Replace the PCB

- 1. Fix the PCB so as not to pitch the cords.
- 2. Connect connectors to the PCB. Connect a cable connector with the PCB connector of the same color.
- 3.Do not pass CPU surrounding about wirings.

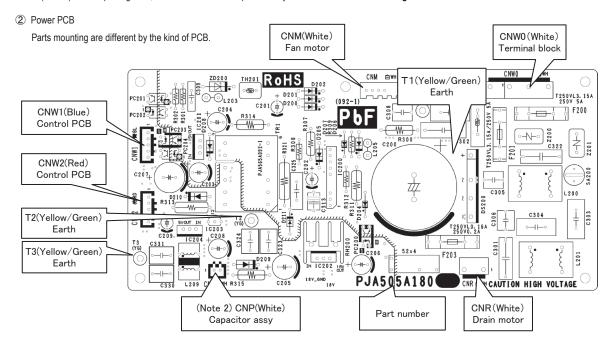
4 Control PCB

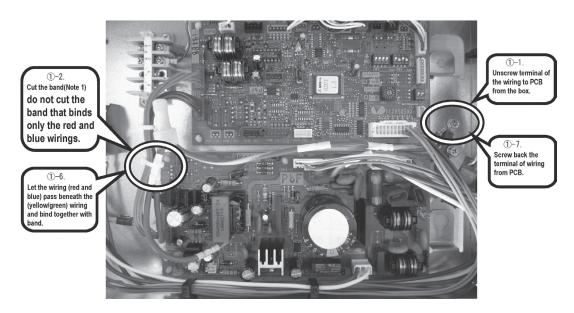


Power PCB

Wer PCB
This PCB is a general PCB. Replace the PCB according to this instruction.

- 1 Replace the PCB
 - 1. Unscrew terminal of the wiring(yellow/green) soldered to PCB from the box.
 - 2. Cut the band that binds the wiring (red and blue) from connector CNW1 and CNW2, and the wiring (yellow/green) from PCB (T2/T3). (Note 1) (However, do not cut the band that binds only the red and blue wirings.)
 - 3. Replace the PCB only after all the wirings connected to the connector are removed.
 - 4. Fix the board such that it will not pinch any of the wires.
 - 5. Reconnect the wirings to the PCB. Wiring connector color should match with the color of connector of the PCB. (Note 2)
 - 6. Let the wiring (red and blue) pass beneath the (yellow/green) wiring and bind together with band.
 - 7. Screw back the terminal of wiring (yellow/green) from PCB(T1, $\,$ T2/T3), that was removed in 1.
 - In that case, do not place the crimping part of the wiring under the PCB.
 - (Note 1): It might not be applicable on some models.
 - (Note 2): After replacing PCB, connection between capacitor assy and connector CNP is no longer needed.





Model FDEN series

Replace and set up the PCB according to this instruction.

PSB01ZD974B

- ① Set to an appropriate address and function using switch on PCB.
- 1. There is a unit having plural applicable PCB depending on a model.
- 2. Set the function setting corresponding the spare PCB and the applicable model.
- 3. Do "Setting according to the model *1" refer to " $\fill \fill controller" after turning on the power source when using wired remote controller
- ② Set to an appropriate capacity using the model selector switch(SW6). Select the same capacity with the PCB removed from the unit.

SW6	-1	-2	-3	-4	SW6	-1	-2	-3
50V	0	_	0	_	100V	0	0	_
60V	0	0	0	_	125V	_	_	0
71V	0	_	1	0	140V	0	-	0

item	switch	Content of control						
Address	SW2	Plural indoor units control by 1 remote controller						
Moster/Clave		Master	Slave1	Slave2	Slave3			
Master/Slave	SW5-1	_	_	0	0			
setting	SW5-2	_	0	_	0			
T est run	SW7-1	_		Normal				
I estiuii	3007-1	0	Operation check/drain motor test run					
	O.UN —.UEE							



Example setting for 50V

3 Replace the PCB

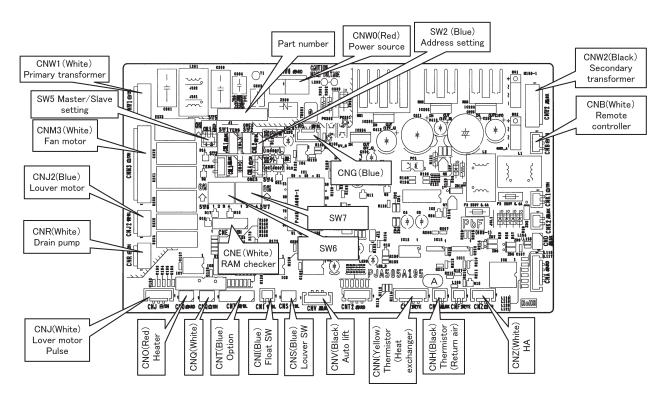
- 1. Fix the PCB so as not to pitch the cords.
- 2. Connect connectors to the PCB. Connect a cable connector with the PCB connector of the same color.

-4

0 0 0

3.Do not pass CPU surrounding about wirings.

4 Control PCB



♦ Model FDU series

Replace and set up the PCB according to this instruction

PSB012D974B∕€

- ① Set to an appropriate address and function using switch on PCB.
 - 1. There is a unit having plural applicable PCB depending on a model.
- 2. Set the function setting corresponding the spare PCB and the applicable model.

item	switch	Content of control				
Address	SW2	Plural indo	Plural indoor units control by 1 remote controller			
Master /Slave		Master	Slave1	Slave2	Slave3	
setting	SW5-1	_	_	0	0	
Setting	SW5-2	_	0	-	0	
Test run	SW7-1	_	Normal			
restruii	3007-1	0	Operation check/drain motor test run			

O:0N -:0FF

② Set to an appropriate capacity using the model selector switch(SW6). Select the same capacity with the PCB removed from the unit.

_					
	SW6	-1	-2	-3	-4
Г	100V	0	0	_	0
Γ	125V	_	_	0	0
	140V	0	_	0	0

SW6	-1	-2	-3	-4
200V	_	0	0	0
250V	0	0	0	0

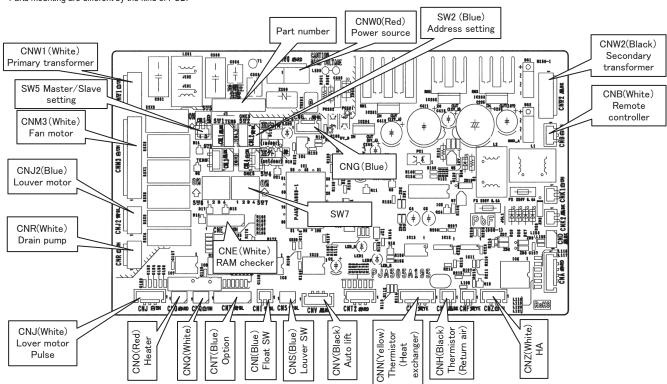


Example setting for 140V

3 Replace the PCB

- 1. Fix the PCB so as not to pitch the cords.
- 2. Connect connectors to the PCB. Connect a cable connector with the PCB connector of the same color.
- 3.Do not pass CPU surrounding about wirings.

4 Control PCB



♦ Model FDF series PSB012D976

Control PCB

Replace and set up the PCB according to this instruction.

① Set to an appropriate address and function using switch on PCB. Select the same setting with the removed PCB.

item	switch	Content of control				
Address	SW2	Plural indoor units control by 1 remote controller				
Master /Slave		Master	Slave1	Slave2	Slave3	
	SW5-1	_	_	0	0	
setting	SW5-2	_	0	_	0	
Tootrup	SW7-1	_		Normal		
Testrun	SVV7-1	0	Operation of	heck/drain m	otor test run	

② Set to an appropriate capacity using the model selector switch(SW6). Select the same capacity with the PCB removed from the unit.

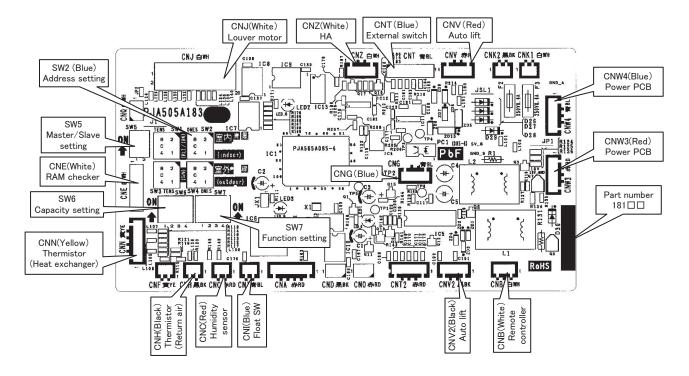
SW6	-1	-2	-3	-4
71V	0	_	_	0
100V	0	0		0
125V	_	_	0	0
140V	0	_	0	0



3 Replace the PCB

- 1. Fix the PCB so as not to pitch the cords.
- 2. Connect connectors to the PCB. Connect a cable connector with the PCB connector of the same color.
- 3.Do not pass CPU surrounding about wirings.

4 Control PCB

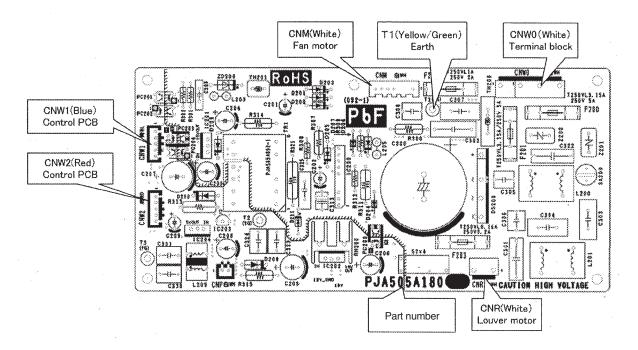


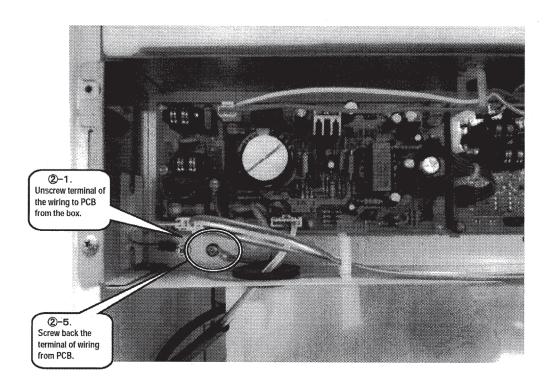
Power PCB

This PCB is a general PCB. Replace the PCB according to this instruction.

Replace the PCB

- Unscrew terminal of the wiring(yellow/green) soldered to PCB from the box.
- 2. Replace the PCB only after all the wirings connected to the connector are removed.
- 3. Fix the board such that it will not pinch any of the wires.
- Reconnect the wirings to the PCB. Wiring connector color should match with the color of connector of the PCB.
 Screw back the terminal of wiring (yellow/green) from PCB(T1), that was removed in 1. In that case, do not place the crimping part of the wiring under the PCB.





●DIP switch setting list

Switches	Description			efault setting	Remarks
SW2	Address No. setting at plural indo	oor units control by 1 R/C	0		0-F
SW5-1	Master/Slave setting	Master*/Slave	OFF		See table 2
SW5-2	Master/Stave setting	Master /Slave	OFF		See table 2
SW6-1					
SW6-2	Model selection		As per model		See table 1
SW6-3					
SW6-4					
SW7-1	Test run, Drain motor	Normal*/Test run	OFF	Normal	
SW7-2	Reserved		OFF		keep OFF
SW7-3	Powerful mode	Valid*/Invalid(FDU only)	ON	Valid	
SW7-4	Reserved		OFF		keep OFF
SW8-1	Reserved		OFF		keep OFF
SW8-2	Reserved		OFF		keep OFF
SW8-3	Reserved		OFF		keep OFF
SW8-4	Reserved		OFF		keep OFF
JSL1	Superlink terminal spare	Normal*/switch to spare	With		

Note (1): SW8: FDT, FDUM, only.

Table 1: Indoor unit model selection with SW6-1-SW6-4

							0: OFF	T:ON
	50V	60V	71V	100V	125V	140V	200V	250V
SW6-1	1	1	1	1	0	1	0	1
SW6-2	0	1	0	1	0	0	1	1
SW6-3	1	1	0	0	1	1	1	1
SW6-4	0	0	1	1	1	1	1	1

Table 2: Indoor unit Master/Slave setting with SW5-1,SW5-2

	0: OF	- 1:ON
	SW5-1	SW5-2
Master	0	0
Slave1	0	1
Slave2	1	0
Slave3	1	1

^{*} Default setting

(b) SRK series

(i) Cautions

- 1) If you are disassembling and checking an air conditioner, be sure to turn off the power before beginning.

 When working on indoor units, let the unit sit for about 1 minute after turning off the power before you begin work.
- 2) When taking out printed circuit boards, be sure to do so without exerting force on the circuit boards or package components.
- 3) When disconnecting and connecting connectors, take hold of the connector housing and do not pull on the lead wires.

(ii) Items to check before troubleshooting

- 1) Is the air conditioner running? Is it displaying any self-diagnosis information?
- 2) Is a power supply with the correct voltage connected?
- 3) Are the control lines connecting the indoor and outdoor units wired correctly and connected securely?
- 4) Is the outdoor unit's service valve open?

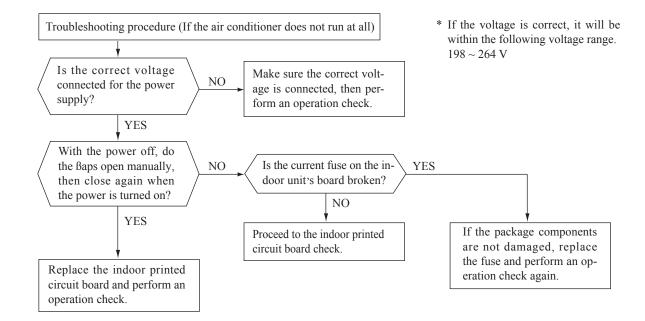
(iii) Troubleshooting procedure (If the air conditioner does not run at all)

If the air conditioner does not run at all, diagnose the trouble using the following troubleshooting procedure.

Important

When all the following conditions are met, we say that the air conditioner will not run at all.

- 1) The RUN light does not light up.
- 2) The flaps do not open.
- 3) The indoor unit fan motors do not run.
- 4) The self-diagnosis display does not function.



(4) Troubleshooting at the outdoor unit

When troubleshooting the outdoor unit, firstly assess the overview of malfunction and try to presume the cause and the faulty part by checking the error cord dispalyed on the remote controller and flashing pattern of indicator lamps (Red LED and Green LED), and then proceed further inspection and remedy it.

Self-diagnosis system by microcomputor on indoor and outdoor PCB can assist to find the cause of malfunction smoothly by making a diagnosis of not only the anomaly of microcomutor, but also the anomaly in power supply system, installation space, overload resulting from improper charging amount of refrigerant and etc.

Unless the power is reset, the error log is saved in memory and the inspection indicator lamps on outdoor PCB keep flashing after automatical recovering from malfunction.

After automatical recovering from malfunction, if any another error mode which has a higher priority than the previous error saved in memory occurs, it is overwritten in memory and is displayed.

[Reset of power supply]

Be sure to avoid electrical shock, when replacing or checking the outdoor control PCB, because some voltage is still retained in the electrolytic capacitor on the PCB even after shutting down tne power supply to the outdoor unit.

Be sure to start repairing work, after confirming that the Green LED on the PCB has been extiguished for more than 10 seconds after more than 3 minutes had been passed since power shut down, and reconfirming that voltage has been discharged sufficiently by measuring the voltage (DC) between both terminals of electrolytic capacitor (C58) (Measurment of voltage may be disturbed by the moisture-proof coating. In such case, remove the coating and measure it by taking care of avoiding electrical shock)

(a) Module of part to be replaced for outdoor unit controller

Outdoor control PCB, Inverter PCB, Temperature thermistor (of outdoor heat exchanger, discharge pipe, outdoor air, IPM and suction pipe), Fuses (for power supply and control PCB), Noise filter, Capacitor, Reactor and Transformer

(b) Replacement procedure of outdoor control PCB

✓! WARNING

- Securely replace the PCB according to this procedure.
 If the PCB is incorrectly replaced, it will cause an electric shock or fire.
- Be sure to check that the power source for the outdoor unit is turned OFF before replacing the PCB. The PCB replacement under current-carrying will cause an electric shock or fire.
- After finishing the PCB replacement, check that wiring is correctly connected with the PCB before power distribution. If the PCB is incorrectly replaced, it will cause an electric shock or fire.

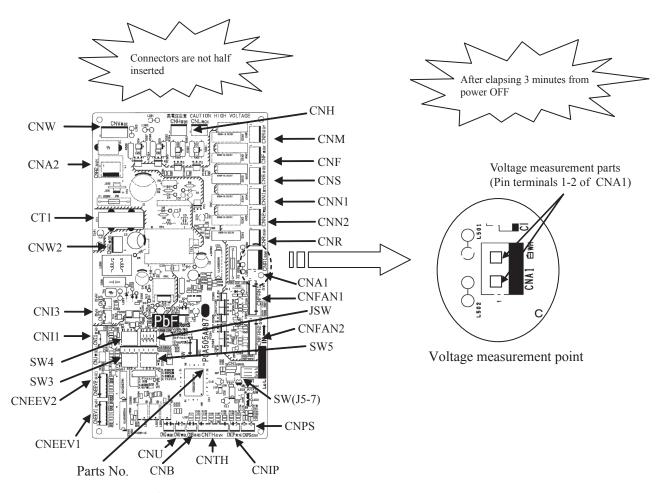
CAUTION

Band the wiring so as not to tense because it will cause an electric shock.

Model FDC100VN, 125VN, 140VN FDC100VS, 125VS, 140VS

PCA012D043A

- a) Replace the PCB after elapsing 3 minutes from power OFF.
 - (<u>Be sure to measure voltage (DC)</u> on both capacitor terminals located in controller back, and <u>check that the voltage is discharged sufficiently</u>.)
- b) Disconnect the connectors from the control PCB.
- c) Disconnect the white wiring passing through CT1 on the PCB before replacing the PCB.
- d) Match the setting switches (SW3-5,JSW) with the former PCB.
- e) Tighten up a screw after passing white wiring through CT1 of the changed.
- f) Connect the connectors to the control PCB.(Confirm the **connectors are not half inserted**.)

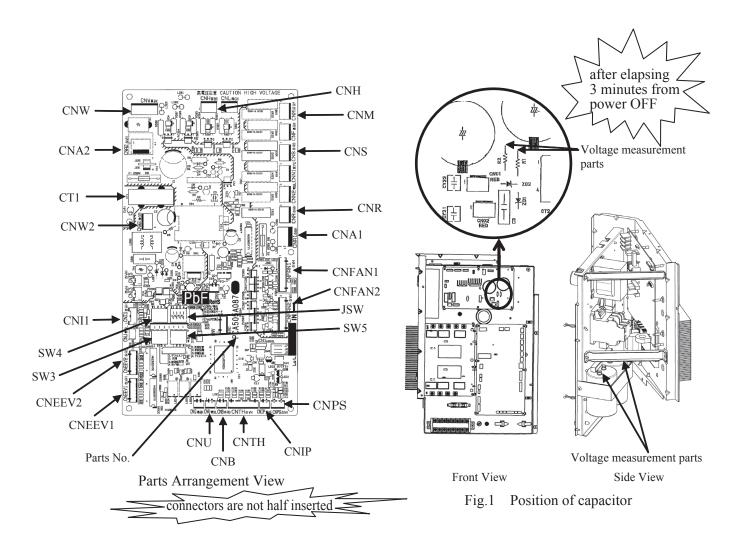


Parts Arrangement

2) Model FDC200,250VS

PCA012D017F/A

- a) Replace the PCB after elapsing 3 minutes from power OFF.
 (Be sure to measure the voltage (DC) of two places (1.Resistor on PCB at the front of controller 2.Both capacitor terminals located in back of controller), and check that the voltage is discharged sufficiently. (Refer to Fig.1))
- b) Disconnect the connectors from the control PCB.
- c) Disconnect the blue wiring passing through CT1 on the substrate before replacing the PCB.
- d) Match the setting switches (SW3-5,JSW) with the former PCB.
- e) Tighten up a screw after passing blue wiring through CT1 of the changed.
- f) Connect the connectors to the control PCB. (Confirm the connectors are not half inserted)



(c) Outdoor inverter PCB replacement procedure

Precautions for Safety

Since the following precaution is the important contents for safety, be sure to observe them.
 WARNING and CAUTION are described as follows:

⚠ WARNING

Indicates an imminently hazardous situation which will result in death or serious injury if proper safety procedures and instructions are not adhered to.

Indicates a potentially hazardous situation which may result in minor or moderate injury if proper safety procedures and instructions are not adhered to.

♠ WARNING

- Securely replace the PCB according to this procedure.
 If the PCB is incorrectly replaced, it will cause an electric shock or fire.
- Be sure to check that the power source for the outdoor unit is turned OFF before replacing the PCB. The PCB replacement under current-carrying will cause an electric shock or fire.
- After finishing the PCB replacement, check that wiring is correctly connected with the PCB before
 power distribution. If the PCB is incorrectly replaced, it will cause an electric shock or fire.

CAUTION

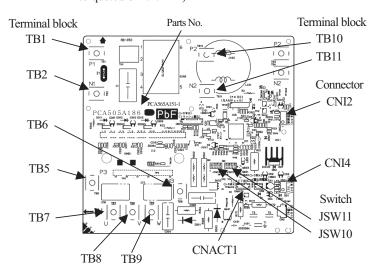
Band the wiring so as not to tense because it will cause an electric shock.

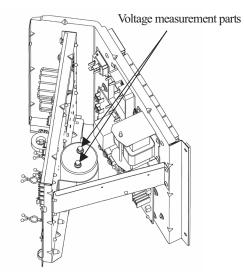
Replace the inverter PCB according to the following procedure.

1) Model FDC100VN, 125VN, 140VN

PCA012D025D

- a) Replace the PCB after elapsing 3 minutes from power OFF.
 - (Be sure to measure voltage (DC) on both capacitor terminals located in controller back, and check that the voltage is discharged sufficiently. (Refer to Fig. 1))
- b) Take off the connection of inverter PCB terminal block connector and remove the screw of power transistor then remove the PCB. Wipe off the silicon grease neatly on the controller's radiation heat fins.
- c) Refer to table 1 for the setting of switch (JSW10,11) of new PCB.
- d) Before installing the power transistor on the new PCB, Apply uniformly a bundled of silicon grease first on the surface of power transistor. Make sure it is applied to prevent damage on power transistor.
- e) Tighten the screw of power transistor on inverter PCB and connect the terminal block. Confirm the connection and don't use soldering in the connection. Tighten properly the power transistor with a screw and make sure there is no clearance gap. Power transistor can be damage if not properly tighten. (Recommended power transistor tightening torque: 0.98~1.47N·m)





Parts arrangement view

Fig.1 Position of capacitor

Table. 1 Switch setting

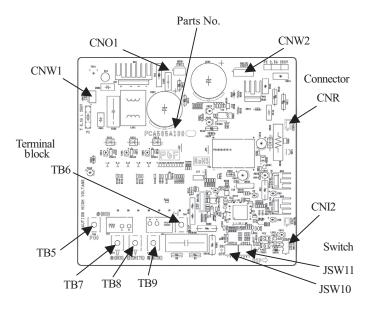
	-1	OFF		-1	ON
JSW10	-2	OFF	JSW11	-2	OFF
JSW10	-3	OFF	J5 W 11	-3	OFF
	-4	OFF		-4	ON

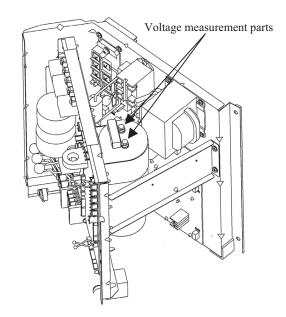
2) Model FDC100VS, 125VS, 140VS



- Replace the PCB <u>after elapsing 3 minutes from power OFF</u>.

 (<u>Be sure to measure voltage (DC)</u> on both capacitor terminals located in controller back, and <u>check that the voltage is discharged sufficiently</u>.(Refer to Fig.1))
- b) Take off the connection of inverter PCB terminal block connector and remove the screw of power transistor then remove the PCB. Wipe off the silicon grease neatly on the controller's radiation heat fins.
- c) Refer to table 1 for the setting of switch (JSW10,11) of new PCB.
- d) Before installing the power transistor on the new PCB, Apply uniformly a bundled of silicon grease first on the surface of power transistor. Make sure it is applied to prevent damage on power transistor.
- e) Tighten the screw of power transistor on inverter PCB and connect the terminal block. Confirm the connection and don't use soldering in the connection. Tighten properly the power transistor with a screw and make sure there is no clearance gap. Power transistor can be damage if not properly tighten. (Recommended power transistor tightening torque: 0.98~1.47N·m)





Parts arrangement view

Fig.1 Position of capacitor

Table. 1 Switch setting

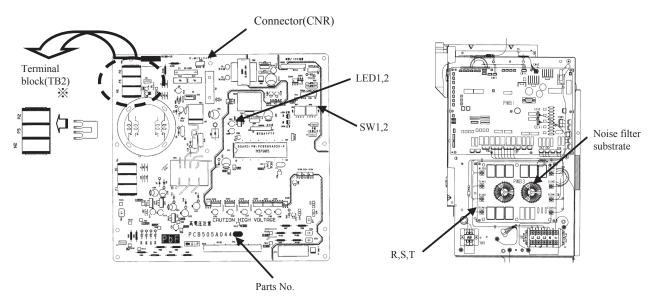
	-1	OFF		-1	OFF
ICW10	-2	OFF	ICW/11	-2	ON
JSW10	-3	OFF	JSW11	-3	OFF
	-4	OFF		-4	ON

3) Model FDC200VS, 250VS

PCB012D007C∕€

- Replace the inverter PCB after 10 minutes from power OFF. (Be sure to check that LED (LED1,2) of the inverter PCB put out the lights. It measures that the voltage (AC) between terminals (R,S,T) on the noise filter PCB (see Fig 1) is discharged sufficiently.)
- b) Remove the terminal on the terminal block (TB2) of the inverter PCB and the connector (CNR) of replace the PCB.
- c) Make set switch (SW1,2) as shown in Table 1.
- d) Connect the terminal of terminal block and the connector to the inverter PCB.
 - $\mbox{\ensuremath{\mbox{$\times$}}}$ Remove the short bar form the PCB before the replacement.

Connect it with P2-P3 pins of PCB after the replacement.



Parts Arrangement View (the inverter PCB)

Fig. 1 The front of control

Table.1 Switch setting

In case of one substrate.

SW1-1	OFF
SW1-2	OFF
SW1-3	OFF
SW1-4	OFF
SW2-1	ON
SW2-2	OFF
SW2-3	OFF
SW2-4	OFF

●DIP switch setting list (Outdoor unit)

(1) Control PCB

Switches	Description			Default setting	Remarks
SW1	Pump down operation	Normal*/Pump down	OFF	Normal	
JSW1-1		•			
JSW1-2	Model selection		As per	model	See table 1
JSW1-3	Iviodel selection		As per	model	See table 1
JSW1-4					
SW3-1	Defrost condition	Normal*/Cold region	OFF	Normal	
SW3-2	Snow protection control	Normal*/Snow protection	OFF	Normal	
SW3-3	Test run SW	Normal*/Test run	OFF	Normal	
SW3-4	Test run mode	Cooling*/Heating	OFF	Cooling	
SW4-1	Model selection	Domestic/Overseas*	ON	Overseas	See table 1
SW4-2	Model selection	3-phase/Single phase	As per	model	See table 1
SW4-3	Reserved		OFF		Keep OFF
SW4-4	Reserved		OFF		Keep OFF
SW5-1	Reserved		OFF		Keep OFF
SW5-2	Reserved		OFF		Keep OFF
SW5-3	Reserved		OFF		Keep OFF
SW5-4	Reserved		OFF		Keep OFF

* Default setting
Table 1: Outdoor unit model selection with JSW1-1-JSW1-4 and SW4-1-SW4-2

							0: OF	F 1:ON
	100VN	100VS	125VN	125VS	140VN	140VS	200VS	250VS
JSW1-1	0	0	1	1	0	0	1	0
JSW1-2	0	0	0	0	1	1	1	0
JSW1-3	0	0	0	0	0	0	0	1
JSW1-4	0	0	0	0	0	0	0	0
SW4-1	1	1	1	1	1	1	1	1
SW4-2*	1	0	1	0	1	0	0	0
				* 3-	phase: Ol	FF/Single	phase: Ol	N

(2) Inverter PCB

Switches	100, 125, 140VN	100, 125, 140VS
Switches	Single phase models	3-phase models
JSW10-1	OFF	OFF
JSW10-2	OFF	OFF
JSW10-3	OFF	OFF
JSW10-4	OFF *	OFF*
JSW11-1	ON	OFF
JSW11-2	OFF	ON
JSW11-3	OFF	OFF
JSW11-4	ON	ON

Switches	200,250VS
Switches	3-phase models
SW1-1	OFF
SW1-2	OFF
SW1-3	OFF
SW1-4	OFF
SW2-1	ON
SW2-2	OFF
SW2-3	OFF
SW2-4	OFF

^{*} When checking inverter PCB of FDC100-140 models with inverter checker, turn JSW10-4 ON. (Regarding the checking method of inverter PCB with inverter checker, refer to page 346 for details)

Check of anomalous operation data with the remote controller

(a) In case of RC-E5 remote controller

Operation data can be checked with remote control unit operation.

- ① Press the CHECK button. The display change "OPER DATA
- ② Press the (SET) button while "OPER DATA T" is displayed.
- 3 When only one indoor unit is connected to remote controller, "DATA LOADING" is displayed (blinking indication during data loading). Next, operation data of the indoor unit will be displayed. Skip to step ?.
- 4 When plural indoor units is connected, the smallest address number of indoor unit among all connected indoor unit is displayed. [Example]:
 - " ⊕ \$ SELECT I/U" (blinking 1 seconds) → " I/U000
- ⑤ Select the indoor unit number you would like to have data displayed with the | \button.
- © Determine the indoor unit number with the (SET) button.

(The indoor unit number changes from blinking indication to continuous indication)

"I/U000" (The address of selected indoor unit is blinking for 2 seconds.)

"DATA LOADING" (A blinking indication appears while data loaded.) Next, the operation data of the indoor unit is indicated.

displayed in order from data number 01

The items displayed are in the above table.

- ® To display the data of a different indoor unit, press the AIR CONNO, button, which allows you to go back to the indoor unit selection screen.
- Pressing the OON/OFF button will stop displaying data.

Pressing the (RESET) button during remote control unit operation will undo your last operation and allow you to go back to the previous screen.

OIf two (2) remote controllers are connected to one (1) inside unit, only the master controller is available for trial operation and confirmation of operation data. (The slave remote controller is not available.)

Details of Compressor protection status No. 33

No.	Contents of display	In case of FDC71-140 refer to
"0"	Normal	
"1"	Discharge pipe temperature protection control	P.322, (6).(a).1)
"2"	Discharge pipe temperature anomaly	P.322, (6).(a).2)
"3"	Current safe control of inverter primary current	P.323, (6).(g)
"4"	High pressure protection control	P.322, (6).(b).1), (c).1)
"5"	High pressure anomaly	P.322, (6).(b).2)
"6"	Low pressure protection control	P.323, (6).(e).1)
"7"	Low pressure anomaly	P.323, (6).(e).2)
"8"	Anti-frost prevention control	P.324, (6).(k)
"9"	Current cut	P.323, (6).(g)
"10"	Power transistor protection control	P.324, (6).(h)
"11"	Power transistor anomaly (Overheat)	P.324, (6).(i)
"12"	Compression ratio control	P.323, (6).(f)
"13"	Spare	
"14"	Dewing prevention control	P.324, (6).(1)
"15"	Current safe control of inverter secondary current	P.323, (6).(g)
"16"	Stop by compressor rotor lock	
"17"	Stop by compressor startup failure	P.325, (6).(p)

Note(1) Operation data display on the remote controller

Data is dispalyed until canceling the protection control.
 In case of multiple protections controlled, only the younger No. is displayed.
Note(2) Common item.

① In heating mode.

Marinahau

During protection control by the command signal for reducing compressor frequency from indoor unit, No. "4" is displayed.
② In cooling and dehumidifying mode.

During protection control by the command signal for reducing compressor frequency from indoor unit, No. "8" is displayed.

Number		Data Item
01	**	(Operation Mode)
02	SET TEMP°	(Set Temperature)
03	RETURN AIRで	(Return Air Temperature)
04	⊜SENSORt	(Remote Controller Thermistor Tempeature
05	THI-R1ზ	(Indoor Heat Exchanger Thermistor / U Bend
06	THI-R2ზ	(Indoor Heat Exchanger Thermistor /Capillary
07	THI-R3c	(Indoor Heat Exchanger Thermistor /Gas Header
80	I/U FANSPEED	(Indoor Unit Fan Speed)
09	DEMANDHz	(Frequency Requirements)
10	ANSWERHz	(Response Frequency)
11	I/UEEVP	(Pulse of Indoor Unit Expansion Value)
12	TOTAL I / U RUN	$_{ m H}$ (Total Running Hours of The Indoor Unit
21	OUTDOOR	(Outdoor Air Temperature)
22	THO-R1c	(Outdoor Heat Exchanger Thermistor
23	THO-R2t	(Outdoor Heat Exchanger Thermistor
24	COMPHz	(Compressor Frequency)
25	HPMPa	(High Pressure)
26	LPMPa	(Low Pressure)
27	ڻ <u> </u> bT	(Discharge Pipe Temperature)
28	COMP BOTTOM ಓ	(Comp Bottom Temperature)
29	CTAMP	(Current)
30	TARGET SH°	(Target Super Heat)
31	SH°c	(Super Heat)
32	TDSHた	(Discharge Pipe Super Heat)
33	PROTECTION No	(Protection State No. of The Compressor
34	O/UFANSPEED	(Outdoor Unit Fan Speed)
35	63H1	(63H1 On/Off)
36	DEFROST	(Defrost Control On/Off)
37	TOTAL COMP RUN_	₩ (Total Running Hours of The Compressor
38	0/U EEV1P	(Pulse of The Outdoor Unit Expansion Valve EEVC)
39	0/U EEV2P	(Pulse of The Outdoor Unit Expansion Valve EEVH)

^{*}Depending on models, the items that do not have corresponding data are not displayed.

(b) In case of RC-EX1A remote controller

[Operating procedure]

- ① On the TOP screen, touch the buttons in the order of "Menu" → "Next" → "Service & Maintenance" → "Service password" → "Set" → "Error display" → "Error history".
- ② When only one indoor unit is connected to the remote controller, followings will be displayed.
 - 1. When there is any anomaly: "Loading. Wait a while" is displayed, followed by the operation data at the occurrence of anomaly. Contents of display
 - · Error code
 - · Number and data item
 - 2. When there is no anomaly: "No anomaly" is displayed, and this mode is terminated.
- 3 When two or more indoor units are connected to the remote controller, followings will be displayed.
 - 1. When there is any anomaly: If the unit having anomaly is selected on the "Select IU" screen, "Loading. Wait a while" is displayed, followed by the operation data at the occurrence of anomaly.

Contents of display

- · Indoor unit No.
- · Error code
- · Number and data item
- 2. When there is no anomaly: "No anomaly" is displayed, ant this mode is terminated.

Note (1) When the number of connected units cannot be shown in a page, select "Next".

- ④ If you press [RUN/STOP] button, the display returns to the TOP screen.
 - ◎ If you touch "Back" button on the way of setting, the display returns to the last precious screen.

Note (1) When two remote controllers are used to control indoor units, the check of anomaly operation data can be made on the master remote controller only. (It cannot be operated from the slave remote controller.)

■ Anomaly operation data (Corresponding data may not be provided depending on models. Such items will not be displayed.)

Number		Data Item
01	*	(Operation Mode)
02	SET TEMP	(Set Temperature)
03	RETURN AIRた	(Return Air Temperature)
04	ളSENSORc	(Remote Controller Thermistor Tempeature)
05	THI-R1c	(Indoor Heat Exchanger Thermistor / U Bend)
06	THI-R2c	(Indoor Heat Exchanger Thermistor /Capillary)
07	THI-R3c	(Indoor Heat Exchanger Thermistor /Gas Header
08	I/U FANSPEED	(Indoor Unit Fan Speed)
09	DEMANDHz	(Frequency Requirements)
10	ANSWERHz	(Response Frequency)
11	I/U EEVP	(Pulse of Indoor Unit Expansion Value)
12	TOTAL I/U RUN	$_{ m H}$ (Total Running Hours of The Indoor Unit)
21	OUTDOORზ	(Outdoor Air Temperature)
22	THO-R1c	(Outdoor Heat Exchanger Thermistor)
23	THO-R2c	(Outdoor Heat Exchanger Thermistor)
24	COMPHz	(Compressor Frequency)
25	HPMPa	(High Pressure)
26	LPMPa	(Low Pressure)
27	Tdb	(Discharge Pipe Temperature)
28		(Comp Bottom Temperature)
29	CTAMP	(Current)
30	TARGET SH	(Target Super Heat)
31	SHt	(Super Heat)
32	TDSHc	(Discharge Pipe Super Heat)
33	PROTECTION No	(Protection State No. of The Compressor)
34	O/U FANSPEED	(Outdoor Unit Fan Speed)
35	63H1	(63H1 On/Off)
36	DEFROST	(Defrost Control On/Off)
37	TOTAL COMP RUN_	H (Total Running Hours of The Compressor
38	0/U EE V1P	(Pulse of The Outdoor Unit Expansion Valve EEVC)
39	0/U EE V2P	(Pulse of The Outdoor Unit Expansion Valve EEVH)

Details of Compressor protection status No. 33

No.	Contents of display	In case of FDC71-140 refer to
"0"	Normal	
"1"	Discharge pipe temperature protection control	P.322, (6).(a).1)
"2"	Discharge pipe temperature anomaly	P.322, (6).(a).2)
"3"	Current safe control of inverter primary current	P.323, (6).(g)
"4"	High pressure protection control	P.322, (6).(b).1), (c).1)
"5"	High pressure anomaly	P.322, (6).(b).2)
"6"	Low pressure protection control	P.323, (6).(e).1)
"7"	Low pressure anomaly	P.323, (6).(e).2)
"8"	Anti-frost prevention control	P.324, (6).(k)
"9"	Current cut	P.323, (6).(g)
"10"	Power transistor protection control	P.324, (6).(h)
"11"	Power transistor anomaly (Overheat)	P.324, (6).(i)
"12"	Compression ratio control	P.323, (6).(f)
"13"	Spare	
"14"	Dewing prevention control	P.324, (6).(l)
"15"	Current safe control of inverter secondary current	P.323, (6).(g)
"16"	Stop by compressor rotor lock	
"17"	Stop by compressor startup failure	P.325, (6).(p)

Note(1) Operation data display on the remote controller.

Note(2) Common item

① In heating mode.

During protection control by the command signal for reducing compressor frequency from indoor unit, No. "4" is displayed.

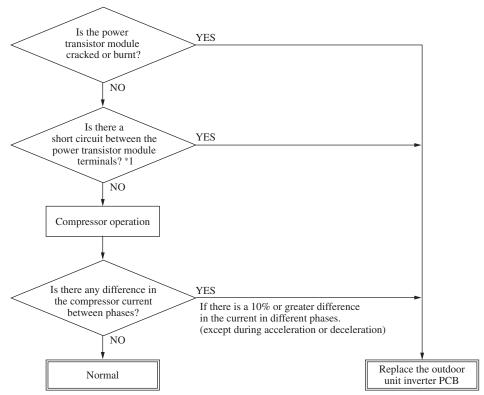
② In cooling and dehumidifying mode.

During protection control by the command signal for reducing compressor frequency from indoor unit, No. "8" is displayed.

Data is dispalyed until canceling the protection control.

In case of multiple protections controlled, only the younger No. is displayed.

(6) Power transistor module (including the driver PCB) inspection procedure



Note(1) In models 200 and 250, also replace the power transistor.

*1 Power transistor module terminal short circuit check procedure

Disconnect the compressor wiring, then conduct a short circuit check.

P-U, P-V, P-W

N-U, N-V, N-W

Check between the P-N terminals.

Bring the tester probes in contact with the following places on each te rminal.

P: Power transistor P terminal,

N: Power transistor N terminal,

U: End of red harness to compressor

V: End of white harness to compressor

W: End of black or blue harness to compressor

Check for a power transistor short circuit.

- When you do not have a diagnostic checker for judging if the inverter is defective, measure between the terminals of the power transistor parts, judge whether the power transistor is defective or not.
- Disconnect the compressor, then measure with the controller incorporated.

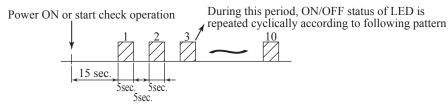
Tester		Normal values (Ω)			
Terminal (+)	Terminal (-)	Model 100-140	Model 200, 250		
P	N	Approx. 1 M Approx. 300-400	Scores of M		
N	Р		A few of M		
P	U	0	Scores of M		
P	V		Scores of M		
P	W		Scores of M		
N	U	Approx. 1.2 M	Hundreds of K		
N	V		Hundreds of K		
N	W		Hundreds of K		
U	P	Approx. 1.3 M	Hundreds of K		
V	P		Hundreds of K		
W	P		Hundreds of K		
U	N	0	Scores of M		
V	N		Scores of M		
W	N		Scores of M		

If the measured values range from $0\sim$ several kW, there is a possibility that the elements are damaged, so replace the power transistor parts.

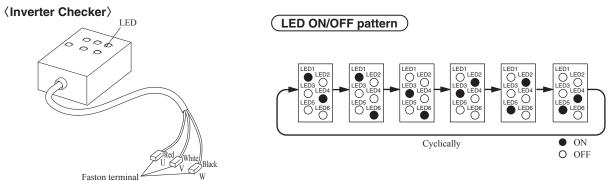
(7) Inverter checker for diagnosis of inverter output

- Checking method
 - (a) Setup procedure of checker.
 - 1) Power OFF (Turn off the breaker).
 - 2) Remove the terminal cover of compressor and disconnect the wires (U, V, W) from compressor.
 - 3) Connect the wires U (Red), V (White) and W (Black) of checker to the terminal of disconnected wires (U, V, W) from compressor respectively.
 - (b) Operation for judgment.
 - 1) Power ON after JSW10-4 on outdoor inverter PCB was turned ON. (In case of FDC100-140)
 - * In case of FDC200VS and 250VS, Start test operation on cooling or heating mode after power ON.
 - 2) After 15 seconds since power has turned ON (or In case of FDC200VS, 250VS after the test operation started), LED start ON/OFF for 5 seconds cyclically and it repeats 10 times.
 - 3) Check ON/OFF status of 6 LED's on the checker.
 - 4) Judge the PCB by ON/OFF status of 6 LED's on the checker.

ON/OFF status of LED	If all of LED are ON/OFF according to following pattern	If all of LED stay OFF or some of LED are ON/OFF
Inverter PCB	Normal	Anomalous

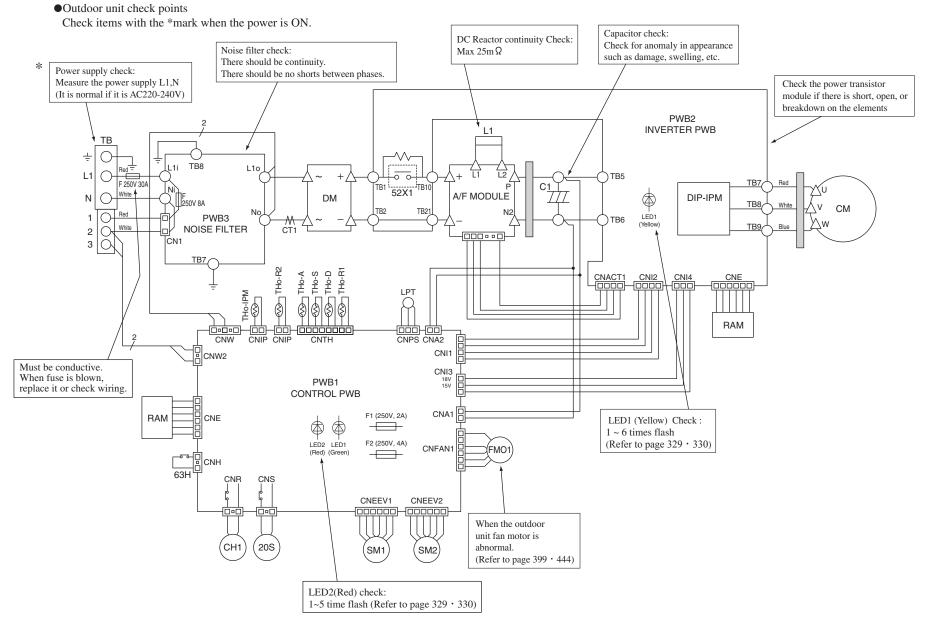


5) Be sure to turn off JSW10-4 on outdoor inverter PCB, after finishing the check operation. (In case of FDC100-140)

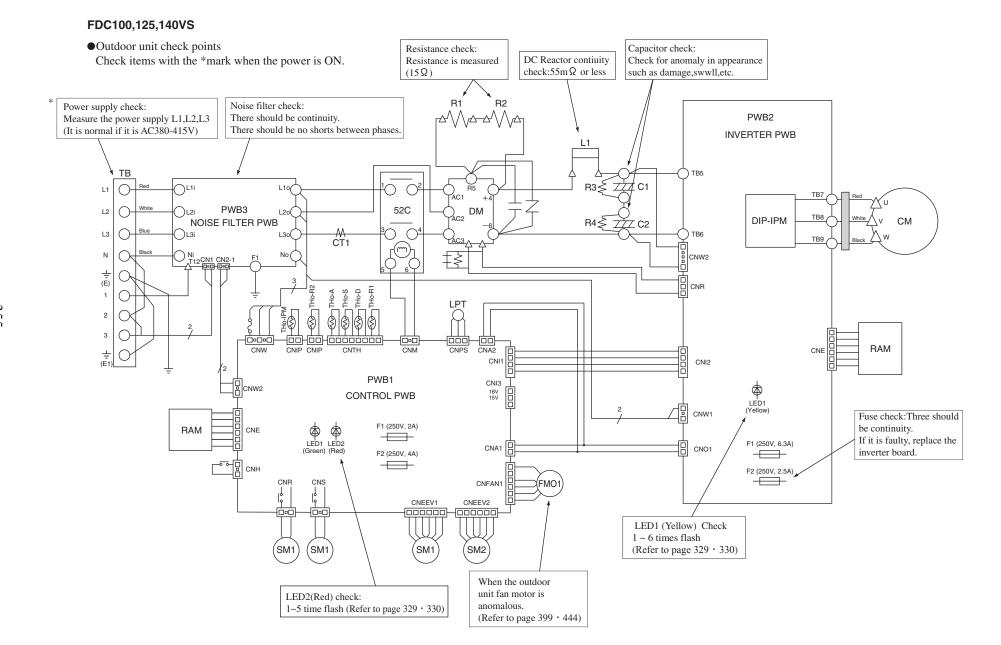


Connect to the terminal of the wires which are disconnected from compressor.

