MHI

DATA BOOK

Manual No. '10 • PAC-DB-142

STANDARD INVERTER PACKAGED AIR-CONDITIONERS
(Split system, Air to air heat pump type)

CEILING CASSETTE-4 WAY COMPACT TYPE

Single type	Twin type
FDTC40ZIXVD	FDTC71VNPVD
50ZIXVD	100VNPVD
60ZIXVD	100VSPVD
	125VNPVD
	125VSPVD
Triple type	**Double Twin type**
FDTC140VNTVD	FDTC200VSDVD
140VSTVD	FDTC250VSDVD

CEILING SUSPENDED TYPE

Single type	Twin type
FDEN40ZIXVD	FDEN71VNPVD
50ZIXVD	100VNPVD
60ZIXVD	100VSPVD
71VNVD	125VNPVD
100VNVD	125VSPVD
100VSVD	140VNPVD
125VNVD	140VSPVD
125VSVD	200VSPVD
140VNVD	250VSPVD
140VSVD	
Triple type	
FDEN140VNTVD	
140VSTVD	
200VSTVD	

DUCT CONNECTED-HIGH STATIC PRESSURE TYPE

Single type	
FDU71VNVD	FDU140VNVD
100VNVD	140VSVD
100VSVD	200VSVD
125VNVD	250VSVD
125VSVD	

CEILING CASSETTE-4 WAY TYPE

Single type	Twin type
FDT40ZIXVD	FDT71VNPVD
50ZIXVD	100VNPVD
60ZIXVD	100VSPVD
71VNVD	125VNPVD
100VNVD	125VSPVD
100VSVD	140VNPVD
125VNVD	140VSPVD
125VSVD	200VSPVD
140VNVD	250VSPVD
140VSVD	
Triple type	**Double Twin type**
FDT140VNTVD	FDT200VSDVD
140VSTVD	250VSDVD
200VSTVD	

DUCT CONNECTED-LOW/MIDDLE STATIC PRESSURE TYPE

Single type	Twin type
FDUM50ZIXVD	FDUM100VNPVD
60ZIXVD	100VSPVD
71VNVD	125VNPVD
100VNVD	125VSPVD
100VSVD	140VNPVD
125VNVD	140VSPVD
125VSVD	200VSPVD
140VNVD	250VSPVD
140VSVD	
Triple type	
FDUM140VNTVD	
140VSTVD	
200VSTVD	

V Multi System

(OUTDOOR UNIT)		(INDOOR UNIT)	
FDC71VN	FDC140VN	FDT40VD	FDEN40VD
100VN	140VS	50VD	50VD
100VS	200VS	60VD	60VD
125VN	250VS	71VD	71VD
125VS		100VD	100VD
		125VD	125VD

Ragarding the Service Manual please see the Manual No.'10 • PAC-SM-143.

MITSUBISHI HEAVY INDUSTRIES, LTD.

TABLE OF CONTENTS

1. STANDARD INVERTER PACKAGED AIR-CONDITIONERS 2
2. V MULTI SYSTEM 246
3. OPTION PARTS 273

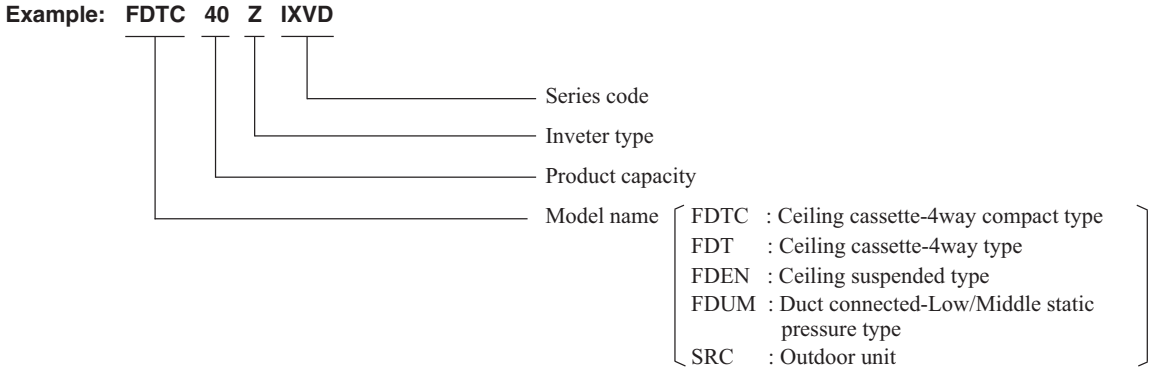
1. STANDARD INVERTER PACKAGED AIR-CONDITIONERS

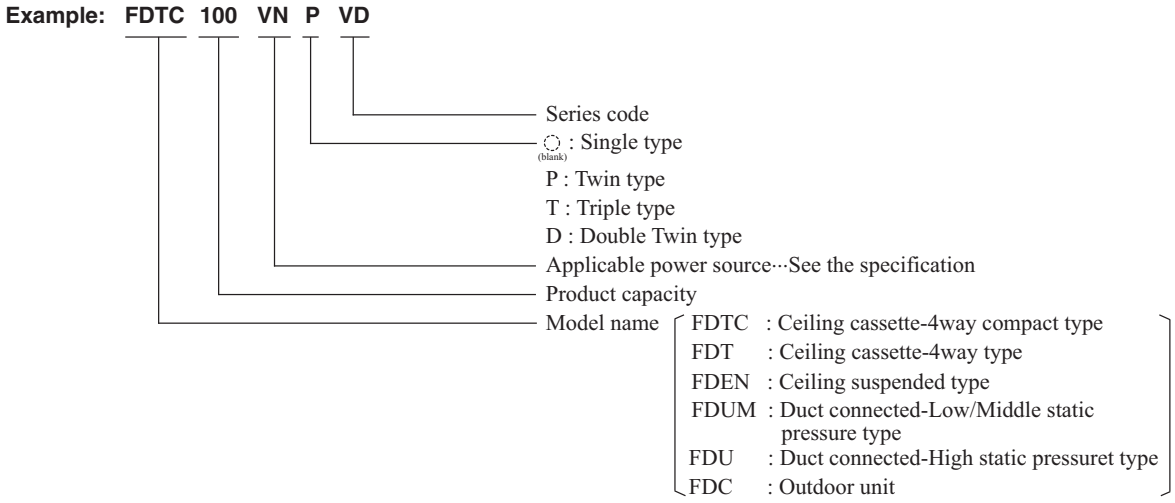
CONTENTS

1.1 SPECIFICATIONS 4
(1) Ceiling cassette-4way compact type (FDTC) 4
(2) Ceiling cassette-4way type (FDT) 16
(3) Ceiling suspended type (FDEN) 40
(4) Duct connected-Low/Middle static pressure type (FDUM) 64
(5) Duct connected-High static pressure type (FDU) 84
1.2 EXTERIOR DIMENSIONS 93
(1) Indoor units 93
(2) Outdoor units 105
(3) Remote controller (Option parts) 110
1.3 ELECTRICAL WIRING 112
(1) Indoor units 112
(2) Outdoor units 121
1.4 NOISE LEVEL 126
1.5 CHARACTERISTICS OF FAN 131
1.6 TEMPERATURE AND VELOCITY DISTRIBUTION 137
1.7 PIPING SYSTEM 145
1.8 RANGE OF USAGE & LIMITATIONS 152
1.9 SELECTION CHART 156
1.9.1 Capacity tables 156
(1) Ceiling cassette-4way compact type (FDTC) 156
(2) Ceiling cassette-4way type (FDT) 158
(3) Ceiling suspended type(FDEN) 162
(4) Duct connected-Low/Middle static pressure type (FDUM) 167
(5) Duct connected-High static pressure type (FDU) 170
1.9.2 Correction of cooling and heating capacity in relation to air flow rate control (fan speed) 172
1.9.3 Correction of cooling and heating capacity in relation to one way length of refrigerant piping 172
1.9.4 Height difference between the indoor unit and outdoor unit 173
1.10 APPLICATION DATA 174
1.10.1 Installation of indoor unit 174
(1) Ceiling cassette-4way compact type (FDTC) 174
(2) Ceiling cassette-4way type (FDT) 180
(3) Ceiling suspended type(FDEN) 186
(4) Duct connected-Low/Middle static pressure type (FDUM) 190
(5) Duct connected-High static pressure type (FDU) 194
1.10.2 Installation of wired remote controller 202

1.10.3 Installation of outdoor unit 206
(1) Models SRC40～60ZIX-S 206
(2) Model FDC71VN 213
(3) Models FDC100～140VN,100～140VS 221
(4) Models FDC200,250VS 229
(5) Method for connecting the accessory pipe (Models FDC200,250 only) 236
1.10.4 Electric wiring work installation 238
1.10.5 Instructions for branching pipe set (DIS-WA1,WB1,TA1,TB1) 243

How to read the model name





1.1. SPECIFICATIONS

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

(a) Single type

Adapted to **RoHS** directive

Item \ Model		FDTC40ZIXVD	
		Indoor unit **FDTC40VD**	Outdoor unit **SRC40ZIX-S**
		Panel **TC-PSA-25W-E**	
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	4.0 [1.8 (Min.)～4.7 (Max.)]	4.5 [2.0 (Min.)～5.4 (Max.)]
Power consumption	kW	1.04	1.10
Running current	A	4.6 / 4.8	4.9 / 5.2
Power factor	%	98 / 99	97
Inrush current	A	5 < Max.running current 12 >	
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	47
Exterior dimensions Height x Width x Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	640 × 800 × 290
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	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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		Turbo fan × 1	Propeller fan × 1
Motor <Starting method>	W	33 < Direct line start >	45 < 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	40
Available static pressure	Pa	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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line: I/U φ6.35 (1/4") Pipe φ6.35 (1/4") x 0.8 O/U φ6.35 (1/4")	
		Gas line : φ12.7 (1/2") φ12.7 (1/2") x 0.8 φ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 x 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	Drain elbow, Drain hole grommet

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJA003Z375 A

Adapted to **RoHS** directive

Item \ Model		FDTC50ZIXVD	
		Indoor unit **FDTC50VD**	Outdoor unit **SRC50ZIX-S**
		Panel **TC-PSA-25W-E**	
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	5.0 [2.2 (Min.)～5.6 (Max.)]	5.4 [2.5 (Min.)～6.3 (Max.)]
Power consumption	kW	1.56	1.45
Running current	A	6.9 / 7.2	6.4 / 6.7
Power factor	%	99 / 98	99
Inrush current	A	5 < Max.running current 14 >	
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	47
Exterior dimensions Height x Width x Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	640 × 800 × 290
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	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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		Turbo fan × 1	Propeller fan × 1
Motor <Starting method>	W	33 < Direct line start >	45 < 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	40
Available static pressure	Pa	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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line: I/U ϕ6.35 (1/4") Pipe ϕ6.35 (1/4") x 0.8 O/U ϕ6.35 (1/4")	
		Gas line : ϕ12.7 (1/2") ϕ12.7(1/2") x 0.8 ϕ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 x 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	Drain elbow, Drain hole grommet

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJA003Z375 A

Adapted to **RoHS** directive

Item \ Model		FDTC60ZIXVD	
		Indoor unit **FDTC60VD**	Outdoor unit **SRC60ZIX-S**
		Panel **TC-PSA-25W-E**	
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	5.6 [2.8(Min.)～6.3(Max.)]	6.7 [3.1(Min.)～6.7(Max.)]
Power consumption	kW	1.99	2.08
Running current	A	8.3 / 8.7	8.7 / 9.1
Power factor	%	96	96
Inrush current	A	5 < Max.running current 14 >	
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	48
Exterior dimensions Height x Width x Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	640 × 800 × 290
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	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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		Turbo fan × 1	Propeller fan × 1
Motor <Starting method>	W	33 < Direct line start >	45 < Direct line start >
Air flow (Standard)	CMM	Cooling P-Hi : 13.5 Hi : 13.5 Me : 10 Lo : 7 Heating P-Hi : 13.5 Hi : 13.5 Me : 10 Lo : 8	40
Available static pressure	Pa	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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") Pipe ϕ6.35 (1/4") x 0.8 O/U ϕ6.35 (1/4")	
		Gas line : ϕ12.7 (1/2") ϕ12.7(1/2") x 0.8 ϕ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 x 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	Drain elbow, Drain hole grommet

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJA003Z375 A

(b) Twin type

Adapted to **RoHS** directive

Item \ Model		FDTC71VNPVD	
		Indoor unit **FDTC40VD (2 units)**	Outdoor unit **FDC71VN**
		Panel **TC-PSA-25W-E**	
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	7.1 [3.2 (Min.)～8.0 (Max.)]	8.0 [3.6 (Min.)～9.0 (Max.)]
Power consumption	kW	1.91	2.08
Running current	A	8.3 / 8.8	9.0 / 9.6
Power factor	%	99	99 / 98
Inrush current	A	5 < Max.running current 17 >	
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	48
Exterior dimensions Height x Width x Depth	mm	Unit 248 × 570 × 570 Panel 35 × 700 × 700	750 × 968 × 340
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	60
Refrigerant equipment Compressor type & Q'ty		—	2YC45DXD × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.65 FVC50K
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>	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 : 60, Heating : 50
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") x 0.8 ①φ9.52 (3/8") x 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") x 0.8 ①φ15.88 (5/8") x 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 2.95kg 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		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	—

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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) Indoor unit specifications for one unit. Capacity and operation data is two 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.