Models FDC100,125,140VN



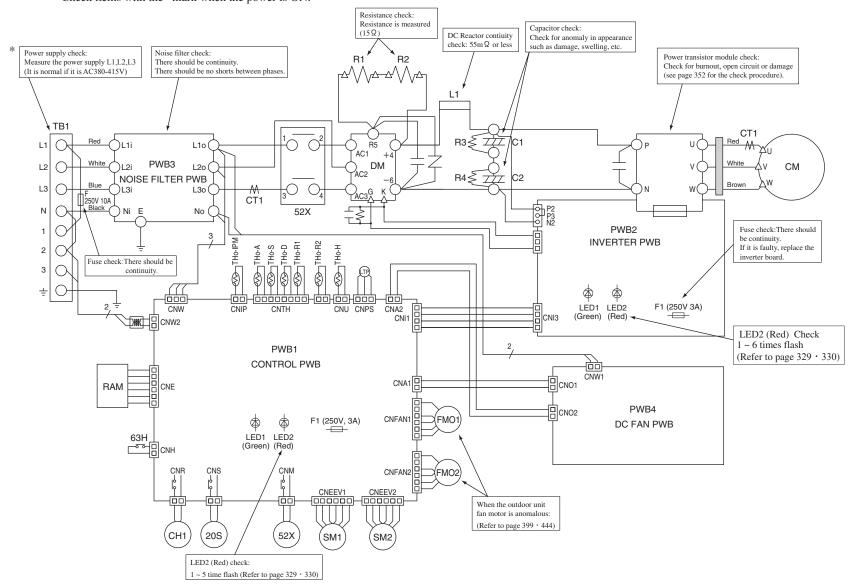




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Models FDC200,250VS

Outdoor unit check points
Cheek items with the *mark when the power is ON.



1.12.2 Troubleshooting flow

(1) List of troubles

(a) FDT, FDTC, FDEN, FDU, FDUM, FDF series

Remote controller display	Description of trouble	Reference page
None	Operates but does not cool.	359
None	Operates but does not heat.	360
None	Earth leakage breaker activated	361
None	Excessive noise/vibration (1/3)	362
None	Excessive noise/vibration (2/3)	363
None	Excessive noise/vibration (3/3)	364
None	Louver motor failure (FDT, FDTC, FDEN, FDF series)	365
None	Power supply system error (Power supply to indoor control PCB)	366
None	Power supply system error (Power supply to remote controller)	367
INSPECT I/U	INSPECT I/U (When 1 or 2 remote controllers are connected)	368
INSPECT I/U	INSPECT I/U (Connection of 3 units or more remote controllers)	369
∰WAIT (∰	Communication error at initial operation	370-372
None	No display	373
E1	Remote controller communication circuit error	374
E5	Communication error during operation	375
E6	Indoor heat exchanger temperature thermistor anomaly	376
E7	Return air temperature thermistor anomaly	377
E8	Heating overload operation	378
E9	Drain trouble	379
E10	Excessive number of connected indoor units (more than 17 units) by controlling with one remote controller	380
E14	Communication error between master and slave indoor units	381
E16	Indoor fan motor anomaly	382
E18	Address setting error of moster and slave indoor unit	383
E19	Indoor unit operation check, drain motor check setting error	384
E20	Indoor fan motor rotation speed anomaly	385
E21	Defective panel switch operation (FDT only)	386
E28	Remote controller temperature thermistor anomaly	387
E35	Cooling overload operation	388
E36	Discharge pipe temperature error	389
E37	Outdoor heat exchanger temperature thermistor anomaly	390
E38	Outdoor air temperature thermistor anomaly	391
E39	Discharge pipe temperature thermistor anomaly	392
E40	High pressure error (63H1 activated)	393
E41	Power transistor overheat	394 • 395
E42	Current cut	396 • 397
E45	Inverter communication error	398
E48	Outdoor fan motor anomaly	399
E49	Low pressure error or low pressure sensor anomaly	400 • 401
E51	Inverter and fan motor anomaly	402
E53	Suction pipe temperature thermistor anomaly	403
E54	Low pressure sensor anomaly	404
E55	Underneath temperature thermistor anomaly (Models FDC 200, 250 only)	405
E57	Insufficient refrigerant amount or detection of service valve closure	406
E59	Compressor startup failure	407 • 408
E60	Anomalous compressor rotor lock (Models FDC 200, 250 only)	409

(b) SRK series

Remote controller display	Description of trouble	Reference page
None	Operates but does not cool.	410
None	Operates but does not heat.	411
None	Earth leakage breaker activated	412
None	Excessive noise/vibration (1/3)	413
None	Excessive noise/vibration (2/3)	414
None	Excessive noise/vibration (3/3)	415
None	Louver motor failure	416
None	Power supply system error (Power supply to indoor control PCB)	417
None	Power supply system error (Power supply to remote controller)	418
None	Room temperature sensor anomaly	419
None	Limit switch anomaly	420
INSPECT I/U	INSPECT I/U (When 1 or 2 remote controllers are connected)	421
INSPECT I/U	INSPECT I/U (Connection of 3 units or more remote controllers)	422
⊕WAIT⊕	Communication error at initial operation	423-425
None	No display	426
E1	Remote controller communication circuit error	427
E5	Communication error during operation	428
E6	Indoor heat exchanger temperature sensor anomaly	429
E10	Excessive number of connected indoor units (more than 17 units) by controlling with one remote controller	430
E14	Communication error between master and slave indoor units	431
E16	Indoor fan motor anomaly	432
E28	Remote controller temperature thermistor anomaly	433
E35	Cooling overload operation	434
E36	Discharge pipe temperature error	435
E37	Outdoor heat exchanger temperature thermistor anomaly	436
E38	Outdoor air temperature thermistor anomaly	437
E39	Discharge pipe temperature thermistor anomaly	438
E40	High pressure error (63H1 activated)	439
E41	Power transistor overheat	440
E42	Current cut	441 • 442
E45	Communication error between inverter PCB and outdoor control PCB	443
E48	Outdoor fan motor anomaly	444
E49	Low pressure error or low pressure sensor anomaly	445 • 446
E51	Inverter and fan motor anomaly	447
E53	Suction pipe temperature thermistor anomaly	448
E54	Low pressure sensor anomaly	449
E57	Insufficient refrigerant amount or detection of service valve closure	450
E59	Compressor startup failure	451 · 452

(2) Troubleshooting

(a) FDT, FDTC, FDEN, FDU, FDUM, FDF series

					<u> </u>	J
	Error code	LED	Green	Red	Content	
	Remote controller: None	Indoor	Keeps flashing	Stays OFF	Operates but does not cool	
		Outdoor	Keeps flashing	Stays OFF	Operates but does not coor	J
1					·	

1. Applicable model

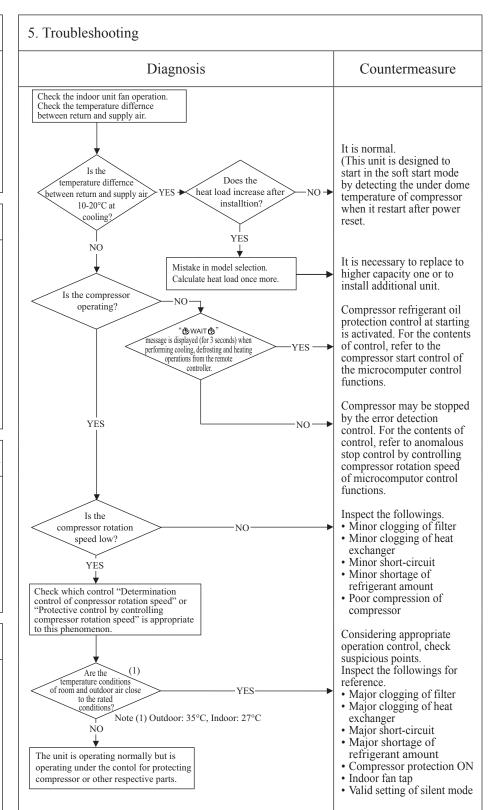
All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Poor compression of compressor
- Faulty expansion valve operation



Note:

					<u>M</u>
(1	Error code	LED	Green	Red	Content
	Remote controller: None	Indoor	Keeps flashing	Stays OFF	Operates but does not heat
		Outdoor	Keeps flashing	Stays OFF	operates but does not near

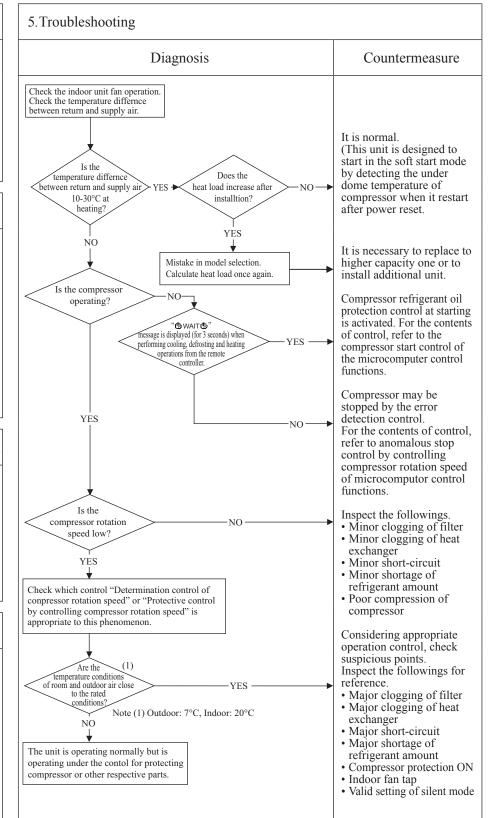
All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Faulty 4-way valve operation
- Poor compression of compressor
- Faulty expansion valve operation



Error co	de	LED	Green	Red	Content
Remote	controller: None	Indoor	Stays OFF	Stays OFF	Earth leakage breaker activated
		Outdoor	Stays OFF	Stays OFF	Latin leakage bleaker activated

5. Troubleshooting 1. Applicable model All models Diagnosis Countermeasure Are OK the insulation resistance and Replace compressor.* NO coil resistance of compressor? YĖS 2. Error detection method Is insulation of respective harnesses OK? Secure insulation NO Is any harness bitten between resistance. pannel and casing YES Check the outdoor unit grounding wire/earth leakage breaker. Check of the outdoor unit grounding wire/earth leakage breaker 3. Condition of Error displayed ① Run an independent grounding wire from the grounding screw of outdoor unit to the grounding terminal on the distribution panel. (Do not connect to another grounding wire.) 2 In order to prevent malfunction of the earth leakage breaker itself, confirm that it is conformed to higher harmonic regulation. * Insulation resistance of compressor · Immediately after installation or when the unit has been left for long time without power supply, the insulation resistance may drop to a few $M\Omega$ because of refrigerant migrated in the compressor. When the earth breaker is activated at lower insulation resistance, check the following points. ① 6 hours after power ON, check if the insulation resistance 4. Presumable cause recovers to normal. When power ON, crankcase heater heat up compressor and evaporate the refrigerant migrated in the compressor. · Defective compressor 2 Check if the earth leakage breaker is conformed to higher • Noise harmonic regulation or not. Since the unit is equipped with inverter, it is necessary to use components conformed to higher harmonic regulation in order to prevent malfunction of earth leakage breaker.

Error code Remote controller: None LED Green Red Content					<u></u>
Excessive noise/vibration (1/3)	Error code	LED	Green	Red	Content
	Remote controller: None	Indoor	-	_	Excessive noise/vibration (1/3)
		Outdoor	-	_	Excessive noise/violation (1/3)

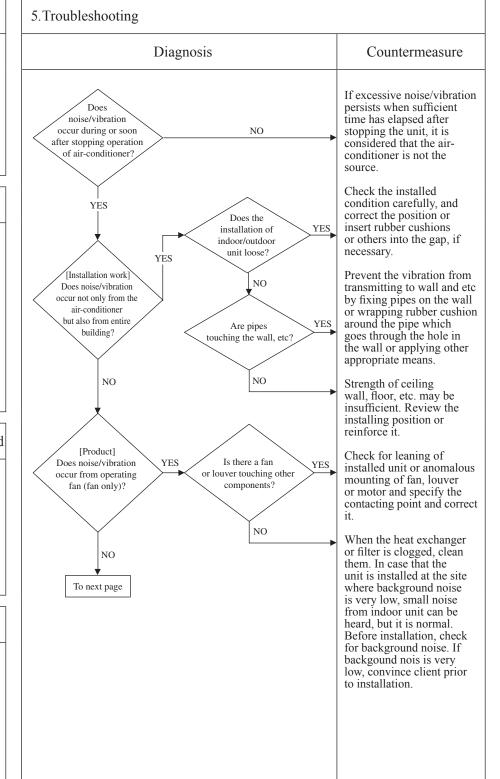
All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- ① Improper installation work
 - Improper anti-vibration work at instllation
 - · Insufficient strength of mounting face
- Defective product Before/after shipping from factory
- ③ Improper adjustment during commissioning
 - · Excess/shortage of refrigerant, etc.



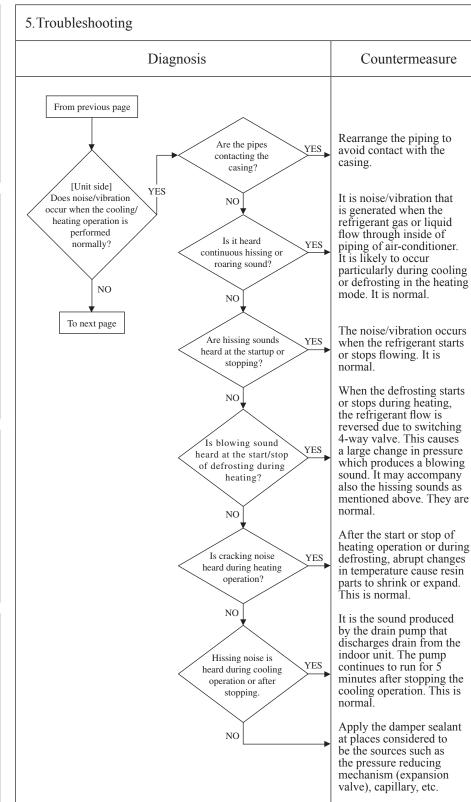
	M
Error code LED Green Red Content	
Remote controller: None Indoor Excessive noise/vibrat	ion (2/3)
Outdoor	1011 (2/3)

1.Applicable model All models

2.Error detection method

3. Condition of Error displayed

4. Presumable cause



					<u> </u>
(I	Error code	LED	Green	Red	Content
	Remote controller: None	Indoor	_	_	Excessive noise/vibration (3/3)
		Outdoor	_	_	Excessive noise, violation (5/5)
			-		

1. Applicable model 5. Troubleshooting All models Diagnosis Countermeasure From previous page If insufficient cooling/ heating problem happens due to anomalous operating conditions at cooling/ heating, followings are Adjustment during commissioning Does noise/vibration occur when the cooling/heating operation is in 2. Error detection method anomalous condition? suspicious. Overcharge of refrigerantInsufficient charge of refrigerant • Intrusion of air, nitrogen, etc. In such occasion, it is necessary to recover refrigerant, vacuum-dry and recharge refrigerant. * Since there could be many causes of noise/ vibration, the above do not cover all. In such case, check the conditions when, where, 3. Condition of Error displayed how the noise/vibration occurs according to following check point. • Indoor/outdoor unit • Cooling/heating/fan mode • Startup/stop/during operation • Operating condition (Indoor/outdoor temperatures, pressure) • Time it occurred • Operation data retained by the remote controller 4. Presumable cause such as compressor rotation speed, heat exchanger temperature, EEV opening degree, etc. • Tone (If available, record the noise) • Any other anomalies

						<u></u>
	9	Error code	LED	Green	Red	Content Louver motor failure
		Remote controller: None	Indoor	Keeps flashing	Stays OFF	
			Outdoor	Keeps flashing	Stays OFF	(FDT, FDTC, FDEN, FDF series)
-	Γ					

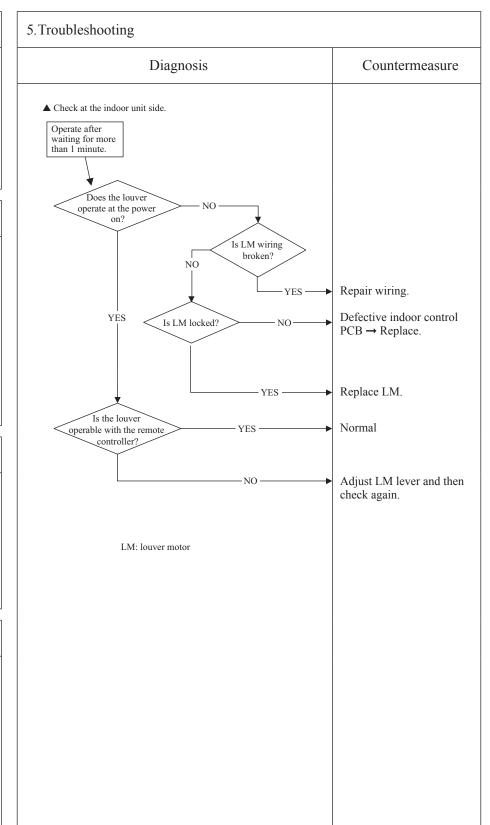
FDT, FDTC, FDEN, FDF series only

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Defective LM
- LM wire breakage Faulty indoor control PCB



LED Green Red Content Power supply system error Content Power supply system error Content Power supply to indoor control PCB Content Content Power supply system error Content Power supply to indoor control PCB Content Content Power supply system error Content Content Power supply system error Content Power supply to indoor control PCB Content Power supply system error Content Power supply system Content Content						(4)
Remote controller: None Indoor Stays OFF Stays OFF Outdoor Stays OFF 2 times flash (Power supply to indoor control PCB)	(1	Error code	LED	Green	Red	Content Power supply system error
Outdoor Stays OFF 2 times flash (POWEI SUPPLY to Indoor Control PCB)		Remote controller: None	Indoor	Stays OFF	Stays OFF	(Dawar supply to indeer central DCD)
			Outdoor	Stays OFF	2 times flash	(Power supply to indoor control PCB)

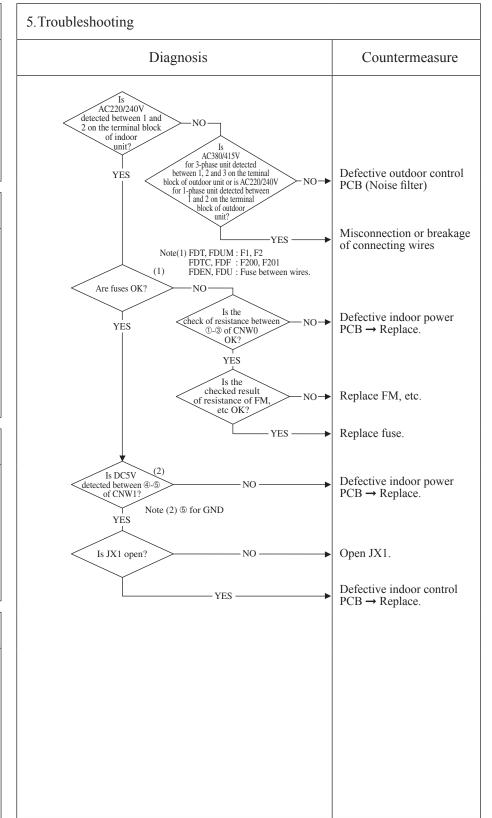
1.Applicable model All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Misconnection or breakage of connecting wires
- · Blown fuse
- Faulty transformer
- Faulty indoor control or power PCB
- Broken harness
- Faulty outdoor control PCB (Noise filter)



LED Green Red Content Power supply system error	_					
rowel supply system entor	U	Error code	LED	Green	Red	Content Down supply system arror
		Remote controller: None	Indoor	Keeps flashing	Stays OFF	(Power supply to remote controller)
Outdoor Keeps flashing 2 times flash (1 OWEI Supply to Terriotte Controlle			Outdoor	Keeps flashing	2 times flash	(1 ower suppry to remote controller)

1. Applicable model 5. Troubleshooting All models Diagnosis Countermeasure Isn't there any loose connection of remote Correct. YES controller wires? NO 2. Error detection method Isn't remote controller wire broken or Replace wires. YES short-circuited? NO Disconnect remote controller wires. Is DC15V or higher detected between X-Y Replace remote controller. YES of indoor unit terminal block? 3. Condition of Error displayed FDT, FDTC, FDUM FDF Series FDEN, FDU Serie Is DC180V Defective indoor power PCB→Replace. between ①-② of CNW2 (FDTC : CNW3)? YES Defective indoor control PCB→Replace. 4. Presumable cause Is 24V or higher between (Brown-Brown) of Replace transformer. transformer secondary • Remote controller wire side? breakage/short-circuit • Defective remote controller Malfunction by noiseFaulty indoor power PCB Defective indoor control YES PCB→Replace. Broken harness • Faulty indoor control PCB

_					9
(1	Error code	LED	Green	Red	Content
	Remote controller: INSPECT I/U	Indoor	Keeps flashing	Stays OFF	11 (81 2 3 1 1, 8
		Outdoor	Keeps flashing	2 times flash	(When 1 or 2 remote controllers are connected)

All models

2. Error detection method

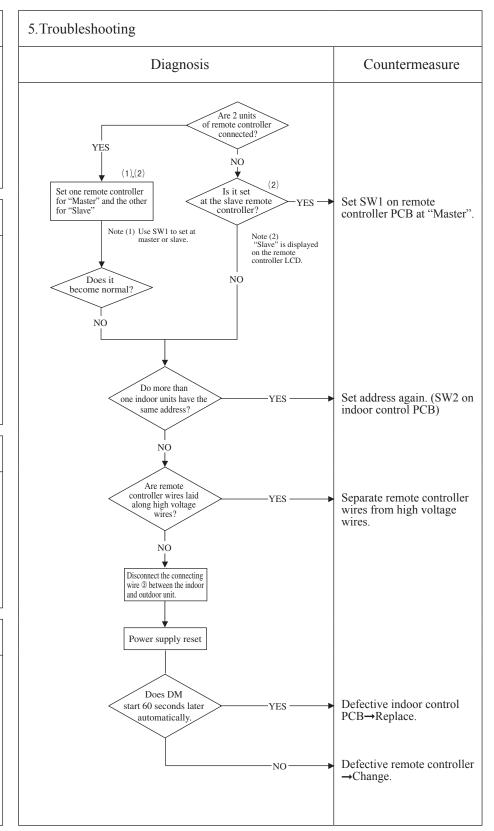
Communication between indoor unit and remote controller is disabled for more than 30 minutes after the power on.

3. Condition of Error displayed

Same as above

4. Presumable cause

- Improper setting
- Surrounding environment
- Defective remote controller communication circuit
- Faulty indoor control PCB



Note: If any error is detected 30 minutes after displaying "<code>WAIT</code>" on the remote controller, the display changes to "INSPECT I/U".

				<u>(4)</u>
Error code	LED	Green	Red	Content
Remote controller: INSPECT I/U	Indoor	Keeps flashing	Stays OFF	INSPECT I/U
	Outdoor	Keeps flashing	2 times flash	(Connection of 3 units or more remote controller)

All models

2. Error detection method

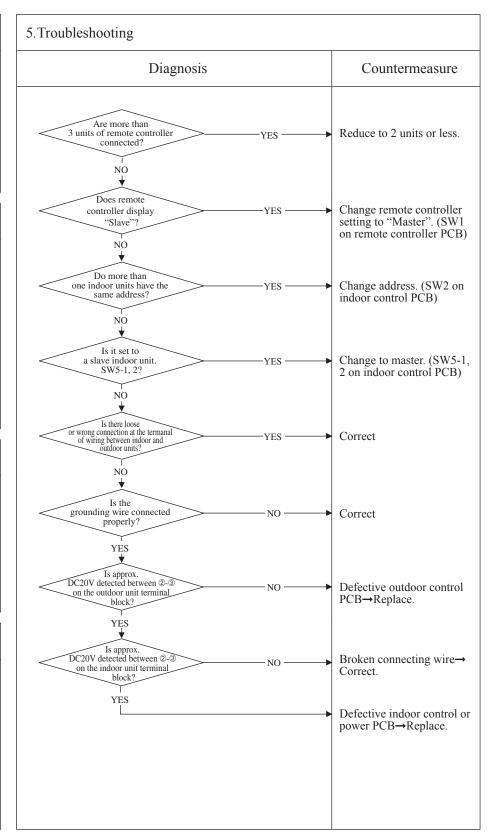
Indoor unit cannot communicate for more than 30 minutes after the power on with remote controller.

3. Condition of Error displayed

Same as above

4. Presumable cause

- Improper setting
- Surrounding environment
- Defective remote controller communication circuit
- Faulty indoor control or power PCB
- Faulty outdoor control PCB



Note: If any error is detected 30 minutes after displaying "WAIT (B)" on the remote controller, the display changes to "INSPECT I/U".

					<u> </u>
9	Error code	LED	Green	Red	Content
	Remote controller: @WAIT@	Indoor	Keeps flashing	Stays OFF	Communication error at
		Outdoor	Keeps flashing	2 times flash	initial operation (1/3)

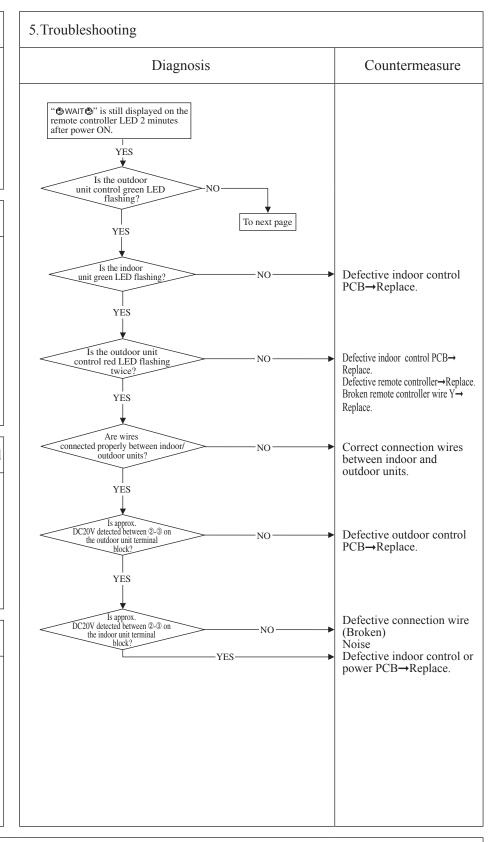
All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Faulty indoor control or power PCB
- Defective remote controller
- Broken remote controller wire
- Faulty outdoor control PCB
- Broken connection wires



					3
Error code	LED	Green	Red	Content	
Remote controller: WAIT	Indoor	Keeps flashing	Stays OFF		
	Outdoor	Keeps flashing	2 times flash	initial operation (2/3)	
	Outdoor	Keeps flashing	2 times flash		

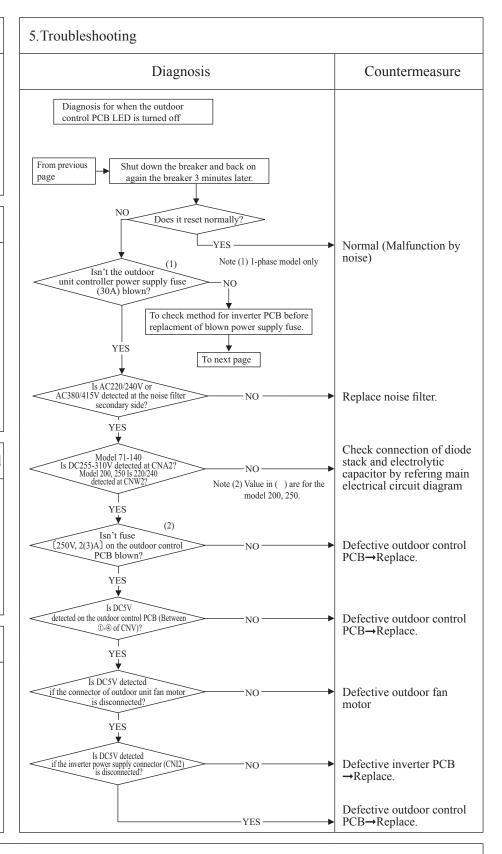
1. Applicable model All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- · Faulty noise filter
- Faulty indoor control PCB
- Faulty outdoor control PCB
- Faulty inverter PCBFaulty fan motor



					(
9	Error code	LED	Green	Red	Content
	Remote controller: WAIT	Indoor	Keeps flashing	Stays OFF	
		Outdoor	Keeps flashing	2 times flash	initial operation (3/3)

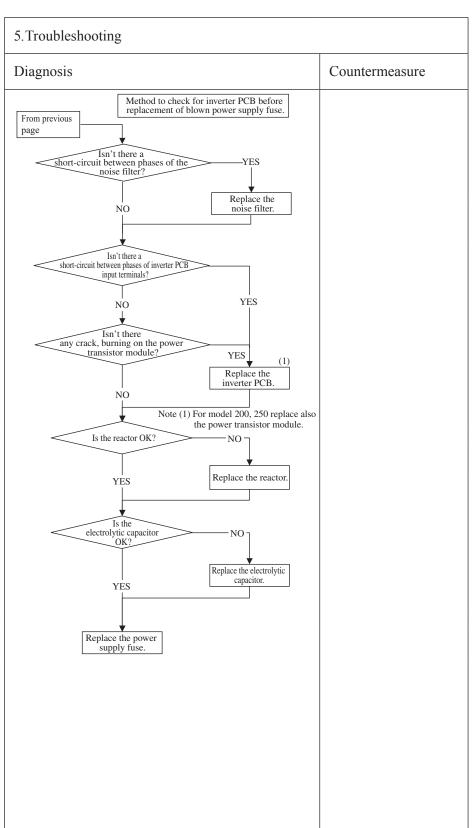
All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Blown fuse
- Faulty noise filter
- Faulty inverter PCB
- Faulty reactorFaulty electrolytic capacitor



						(٦
(1	Error code	LED	Green	Red	Content	
	Remote controller: None	Indoor	Keeps flashing	Stays OFF	No display	
		Outdoor	Keeps flashing	2 times flash	No display	
		Outdoor	Keeps flashing	2 times flash	T to display	_

1. Applicable model 5. Troubleshooting All models Diagnosis Countermeasure Remote controller does not display anything after the power on. Is DC10V or higher detected at remote controller connection terminals? Defective remote controller YES — NO 2. Error detection method Is DC10V or higher detected on remote controller wires if the remote controller is removed? Defective remote controller YES -NO Are wires connected properly between the indoor/outdoor units? YES Defective connecting wire. Defective remote controller wire (Short-circuit, etc.) NO Defective indoor control PCB→Replace. 3. Condition of Error displayed

4. Presumable cause

- Faulty indoor control PCB
- Defective remote controller
- Broken remote controller wire

	-M
Error code LED Green Red Content	
Remote controller: E1 Indoor Keeps flashing Stays OFF Remote controller	
Outdoor Keeps flashing Stays OFF communication circuit error	

All models

2. Error detection method

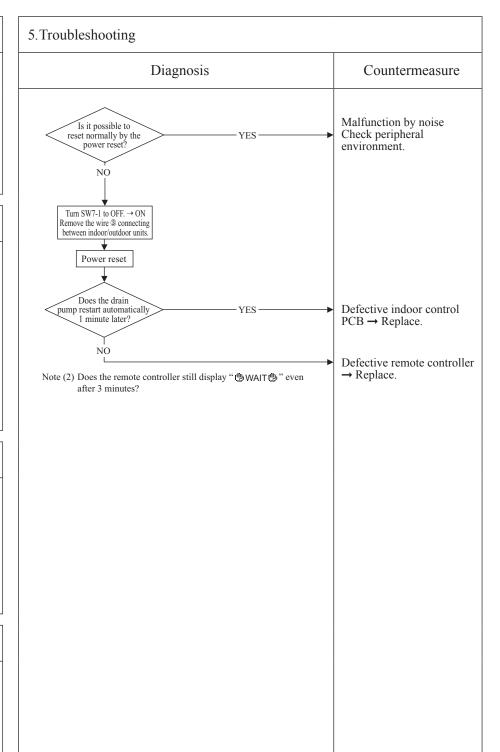
When normal communication between the remote controller and the indoor unit is interrupted for more than 2 minutes. (Detectable only with the remote controller)

3. Condition of Error displayed

Same as above

4. Presumable cause

- Defective communication circuit between remote controller-indoor unit
- Noise
- Defective remote controllerFaulty indoor control PCB



Note: If the indoor unit cannot communicate normally with the remote controller for 180 seconds, the indoor unit PCB starts to reset automatically.

				<u> </u>
Error code	LED	Green	Red	Content
Remote controller: E5	Indoor	Keeps flashing	2 times flash	Communication error during operation
	Outdoor	Keeps flashing	See below	Communication error during operation

All models

2. Error detection method

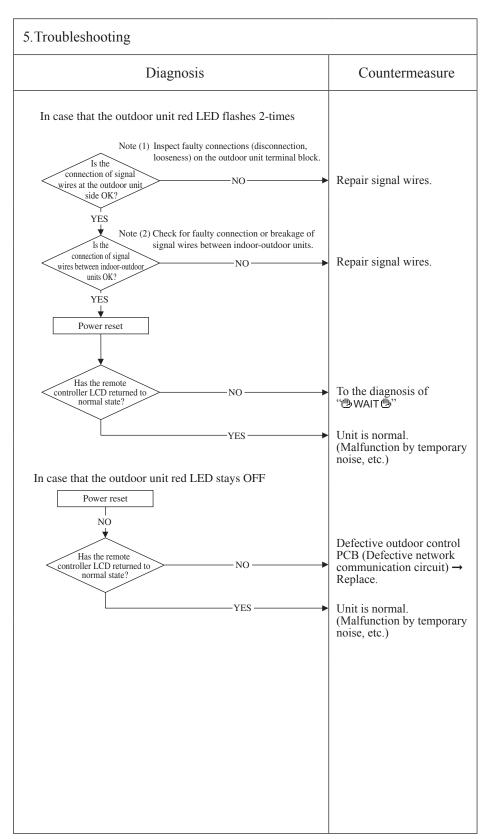
When normal communication between indoor and outdoor unit is interrupted for more than 2 minutes.

3. Condition of Error displayed

Same as above is detected during operation.

4. Presumable cause

- Unit No. setting error
- Broken remote controller wire
- Faulty remote controller wire connection
- Faulty outdoor control PCB



Note: Pressing the pump-down switch cancels communications between indoor and outdoor unit so that "communication error-E5" is displayed on indoor unit and remote controller, but it is normal.

					<u> </u>
(Error code	LED	Green	Red	Content
	Remote controller: E6	Indoor	Keeps flashing	1 time flash	
		Outdoor	Keeps flashing	Stays OFF	temperature thermistor anomaly

All models

2. Error detection method

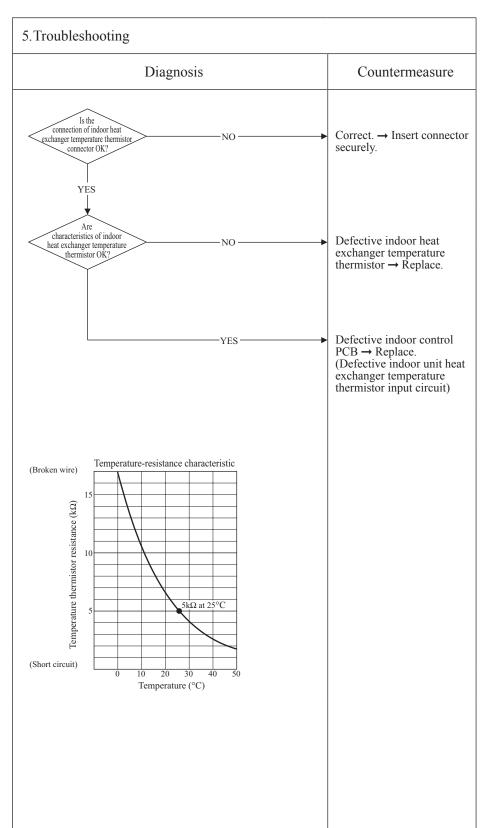
Anomalously low temperature or high temperature (resistance) is detected on the indoor heat exchanger thermistor (ThI-R1, R2 or R3).

3. Condition of Error displayed

- When the temperature thermistor detects -40°C or lower for 5 seconds continuously, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection
- detection.
 Or if 70°C or higher is detected for 5 seconds continuously.

4. Presumable cause

- Defective indoor heat exchanger thermistor connector
- Indoor heat exchanger temperature thermistor anomaly
- Faulty indoor control PCB



						-(4)
9	Error code	LED	Green	Red	Content	
	Remote controller: E7	Indoor	Keeps flashing	1 time flash		
		Outdoor	Keeps flashing	Stays OFF	thermistor anomaly	

All models

2. Error detection method

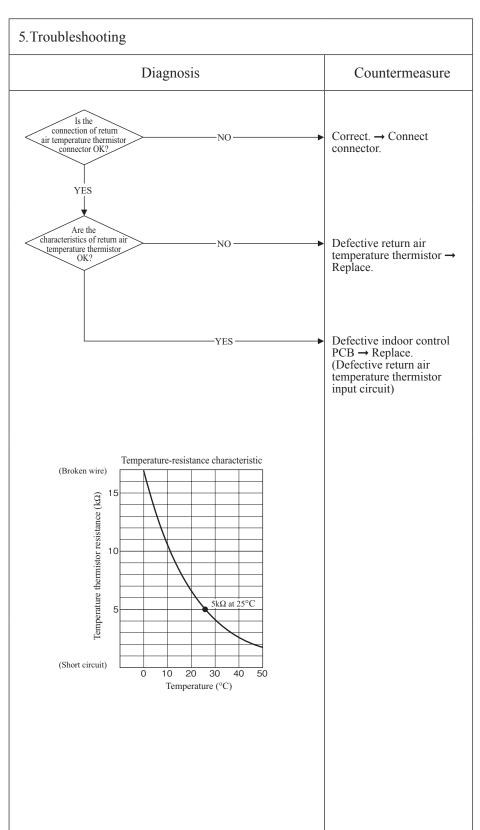
Anomalously low temperature or high temperature (resistance) is detected by indoor return air temperature thermistor (ThI-A)

3. Condition of Error displayed

• When the temperature thermistor detects -20°C or lower for 5 seconds continuously, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.

4. Presumable cause

- Defective return air temperature thermistor connector
- Defective return air temperature thermistor
- Faulty indoor control PCB



Error code LED Green Red Content	M
Remote controller: E8 Indoor Keeps flashing 1 time flash Heating overload operation	
Outdoor Keeps flashing Stays OFF	

All models

2. Error detection method

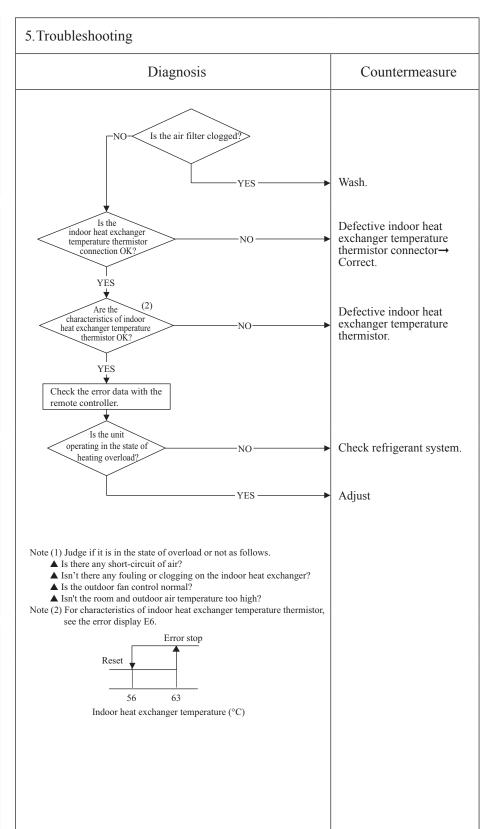
Indoor heat exchanger temperature thermistor (ThI-R1, R2, R3)

3. Condition of Error displayed

When it is detected 5 times within 60 minutes from initial detection or when the overload condition is detected for 6 minutes continuously.

4. Presumable cause

- · Clogged air filter
- Defective indoor heat exchanger temperature thermistor connector
- Defective indoor heat exchanger temperature thermistor
- Anomalous refrigerant system



Note: During heating operation; After starting compressor, compressor rotation speed is decreased by detecting indoor heat exchanger temperature (ThI-R) in order to control high pressure.

O Sean Ped G	<u> </u>						
Error code Content Content		Content	Red	Green	LED	Error code	(1
Remote controller: E9 Indoor Keeps flashing 1 time flash Drain trouble		Drain trouble	emote controller: E9 Indoor Keeps flashing 1 time flash Drain tro		Remote controller: E9		
Outdoor Keeps flashing Stays OFF (FDT, FDTC, FDU and FDUM series)		(FDT, FDTC, FDU and FDUM series)	Stays OFF	Keeps flashing	Outdoor		

FDT, FDTC, FDU and FDUM series only

2. Error detection method

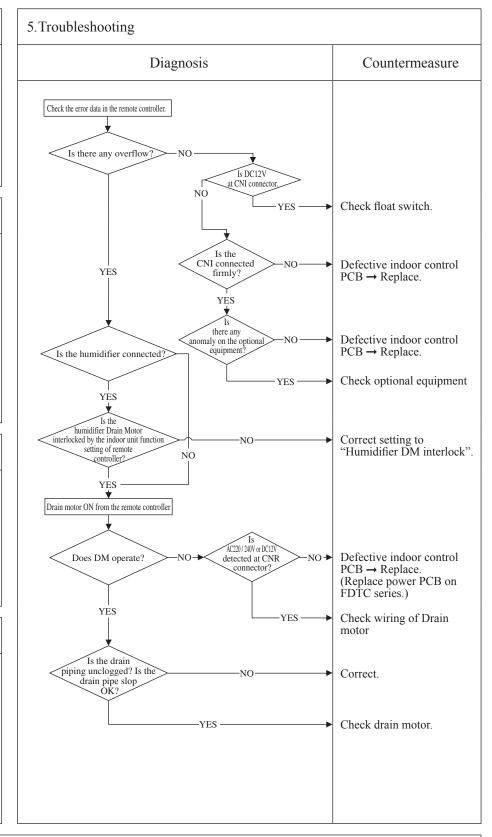
Float switch is activated

3. Condition of Error displayed

If the float switch OPEN is detected for 3 seconds continuously or if float switch connector or wire is disconnected.

4. Presumable cause

- Defective indoor control PCB
- Float switch setting error
- Humidifier DM interlock setting error
- Optional equipment setting error
- Drain piping error
- Defective drain motor
- Disconnection of drain motor wiring



Note: When this error occurred at power ON, disconnection of wire or connector of the float switch is suspected. Check and correct it (or replace it, if necessary).

		G
Error code Remote controller: E10	LED Green Red Content Excessive number indoor Weeps flashing Stays OFF indoor units (more	
Remote controller: E10	Outdoor Keeps flashing Stays OFF by controlling with one	e remoto controller
	Outdoor needs maximing (Stays Of I)	
1.Applicable model	5. Troubleshooting	
All models	Diagnosis	Countermeasure
	Aren't more than 17 indoor units connected to one remote controller?	 Defective remote controller → Replace.
2. Error detection method	YES	Reduce to 16 or less units.
When it detects more than 17 of indoor units connected to one remote contorller 3. Condition of Error displayed		
Same as above		
4. Presumable cause		
Excessive number of indoor units connected Defective remote controller		

Note:		

					<u></u>
Error code		LED	Green	Red	Content
Remote contro	ller: E14	Indoor	Keeps flashing	3 times flash	
		Outdoor	Keeps flashing	Stays Off	between master and slave indoor units

All models

2. Error detection method

When communication error between master and slave indoor units occurs

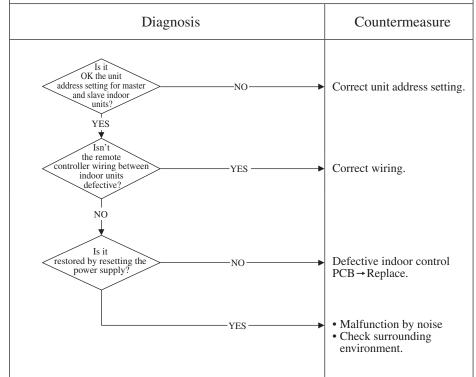
3. Condition of Error displayed

Same as above

4. Presumable cause

- Unit address setting error
- Broken remote controller wire
- Defective remote controller wire connection
- Defective indoor control PCB

5. Troubleshooting



Note (1) Set dip switches SW5-1 and SW5-2 as shown in the following table. (Factory default setting – "Master")

		Indoor unit					
		Master	Slave-a	Slave-b			
Dip	SW5-1	OFF	OFF	ON			
switch	SW5-2	OFF	ON	OFF			

Note:			

	M
Error code LED Green Red Content	
Remote controller: E16 Indoor Keeps flashing 1(2) time flash Indoor fan motor anom	aly
Outdoor Keeps flashing Stays OFF	

Note (1) Value in () is for the FDUM series FMI2 only.