PJA003Z375 A

Adapted to **RoHS** directive

Item \ Model		FDTC100VNPVD	
		Indoor unit **FDTC50VD (2 units)**	Outdoor unit **FDC100VN**
		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	2.84	3.08
Running current	A	12.4 / 13.0	13.5 / 14.1
Power factor	%	99	99
Inrush current	A	5 < Max.running 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 x Width x 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 PANEL 3.5	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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") ②ϕ9.52 (3/8") x 0.8 ①ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ12.7 (1/2") ②ϕ12.7 (1/2") x 0.8 ①ϕ15.88 (5/8") x 1.0 O/U ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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.

PJA003Z375 Ⓐ

Adapted to **RoHS** directive

Item \ Model		FDTC100VSPVD	
		Indoor unit **FDTC50VD (2 units)**	Outdoor unit **FDC100VS**
		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	2.84	3.08
Running current	A	4.2 / 4.4	4.5 / 4.8
Power factor	%	98	99 / 97
Inrush current	A	5 < Max.running 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 x Width x 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 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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") x 0.8 ①φ9.52 (3/8") x 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") x 0.8 ①φ15.88 (5/8") x 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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.

PJA003Z375 Ⓐ

Adapted to **RoHS** directive

Item \ Model		FDTC125VNPVD	
		Indoor unit **FDTC60VD (2 units)**	Outdoor unit **FDC125VN**
		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	A	24.0 / 25.1	20.7 / 21.6
Power factor	%	97	97
Inrush current	A	5 < Max.running 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 x Width x 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 PANEL 3.5	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>	W	33 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") ②ϕ9.52 (3/8") x 0.8 ①ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ12.7 (1/2") ②ϕ12.7 (1/2") x 0.8 ①ϕ15.88 (5/8") x 1.0 O/U ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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.

PJA003Z375 A

Adapted to **RoHS** directive

Item \ Model		FDTC125VSPVD	
		Indoor unit **FDTC60VD (2 units)**	Outdoor unit **FDC125VS**
		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	A	8.0 / 8.4	6.9 / 7.2
Power factor	%	97	97
Inrush current	A	5 < Max.running 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 x Width x 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 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>	W	33 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") ②ϕ9.52 (3/8") x 0.8 ①ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ12.7 (1/2") ②ϕ12.7 (1/2") x 0.8 ①ϕ15.88 (5/8") x 1.0 O/U ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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.

PJA003Z375 Ⓐ

(c) Triple type

Adapted to **RoHS** directive

Item \ Model		FDTC140VNTVD	
		Indoor unit **FDTC50VD (3 units)**	Outdoor unit **FDC140VN**
		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	A	20.4 / 21.3	20.0 / 20.9
Power factor	%	99	98
Inrush current	A	5 < Max.running 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 x Width x 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 PANEL 3.5	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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") ② ϕ9.52 (3/8") x 0.8 ① ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ12.7 (1/2") ② ϕ12.7 (1/2") x 0.8 ① ϕ15.88 (5/8") x 1.0 O/U ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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.

PJA003Z375 A

Adapted to **RoHS** directive

Item \ Model		FDTC140VSTVD	
		Indoor unit **FDTC50VD (3 units)**	Outdoor unit **FDC140VS**
		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	A	6.8 / 7.1	6.6 / 7.0
Power factor	%	98 / 99	99 / 98
Inrush current	A	5 < Max.running 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 (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	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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") x 0.8 ①φ9.52 (3/8") x 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") x 0.8 ①φ15.88 (5/8") x 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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.

PJA003Z375 A

(d) Double Twin type

Adapted to **RoHS** directive

Item \ Model		FDTC200VSDVD	
		Indoor unit **FDTC50VD (4 units)**	Outdoor unit **FDC200VS**
		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	A	10.9 / 11.5	10.4 / 10.9
Power factor	%	97	97
Inrush current	A	5 < Max.running 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>	W	33 < Direct line start >	86 x 2 < 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 : 150, Heating : 145
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/O φ6.35 (1/4") ③② φ9.52 (3/8") x 0.8 ① φ9.52 (3/8") x 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ③ φ12.7 x 0.8 ② φ15.88 ① φ22.22 (7/8") x 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) 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 VP20	Holes size φ20 x 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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.

PJA003Z375 A

Adapted to **RoHS** directive

Item \ Model		FDTC250VSDVD	
		Indoor unit **FDTC60VD (4 units)**	Outdoor unit **FDC250VS**
		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	A	16.8 / 17.7	15.2 / 16.0
Power factor	%	97	97
Inrush current	A	5 < Max.running 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 (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	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>	W	33 < Direct line start >	86 x 2 < Direct line start >
Air flow (Standard)	CMM	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/O φ6.35 (1/4") ③② φ9.52 (3/8") x 0.8 ① φ12.7 (1/2") x 0.8 O/U φ12.7 (1/2")	
		Gas line : I/U φ12.7 (1/2") ③ φ12.7 x 0.8 ② φ15.88 ① φ22.22 (7/8") x 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 7.2kg (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 x 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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.

PJA003Z375 A

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

(a) Single type

Adapted to **RoHS** directive

Item \ Model		FDT40ZIXVD	
		Indoor unit **FDT40VD**	Outdoor unit **SRC40ZIX-S**
		Panel **T-PSA-3AW-E**	
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	4.0 [1.8 (Min.)～4.7 (Max.)]	4.5 [2.0 (Min.)～5.4 (Max.)]
Power consumption	kW	0.93	1.15
Running current	A	4.1 / 4.3	5.2 / 5.4
Power factor	%	98	97
Inrush current	A	5 < Max.running current 12 >	
Sound Pressure Level	dB(A)	P-Hi : 39 Hi : 33 Me : 31 Lo : 30	47
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	640 × 800 × 290
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	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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		Turbo fan × 1	Propeller fan × 1
Motor <Starting method>	W	50 < Direct line start >	45 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 20 Hi : 18 Me : 16 Lo : 14	40
Available static pressure	Pa	0	—
Outdoor 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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") Pipe ϕ6.35 (1/4") x 0.8 O/U ϕ6.35 (1/4")	
		Gas line : ϕ12.7 (1/2") ϕ12.7 (1/2") x 0.8 ϕ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 x 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	Drain elbow, Drain hole grommet

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT50ZIXVD	
		Indoor unit **FDT50VD**	Outdoor unit **SRC50ZIX-S**
		Panel **T-PSA-3AW-E**	
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	5.0 [2.2 (Min.)～5.6 (Max.)]	5.4 [2.5 (Min.)～6.3 (Max.)]
Power consumption	kW	1.29	1.29
Running current	A	5.7 / 6.0	5.7 / 6.0
Power factor	%	98	98
Inrush current	A	5 < Max.running current 14 >	
Sound Pressure Level	dB(A)	P-Hi : 39 Hi : 33 Me : 31 Lo : 30	47
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	640 × 800 × 290
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	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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		Turbo fan × 1	Propeller fan × 1
Motor <Starting method>	W	50 < Direct line start >	45 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 20 Hi : 18 Me : 16 Lo : 14	40
Available static pressure	Pa	0	—
Outdoor 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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") Pipe ϕ6.35 (1/4") x 0.8 O/U ϕ6.35 (1/4")	
		Gas line : ϕ12.7 (1/2") ϕ12.7 (1/2") x 0.8 ϕ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 x 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	Drain elbow, Drain hole grommet

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT60ZIXVD	
		Indoor unit **FDT60VD**	Outdoor unit **SRC60ZIX-S**
		Panel **T-PSA-3AW-E**	
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	5.6 [2.8 (Min.)～6.3 (Max.)]	6.7 [3.1 (Min.)～7.1 (Max.)]
Power consumption	kW	1.57	1.85
Running current	A	7.0 / 7.2	8.2 / 8.7
Power factor	%	98 / 99	98 / 97
Inrush current	A	5 < Max.running current 14 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 33 Me : 31 Lo : 30	48
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	640 × 800 × 290
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 24 PANEL 5.5	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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		Turbo fan × 1	Propeller fan × 1
Motor <Starting method>	W	50 < Direct line start >	45 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 28 Hi : 18 Me : 16 Lo : 14	40
Available static pressure	Pa	0	—
Outdoor 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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") Pipe ϕ6.35 (1/4") x 0.8 O/U ϕ6.35 (1/4")	
		Gas line : ϕ12.7 (1/2") ϕ12.7 (1/2") x 0.8 ϕ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 x 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	Drain elbow, Drain hole grommet

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT71VNVD	
		Indoor unit **FDT71VD**	Outdoor unit **FDC71VN**
		Panel **T-PSA-3AW-E**	
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	7.1 [3.2 (Min.)～8.0 (Max.)]	8.0 [3.6 (Min.)～9.0 (Max.)]
Power consumption	kW	1.90	2.07
Running current	A	8.3 / 8.8	9.0 / 9.6
Power factor	%	99 / 98	99 / 98
Inrush current	A	5 < Max.running current 17 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 35 Me : 33 Lo : 31	48
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	750 × 968 × 340
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 24 PANEL 5.5	60
Refrigerant equipment Compressor type & Q'ty		—	2YC45DXD × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.65 FVC50K
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>	W	50 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 28 Hi : 21 Me : 19 Lo : 17	Cooling : 60 , Heating : 50
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : ϕ15.88 (5/8") ϕ15.88 (5/8") x 1.0 ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 2.95kg 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		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	—

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT100VNVD	
		Indoor unit **FDT100VD**	Outdoor unit **FDC100VN**
		Panel **T-PSA-3AW-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	A	12.1 / 12.7	12.0 / 12.6
Power factor	%	99	99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 51 Hi : 40 Me : 37 Lo : 35	49
Exterior dimensions Height x Width x Depth	mm	Unit 298 × 840 × 840 Panel 35 × 950 × 950	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 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 × 1
Motor <Starting method>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : ϕ15.88 (5/8") ϕ15.88 (5/8") x 1.0 ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT100VSVD	
		Indoor unit **FDT100VD**	Outdoor unit **FDC100VS**
		Panel **T-PSA-3AW-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	A	4.2 / 4.4	4.2 / 4.4
Power factor	%	95 / 91	94 / 95
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 51 Hi : 40 Me : 37 Lo : 35	49
Exterior dimensions Height x Width x Depth	mm	Unit 298 × 840 × 840 Panel 35 × 950 × 950	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 27 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : ϕ15.88 (5/8") ϕ15.88 (5/8") x 1.0 ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.
(5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT125VNVD	
		Indoor unit **FDT125VD**	Outdoor unit **FDC125VN**
		Panel **T-PSA-3AW-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	A	17.7 / 18.6	16.6 / 17.3
Power factor	%	99	99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 51 Hi : 42 Me : 40 Lo : 37	Cooling : 50 Heating : 51
Exterior dimensions Height x Width x Depth	mm	Unit 298 × 840 × 840 Panel 35 × 950 × 950	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 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 × 1
Motor <Starting method>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : ϕ15.88 (5/8") ϕ15.88 (5/8") x 1.0 ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT125VSVD	
		Indoor unit **FDT125VD**	Outdoor unit **FDC125VS**
		Panel **T-PSA-3AW-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	A	5.9 / 6.3	5.5 / 5.9
Power factor	%	99 / 98	99 / 97
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 51 Hi : 42 Me : 40 Lo : 37	Cooling : 50 Heating : 51
Exterior dimensions Height x Width x Depth	mm	Unit 298 × 840 × 840 Panel 35 × 950 × 950	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 27 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : ϕ15.88 (5/8") ϕ15.88 (5/8") x 1.0 ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.
(5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT140VNVD	
		Indoor unit **FDT140VD**	Outdoor unit **FDC140VN**
		Panel **T-PSA-3AW-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	A	22.0 / 23.0	20.2 / 21.2
Power factor	%	98	98
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 51 Hi : 43 Me : 41 Lo : 38	51
Exterior dimensions Height x Width x Depth	mm	Unit 298 × 840 × 840 Panel 35 × 950 × 950	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 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 × 1
Motor <Starting method>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : ϕ15.88 (5/8") ϕ15.88 (5/8") x 1.0 ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT140VSVD	
		Indoor unit **FDT140VD**	Outdoor unit **FDC140VS**
		Panel **T-PSA-3AW-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	A	7.4 / 7.8	6.7 / 7.4
Power factor	%	97	98 / 94
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 51 Hi : 43 Me : 41 Lo : 38	51
Exterior dimensions Height x Width x Depth	mm	Unit 298 × 840 × 840 Panel 35 × 950 × 950	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 27 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : ϕ15.88 (5/8") ϕ15.88 (5/8") x 1.0 ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.
(5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