1. Applicable model

All models

2. Error detection method

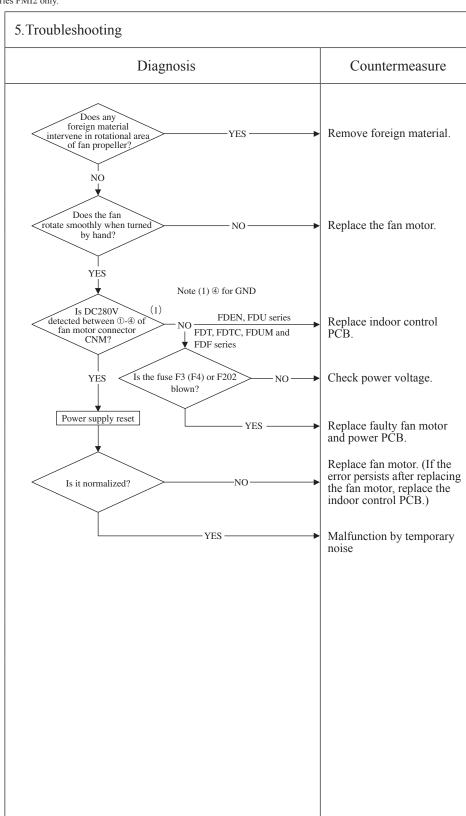
Detected by rotation speed of indoor fan motor

3. Condition of Error displayed

When actual rotation speed of indoor fan motor drops to lower than 200rpm for 30 seconds continuously, the compressor and the indoor fan motor stop. After 2-seconds, it starts again automatically, but if this error occurs 4 times within 60 minutes after the initial detection.

4. Presumable cause

- Defective indoor power PCB
- Foreign material at rotational area of fan propeller
 • Defective fan motor
- Dust on control PCB
- · Blown fuse
- External noise, surge



_					<u> </u>	IJ.
(Error code	LED	Green	Red	Content	
	Remote controller: E18	Indoor	Keeps flashing	1 times flash	Address setting error of	
		Outdoor	Keeps flashing	Stays Off	master and slave indoor units	J
			•			

1.Applicable model 5. Troubleshooting All models Diagnosis Countermeasure E18 occurs Is "Master IU address set" function of remote controller used? 2. Error detection method IU address has been set using the "Master IU address set" function of remote controller. Return address No. to "IU ..." using [\blacktriangle] or [\blacktriangledown] button. -YES-3. Condition of Error displayed Same as above 4. Presumable cause Same as above

Error code	LED	Green	Red	Content Indoor unit operation shook
Remote controller: E19	Indoor	Keeps flashing	1 time flash	Indoor unit operation check,
	Outdoor	Keeps flashing	Stays OFF	drain motor check setting error
		•		

All models

2. Error detection method

After indoor operation check, when the communication between indoor and outdoor unit is established and SW7-1 is still kept ON.

3. Condition of Error displayed

Same as above

4. Presumable cause

Mistake in SW7-1 setting (Due to forgetting to turn OFF SW7-1 after indoor operation check)

5. Troubleshooting	
Diagnosis	Countermeasure
E19 occurs when the power ON Is SW7-1 on the indoor control PCB ON? YES NO	Defective indoor control PCB (Defective SW7) →Replace Turn SW7-1 on the indoor control PCB OFF and reset the power

(Error code	LED	Green	Red	Content Indoor fan motor rotation
	Remote controller: E20	Indoor	Keeps flashing	1 (2) time flash	
		Outdoor	Keeps flashing	Stays OFF	speed anomaly

Note (1) Value in () is for the FDUM series FMI2 only.

1. Applicable model

All models

2. Error detection method

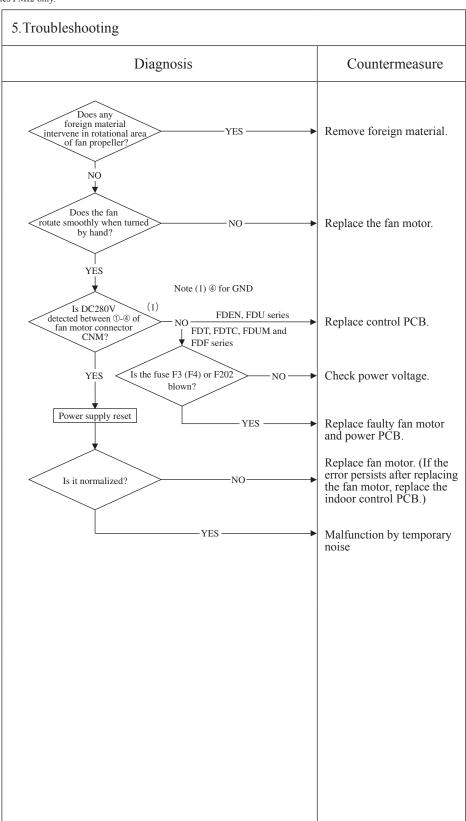
Detected by rotation speed of indoor fan motor

3. Condition of Error displayed

When the actual fan rotation speed does not reach to the speed of [required speed -50rpm] after 2 minutes have been elapsed since the fan motor rotation speed command was output, the unit stops by detecting indoor fan motor anomaly.

4. Presumable cause

- Defective indoor power (control) PCB
- Foreign material at rotational area of fan propeller
- Defective fan motor
- Dust on control PCB
- Blown fuse
- External noise, surge



Remote controller: E21 Indoor Keeps flashing 1 time flash Outdoor Keeps flashing Stays OFF Operation (FDT)	C	Error code	LED	Green	Red	Content Defective panel switch	
Outdoor Keeps flashing Stays OFF Operation (FD1)		Remote controller: E21	Indoor	Keeps flashing	1 time flash	1	
			Outdoor	Keeps flashing	Stays OFF	operation (FD1)	

FDT series only

2. Error detection method

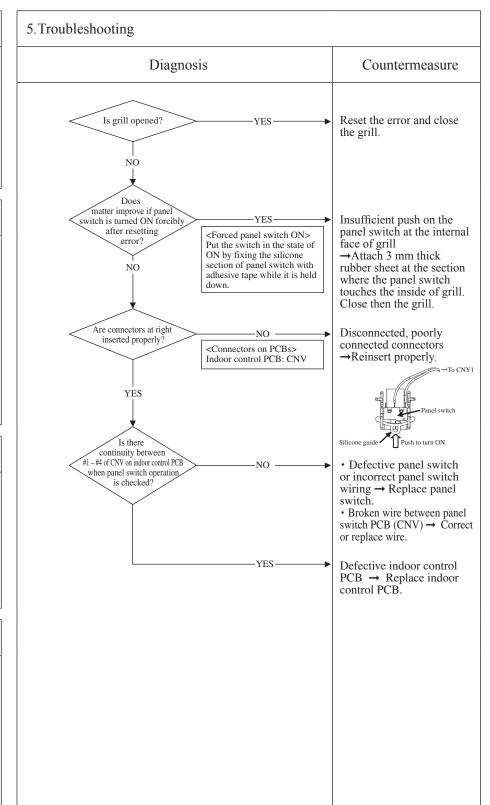
Panel switch (PS) has detected Open for more than 1 second.

3. Condition of Error displayed

Same as above

4. Presumable cause

- Defective panel switch
- Disconnection of wiring
- Defective indoor control PCB



Error code	LED	Green	Red	Content
Remote controller: E28	Indoor	Keeps flashing	Stays OFF	
	Outdoor	Keeps flashing	Stays OFF	temperature thermistor anomaly

All models

2. Error detection method

Detection of anomalously low temperature (resistance) of remote controller temperature thermistor (Thc)

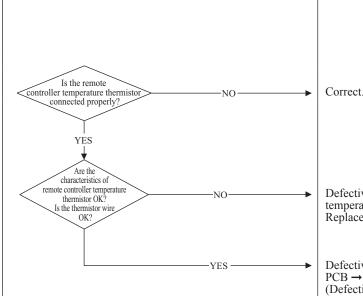
3. Condition of Error displayed

When the temperature thermistor detects -50°C or lower for 5 seconds continuously, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.

4. Presumable cause

- Faulty connection of remote controller temperature thermistor
- Defective remote controller temperature thermistor
- Defective remote controller PCB

5. Troubleshooting Diagnosis



Countermeasure

Defective remote controller temperature thermistor → Replace.

Defective remote controller PCB → Replace. (Defective remote controller temperature thermistor input circuit)

Resistance-temperature characteristics of remote controller temperature thermistor (ThC)

Temperature (°C)	Resistance value (kΩ)	Temperature (°C)	Resistance value (kΩ)
0	65	30	16
1	62	32	15
2	59	34	14
4	53	36	13
6	48	38	12
8	44	40	11
10	40	42	9.9
12	36	44	9.2
14	33	46	8.5
16	30	48	7.8
18	27	50	7.3
20	25	52	6.7
22	23	54	6.3
24	21	56	5.8
26	19	58	5.4
28	18	60	5.0

Note: After 10 seconds has passed since remote controller thermistor was switched from valid to invalid, E28 will not be displayed even if the thermistor harness is disconnected. At same time the thermistor, which is effective, is switched from remote controller thermistor to indoor return air temperature thermistor. Even though the remote controller thermistor is set to be Effective, the return air temperature displayed on remote controller for checking still shows the value detected by indoor return air temperature thermistor, not by remote controller temperature thermistor.

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Œ	Г. 1	LED	Green	Red
	Error code	Indoor control PCB	Keeps flashing	Stays OFF
	Remote controller: E35	Outdoor control PCB	Keeps flashing	1 time flash
		Outdoor inverter	Yellow LED or Red LED	Green LED
		PCB		Keeps flashing

Cooling overload operation

1. Applicable model

All models

2. Error detection method

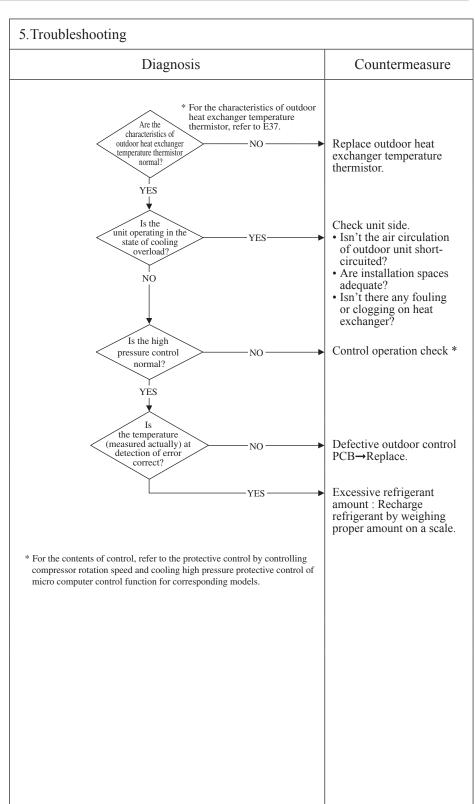
For the error detection method, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of micro computer control function for corresponding models.

3. Condition of Error displayed

When outdoor heat exchanger temperature anomaly is detected 5 times within 60 minutes or this anomalous state is detected 60 minutes continuously including compressor stop.

4. Presumable cause

- Defective outdoor heat exchanger temperature thermistor
- Defective outdoor control
 PCB
- Indoor, outdoor unit installation spaces
- Short-circuit of air on indoor, outdoor units
- Fouling, clogging of heat exchanger
- Excessive refrigerant amount



Í	Q	E 1	LED	Green	Red
		Remote controller: E36	Indoor control PCB	Keeps flashing	Stays OFF
			Outdoor control PCB	Keeps flashing	1 time flash
			Outdoor inverter	Yellow LED or Red LED	Green LED
		PCB	Keeps flashing	Keeps flashing	

Discharge pipe temperature error

1. Applicable model

All models

2. Error detection method

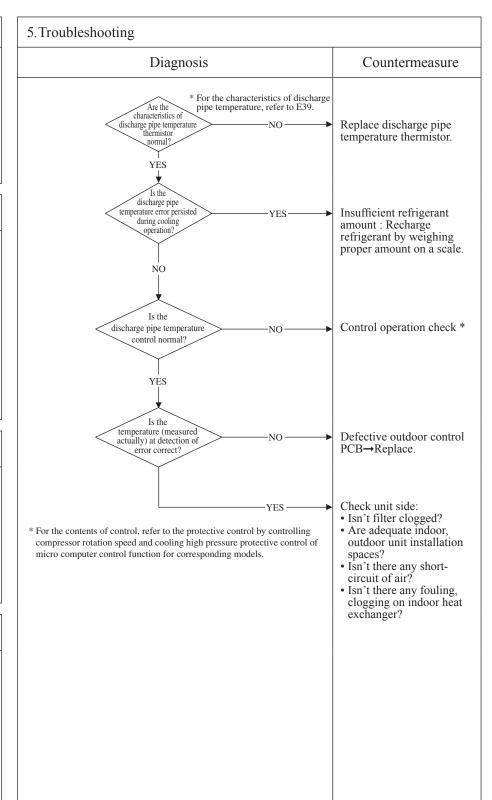
For the error detection method, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of micro computer control function for corresponding models.

3. Condition of Error displayed

When discharge pipe temperature anomaly is detected 2 times within 60 minutes or this anomalous state is detected 60 minutes continuously including compressor stop.

4. Presumable cause

- Defective outdoor control PCB
- Defective discharge pipe temperature thermistor
- Clogged filter
 Indoor, outdoor unit installation spaces
- · Short-circuit of air on indoor, outdoor units
- · Fouling, clogging of heat exchanger



Œ		LED	Green	Red
	Remote controller: E37	Indoor control PCB	Keeps flashing	Stays OFF
		Outdoor control PCB	Keeps flashing	1 time flash
		Outdoor inverter	Yellow LED or Red LED	Green LED
		PCB	Keeps flashing	Keeps flashing

Outdoor heat exchanger temperature themistor anomaly

1. Applicable model

All models

2. Error detection method

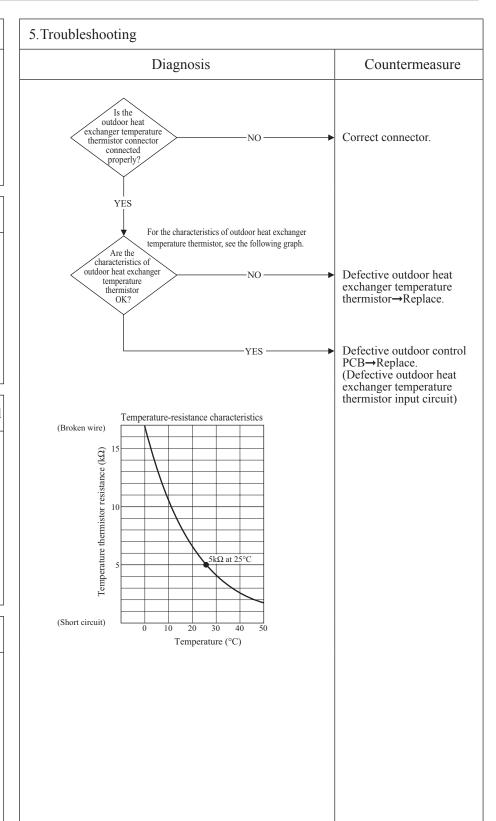
Detection of anomalously low temperature (resistance) on the outdoor heat exchanger temperature thermistor

3. Condition of Error displayed

- When the temperature thermistor detects -50°C or lower for 20 seconds continuously within 2 minutes to 2 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes.
- When -50°C or lower is detected for 5 seconds continuously within 20 second after compressor ON.

4. Presumable cause

- Defective outdoor control PCB
- Broken thermistor harness or temperature sensing section
- Disconnected wire connection (connector)



Ø	Remote controller: E38	LED	Green	Red
		Indoor control PCB	Keeps flashing	Stays OFF
		Outdoor control PCB	Keeps flashing	1 time flash
		Outdoor inverter	Yellow LED or Red LED Green LEI	Green LED
		PCB	Keeps flashing	Keeps flashing

Outdoor air temperature thermistor anomaly

1. Applicable model

All models

2. Error detection method

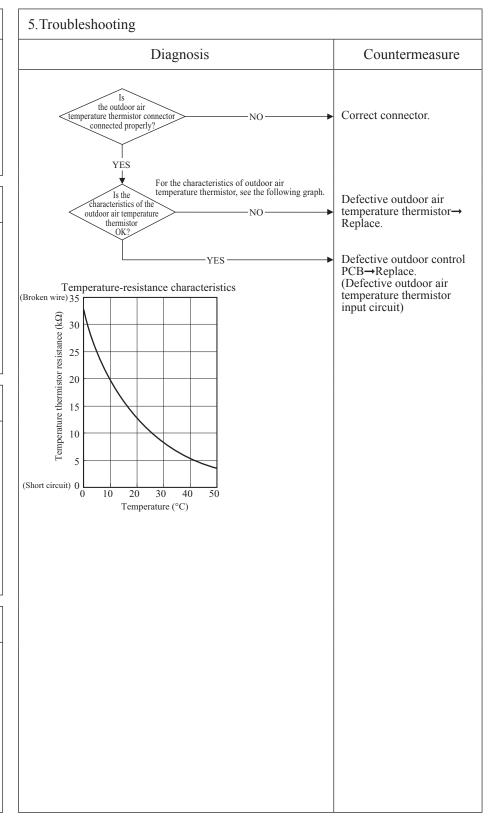
Detection of anomalously low temperature (resistance) on outdoor air temperature thermistor

3. Condition of Error displayed

- When the temperature thermistor detects -45°C or lower for 5 seconds continuously within 2 minutes to 2 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes.
- When -45°C or lower is detected for 5 seconds continuously within 20 second after compressor ON.

4. Presumable cause

- Defective outdoor control PCB
- Broken thermistor harness or temperature sensing section (Check molding.)
- Disconnected wire connection (connector)



9	Remote controller: E39	LED	Green	Red
		Indoor control PCB	Keeps flashing	Stays OFF
		Outdoor control PCB	Keeps flashing	1 time flash
		Outdoor inverter	Yellow LED or Red LED	LED or Red LED Green LED
		PCB	Keeps flashing	Keeps flashing

Discharge pipe temperature thermistor anomaly

1. Applicable model

All models

2. Error detection method

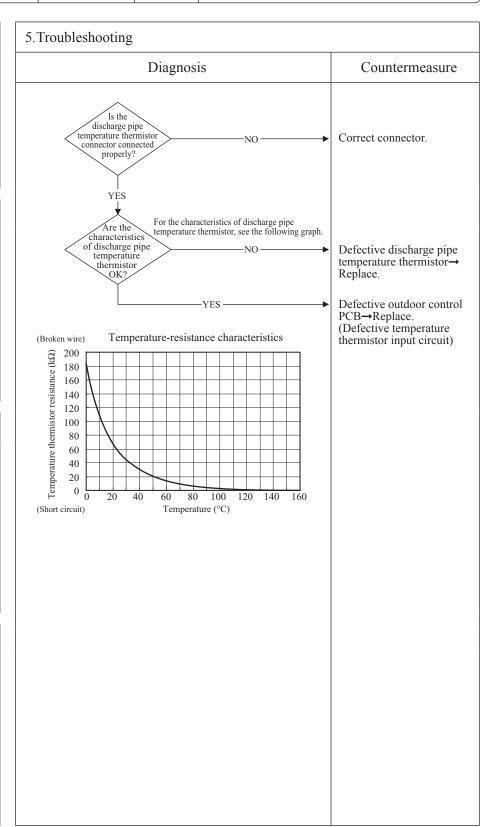
Detection of anomalously low temperature (resistance) on the discharge pipe temperature thermistor

3. Condition of Error displayed

When the temperature thermistor detects -10°C or lower for 5 seconds continuously within 10 minutes to 10 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes.

4. Presumable cause

- Defective outdoor control PCB
- Broken thermistor harness or temperature sensing section (Check molding.)
- Disconnected wire connection (connector)



Ø	E 1	LED	Green	Red	
	Remote controller: E40	Indoor control PCB	Keeps flashing	Stays OFF	
		Outdoor control PCB	Keeps flashing	1 time flash	
		Outdoor inverter	Yellow LED or Red LED	Green LED	
		PCB		Keeps flashing	

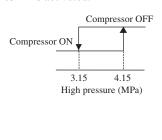
High pressure error (63H1 activated)

1. Applicable model

All models

2. Error detection method

When the high pressure switch 63H1 is activated.

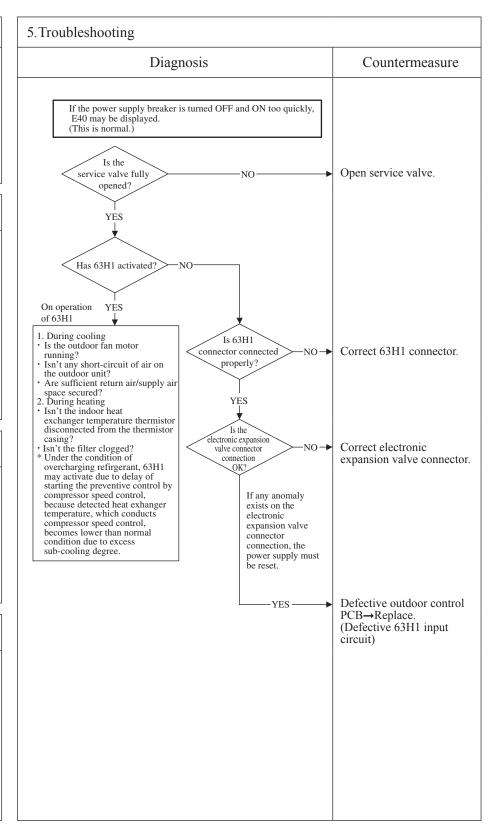


3. Condition of Error displayed

If 63H1 turns OFF (opened), the compressor stops. After 3-minutes delay, the compressor restarts. If this anomaly occurs 5 times within 60 minutes or continues for 60 minutes continuously.

4. Presumable cause

- Short circuit of air flow, disturbance of air flow and clogging filter at outdoor heat exchanger/Breakdown of fan motor
- Defective outdoor control PCB
- Defective 63H1 connector
- Defective electronic expansion valve connector
- Closed service valve
- Mixing of non-condensing gas (nitrogen, etc.)



Content

Note: In the protective control range for compressor startup (initial startup after power ON), even if 63H1 is activated only once (63H1turns OFF), immediately the error is displayed.

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		LED	Green	Red	Ctt
	Error code	Indoor control PCB	Keeps flashing	Stays OFF	Content
	Remote controller: E41	Outdoor control PCB	Keeps flashing	1 time flash	Power transistor overheat $(1/2)$
		Outdoor inverter	Yellow L	ED	(Models FDC100-140)
	PCB 6 times flas		ash	,	

Models FDC100-140

2. Error detection method

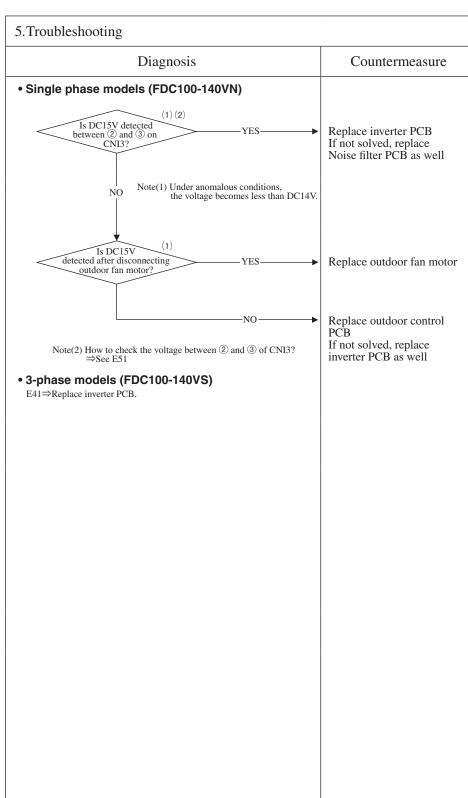
When less than DC14V of the output voltage is detected between ② and ③ on CNI3, E41 is displayed. (See "Note" mentioned below)

3. Condition of Error displayed

Seme as above.

4. Presumable cause

- Inverter PCB anomaly
- Outdoor fan motor anomaly
- Outdoor control PCB anomaly
- Noise filter PCB anomaly



Note: The "Single phase models" of inverter PAC have no function to output the signal for the power transistor overheat. However since the power source for the power transistor and the outdoor fan motor is in the same line, when the anomaly of the outdoor fan motor occurs, E41 is displayed.

			LED	Green	Red
		Error code Remote controller: E41	Indoor control PCB	Keeps flashing	Stays OFF
			Outdoor control PCB	Keeps flashing	1 time flash
			Outdoor inverter	Red LED	Green LED
		PCB	2 times flash	Keeps flashing	

Power transistor overheat(2/2)
(Models FDC200, 250 only)

1. Applicable model

Models FDC200, 250

2. Error detection method

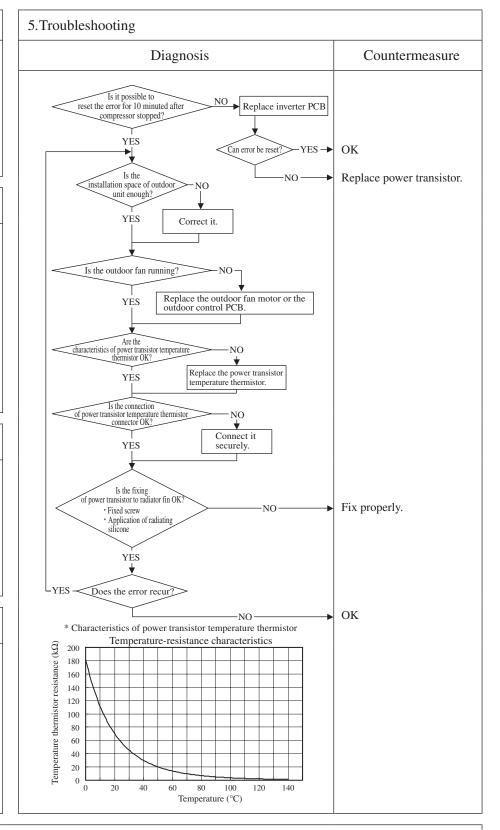
When anomalously high temperature is detected by power transistor temperature thermistor (Tho-P1)

3. Condition of Error displayed

Anomalously high temperature of power transistor is detected 5 times within 60 minutes.

4. Presumable cause

- Inverter PCB anomaly
- Outdoor fan motor anomaly
- Improperly fixing of power transistor to radiator fin
- Power transistor temperature thermistor anomaly
- Inadequate installation space of outdoor unit



					<u> </u>
A	г 1	LED	Green	Red	Gtt
	Error code	Indoor control PCB	Keeps flashing	Stays OFF	Content
	Remote controller: E42	Outdoor control PCB	Keeps flashing	1 time flash	
		Outdoor inverter	Yellow LED or Red LED	Green LED	Current cut (1/2)
		PCB	1 time flash or 5 times flash	Keeps flashing	

All models

2. Error detection method

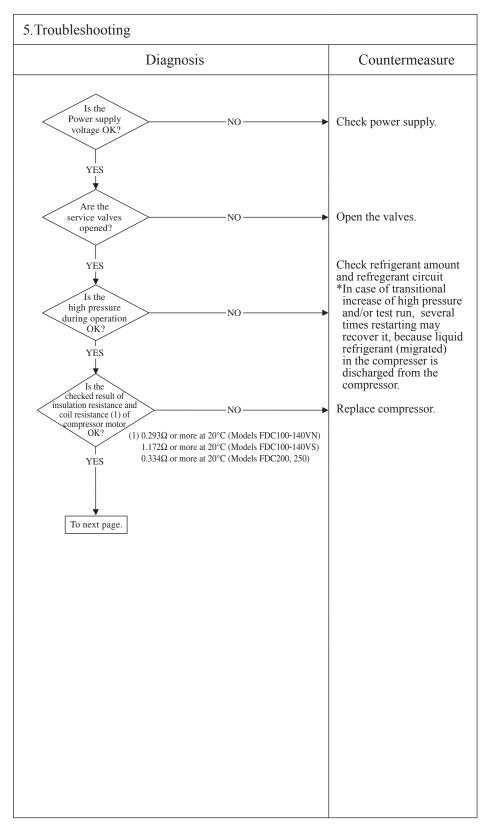
In order to prevent from overcurrent of inverter, if the current exceeds the specifications, it makes the compressor stopping.

3. Condition of Error displayed

- If the output current of inveter exceeds the specifications, it makes the compressor stopping.
- After 3-minute delay, the compressor restarts, but if this amonaly occurs 4 times within 30 minute after the intial detection.

4. Presumable cause

- The valves closed
- Faulty power supply
- Insufficient refrigerant amount
- Faulty compressor
- Faulty power transistor module



					<u> </u>
۹r	F 1	LED	Green	Red	
- 1 -	Error code	Indoor	Keeps flashing	Stays OFF	Content
	Remote controller: E42	Outdoor control PCB	Keeps flashing	1 time flash	
		Outdoor inverter	Yellow LED or Red LED	Green LED	Current cut (2/2)
		PCB	1 time flash or 5 times flash	Keeps flashing	

All models

2. Error detection method

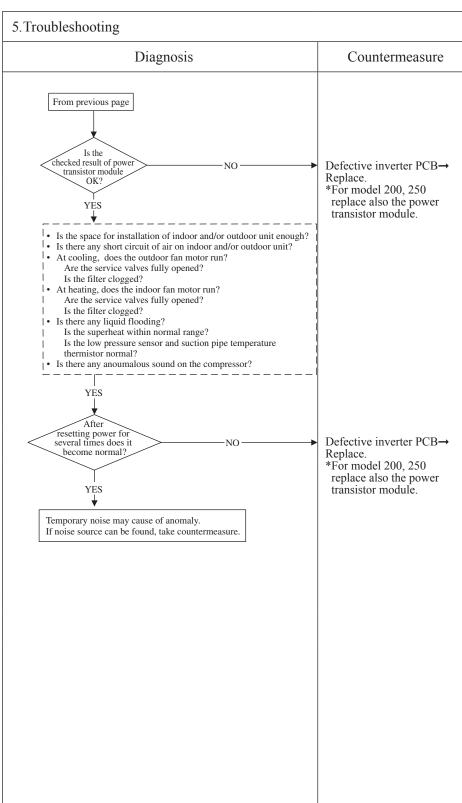
In order to prevent from overcurrent of inverter, if the current exceeds the specifications, it makes the compressor stopping.

3. Condition of Error displayed

- If the output current of inveter exceeds the specifications, it makes the compressor stopping.
- After 3-minute delay, the compressor restarts, but if this amonaly occurs 4 times within 30 minute after the intial detection.

4. Presumable cause

- Defective outdoor control PCB
- Defective inverter PCB
- Faulty power supplyInsufficient refrigerant amount
- Faulty compressor
- Faulty power transistor module



Q	Г. 1	LED	Green	Red
	Error code	Indoor control PCB	Keeps flashing	Stays OFF
	Remote controller: E45	Outdoor control PCB	Keeps flashing	1 time flash
		Outdoor inverter	Yellow LED or Red LED	Green LED
		PCB	Keeps flashing	Keeps flashing

Communication error between inverter PCB and outdoor control PCB

1. Applicable model

All models

2. Error detection method

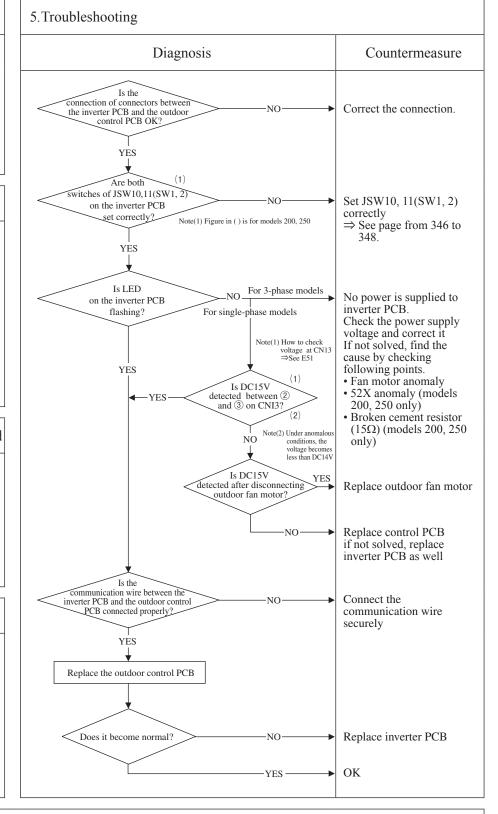
When the communication between inverter PCB and outdoor control PCB is not established.

3. Condition of Error displayed

Same as above.

4. Presumable cause

- Inverter PCB anomaly
- Anomalous connection of connector between the outdoor control PCB and inverter PCB
- · Outdoor control PCB anomaly
- Outdoor fan motor anomaly



Ø	E 1	LED	Green	Red
	Error code	Indoor control PCB	Keeps flashing	Stays OFF
	Remote controller: E48	Outdoor control PCB	Keeps flashing	1 time flash
		Outdoor inverter	Yellow LED or Red LED	Green LED
		PCB		Keeps flashing

Outdoor fan motor anomaly

1. Applicable model

All models

2. Error detection method

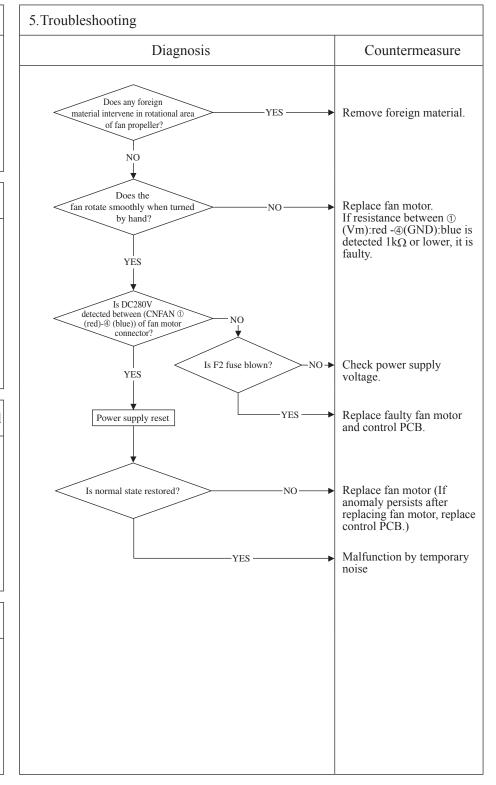
Detected by rotation speed of outdoor fan motor

3. Condition of Error displayed

When actual rotation speed of outdoor fan motor (FMo1) drops to 100min⁻¹ or lower for 30 minutes continuously, the compressor and the outdoor fan motor stop. After 3-minutes delay, it starts again automatically, but if this anomaly occurs 5 times within 60 minutes after the initial detection.

4. Presumable cause

- · Defective outdoor control PCB
- · Foreign material at rotational area of fan propeller
- Defective fan motor
- Dust on outdoor control PCB
- Blow fuse
- External noise, surge



Note: When E48 error occurs, in almost cases F2 fuse (4A) on the outdoor control PCB is blown. There are a lot of cases that fuse is blown and E48 occurs due to defective fan motor. And even though only the outdoor control PCB (or fuse) is replaced,, another trouble (*1) could occur. Therefore when fuse is blown, check whether the fan motor is OK or not.

After confirming the fan motor normal, check by power ON. (Don't power ON without confirming the fan motor normal.)
*1 The error which does not seem to relate E48 may occur like as "WAIT", Stay OFF of LED on outdoor control PCB, inverter communication error (E45) and etc.

Í	Q	п 1	LED	Green	Red
		Error code	Indoor control PCB	Keeps flashing	Stays OFF
		Remote controller: E49	Outdoor control PCB	Keeps flashing	1 time flash
			Outdoor inverter	Yellow LED or Red LED	Green LED
			PCB	Keeps flashing	Keeps flashing

Low pressure error or low pressure sensor anomaly (1/2)

Content

1. Applicable model

All models

2. Error detection method

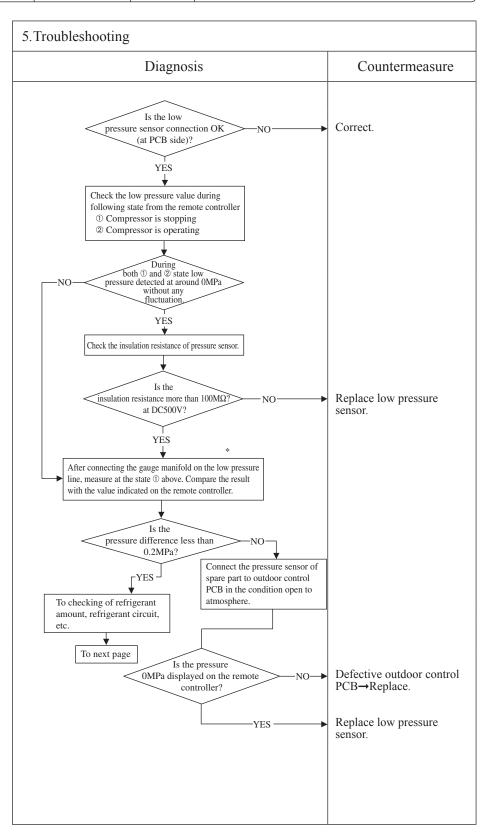
Detected by low pressure drop and suction superheat

3. Condition of Error displayed

- ① When the low pressure sensor detects 0.079MPa or lower for 15 seconds continuously, compressor stops and it restarts automatically after 3-minutes delay. And if this anomaly occurs 3 times within 60 minutes,
- © 10 minutes after the compressor starts, if the low pressure sensor detects 0.15MPa or lower for 60 minutes continuously and compressor suction superheat is detected 30degC or higher for 60 minutes continuously. And if this anomaly occurs 3 times within 60 minutes,
- ③ If low pressure sensor detects 0.079MPa or lower for 5 minutes continuously (including the compressor stop status),

4. Presumable cause

- Defective outdoor control PCB
- Defective low pressure sensor connector
- Defective low pressure sensor
- Defective suction pipe temperature thermistor connector
- Defective suction pipe temperature thermistor



Note: * Connect the gauge manifold to the service valve check joint during cooling, or connect it to the check joint at internal piping of outdoor unit during heating.

(Q	- 1	LED	Green	Red
		Remote controller: E49	Indoor control PCB	Keeps flashing	Stays OFF
			Outdoor control PCB	Keeps flashing	1 time flash
			Outdoor inverter	Yellow LED or Red LED	Green LED
			PCB	Keeps flashing	Keeps flashing

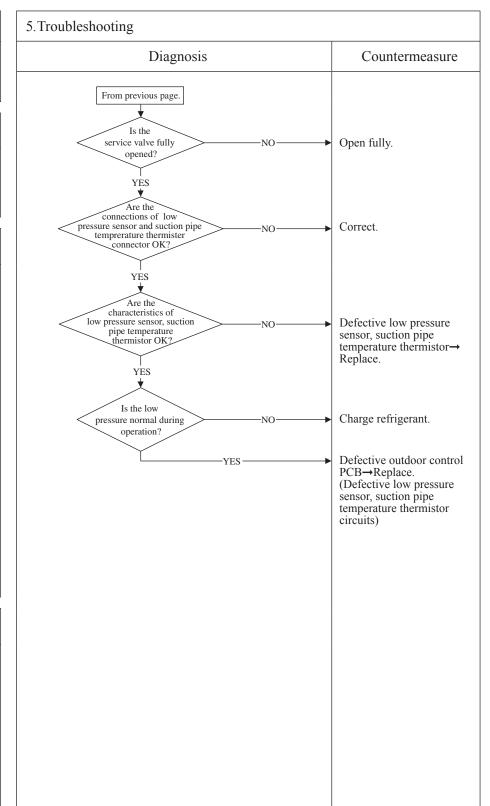
Content I ow procesure orre

Low pressure error or low pressure sensor anomaly (2/2)

1.Applicable model All models 2.Error detection method

3. Condition of Error displayed

4. Presumable cause



1	Q	Б 1	LED	Green	Red		
		Error code	Indoor control PCB	Keeps flashing	Stays OFF	Content	
		Remote controller: E51	Outdoor control PCB	Keeps flashing	1 time flash		
			Outdoor inverter	Yellow LED or Red LED	Green LED	Inverter	8
				6 times flash or 2 times flash			

Inverter and fan motor anomaly

1. Applicable model

All models

2. Error detection method

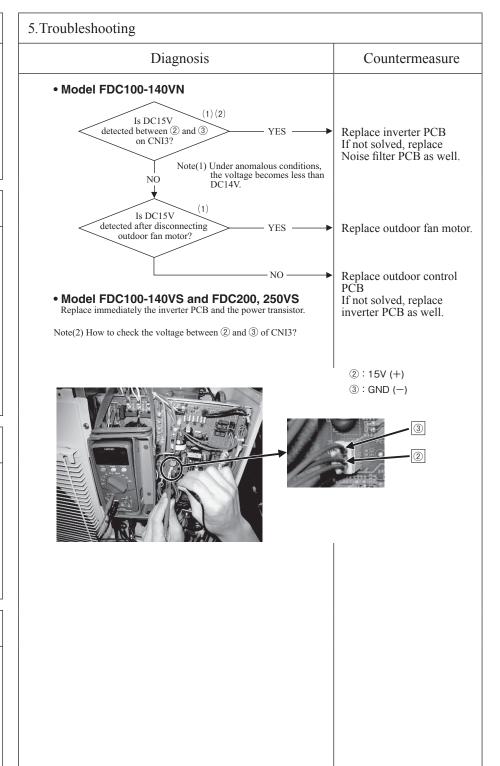
When power transistor anomaly is detected for 15 minutes continuously

3. Condition of Error displayed

Same as above

4. Presumable cause

- Outdoor fan motor anomaly
- Inverter PCB anomaly
- Outdoor control PCB anomaly



1	Q	E 1	LED	Green	Red
		Error code	Indoor control PCB	Keeps flashing	Stays OFF
		Remote controller: E53	Outdoor control PCB	Keeps flashing	1 time flash
			Outdoor inverter	Yellow LED or Red LED	Green LED
			PCB	Keeps flashing	Keeps flashing

Suction pipe temperature thermistor anomaly

1. Applicable model

All models

2. Error detection method

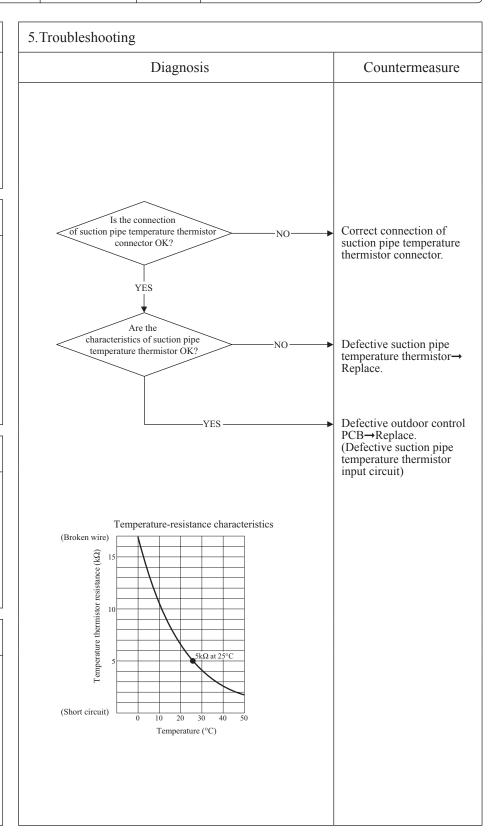
When the suction pipe temperature thermistor detects anomalously low temperature

3. Condition of Error displayed

If the temperature thermistor detects -50°C or lower for 5 seconds continuously within 10 minutes to 10 minutes 20 seconds after compressor ON, the compressor is restarted automatically after 3-minutes delay, if this anomaly occurs 3 times within 40 minute.