(b) Twin type

Adapted to **RoHS** directive

Item \ Model		FDT71VNPVD	
		Indoor unit **FDT40VD (2 units)**	Outdoor unit **FDC71VN**
		Panel **T-PSA-3AW-E**	
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	7.1 [3.2 (Min.)～8.0 (Max.)]	8.0 [3.6 (Min.)～9.0 (Max.)]
Power consumption	kW	1.85	1.99
Running current	A	8.0 / 8.6	8.7 / 9.1
Power factor	%	99 / 98	99
Inrush current	A	5 < Max.running current 17 >	
Sound Pressure Level	dB(A)	P-Hi : 39 Hi : 33 Me : 31 Lo : 30	48
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	750 × 968 × 340
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	60
Refrigerant equipment Compressor type & Q'ty		—	2YC45DXD × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.65 FVC50K
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>	W	50 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 20 Hi : 18 Me : 16 Lo : 14	Cooling : 60, Heating : 50
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") x 0.8 ①φ9.52 (3/8") x 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") x 0.8 ①φ15.88 (5/8") x 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 2.95kg 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		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	—

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT100VNPVD	
		Indoor unit **FDT50VD (2 units)**	Outdoor unit **FDC100VN**
		Panel **T-PSA-3AW-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	A	12.9 / 13.7	13.6 / 14.2
Power factor	%	99 / 98	99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 39 Hi : 33 Me : 31 Lo : 30	49
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	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 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") ② ϕ9.52 (3/8") x 0.8 ① ϕ9.52 (3/8") x 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ12.7 (1/2") ② ϕ12.7 (1/2") x 0.8 ① ϕ15.88 (5/8") x 1.0 O/U ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT100VSPVD	
		Indoor unit **FDT50VD (2 units)**	Outdoor unit **FDC100VS**
		Panel **T-PSA-3AW-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	2.94	3.09
Running current	A	4.3 / 4.6	4.5 / 4.8
Power factor	%	99 / 97	99 / 98
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 39 Hi : 33 Me : 31 Lo : 30	49
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	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 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") ②ϕ9.52 (3/8") × 0.8 ①ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ12.7 (1/2") ②ϕ12.7 (1/2") × 0.8 ①ϕ15.88 (5/8") × 1.0 O/U ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT125VNPVD	
		Indoor unit **FDT60VD (2 units)**	Outdoor unit **FDC125VN**
		Panel **T-PSA-3AW-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	A	17.7 / 18.5	16.6 / 17.3
Power factor	%	97	97
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 33 Me : 31 Lo : 30	Cooling : 50 Heating : 51
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	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 24 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") ②ϕ9.52 (3/8") × 0.8 ①ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ12.7 (1/2") ②ϕ12.7 (1/2") × 0.8 ①ϕ15.88 (5/8") × 1.0 O/U ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT125VSPVD	
		Indoor unit **FDT60VD (2 units)**	Outdoor unit **FDC125VS**
		Panel **T-PSA-3AW-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	A	5.9 / 6.2	5.5 / 5.8
Power factor	%	97	97
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 33 Me : 31 Lo : 30	Cooling : 50 Heating : 51
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	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 24 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") ②ϕ9.52 (3/8") × 0.8 ①ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ12.7 (1/2") ②ϕ12.7 (1/2") × 0.8 ①ϕ15.88 (5/8") × 1.0 O/U ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT140VNPVD	
		Indoor unit **FDT71VD (2 units)**	Outdoor unit **FDC140VN**
		Panel **T-PSA-3AW-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	A	19.8 / 20.7	20.1 / 21.0
Power factor	%	99	99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 35 Me : 33 Lo : 31	51
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	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 24 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") ②ϕ9.52 (3/8") × 0.8 ①ϕ9.52 (3/8") × 0.8 O/Uϕ9.52 (3/8")	
		Gas line : I/U ϕ15.88 (5/8") ②ϕ15.88 (5/8") × 1.0 ①ϕ15.88 (5/8") × 1.0 O/Uϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT140VSPVD	
		Indoor unit **FDT71VD (2 units)**	Outdoor unit **FDC140VS**
		Panel **T-PSA-3AW-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	A	6.7 / 7.1	6.7 / 7.1
Power factor	%	97	99 / 98
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 35 Me : 33 Lo : 31	51
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	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 24 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ15.88 (5/8") ②φ15.88 (5/8") × 1.0 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT200VSPVD	
		Indoor unit **FDT100VD (2 units)**	Outdoor unit **FDC200VS**
		Panel **T-PSA-3AW-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	A	9.9 / 10.6	9.1 / 9.8
Power factor	%	96 / 94	95 / 93
Inrush current	A	5 < Max.running current 19 >	
Sound Pressure Level	dB(A)	P-Hi : 51 Hi : 40 Me : 37 Lo : 35	57
Exterior dimensions Height x Width x Depth	mm	Unit 298 × 840 × 840 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 27 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 tubing
Refrigerant control		—	Electronic expansion valve
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 2
Motor <Starting method>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ15.88 (5/8") ②φ15.88 (5/8") × 1.0 ①φ22.22 (7/8") × 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) 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 VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT250VSPVD	
		Indoor unit **FDT125VD (2 units)**	Outdoor unit **FDC250VS**
		Panel **T-PSA-3AW-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	A	12.4 / 13.0	11.8 / 12.3
Power factor	%	97	95 / 96
Inrush current	A	5 < Max.running current 22 >	
Sound Pressure Level	dB(A)	P-Hi : 51 Hi : 42 Me : 40 Lo : 37	Cooling : 57 Heating : 58
Exterior dimensions Height x Width x Depth	mm	Unit 298 × 840 × 840 Panel 35 × 950 × 950	1,505 × 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 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") ②ϕ9.52 (3/8") × 0.8 ①ϕ12.7 (1/2") × 0.8 O/Uϕ12.7 (1/2")	
		Gas line : I/U ϕ15.88 (5/8") ②ϕ15.88 (5/8") × 1.0 ①ϕ22.22 (7/8") × 1.6 O/Uϕ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 7.2kg (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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

(c) Triple type

Adapted to **RoHS** directive

Item \ Model		FDT140VNTVD	
		Indoor unit **FDT50VD (3 units)**	Outdoor unit **FDC140VN**
		Panel **T-PSA-3AW-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	A	20.8 / 22.1	20.3 / 21.2
Power factor	%	97 / 96	99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 39 Hi : 33 Me : 31 Lo : 30	51
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	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 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT140VSTVD	
		Indoor unit **FDT50VD (3 units)**	Outdoor unit **FDC140VS**
		Panel **T-PSA-3AW-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	A	6.9 / 7.4	6.8 / 7.1
Power factor	%	97 / 95	98 / 99
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 39 Hi : 33 Me : 31 Lo : 30	51
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	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 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") ②ϕ9.52 (3/8") × 0.8 ①ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ12.7 (1/2") ②ϕ12.7 (1/2") × 0.8 ①ϕ15.88 (5/8") × 1.0 O/U ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT200VSTVD	
		Indoor unit **FDT71VD (3 units)**	Outdoor unit **FDC200VS**
		Panel **T-PSA-3AW-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	A	9.7 / 10.2	9.1 / 9.6
Power factor	%	97	97
Inrush current	A	5 < Max.running current 19 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 35 Me : 33 Lo : 31	57
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 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 24 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 tubing
Refrigerant control		—	Electronic expansion valve
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 2
Motor <Starting method>	W	50 < Direct line start >	86 × 2 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 28 Hi : 21 Me : 19 Lo : 17	Cooling : 150, Heating : 145
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ15.88 (5/8") ②φ15.88 (5/8") × 1.0 ①φ22.22 (7/8") × 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.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 5.4kg (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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

(d) Double Twin type

Adapted to **RoHS** directive

Item \ Model		FDT200VSDVD	
		Indoor unit **FDT50VD (4 units)**	Outdoor unit **FDC200VS**
		Panel **T-PSA-3AW-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	6.15
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 x Width x Depth	mm	Unit 246 × 840 × 840 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 tubing
Refrigerant control		—	Electronic expansion valve
Air handling equipment Fan type & Q'ty		Turbo fan × 1	Propeller fan × 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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ③② φ9.52 (3/8") × 0.8 ① φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ③ φ12.7 × 0.8 ② φ15.88 ① φ22.22 (7/8") × 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) 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 VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT250VSDVD	
		Indoor unit **FDT60VD (4 units)**	Outdoor unit **FDC250VS**
		Panel **T-PSA-3AW-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	A	12.3 / 13.0	11.5 / 12.1
Power factor	%	97	97
Inrush current	A	5 < Max.running current 22 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 33 Me : 31 Lo : 30	Cooling : 57 Heating : 58
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	1,505 × 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 24 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>	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
Available static pressure	Pa	0	—
Outdoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/O φ6.35 (1/4") ③② φ9.52 (3/8") × 0.8 ① φ12.7 (1/2") × 0.8 O/U φ12.7 (1/2")	
		Gas line : I/U φ12.7 (1/2") ③ φ12.7 × 0.8 ② φ15.88 ① φ22.22 (7/8") × 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 7.2kg (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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJF000Z188 A

(3) Ceiling suspended type (FDEN)

(a) Single type

Adapted to **RoHS** directive

Item \ Model		FDEN40ZIXVD	
		Indoor unit **FDEN40VD**	Outdoor unit **SRC40ZIX-S**
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	4.0 [1.8 (Min.)～4.7 (Max.)]	4.5 [2.0 (Min.)～5.4 (Max.)]
Power consumption	kW	1.04	1.13
Running current	A	4.7 / 4.8	5.1 / 5.3
Power factor	%	97 / 98	97
Inrush current	A	5 < Max.running current 12 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 39 Me : 38 Lo : 37	47
Exterior dimensions Height x Width x Depth	mm	210 × 1,070 × 690	640 × 800 × 290
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	28	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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>	W	25 < Direct line start >	45 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 13 Hi : 11 Me : 9 Lo : 7	40
Available static pressure	Pa	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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") Pipe ϕ6.35 (1/4") × 0.8 O/U ϕ6.35 (1/4")	
		Gas line : ϕ12.7 (1/2") ϕ12.7 (1/2") × 0.8 ϕ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size ϕ20 × 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	Drain elbow, Drain hole grommet

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN50ZIXVD	
		Indoor unit **FDEN50VD**	Outdoor unit **SRC50ZIX-S**
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	5.0 [2.2 (Min.)～5.6 (Max.)]	5.4 [2.5 (Min.)～6.3 (Max.)]
Power consumption	kW	1.59	1.58
Running current	A	7.1 / 7.5	7.0 / 7.3
Power factor	%	97	98
Inrush current	A	5 < Max.running current 14 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 39 Me : 38 Lo : 37	47
Exterior dimensions Height x Width x Depth	mm	210 × 1,070 × 690	640 × 800 × 290
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	28	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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>	W	25 < Direct line start >	45 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 13 Hi : 11 Me : 9 Lo : 7	40
Available static pressure	Pa	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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") Pipe ϕ6.35 (1/4") × 0.8 O/U ϕ6.35 (1/4")	
		Gas line : ϕ12.7 (1/2") ϕ12.7 (1/2") × 0.8 ϕ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size ϕ20 × 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	Drain elbow, Drain hole grommet

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN60ZIXVD	
		Indoor unit **FDEN60VD**	Outdoor unit **SRC60ZIX-S**
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	5.6 [2.8 (Min.)～6.3 (Max.)]	6.7 [3.1 (Min.)～7.1 (Max.)]
Power consumption	kW	1.95	2.12
Running current	A	8.7 / 9.2	9.4 / 9.8
Power factor	%	97 / 96	98
Inrush current	A	5 < Max.running current 14 >	
Sound Pressure Level	dB(A)	P-Hi : 50 Hi : 41 Me : 39 Lo : 38	48
Exterior dimensions Height x Width x Depth	mm	210 × 1,320 × 690	640 × 800 × 290
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	37	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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 × 4	Propeller fan × 1
Motor <Starting method>	W	20 × 2 < Direct line start >	45 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 22 Hi : 18 Me : 14 Lo : 12	40
Available static pressure	Pa	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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") Pipe ϕ6.35 (1/4") × 0.8 O/U ϕ6.35 (1/4")	
		Gas line : ϕ12.7 (1/2") ϕ12.7 (1/2") × 0.8 ϕ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size ϕ20 × 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	Drain elbow, Drain hole grommet