4. Presumable cause

- Defective suction pipe temperature thermistor connection
- Defective suction pipe temperature thermistor
- Defective outdoor control PCB



1	Q	E 1	LED	Green	Red
		Error code	Indoor control PCB	Keeps flashing	Stays OFF
		Remote controller: E54	Outdoor control PCB	Keeps flashing	1 time flash
			Outdoor inverter	Yellow LED or Red LED	Green LED
			PCB	Keeps flashing	Keeps flashing

Low pressure sensor anomaly

1. Applicable model

All models

2. Error detection method

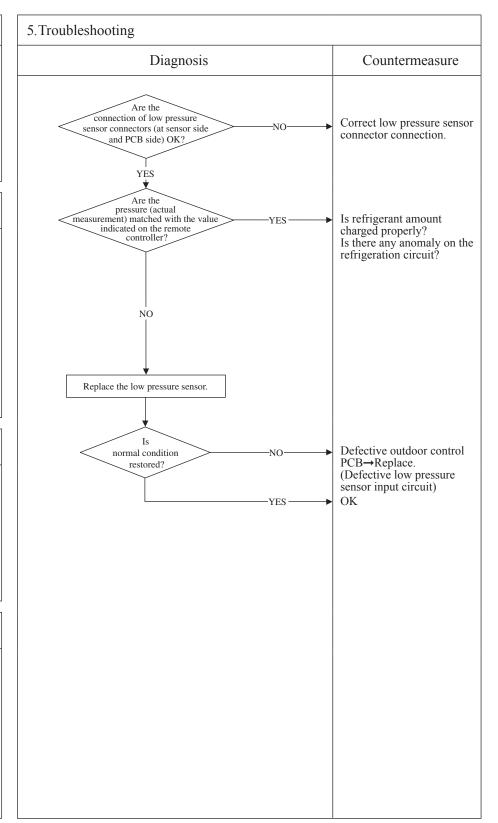
When anomalous voltage (pressure) is detected

3. Condition of Error displayed

If the pressure sensor detects 0V or lower and 3.49V or higher for 5 seconds continuously within 2 minutes to 2 minutes 20 seconds after compressor ON, the compressor stops. When the compressor is restarted automatically after 3-minuts delay, if this anomaly occurs 3 times within 40 minutes

4. Presumable cause

- Defective low pressure sensor connection
- Defective low pressure sensor
- Defective outdoor control PCB
- Improper amount of refrigerant
- Anomalous refrigeration



1	Q	п 1	LED	Green	Red
		Error code	Indoor control PCB	Keeps flashing	Stays OFF
		Remote controller: E55	Outdoor control PCB	Keeps flashing	1 time flash
			Outdoor inverter	Red LED	Green LED
			PCB	Keeps flashing	Keeps flashing

Underneath temperature thermistor anomaly (Models FDC200, 250 only)

1. Applicable model

Models FDC200, 250

2. Error detection method

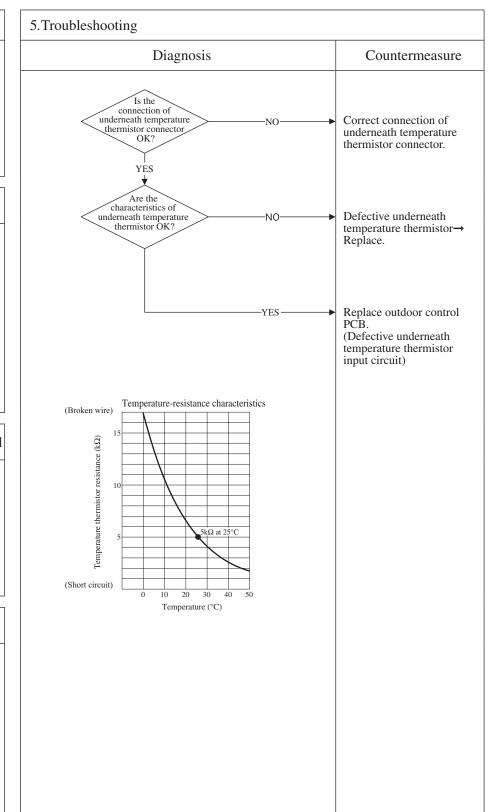
When anoumalous low temperature (resistance) is detected by the underneath temperature thermistor

3. Condition of Error displayed

If the temperature thermistor detcts -50°C or lower for 5 seconds continuously within 10 minutes to 10 minutes 20 seconds after compressor ON, the compressor stops. When the compressor is restarted automatically after 3-minutes delay, if this anomaly occurs 3 times within 40 minute.

4. Presumable cause

- Defective underneath temperature thermistor connection
- Defective underneath temperature thermistor
- Defective outdoor control PCB



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Ø		LED	Green	Red
	Error code	Indoor control PCB	Keeps flashing	Stays OFF
	Remote controller: E57	Outdoor control PCB	Keeps flashing	1 time flash
		Outdoor inverter	Yellow LED or Red LED	Green LED
		PCB	Keeps flashing	Keeps flashing

Insufficient refrigerant amount or detection of service valve

1. Applicable model

All models

2. Error detection method

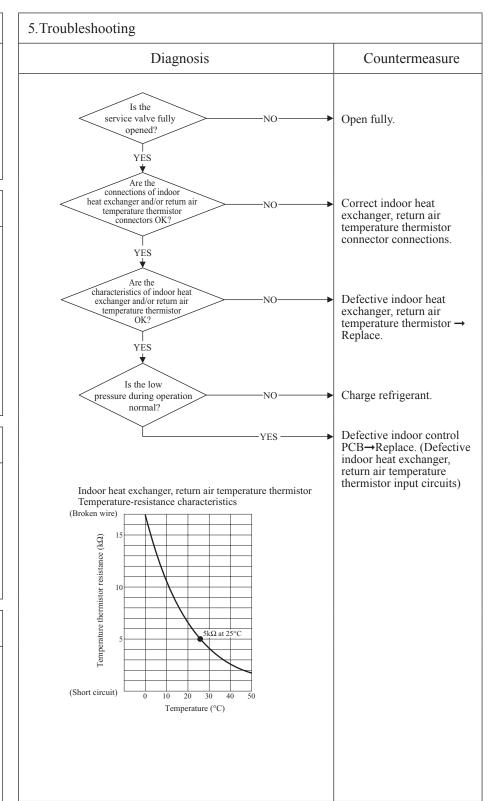
- Judge insufficient refrigerant amount by detecting the temperature difference between indoor heat exchanger (ThI-R) and indoor return air (ThI-A).
- It detects at initial startup in cooling or dehumidifying mode after power ON.

3. Condition of Error displayed

Anomalous stop at initial detection

4. Presumable cause

- Defective indoor heat exchanger temperature thermistor
- Defective indoor return air temperature thermistor
- Defective indoor control PCB
- Insufficient refregerant amount



Note: Insufficient refrigerant amount preventive control makes compressor stopped, if it judges insufficient refrigerant amount by detecting the temperature difference between indoor heat exchanger (ThI-R) and return air temperature (ThI-A) for 1 minute after compressor ON in cooling or dehumidifying mode and for 9 minutes after compressor ON in heating mode. [in cooling mode: (ThI-A)-(ThI-R)>4degC, in heating mode: (ThI-R)-(ThI-A)<4degC]

Í	Q	E 1	LED	Green	Red
		Error code	Indoor control PCB	Keeps flashing	Stays OFF
		Remote controller: E59	Outdoor control PCB	Keeps flashing	5 times flash
			Outdoor inverter	Yellow LED Red LED	Green LED
			PCB	Stays OFF or 4 times flash	Keeps flashing

Compressor startup failure (1/2)

1. Applicable model

All models

2. Error detection method

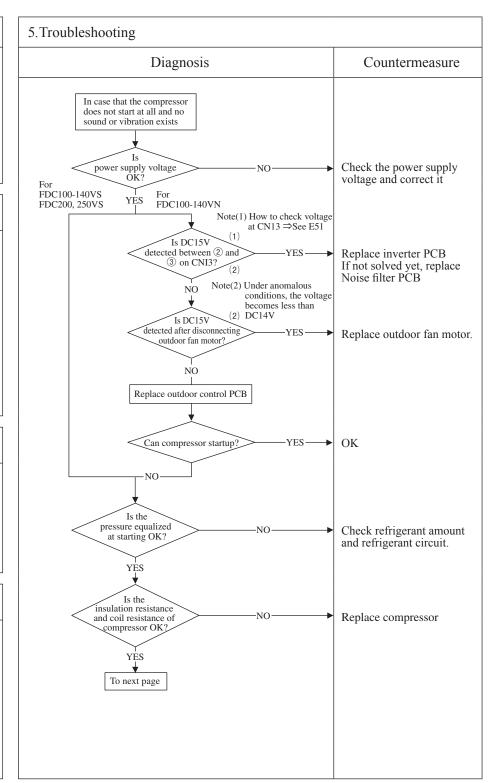
When it fails to change over to the operation for rotor position detection of compressor motor (If the compressor speed cannot increase 11Hz or higher)

3. Condition of Error displayed

If the compressor fails to startup for 20 times (10 patterns x2 times) continuously.

4. Presumable cause

- · Outdoor fan motor anomaly
- · Outdoor control PCB anomaly
- · Inverter PCB anomaly
- · Anomalous power supply voltage
- Insufficient or Excessive refrigerant amount
- · Faulty component for refrigerant circuit
- Compressor anomaly (Motor or bearing)



- institution resistance. The unit is left for long period without power supply or soon after installation, insulation resistance may decrease to several M Ω or lower due to the liquid refrigerant migrated in the refrigerant oil in compressor. If the electric leakage breaker is activated due to low insulation resistance, check followings.

 ① Check whether the insulation resistance can recover or not, after 6 hours has passed since power ON.

 (By energize the crankcase heater, liquid refrigerant migrated in the refrigerant oil in compressor can be evaporated)

 - © Check whether the electric leakage breaker conforms to high-harmonic specifications (As INV PAC units has inverter, in order to prevent from improper operation, be sure to use the breaker of high-harmonic type)

Error code	E 1	LED	Green	Red	
		Indoor control PCB	Keeps flashing	Stays OFF	
		Remote controller: E59	Outdoor control PCB	Keeps flashing	5 times flash
			Outdoor inverter	Yellow LED Red LED	Green LED
			PCB	Stays OFF or 4 times flash	Keeps flashing

Compressor startup failure (2/2)

_
1.Applicable model
All models

5. Troubleshooting

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

Diagnosis	Countermeasure
From previous page YES Is the (inverter PCB anomaly) power transistor module OK? YES	Replace inverter PCB *For model 200 and 250, replace power transistor as well.
After power OFF, turn SW 10-4 of inverter PCB ON and connect the inverter checker. Then power ON again. Note(1) Several times restarting may recover it, because liquid refrigerant migrated in the compressor could be discharged	Replace inverter PCB *For model 200 and 250, replace power transistor as well.
Try to restart several times Does it start? NO	Replace compressor

Note:			

\bigcirc		LED	Green	Red
	Remote controller: E60	Indoor control PCB	Keeps flashing	Stays OFF
		Outdoor control PCB	Keeps flashing	1 time flash
		Outdoor inverter	Red LED	Green LED
		PCB	Keeps flashing	Keeps flashing

Compressor rotor lock error (Models FDC200, 250 only)

Note (1) Value in [] are for the Models SRC40 \sim 60.

1. Applicable model

Models FDC200, 250

5. Troubleshooting

2. Error detection method

Compressor rotor position

3. Condition of Error displayed

If it fails again to detect the rotor position after shifting to the compressor rotor position detection operation, the compressor stops.

 When it is restart automatically after 3 minutes, it is detected 4 times within 15 minutes.

4. Presumable cause

- Defective outdoor fan motor
- Defective outdoor control
- Defective inverter PCB
- Anomalous power supply voltage
- Improper refrigerant amount and refrigerant circuit
- Defective compressor (motor, bearing)

Diagnosis Countermeasure Is the Check and correct the power supply voltage OK? power supply voltage YES Reset the power supply and restart operation Does the compressor start Correct it based on the Does E59 occur? troubleshooting of E59 YES NO Does the compressor run without Correct it based on the occurrence of troubleshooting of E42 E42? output from inverter Defective inverter PCB→ checker OK? Replace. *Replace also the power transistor module. YES Is the noise or vibration of compressor Replace compressor. normal? YES start up normally without Check compressor for recurrence of insulation, resistance. E60. Replace compressor if necessary. YES Defective inverter PCB→ Replace. *Replace also the power transistor module

- institution resistance. The unit is left for long period without power supply or soon after installation, migrated liquid refrigerant may dissolve in the refrigerant oil in the compressor. In such case insulation resistance decreases upto several $M\Omega$ or lower. If the electric leakage breaker is activated due to low insulation resistance, check followings.

 ① Check whether the insulation resistance can recover or not, ater 6 hours has passed since power ON.

 (By energize the crankcase heater, migrated liquid refrigerant in the refrigerant oil in compressor can be evaporated)

 - ② Check whether the electric leakage breake conforms to high-hermonic specifications
 (As units has inverter, in order to prevent from improper operation, be sure to use high-hermonic one.)

(b) SRK series

			<u> </u>
Indoor	RUN light	TIMER light	Content
display	_	_	Content
Outdoor	Green LED	Red LED	Operates but does not cool
control PCB	Keeps flashing	Stays OFF	- P
	display Outdoor	display Outdoor Green LED	display

1. Applicable model

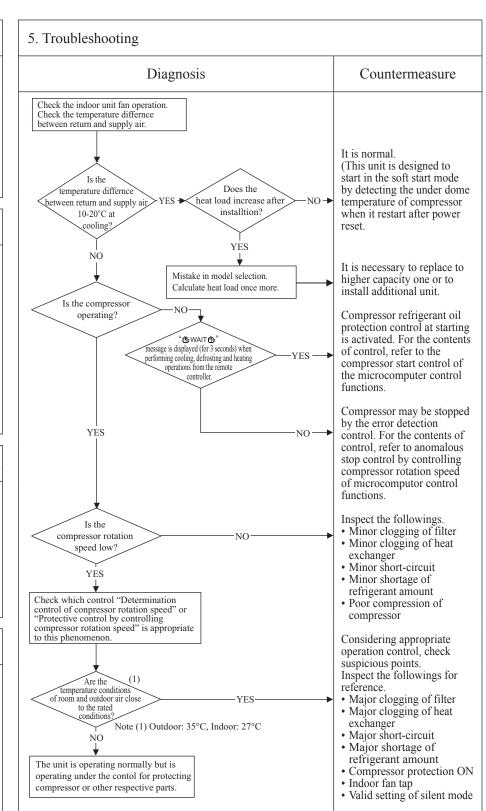
All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Poor compression of compressor
- Faulty expansion valve operation



					<u></u>
P	Error code	Indoor	RUN light	TIMER light	Content
		display	_	_	
	Remote controller: None	Outdoor		Red LED	Operates but does not neut
		control PCB	Keeps flashing	Stays OFF	1
	· ·				

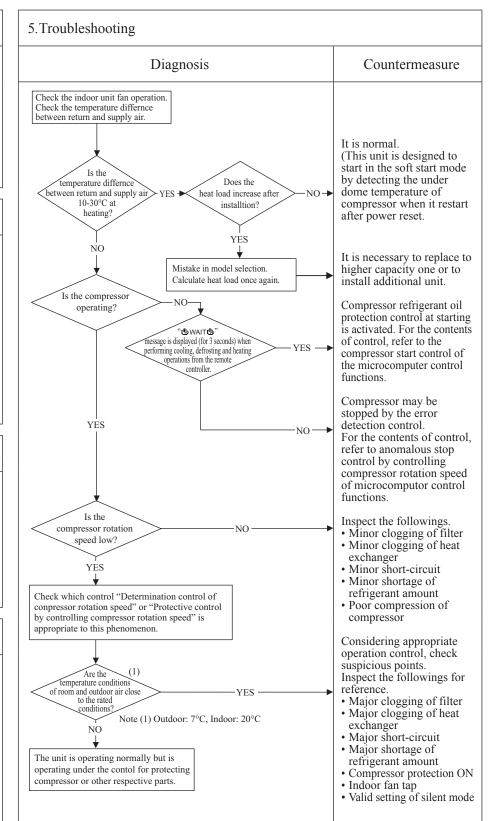
All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Faulty 4-way valve operation
- Poor compression of compressor
- Faulty expansion valve operation



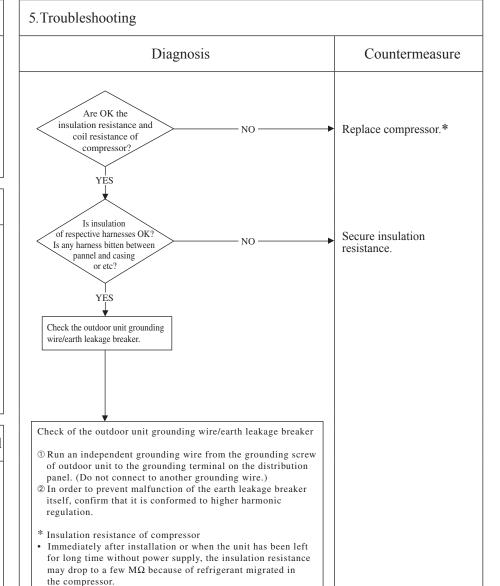
						(A)
9	Error code	Indoor	RUN light	TIMER light	Content	
		display	_	_		
	Remote controller: None	Outdoor		Red LED	Laith leakage bleaker activated	
		control PCB	Stays OFF	Stays OFF		J
Ţ						

All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause



· Defective compressor

• Noise

Note:

When the earth breaker is activated at lower insulation resistance, check the following points.

① 6 hours after power ON, check if the insulation resistance

When power ON, crankcase heater heat up compressor and evaporate the refrigerant migrated in the compressor.

Since the unit is equipped with inverter, it is necessary to use components conformed to higher harmonic regulation in order

2 Check if the earth leakage breaker is conformed to higher

to prevent malfunction of earth leakage breaker.

recovers to normal.

harmonic regulation or not.

					<u> </u>
(1	Error code	Indoor	RUN light	TIMER light	Content
		display	_	_	Content
	Remote controller: None	Outdoor	Green LED	Red LED	Excessive noise/vibration (1/3)
		control PCB	-	-	

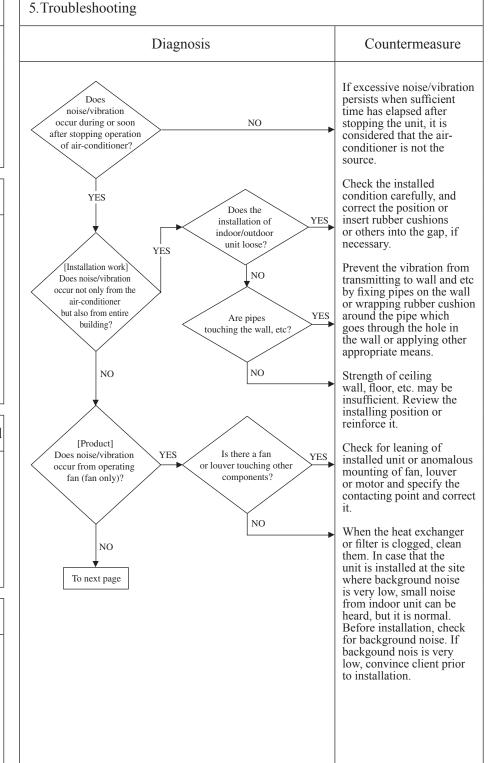
All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- ① Improper installation work
 - · Improper anti-vibration work at instllation
 - · Insufficient strength of mounting face
- Defective product Before/after shipping from factory
- ③ Improper adjustment during commissioning
 - · Excess/shortage of refrigerant, etc.



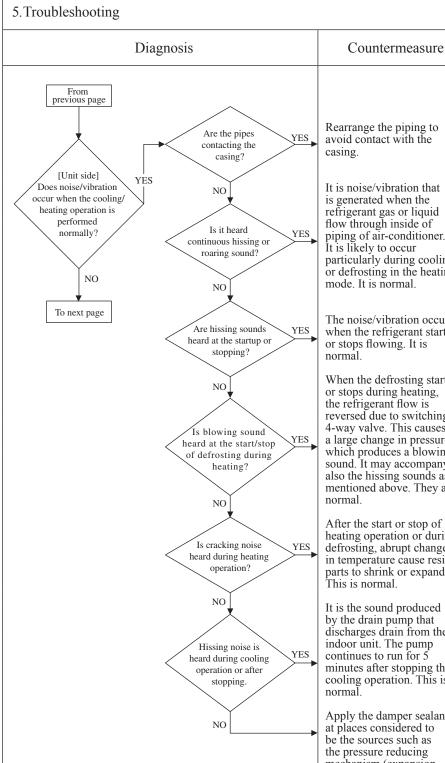
Error code	Indoor display	RUN light	TIMER light	Content	1)
Remote controller: None	Outdoor	Green LED	Red LED	Excessive noise/vibration (2/3)	
	control PCB	_	_	,	J
					_

1. Applicable model All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause



Rearrange the piping to avoid contact with the

It is noise/vibration that is generated when the refrigerant gas or liquid flow through inside of piping of air-conditioner. It is likely to occur particularly during cooling or defrosting in the heating mode. It is normal.

The noise/vibration occurs when the refrigerant starts or stops flowing. It is

When the defrosting starts or stops during heating, the refrigerant flow is reversed due to switching 4-way valve. This causes a large change in pressure which produces a blowing sound. It may accompany also the hissing sounds as mentioned above. They are

After the start or stop of heating operation or during defrosting, abrupt changes in temperature cause resin parts to shrink or expand. This is normal.

It is the sound produced by the drain pump that discharges drain from the indoor unit. The pump continues to run for 5 minutes after stopping the cooling operation. This is normal.

Apply the damper sealant at places considered to be the sources such as the pressure reducing mechanism (expansion valve), capillary, etc.

G	[Error code]	Indoor display	RUN light	TIMER light	Content	1
	Remote controller: None	Outdoor	Green LED	Red LED	Excessive noise/vibration (3/3)	
		control PCB	_	_		J

1. Applicable model 5. Troubleshooting All models Diagnosis Countermeasure From previous page If insufficient cooling/ Adjustment heating problem happens due to anomalous operating during commissioning Does noise/vibration occur when the conditions at cooling/ cooling/heating operation is in 2. Error detection method heating, followings are anomalous condition? suspicious. • Overcharge of refrigerant • Insufficient charge of refrigerant • Intrusion of air, nitrogen, etc. In such occasion, it is necessary to recover refrigerant, vacuum-dry and recharge refrigerant. * Since there could be many causes of noise/ vibration, the above do not cover all. In such case, check the conditions when, where, 3. Condition of Error displayed how the noise/vibration occurs according to following check point. • Indoor/outdoor unit · Cooling/heating/fan mode • Startup/stop/during operation • Operating condition (Indoor/outdoor temperatures, pressure) Time it occurred • Operation data retained by the remote controller 4. Presumable cause such as compressor rotation speed, heat exchanger temperature, EEV opening degree, etc. • Tone (If available, record the noise) • Any other anomalies

C	Error code	Indoor display	RUN light	TIMER light	Content	<u> </u>	}
	Remote controller: None			Red LED Stays OFF	Lo	ouver motor failure	

1.Applicable model 5. Troubleshooting All models Diagnosis Countermeasure ▲ Check at the indoor unit side. Operate after waiting for more than 1 minute. Does the louver operate at the power 2. Error detection method on? Is LM wiring broken? NO Repair wiring. -YES Defective indoor control YES Is LM locked? PCB → Replace. - YES -Replace LM. Is the louver YES Normal operable with the remote controller? 3. Condition of Error displayed Adjust LM lever and then check again. NO LM: louver motor 4. Presumable cause • Defective LM • LM wire breakage • Faulty indoor control PCB

Error code Remote controller: None	display	- Green LED	TIMER light - Red LED 2 times flash	Power supply system error (Power supply to indoor control PCB)

1.Applicable model 5. Troubleshooting All models Diagnosis Countermeasure AC220/240V detected between 1 and 2 on the terminal block of indoor unit? Is AC380/415V for 3-phase unit detected between 1, 2 and 3 on the teminal block of outdoor unit or is AC220/240V for 1-phase unit detected between 1 and 2 on the terminal block of outdoor unit? Defective outdoor control PCB (Noise filter) YES 2. Error detection method Misconnection or breakage of connecting wires YES Are fuse OK Replace fuse. (250V 3.15A)? YES Defective indoor control PCB → Replace. 3. Condition of Error displayed 4. Presumable cause • Misconnection or breakage of connecting wires • Blown fuse Faulty indoor control PCBBroken harness • Faulty outdoor control PCB (Noise filter)

Error code Remote controller: None	display	RUN light	-	Power supply system error
	Outdoor		Red LED 2 times flash	(Power supply to remote controller)

1. Applicable model 5. Troubleshooting All models Diagnosis Countermeasure Isn't there any Correct. loose connection of remote YES controller wires? NO 2. Error detection method Isn't remote controller wire broken or Replace wires. YES short-circuited? NO Disconnect remote controller wires. Is DC15V or higher detected between X-Y Replace remote controller. of interface kit terminal block? 3. Condition of Error displayed NO Disconnect connecting wires Is DC15V or higher detected between X-Y Replace interface kit. of indoor unit terminal block? 4. Presumable cause NO Defective indoor control PCB→Replace. • Remote controller wire breakage/short-circuit • Defective remote controller Malfunction by noiseBroken harness • Faulty indoor control PCB • Faulty interface kit

					<u> </u>
Error code	Indoor	RUN light	TIMER light	Content _	
Effor code		2 times flash		Room temperature	
Remote controller: None	Outdoor	Green LED	Red LED		
		Keeps flashing	Stavs OFF	sensor anomaly	
		1 0	,		

All models

2. Error detection method

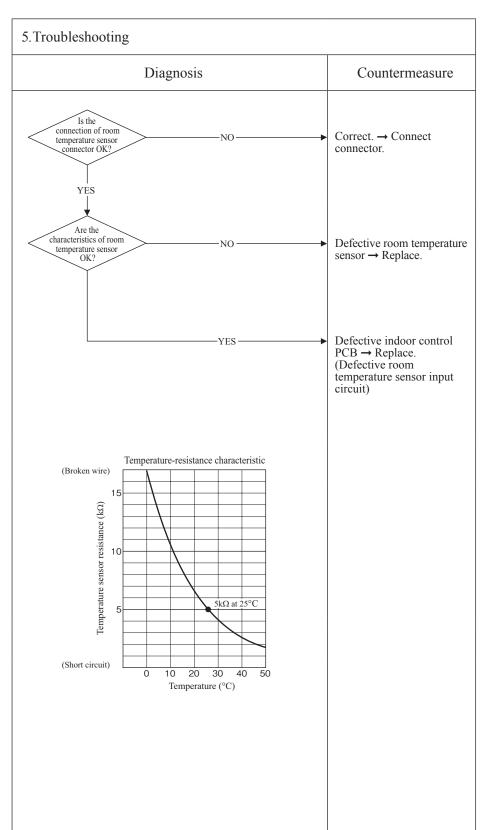
Anomalously low temperature or high temperature (resistance) is detected by indoor return air temperature sensor (Th1)

3. Condition of Error displayed

• When the temperature thermistor detects -45°C or lower for 15 seconds continuously, the compressor stops. After 3-minute delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.

4. Presumable cause

- Defective room temperature sensor connector
- Defective room temperature sensor
- Faulty indoor control PCB



Error code Remote controller: None	Indoor display Stays OFF Keeps flashing Outdoor control PCB Keeps flashing Stays OFF	anomaly
1.Applicable model	5. Troubleshooting	
All models	Diagnosis	Countermeasure
	Is the inlet panel set correctly? NO	Correction, re-set
2. Error detection method	(1)	
The limit switch operates when the indoor unit is stopped.	Are limit switch OK? NO	Defective limit switch → Replace.
	YES	Defective indoor control PCB → Replace. (Defective limit switch input circuit)
	Note (1) Check the operation of limit switch by checking if the error can be rest or not by pushing the limit switch by finger when the inlet panel is removed.	
3. Condition of Error displayed		
Same as above		
4. Presumable cause		
Defective Limit switch Faulty indoor control PCB		

				<u> </u>
Error code	Indoor display	RUN light	TIMER light	Content
Remote controller: INSPECT I/U	Outdoor	l	Red LED 2 times flash	(NVII 1 2 4 11 41)

All models

2. Error detection method

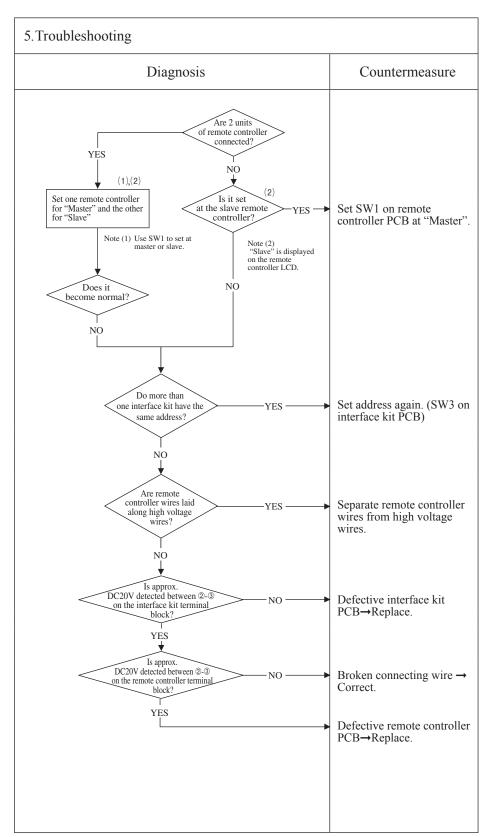
Communication between indoor unit and remote controller is disabled for more than 30 minutes after the power on.

3. Condition of Error displayed

Same as above

4. Presumable cause

- Improper setting
- Surrounding environment
- Defective remote controller communication circuit
- Faulty interface kit PCB



Note: If any error is detected 30 minutes after displaying "WAIT "on the remote controller, the display changes to "INSPECT I/U".

(Error code	Indoor	RUN light	TIMER light	Content
	Error code	display	_	_	
	Remote controller: INSPECT I/U	Outdoor	Green I FD	Red LED	INSPECT I/U
			l	2 times flash	C C C C C C C C C C
		control I CD	Keeps masning	2 times masm	,

All models

2. Error detection method

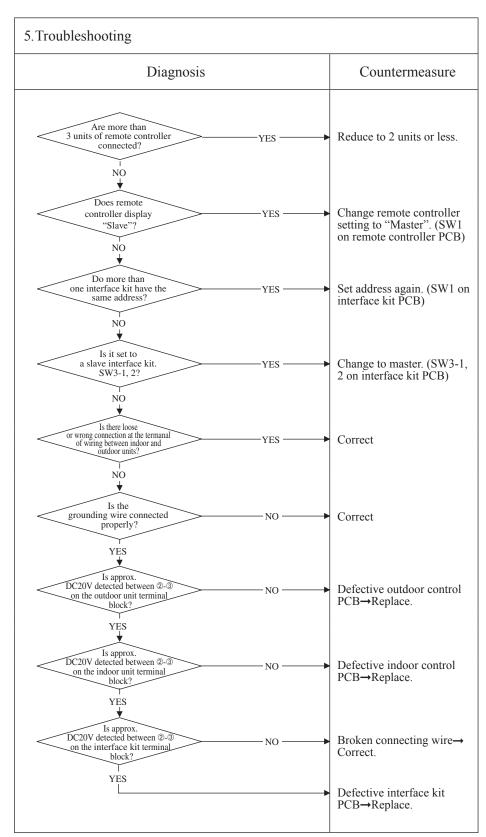
Indoor unit cannot communicate for more than 30 minutes after the power on with remote controller.

3. Condition of Error displayed

Same as above

4. Presumable cause

- · Improper setting
- Surrounding environment
- Defective remote controller communication circuit
- Faulty indoor control PCB
- Faulty outdoor control PCB
- Faulty interface kit PCB



Note: If any error is detected 30 minutes after displaying "WAIT "on the remote controller, the display changes to "INSPECT I/U".

					4
Error code	Indoor	RUN light	TIMER light	Content	
	display	ı	ı	Communication error at	
Remote controller: @WAIT @	Outdoor		Red LED		
	control PCB	Keeps flashing	2 times flash	initial operation (1/3)	
					_

All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Faulty indoor control PCB
 Defective remote controller
 Broken remote controller wire
 Faulty outdoor control PCB
 Broken connection wires

5. Troubleshooting	
Diagnosis	Countermeasure
"@WAITO" is still displayed on the remote controller LED 2 minutes after power ON. To next pay YES Is the outdoor unit control green LED flashing? YES	ge
Is the outdoor unit control red LED flashing twice?	Defective indoor control PCB→ Replace. Defective remote controller→Replace. Broken remote controller wire Y→ Replace.
Are wires connected properly between indoor/ outdoor units? YES	Correct connection wires between indoor and outdoor units.
Is approx. DC20V detected between ②-③ on the outdoor unit terminal block? YES	Defective outdoor control PCB→Replace.
Is approx. DC20V detected between ②-③ on the indoor unit terminal block?	Defective connection wire (Broken) Noise
YES	Defective indoor control PCB→Replace.

							9
9	Error code	maoor		TIMER light	Content		
		display	_	_		Communication error at	
	Remote controller: WAIT	Outdoor	Green LED	Red LED			
				2 times flash		initial operation (2/3)	
ļ		control i CD	Accus masning	Z tillies liasii		minual operation (2/3)	

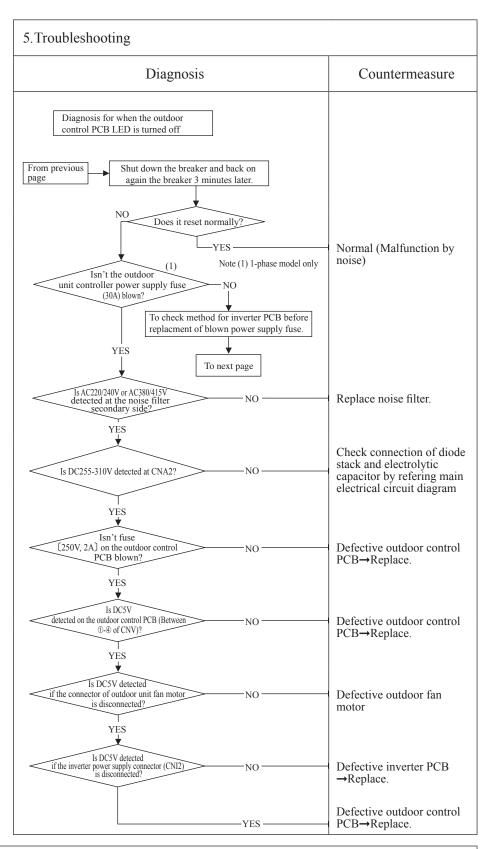
1. Applicable model All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- · Faulty noise filter
- Faulty indoor control PCB
- Faulty outdoor control PCB
- Faulty inverter PCB
 Faulty fan motor



_							9
(1	Error code	Indoor	RUN light	TIMER light	Content		
		display	_	_	Content	Communication error at	
	Remote controller: (BWAIT)	Outdoor	Green LED	Red LED			
			Keeps flashing	2 times flash		initial operation (3/3)	
		1				i /	$\overline{}$

All models

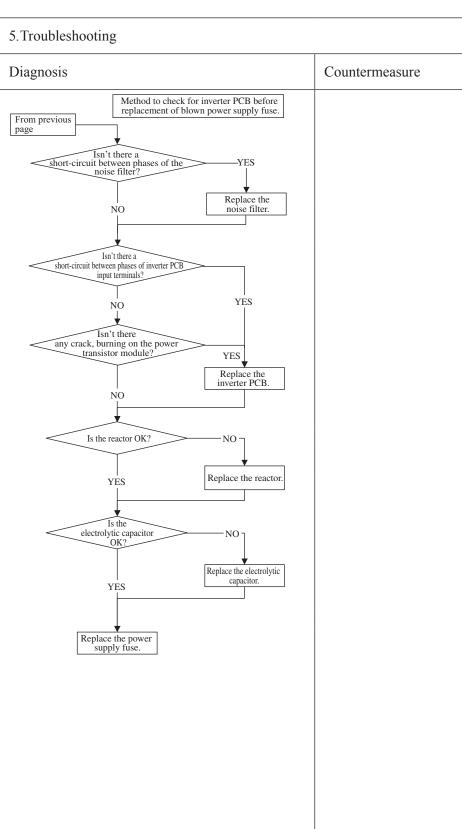
2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Blown fuse
- Faulty noise filter

- Faulty inverter PCBFaulty reactorFaulty electrolytic capacitor



					<u>, </u>
(Error code	Indoor	RUN light	TIMER light	Content
	Enorcode	display	_	_	Content
	Remote controller: None	Outdoor	Green LED	Red LED	No display
			Keeps flashing	2 times flash	
			, ,		

All models

2. Error detection method

3. Condition of Error displayed

4. Presumable cause

- Faulty indoor control PCB
 Defective remote controller
 Broken remote controller wire
 Defective interface kit

Diagnosis	Diagnosis							
Remote controller does not display anything after the power on. Is DC 10V or higher detected at remote controller connection terminals?	—YES —		Defective remote controller					
Is DC10V or higher detected on remote controller wires if the remote controller is removed?	—YES ——		Defective remote controller					
Is DC10V or higher detected at interface kit connection terminals?	—YES ——	-	Defective interface kit					
Is DC10V or higher detected on connecting wires if the interface kit is removed?	—YES —		Defective interface kit					
Are wires connected properly between the indoor/outdoor units?	——YES ——	-	Defective connecting wire. Defective remote controller wire (Short-circuit, etc.)					
		-	Defective indoor control PCB→Replace.					

					<u>(</u>
(1	Error code Remote controller: E1	Indoor	RUN light	TIMER light	Content
		display	_	_	Remote controller
		Outdoor control PCB Keeps flashin	l	Red LED	• .• • • .
			Keeps flashing	Stays OFF	communication circuit error

1.Applicable model All models

2. Error detection method

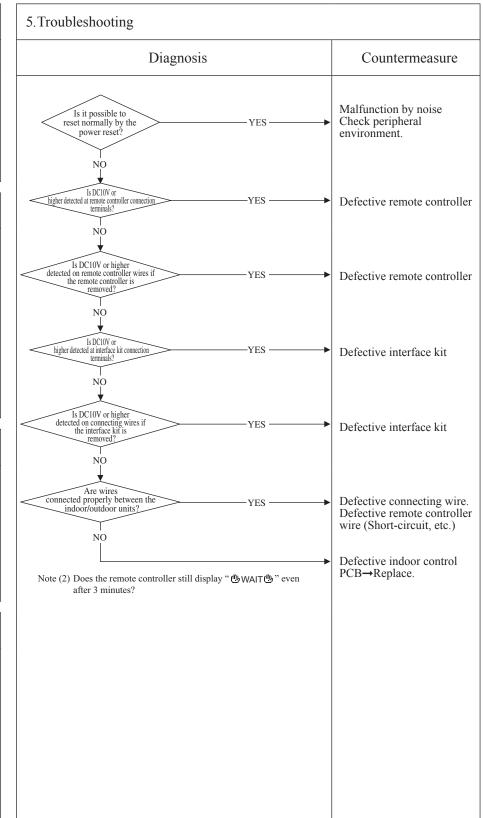
When normal communication between the remote controller and the indoor unit is interrupted for more than 2 minutes. (Detectable only with the remote controller)

3. Condition of Error displayed

Same as above

4. Presumable cause

- Defective communication circuit between remote controller-indoor unit
- Noise
- Defective remote controller
- Faulty indoor control PCB
- Defective interface kit



Note: If the indoor unit cannot communicate normally with the remote controller for 180 seconds, the indoor unit PCB starts to reset automatically.

						(γ)
9	9	Error code Remote controller: E5	Indoor display	RUN light ON	TIMER light 6 times flash	(Content)
			Outdoor	l	Red LED	Communication circl adminipropriation
			control PCB	Keeps flashing	See below	
(J					

All models

2. Error detection method

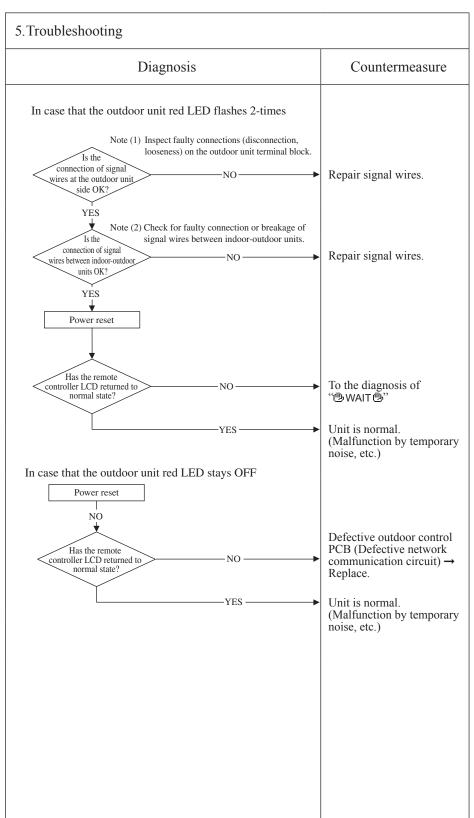
When normal communication between indoor and outdoor unit is interrupted for more than 2 minutes.

3. Condition of Error displayed

Same as above is detected during operation.

4. Presumable cause

- Unit No. setting error
- Broken remote controller wire
- Faulty remote controller wire connection
- Faulty outdoor control PCB



Note: Pressing the pump-down switch cancels communications between indoor and outdoor unit so that "communication error-E5" is displayed on indoor unit and remote controller, but it is normal.

| Error code | Remote controller: E6 | Indoor | RUN light | TIMER light | Content | Indoor heat exchanger | temperature sensor anomaly | Total | Content | Indoor heat exchanger | temperature sensor anomaly | Total | Timer light | Content | Indoor heat exchanger | temperature sensor anomaly | Total | Timer light | Content | Indoor heat exchanger | temperature sensor anomaly | Total | Timer light | Timer li

1. Applicable model

All models

2. Error detection method

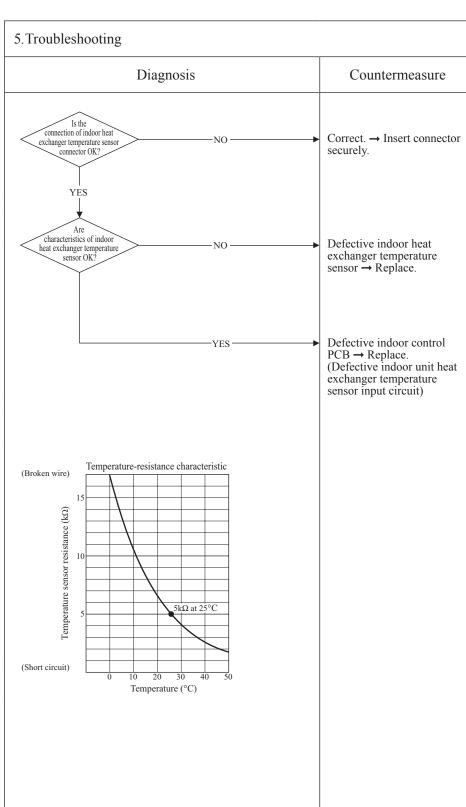
Anomalously low temperature or high temperature (resistance) is detected on the indoor heat exchanger sensor (Th21, Th22).

3. Condition of Error displayed

• When the temperature sensor detects -28°C or lower for 15 seconds continuously, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.

4. Presumable cause

- Defective indoor heat exchanger sensor connector
- Indoor heat exchanger
- temperature sensor anomaly
 Faulty indoor control PCB



Error code Remote controller: E10	Indoor display indoor control PCB RUN light TIMER light Content Excessive number indoor units (more by controlling with one	than 17 units)
1.Applicable model	5. Troubleshooting	
All models	Diagnosis	Countermeasure
	Aren't more than 17 indoor units connected to one remote controller?	Defective remote controller → Replace.
2.Error detection method	YES —	Reduce to 16 or less units.
When it detects more than 17 of indoor units connected to one remote contorller 3. Condition of Error displayed Same as above		
4. Presumable cause • Excessive number of indoor units connected • Defective remote controller		

						<u> </u>
9	9[Remote controller: E14		RUN light	TIMER light	Content
			display		-	Communication error
			Outdoor		Red LED	hatiyaan maatar and alaya indoor jinita
	L		COILUOI PCD	Keeps flashing	Stays OFF	

All models

2. Error detection method

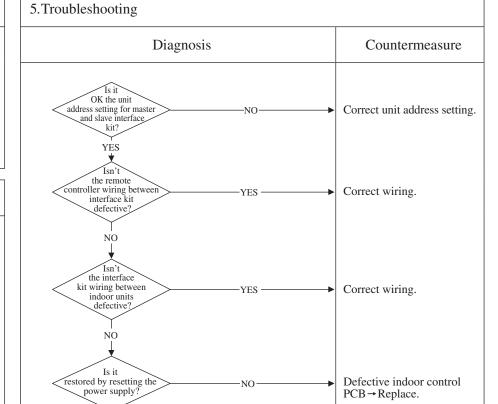
When communication error between master and slave indoor units occurs

3. Condition of Error displayed

Same as above

4. Presumable cause

- Unit address setting error
- Broken remote controller wire
- Defective remote controller wire connection
- Broken interface kit wire
- Defective interface kit wire connection
- Defective indoor control PCB



YES

Note (1) Set dip switches SW3-1 and SW3-2 as shown in the following table. (Factory default setting – "Master")

	_	Interface kit				
		Master	Slave1	Slave2		
Dip	SW3-1	OFF	OFF	ON		
switch	SW3-2	OFF	ON	OFF		

Malfunction by noiseCheck surrounding environment.

Note:			

						W
P	Error code	Indoor	RUN light	TIMER light	Content	
		display	6 times flash	ON	Content	
	Remote controller: E16	Outdoor	Green LED	Red LED	Indoor fan motor anomaly	
		control PCB	Keeps flashing	Stays OFF	indoor rain infotor anomary	,
				•	•	_

All models

2. Error detection method

Detected by rotation speed of indoor fan motor

3. Condition of Error displayed

• When actual rotation speed of indoor fan motor drops to lower than 300rpm for 30 seconds continuously, the compressor and the indoor fan motor stop.