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN71VNVD	
		Indoor unit **FDEN71VD**	Outdoor unit **FDC71VN**
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	7.1 [3.2 (Min.)～8.0 (Max.)]	8.0 [3.6 (Min.)～9.0 (Max.)]
Power consumption	kW	2.01	2.21
Running current	A	8.9 / 9.2	9.8 / 10.2
Power factor	%	98 / 99	98
Inrush current	A	5 < Max.running current 17 >	
Sound Pressure Level	dB(A)	P-Hi : 50 Hi : 41 Me : 39 Lo : 38	48
Exterior dimensions Height x Width x Depth	mm	210 × 1,320 × 690	750 × 968 × 340
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	37	60
Refrigerant equipment Compressor type & Q'ty		—	2YC45DXD × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.65 FVC50K
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>	W	20 × 2 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 22 Hi : 18 Me : 14 Lo : 12	Cooling : 60, Heating : 50
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 2.95kg 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)	
Standard Accessories		Mounting kit, Drain hose	—

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 230V50Hz or 220V60Hz.
(5) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN100VNVD	
		Indoor unit **FDEN100VD**	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	2.85	2.97
Running current	A	12.5 / 13.1	13.0 / 13.6
Power factor	%	99	99
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (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	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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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)	
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 230V50Hz or 220V60Hz.
(5) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN100VSVD	
		Indoor unit **FDEN100VD**	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	2.85	2.97
Running current	A	4.2 / 4.4	4.3 / 4.6
Power factor	%	98	99 / 98
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.
(5) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN125VNVD	
		Indoor unit **FDEN125VD**	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	4.45	4.08
Running current	A	19.5 / 20.4	17.9 / 18.7
Power factor	%	99	99
Inrush current	A	5 < Max.running 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
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	49	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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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)	
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 230V50Hz or 220V60Hz.
(5) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN125VSVD	
		Indoor unit **FDEN125VD**	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	4.45	4.08
Running current	A	6.6 / 6.8	6.0 / 6.3
Power factor	%	97 / 99	98 / 99
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.
(5) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN140VNVD	
		Indoor unit **FDEN140VD**	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	5.80	4.92
Running current	A	25.2 / 26.0	21.6 / 22.6
Power factor	%	99	99
Inrush current	A	5 < Max.running current 26 >	
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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (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	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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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)	
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 230V50Hz or 220V60Hz.
(5) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN140VSVD	
		Indoor unit **FDEN140VD**	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	5.80	4.92
Running current	A	8.6 / 9.1	7.2 / 7.6
Power factor	%	97	99
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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)	
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) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

(b) Twin type

Adapted to **RoHS** directive

Item \ Model		FDEN71VNPVD	
		Indoor unit **FDEN40VD (2 units)**	Outdoor unit **FDC71VN**
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	7.1 [3.2 (Min.)～8.0 (Max.)]	8.0 [3.6 (Min.)～9.0 (Max.)]
Power consumption	kW	1.74	2.05
Running current	A	7.6 / 8.0	9.0 / 9.5
Power factor	%	99	99 / 98
Inrush current	A	5 < Max.running current 17 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 39 Me : 38 Lo : 37	48
Exterior dimensions Height x Width x Depth	mm	210 × 1,070 × 690	750 × 968 × 340
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	28	60
Refrigerant equipment Compressor type & Q'ty		—	2YC45DXD × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.65 FVC50K
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>	W	25 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 13 Hi : 11 Me : 9 Lo : 7	Cooling : 60, Heating : 50
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 2.95kg 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)	
Standard Accessories		Mounting kit, Drain hose	—

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN100VNPVD	
		Indoor unit **FDEN50VD (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	3.12	3.28
Running current	A	13.7 / 14.3	14.4 / 15.1
Power factor	%	99	99
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (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>	W	25 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 13 Hi : 11 Me : 9 Lo : 7	Cooling : 75, Heating : 73
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN100VSPVD	
		Indoor unit **FDEN50VD (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	3.12	3.28
Running current	A	4.6 / 4.8	4.8 / 5.0
Power factor	%	98	99
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	28	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 × 2	Propeller fan × 1
Motor <Starting method>	W	25 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 13 Hi : 11 Me : 9 Lo : 7	Cooling : 75, Heating : 73
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN125VNPVD	
		Indoor unit **FDEN60VD (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	4.23	3.83
Running current	A	18.5 / 19.4	16.8 / 17.6
Power factor	%	99	99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 50 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
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	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>	W	20 × 2 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 22 Hi : 18 Me : 14 Lo : 12	Cooling : 75, Heating : 73
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN125VSPVD	
		Indoor unit **FDEN60VD (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	4.23	3.83
Running current	A	6.2 / 6.5	5.6 / 5.9
Power factor	%	98 / 99	99
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 50 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
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	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>	W	20 × 2 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 22 Hi : 18 Me : 14 Lo : 12	Cooling : 75, Heating : 73
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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
(7) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN140VNPVD	
		Indoor unit **FDEN71VD (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	4.87	4.59
Running current	A	21.6 / 22.6	20.1 / 21.0
Power factor	%	98	99
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (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>	W	20 × 2 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 22 Hi : 18 Me : 14 Lo : 12	Cooling : 75, Heating : 73
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ15.88 (5/8") ②φ15.88 (5/8") × 1.0 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN140VSPVD	
		Indoor unit **FDEN71VD (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	4.87	4.59
Running current	A	7.2 / 7.6	6.7 / 7.1
Power factor	%	98	99 / 98
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (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>	W	20 × 2 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 22 Hi : 18 Me : 14 Lo : 12	Cooling : 75, Heating : 73
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") ② φ9.52 (3/8") × 0.8 ① φ9.52 (3/8") × 0.8 φO/U φ9.52 (3/8")	
		Gas line : I/U φ15.88 (5/8") ② φ15.88 (5/8") × 1.0 ① φ15.88 (5/8") × 1.0 φO/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN200VSPVD	
		Indoor unit **FDEN100VD (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	6.47	5.97
Running current	A	9.7 / 10.1	9.1 / 9.5
Power factor	%	96 / 97	95
Inrush current	A	5 < Max.running current 19 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 44 Me : 41 Lo : 39	57
Exterior dimensions Height x Width x Depth	mm	250 × 1,620 × 690	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	49	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>	W	30 × 2 < Direct line start >	86 × 2 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 28 Hi : 26 Me : 23 Lo : 21	Cooling : 150, Heating : 145
Available static pressure	Pa	0	—
Oudoor 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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ15.88 (5/8") ②φ15.88 (5/8") × 1.0 ①φ22.22 (7/8") × 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) 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 φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN250VSPVD	
		Indoor unit **FDEN125VD (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	9.01	8.05
Running current	A	13.5 / 14.1	12.2 / 12.8
Power factor	%	96 / 97	95 / 96
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (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	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>	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
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") ②ϕ9.52 (3/8") × 0.8 ①ϕ12.7 (1/2") × 0.8 O/U ϕ12.7 (1/2")	
		Gas line : I/U ϕ15.88 (5/8") ②ϕ15.88 (5/8") × 1.0 ①ϕ22.22 (7/8") × 1.6 O/U ϕ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 7.2kg (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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

(c) Triple type

Adapted to **RoHS** directive

Item \ Model		FDEN140VNTVD	
		Indoor unit **FDEN50VD (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	4.88	4.58
Running current	A	21.7 / 22.6	20.2 / 21.1
Power factor	%	98	99
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (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>	W	25 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 13 Hi : 11 Me : 9 Lo : 7	Cooling : 75, Heating : 73
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.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 piping length of 30m) Outdoor unit	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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) 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN140VSTVD	
		Indoor unit **FDEN50VD (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	4.88	4.58
Running current	A	7.2 / 7.6	6.7 / 7.0
Power factor	%	98	99
Inrush current	A	5 < Max.running 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 (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	28	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 × 2	Propeller fan × 1
Motor <Starting method>	W	25 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 13 Hi : 11 Me : 9 Lo : 7	Cooling : 75, Heating : 73
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.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 piping length of 30m) Outdoor unit	
Drain pump		—	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN200VSTVD	
		Indoor unit **FDEN71VD (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	kW	6.40	5.90
Running current	A	9.6 / 10.0	9.0 / 9.4
Power factor	%	96 / 97	95
Inrush current	A	5 < Max.running current 19 >	
Sound Pressure Level	dB(A)	P-Hi : 50 Hi : 41 Me : 39 Lo : 38	57
Exterior dimensions Height x Width x Depth	mm	210 × 1,320 × 690	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	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>	W	20 × 2 < Direct line start >	86 × 2 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 22 Hi : 18 Me : 14 Lo : 12	Cooling : 150, Heating : 145
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ15.88 (5/8") ②φ15.88 (5/8") × 1.0 ①φ22.22 (7/8") × 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.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 5.4kg (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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

(d) Double-Twin type

Adapted to **RoHS** directive

Item \ Model		FDEN200VSDVD	
		Indoor unit **FDEN50VD (4 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	7.43	7.26
Running current	A	11.1 / 11.6	10.8 / 11.4
Power factor	%	97	97
Inrush current	A	5 < Max.running current 19 >	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 39 Me : 38 Lo : 37	57
Exterior dimensions Height x Width x Depth	mm	210 × 1,070 × 690	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	28	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 × 2	Propeller fan × 2
Motor <Starting method>	W	25 < Direct line start >	86 × 2 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 13 Hi : 11 Me : 9 Lo : 7	Cooling : 150, Heating : 145
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/O φ6.35 (1/4") ③② φ9.52 (3/8") × 0.8 ① φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ③ φ12.7 × 0.8 ② φ15.88 ① φ22.22 (7/8") × 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) 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 φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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˚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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN250VSDVD	
		Indoor unit **FDEN60VD (4 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	9.50	8.69
Running current	A	14.1 / 14.9	12.9 / 13.6
Power factor	%	97	97
Inrush current	A	5 < Max.running current 22 >	
Sound Pressure Level	dB(A)	P-Hi : 50 Hi : 41 Me : 39 Lo : 38	Cooling : 57 Heating : 58
Exterior dimensions Height x Width x Depth	mm	210 × 1,320 × 690	1,505 × 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	37	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		Centrifugal fan × 4	Propeller fan × 2
Motor <Starting method>	W	20 × 2 < Direct line start >	86 × 2 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 22 Hi : 18 Me : 14 Lo : 12	Cooling : 150, Heating : 145
Available static pressure	Pa	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-E4 (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 Refrigerant piping size	mm	Liquid line : I/O φ6.35 (1/4") ③② φ9.52 (3/8") × 0.8 ① φ12.7 (1/2") × 0.8 O/U φ12.7 (1/2")	
		Gas line : I/U φ12.7 (1/2") ③ φ12.7x0.8 ② φ15.88 ① φ22.22 (7/8") × 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 7.2kg (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		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 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 controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 Ⓐ

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

(a) Single type

Adapted to **RoHS** directive

Item \ Model		FDUM50ZIXVD	
		Indoor unit **FDUM50VD**	Outdoor unit **SRC50ZIX-S**
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	5.0 [2.2 (Min.)～5.6 (Max.)]	5.4 [2.5 (Min.)～6.3 (Max.)]
Power consumption	kW	1.52	1.41
Running current	A	6.7 / 7.1	6.3 / 6.5
Power factor	%	98	98
Inrush current	A	5 < Max.running current 14 >	
Sound Pressure Level	dB(A)	P-Hi : 35 Hi : 34 Me : 31 Lo : 28	47
Exterior dimensions Height x Width x Depth	mm	299 × 750 × 635	640 × 800 × 290
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	34	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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>	W	60 < Direct line start >	45 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 14 Hi : 13 Me : 12 Lo : 11	40
Available static pressure	Pa	85 / 90 (at 14 CMM)	—
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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") Pipe φ6.35 (1/4") × 0.8 O/U φ6.35 (1/4")	
		Gas line : φ12.7 (1/2") φ12.7 (1/2") × 0.8 φ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 × 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Drain elbow, Drain hole grommet

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	

(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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(6) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 a