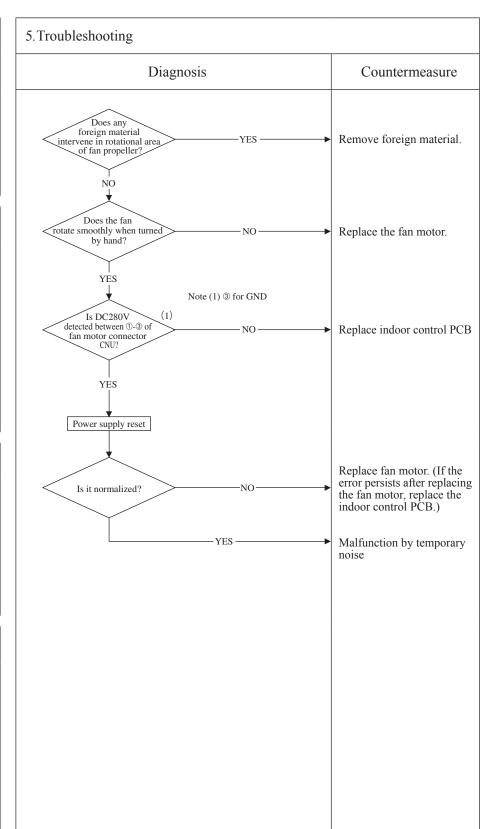
4. Presumable cause

- Defective indoor control PCB
- Foreign material at rotational area of fan propeller

 • Defective fan motor

 • Dust on indoor control PCB

- External noise, surge



					(
P	Error code	Indoor	RUN light	TIMER light	Content
		display	_	_	Remote controller
	Remote controller: E28	Outdoor		Red LED	tamparatura tharmistor anomaly
		control PCB	Keeps flashing	Stays OFF	temperature mermistor anomary

All models

2. Error detection method

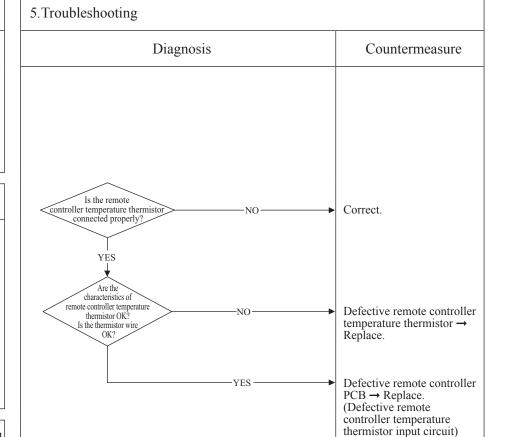
Detection of anomalously low temperature (resistance) of remote controller temperature thermistor (Thc)

3. Condition of Error displayed

When the temperature thermistor detects -50°C or lower for 5 seconds continuously, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this error occurs again within 60 minutes after the initial detection.

4. Presumable cause

- Faulty connection of remote controller temperature thermistor
- Defective remote controller temperature thermistor
- Defective remote controller PCB



Resistance-temperature characteristics of remote controller temperature thermistor (ThC)

Temperature (°C)	Resistance value (kΩ)	Temperature (°C)	Resistance value (kΩ)
0	65	30	16
1	62	32	15
2	59	34	14
4	53	36	13
6	48	38	12
8	44	40	11
10	40	42	9.9
12	36	44	9.2
14	33	46	8.5
16	30	48	7.8
18	27	50	7.3
20	25	52	6.7
22	23	54	6.3
24	21	56	5.8
26	19	58	5.4
28	18	60	5.0

Note: After 10 seconds has passed since remote controller thermistor was switched from valid to invalid, E28 will not be displayed even if the thermistor harness is disconnected. At same time the thermistor, which is effective, is switched from remote controller thermistor to indoor return air temperature thermistor. Even though the remote controller thermistor is set to be Effective, the return air temperature displayed on remote controller for checking still shows the value detected by indoor return air temperature thermistor, not by remote controller temperature thermistor.

Ø	E 1	Indoor display	RUN light	TIMER light
	Error code	muoor uispiay	ON	Keeps flashing
	Remote controller: E35	Outdoor	Green LED	Red LED
		control PCB	Keeps flashing	1 time flash
		Outdoor	Yellow	LED
		inverter PCB	Keeps f	lashing

Content

Cooling overload operation

1. Applicable model

All models

2. Error detection method

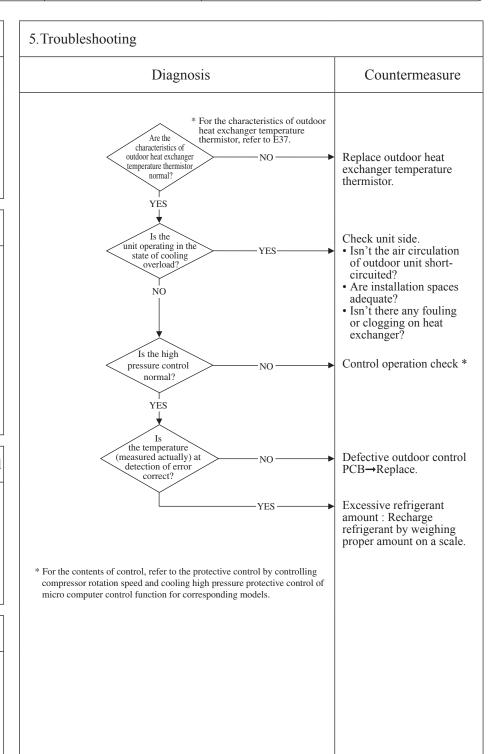
For the error detection method, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of micro computer control function for corresponding models.

3. Condition of Error displayed

When outdoor heat exchanger temperature anomaly is detected 5 times within 60 minutes or this anomalous state is detected 60 minutes continuously including compressor stop.

4. Presumable cause

- Defective outdoor heat exchanger temperature thermistor
- Defective outdoor control PCB
- Indoor, outdoor unit installation spaces
- Short-circuit of air on indoor, outdoor units
- Fouling, clogging of heat exchanger
- Excessive refrigerant amount



							<u>(1</u>
U	E	Indoor display	RUN light	TIMER light	Contont		
	Error code	indoor display	ON	5 times flash	Content		
	Remote controller: E36	Outdoor	Green LED	Red LED		Discharge pipe	
		control PCB	Keeps flashing	1 time flash		Discharge pipe	
		Outdoor	Yellow	LED		temperature error	
		inverter PCB	Keeps fl	lashing		voinip or wood o order	
1							_

All models

2. Error detection method

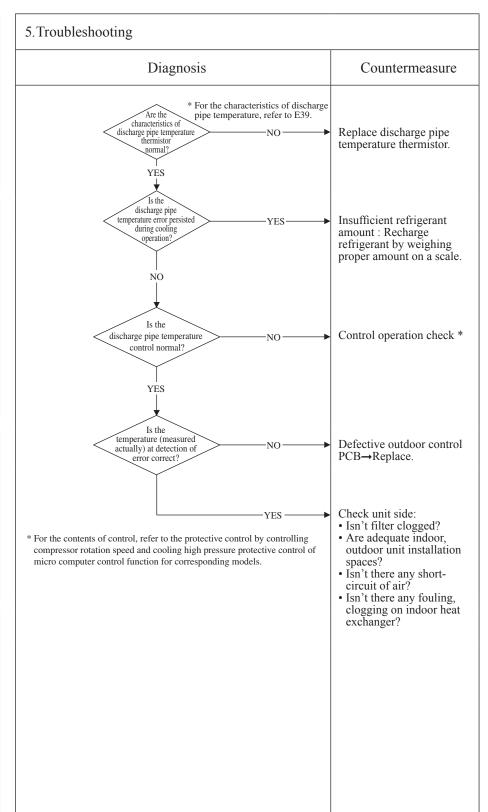
For the error detection method, refer to the protective control by controlling compressor rotation speed and cooling high pressure protective control of micro computer control function for corresponding models.

3. Condition of Error displayed

When discharge pipe temperature anomaly is detected 2 times within 60 minutes or this anomalous state is detected 60 minutes continuously including compressor stop.

4. Presumable cause

- · Defective outdoor control PCB
- Defective discharge pipe temperature thermistor
- Clogged filter
- Indoor, outdoor unit
- installation spaces
 Short-circuit of air on indoor, outdoor units
- · Fouling, clogging of heat exchanger



1	Q	Г	Indoor display	RUN light	TIMER light
		Error code	muoor uispiay	Keeps flashing	2 times flash
		Remote controller: E37	Outdoor	Green LED	Red LED
			control PCB	Keeps flashing	1 time flash
			Outdoor	Yellow	LED
			inverter PCB	Keeps f	lashing

Content

Outdoor heat exchanger temperature themistor anomaly

1. Applicable model

All models

2. Error detection method

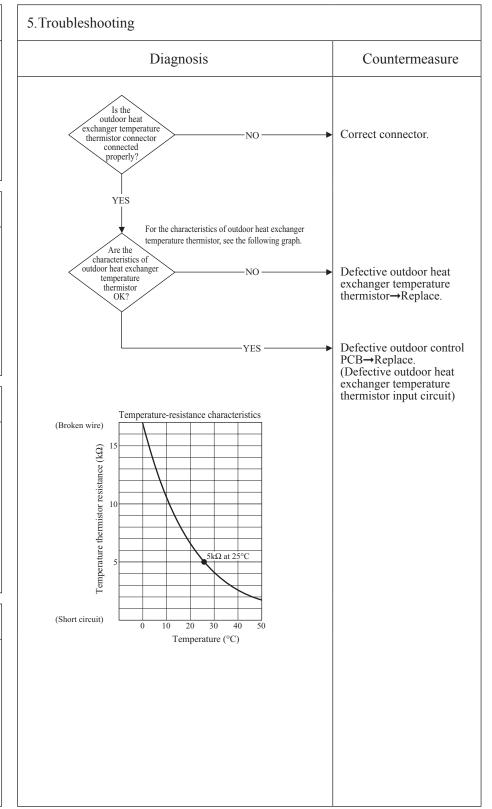
Detection of anomalously low temperature (resistance) on the outdoor heat exchanger temperature thermistor

3. Condition of Error displayed

- When the temperature thermistor detects -50°C or lower for 20 seconds continuously within 2 minutes to 2 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes.
- When -50°C or lower is detected for 5 seconds continuously within 20 second after compressor ON.

4. Presumable cause

- Defective outdoor control PCB
- Broken thermistor harness or temperature sensing section
- Disconnected wire connection (connector)



Ø	E 1	Indoor display	RUN light	TIMER light	
	Error code	muoor uispiay	Keeps flashing	1 time flash	
	Remote controller: E38	Outdoor	Green LED	Red LED	
		control PCB	Keeps flashing	1 time flash	
		Outdoor	Yellow	LED	
		inverter PCB	Keeps flashing		

Content

Outdoor air temperature thermistor anomaly

1. Applicable model

All models

2. Error detection method

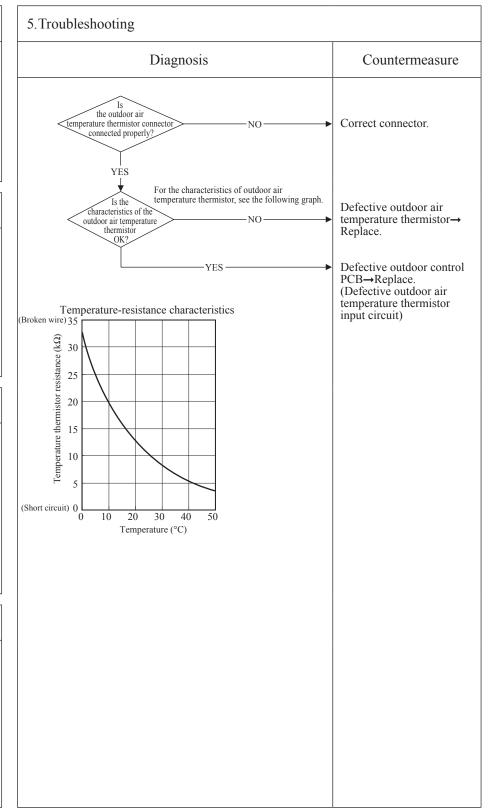
Detection of anomalously low temperature (resistance) on outdoor air temperature thermistor

3. Condition of Error displayed

- When the temperature thermistor detects -45°C or lower for 5 seconds continuously within 2 minutes to 2 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes.
- When -45°C or lower is detected for 5 seconds continuously within 20 second after compressor ON.

4. Presumable cause

- Defective outdoor control PCB
- Broken thermistor harness or temperature sensing section (Check molding.)
- Disconnected wire connection (connector)



					<u> </u>
N		Indoor display	RUN light	TIMER light	Gtt
	Error code	ilidool display	Keeps flashing	4 times flash	Content
	Remote controller: E39	Outdoor	Green LED	Red LED	Discharge pipe
		control PCB	Keeps flashing		
		Outdoor	Yellow	LED	temperature thermistor anomaly
		inverter PCB	Keeps fl	ashing	or persons of the property

All models

2. Error detection method

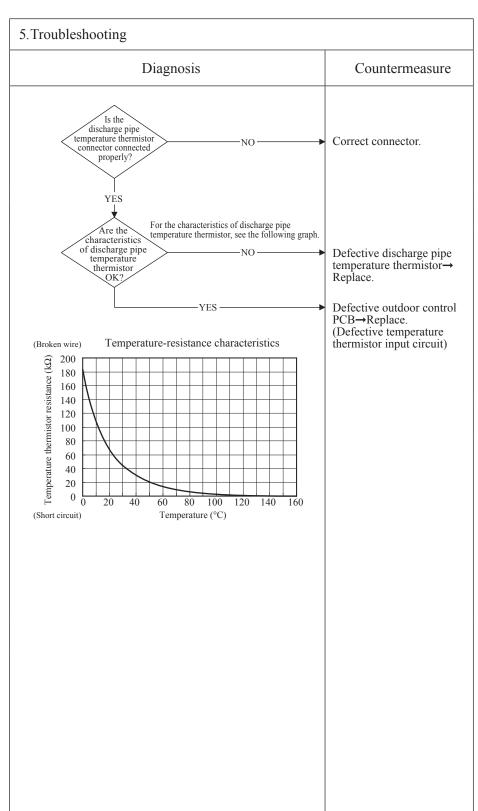
Detection of anomalously low temperature (resistance) on the discharge pipe temperature thermistor

3. Condition of Error displayed

When the temperature thermistor detects -10°C or lower for 5 seconds continuously within 10 minutes to 10 minutes 20 seconds after the compressor ON, the compressor stops. After 3-minutes delay, the compressor starts again automatically, but if this anomalous temperature is detected 3 times within 40 minutes.

4. Presumable cause

- Defective outdoor control PCB
- Broken thermistor harness or temperature sensing section (Check molding.)
- Disconnected wire connection (connector)

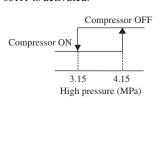


					(1)
N		Indoor display	RUN light	TIMER light	Contant	
	Error code	muoor dispiay	_	_	Content	
	Remote controller: E40	Outdoor	Green LED	Red LED	High pressure error	
		control PCB	Keeps flashing	1 time flash	-	
		Outdoor	Yellow	LED	(63H1 activated)	
		inverter PCB	Keeps fl	lashing	(00111 0001 (0000)	
						_

All models

2. Error detection method

When the high pressure switch 63H1 is activated.

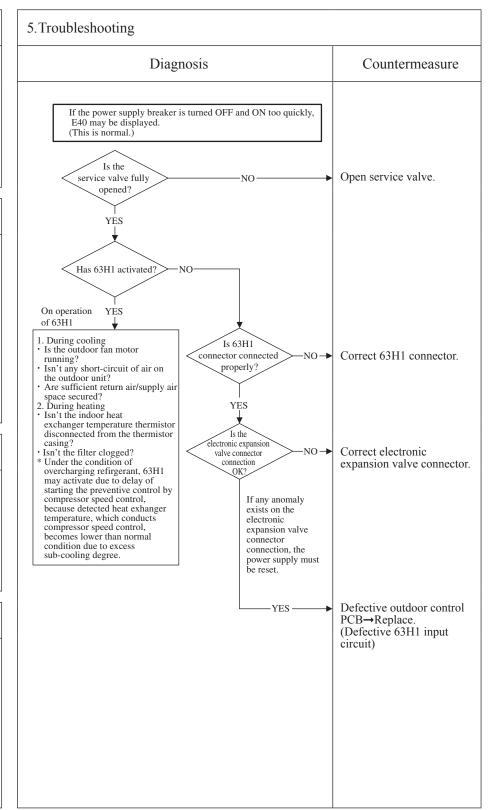


3. Condition of Error displayed

If 63H1 turns OFF (opened), the compressor stops. After 3-minutes delay, the compressor restarts. If this anomaly occurs 5 times within 60 minutes or continues for 60 minutes continuously.

4. Presumable cause

- Short circuit of air flow, disturbance of air flow and clogging filter at outdoor heat exchanger/Breakdown of fan motor
- Defective outdoor control PCB
- Defective 63H1 connector
- Defective electronic expansion valve connector
- Closed service valve
- Mixing of non-condensing gas (nitrogen, etc.)



Note: In the protective control range for compressor startup (initial startup after power ON), even if 63H1 is activated only once (63H1turns OFF), immediately the error is displayed.

						<u> </u>
(Indoor display	RUN light	TIMER light	Ctt	
	Error code	ilidool display	_	_	Content	
	Remote controller: E41	Outdoor	Green LED	Red LED		
		control PCB	Keeps flashing	1 time flash	Power transistor overheat	
		Outdoor	Yellow	LED	I ower transistor overheat	
		inverter PCB	6 times	flash		
1						

5. Troubleshooting 1. Applicable model All models Countermeasure Diagnosis • Single phase models Is DC15V detected Replace inverter PCB between ② and ③ on CNI3? Note(1) Under anomalous conditions, the voltage becomes less than DC14V. NO Is DC15V detected after disconnecting YES Replace outdoor fan motor 2. Error detection method outdoor fan motor? NO: Replace outdoor control PCB When less than DC14V of If not solved, replace the output voltage is detected between ② and ③ on CNI3, inverter PCB as well Note(2) How to check the voltage between 2 and 3 of CNI3? E41 is displayed. (See "Note" ⇒See E51 mentioned below) • 3-phase models E41⇒Replace inverter PCB 3. Condition of Error displayed Same as above. 4. Presumable cause • Defective inverter PCB • Defective outdoor fan motor • Defective outdoor control PCB • Delective noise filter PCB

Note: The "Single phase models" of inverter PAC have no function to output the signal for the power transistor overheat. However since the power source for the power transistor and the outdoor fan motor is in the same line, when the anomaly of the outdoor fan motor occurs, E41 is displayed.

					<u> </u>
U		Indoor display	RUN light	TIMER light	Combont
	Error code	muoor dispiay	ON	1 time flash	Content
	Remote controller: E42	Outdoor	Green LED	Red LED	
		control PCB	Keeps flashing	1 time flash	Current cut (1/2)
		Outdoor	Yellow	LED	Current cut (1/2)
		inverter PCB	1 time	flash	
					· · · · · · · · · · · · · · · · · · ·

All models

2. Error detection method

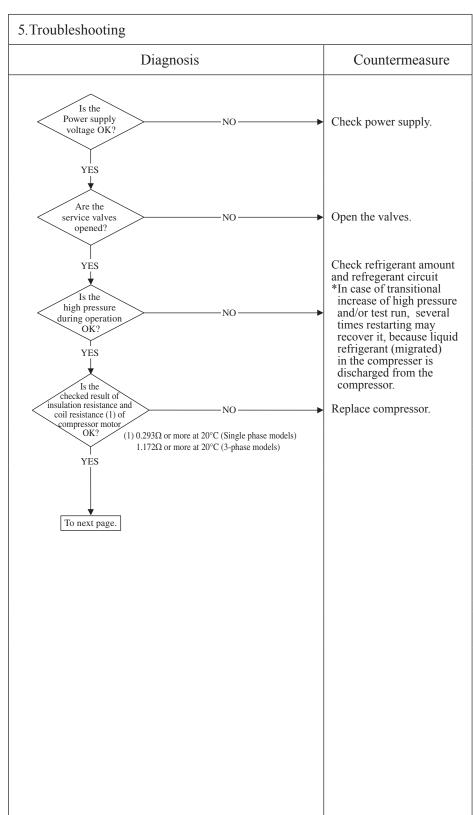
In order to prevent from overcurrent of inverter, if the current exceeds the specifications, it makes the compressor stopping.

3. Condition of Error displayed

- If the output current of inveter exceeds the specifications, it makes the compressor stopping.
- After 3-minute delay, the compressor restarts, but if this amonaly occurs 4 times within 30 minute after the intial detection.

4. Presumable cause

- The valves closed
- Faulty power supply
- Insufficient refrigerant amount
- Faulty compressor
- Faulty power transistor module



					9
		Indoor display	RUN light	TIMER light	Combont
	Error code	ilidool display	ON	1 time flash	Content
	Remote controller: E42	Outdoor	Green LED	Red LED	
		control PCB	Keeps flashing	1 time flash	Current cut (2/2)
		Outdoor	Yellow	LED	
		inverter PCB	1 time	flash	
1					

All models

2. Error detection method

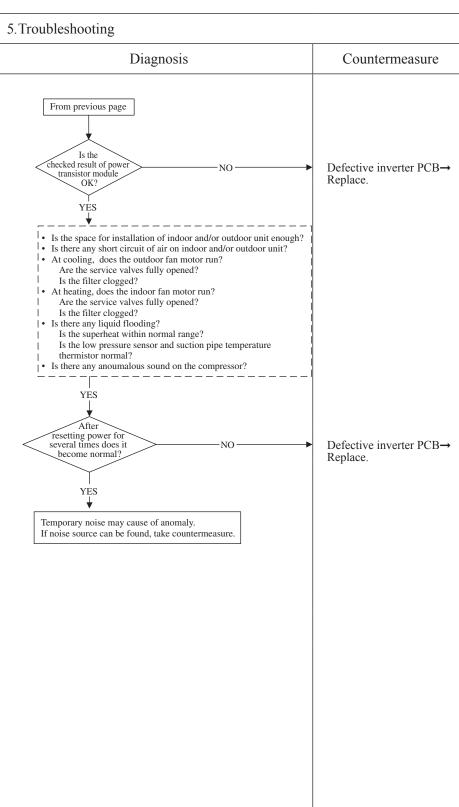
In order to prevent from overcurrent of inverter, if the current exceeds the specifications, it makes the compressor stopping.

3. Condition of Error displayed

- If the output current of inveter exceeds the specifications, it makes the compressor stopping.
- After 3-minute delay, the compressor restarts, but if this amonaly occurs 4 times within 30 minute after the intial detection.

4. Presumable cause

- Defective inverter PCB
- · Faulty power supply
- Insufficient refrigerant amount
- Faulty compressorFaulty power transistor module



1	Q	Г	Indoor display	RUN light	TIMER light	ſ
		Error code	ilidool display	_	_	l
		Remote controller: E45	Outdoor	Green LED	Red LED	
			control PCB	Keeps flashing	1 time flash	
			Outdoor	Yellow LED		
			inverter PCB	Keeps flashing		

Communication error between inverter PCB and outdoor control PCB

1. Applicable model

All models

2. Error detection method

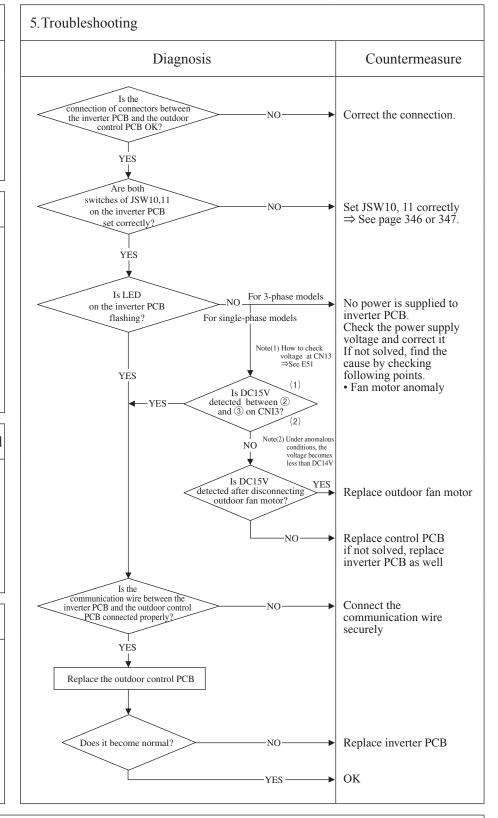
When the communication between inverter PCB and outdoor control PCB is not established.

3. Condition of Error displayed

Same as above.

4. Presumable cause

- Defective inverter PCB
- Defective connector between the outdoor control PCB and inverter PCB
- Defective outdoor control PCB
- · Defective outdoor fan motor



Content

1		T	RUN light	TIMER light	Con	
	Error code	Indoor display	ON	7 times flash		
	Remote controller: E48	Outdoor	Green LED	Red LED	(
		control PCB	Keeps flashing	1 time flash		
		Outdoor	Yellow LED			
		inverter PCB	Keeps flashing			

ntent

Outdoor fan motor anomaly

1. Applicable model

All models

2. Error detection method

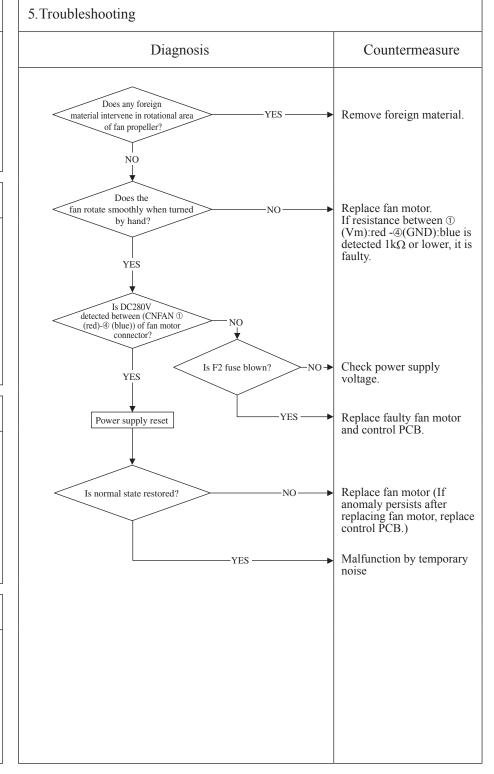
Detected by rotation speed of outdoor fan motor

3. Condition of Error displayed

When actual rotation speed of outdoor fan motor (FMo1) drops to 100min⁻¹ or lower for 30 minutes continuously, the compressor and the outdoor fan motor stop. After 3-minutes delay, it starts again automatically, but if this anomaly occurs 5 times within 60 minutes after the initial detection.

4. Presumable cause

- · Defective outdoor control **PCB**
- · Foreign material at rotational area of fan propeller
- Defective fan motor
- · Dust on outdoor control PCB
- Blow fuse
- · External noise, surge



Note: When E48 error occurs, in almost cases F2 fuse (4A) on the outdoor control PCB is blown. There are a lot of cases that fuse is blown and E48 occurs due to defective fan motor. And even though only the outdoor control PCB (or fuse) is replaced,, another trouble (*1) could occur. Therefore when fuse is blown, check whether the fan motor is OK or not.

After confirming the fan motor normal, check by power ON. (Don't power ON without confirming the fan motor normal.)
*1 The error which does not seem to relate E48 may occur like as "WAIT", Stay OFF of LED on outdoor control PCB, inverter communication error (E45) and etc.

				f	ζ
	Indoor display	RUN light	TIMER light	Contont	_
Error code	ilidool display	_	_	Content	
Remote controller: E49	Outdoor	Green LED	Red LED	I aw pressure error or	
	control PCB	Keeps flashing	1 time flash	Low pressure error or	
	Outdoor	Yellow	LED	low pressure sensor anomaly $(1/2)$)
	inverter PCB	Keeps flashing			

All models

2. Error detection method

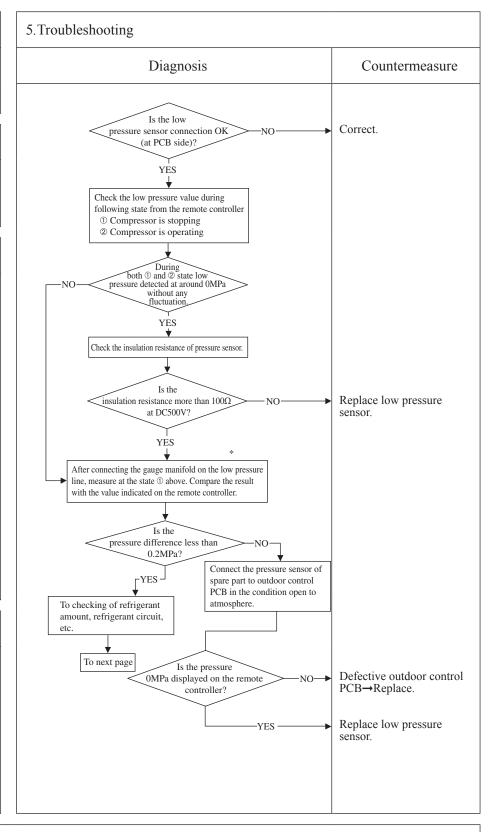
Detected by low pressure drop and suction superheat

3. Condition of Error displayed

- ① When the low pressure sensor detects 0.079MPa or lower for 15 seconds continuously, compressor stops and it restarts automatically after 3-minutes delay. And if this anomaly occurs 3 times within 60 minutes,
- © 10 minutes after the compressor starts, if the low pressure sensor detects 0.15MPa or lower for 60 minutes continuously and compressor suction superheat is detected 30degC or higher for 60 minutes continuously. And if this anomaly occurs 3 times within 60 minutes,
- 3 If low pressure sensor detects 0.079MPa or lower for 5 minutes continuously (including the compressor stop status),

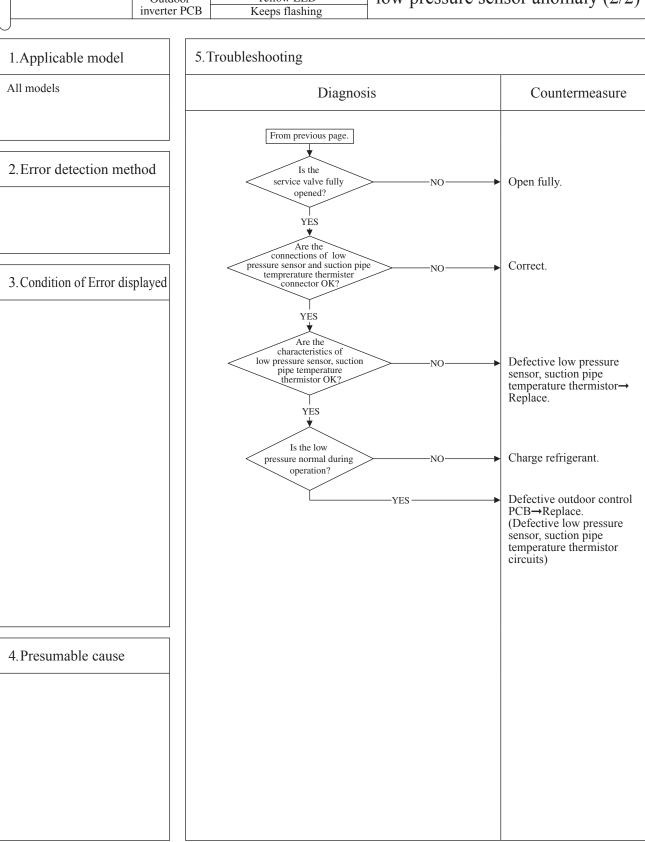
4. Presumable cause

- Defective outdoor control PCB
- Defective low pressure sensor connector
- Defective low pressure sensor
- Defective suction pipe temperature thermistor connector
- Defective suction pipe temperature thermistor



Note: * Connect the gauge manifold to the service valve check joint during cooling, or connect it to the check joint at internal piping of outdoor unit during heating.

					<u> </u>
U	E	Indoor display	RUN light	TIMER light	Contont
	Error code	muoor uispiay	_	_	Content
	Remote controller: E49	Outdoor	Green LED	Red LED	Low pressure error or
		control PCB	Keeps flashing		<u> </u>
		Outdoor	Yellow LED		low pressure sensor anomaly $(2/2)$
		inverter PCB	Keeps flashing		
	•				



					<u> </u>
C	Г. 1	Indoor display	RUN light	TIMER light	Combont
	Error code	ilidool display	ON	4 times flash	Content
	Remote controller: E51	Outdoor	Green LED	Red LED	
		control PCB	Keeps flashing	1 time flash	Inverter and fan motor anomaly
		Outdoor	Yellow LED		
		inverter PCB	6 times flash		

All models

2. Error detection method

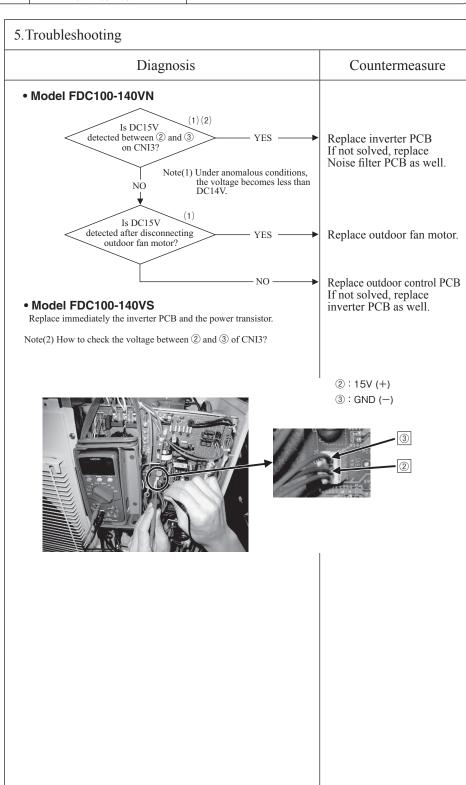
When power transistor anomaly is detected for 15 minutes continuously

3. Condition of Error displayed

Same as above

4. Presumable cause

- Defective outdoor fan motor
 Defective inverter PCB
- Defective outdoor control PCB



Ø	Г. 1	Indoor display	RUN light	TIMER light
	Error code	muoor uispiay	Keeps flashing	4 times flash
	Remote controller: E53	Outdoor	Green LED	Red LED
		control PCB	Keeps flashing	1 time flash
		Outdoor	Yellow LED	
		inverter PCB	Keeps flashing	

Content

Suction pipe temperature thermistor anomaly

1. Applicable model

All models

2. Error detection method

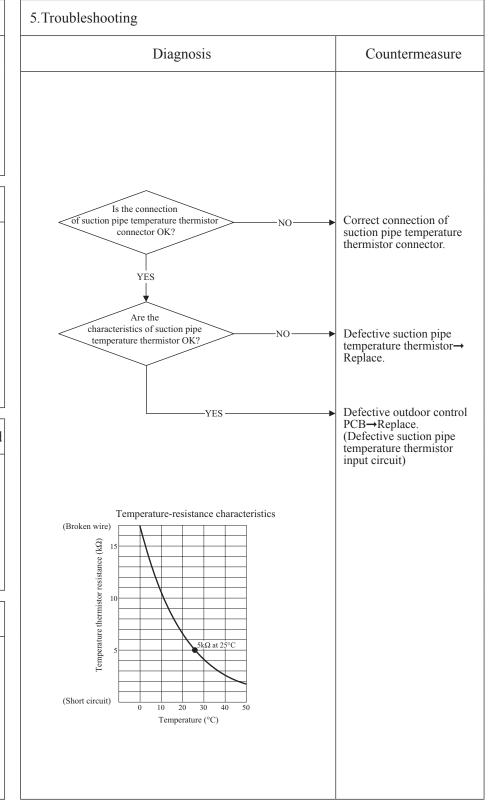
When the suction pipe temperature thermistor detects anomalously low temperature

3. Condition of Error displayed

If the temperature thermistor detects -50°C or lower for 5 seconds continuously within 10 minutes to 10 minutes 20 seconds after compressor ON, the compressor stops. When the compressor is restarted automatically after 3-minutes delay, if this anomaly ocuurs 3 times within 40 minute.

4. Presumable cause

- Defective suction pipe temperature thermistor connection
- Defective suction pipe temperature thermistor
- Defective outdoor control PCB



					<u> </u>
N		Indoor display	RUN light	TIMER light	Combont
	Error code	ilidool display	_	_	Content
	Remote controller: E54	Outdoor	Green LED	Red LED	
		control PCB	Keeps flashing	1 time flash	Low pressure sensor anomaly
		Outdoor	Yellow LED		Low pressure sensor anomary
		inverter PCB	Keeps flashing		
		miverter i CB	тесрь п	usining	

All models

2. Error detection method

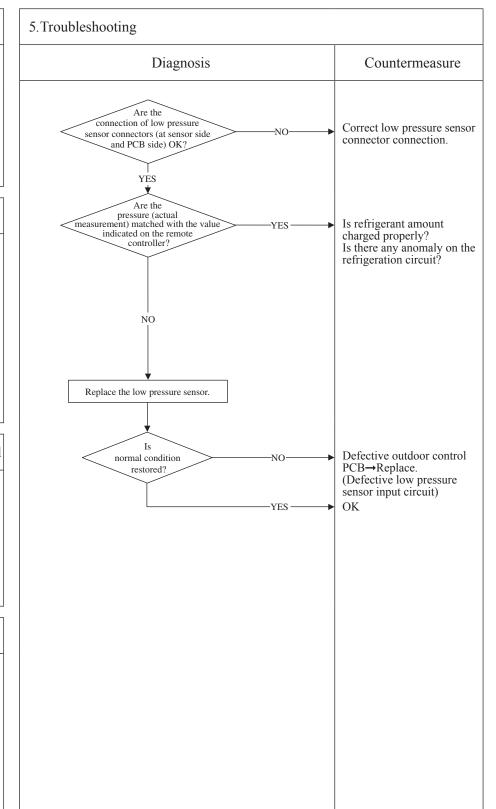
When anomalous voltage (pressure) is detected

3. Condition of Error displayed

If the pressure sensor detects 0V or lower and 3.49V or higher for 5 seconds continuously within 2 minutes to 2 minutes 20 seconds after compressor ON, the compressor stops. When the compressor is restarted automatically after 3-minuts delay, if this anomaly occurs 3 times within 40 minutes

4. Presumable cause

- Defective low pressure sensor connection
- Defective low pressure sensor
- Defective outdoor control PCB
- Improper amount of refrigerant
- Anomalous refrigeration circuit



1		Indoor display	RUN light	TIMER light
	Error code	ilidool display	7 times flash	ON
	Remote controller: E57	Outdoor	Green LED	Red LED
		control PCB	Keeps flashing	1 time flash
		Outdoor	Yellow	LED
		inverter PCB	Keeps fl	ashing

Content

Insufficient refrigerant amount or detection of service valve closure

1. Applicable model

All models

2. Error detection method

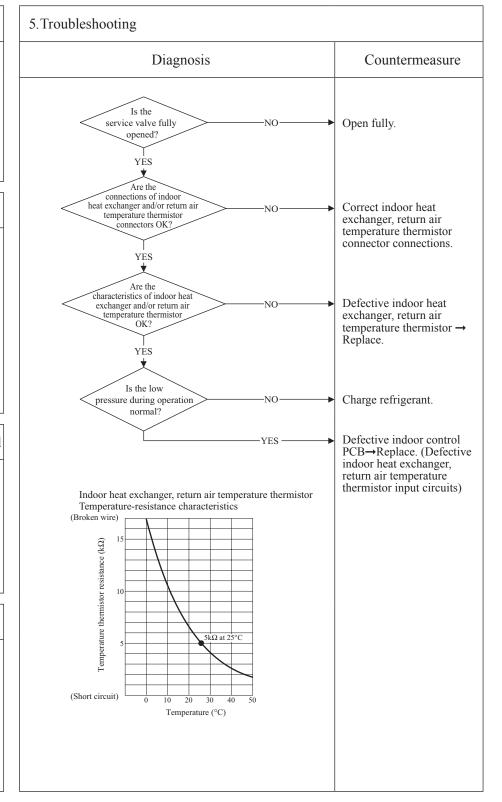
- Judge insufficient refrigerant amount by detecting the temperature differnce between indoor heat exchanger (ThI-R) and indoor return air (ThI-A).
- It detects at initial startup in cooling or dehumidifying mode after power ON.

3. Condition of Error displayed

Anomalous stop at initial detection

4. Presumable cause

- Defective indoor heat exchanger temperature thermistor
- Defective indoor return air temperature thermistor
- Defective indoor control PCB
- Insufficient refregerant amount



Note: Insufficient refrigerant amount preventive control makes compressor stopped, if it judges insufficient refrigerant amount by detecting the temperature difference between indoor heat exchanger (ThI-R) and return air temperature (ThI-A) for 1 minute after compressor ON in cooling or dehumidifying mode and for 9 minutes after compressor ON in heating mode. [in cooling mode: (ThI-A)-(ThI-R)>4degC, in heating mode: (ThI-R)-(ThI-A)<4degC]

				Θ
	Indoor display	RUN light	TIMER light	Ctt
Error code	muoor uispiay	_	_	Content
Remote controller: E59	Outdoor	Green LED	Red LED	
	control PCB	Keeps flashing	5 times flash	Compressor startup failure (1/2)
	Outdoor	Yellow LED		Compressor startup famare (1/2)
	inverter PCB	Stays OFF		

All models

2. Error detection method

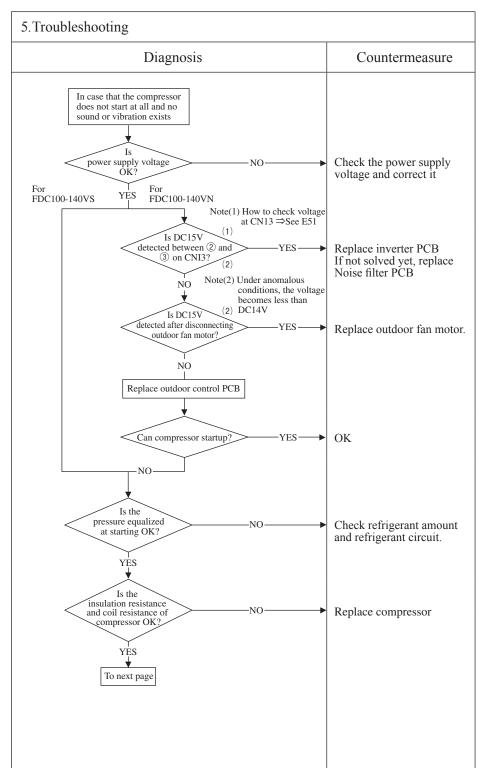
When it fails to change over to the operation for rotor position detection of compressor motor (If the compressor speed cannot increase 11Hz or higher)

3. Condition of Error displayed

If the compressor fails to startup for 20 times (10 patterns x2 times) continuously.

4. Presumable cause

- Faulty outdoor fan motor
- Faulty outdoor control PCB
- Faulty inverter PCB
- · Anomalous power supply voltage
- Insufficient or Excessive refrigerant amount
- Faulty component for refrigerant circuit
- Compressor anomaly (Motor or bearing)



Note: Insulation resistance

- institution resistance. The unit is left for long period without power supply or soon after installation, insulation resistance may decrease to several M Ω or lower due to the liquid refrigerant migrated in the refrigerant oil in compressor. If the electric leakage breaker is activated due to low insulation resistance, check followings.

 ① Check whether the insulation resistance can recover or not, after 6 hours has passed since power ON.
- (By energize the crankcase heater, liquid refrigerant migrated in the refrigerant oil in compressor can be evaporated)

 © Check whether the electric leakage breaker conforms to high-harmonic specifications
 (As INV PAC units has inverter, in order to prevent from improper operation, be sure to use the breaker of high-harmonic type)

	Tadaaa P. 1	RUN light	TIMER light		
Error code	Indoor display	-	_	Content	
Remote controller: E59	Outdoor control PCB	Green LED Keeps flashing	Red LED 5 times flash		(0.10)
	Outdoor	Yellow		- Compressor sta	artup failure (2/2)
	inverter PCB	Stays			
				•	
1.Applicable model	5.	Troubleshooti	ng		
All models			Diagnos	sis	Countermeasure
2.Error detection met	chod	After power inverter PC	Is the wer transistor module OK? YES TOFF, turn SW10-4 B ON and connect toker. Then power C	the	Replace inverter PCB
3. Condition of Error dis	played	again.	Is the ter output OK? eck by inverter checker)	Note(1) Several times restarting may recover it, because liquid refrigerant migrated in the compressor could be discharged from the compressor.	Replace inverter PCB
			Does it start?	> NO	Replace compressor
4.Presumable cause					

Note:			

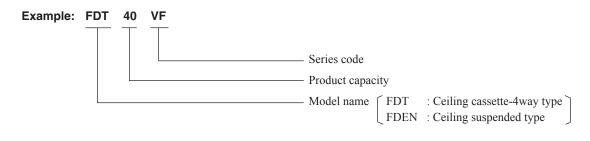
2. V MULTI SYSTEM

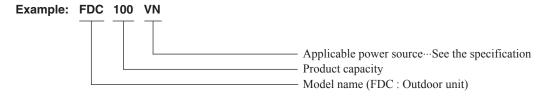
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2.1 GENERAL INFORMATION

2.1.1 How to read the model name





2.1.2 Table of models

Model Capacity	50	60	71	100	125
Ceiling cassette-4way type (FDT)	0	0	0	0	0
Ceiling suspended type (FDEN)	0	0	0	0	0
Outdoor unit to be combined (FDC)	FDC100VN FDC100VS (4 Horse Power)	FDC125VN FDC125VS (5 Horse Power)	FDC140VN FDC140VS (6 Horse Power)		FDC250VS (10 Horse Power)

2.1.3 Table of system combinations

Outdoor unit	Туре	Indoor unit assembly capacity	Branch pipe set (Optional)	
FDC100VN FDC100VS	Twin	50+50		
FDC125VN FDC125VS	TWIII	60+60 50+71	DIS-WA1	
FDC140VN	Twin	71+71		
FDC140VS	Triple 50+50+50		DIS-TA1	
	Twin	100+100	DIS-WB1	
	TWIII	71+125	DIS-WB1	
FDC200VS	Triple	71+71+71	DIS-TB1	
	Double Twin	50+50+50+50	DIS-WA1 x 2set DIS-WB1 x 1set	
	Twin	125+125	DIS-WB1	
	Triple	60+60+125	DIS-TB1	
FDC250VS		71+71+100		
	Double Twin	60+60+60+60	DIS-WA1 x 2set DIS-WB1 x 1set	

Notes(1) Always use the branch piping set (optional) at branches in the refrigerant piping.