Adapted to **RoHS** directive

Item \ Model		FDUM60ZIXVD	
		Indoor unit **FDUM60VD**	Outdoor unit **SRC60ZIX-S**
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	5.6 [2.8 (Min.)～6.3 (Max.)]	6.7 [3.1 (Min.)～7.1 (Max.)]
Power consumption	kW	1.86	1.96
Running current	A	8.2 / 8.5	9.0 / 9.4
Power factor	%	99	95
Inrush current	A	5 < Max.running current 14 >	
Sound Pressure Level	dB(A)	P-Hi : 38 Hi : 34 Me : 31 Lo : 28	48
Exterior dimensions Height x Width x Depth	mm	299 × 950 × 635	640 × 800 × 290
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	40	43
Refrigerant equipment Compressor type & Q'ty		—	5CS130XG04 × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.48 RB68A
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>	W	100 < Direct line start >	45 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 18 Hi : 16 Me : 15 Lo : 14	40
Available static pressure	Pa	85 / 100 (at 18 CMM)	—
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	—	—
Remote controller		wired : RC-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") Pipe φ6.35 (1/4") × 0.8 O/U φ6.35 (1/4")	
		Gas line : φ12.7 (1/2") φ12.7 (1/2") × 0.8 φ12.7 (1/2")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.30m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.20m (Outdoor unit is higher) Max.20m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 1.4kg in outdoor unit (incl. the amount for the piping of : 15m)	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 × 5pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Drain elbow, Drain hole grommet

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	

(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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(6) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDUM71VNVD	
		Indoor unit **FDUM71VD**	Outdoor unit **FDC71VN**
Power source			220-240V～50Hz / 220V～60Hz
Operation data		Cooling	Heating
Nominal capacity	kW	7.1 [3.2 (Min.)～8.0 (Max.)]	8.0 [3.6 (Min.)～9.0 (Max.)]
Power consumption	kW	2.08	2.21
Running current	A	9.2 / 9.6	10.2 / 10.7
Power factor	%	98	94
Inrush current	A	5 < Max.running current 17 >	
Sound Pressure Level	dB(A)	P-Hi : 38 Hi : 35 Me : 32 Lo : 29	48
Exterior dimensions Height x Width x Depth	mm	299 × 950 × 635	750 × 968 × 340
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	40	60
Refrigerant equipment Compressor type & Q'ty		—	2YC45DXD × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.65 FVC50K
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>	W	100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 23 Hi : 20 Me : 18 Lo : 15	Cooling : 60, Heating : 50
Available static pressure	Pa	85 / 100 (at 20 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") Pipe φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		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	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 2.95kg 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	—

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	

(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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(6) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 a

Adapted to **RoHS** directive

Item \ Model		FDUM100VNVD	
		Indoor unit **FDUM100VD**	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	2.80	2.77 / 2.80
Running current	A	12.5 / 13.1	12.4 / 13.0
Power factor	%	97	97 / 98
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 41 Hi : 37 Me : 35 Lo : 32	49
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	59	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 × 3	Propeller fan × 1
Motor <Starting method>	W	50 + 100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 34 Hi : 28 Me : 25 Lo : 22	Cooling : 75, Heating : 73
Available static pressure	Pa	90 / 100 (at 28 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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	

(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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(6) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 a

Adapted to **RoHS** directive

Item \ Model		FDUM100VSVD	
		Indoor unit **FDUM100VD**	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	2.80	2.77 / 2.80
Running current	A	4.2 / 4.4	4.1 / 4.3
Power factor	%	96 / 97	98 / 99
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 41 Hi : 37 Me : 35 Lo : 32	49
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	59	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 × 3	Propeller fan × 1
Motor <Starting method>	W	50 + 100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 34 Hi : 28 Me : 25 Lo : 22	Cooling : 75, Heating : 73
Available static pressure	Pa	90 / 100 (at 28 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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	

(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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(6) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDUM125VNVD	
		Indoor unit **FDUM125VD**	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	4.03	3.80 / 3.85
Running current	A	18.3 / 19.1	17.0 / 18.1
Power factor	%	96	97
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 41 Hi : 38 Me : 36 Lo : 33	Cooling : 50 Heating : 51
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	59	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 × 3	Propeller fan × 1
Motor <Starting method>	W	50 + 100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 34 Hi : 28 Me : 25 Lo : 22	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 100 (at 34 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") Pipe φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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	

(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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(6) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 a

Adapted to **RoHS** directive

Item \ Model		FDUM125VSVD	
		Indoor unit **FDUM125VD**	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	4.03	3.80 / 3.85
Running current	A	6.1 / 6.4	5.7 / 6.0
Power factor	%	95 / 96	96 / 97
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 41 Hi : 38 Me : 36 Lo : 33	Cooling : 50 Heating : 51
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	59	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 × 3	Propeller fan × 1
Motor <Starting method>	W	50 + 100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 34 Hi : 28 Me : 25 Lo : 22	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 100 (at 34 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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	

(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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(6) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 a

Adapted to **RoHS** directive

Item \ Model		FDUM140VNVD	
		Indoor unit **FDUM140VD**	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	4.89 / 4.91
Running current	A	22.3 / 23.3	22.3 / 22.5
Power factor	%	97	95 / 99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 41 Hi : 38 Me : 36 Lo : 33	51
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	59	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 × 3	Propeller fan × 1
Motor <Starting method>	W	50 + 100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 34 Hi : 28 Me : 25 Lo : 22	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 100 (at 34 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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	

(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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(6) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 a

Adapted to **RoHS** directive

Item \ Model		FDUM140VSVD	
		Indoor unit **FDUM140VD**	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	4.95	4.89 / 4.91
Running current	A	7.4 / 7.7	7.4 / 7.6
Power factor	%	97 / 98	95 / 98
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 41 Hi : 38 Me : 36 Lo : 33	51
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	59	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 × 3	Propeller fan × 1
Motor <Starting method>	W	50 + 100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 34 Hi : 28 Me : 25 Lo : 22	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 100 (at 34 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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	

(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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(6) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

(b) Twin type

Adapted to **RoHS** directive

Item \ Model		FDUM100VNPVD	
		Indoor unit **FDUM50VD (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	3.12	3.27
Running current	A	13.6 / 14.3	14.3 / 15.0
Power factor	%	99	99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 35 Hi : 34 Me : 31 Lo : 28	49
Exterior dimensions Height x Width x Depth	mm	299 × 750 × 635	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	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>	W	60 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 14 Hi : 13 Me : 12 Lo : 11	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 90 (at 14 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52(3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7(1/2") × 0.8 ①φ15.88(5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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) 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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDUM100VSPVD	
		Indoor unit **FDUM50VD (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	3.12	3.27
Running current	A	4.6 / 4.8	4.8 / 5.0
Power factor	%	98 / 99	98 / 99
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 35 Hi : 34 Me : 31 Lo : 28	49
Exterior dimensions Height x Width x Depth	mm	299 × 750 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (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	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>	W	60 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 14 Hi : 13 Me : 12 Lo : 11	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 90 (at 14 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7(1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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 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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDUM125VNPVD	
		Indoor unit **FDUM60VD (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	4.47	4.51
Running current	A	19.7 / 20.6	19.8 / 20.7
Power factor	%	99	99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 38 Hi : 34 Me : 31 Lo : 28	Cooling : 50 Heating : 51
Exterior dimensions Height x Width x Depth	mm	299 × 950 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	40	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>	W	100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 18 Hi : 16 Me : 15 Lo : 14	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 100 (at 18 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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) 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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDUM125VSPVD	
		Indoor unit **FDUM60VD (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	4.47	4.51
Running current	A	6.6 / 6.9	6.6 / 6.9
Power factor	%	98	99
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 38 Hi : 34 Me : 31 Lo : 28	Cooling : 50 Heating : 51
Exterior dimensions Height x Width x Depth	mm	299 × 950 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	40	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 × 2	Propeller fan × 1
Motor <Starting method>	W	100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 18 Hi : 16 Me : 15 Lo : 14	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 100 (at 18 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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 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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDUM140VNPVD	
		Indoor unit **FDUM71VD (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	5.00	4.94 / 4.80
Running current	A	22.0 / 23.0	22.4 / 22.1
Power factor	%	99	96 / 99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 38 Hi : 35 Me : 32 Lo : 29	51
Exterior dimensions Height x Width x Depth	mm	299 × 950 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	40	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>	W	100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 23 Hi : 20 Me : 18 Lo : 15	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 100 (at 20 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ15.88 (5/8") ②φ15.88 (5/8") × 1.0 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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) 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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDUM140VSPVD	
		Indoor unit **FDUM71VD (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	5.00	4.94 / 4.80
Running current	A	7.3 / 7.7	7.4
Power factor	%	99	96 / 99
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 38 Hi : 35 Me : 32 Lo : 29	51
Exterior dimensions Height x Width x Depth	mm	299 × 950 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	40	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 × 2	Propeller fan × 1
Motor <Starting method>	W	100 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 23 Hi : 20 Me : 18 Lo : 15	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 100 (at 20 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") ②ϕ9.52 (3/8") × 0.8 ①ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ15.88 (5/8") ②ϕ15.88 (5/8") × 1.0 ①ϕ15.88 (5/8") × 1.0 O/U ϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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 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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 a

Adapted to **RoHS** directive

Item \ Model		FDUM200VSPVD	
		Indoor unit **FDUM100VD (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	6.86	6.72
Running current	A	9.9 / 10.5	9.8 / 10.3
Power factor	%	99	99
Inrush current	A	5 < Max.running current 19 >	
Sound Pressure Level	dB(A)	P-Hi : 41 Hi : 37 Me : 35 Lo : 32	57
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 635	1,300 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	59	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 × 3	Propeller fan × 2
Motor <Starting method>	W	50 + 100 < Direct line start >	86 x 2 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 34 Hi : 28 Me : 25 Lo : 22	Cooling : 150, Heating : 145
Available static pressure	Pa	90 / 100 (at 28 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") ②ϕ9.52 (3/8") × 0.8 ①ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		Gas line : I/U ϕ15.88 (5/8") ②ϕ15.88 (5/8") × 1.0 ①ϕ22.22 (7/8") × 1.6 O/U ϕ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) 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 VP20	Holes size ϕ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Connecting pipe, Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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 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-WB1"×1(option). ① : Pipe of O/U～Branch, ② : Pipe of Branch～I/U
(7) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 a

Adapted to **RoHS** directive

Item \ Model		FDUM250VSPVD	
		Indoor unit **FDUM125VD (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	9.31	8.35
Running current	A	13.6 / 14.3	12.3 / 12.9
Power factor	%	99	98
Inrush current	A	5 < Max.running current 22 >	
Sound Pressure Level	dB(A)	P-Hi : 41 Hi : 38 Me : 36 Lo : 33	Cooling : 57 Heating : 58
Exterior dimensions Height x Width x Depth	mm	350 × 1,370 × 635	1,505 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	59	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		Centrifugal fan × 3	Propeller fan × 2
Motor <Starting method>	W	50 + 100 < Direct line start >	86 × 2 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 34 Hi : 28 Me : 25 Lo : 22	Cooling : 150, Heating : 145
Available static pressure	Pa	85 / 100 (at 34 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") ②φ9.52 (3/8") × 0.8 ①φ12.7 (1/2") × 0.8 O/U φ12.7 (1/2")	
		Gas line : I/U φ15.88 (5/8") ②φ15.88 (5/8") × 1.0 ①φ22.22 (7/8") × 1.6 O/U φ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 7.2kg (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		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Connecting pipe, Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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 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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

(c) Triple type

Adapted to **RoHS** directive

Item \ Model		FDUM140VNTVD	
		Indoor unit **FDUM50VD (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	5.09	5.03 / 4.89
Running current	A	22.4 / 23.4	22.8 / 22.5
Power factor	%	99	96 / 99
Inrush current	A	5 < Max.running current 24 >	
Sound Pressure Level	dB(A)	P-Hi : 35 Hi : 34 Me : 31 Lo : 28	51
Exterior dimensions Height x Width x Depth	mm	299 × 750 × 635	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	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>	W	60 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 14 Hi : 13 Me : 12 Lo : 11	Cooling : 75 , Heating : 73
Available static pressure	Pa	85 / 90 (at 14 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ6.35 (1/4") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		Gas line : I/U φ12.7 (1/2") ②φ12.7 (1/2") × 0.8 ①φ15.88 (5/8") × 1.0 O/U φ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
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	

(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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDUM140VSTVD	
		Indoor unit **FDUM50VD (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	5.09	5.03 / 4.89
Running current	A	7.4 / 7.8	7.6 / 7.5
Power factor	%	99	96 / 99
Inrush current	A	5 < Max.running current 15 >	
Sound Pressure Level	dB(A)	P-Hi : 35 Hi : 34 Me : 31 Lo : 28	51
Exterior dimensions Height x Width x Depth	mm	299 × 750 × 635	845 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (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	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>	W	60 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 14 Hi : 13 Me : 12 Lo : 11	Cooling : 75, Heating : 73
Available static pressure	Pa	85 / 90 (at 14 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ6.35 (1/4") ②ϕ9.52 (3/8") × 0.8 ①ϕ9.52 (3/8") × 0.8 O/Uϕ9.52 (3/8")	
		Gas line : I/U ϕ12.7 (1/2") ②ϕ12.7 (1/2") × 0.8 ①ϕ15.88 (5/8") × 1.0 O/Uϕ15.88 (5/8")	
Connecting method		Flare piping	Flare piping
Refrigerant line (one way) length		Max.50m	※1.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 piping length of 30m) Outdoor unit	
Drain pump		Built-in Drain pump	—
Drain		Hose Connectable with VP20	Holes size ϕ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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 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-TA1"×1(option). ① : Pipe of O/U～Branch, ② : Pipe of Branch～I/U
(7) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDUM200VSTVD	
		Indoor unit **FDUM71VD (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	kW	6.88	6.74
Running current	A	9.9 / 10.6	9.8 / 10.3
Power factor	%	99	99
Inrush current	A	5 < Max.running current 19 >	
Sound Pressure Level	dB(A)	P-Hi : 38 Hi : 35 Me : 32 Lo : 29	57
Exterior dimensions Height x Width x Depth	mm	299 × 950 × 635	1,300 × 970 × 370
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	40	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 × 2	Propeller fan × 2
Motor <Starting method>	W	100 < Direct line start >	86 × 2 < Direct line start >
Air flow (Standard)	CMM	P-Hi : 23 Hi : 20 Me : 18 Lo : 15	Cooling : 150, Heating : 145
Available static pressure	Pa	85 / 100 (at 20 CMM)	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") ②φ9.52 (3/8") × 0.8 ①φ9.52 (3/8") × 0.8 O/Uφ9.52 (3/8")	
		Gas line : I/U φ15.88 (5/8") ②φ15.88 (5/8") × 1.0 ①φ22.22 (7/8") × 1.6 O/Uφ22.22 (7/8")	
Connecting method		Flare piping	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.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 5.4kg (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		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Connecting pipe, Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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 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) Initial static pressure values of optional air filter "UM-FL1E" are 5Pa.
(8) When wireless remote controlier is used, fan is 3 speed setting (Hi-Me-Lo) only.

PJR002Z389 a

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

(a) Single type

Adapted to **RoHS** directive

Item \ Model		FDU71VNVD	
		Indoor unit **FDU71VD**	Outdoor unit **FDC71VN**
Power source			220-240V～50Hz
Operation data		Cooling	Heating
Nominal capacity	kW	7.1 [3.2 (Min.)～8.0 (Max.)]	8.0 [3.6 (Min.)～9.0 (Max.)]
Power consumption	kW	2.08	2.21
Running current	A	9.2	10.2
Power factor	%	98	94
Inrush current	A	5 < Max.running current 17 >	
Sound Pressure Level	dB(A)	Hi : 41 Lo : 37	48
Exterior dimensions Height x Width x Depth	mm	297 × 850 × 650	750 × 968 × 340
Exterior appearance (Munsell color)		—	Stucco White (4.2Y7.5/1.1) near equivalent
Net weight	kg	40	60
Refrigerant equipment Compressor type & Q'ty		—	2YC45DXD × 1
Starting method		—	Direct line start
Refrigerant oil	ℓ	—	0.65 FVC50K
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>	W	230 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	Hi : 20 Lo : 17	Cooling : 60, Heating : 50
Available static pressure	Pa	Standard : 60 Max : 130	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 2.95kg 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	—

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

Item	Indoor air temperature		Outdoor air temperature		Extemal 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	

(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) Extemal static pressure is changeable to set by remote controller. Standard extemal static pressure is factory setting.
MAX extemal static pressure is "High static pressure" setting.
(6) Values of sound pressure level become 5dB(A) upper at extemal static pressure 130Pa.

PJD001Z301 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDU100VNVD	
		Indoor unit **FDU100VD**	Outdoor unit **FDC100VN**
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	A	12.7	13.1
Power factor	%	99	99
Inrush current	A	5 < Max.running 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		—	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>	W	280 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	Hi : 34 Lo : 27	Cooling : 75 , Heating : 73
Available static pressure	Pa	Standard : 60 Max : 130	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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
(5) Extemal static pressure is changeable to set by remote controller. Standard extemal static pressure is factory setting.
MAX extemal static pressure is "High static pressure" setting.
(6) Values of sound pressure level become 5dB(A) upper at extemal static pressure 130Pa.

PJD001Z301 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDU100VSVD	
		Indoor unit **FDU100VD**	Outdoor unit **FDC100VS**
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	A	4.3	4.4
Power factor	%	97	99
Inrush current	A	5 < Max.running 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	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>	W	280 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	Hi : 34 Lo : 27	Cooling : 75, Heating : 73
Available static pressure	Pa	Standard : 60 Max : 130	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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 400V50Hz
(5) Extemal static pressure is changeable to set by remote controller. Standard extemal static pressure is factory setting.
MAX extemal static pressure is "High static pressure" setting.
(6) Values of sound pressure level become 5dB(A) upper at extemal static pressure 130Pa.

PJD001Z301 a

Adapted to **RoHS** directive

Item \ Model		FDU125VNVD	
		Indoor unit **FDU125VD**	Outdoor unit **FDC125VN**
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	A	5 < Max.running 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	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>	W	370 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	Hi : 42 Lo : 33.5	Cooling : 75, Heating : 73
Available static pressure	Pa	Standard : 60 Max : 130	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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
(5) Extemal static pressure is changeable to set by remote controller. Standard extemal static pressure is factory setting.
MAX extemal static pressure is "High static pressure" setting.
(6) Values of sound pressure level become 5dB(A) upper at extemal static pressure 130Pa.

PJD001Z301 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDU125VSVD	
		Indoor unit **FDU125VD**	Outdoor unit **FDC125VS**
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	A	6.0	5.6
Power factor	%	97	98
Inrush current	A	5 < Max.running 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	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>	W	370 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	Hi : 42 Lo : 33.5	Cooling : 75, Heating : 73
Available static pressure	Pa	Standard : 60 Max : 130	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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 400V50Hz
(5) Extemal static pressure is changeable to set by remote controller. Standard extemal static pressure is factory setting.
MAX extemal static pressure is "High static pressure" setting.
(6) Values of sound pressure level become 5dB(A) upper at extemal static pressure 130Pa.

PJD001Z301 a

Adapted to **RoHS** directive

Item \ Model		FDU140VNVD	
		Indoor unit **FDU140VD**	Outdoor unit **FDC140VN**
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	A	21.7	19.5
Power factor	%	99	99
Inrush current	A	5 < Max.running 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	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>	W	370 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	Hi : 42 Lo : 33.5	Cooling : 75, Heating : 73
Available static pressure	Pa	Standard : 60 Max : 130	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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
(5) Extemal static pressure is changeable to set by remote controller. Standard extemal static pressure is factory setting.
MAX extemal static pressure is "High static pressure" setting.
(6) Values of sound pressure level become 5dB(A) upper at extemal static pressure 130Pa.

PJD001Z301 a

Adapted to **RoHS** directive

Item \ Model		FDU140VSVD	
		Indoor unit **FDU140VD**	Outdoor unit **FDC140VS**
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	A	7.4	6.6
Power factor	%	97	97
Inrush current	A	5 < Max.running 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	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>	W	370 < Direct line start >	86 < Direct line start >
Air flow (Standard)	CMM	Hi : 42 Lo : 33.5	Cooling : 75, Heating : 73
Available static pressure	Pa	Standard : 60 Max : 130	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ9.52 (3/8") Pipe φ9.52 (3/8") × 0.8 O/U φ9.52 (3/8")	
		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	※1.See page 154
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 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 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Drain hose	Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	60
Heating	20℃		7℃	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 400V50Hz
(5) Extemal static pressure is changeable to set by remote controller. Standard extemal static pressure is factory setting.
MAX extemal static pressure is "High static pressure" setting.
(6) Values of sound pressure level become 5dB(A) upper at extemal static pressure 130Pa.

PJD001Z301 a

Adapted to **RoHS** directive

Item \ Model		FDU200VSVD	
		Indoor unit **FDU200VD**	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	A	10.8 / 11.4	10.2 / 10.3
Power factor	%	88	86
Inrush current	A	5 < Max.running 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 (Munsell color)		—	Stucco White (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>	W	270 × 2 < Direct line start >	86 × 2 < Direct line start >
Air flow (Standard)	CMM	Hi : 51 / 60	Cooling : 150, Heating : 145
Available static pressure	Pa	200	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U ϕ9.52 (3/8") Pipe ϕ9.52 (3/8") × 0.8 O/U ϕ9.52 (3/8")	
		Gas line : ϕ25.4 (1") ϕ22.22 (7/8") × 1.6 ϕ22.22 (7/8")	
Connecting method		Brazing	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
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 ϕ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		—	Connecting pipe, Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27℃	19℃	35℃	24℃	100 (With optional fan controller kit:U-FCRA)
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.
(5) Values of sound pressure level become 5dB(A) upper at extemal static pressure 200Pa (factory setting).
(6) Values of air flow are based at extemal static pressure 200Pa (factory setting).

PJD001Z301 ⚠a

Adapted to **RoHS** directive

Item \ Model		FDU250VSVD	
		Indoor unit **FDU250VD**	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	A	15.7 / 17.0	14.4 / 14.7
Power factor	%	91	85
Inrush current	A	5 < Max.running 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 (Munsell color)		—	Stucco White (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 Fan type & Q'ty		Centrifugal fan × 4	Propeller fan × 2
Motor <Starting method>	W	270 × 2 < Direct line start >	86 × 2 < Direct line start >
Air flow (Standard)	CMM	Hi : 68 / 80	Cooling : 150, Heating : 145
Available static pressure	Pa	200	—
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-E4 (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 Refrigerant piping size	mm	Liquid line : I/U φ12.7 (1/2") Pipe φ12.7 (1/2") × 0.8 O/U φ12.7 (1/2")	
		Gas line : φ25.4 (1") φ22.22 (7/8") × 1.6 φ22.22 (7/8")	
Connecting method		Brazing	Liquid : Flare / Gas : Brazing
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 7.2kg in outdoor unit (incl. the amount for the piping of : 30m)	
Drain pump		—	—
Drain		Hose Connectable with VP25	Holes size φ20 × 3pcs
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		—	Connecting pipe, Edging

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

Item	Indoor air temperature		Outdoor air temperature		Extemal static pressure of indoor unit
Operation	DB	WB	DB	WB	Pa
Cooling	27˚C	19˚C	35˚C	24˚C	100 (With optional fan controller kit:U-FCRA)
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) Values of sound pressure level become 5dB(A) upper at extemal static pressure 200Pa (factory setting).
(6) Values of air flow are based at extemal static pressure 200Pa (factory setting).