(2) If wireless specifications are used, use 1 wireless indoor unit in combination with wired indoor units.

(3) The combinations except the above table forbids.

2.2 SPECIFICATIONS

(1) Indoor units

(a) Ceiling cassette-4way type (FDT)

Adapted to RoHS directive

Model		FDT5	50VF		
Item		Panel T-PSA-3BW-E			
Power source		220-240V~50H	z / 220V ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	5.0	5.4		
Sound Pressure Level	dB(A)	P-Hi: 39 Hi: 33	Me: 31 Lo: 30		
Exterior dimensions Height x Width x Depth	mm	Unit 246 × Panel 35 ×			
Exterior appearance (Munsell color)		1 1000101	Plaster White (6.8Y8.9/0.2) near equivalent		
Net weight	kg	UNIT 22 F	PANEL 5.5		
Heat exchanger		Louver fin & inner	r grooved tubing		
Air handling equipment Fan type & Q'ty		Turbo f	Turbo fan × 1		
Motor <starting method=""></starting>	W	50 < Direct	50 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 20 Hi: 18	P-Hi: 20 Hi: 18 Me: 16 Lo: 14		
External static pressure	Pa	0			
Outdoor air intake		Poss	Possible		
Air filter, Q'ty		Pocket plastic ne	Pocket plastic net × 1 (Washable)		
Shock & vibration absorber		Rubber sleeve	Rubber sleeve (for fan motor)		
Insulation (noise & heat)		Polyureth	ane form		
Remote controller		wired : RC-EX1A, RC-E5 (option)	wireless : RCN-T-36W-E (option)		
Room temperature control		Thermostat b	y electronics		
Safety equipment		Overload protecti Frost protection			
Installation data		Liquid line : o	φ 6.35 (1/4")		
Refrigerant piping size	mm	Gas line :	Gas line : ϕ 12.7 (1/2")		
Connecting method		Flare p	Flare piping		
Drain pump		Built-in Dr	rain pump		
Drain		Hose Connecta	able with VP25		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IPX	(O		
Standard Accessories		Mounting kit	, Drain hose		

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber.

 During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

Model FDT60VF			60VF			
Item		Panel T-PSA-3BW-E				
Power source		220-240V~50H	220-240V~50Hz / 220V~60Hz			
Operation data		Cooling	Heating			
Nominal capacity	kW	5.6	6.7			
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 33	Me: 31 Lo: 30			
Exterior dimensions Height x Width x Depth	mm	Unit 246 × Panel 35 ×				
Exterior appearance (Munsell color)		1	Plaster White (6.8Y8.9/0.2) near equivalent			
Net weight	kg	UNIT 24 P	PANEL 5.5			
Heat exchanger		Louver fin & inner	r grooved tubing			
Air handling equipment Fan type & Q'ty		Turbo f	Turbo fan × 1			
Motor <starting method=""></starting>	W	50 < Direct line start >				
Air flow (Standard)	CMM	P-Hi:28 Hi:18 Me:16 Lo:14				
External static pressure	Pa	C	0			
Outdoor air intake		Poss	Possible			
Air filter, Q'ty		Pocket plastic ne	Pocket plastic net × 1 (Washable)			
Shock & vibration absorber		Rubber sleeve	Rubber sleeve (for fan motor)			
Insulation (noise & heat)		Polyureth	ane form			
Remote controller		wired : RC-EX1A, RC-E5 (option)	wireless : RCN-T-36W-E (option)			
Room temperature control		Thermostat b	by electronics			
Safety equipment		Overload protecti Frost protectio				
Installation data		Liquid line : o	φ 6.35 (1/4")			
Refrigerant piping size	mm	Gas line :	Gas line : ϕ 12.7 (1/2")			
Connecting method		Flare p	Flare piping			
Drain pump		Built-in Dr	rain pump			
Drain		Hose Connecta	able with VP25			
Insulation for piping		Necessary (both L	iquid & Gas lines)			
IP code		IP)	IPXO			
Standard Accessories		Mounting kit	r, Drain hose			

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber.
 During operation these value are somewhat higher due to ambient temperature.

 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

Air flow (Standard) CMM P-Hi : 28 Hi : 21 Me : 19 External static pressure Pa 0 Outdoor air intake Possible	Heating 8.0 Lo:31		
Operation data Nominal capacity Sound Pressure Level dB(A) Exterior dimensions Height x Width x Depth Exterior appearance (Munsell color) Net weight Heat exchanger Air handling equipment Fan type & Q'ty Motor <starting method=""> Air flow (Standard) External static pressure CMM CMM CMM CMM CMM CMM CMM C</starting>	Heating 8.0 .o:31) lent		
Nominal capacity kW 7.1 Sound Pressure Level dB(A) P-Hi : 46 Hi : 35 Me : 33 Exterior dimensions Height x Width x Depth mm Panel 35 x 950 x 95 Exterior appearance (Munsell color) (6.8Y8.9/0.2) near equivalence	8.0 _o:31)		
Sound Pressure Level dB(A) P-Hi : 46 Hi : 35 Me : 33 Exterior dimensions Height x Width x Depth mm Panel 35 x 950 x 95 Exterior appearance (Munsell color) Residue (Munsell	_o:31) lent		
Exterior dimensions Height x Width x Depth mm Continue	lent		
Height x Width x Depth mm Panel 35 x 950 x 95 Exterior appearance (Munsell color) (6.8Y8.9/0.2) near equivalence (Munsell color) (6.8Y8.9/0.2) near equivalence (Munsell color) (6.8Y8.9/0.2) near equivalence (Munsell color) (Minsell color) lent		
(Munsell color) (6.8Y8.9/0.2) near equivalence Net weight kg UNIT 24 PANEL 5.5 Heat exchanger Louver fin & inner grooved Air handling equipment Turbo fan x 1 Fan type & Q'ty 50 < Direct line start			
Heat exchanger Air handling equipment Fan type & Q'ty Motor <starting method=""> W 50 < Direct line start Air flow (Standard) CMM External static pressure Outdoor air intake Air filter, Q'ty Shock & vibration absorber Louver fin & inner grooved Turbo fan × 1 Turbo fan × 1 Full 21 Me : 19 0 0 0 0 P-Hi : 28 Hi : 21 Me : 19 Possible Possible Air filter, Q'ty Rubber sleeve (for fan method)</starting>	tubing		
Air handling equipment Fan type & Q'ty Motor <starting method=""> W 50 < Direct line start Air flow (Standard) CMM P-Hi: 28 Hi: 21 Me: 19 External static pressure Pa Outdoor air intake Possible Air filter, Q'ty Pocket plastic net × 1 (Was Shock & vibration absorber</starting>	tubing		
Fan type & Q'ty Motor <starting method=""> W 50 < Direct line start: Air flow (Standard) CMM External static pressure Pa Outdoor air intake Air filter, Q'ty Shock & vibration absorber Pan type & Q'ty 50 < Direct line start: P-Hi: 28 Hi: 21 Me: 19 0 0 Outdoor air intake Possible Pocket plastic net × 1 (Was</starting>			
Air flow (Standard) CMM P-Hi : 28 Hi : 21 Me : 19 External static pressure Pa 0 Outdoor air intake Possible Air filter, Q'ty Pocket plastic net x 1 (Was Shock & vibration absorber Rubber sleeve (for fan m	Turbo fan × 1		
External static pressure Pa 0 Outdoor air intake Possible Air filter, Q'ty Pocket plastic net x 1 (Was Shock & vibration absorber Rubber sleeve (for fan m	50 < Direct line start >		
Outdoor air intake Possible Air filter, Q'ty Pocket plastic net × 1 (Was Shock & vibration absorber Rubber sleeve (for fan m	P-Hi:28 Hi:21 Me:19 Lo:17		
Air filter, Q'ty Pocket plastic net x 1 (Was Shock & vibration absorber Rubber sleeve (for fan m	0		
Shock & vibration absorber Rubber sleeve (for fan m	Possible		
· ·	Pocket plastic net × 1 (Washable)		
Insulation (noise & heat) Polyurethane form	otor)		
	Polyurethane form		
Remote controller wired : RC-EX1A, RC-E5 (option) wireless	RCN-T-36W-E (option)		
Room temperature control Thermostat by electron	ics		
Safety equipment Overload protection for far Frost protection thermo			
Installation data Liquid line : ϕ 9.52 (3/8	()		
Refrigerant piping size mm Gas line : φ15.88 (5/	Gas line : φ 15.88 (5/8")		
Connecting method Flare piping			
Drain pump Built-in Drain pump	1. 0		
Drain Hose Connectable with \			
Insulation for piping Necessary (both Liquid & Ga	P25		
IP code IPXO	·		
Standard Accessories Mounting kit, Drain ho	· · · · · · · · · · · · · · · · · · ·		

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6℃

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber. During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz. (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

Model FDT100VF			00VF		
Item		Panel T-PSA-3BW-E			
Power source		220-240V~50H	220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	10.0	11.2		
Sound Pressure Level	dB(A)	P-Hi:51 Hi:40	Me: 37 Lo: 35		
Exterior dimensions Height x Width x Depth	mm	Unit 298 × Panel 35 ×	- 10 11 - 10		
Exterior appearance (Munsell color)			Plaster White (6.8Y8.9/0.2) near equivalent		
Net weight	kg	UNIT 27 F	PANEL 5.5		
Heat exchanger		Louver fin & inne	r grooved tubing		
Air handling equipment Fan type & Q'ty		Turbo	Turbo fan × 1		
Motor <starting method=""></starting>	W	140 < Direc	140 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 37 Hi: 27	P-Hi: 37 Hi: 27 Me: 24 Lo: 20		
External static pressure	Pa		0		
Outdoor air intake		Pos	Possible		
Air filter, Q'ty		Pocket plastic ne	Pocket plastic net × 1 (Washable)		
Shock & vibration absorber		Rubber sleeve	Rubber sleeve (for fan motor)		
Insulation (noise & heat)		Polyureth	Polyurethane form		
Remote controller		wired: RC-EX1A, RC-E5 (option)	wireless : RCN-T-36W-E (option)		
Room temperature control		Thermostat b	by electronics		
Safety equipment		Overload protect Frost protection			
Installation data		Liquid line : q	9.52 (3/8")		
Refrigerant piping size	mm	Gas line : ¢	Gas line : φ 15.88 (5/8")		
Connecting method		Flare	Flare piping		
Drain pump		Built-in Dr	rain pump		
Drain		Hose Connecta	able with VP25		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IP)	KO		
Standard Accessories		Mounting kit	Mounting kit, Drain hose		

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6℃

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber.
- During operation these value are somewhat higher due to ambient temperature.

 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.

 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDT1:	25VF			
Item		Panel T-PSA-3BW-E				
Power source		220-240V~50H	220-240V~50Hz / 220V~60Hz			
Operation data		Cooling	Heating			
Nominal capacity	kW	12.5	14.0			
Sound Pressure Level	dB(A)	P-Hi: 51 Hi: 42	Me: 40 Lo: 37			
Exterior dimensions Height x Width x Depth	mm	Unit 298 × Panel 35 ×				
Exterior appearance (Munsell color)		1 10000	Plaster White (6.8Y8.9/0.2) near equivalent			
Net weight	kg	UNIT 27 P	PANEL 5.5			
Heat exchanger		Louver fin & inner	r grooved tubing			
Air handling equipment Fan type & Q'ty		Turbo f	Turbo fan × 1			
Motor <starting method=""></starting>	W	140 < Direct	140 < Direct line start >			
Air flow (Standard)	CMM	P-Hi: 37 Hi: 30	P-Hi: 37 Hi: 30 Me: 27 Lo: 23			
External static pressure	Pa	0	0			
Outdoor air intake		Poss	Possible			
Air filter, Q'ty		Pocket plastic ne	Pocket plastic net x 1 (Washable)			
Shock & vibration absorber		Rubber sleeve	Rubber sleeve (for fan motor)			
Insulation (noise & heat)		Polyureth	Polyurethane form			
Remote controller		wired : RC-EX1A, RC-E5 (option)	wireless : RCN-T-36W-E (option)			
Room temperature control		Thermostat b	y electronics			
Safety equipment		Overload protecti Frost protectic				
Installation data		Liquid line : q	<i>∮</i> 9.52 (3/8")			
Refrigerant piping size	mm	Gas line :	Gas line : ϕ 15.88 (5/8")			
Connecting method		Flare p	Flare piping			
Drain pump		Built-in Dr	ain pump			
Drain		Hose Connecta	able with VP25			
Insulation for piping		Necessary (both L	iquid & Gas lines)			
IP code		IPX	(O			
Standard Accessories		Mounting kit	, Drain hose			

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (3) Sound pressure level indicates the value in an anechoic chamber.
- During operation these value are somewhat higher due to ambient temperature.
- (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz. (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

(b) Ceiling suspended type (FDEN)

Adapted to RoHS directive

	Model	FDEN50VF		
Item				
Power source		220-240V~50H	z / 220V ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	5.0	5.4	
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 39	Me:38 Lo:37	
Exterior dimensions Height x Width x Depth	mm	210 × 1,0	70 × 690	
Exterior appearance (Munsell color)		Plaster (6.8Y8.9/0.2) n		
Net weight	kg	29	8	
Heat exchanger		Louver fin & inne	r grooved tubing	
Air handling equipment Fan type & Q'ty		Centrifuga	Centrifugal fan × 2	
Motor <starting method=""></starting>	W	25 < Direct line start >		
Air flow (Standard)	CMM	P-Hi:11 Hi:10 Me:9 Lo:7		
External static pressure	Pa	0		
Outdoor air intake		Not possible		
Air filter, Q'ty		Pocket plastic ne	t × 2 (Washable)	
Shock & vibration absorber		Rubber sleeve	(for fan motor)	
Insulation (noise & heat)		Polyureth	ane form	
Remote controller		wired : RC-EX1A, RC-E5 (option	n) wireless : RCN-E1R (option)	
Room temperature control		Thermostat b	y electronics	
Safety equipment		Internal thermos Frost protection		
Installation data		Liquid line : a	<i>∮</i> 6.35 (1/4")	
Refrigerant piping size	mm	Gas line : φ 12.7 (1/2")		
Connecting method		Flare piping		
Drain pump		_		
Drain		Hose Connectable with VP20		
Insulation for piping		Necessary (both Liquid & Gas lines)		
IP code		IP>	(O	
Standard Accessories		Mounting kit	, Drain hose	

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20)°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
- (2) This packaged air-conditioner is manufactured and tested in comormity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber.
 During operation these value are somewhat higher due to ambient temperature.

 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDEN60VF			
Item					
Power source		220-240V~50Hz	220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	5.6	6.7		
Sound Pressure Level	dB(A)	P-Hi : 48 Hi : 41	Me: 39 Lo: 38		
Exterior dimensions Height x Width x Depth	mm	210 × 1,33	20 × 690		
Exterior appearance (Munsell color)		Plaster (6.8Y8.9/0.2) no			
Net weight	kg	37	7		
Heat exchanger		Louver fin & inner	r grooved tubing		
Air handling equipment Fan type & Q'ty		Centrifuga	Centrifugal fan × 4		
Motor <starting method=""></starting>	W	20 × 2 < Direc	ct line start >		
Air flow (Standard)	CMM	P-Hi: 20 Hi: 16	P-Hi: 20 Hi: 16 Me: 14 Lo: 12		
External static pressure	Pa	0	0		
Outdoor air intake		Not po	ssible		
Air filter, Q'ty		Pocket plastic ne	t × 2 (Washable)		
Shock & vibration absorber		Rubber sleeve	(for fan motor)		
Insulation (noise & heat)		Polyuretha	ane form		
Remote controller		wired : RC-EX1A, RC-E5 (option	n) wireless : RCN-E1R (option)		
Room temperature control		Thermostat by	y electronics		
Safety equipment		Internal thermost Frost protection			
Installation data	mm	Liquid line : q			
Refrigerant piping size		Gas line : q			
Connecting method		Flare p	piping		
Drain pump		-	-		
Drain		Hose Connecta	able with VP20		
Insulation for piping			Necessary (both Liquid & Gas lines)		
IP code		IPX	IPXO		
Standard Accessories		Mounting kit,	, Drain hose		

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO. (3) Sound pressure level indicates the value in an anechoic chamber.
- During operation these value are somewhat higher due to ambient temperature.

 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.

 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

Model		FDEN71VF			
Item FDEN/TVF		/ IVF			
Power source		220-240V~50H	z / 220V ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	7.1	8.0		
Sound Pressure Level	dB(A)	P-Hi: 50 Hi: 41	Me: 39 Lo: 38		
Exterior dimensions Height x Width x Depth	mm	210 × 1,3	20 × 690		
Exterior appearance (Munsell color)		Plaster (6.8Y8.9/0.2) n	111111		
Net weight	kg	37	7		
Heat exchanger		Louver fin & inner	r grooved tubing		
Air handling equipment Fan type & Q'ty		Centrifuga	Centrifugal fan × 4		
Motor <starting method=""></starting>	W	20 × 2 < Direc	20 × 2 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 20 Hi: 16	P-Hi: 20 Hi: 16 Me: 14 Lo: 12		
External static pressure	Pa	0			
Outdoor air intake		Not possible			
Air filter, Q'ty		Pocket plastic ne	Pocket plastic net × 2 (Washable)		
Shock & vibration absorber		Rubber sleeve	(for fan motor)		
Insulation (noise & heat)		Polyureth	ane form		
Remote controller		wired : RC-EX1A, RC-E5 (option	n) wireless : RCN-E1R (option)		
Room temperature control		Thermostat b	y electronics		
Safety equipment		Internal thermost Frost protectio			
Installation data		Liquid line : ϕ	9.52 (3/8")		
Refrigerant piping size	mm	Gas line : ϕ 15.88 (5/8")			
Connecting method		Flare p	piping		
Drain pump			-		
Drain		Hose Connecta	able with VP20		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IPX	IPXO		
Standard Accessories		Mounting kit	, Drain hose		

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber.

 During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

Model		EDEN	100//5		
Item		FDEN100VF			
Power source		220-240V~50H	220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	10.0	11.2		
Sound Pressure Level	dB(A)	P-Hi: 46 Hi: 44	Me: 41 Lo: 39		
Exterior dimensions Height x Width x Depth	mm	250 × 1,6	20 × 690		
Exterior appearance (Munsell color)		Plaster (6.8Y8.9/0.2) n			
Net weight	kg	49	9		
Heat exchanger		Louver fin & inner	r grooved tubing		
Air handling equipment Fan type & Q'ty		Centrifuga	Centrifugal fan × 4		
Motor <starting method=""></starting>	W	30 × 2 < Direc	30 × 2 < Direct line start >		
Air flow (Standard)	CMM	P-Hi: 28 Hi: 26	P-Hi:28 Hi:26 Me:23 Lo:21		
External static pressure	Pa	0	0		
Outdoor air intake		Not po	ssible		
Air filter, Q'ty		Pocket plastic ne	t × 2 (Washable)		
Shock & vibration absorber		Rubber sleeve	(for fan motor)		
Insulation (noise & heat)		Polyureth	ane form		
Remote controller		wired : RC-EX1A, RC-E5 (option	n) wireless : RCN-E1R (option)		
Room temperature control		Thermostat b	y electronics		
Safety equipment		Internal thermosi Frost protectio			
Installation data Refrigerant piping size	mm	Liquid line : ∉ Gas line : ∉	. ,		
Connecting method			Flare piping		
Drain pump			-		
Drain		Hose Connecta	able with VP20		
Insulation for piping		Necessary (both L	Necessary (both Liquid & Gas lines)		
IP code			IPXO		
Standard Accessories		Mounting kit	, Drain hose		

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber.

 During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

	Model	FDEN125VF			
Item					
Power source		220-240V~50H	220-240V~50Hz / 220V~60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	12.5	14.0		
Sound Pressure Level	dB(A)	P-Hi: 50 Hi: 46	Me: 44 Lo: 43		
Exterior dimensions Height x Width x Depth	mm	250 × 1,6.	20 × 690		
Exterior appearance (Munsell color)		Plaster (6.8Y8.9/0.2) n			
Net weight	kg	49	9		
Heat exchanger		Louver fin & inner	r grooved tubing		
Air handling equipment Fan type & Q'ty		Centrifuga	Centrifugal fan × 4		
Motor <starting method=""></starting>	W	40 × 2 < Direc	ct line start >		
Air flow (Standard)	CMM	P-Hi: 32 Hi: 29	P-Hi: 32 Hi: 29 Me: 26 Lo: 23		
External static pressure	Pa	0			
Outdoor air intake		Not po	ssible		
Air filter, Q'ty		Pocket plastic ne	et × 2 (Washable)		
Shock & vibration absorber		Rubber sleeve	(for fan motor)		
Insulation (noise & heat)		Polyureth	ane form		
Remote controller		wired : RC-EX1A, RC-E5 (option	n) wireless : RCN-E1R (option)		
Room temperature control		Thermostat b	y electronics		
Safety equipment		Internal thermost Frost protection			
Installation data		Liquid line : ϕ	9.52 (3/8")		
Refrigerant piping size	mm	Gas line : ϕ	15.88 (5/8")		
Connecting method		Flare p	piping		
Drain pump		_	-		
Drain		Hose Connecta	able with VP20		
Insulation for piping		Necessary (both L	Necessary (both Liquid & Gas lines)		
IP code		IPX	IPXO		
Standard Accessories		Mounting kit	, Drain hose		

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber.

 During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.
 (5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

(2) Outdoor units Adapted to RoHS directive

	Model	EDO4	00/4
Item		FDC10	UUVN
Power source		220-240V~50Hz / 220V~60Hz	
Operation data		Cooling Heating	
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.)~12.5 (Max.)]
Sound Pressure Level	dB(A)	49	9
Exterior dimensions Height x Width x Depth	mm	845×97	0×370
Exterior appearance (Munsell color)		Stucco (4.2Y7.5/1.1) ne	
Net weight	kg	81	1
Refrigerant equipment Compressor type & Q'ty		RMT5126N	MDE2 × 1
Starting method		Direct lin	ne start
Refrigerant oil	l	0.9 M-I	MA68
Heat exchanger		Straight fin & inner grooved tubing	
Refrigerant control		Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Propeller fan × 1	
Motor <starting method=""></starting>	W	86 < Direct l	line start >
Air flow (Standard)	CMM	Cooling: 75,	Heating: 73
External static pressure	Pa	0	
Shock & vibration absorber		Rubber sleeve (fo	or Compressor)
Electric heater	W	20 (Crank ca	ase heater)
Safety equipment		Internal thermost Abnormal discharge tei	
Installation data	mm	Liquid line : ϕ	9.52 (3/8")
Refrigerant piping size	111111	Gas line $:\phi$	15.88 (5/8")
Connecting method		Flare p	piping
Refrigerant line (one way) length		Max.50m	
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. th	he amount for the piping of : 30m)
Drain		Holes size ϕ	20 x 3pcs
Insulation for piping		Necessary (both Li	iquid & Gas lines)
IP code		IP2	24
Standard Accessories		Edgi	ing

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber.
 During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.

	Model	FDC100	ovs	
Item				
Power source		380-415V 3N ~ 50Hz	/ 380V 3N ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	10.0 [4.0 (Min.)~11.2 (Max.)]	11.2 [4.0 (Min.)~12.5 (Max.)]	
Sound Pressure Level	dB(A)	49	49	
Exterior dimensions Height x Width x Depth	mm	845 × 970	845 × 970 × 370	
Exterior appearance (Munsell color)		Stucco White (4.2Y7.5/1.1) near equivalent		
Net weight	kg	83		
Refrigerant equipment Compressor type & Q'ty		RMT5126MDE3 × 1		
Starting method		Direct line start		
Refrigerant oil	l	0.9 M-MA68		
Heat exchanger		Straight fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Propeller fan × 1		
Motor <starting method=""></starting>	W	86 < Direct lir	ne start >	
Air flow (Standard)	CMM	Cooling: 75, Heating: 73		
External static pressure	Pa	0		
Shock & vibration absorber		Rubber sleeve (for Compressor)		
Electric heater	W	20 (Crank case heater)		
Safety equipment		Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data		Liquid line : ϕ 9.52 (3/8")		
Refrigerant piping size	mm	Gas line : φ 15.88 (5/8")		
Connecting method		Flare piping		
Refrigerant line (one way) length		Max.50m		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m)		
Drain		Holes size ϕ 20 x 3pcs		
Insulation for piping		1	Necessary (both Liquid & Gas lines)	
IP code		IP24		
Standard Accessories		Edain	Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

(2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound pressure level indicates the value in an anechoic chamber.
During operation these value are somewhat higher due to ambient temperature.
(4) The operation data indicates when the air-conditioner is operated at 400V50Hz or 380V60Hz.

Model		FDC125VN		
Operation data		Cooling	Heating	
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]	
Sound Pressure Level	dB(A)	Cooling : 50	Heating: 51	
Exterior dimensions Height x Width x Depth	mm	845 × 97	845 × 970 × 370	
Exterior appearance (Munsell color)		Stucco White (4.2Y7.5/1.1) near equivalent		
Net weight	kg	81		
Refrigerant equipment Compressor type & Q'ty		RMT5126MDE2 × 1		
Starting method		Direct line start		
Refrigerant oil	l	0.9 M-MA68		
Heat exchanger		Straight fin & inner grooved tubing		
Refrigerant control		Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Propeller fan × 1		
Motor <starting method=""></starting>	W	86 < Direct line start >		
Air flow (Standard)	CMM	Cooling: 75, Heating: 73		
External static pressure	Pa	0		
Shock & vibration absorber		Rubber sleeve (for Compressor)		
Electric heater	W	20 (Crank ca	20 (Crank case heater)	
Safety equipment		Internal thermostat for fan motor Abnormal discharge temperature protection.		
Installation data	mm	Liquid line : ϕ	9.52 (3/8")	
Refrigerant piping size	111111	Gas line $:\phi$	15.88 (5/8")	
Connecting method		Flare p	Flare piping	
Refrigerant line (one way) length		Max.50m		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154	
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. ti	R410A 3.8kg in outdoor unit (incl. the amount for the piping of : 30m)	
Drain		Holes size ϕ	Holes size ϕ 20 x 3pcs	
Insulation for piping		Necessary (both Li	Necessary (both Liquid & Gas lines)	
IP code		IP2	IP24	
Standard Accessories		Edgi	ing	

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20	°C	7°C	6°C

- (2) This packaged air-conditioner is manufactured and tested in conformity with the ISO.
 (3) Sound pressure level indicates the value in an anechoic chamber.
 During operation these value are somewhat higher due to ambient temperature.
 (4) The operation data indicates when the air-conditioner is operated at 230V50Hz or 220V60Hz.

Model		FDC12	25VS		
Item					
Power source		380-415V 3N~50Hz / 380V 3N~60Hz			
Operation data		Cooling	Heating		
Nominal capacity	kW	12.5 [5.0 (Min.)~14.0 (Max.)]	14.0 [4.0 (Min.)~16.0 (Max.)]		
Sound Pressure Level	dB(A)	Cooling: 50 Heating: 51			
Exterior dimensions Height x Width x Depth	mm	845 × 97	0 × 370		
Exterior appearance (Munsell color)		Stucco (4.2Y7.5/1.1) ne			
Net weight	kg	83	3		
Refrigerant equipment Compressor type & Q'ty		RMT5126N	MDE3 × 1		
Starting method		Direct lir	ne start		
Refrigerant oil	l	0.9 M-l	MA68		
Heat exchanger		Straight fin & inner grooved tubing			
Refrigerant control		Electronic expansion valve			
Air handling equipment Fan type & Q'ty		Propeller fan × 1			
Motor <starting method=""></starting>	W	86 < Direct	line start >		
Air flow (Standard)	CMM	Cooling: 75,	Heating: 73		
External static pressure	Pa	0			
Shock & vibration absorber		Rubber sleeve (fo	or Compressor)		
Electric heater	W	20 (Crank ca	ase heater)		
Safety equipment		Internal thermost Abnormal discharge tei			
Installation data		Liquid line : ϕ	9.52 (3/8")		
Refrigerant piping size	mm	Gas line $:\phi$	15.88 (5/8")		
Connecting method		Flare p	piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154		
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. ti	he amount for the piping of : 30m)		
Drain		Holes size ϕ	620 x 3pcs		
Insulation for piping		Necessary (both Li	iquid & Gas lines)		
IP code		IP2	24		
Standard Accessories		Edgi	ing		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

Model		FDC140	DVN		
Item		FDC 140VN			
Power source		220-240V~50Hz /	/ 220V ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]		
Sound Pressure Level	dB(A)	51			
Exterior dimensions Height x Width x Depth	mm	845 × 970	845 × 970 × 370		
Exterior appearance (Munsell color)		Stucco W (4.2Y7.5/1.1) nea			
Net weight	kg	81			
Refrigerant equipment Compressor type & Q'ty		RMT5126MI	DE2 × 1		
Starting method		Direct line	start		
Refrigerant oil	l	0.9 M-M	A68		
Heat exchanger		Straight fin & inner o	grooved tubing		
Refrigerant control		Electronic expa	nsion valve		
Air handling equipment Fan type & Q'ty		Propeller fan × 1			
Motor <starting method=""></starting>	W	86 < Direct lir	ne start >		
Air flow (Standard)	CMM	Cooling: 75, H	eating: 73		
External static pressure	Pa	0			
Shock & vibration absorber		Rubber sleeve (for	Compressor)		
Electric heater	W	20 (Crank cas	se heater)		
Safety equipment		Internal thermostal Abnormal discharge tem			
Installation data	mm	Liquid line : φ9	0.52 (3/8")		
Refrigerant piping size	111111	Gas line : φ1	5.88 (5/8")		
Connecting method		Flare pip	ping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154 and 155		
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. the	e amount for the piping of : 30m)		
Drain		Holes size φ 2	20 x 3pcs		
Insulation for piping		Necessary (both Liq	uid & Gas lines)		
IP code		IP24	1		
Standard Accessories		Edgin	ng		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

Model		FDC14	40VS		
Item		FDC 140V3			
Power source		380-415V 3N ~ 50Hz	z / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	14.0 [5.0 (Min.)~14.5 (Max.)]	16.0 [4.0 (Min.) ~ 16.5 (Max.)]		
Sound Pressure Level	dB(A)	51	1		
Exterior dimensions Height x Width x Depth	mm	845 × 970	0 × 370		
Exterior appearance (Munsell color)		Stucco (4.2Y7.5/1.1) ne			
Net weight	kg	83	3		
Refrigerant equipment Compressor type & Q'ty		RMT5126N	MDE3 × 1		
Starting method		Direct lin	ne start		
Refrigerant oil	l	0.9 M-N	MA68		
Heat exchanger		Straight fin & inner	Straight fin & inner grooved tubing		
Refrigerant control		Electronic exp	pansion valve		
Air handling equipment Fan type & Q'ty		Propeller	fan × 1		
Motor <starting method=""></starting>	W	86 < Direct I	line start >		
Air flow (Standard)	CMM	Cooling: 75, I	Heating: 73		
External static pressure	Pa	0			
Shock & vibration absorber		Rubber sleeve (fo	or Compressor)		
Electric heater	W	20 (Crank ca	ase heater)		
Safety equipment		Internal thermost Abnormal discharge ter			
Installation data		Liquid line : ϕ	9.52 (3/8")		
Refrigerant piping size	mm	Gas line : φ	15.88 (5/8")		
Connecting method		Flare p	piping		
Refrigerant line (one way) length		Max.50m			
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154 and 155		
Refrigerant Quantity		R410A 3.8kg in outdoor unit (incl. th	he amount for the piping of : 30m)		
Drain		Holes size ϕ			
nsulation for piping		Necessary (both Li	iquid & Gas lines)		
P code		IP2	24		
Standard Accessories		Edai	Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB WB		DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

Model		ED000	201/0	
Item		FDC200VS		
Power source		380-415V 3N ∼50Hz	z / 380V 3N ~ 60Hz	
Operation data		Cooling	Heating	
Nominal capacity	kW	20.0 [7.0 (Min.)~22.4 (Max.)]	22.4 [7.6 (Min.)~25.0 (Max.)]	
Sound Pressure Level	dB(A)	57	,	
Exterior dimensions Height x Width x Depth	mm	1,300 × 97	70 × 370	
Exterior appearance (Munsell color)		Stucco (4.2Y7.5/1.1) ne		
Net weight	kg	122	2	
Refrigerant equipment Compressor type & Q'ty		GTC5150N	D70K × 1	
Starting method		Direct lin	ne start	
Refrigerant oil	l	1.45 M-N	MA32R	
Heat exchanger		Straight fin & inner	r grooved tubing	
Refrigerant control		Electronic exp	ansion valve	
Air handling equipment Fan type & Q'ty		Propeller	fan × 2	
Motor <starting method=""></starting>	W	86 × 2 < Direc	et line start >	
Air flow (Standard)	CMM	Cooling: 150, I	Heating : 145	
External static pressure	Pa	0		
Shock & vibration absorber		Rubber sleeve (fo	or Compressor)	
Electric heater	W	33 (Crank ca	ase heater)	
Safety equipment		Internal thermost Abnormal discharge ter		
nstallation data	mm	Liquid line : ϕ	9.52 (3/8")	
Refrigerant piping size	mm	Gas line $:\phi$	22.22 (7/8")	
Connecting method		Liquid : Flare / (Gas : Brazing	
Refrigerant line (one way) length		Max.70m		
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	See page 154 and 155	
Refrigerant Quantity		R410A 5.4kg (Pre-charged up	to the piping length of 30m)	
Drain		Holes size ϕ	20 × 3pcs	
nsulation for piping		Necessary (both Li	quid & Gas lines)	
P code		IP2	24	
Standard Accessories		Connecting p	ipe, Edging	

Notes (1) The data are measured at the following conditions.

Item	Indoor air t	emperature	Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

Model		FDC2	50VS		
Item		FDG2			
Power source		380-415V 3N ~ 50Hz	z / 380V 3N ~ 60Hz		
Operation data		Cooling	Heating		
Nominal capacity	kW	25.0 [10.0 (Min.) ~ 28.0 (Max.)]	28.0 [9.5 (Min.)~31.5 (Max.)]		
Sound Pressure Level	dB(A)	Cooling: 57	Heating: 58		
Exterior dimensions Height x Width x Depth	mm	1,505 × 9	70 × 370		
Exterior appearance (Munsell color)		Stucco (4.2Y7.5/1.1) no			
Net weight	kg	14	10		
Refrigerant equipment Compressor type & Q'ty		GTC5150N	ND70K × 1		
Starting method		Direct lir	ne start		
Refrigerant oil	l	1.45 M-I	MA32R		
Heat exchanger		Straight fin & inne	er grooved tubing		
Refrigerant control		Electronic exp	Electronic expansion valve		
Air handling equipment Fan type & Q'ty		Propeller	Propeller fan × 2		
Motor <starting method=""></starting>	W	86 × 2 < Direc	ct line start >		
Air flow (Standard)	CMM	Cooling: 150,	Heating: 145		
External static pressure	Pa	0)		
Shock & vibration absorber		Rubber sleeve (fo	or Compressor)		
Electric heater	W	33 (Crank ca	ase heater)		
Safety equipment		Internal thermost Abnormal discharge te			
Installation data	mm	Liquid line : ϕ	12.7 (1/2")		
Refrigerant piping size	mm	Gas line $:\phi$	22.22 (7/8")		
Connecting method		Liquid : Flare /	Gas : Brazing		
Refrigerant line (one way) length		Max.70m			
Vertical height difference between		Max.30m (Outdoor unit is higher)	See page 154 and 155		
outdoor unit and indoor unit		Max.15m (Outdoor unit is lower)			
Refrigerant Quantity		R410A 7.2kg (Pre-charged up	, , , ,		
Drain		Holes size ¢	•		
Insulation for piping		Necessary (both L	iquid & Gas lines)		
IP code		IP2	24		
Standard Accessories		Connecting p	pipe, Edging		

Notes (1) The data are measured at the following conditions.

Item	Indoor air temperature		Outdoor air	temperature
Operation	DB	WB	DB	WB
Cooling	27°C	19°C	35°C	24°C
Heating	20°C		7°C	6°C

(3) Operation chart

The V Multi is a system that allows for different models and capacities of indoor units to be connected so the individual operating characteristics of the indoor and outdoor are provided. Use the procedure shown in Item (c) to calculate the combined operating characteristics.

(a) Operating characteristic of outdoor unit

(220-240V 50Hz/220V 60Hz)

Item	Model	FDC100VN	FDC125VN	FDC140VN
Cooling power consumption	kW	2.62/2.62	3.91/3.91	4.51/4.51
Heating power consumption	K VV	2.60/2.60	3.63/3.63	4.40/4.40
Cooling running current		11.7/12.3	17.3/18.2	20.4/21.4
Heating running current	A	11.6/12.2	16.2/16.9	19.5/20.4
Inrush current (L.R.A) < Max. running current>	A		5 <24>	

(380-415V 50Hz/380V 60Hz)

Item	Model	FDC100VS	FDC125VS	FDC140VS
Cooling power consumption	kW	2.62/2.62	3.91/3.91	4.51/4.51
Heating power consumption	K VV	2.60/2.60	3.63/3.63	4.40/4.40
Cooling running current	Α.	3.8/4.0	5.5/5.9	6.5/6.9
Heating running current	A	3.8/4.0	5.1/5.5	6.3/7.0
Inrush current (L.R.A) <max. current="" running=""></max.>	A		5 <15>	

(380-415V 50Hz/380V 60Hz)

ltem Model		FDC200VS	FDC250VS
Cooling power consumption	1-337	6.34/6.34	8.71/8.71
Heating power consumption	kW	6.20/6.20	7.75/7.75
Cooling running current		9.1/9.1	12.7/12.7
Heating running current	A	9.0/9.0	11.4/11.4
Inrush current (L.R.A) <max. current="" running=""></max.>	A	5 <19>	5 <22>

Note(1) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

(b) Operating characteristic of indoor unit

FDT Series (220-240V 50Hz/220V 60Hz)

Model		FDT50VF	FDT60VF	FDT71VF	FDT100VF	FDT125VF
Cooling power consumption	kW	0.04-0.04/0.04	0.07-0.07/0.07	0.08-0.08/0.08	0.15-0.	15/0.15
Heating power consumption	KW	0.04-0.04/0.04	0.07-0.07/0.07	0.08-0.08/0.08	0.15-0.15/0.15	
Cooling running current	_	0.20-0.19/0.20	0.35-0.32/0.35	0.40-0.37/0.40	0.76-0.	69/0.76
Heating running current	A	0.20-0.19/0.20	0.35-0.32/0.35	0.40-0.37/0.40	0.76-0.0	69/0.76

FDEN Series (220-240V 50Hz/220V 60Hz)

Model		FDEN50VF	FDEN60VF	FDEN71VF	FDEN100VF	FDEN125VF
Cooling power consumption	kW	0.05-0.06/0.06	0.10-0.11/0.11	0.11-0.12/0.14	0.14-0.16/0.16	0.16-0.18/0.20
Heating power consumption	K VV	0.05-0.06/0.06	0.09-0.10/0.10	0.10-0.11/0.13	0.13-0.15/0.15	0.15-0.17/0.18
Cooling running current		0.25-0.26/0.29	0.46-0.48/0.50	0.50-0.53/0.67	0.65-0.67/0.77	0.77-0.78/0.91
Heating running current	A	0.23-0.25/0.28	0.42-0.44/0.46	0.46-0.48/0.63	0.59-0.63/0.70	0.70-0.72/0.80

Notes(1) This packaged air-conditioner is manufactured and tested in conformity with the following standard. ISO-T1 "UNITARY AIR-CONDITIONERS"

⁽²⁾ The values shown in the above table are common to both cooling and heating operations.

(c) Calculation of total operation characteristics

Since the operation characteristics of V Multi system depend on combination of indoor unit, calculate the total operation characteristics of the system by using the formulas below according to speciations of each indoor unit or outdoor unit.

1) 1 Phase models

a) Total power consumption

Total power consumption (kW) = Power consumption of outdoor unit + \sum (Power consumption of indoor unit)

b) Total running current

Total running current (A) = Running current of outdoor unit + \sum (Running current of indoor unit)

c) Total power factor

Total power factor (%) = [Total power consumption (W) / Total running current (A) \times Power source] \times 100 Total operation characteristics = Operation characteristic value of outdoor unit + Operation characteristic value of indoor unit

[Example]

(Conditions) Operation Voltage Indoor unit: 220 V, 50 Hz

Outdoor unit: 220 V, 50 Hz

Operation mode Cooling and Heating

Unit----- Outdoor unit: FDC140VN \times 1 unit

Indoor unit: $FDT71VF \times 2$ units

Operation characteristics of each unit

(Cooling/Heating)

Item Model	FDC140VN	FDT71VF
Power consumption (kW)	4.51/4.40	0.08/0.08
Running current (A)	20.4/19.5	0.40/0.40

① Total power consumption (kW)

(Cooling)
$$4.51 + (0.08 \times 2) = 4.67$$

(Heating)
$$4.40 + (0.08 \times 2) = 4.56$$

2 Total running current (A)

(Cooling)
$$20.4 + (0.40 \times 2) = 21.2$$

(Heating)
$$19.5 + (0.40 \times 2) = 20.3$$

3 Total power factor (%)

(Cooling)
$$\frac{4.67 \times 1000}{21.2 \times 220} \times 100 = 99 \%$$

(Heating)
$$\frac{4.56 \times 1000}{20.3 \times 220} \times 100 = 99 \%$$

2) 3 Phase models

a) Total power consumption

Total power consumption (kW) = Power consumption of outdoor unit + \sum (Power consumption of indoor unit)

b) Total running current

Total running current (A) = Running current of outdoor unit + $[\Sigma (Running current of indoor unit) \times 1/3]$

c) Total power factor

Total power factor (%) = [Total power consumption (W) / $\sqrt{3} \times \text{Total running current (A)} \times \text{Power source}] \times 100$

Total operation characteristics = Operation characteristic value of outdoor unit + Operation characteristic value of indoor unit

[Example]

(Conditions) Operation Voltage Indoor unit: 220 V, 50 Hz

Outdoor unit: 380 V, 50 Hz

Operation mode Cooling and Heating

Unit----- Outdoor unit: FDC200VS × 1 unit

Indoor unit: FDT71VF × 1 unit, FDT125VF × 1 unit

Operation characteristics of each unit

(Cooling/Heating)

Item Model	FDC200VS	FDT71VF	FDT125VF
Power consumption (kW)	6.34/6.20	0.08/0.08	0.15/0.15
Running current (A)	9.1/9.0	0.40/0.40	0.76/0.76

① Total power consumption (kW)

(Cooling) 6.34 + 0.08 + 0.15 = 6.57 (kW)

(Heating) 6.20 + 0.08 + 0.15 = 6.43 (kW)

② Total running current (A)

(Cooling)
$$9.1 + \left[(0.40 + 0.76) \times \frac{1}{2} \right] = 9.5$$
 (A)

(Cooling)
$$9.1 + \left[(0.40 + 0.76) \times \frac{1}{3}) \right] = 9.5 \text{ (A)}$$

(Heating) $9.0 + \left[(0.40 + 0.76) \times \frac{1}{3}) \right] = 9.4 \text{ (A)}$

3 Total power factor (%)

(Cooling)
$$\frac{6.57 \times 1000}{\sqrt{3} \times 9.5 \times 380} \times 100 = 99\%$$

(Cooling)
$$\frac{6.57 \times 1000}{\sqrt{3} \times 9.5 \times 380} \times 100 = 99 \%$$
(Heating)
$$\frac{6.43 \times 1000}{\sqrt{3} \times 9.4 \times 380} \times 100 = 99 \%$$

2.3 EX	CTERIOR DIMENSIONS			
(1)	Indoor units			
(a) Ceiling cassette-4way type (FDT)	See	page	93
(b) Ceiling suspended type (FDEN)	See	page	96
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3. OPTION PARTS

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3.1 WIRELES KIT

3.1.1 FDT Series (RCN-T-36W-E)

⚠ WARNING

- Fasten the wiring to the terminal securely and hold the cable securely so as not to apply
 unexpected stress on the terminal.
 Loose connection or hold will cause abnormal heat generation or fire.
- Make sure the power supply is turned off when electric wiring work.
 Otherwise, electric shock, malfunction and improper running may occur

0 0

⚠ CAUTION

- DO NOT install the wireless kit at the following places in order to avoid malfunction.
- (1) Places exposed to direct sunlight (2) Places near heat devices
- (3) High humidity places
- (4) Hot surface or cold surface enough to

- (4) Hot surface or cold surface enough to generate condensation
 (5) Places exposed to oil mist or steam directly
 (6) Uneven surface
 (7) Places affected by the direct airflow of the AC unit.
- (8) Places where the receiver is influenced by the fluorescent lamp (especially inverter type) or sunlight. (9) Places where the receiver is affected by infrared rays of any other communication
- (10)Places where some object may obstruct the communication with the remote controller

 DO NOT leave the wireless kit without the cover. In case the cover needs to be detached, protect the receiver with a packaging box or bag in order to keep it away from water and dust.

\bigcirc

Attention

- Instruct the customer how to operate it correctly referring to the instruction manual. For the installation method of the air conditioner itself, refer to the installation manual enclosed in the package.

1 Accessories

Please make sure that you have all of the following accessories.

Receiver		1	
Wireless remote controller	(D+1)	1	
Parts set		1	

Remote controller holder		1
Wood screw for holder		2
AAA dry cell battery (RO3)	•	2

2 How to install the receiver

The receiver can be installed by replacing with a corner panel on the applicable decorative panel.

Preparation before installation

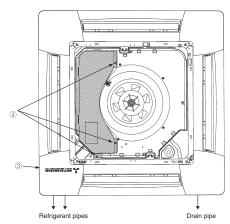
- ① Attach the decorative panel onto the air conditioner according to the installation manual for

- the panel.

 ② Remove the air return grille.

 ③ Remove a corner panel located on the refrigerant pipes side.

 ④ Remove three screws and detach the cover (indicated as shadowed area) from the control box of the air conditioner.



Setting on site

① PCB on the receiver has the following switches to set the functions. Default setting is shown with mark.

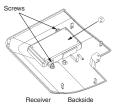
S W 1	Customized signal setting to avoid mixed communication	ON: Normal OFF: Remote
S W 2	Receiver master/slave setting	ON: Master OFF: Slave
S W 3	Buzzer valid/Invalid	ON : Valid OFF : Invalid
S W 4	Auto restart	ON: Valid OFF: Invalid

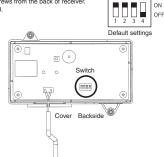
PJF012D010

<To change the settings>

② Remove the cover by unscrewing two screws from the back of receiver③ Change the setting by the switch on PCB.







④ When SW1 is turned to OFF position, change the corresponding remote controller setting as

How to change the remote controller setting
Pressing ACL and AIR FLOW button at the same time or inserting the batteries with pressing AIR FLOW button will customize the signal.

Note

* When the batteries are removed, the setting will return

When the batteries are removed, the setting will return to the default setting.

Please make sure to reset it when the batteries are replaced.

Caution ^

- Instruct the customer to set the mentioned above when replacing the batteries (How to set is also mentioned in the user's manual
- attached on the air conditioner.)



Radio interference prevention mode

Installation of the receiver

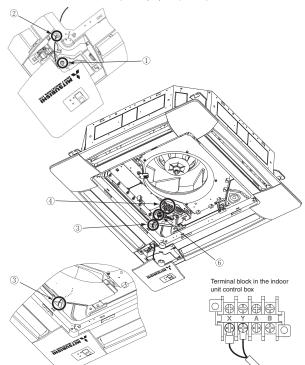
- Loosen the bolts which fix the panel and make a gap between the panel and the indoor unit

 Put the wiring of the receiver through the opening.

 Put the wiring on the notch on the control box so as not to be pinched by the control box and lid as
- Connect the wiring to the terminal block provided in the control box. (Non-polarized)
- Attach the receiver to the panel according to the panel installation manual.

 Fix the wiring with the clamp so that the wiring do not contact the edge of control box's metal sheet.

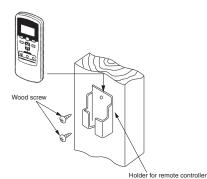
 Reattach the control box lid with 3 screws removed.
- Note: Make sure the wires not to be pinched by any other parts like panel, control box and indoor unit.



3 Remote controller

Installation of the controller holder

- 1. Places exposed to direct sunlight
- 2. Places near heat devices 3. High humidity places
- DO NOT install it on the following places 4. Hot surface or cold surface enough to generate condensation
 - Places exposed to oil mist or steam directly.
 Uneven surface



- Installation tips for the remote controller holder

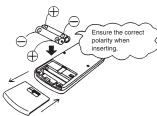
 Adjust and keep the holder upright

 Tighten the screw to the end to avoid scratching the remote controller.

 DO NOT attach the holder on plaster wall.

How to insert batteries

- Detach the back lid.
 Insert the batteries. (two AAA batteries)
 Reattach the back lid.



Control plural indoor units with one remote controller

Un to 16 indoor units can be connected

- to 1 of indoor units can be connected.

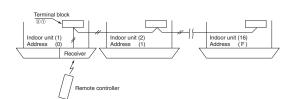
 Connect the XY terminal with 2-core wire. As for the size, refer to the following note.

 For Packaged air conditioner series, set the indoor unit address with SW2 on the indoor unit PCB from [0] to [F] so as not to duplicate.

Restrictions on the thickness and length of wire (Maximun total extension 600m.) Within 100m x 0.3 mm Standard

Within 200m x 0.5 mm

Within 300m x 0.75mm Within 400m x 1.25mm



③ For VRF series, set the indoor unit address with SW1, SW2 and SW5-2 on the indoor unit PCB from [000] to [127] so as not to duplicate

Master/Slave setting when using plural remote controllers

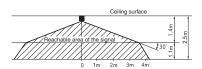
Up to two receivers can be installed in one indoor unit group. When two receivers are used, it is necessary for a receiver to turn OFF SW2 on the receiver PCB to set it as slave.

(For the method of switching, please see Setting on site in the section of

② How to install the receiver in this manual.)

Wireless remote controller's operable area

(1) Standard reachable area of the signal [condition] Illuminance at the receiver: 300lux (when no lighting is installed within 1m of the receiver in an ordinary office.)



② Correlation between illuminance at the receiver and reachable area of the signal in a plain view. The drawing in the right shows the The drawing in the right shows the correlation between the reachable area of the signal and illuminance at the receiver when the remote controller is operated at 1.1m high under the condition of ceiling height of 2.5m. When the illuminance becomes double the area is narrowed down to two

ne receivable area of the gnal when the illuminance the receiver is 300lux 1m The receivable area of the signal when the illuminance at the receiver is 600lux

③ Installation tips when several receivers are installed close Minimum distance between the indoor units which can avoid cross communication is 5m under the condition of 300lux of illuminance at the receiver. (When no lighting is installed within 1m of the receiver in an ordinary office)

4 How to disable the Auto mode operation

VRF system (except heat recovery 3-pipe systems) cannot be operated

which system (except near recovery 3-pipe systems) cannot be operation Auto mode.

Make sure to set the remote controller for the models so as not to be able to choose Auto mode.

Pushing [ACL] and [MODE] button at the same time or inserting the batteries with pressing [MODE] button will make auto mode operation.

Attention

* When the batteries are removed, the setting will return to the

default setting (Auto mode is valid)

Caution

Instruct the customer to set the mentioned above when replacing the batteries. (How to set is also mentioned in the user's manual attached on the air conditioner.)

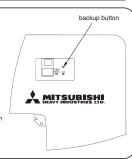


5 Backup button

A Backup button is provided on the receiver Even when the operation from the wireless remote controller is not possible (due to flat batteries, controller

speed and horizontal louver position.

(2) The air conditioner stops the operation when the button is pressed when in operation



6 Cooling test run operation

- After safety confirmation, turn on the power.
 Transmit a cooling operation command with wireless remote controller, while the backup button on the receiver is pressed.
 If the backup button on the receiver is pressed during a test run, it will end the test run.
- If you cannot operate the unit properly during a test run, please check by consulting with inspection guides on the wiring diagram of outdoor units.

⑦ How to read the two-digit display

On the receiver of a wireless kit, a two-digit (7-segment) display is provided. (1) An indication will be displayed for one hour after power on.

- (2) An indication will be displayed for 3.5 seconds after transmitting a "STOP" command from the
- (2) An indication will be displayed for 3.5 seconds after transmitting a "STOP" command from the wireless remote controller or the operation of the backup button to stop the unit.
 (3) An indication appearing in (1) or (2) above will go off as soon as the unit starts operation.
 (4) When there are no error records to indicate, addresses of all the connected units are displayed.
 (5) When there are some error records remaining, the error records are displayed.
 (6) Error records can be cleared by transmitting a "STOP" command from the wireless remote controller, while the backup button is pressed.

3.1.2 FDTC Series (RCN-TC-24W-ER)

PJA012D758

⚠ WARNING

- Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal
 - Loose connection or hold will cause abnormal heat generation or fire
- Make sure the power supply is turned off when electric wiring work.
 Otherwise, electric shock, malfunction and improper running may occur

0 0

⚠ CAUTION

- DO NOT install the wireless kit at the following places in order to avoid malfunction

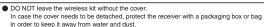
- (1) Places exposed to direct sunlight
 (2) Places near heat devices
 (3) High humidity places
 (4) Hot surface or cold surface enough to
 generate condensation
 (5) Places exposed to oil mist or steam directly
 (6) Uneven surface

- (7) Places affected by the direct airflow of the
- (8) Places where the receiver is influenced by the fluorescent lamp (especially inverter type) or sunlight.

 (9) Places where the receiver is affected by infrared rays of any other communication devices

 (10) Places where some object may obstruct the
- communication with the remote controller

(8) Places where the receiver is influenced by





Note

- Instruct the customer how to operate it correctly referring to the instruction manual.
- For the installation method of the air conditioner itself, refer to the installation manual enclosed in the

1 Accessories

Please make sure that you have all of the following accessories

Receiver		1
Wireless remote controller	(A+D)	1
Parts set		1

Remote controller holder		1
Wood screw for holder	Ø112	2
AAA dry cell battery (RO3)	•	2

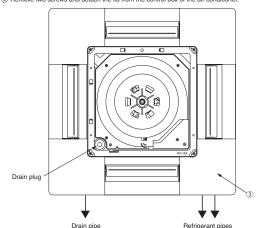
② How to install the receiver

The receiver can be installed by replacing with a corner panel on the applicable decorative panel.

Preparation before installation

- ① Attach the decorative panel onto the air conditioner according to the installation manual for

- © Remove the air return grille.
 © Remove a corner panel located on the refrigerant pipes side.
 © Remove two screws and detach the lid from the control box of the air conditioner.



Setting on site

① PCB on the receiver has the following switches to set the functions. Default setting is shown

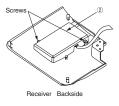
S W 1	Customized signal setting to avoid mixed communication	ON: Normal OFF: Remote				
S W 2	Receiver master/slave setting	ON: Master OFF: Slave				
S W 3	Buzzer valid/Invalid	ON: Valid OFF: Invalid				
S W 4	Auto restart	ON: Valid OFF: Invalid				

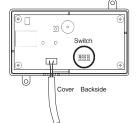
<To change the settings>

- Remove the cover by unscrewing two screws from the back of receiver
 Change the setting by the switch on PCB.









When SW1 is turned to OFF position, change the corresponding remote controller setting as

How to change the remote controller setting

Pressing ACL switch with AIR FLOW button kept pressing or inserting the batteries with pressing $\boxed{\text{AIR FLOW}}$ button will customize the signal.

Note

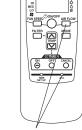
- When the batteries are removed, the setting will return
- When the batteries are removed, the setting will return to the default setting.

 Please make sure to reset it when the batteries are replaced.

Caution ~~~

- Instruct the customer to set the mentioned above when
- replacing the batteries.

 (How to set is also mentioned in the user's manual attached on the air conditioner.)



Radio interference prevention mode

Installation of the receiver

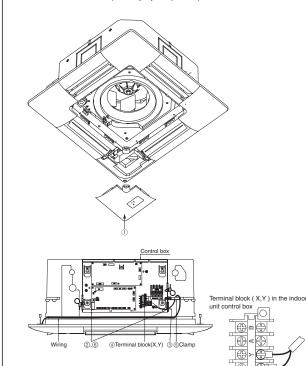
- ① Attach the receiver to the panel according to the panel installation manual. ② Remove two screws and detach the lid from the control box.
- © nentrole wis catevas and detact in a lid month in continut box.

 So Put the wiring in the control box with other wiring as shown below.

 Connect the wiring to the terminal block (X,Y) provided in the control box.(Non-polarized)

 Si Fix the wiring with the clamp as shown below.

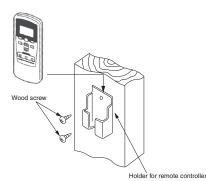
 Reattach the control box lid with 2 screws removed.
- X Note: Make sure wires not to be pinched by any other parts like panel and control box.



③ Remote controller

Installation of the controller holder

- Places exposed to direct sunlight
- 2. Places near heat devices 3. High humidity places
- DO NOT install it on the following places 4. Hot surface or cold surface enough to generate
 - condensation
 5. Places exposed to oil mist or steam directly.
 - 6. Uneven surface



- Installation tips for the remote controller holder

 Adjust and keep the holder upright

 Tighten the screw to the end to avoid scratching the remote controller

 DO NOT attach the holder on plaster wall.

How to insert batteries

- Detach the back lid.
- Insert the batteries. (two AAA batteries)
 Reattach the back lid.
- Ensure the correct polarity when inserting.

Control plural indoor units with one remote controller

Up to 16 indoor units can be connected.

- To roll miles and be conflicted.

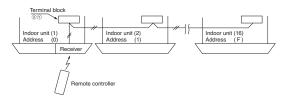
 Cornect the XY terminal with 2-core wire. As for the size, refer to the following note.

 For Single packaged air conditioner series, set the indoor unit address with SW2 on the indoor unit PCB from [0] to [F] so as not to duplicate.

Restrictions on the thickness and length of wire (Maximun total extension 600m.)

Standard

Within 200m x 0.5 mm Within 300m x 0.75mm2 Within 400m x 1.25mm Within 600m x 2.0 mm2



③ For VRF series, set the indoor unit address with SW1, SW2 and SW5-2 on the indoor unit PCB from [000] to [127] so as not to duplicate.

Master/Slave setting when using plural remote controllers

Up to two receivers can be installed in one indoor unit group.

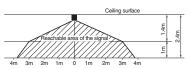
When two receivers are used, it is necessary for a receiver to turn OFF SW2 on the receiver PCB to set it as slave.

(For the method of switching, please see Setting on site in the section of

② How to install the receiver in this manual.)

Wireless remote controller's operable area

(1) Standard reachable area of the signal [condition] Illuminance at the receiver: 300lux (when no lighting is installed within 1m of the receiver in an ordinary office.)



② Correlation between illuminance at the receiver and reachable area of the signal in a plain The drawing in the right shows the The receivable area of the signal when the illuminance correlation between the reachable area signal when the illuminand at the receiver is 300lux of the signal and illuminance at the receiver when the remote controller is operated at 1m high under the condition of ceiling height of 2.4m. The receivable area of the signal when the illuminance at the receiver is 600lux

③ Installation tips when several receivers are installed close Minimum distance between the indoor units which can avoid cross communication is 5m under the condition of 300lux of illuminance at the receiver. (When no lighting is installed within 1m of the receiver in an ordinary office)

4 How to disable the Auto mode operation

VRF series (except heat recovery 3-pipe systems) cannot be operated

Make sure to set the remote controller for the models so as not to be able to choose Auto mode.

Pressing ACL switch with MODE button kept pressing or inserting the batteries with pressing MODE button will make auto mode

Note

When the batteries are removed, the setting will return to the default setting (Auto mode is valid).

Caution

Instruct the customer to set the mentioned above when replacing the batteries. (How to set is also mention the user's manual attached on the air conditioner.)

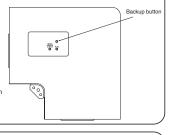


⑤ Backup button

Even when the operation from the wireless remote controller is not possible (due to flat batteries, controller lost, or controller failure). still it possible to operate as temporary means

- Press the button directly when operating it.

 (1) The air conditioner starts the operation wit the condition of Auto mode, 23°C of set point, High fan speed and horizontal louve position.
- (2) The air conditioner stops the operation when the button is pressed when in operation



© Cooling test run operation

- After safety confirmation, turn on the power.
 Transmit a cooling operation command with wireless remote controller, while the backup button on the receiver is pressed.
- the receiver is pressed.

 If the backup button on the receiver is pressed during a test run, it will end the test run.

 If you cannot operate the unit properly during a test run, please check by consulting with inspection guides on the wiring diagram of outdoor units.

⑦ How to read the two-digit display

- On the receiver of a wireless kit, a two-digit (7-segment) display is provided.
 (1) An indication will be displayed for one hour after power on.
 (2) An indication will be displayed for 3.5 seconds after transmitting a "STOP" command from the wireless remote controller or the operation of the backup button to stop the unit.

- wireless remote controller or the operation of the backup button to stop the urit.

 (3) An indication appearing in (1) or (2) above will go off as soon as the unit starts operation.

 (4) When there are no error records to indicate, addresses of all the connected units are displayed.

 (5) When there are some error records remaining, the error records are displayed.

 (6) Error records can be cleared by transmitting a "STOP" command from the wireless remote controller, while the backup button is pressed.

3.1.3 FDEN Series (RCN-E1R)

PFA012D620

⚠ WARNING

Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal.
 Loose connection or hold will cause abnormal heat generation or fire.



Make sure the power supply is turned off when electric wiring work.
 Otherwise, electric shock, malfunction and improper running may occur.



A CAUTION

• Install a receiver unit where it is not exposed to direct sunrays or intense light from lighting fixtures.



1 Accessories

Please make sure that you have all of the following accessories.

Remoto controller holder	AAA dry cell battery (RO3)	Wood screw for holder	Wireless remote controller
	<u>6)</u>	 (X)	
1	2	2	1

2 Installation of the controller holder

\triangle CAUTION DO NOT install it on the following places.

- 1. Places exposed to direct sunlight
- 2. Hot surface or cold surface enough to generate condensation
- 3. Places near heat devices
- 4. Places exposed to oil mist or steam directly.
- 5. High humidity places
- 6. Uneven surface

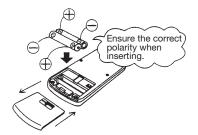
Installation tips for the remote controller holder

- Adjust and keep the holder up right.
- Tighten the screw to the end to avoid scratching the remote controller.
- DO NOT attach the holder on plaster wall.

Wood screw Holder for remote controller

How to insert batteries

- 1 Detach the back lid.
- 2 Insert the batteries. (two AAA batteries)
- ③ Reattach the back lid.



3 FDEN

Setting on site

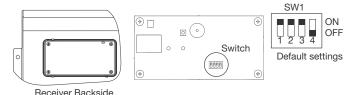
PCB on the receiver has the following switches to set the function.

Default setting is shown with ___ mark.

SW1	Prevents interference during plural setting	ON: Normal (1ch) OFF: Customized (2ch)
SW2	Receiver master/slave setting	ON : Master OFF : Slave
SW3	Buzzer valid/Invalid	ON : Valid OFF : Invalid
SW4	Auto restart	ON : Valid

To change setting

- 1. Remove the front panel.
- 2. Remove four screws located on the back of the receiver and detach the board.
- 3. Change the setting by the switch on PCB.



When switch 1 is turned to off position, change the wireless remote controller setting.

(For the method of changing the setting, refer to Setting to avoid mixed communication on page 4)

Refer to Wireless remote controller unit operation distance of 6 FDEN in case of plural setting.

Master/Slave setting when using plural remote controllers

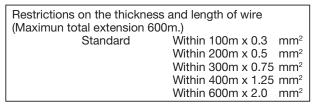
Up to two receiver or wired remote controller can be installed in one indoor unit group.

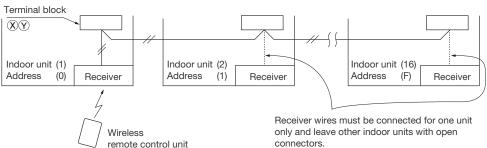
When two receivers or wired remote controller are used, it is necessary to change SW on the PCB to set it as slave

Control plural indoor units with one remote controller

Up to 16 indoor units can be connected.

- ① Connect indoor units with each other with 2-core wires. As for size, refer to the following note.
- ② The receiver wires must be connected only with the indoor unit that will be operated by the remote controller directly.
- ③ Set the indoor unit address with SW2 on the indoor unit PCB from [0] to [F] so as not to duplicate.





***ATTENTION**

In a system configured as shown above, up to two receivers are usable. If two receivers are used, it is necessary to designate one of them as a slave by setting SW2. (For the method of changing the setting, refer to Setting on site .) Since other receivers are not usable, do not couple the connectors for them. (Unless the connector is coupled for a receiver, the LED will not be able to make any indication)

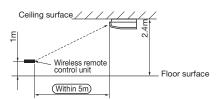
③ FDEN (continued)

Wireless remote controller unit operation distance

① Standard signal receiving range

[Condition]

Illuminance at the receiver area: 360 lux. (When no lighting fixture is located within 1m of indoor unit in an ordinary office)

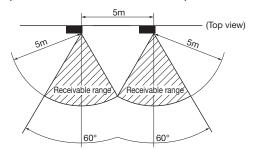


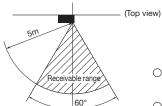
② Points for attention in connecting a plural number of indoor units

[Condition]

Illuminance at the receiver area: 360 lux. (When no lighting fixture is located within 1m of indoor unit in an ordinary office)

When the remote control unit is used with the aforementioned interference-prevention setting, a minimum distance guaranteeing the prevention of unintended unit responses is 5m.





- OPlease operate remote control unit switches with the unit faced correctly toward the indoor unit's receiver section.
- OEffective operation distance can vary with the luminance around the receiver and the reflection from walls of the room.
- OWhen the receiver is exposed to intensive light such as from the direct sun or a strong light, it may become operable only from a short distance or unable to receive signals at all.

Backup button

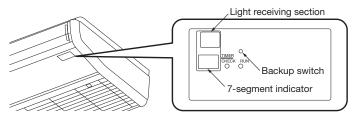
A backup switch is provided on the receiver section of the panel surface.

When operation from the wireless remote control unit is not possible (due to flat batteries, a mislaid unit, a unit failure), you can use it as an emergency means. You should operate this switch manually.

(1) If pressed while the air conditioner is in a halt, it will cause the air conditioner to start operation in the automatic mode.

Wind speed: Hi fan, Temperature setting: 23°C, Louver: horizontal

(2) If pressed while the air conditioner is in operation, it will stop the air conditioner.



Cooling test run operation

- After safety confirmation, turn on the power.
- Transmit a cooling operation command with the wireless remote control unit, while the backup switch on the receiver is depressed.
- If the backup switch on the receiver is pressed during a test run, it will end the test run.
- *If you cannot operate the unit properly during a test run, please check wiring by consulting with inspection guides.

③ FDEN (continued)

How to read the two-digit display

A two-digit indicator (7-segment indicator) is provided on the receiver section.

- (1) An indication will be displayed for one hour after power on.
- (2) An indication appears for 3.5 seconds when a "Stop" command is sent from the wireless remote control unit while the air conditioner is not running.
- (3) An indication appearing in (1) or (2) above will go off as soon as the unit starts operation.
- (4) When there are no error records to indicate, addresses are displayed for all of the connected units.
- (5) When there are some error records remaining, the error records are displayed.
- (6) Error records can be cleared by transmitting a "Stop" command from the wireless remote control unit, while the backup switch is depressed.

4 Remote controller

Setting to avoid mixed communication

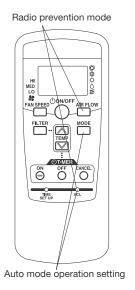
Pressing ACL and AIR FLOW button at the same time or inserting the batteries with pressing AIR FLOW button will customize the signal.

Setting to disable the Auto mode operation

VRF system (except heat recovery 3-pipe system) cannot be operated in Auto mode.

Make sure to set the remote controller for the models so as not to be able to choose Auto mode.

Pushing ACL and MODE button at the same time or inserting the batteries with pressing MODE button will make auto mode operation.



***ATTENTION**

When the batteries are removed, the setting will return to the default setting.

Please make sure to reset it when the batteries are replaced.

⚠ Caution

Instruct the customer to set the mentioned above when replacing the batteries. (How to set is also mentioned in the user's manual attached on the air conditioner.)

3.1.4 FDUM, FDU, FDF Series (RCN-KIT3-E)

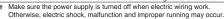
Read this manual together with the installation manual attached to the air conditioner

PJZ012D060 🛦

⚠ WARNING

- Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal.

 Loose connection or hold will cause abnormal heat generation or fire.



0 0

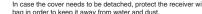
⚠ CAUTION

type) or sunlight.

- DO NOT install the wireless kit at the following places in order to avoid malfunction (8)Places where the receiver is influenced by the fluorescent lamp (especially in verter
- (1)Places exposed to direct sunlight (2)Places near heat devices (3) High humidity places
- (3) Ingin Intrinsity places

 (4) Hot surface or cold surface enough to generate condensation
 (5) Places where the receiver is affected by infrared rays of any other communication devices. devices.

 (10)Places where some object may obstruct the communication with the remote controller
- (6)Uneven surface
 (7)Places affected by the direct airflow of the AC unit.



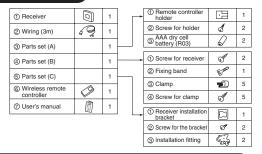
DO NOT leave the wireless kit without the cover. In case the cover needs to be detached, protect the receiver with a packaging box or bag in order to keep it away from water and dust.



Attention

- Instruct the customer how to operate it correctly referring to the instruction manual.
- · User's manual of a wireless remote controller is attached to a indoor unit or a outside unit
- Read this together with a manual attached to this kit.

1 Accessories Please make sure that you have all of the following accessories.

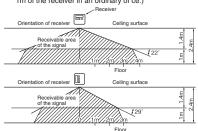


2 Wireless remote controller's operable area

(1) When installed on ceiling

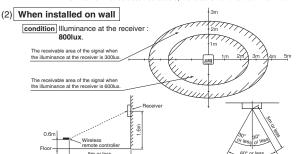
1 Standard reachable area of the signal

condition Illuminance at the receiver : 300lux (when no lighting is installed within 1m of the receiver in an ordinary of ce.)



(2) Correlation between illuminance at the receiver and reachable area of the signal in a plain

condition Correlation between the reachable area of the signal and illuminance at the receiver when the remote controller is operated at 1.1m high under the condition of ceiling height of 2.5m.



3 How to install the receiver

The following two methods can be used to install the receiver onto a ceiling or a wall Select a method according to the installation position

<Installation position>

- (A) Direct installation onto the ceiling with wood screws.
- (B) Installation with accessory's bracket

(1) Drilling of the ceiling (ceiling opening)

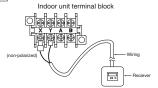
Drill the receiver installation holes with the following dimensions at the ceiling position where wires can be connected.

		
(A) Direct installation onto the ceiling with wood screws.	88mm(H)×101mm(W)	
(B) Installation with enclosed bracket.	108mm(H)×108mm(W)	<u> </u>
		w

(2) Wiring connection of receiver

Caution

Do not connect the wiring to the power source of the terminal block. If it is connected, printed board will be damaged.

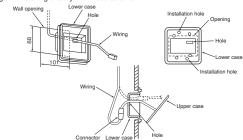


(3) Installation of the receiver

Remove the screw on the side of the receiver and sprit it into the upper case and lower case.Install the receiver with one of the two installation methods (A) or (B) shown below.

(A) Direct installation onto the ceiling with screws

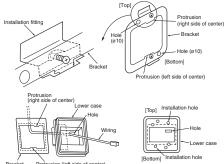
Use this installation method when the ceiling is wooden, and there is no problem for strength in installing directly with wood screws



- ①Put through the wiring from the back side to the hole of the lower case
- 2) Fit the lower case into the ceiling opening. Make sure that the clearance between the convex part of the back of the lower case and the ceiling opening must be as equal as possible on both sides.
- ③Using the two installation holes shown above, fix the lower case onto the ceiling with the enclosed wood screws. (The other four holes are not used.)
- Connect the wiring with the wiring from the upper case by the connector.
- \$Take out the connector to the backside from the hole of the lower case putting through the wiring at 1.
- 6Fit the upper case and the lower case, and tighten the screws.

(B) Installation with enclosed bracket

Use this method when installaing onto a gypsum board (7 to 18mm), etc



- 1) Catch the two protrusion of the enclosed bracket onto the tting as shown above, and temporarily fix with the screws. (The bracket has an up/down and front/back orientation. Con rm the top/bottom protrusion positions and the positional relation of the Ø 10 holes on the bracket and the installation hole on the lower case with the
- 2)Insert the end of the installation tting into the back of the ceiling from the opening,
- and tighten the screws to fix the bracket onto the ceiling.

 ③Pass the wiring from the rear side through the hole on the lower case.
- Fit the lower case onto the bracket, and fix the lower case to the bracket using the two installation holes shown above. (The other four holes are not used.)
- ⑤Follow step ① to ⑥ for (A) to complete the installation.

4 Remotecontroller

Installation of the controller holder

DO NOT install it on the following places

1) Places exposed to direct sunlight

2) Places near heat devices

- 3) High humidity places
- 4) Hot surface or cold surface enough to generate condensation
- 5) Places exposed to oil mist or steam directly 6) Uneven surface

Installation tips for the remote controller holder

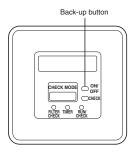
- · Adjust and keep the holder upright.
- Tighten the screw to the end to avoid scratching
- the remote controller.
- . DO NOT attach the holder to plaster wall.

How to insert batteries

- 1 Detach the back lid
- 2 Insert the batteries. (two AAA batteries)
- 3 Reattach the back lid.

⑤ Cooling test run operation

- •After safety con rmation, turn on the power
- Transmit a cooling operation command with wireless remote controller, while the backup button on the receiver is pressed.
- •If the backup button on the receiver is pressed during a test run, it will end the test run. •If you cannot operate the unit properly during a test run, please check by consulting with
- inspection guides on the wiring diagram of outdoor units.



6 Setting of wireless remote controller and receiver

(A) Methods of avoiding the malfunction due to the mixed communication

Do both procedures (1) and (2)

This setting is to avoid the mixed communication with other household electric appliances or the mixed communication when two receivers are located closely.

1) Setting change of the wireless remote controller

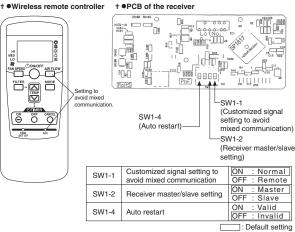
Pressing ACL and AIRFLOW button at the same time or inserting the batteries with pressing AIRFLOW button will customize the signal.

Note *When the batteries are removed, the setting will return to the default setting. Make sure to reset it when the batteries are replaced

2 Setting the PCB of the receiver

Turn SW1-1 off.

† ●Wireless remote controller

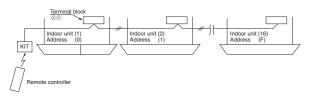


(B) Control plural indoor units with one remote controller

Up to 16 indoor units can be connected

- ①Connect the XY terminal with 2-core wire As for the size, refer to the following note.
- 2For Packaged air conditioner series, set the indoor unit address with SW2 on the indoor unit PCB from [0] to [F] so as not to duplicate

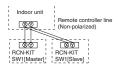
Restrictions on the thickness and length of wire (Maximun total extension 600m.) Within 100m x 0.3 mm²
Within 200m x 0.5 mm²
Within 300m x 0.75mm²
Within 400m x 1.25mm²
Within 600m x 2.0 mm² Standard



③For VRF series, set the indoor unit address with SW1, SW2 and SW5-2 on the indoor unit PCB from [000] to [127] so as not to duplicate

(C) Master/Slave setting when using plural remote controller

Up to two receivers can be installed in one indoor unit group



Switch	Setting	Function
SW1-2	ON	Master
3VV 1-2	OFF	Slave

(D) Change setting of auto mode operation

Auto mode operation is prohibited to be selected for KX models (except for KXR

Therefore be sure to change setting of remote controller to disable the auto mode operation for these models according to the following procedure.

While pressing the MODE button, press the ACL switch, or while pressing the

MODE button, insert the batteries to the remote controller. Then the auto mode Attention

When the batteries are removed, it is returned to initial setting (Auto mode becomes valid).

Accordingly when replacing the batteries, be sure to perform the above operation

(E) Change setting of fan speed

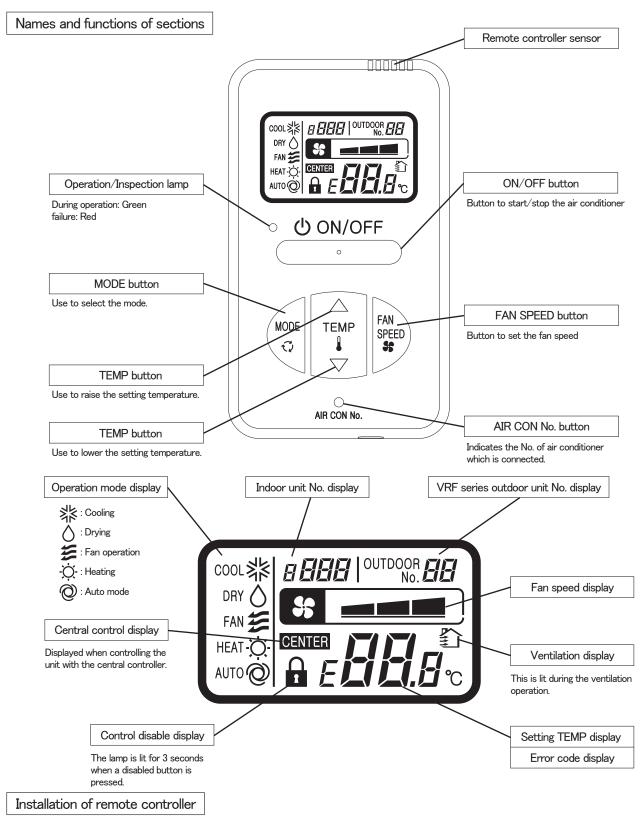
While pressing the FAN SPEED button, press the ACL switch, or while pressing the FAN SPEED button, insert the batteries to the remote controller. Then the fan speed can be changed from 2-speed setting to 3-speed setting.

When changing fan speed setting of remote controller, be sure to perform the same fan speed setting as that of the indoor unit model to be used.

When the batteries are removed, it is returned to initial setting (Fan speed setting

Accordingly when replacing the batteries, be sure to perform the above operation once again

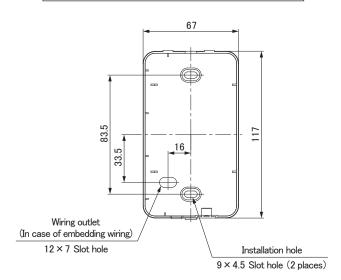
3.2 SIMPLE WIRED REMOTE CONTROLLER (RCH-E3)



- DO NOT install the remote controller at the following places in order to avoid malfunction.
- (1) Places exposed to direct sunlight
- (2) Places near heat devices
- (3) High humidity places
- (4) Hot surface or cold surface enough to generate condensation
- (5) Places exposed to oil mist or steam directly
- (6) Uneven surface

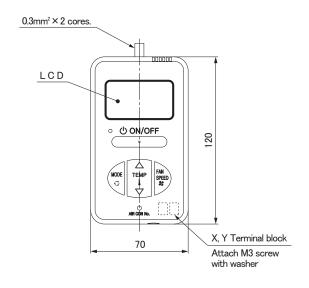
PJZ000Z272

Remote control installation dimensions

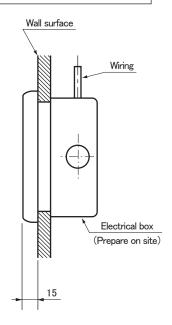


Note: Installation screw for remote controller M4 Screw (2 pieces)

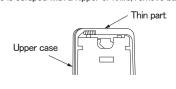
In case of exposing wiring

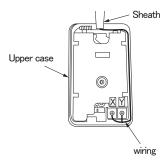


In case of embedding wiring

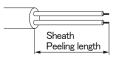


The remote controller wiring can be extracted from the upper center. After the thin part in the upper side of the remote controller upper case is scraped with a nipper or knife, remove burr with a file.





The peeling length of each wiring is as follows: X wiring: 160mm Y wiring: 150mm



Unit:mm

Wiring specifications

- (1) Wiring of remote controller should use $0.3 \text{mm}^2 \times 2$ core wires or cables. (on–site configuration)
- (2) Maximum prolongation of remote controller wiring is 600m.

If the prolongation is over 100m, change to the size below.

But, the wiring in the remote controller case should be 0.3mm^2 (recommended) to 0.5mm^2 .

Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire

connecting section. Be careful about contact failure.

Length	Wiring thickness	
100 to 200m	0.5mm² × 2 cores	
Under 300m	0.75mm ² × 2 cores	
Under 400m	1.25mm² × 2 cores	
Under 600m	2.0mm ² × 2 cores	

Adapted to **RoHS** directive

Simple Remote Controller Installation Manual

PJZ012D069

Read together with indoor unit's installation manual.

⚠ WARNING

 Fasten the wiring to the terminal securely and hold the cable securely so as not to apply unexpected stress on the terminal.

Loose connection or hold will cause abnormal heat generation or fire.

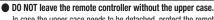
Make sure the power supply is turned off when electric wiring work. Otherwise, electric shock, malfunction and improper running may occur.



⚠ CAUTION

- DO NOT install the remote controller at the following places in order to avoid malfunction.
 - (1) Places exposed to direct sunlight
- (4) Hot surface or cold surface enough to generate condensation
- (2) Places near heat devices
- (5) Places exposed to oil mist or steam directly

- (3) High humidity places
- (6) Uneven surface



In case the upper cace needs to be detached, protect the remote controller with a packaging box or bag in order to keep it away from water and dust.

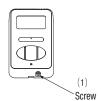


Accessories	Remote controller, wood screw (ϕ 3.5 $ imes$ 16) 2 pieces
Prepare on site	Remote controller cord (2 cores) (Refer to [2. Installation and wiring of remote controller]) [In case of embedding cord] Electrical box, M4 screw (2 pieces)
	[In case of exposing cord] Cord clamp (if needed)

1. Installation procedure

In case of embedding cord

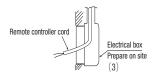
(1) Make certain to remove the screw on the bottom surface of the remote controller.



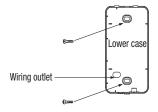
(2) Remove the upper case of the remote controller. Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote controller and slightly twist it, and the case is removed

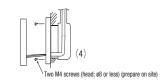


(3) Pre-bury the electrical box and remote controller cord.



(4) Prepare two M4 screws (recommended length: 12 – 16mm), and install the lower case to the electrical box. Do not use a screw whose screw head is larger than the height of the wall around the screw hole.

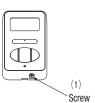




- (5) Connect the remote controller cord to the terminal block. Connect the terminals (X and Y) of the remote controller and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)
- Mount the upper case for restoring to its former state so as not to crimp the remote controller cord, and secure with the removed screw.

In case of exposing cord

(1) Make certain to remove a screw on the bottom surface of the remote controller.



(2) Remove the upper case of the remote controller. Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed.

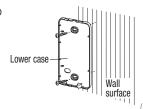


(3) The remote controller cord can be extracted from the upper center.

After the thin part in the upper side of the remote controller upper case is scraped with a nipper or knife, remove burr with a file.



(4) The lower case of the remote controller is mounted to a flat wall with two accessory wood screws.



Connect the remote controller cord to the terminal block. Connect the terminals (X and Y) of the remote controller and the terminals (X and Y) of the indoor unit. (No polarity of X and

The wiring route is as shown in the right.



The wiring in the remote controller case should be 0.3 mm² (recommended) to 0.5 mm² at maximum.

Further, peel off the sheath.

The peeling length of each wiring is as follows:

X wiring: 160mm Y wiring: 150mm



- Mount the upper case for restoring to its former state so as not to crimp the remote controller cord, and secure with the removed screw.
- In the case of exposing installation, secure the remote controller cord to the wall surface with a cord clamp so as not to loosen the remote controller cord.

2. Installation and wiring of remote controller

- (1) Wiring of remote controller should use $0.3 \text{mm}^2 \times 2$ core wires or cables. (on-site configuration)
- (2) Maximum prolongation of remote controller wiring is 600 m.

If the prolongation is over 100m, change to the size below.

But, the wiring in the remote controller case should be 0.3mm² (recommended) to 0.5mm². Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire

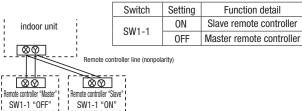
connecting section. Be careful about contact failure.

100 - 200m · · · · · · · · · · · · 0.5mm² × 2 cores Under 300m·····0.75mm² × 2 cores Under 400m······1.25mm² × 2 cores Under 600m·····2.0mm² × 2 cores

3. Master/ slave setting when more than one remote controller are used

SW1-1 "ON"

Up to two remote controllers can be connected to one unit (or one group) of indoor unit.



(2) Set the switch SW1-1 of the slave remote controller is "Slave" (ON). The factory default is set as "Master" (OFF). (Note) • The remote controller thermistor enabled setting can be set only to the master remote controller.

Install the master remote controller at the position to detect room temperature.

• The air conditioner operation follows the last operation of the remote controller in case of the master / slave setting.



4. The indication when power source is supplied

At the time of turning the power source on, after the light is on for the first 2 seconds, the display becomes as shown below.

The number displayed on the upper side of LCD in the remote control is the software number,

and this is not an error code.



Software number

(The number in the left is one example. Another number may be shown.)

- Then, "88.0 °C" blinks on the remote controller until the communication between the remote controller and the indoor unit is established.
- In the case of connecting one remote controller with one unit (or one group) of indoor unit, make certain to set the master remote controller (factory default). If the slave remote control is set, a communication cannot be established.
- If a state where the communication between the remote controller and the indoor unit cannot be established continues about for 30 minutes, "E" is displayed. Confirm the wiring of the indoor unit and the outdoor unit and master/slave setting of the remote controller.

E

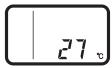
5. Confirmation method for return air temperature

Return air temperature can be confirmed by the remote controller operation.

Press AIR CON NO. button for over 5 seconds.

"88" blinks on the temperature setting indicator.

("88" blinks for approximately 2 seconds while data is read.)



Then, the return air temperature is displayed.

(Example) return air temperature: "27 °C" (blinking)

(Note) For the return air temperature, in the normal case, the return air temperature of the indoor unit is displayed; however, in the case that the remote control thermistor is effective, detected temperature by the remote controller thermistor is displayed.

Press **()** ON/OFF button.

[In the case that the remote thermistor is ineffective and plural indoor units are connected to one remote controller]

(1) Press AIR CON NO. button for over 5 seconds. indoor unit No. indicator: "U 000" (blinking) (Among the connected indoor units, the lowest number is displayed.)

Press TEMP△ or TEMP▽ button. Select the indoor unit No.



Press MODE button.

Dectder the indoor unit No.

(Example) indoor unit No. indicator: "U 000"

"88" blinks on the temperature setting indicator. (blinking for approximately 2 to 10 seconds while data is read) Then, the return air temperature is displayed. When AIR CON NO. is pressed, return to the indoor unit selection display (example, "U 000").

Press 0 0N/0FF button. End.

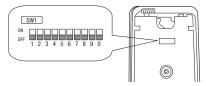
6. Function setting

Each function of the remote controller and the indoor unit is automatically set to the initial setting, which is the standard use, on the occasion of connecting the remote controller with the indoor unit. In the case of the standard use, the setting change is unnecessary. However, if you whould like to change the initial setting " or, change the setting for only the item of the function number. Record the setting contents and stored them.

(1) Function setting item by switch on PCB

Switch No.	Setting	Setting detail	Initial setting
SW1-1	ON	Slave remote controller	
SW1-1	0FF	Master remote controller	0
SW1-2	ON	Remote controller thermistor enabled	
SW1-2	0FF	Remote controller thermistor disabled	0
SW1-3 ON		"MODE" button prohibited	
SW1-3	0FF	"MODE" button enabled	0
SW1-4	ON	"ON/OFF" button prohibited	
SW 1-4	0FF	"ON/OFF" button enabled	0

Switch No.	Setting	Setting detail	Initial setting
SW1-5 ON		"TEMP" button prohibited	
3W1-3	0FF	"TEMP" button enabled	0
SW1-6	ON	"FAN SPEED" button prohibited	※ Note 1
3W1-0	0FF	"FAN SPEED" button enabled	※ Note 1
SW1-7 ON OFF		Auto restart function enabled	
		Auto restart function disabled	0
SW1-8, 9, 0	ON	Not used	
3W1-0, 9, U	0FF	เพอะ นอธน	



- As for the slave remote controller, function setting is impossible other than SW1-1.
- In the indoor unit with only one fan speed, "FAN SPEED" button cannot be enabled.

(2) Function setting item by button operation

Classification	Function No.	Function	Setting No.	Setting	Initial setting	Remarks
			01	Fan speed: three steps		The fan speed is three steps, * • • • • • • • • • • • • • • • • • •
01	Indoor unit fan speed	02	Fan speed: two steps (Hi-Lo)	፠ Note 1	The fan speed is two steps, % === - % =.	
	illuooi uliit lali speeu	03	Fan speed: two steps (Hi-Me)		The fan speed is two steps, * • • • • • • • • • • • • • • • • • •	
			04	Fan: one step	※ Note 1	The fan speed is fixed to one step.
			01	Remote controller thermistor: no offset	0	
			02	Remote controller thermistor: +3.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offset temperature at +3.0°C.
		Remote controller	03	Remote controller thermistor: +2.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offset temperature at +2.0°C.
	03	thermistor at the time	04	Remote controller thermistor: +1.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offset temperature at +1.0°C.
		of cooling	05	Remote controller thermistor: -1.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offset temperature at -1.0°C.
			06	Remote controller thermistor: -2.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offset temperature at -2.0°C.
Remote			07	Remote controller thermistor: -3.0 °C		At the time of cooling, in the case of remote controller thermistor enabled, offsett temperature at -3.0°C.
controller			01	Remote controller thermistor: no offset	0	
function			02	Remote controller thermistor: +3.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at +3.0°C.
		Remote controller	03	Remote controller thermistor: +2.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at +2.0°C.
	04	thermistor at the time	04	Remote controller thermistor: +1.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at +1.0°C.
		of heating	05	Remote controller thermistor: -1.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at -1.0°C.
			06	Remote controller thermistor: -2.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at -2.0°C.
			07	Remote controller thermistor: -3.0 °C		At the time of heating, in the case of remote controller thermistor enabled, offset temperature at -3.0°C.
			01	No ventilator connection	0	
	05	Ventilation setting	02	Ventilator links air-conditioner		In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board (in case of VRF series, t connecting it to CND of the indoor printed circuit board), the operation of ventilation device is linked with the operation of indoor unit.
	06	"Auto" operation	01	"Auto" operation enabled	፠ Note 1	
	06	setting	02	"Auto" operation disabled	፠ Note 1	"Auto" operation disabled
	07	Operation permission/	01	Disabled	0	
	07	prohibition	02	Enabled		Operation permission/prohibition controller is enabled.
	00		01	Level input	0	
	08	External input	02	Pulse input		
			01	Standard	Note2	
	09	Fan speed setting	02	High speed 1	Note2	
			03	High speed 2	Note2	
			01	No remaining operation	0	After cooling stopped, no fan remaining operation
	10	Fan remaining	02	0.5 hours		After cooling stopped, fan remaining operation for 0.5 hours
	10	operation at the time of cooling	03	1 hour		After cooling stopped, fan remaining operation for 1 hour
		or cooming	04	6 hours		After cooling stopped, fan remaining operation for 6 hours
			01	No remaining operation	0	After heating stopped or after heating thermostat OFF, no fan remaining operation
		Fan remaining	02	0.5 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 0.5 hours
	11	operation at the time of heating	03	2 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 2 hours
Indoor unit		or neating	04	6 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 6 hours
function			01	No offset	0	
TUHCUOH	10	Setting temperature	02	Setting temperature offset + 3.0 °C		The setting temperature at the time of heating is offset by +3.0 °C.
	12	offset at the time of heating	03	Setting temperature offset + 2.0 °C		The setting temperature at the time of heating is offset by +2.0 °C.
		noating	04	Setting temperature offset + 1.0 °C		The setting temperature at the time of heating is offset by +1.0 °C.
			01	Low fan speed	፠ Note 1	At the time of heating thermostat OFF, operate with low fan speed.
			02	Setting fan speed		At the time of heating thermostat OFF, operate with the setting fan speed.
13	Heating fan controller	03	Intermittent operation	* Note 1	At the time of heatingr thermostat OFF, intermittently operate.	
			04	Fan off		At the time of heating thermostat OFF, a fan will be stopped. When the remote controller thermistor is enabled, automatically set to "Fan off". Do not set at the time of the indoor unit thermistor.
			01	No offset	0	
			02	Return air temperature offset +2.0 °C		Offset the return air temperature of the indoor unit by +2.0 °C.
			03	Return air temperature offset +1.5 °C		Offset the return air temperature of the indoor unit by +1.5 °C.
	14	Return air temperature	04	Return air temperature offset +1.0 °C		Offset the return air temperature of the indoor unit by +1.0 °C.
		offset	05	Return air temperature offset -1.0 °C		Offset the return air temperature of the indoor unit by -1.0 °C.
			06	Return air temperature offset -1.5 °C		Offset the return air temperature of the indoor unit by -1.5 °C.
			07	Return air temperature offset -2.0 °C	1	Offset the return air temperature of the indoor unit by -2.0 °C.