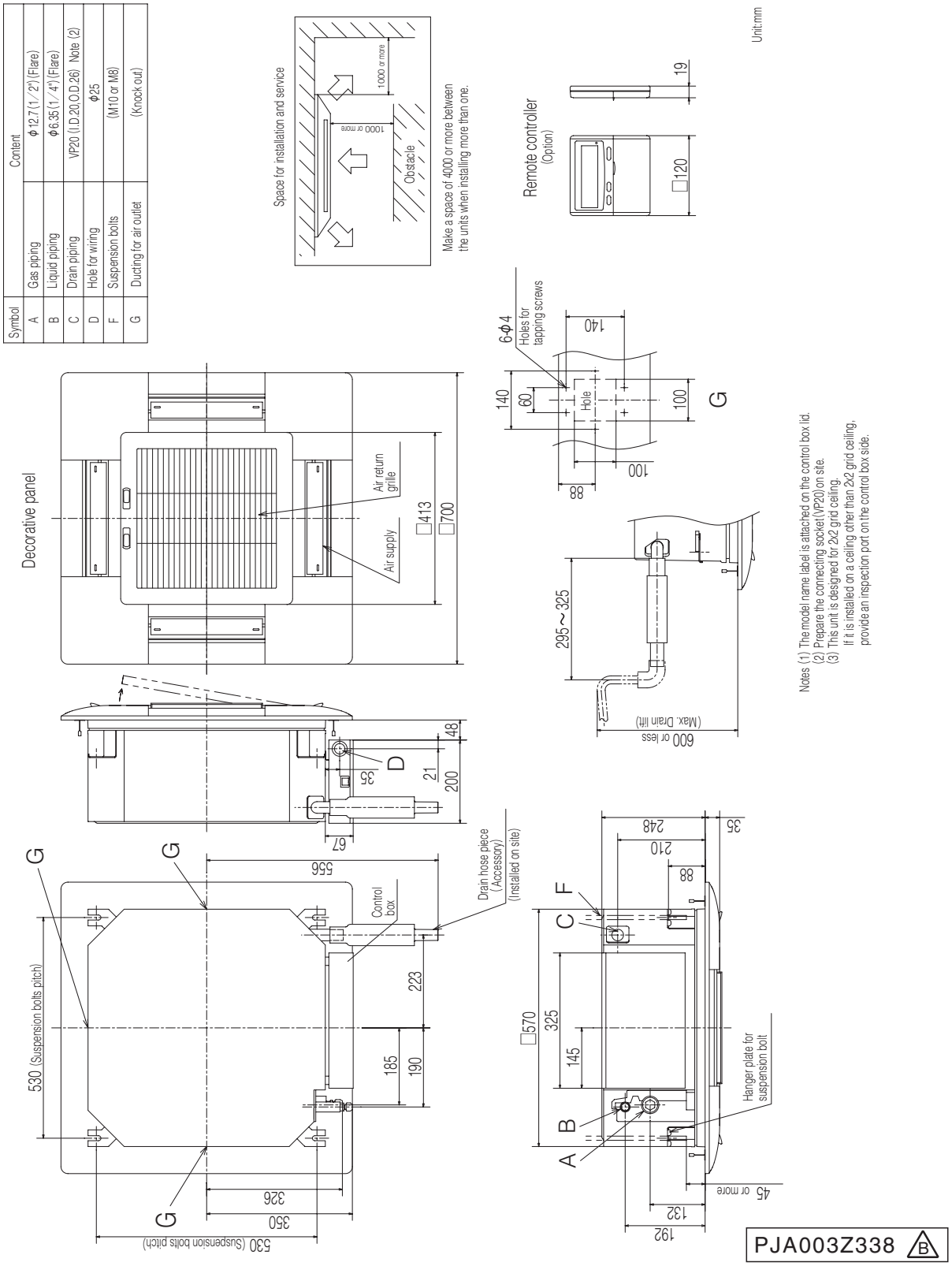
PJD001Z301 a

1.2 EXTERIOR DIMENSIONS

(1) Indoor units

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

Models FDTC40VD, 50VD, 60VD



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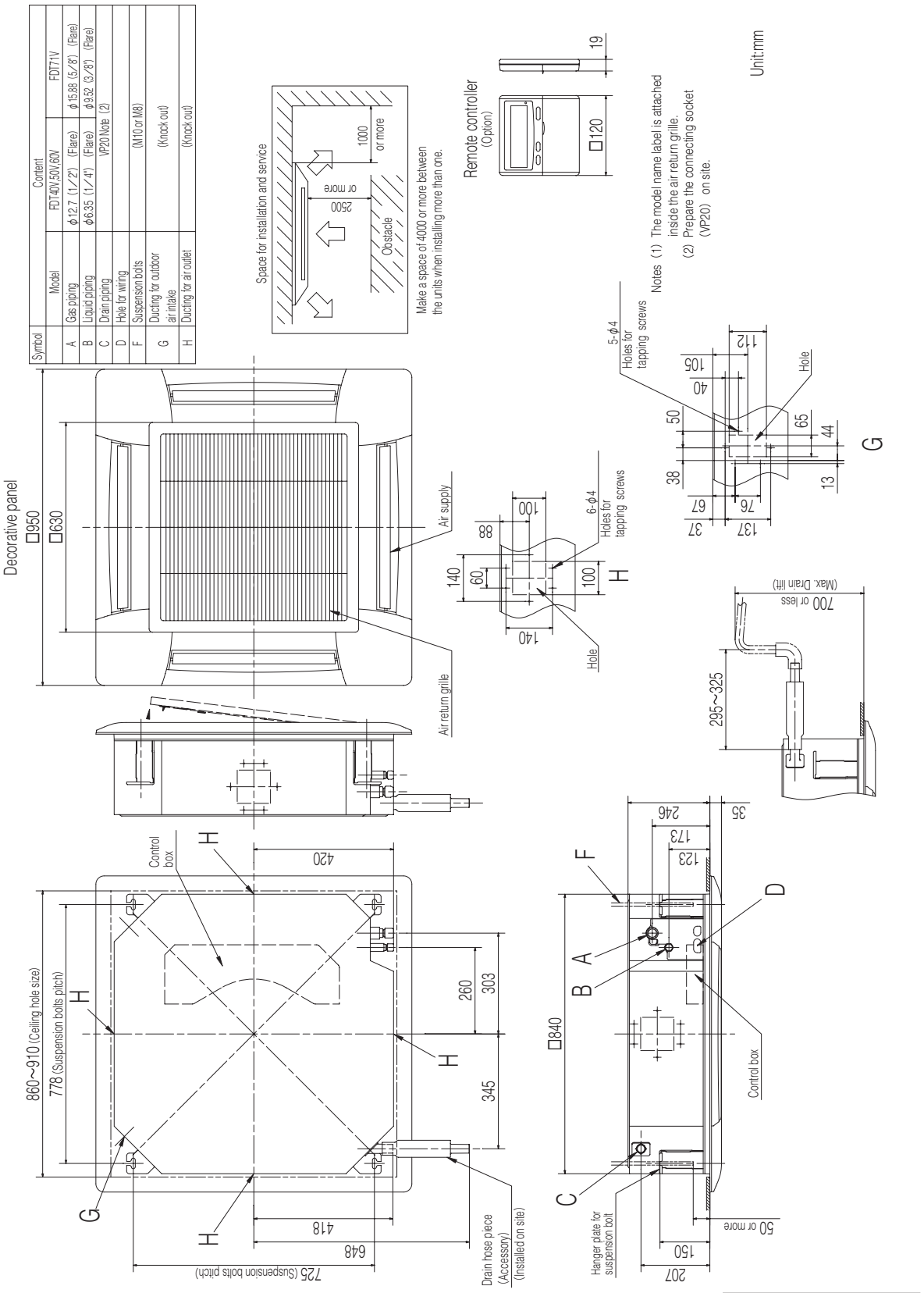
(b) Ceiling cassette-4way type (FDT)

Models FDT40VD, 50VD, 60VD, 71VD



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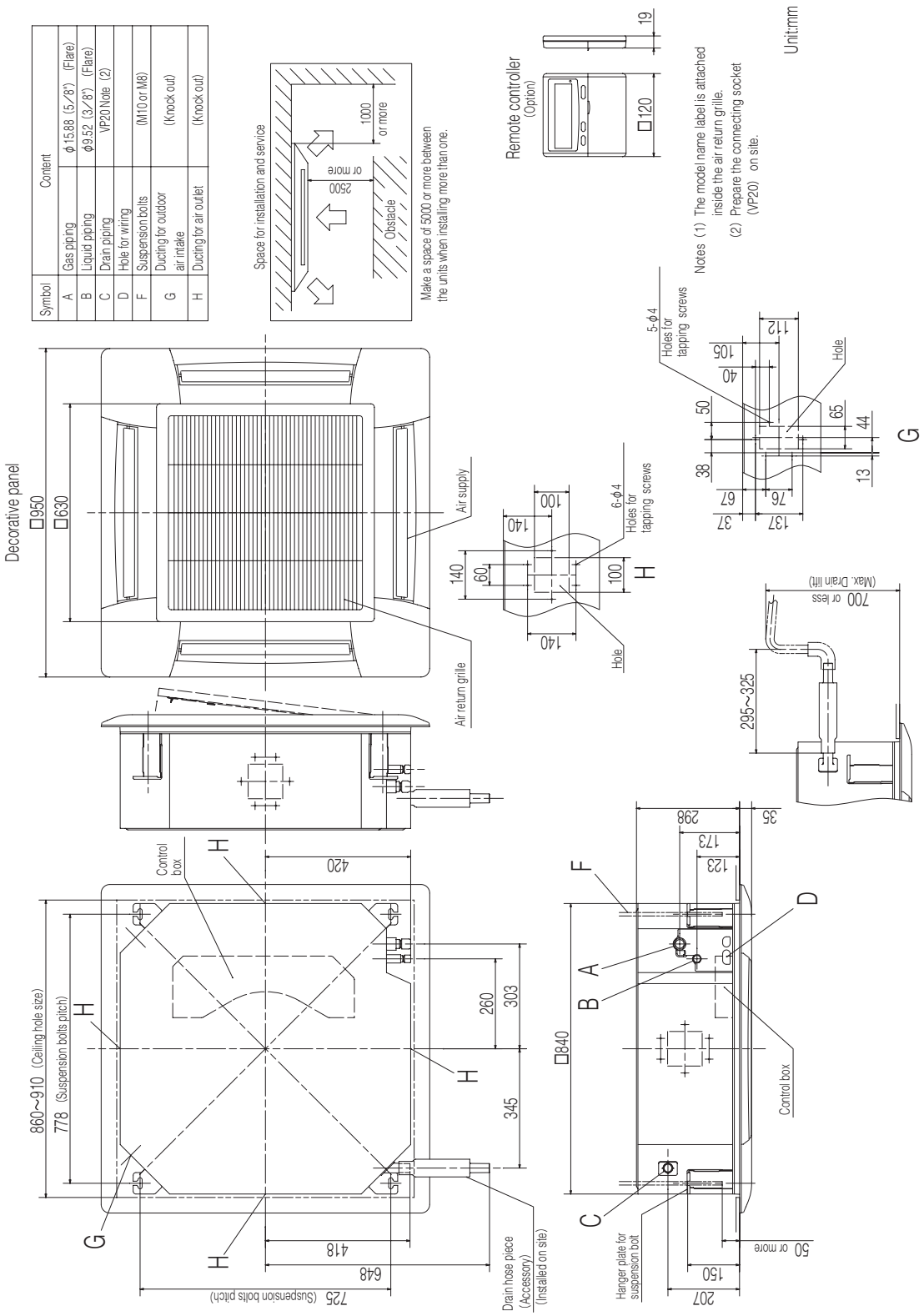
Models FDT100VD, 125VD, 140VD



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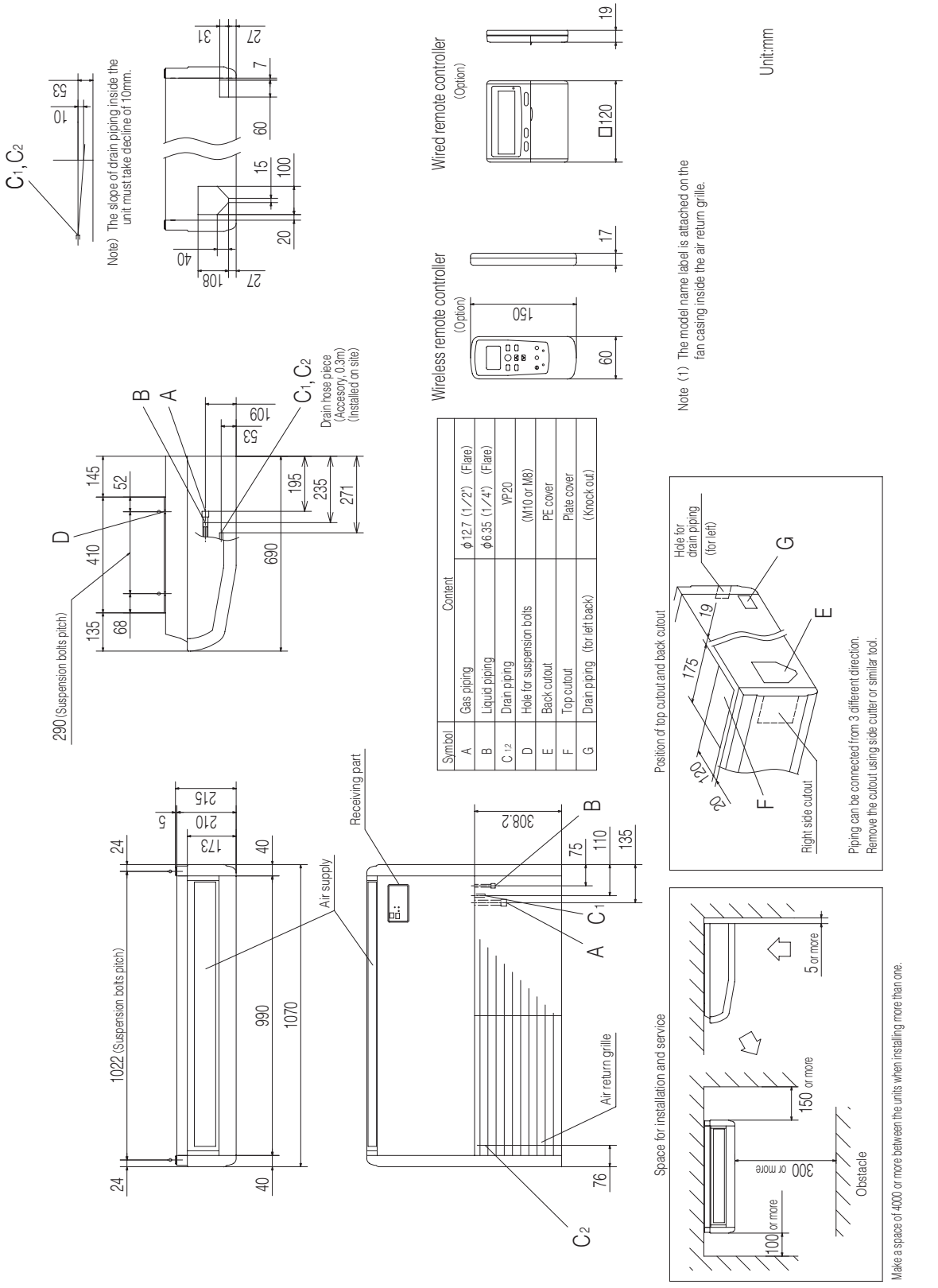
(c) Ceiling suspended type (FDEN)