Note 1: The symbol " * " in the initial setting varies depending upon the indoor unit and the outdoor unit to be connected, and this is automatically determined as follows:

automatically determined as follows:						
Swith No. Function No.	Function	Setting	Product model			
	"FAN SPEED"	"FAN SPEED" button prohibited	Product model whose indoor fan speed is only one step			
SW1-6	button	"FAN SPEED" button enabled	Product model whose indoor fan speed is two steps or three steps			
		Fan speed: three steps	Product model whose indoor unit fan speed is three steps			
Remote controller function 01	Indoor unit fan	Fan speed: two steps (Hi-Lo)	Product model whose indoor unit fan speed is two steps			
	speed	Fan speed: two steps (Hi-Me)				
		Fan: one step	Product model whose indoor unit fan speed is only one step			
Remote controller function 06	"Auto" operation	"Auto" operation enabled	Product model where "Auto" mode is selectable			
nemote controller function of	setting	"Auto" operation disabled	Product model without "Auto" mode			
Indoor unit function 13	Heating fan	Low fan speed	Product model except FDUS			
muoor unit idilction 13	control	Intermittent operation	FDUS			

Note 2: Fan speed of "High speed" setting

Fan speed setting	Indoor unit fan speed setting				
ran speed setting	\$0 mm M - \$0 mm - \$0 m	\$0 m ml ml - \$0 m	\$0 mm M - \$0 mm		
Standard	Hi — Mid — Lo	Hi — Lo	Hi — Mid		
High speed 1 · 2	UHi — Hi — Mid	UHi — Mid	UHi — Hi		

Initial setting of some indoor unit is "High speed".

Note 3: As for plural indoor unit, set indoor functions to each master and slave indoor unit.

But only master indoor unit is received the setting change of indoor unit function "07 Operation permission/prohibition" and "08 External input".

7. How to set functions by button operation

(1) Stop air-conditioning, and simultaneously press AIR CON NO. and \(\tau \) MODE buttons at the same time for over three seconds.

The function number "01" blinks in the upper right.



- (2) **Press TEMP** or **TEMP** button. Select the function number.
- (3) **Press MODE** button. Decide the function number.

(4) [In the case of selecting the remote controller function (01-06)]

① The current setting number of the selected function number blinks (Example)

Function number: "01" (lighting) Setting number: "01" (blinking)



- ② Press TEMP or TEMP button. Select the setting number.
- 3 Press MODE button.

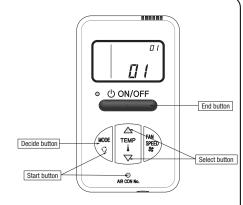
The setting is completed.

Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted. (Example)

Function number: "01" (lighting for 3 to 20 seconds) Setting number: "01" (lighting for 3 to 20 seconds)



Then, the screen goes back to the function number blinking indication (1), if the setting is sequentially conducted, continue with the same procedures. If the setting is finished, proceed to (5).



[In the case of selecting the indoor unit function (07-14)]

① "88" blinks on the temperature setting indicators.

(blinking for approximately 2 to 10 seconds while data is read)

After that, the current setting number of the selected function number blinks. (Example)

Function number: "07" (lighting) Setting number: "01" (blinking)



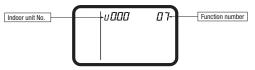
Proceed to $\ensuremath{@}$.

[Note]

a. In the case of connecting one remote control to plural indoor units, the display will be as follows:

Indoor unit No. display: "U 000" (blinking)

(Display the lowest number among the connected indoor units.)



b. Press TEMP△ or TEMP▽ button.

Select the indoor unit No. to be set.

If "U ALL" is selected, the same setting can be set to all units.

c. Press 7 MODE button.

Decide the indoor unit No.

"88" blinks on the temperature setting indicators. (blinking for 2 to 10 seconds while data is read)

When AIR CON NO. button is pressed, go back to the indoor unit selection display (for example, "U 000" blinking).

② Press TEMP△ or TEMP▽ button.

Select the setting number

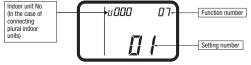
$\begin{tabular}{ll} \hline \end{tabular} \begin{tabular}{ll} \textbf{ Press} \hline \end{tabular} \begin{tabular}{ll} \textbf{ MODE} \\ \hline \end{tabular} \begin{tabular}{ll} \textbf{ button.} \\ \hline \end{tabular}$

The setting is completed.

Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted.

(Example)

Indoor unit No.: "U 000" (lighting for 3 to 20 seconds) Function number: "07" (lighting for 3 to 20 seconds) Setting number: "01" (lighting for 3 to 20 seconds)



Then, the screen goes back to the function number blinking indication (1), if the setting is sequentially conducted, continue with the same procedures. If the setting is finished, proceed to (5).

(5) Press ON/OFF button.

The setting is completed.

- Even if 60N/OFF button is pressed during setting, the setting is ended. However, any details where the setting has not been completed will be ineffective.
- The setting contents are stored in the controller, and even if the power failure occur, this will not be lost.

[Confirmation method for current setting]

According to the operation, the "setting number" displayed first after selecting "function number" and pressing \(\frac{\tau}{\tau}\) MODE button is the currently set content. (However, in the case of selecting "U ALL" (all units), the setting number of the lowest number among the indoor units is displayed.)

3.3 FAN CONTROLLER KIT (U-FCRA)

PJD012D049

This manual instructs the way of installing the optional fan controller for high static pressure ducts. Install the controller in accordance with the following procedure.

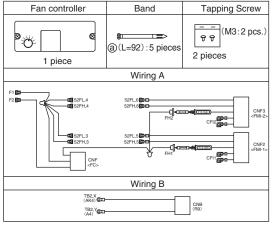
⚠ WARNING

- (1) Consult your dealer for the installation of the controller.
- (2) Only qualified electrician must install the controller.
- (3) Remove the control box before the installation.
- Before installing the product, take it out from the package and place it on the floor. (4) Be sure to turn off the power supply during installation.
- Unless the above precautions are observed, it could cause electrical shocks or fire.

1. Applicable models and corresponding fan controller kit

Standard type	FDU200VF,250VF
Fan controller kit	U-FCRA (PJZ006A102A)

2.Component parts list



<Pre><Pre>cautions for wiring>

- O Connect wires correctly as shown by the electric wiring diagram. Be sure to tighten set screws firmly to prevent them generating heat or causing other troubles after becoming loose.
- O Number of wires connected to the terminal block must be 2 wires or less. Never connect 3 more wires in any event.

4. Installation procedure

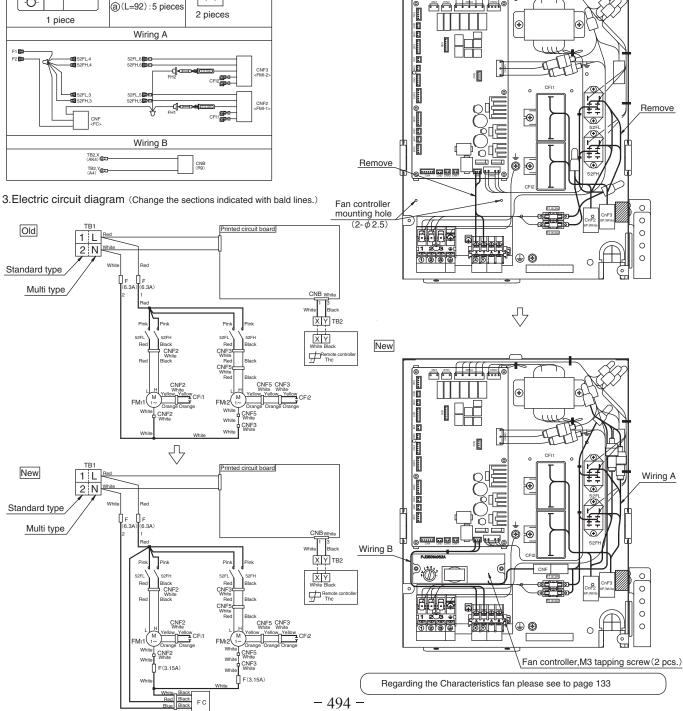
- (1) Remove the lid from the control box.
- (2) Remove the wiring (fuse \sim CNF2,3) and wiring (TB \bigotimes \bigotimes \sim CNB).

△CAUTION Confirm that electricity has been dischaged before touching the capacitor terminals. There is risk of electric shocks.

(3) Install the fan controller.

Old

- (4) Referring to "3. Electric circuit diagram", connect wires as illustrated and fix
- (5) Reinstall the removed lid on the control box.



3.4 BASE HEATER KIT (CW-H-E1)

PCZ012D007A

Model Name: CW-H-E1

⚠ WARNING

- Follow the instruction and installation manual for outdoor unit when installing the heater.
- This heater must be installed by authorized personnel.
- Turn off the power supply when the kit is installed.
- Failure to follow the above will result in serious accident like electrical shock or fire.

AREAS TO BE APPLIED

This kit is to be used in an area where the lowest temperature drops below zero.

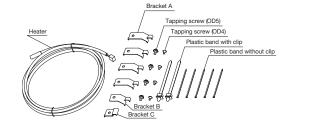
⚠Caution: In case the heater is not applied on the unit which is installed in an area mentioned above, it may be regarded as installation failure and warranty may not be given.

CAUTION

- Follow the law or regulation of the country where it is installed.
- Do not alter the heater.
- Lay down the heater so that the edge of the sheet metal does not damage the heater.
- Bending radius must be bigger than 25mm.
- Do not use the heater near flammable substances.
- Be sure to check the electrical insulation before use.
- Be sure to check the drain is not trapped by the heater.
- Do not leave refrigerant oil on the base.

Components

- Heater : 1pc
- Bracket A : 4pcsBracket B : 1pcs
- Bracket C : 1pcs
- Tapping screw (OD5) : 4pcsTapping screw (OD4) : 4pcs
- Plastic band with clip : 2pcs
- Plastic band : 5pcs

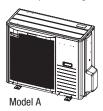


Applicable model

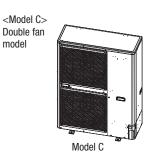
This heater kit is applicable for 3 different models.

<Model A>

Single fan with plastic fan guard model



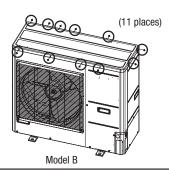


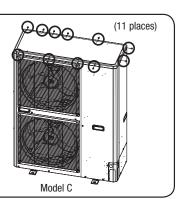


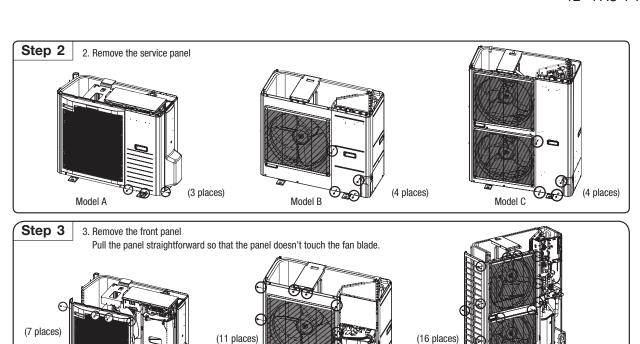
Installation procedure

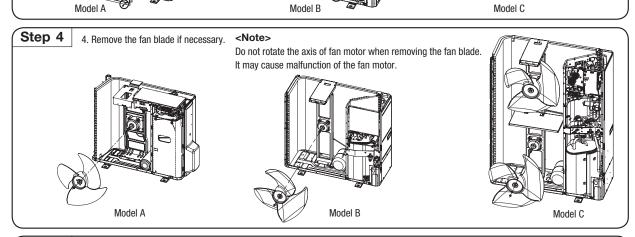
1. Remove the top panel of the outdoor unit (6 places)

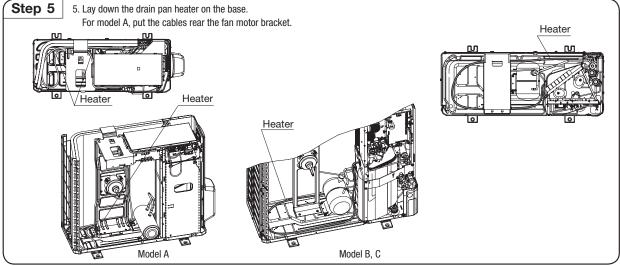
Model A





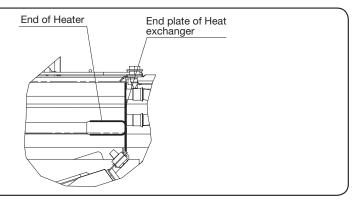






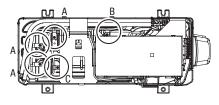
Step 6

6. Put the heater underneath the heat exchanger and align the end of heater with the end plate of heat exchanger.

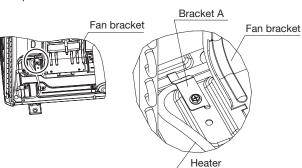


Step 7

7. Fix the heater with brackets.

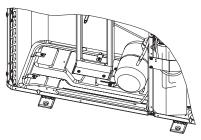


For model A, use 3 pcs of bracket A, 1pc of bracket B and C. Fix bracket A and C with the attached screw (OD4), and fix bracket B with the removed screw which is fastened at the same place.



For model B and C, fix bracket A with the attached screw (0D5).

This bracket is for model B only



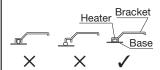
Model A Detail view D Model B, C

<Note for model A>

- 1) Put the end of heating part just after the bracket C
- 2) Fix the incoming and out going cable with one bracket A on the left of fan bracket as figure shows.

<Note>

 Fix the heater so that the bracket doesn't pinch the heater as figure shows.



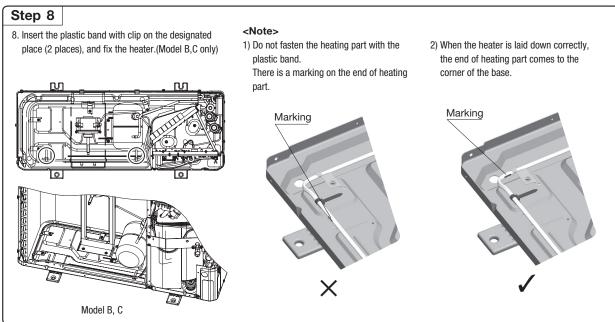
2) Place the heater so as to touch the base completely.

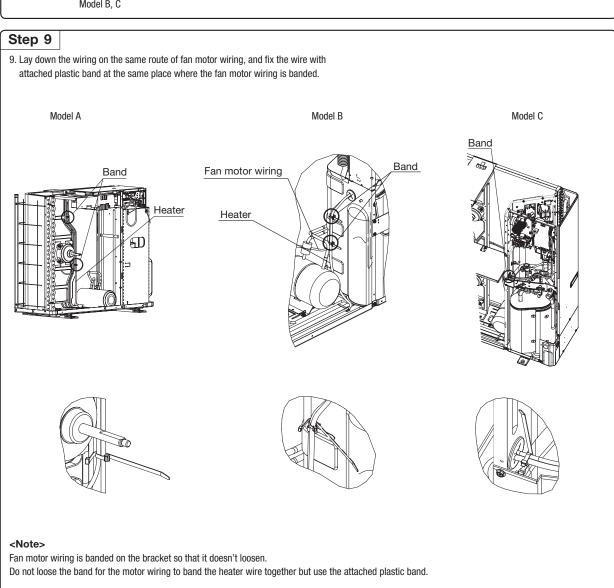


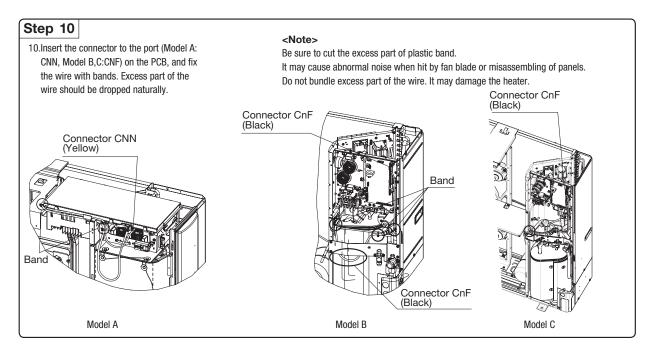
In bending position, twist the heater to make it easier to bend, and get back to be able to fix it with bracket.

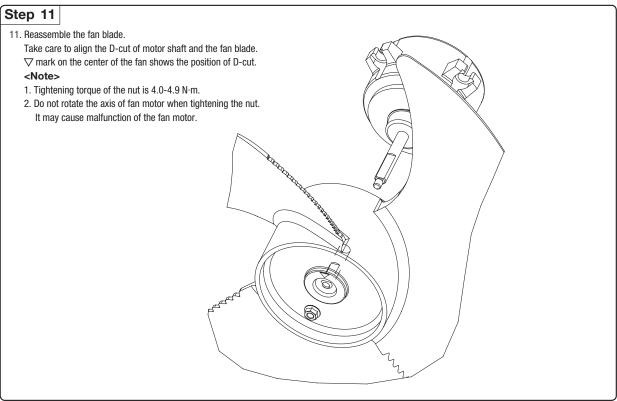


4) Be careful not to be injured by aluminum fin when fixing the heater with screw.



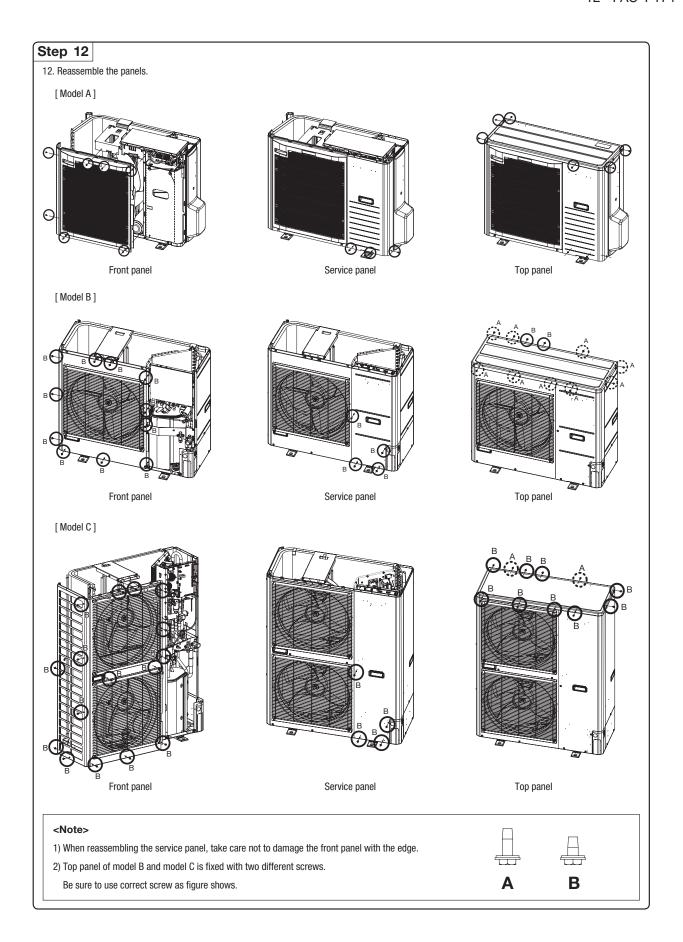






<Note>

- This heater should have bending radius of at least 25mm including non-heating part. Do not bundle the excess part of the wire. It may cause
 disconnection of the heater or insufficient capacity.
- Be sure to prevent the heater from touching any refrigerant piping.
 Especially, pay close attention not to make it touch with pipes which are close to the wiring route such as suction pipe, check valve and check joint.



3.5 INTERFACE KIT (SC-BIKN-E)

RKZ012A088 🛕

Accessories included in package

Be sure to check all the accessories included in package.

No.	Part name	Quantity
1	Indoor unit's connection cable (cable length: 1.8m)	1
2	Wood screws (for mounting the interface: ø4x 25)	2
3	Tapping screws (for the cable clump and the interface mounting bracket)	3
4	Interface mounting bracket	1
(5)	Cable clamp (for the indoor unit's connection cable)	1

Safety precautions

Before use, please read these Safety Precautions thoroughly before installation.

• All the cautionary items mentioned below are important safety related items to be taken into consideration, so be sure to observe them at all times.

▲ Warning Incorrect installation could lead to serious consequences such as death, major injury or environmental destruction.

Symbols used in these precautions



Always go along these instruction.

• After completed installation, carry out trial operation to confirm no anomaly, and ask the user to keep this installation manual in a good place for future reference.

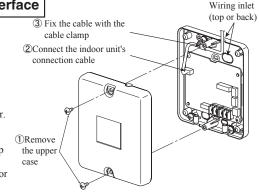


- Installation must be carried out by a qualified installer.
- If you install it by yourself, it may cause an electric shock, fire and personal injury, as a result of a system malfunction.
- Install it in full accordance with the instruction manual.
- Incorrect installation may cause an electric shock, fire and personal injury.
- Electrical work must be carried out by a qualified electrician in accordance with the technical standard for electrical equipment, the indoor wiring standard and this instruction manual.
- Incorrect installation may cause an electric shock, fire and personal injury.
- Use the specific cables for wiring. And connect all the cables to terminals or connectors securely and clamp them with cable clamps in order for external forces not to be transmitted to the terminals directly.
- Incomplete connection may cause malfunction, and lead to heat generation and fire.

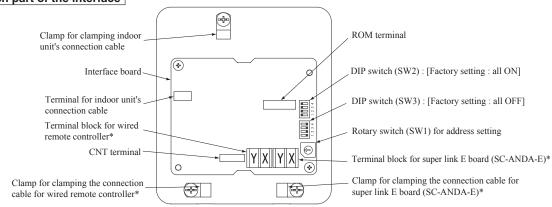
 Use the original accessories and specified components for installation.
- If the parts other than those prescribed by us are used, it may cause an electric shock, fire and sersonal injury.

Connecting the indoor unit's connection cable to the interface

- ①Remove the upper case of the interface.
- Remove 2 screws from the interface casing before removal of upper casing.
- ②Connect the indoor unit's connection cable to the interface.
 - Connect the connector of the indoor unit connection cable to the connector on the interface's circuit board.
- ③Fix the indoor unit's connection cable with the cable clamp.
 - Cable can be brought in from the top or from the back.
- Cut out the punch-outs for the connection cables running into the casing with cutter.
- (4) Connect the indoor unit's connection cable to the indoor control PCB.
 - Connect the indoor unit's connection cable to the indoor control PCB securely.
 - Clamp the connection cable to the indoor control box securely with the cable clamp provided as an accessory.
 - Regarding the cable connection to the indoor unit, refer to the instruction manual for indoor unit.



Name of each part of the interface



*Either the connection cables of super link E board (SC-ANDA-E) or of wired remote controller is connectable.

			,		
Switch	Setting	Function	Switch	Setting	Function
SW2-1	ON**	CNT level input	SW2-3	ON**	External input (CNT input)
3 W 2-1	OFF	CNT Pulse input	3 W 2-3	OFF	Operation permission/prohibition (CNT input)
SW2-2	ON**	Wired remote controller : Valid	SW2-4	ON**	Heat pump
3 W 2-2	OFF	Wired remote controller : Invalid	3 W 2-4	OFF	Cooling only

^{**} Factory setting

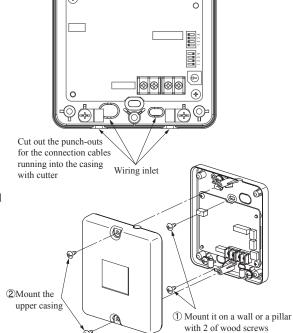
Wiring inlet

Installation of the interface

- Install the interface within the range of the connection cable length (approximately 1.3m) from the indoor unit.
- Be sure not to extend the connection cable on site. If the connection cable is extended, malfunction may occur.
- Fix the interface on the wall, pillar or the like.
- DO NOT install the interface and wired remote controller at the following places.
 - OPlaces exposed to direct sunlight
 - OPlaces near heating devices
 - OHigh humidity places
 - OSurfaces where are enough hot or cold to generate condensation
 - OPlaces exposed to oil mist or steam directly
 - OUneven surface

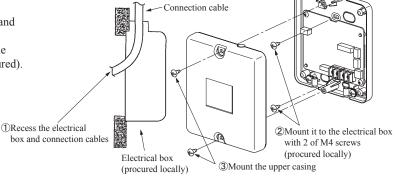
Mounting the interface directly on a wall

- ①Mount the lower casing of the interface on a flat surface with wood screws provided as standard accessory.
- 2 Mount the upper casing.



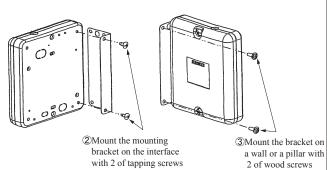
Recessing the interface in the wall

- ①Recess the electrical box (locally procured) and connection cables in the wall.
- ②Mount the lower casing of the interface to the electrical box with M4 screws (locally procured).
- 3 Mount the upper casing.



Mounting the interface with the mounting bracket

- ①Mount the mounting bracket to the interface with tapping screws provided as standard accessory.
- ②Mount the mounting bracket on wall or the like with wood screws provided as standard accessory.
- 3Mount the mounting bracket to a wall surface, etc. using the wood screws provided.



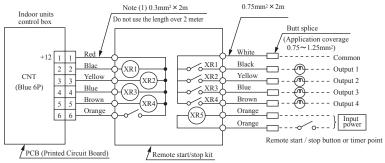
Installation check items

- ☐ Are the connection cables connected securely to the terminal blocks and connectors?
- ☐ Are the thickness and length of the connection cables conformed with the standard?

Functions of CNT connector

It is available to operate the air conditioning unit and to monitor the operation status with the external control unit (remote display) by sending the input/output signal through CNT connector on the indoor control PCB.

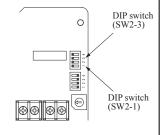
- ①Connect a external remote control unit (locally procured) to CNT terminal.
- ②In case of the pulse input, switch OFF the DIP switch SW2-1 on the interface PCB.
- ③When setting operation permission/ prohibition mode, switch OFF the DIP switch SW2-3 on the interface PCB.



- Output signal Input/ Function Content ON/OFF Relay Output 1 Operation output ON During air-conditioner operation XR_1 Output 2 Heating output XR₂ ON During heating operation Output 3 Compressor operation output XR3 ON During compressor running Output 4 Malfunction output XR4 ON During anomalous stop
- ●XR_{1~4} are for the DC 12V relay
- XR5 is a DC 12/24V or AC 220~240V relay
- CNT connector (local) maker, model

Connector	Molex	5264-06
Terminals	Molex	5263T

Input/ Output Function		SW2-1		SW2-3			Air-	Operation by	
		Cattina		Setting	Input signal		Contont	Conditioner	Remote Controller
Output		Setting		Setting	Level/Pulse	XR5	Content	Conditioner	remote controller
				ON*		OFF→ON	External input	ON	
		ON*	Level input		Level	ON→OFF	External input	OFF	Allowed
	E . 1	OIV	Level input	OFF	Level	$OFF{\rightarrow}ON$	Operation permission	OFF	
Input	External control			OFF		ON→OFF	Operation prohibition	OFF	Not allowed
	input			ON*	Pulse	OFF→ON	N External input	OFF→ON	
		OFF Pulse in	Pulse input					ON→OFF	Allowed
	Orr	OII	Or I uise input		Level	$OFF{\rightarrow}ON$	Operation permission	ON	
				OFF	Level		Operation prohibition	OFF	Not allowed
	* Factory setting								



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Connection of super link E board

Regarding the connection of super link E board, refer to the instruction manual of super link E board.

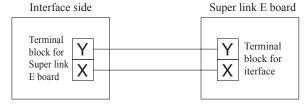
For electrical work, power supply for all of units in the super link system must be turned OFF.

①Switch ON the DIP switch SW2-2 (Factory setting: ON) on the interface PCB.

Caution: Wireless remote controller attached to the indoor unit can be used in parallel, after connecting the wired remote controller. However, some of functions other than the basic functions such as RUN/STOP, Temperature Setting, etc. may not work properly and may have a mismatch between the display and the actual behavior.

DIP switch (SW2-2)

②Wiring connection between the interface and the super link E board.



No.	Names of recommended signal wires
1	Shielded wire
2	Vinyl cabtyre round cord
3	Vinyl cabtyre round cable
4	Vinyl insulated wirevinyl sheathed cable for control

Within 200 m $0.5 \text{ mm}^2 \times 2 \text{ cores}$ Within 300 m $0.75 \text{ mm}^2 \times 2 \text{ cores}$ Within 400 m $1.25 \text{ mm}^2 \times 2 \text{ cores}$ Within 600 m $2.0 \text{ mm}^2 \times 2 \text{ cores}$

3Clamp the connection cables with cable clamps.

_DIP suitch

(SW2-2)

0

⊕

Connection of wired remote controller

Regarding the connection of wired remote controller, refer to the instruction manual of wired remote controller.

①Switch ON the DIP switch SW2-2 (Factory setting : ON) on the interface PCB.

Caution: Wireless remote controller attached to the indoor unit can be used in parallel, after connecting the wired remote controller. However, some of functions other than the basic functions such as RUN/STOP, Temperature Setting, etc. may not work properly and may have a mismatch between the display and the actual behavior.

②Wiring connection between the interface and the wired remote controller.

Installation and wiring of wired remote controller

- (A) Install the wired remote controller with reference to the attached instruction manual of wired remote controller.
- ® 0.3mm² × 2-core cable should be used for the wiring of wired remote controller.
- © Maximum length of wiring is 600m.

If the length of wiring exceeds 100m, change the size of cable as mentioned below.

100m-200m: $0.5\text{mm}^2\times2\text{-core}$, 300m or less: $0.75\text{mm}^2\times2\text{-core}$, 400m or less: $1.25\text{mm}^2\times2\text{-core}$, 600m or less: $2.0\text{mm}^2\times2\text{-core}$ However, cable size connecting to the terminal of wired remote controller should not exceed 0.5mm^2 . Accordingly if the size of connection cable exceeds 0.5mm^2 , be sure to downsize it to 0.5mm^2 at the nearest section of the wired remote controller and waterproof treatment should be done at the connecting section in order to avoid contact failure.

- Don't use the multi-core cable to avoid malfunction.
- Except he wiring of wired remote controller away from grounding (Don't touch it to any metal frame of building, etc.).
- © Connect the connection cables to the terminal blocks of the wired remote controller and the interface securely (no polarity).
- 3 Clamp the connection cables with cable clamps.

Control of multiple units by a single wired remote controller

Multiple units (up to 16) can be controlled by a single wired remote controller. In this case, all units connected with a single wired remote controller will operate under the same mode and same setting temperature.

- ①Connect all the interface with 2-core cables of wired remote controller line.
- ②Set the address of indoor unit for remote controller communication from "0" to "F" with the rotary switch SW1 on the interface PCB.
- ③After turning the power ON, the address of indoor unit can be displayed by pressing AIR CON button on the wired remote controller.

Make sure all indoor units connected are displayed in order by pressing

or

button.

Master/Slave setting wired when 2 of wired remote controller are used

Maximum two wired remote controller can be connected to one indoor unit (or one group of indoor units)

- ①Set the DIP switch SW1 on the wired remote controller to "Slave" for the slave remote controller. (Factory setting : Master)
 - O Caution: Remote controller sensor is invalid.
- When using the wireless remote controller in parallel with the wired remote controller;

Temperature setting range should be changed with the wired remote controller (The set temperature may not be displayed correctly on the wireless remote controller, unless change of temperature setting range is done.)

Changing procedure of temperature setting range is as follows.

How to set upper and lower limit of temperature sting range

- 1. Stop the air-conditioner, and press (SET) and (MODE) button at the same time for 3 seconds or more.
 - The indication changes to "FUNCTION SET \blacktriangledown "
- 2. Press ▼button once, and change to the "TEMP RANGE ▲" indication.
- 3. Press (SET) button, and enter the temperature range setting mode.
- 4. Confirm that the "Upper limit ▼" is shown on the display.
- 5. Press (SET)button to fix.
- 6. ①Indication: "ⓑ∨∧SET UP"→"UPPER 28°C ∨∧"
 - ②Select the upper limit value 30°C with temperature setting button □."UPPER30°C∨" (blinking)
 - ③Press ◯ (SET) button to fix. "UPPER 30°C" (Displayed for two seconds)

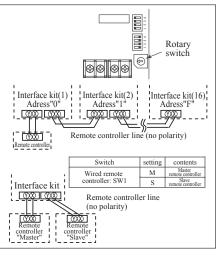
 After the fixed upper limit value displayed for two seconds, the indication will return to "UPPER LIMIT ▼"
- 7. Press button once, "LOWER LIMIT ▲" is selected, press (SET) button to fix.

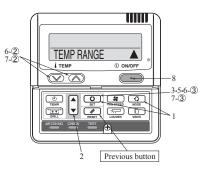
 ①Indication: "७∨ ∧ SET UP" → "LOWER 20°C ∨ ∧"
 - ②Select the lower limit value 18°C with temperature setting button ☑."LOWER18°C ∧" (blinking)
 - ③Press ◯ (SET) button to fix. "LOWER 18°C" (Displayed for two seconds)

 After the fixed lower limit value displayed for two seconds, the indication will returm to "LOWER LIMIT▼"
- 8. Press ON/OFF button to finish.

Temperature setting range

Mode	Temperature setting range	Upper limit	Lower limit
Heating	16-30°C		
Other than heating (Cooling, Fan, Dry, Auto)	18-30℃	20-30℃	16-26℃



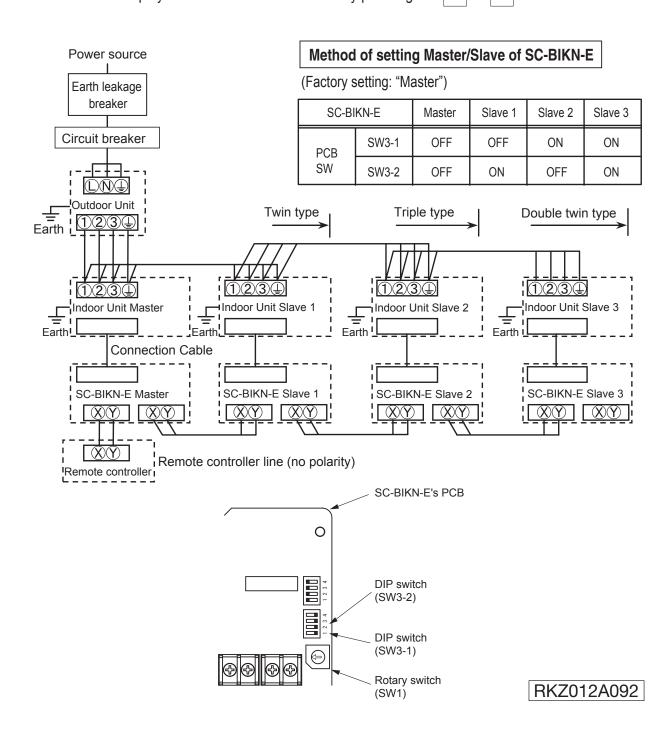


- It is possible to quit in the middle by pressing ON/OFF button, but the change of setting is incompleted.
- During setting, if pressing (RESET) button, it returns to the previous screen.



3.5.1 Cable connection for SRK twin/triple installation

- ①Connect the same pairs number of terminal block "①, ②, and ③ "and " ⊗ and ♥ " between master and slave indoor units.
- ②Do the same address setting of all inside units belong to same refrigerant system by rotary switch SW1 on SC-BIKN-E's PCB (Printed circuit board).
- ③Set slave indoor unit as "slave 1" through "slave 3" by address switch SW3-1, 3-2 on SC-BIKN-E's PCB.
- (4) When the AIR CON NO. button on the remote control unit is pressed after turning on the power, an indoor unit's address number will be displayed. Do not fail to confirm that the connected indoor unit's numbers are displayed on the remote control unit by pressing the ▲ or ▼ button.



3.6 SUPER LINK E BOARD (SC-ADNA-E)

PJZ012D029F

- Read and understand the instructions completely before starting installation.
- Refer to the instructions for both indoor and outdoor units.

Safety precautions

- Carefully read "Safety precautions" first. Follow the instructions for installation.
 Precautions are grouped into "Warning∆" and "Caution∆". The "Warning∆" group includes items that may lead to serious injury or death if not observed. The items included
- in the "Caution not group also may lead to serious results under certain conditions. Both groups are crucial for safety installation. Read and understand them carefully.

 After installation, conduct the test operation of the device to check for any abnormalities. Describe how to operate the device to the customer following the installation instruction manual. Instruct the customer to keep this installation instruction for future reference.

.♠Warning

- This device should be installed by the dealer where you purchase the device or a licensed professional shop. If the device is incorrectly installed by the
- customer, it may result in electric shock or fire.

 Install the device carefully following the installation instruction. If the device is
- incorrectly installed, it may result in electric shock or fire.

 Use the accessory parts and specified parts for installation. If any parts that do not match the specifications are used, it may result in electric shock or fire.
- A person with the electrical service certification should conduct the service based on the "Technical standards for electrical facilities", "Electrical Wiring Code", and the installation instruction. If the work is done incorrectly, it may result in electric shock or fire.
- Wiring should be securely connected using the specified types of wire. No external force on the wire should be applied to any terminals. If a secure connection is not achieved, it may result in electric shock or fire.

Application

Indoor-to-outdoor three core communication specification type 3 (since

Accessories

SL E board	Metal box	Metal cover	Screw for Ground
	[0]	•	M4×8L 2 pieces
Pan head screws	Locking supports	Binding band	Grommet
ø4x8L 2 pieces	To secure the print board and the metal box Made of nylon 4 pieces	68	

3 Function

Allowing the center console SL1N-E, SL2NA-E, and SL3N-AE/BE to control and monitor the commercial air conditioning unit.

4 Control switching

Settings can be changed by the switch SW3 on the SLE board as in the fol-

Switch	Symbol	Switch	Remarks
	4	ON	Master
	'	OFF (default)	Slave
		ON	Fixed previous protocol
	2	OFF (default)	Automatic adjustment of Super Link protocol
SW3	3	ON	Indicates the forced operation stop when abnormality has occurred.
	3	OFF (default)	Indicates the status of running/stop as it is, when abnormality has occurred.
	4	ON	The hundredth address activated "1"
	4	OFF (default)	The hundredth address activated "0"

.↑Caution

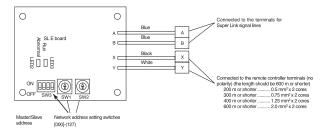
- Provide ground connection.
- The ground line should never be connected to the gas supply piping, the water supply piping, the lightning conductor rod, nor the telephone ground. If the grounding is improper, it may result in electric shock.
- Do not install the device in the following locations
 - 1.Where there is mist/spray of oil or steam such as kitchens. 2.Where there is corrosive gases such as sulfurous acid gas.

 - 3. Where there is a device generating electromagnetic waves These may interfere with the control system resulting in the device becoming uncontrollable.
 - 4. Where flammable volatile materials such as paint thinner and gasoline may exist or where they are handled. This may cause a fire.

5 Connection Outline

Note for setting the address

- Set the address between 00 and 47 for the previous Super Link connection and between 000 and 127 for the new Super Link connection. (*1)
- Do not set the address overlapping with those of the other devices in the network. (The default is 000)



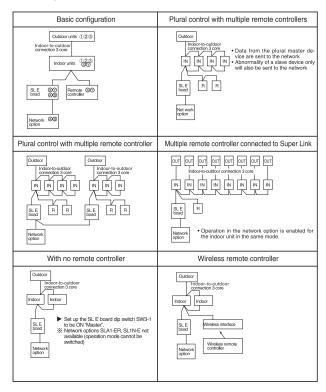
(*1) Whether the actual link is either the new Super Link or the previous Super Link depends on the models of the connected outdoor and indoor units. Consult the agent or the dealer.

Signal line specification

Communication method	Previous Super Link	New Super Link
Line type	MVVS	MVVS
Line diameter	0.75 - 1.25mm ²	0.75/1.25mm ²
Signal line (total length)	up to 1000m	up to 1500/1000m (*2)
Signal line (maximum length)	up to 1000m	up to 1000m

- (*2) Up to 1500 m for 0.75 mm^2 , and up to 1000 m for 1.25 mm^2 . Do not use 2.0 mm². It may cause an error.
- (*3) Connect grounding on both ends of the shielding wire. For the grounding method, refer to the section "6 Installation".

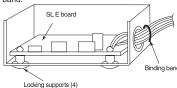
- Set the Super Link network address with SW1 (tens place), SW2 (ones place), and SW3 (hundreds place).
- (2) Set the SL E board SW3-1 to be ON (Master) when using this without any remote controller (no wired remote controller nor wireless remote controller).
- (3) Set up the plural master/slave device using the dip switches on the indoor unit board.
- (4) Set up the remote controller master/slave device using the slide switch on the remote controller board.
- (5) Set up "0" to "F" using the address rotary switch on the indoor unit board when controlling the indoor unit with the multiple remote controller.



6 Installation

- 1. When using the metal box (mounted on the indoor unit / mounted on the back of the remote controller):
 - (1) Mount the SL E board in the metal box using the locking supports.
 - (2) Wiring should go through the provided grommet since then through the wiring to the hole on the Metal box.

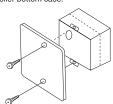
Secure the grommet after inserting the grommet into the Metal box as shown in below figure, then tie the wiring at the outlet of the unit using a binding band.



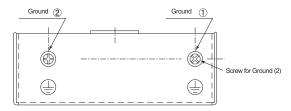
 \blacktriangle When installed outside the indoor unit, put the metal cover on.



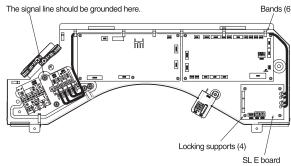
When installed on the back of the remote controller, mount it directly on the remote controller bottom case.



Connect grounding. Connect grounding for the power line to Ground 1, and grounding for the signal line to Ground 2 or to the Ground on the indoor unit control box.



- When connecting to the indoor unit control box (ceiling-concealed type and FDT type only):
 - (1) Mount the SL E board in the control box using the locking supports.
 - (2) Remove 6 bands from the box and put the wiring through the bands to be secured.



Electrical shock hazard! Make sure to turn the power off for servicing. Be cautious so that no abnormal force should be applied to the wiring. Do not let the SL E board hung by the wiring. Do not damage the board with a screw driver.

The board is sensitive to static electricity. Release the static electricity of your body before servicing.

(you can do this by touching the control board which is grounded).

Location of installation

Install the device at the location where there are no electromagnetic waves nor where there is water and dust. The specified temperature range of the device is 0 to 40° C. Install the device at the location where the ambient temperature stays within the range. If it exceeds the specification, make sure to provide solution such as installing a cooling fan. When used outside of the range, it may cause abnormal operation.

7 Indicator display

Check the LED 3 (green) and LED 2 (red) on the SL E board for flashing.

SL E board LEDs			Display on the
Red	Green	Inspection mode	integrated network control device
Off	Flashing	Normal communication	
Off	Off	Disconnection in the remote controller communication line (X or Y) Short-circuit in the remote controller communication line (between X and Y) Faulty indoor unit remote controller power Faulty remote controller communication circuit Faulty CPU on SL E board	No corresponding unit number
One flash	Flashing	Disconnection in the Super Link signal line (A or B) Short-circuit in the Super Link signal line (between A and B) Faulty Super Link signal circuit	
Two flashes	Flashing	Faulty address setting for the SL E board (Set up the address for previous SL E board : more than 48 new SL E board : more than 128)	
Three flashes	Flashing	SL E board parent not set up when used without a remote controller Faulty remote controller communication circuit	E1
Four flashes	Flashing	Address overlapping for the SL E board and the Super Link network connected indoor unit	E2
Off	Flashing	Number of connected devices exceeds the specification for the multiple indoor unit control	E10

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