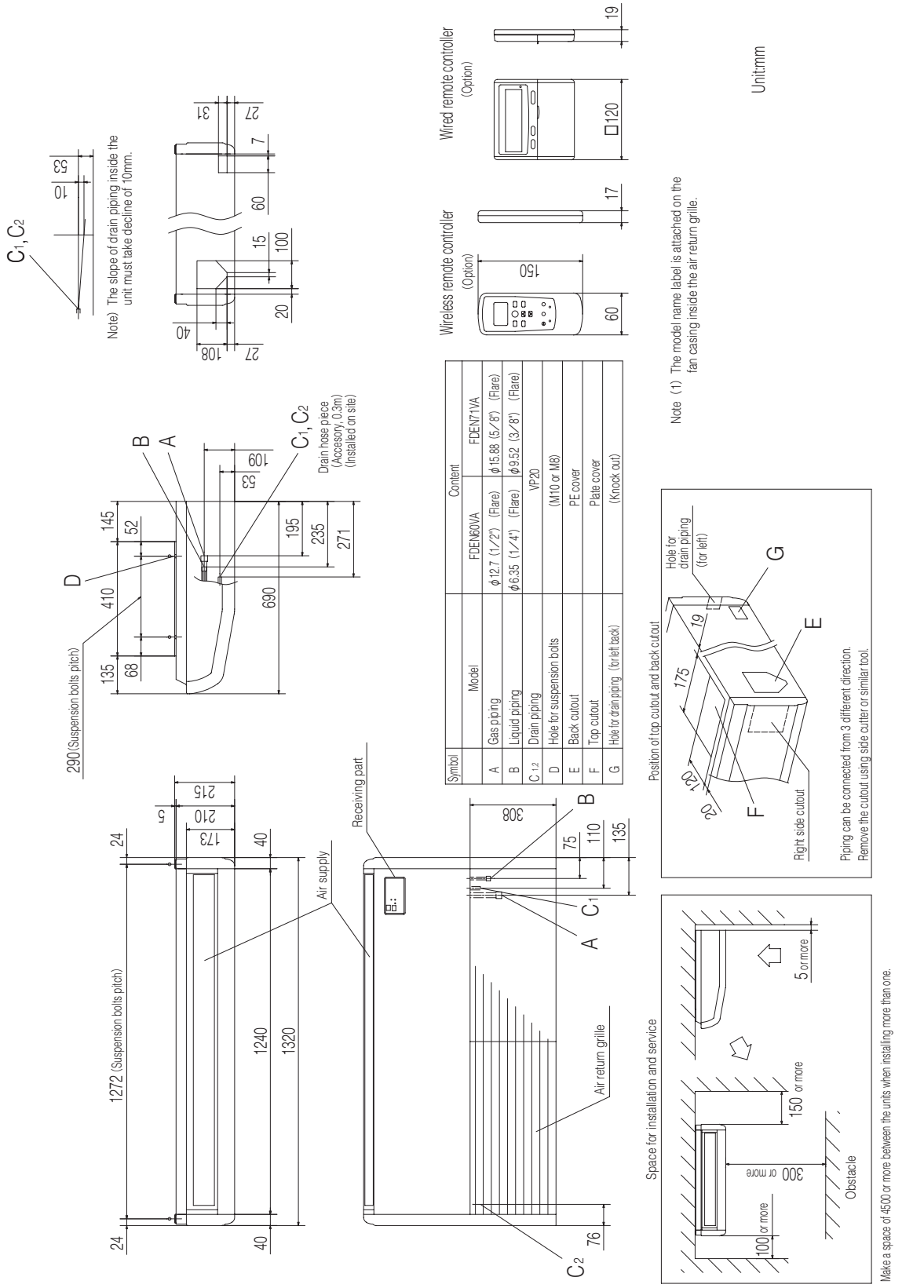
Models FDEN40VD, 50VD



Symbol	Content	
A	Gas piping	φ12.7 (1/2") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)
C 1/2	Drain piping	VP20
D	Hole for suspension bolts	(M10 or M8)
E	Back cutout	PE cover
F	Top cutout	Plate cover
G	Drain piping (for left back)	(Knock out)

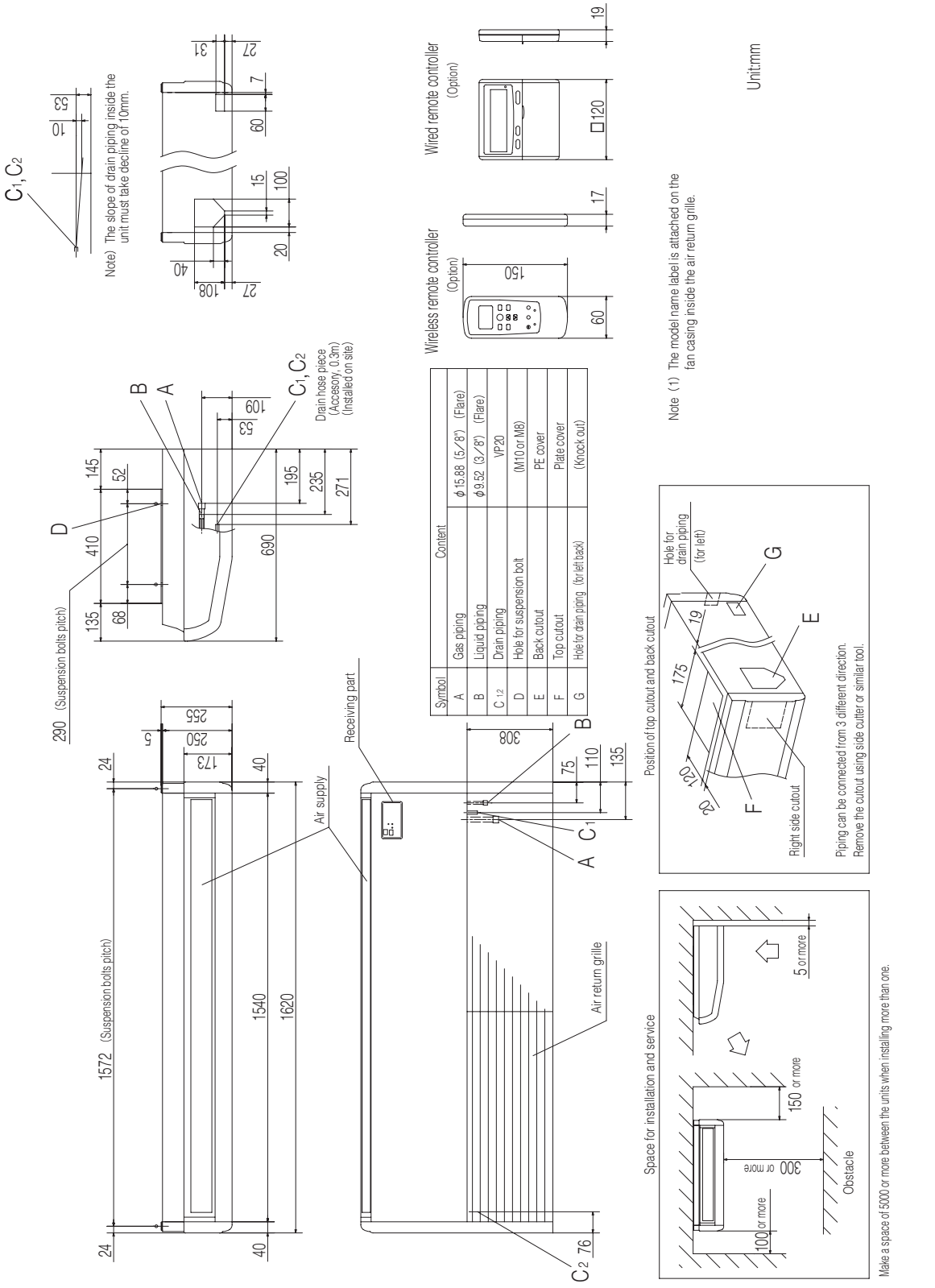
PFA003Z816 A

Models FDEN60VD, 71VD



PFA003Z817 A

Models FDEN100VD, 125VD, 140VD

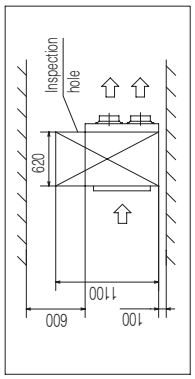


PFA003Z818 A

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

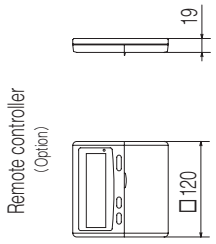
Model FDUM50VD

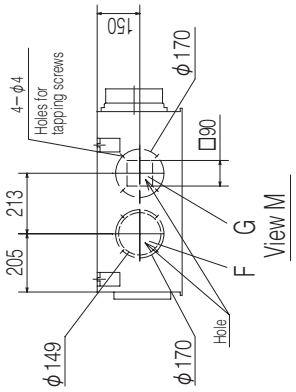
Symbol	Content	
A	Gas piping	φ12.7 (1/2") (Flare)
B	Liquid piping	φ6.35 (1/4") (Flare)
C1	Drain piping	VP20 Note (2)
C2	Drain piping (Gravity drainage)	VP20
D	Hole for wiring	
E	Suspension bolts	(M10)
F	Ducting for outdoor air intake	(φ150) (Knock out)
G	Ducting for air outlet	(φ125) (Knock out)

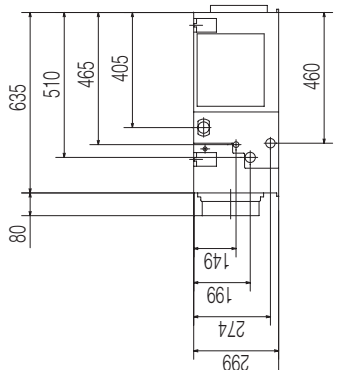


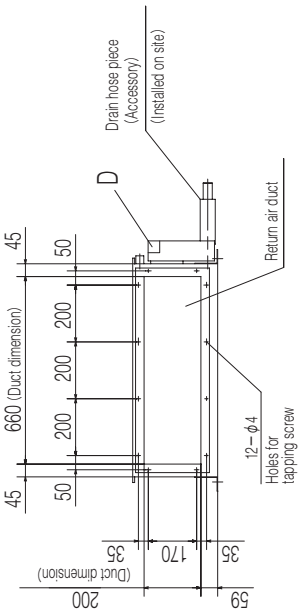
Unit:mm

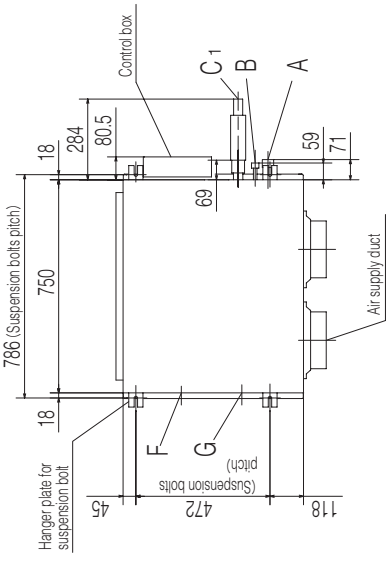
Notes (1) The model name label is attached on the lid of the control box.
(2) Prepare the connecting socket (VP20) on site.

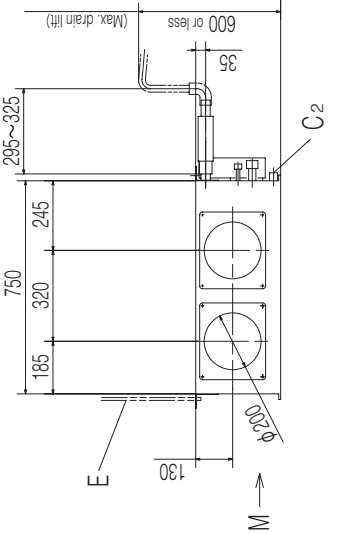






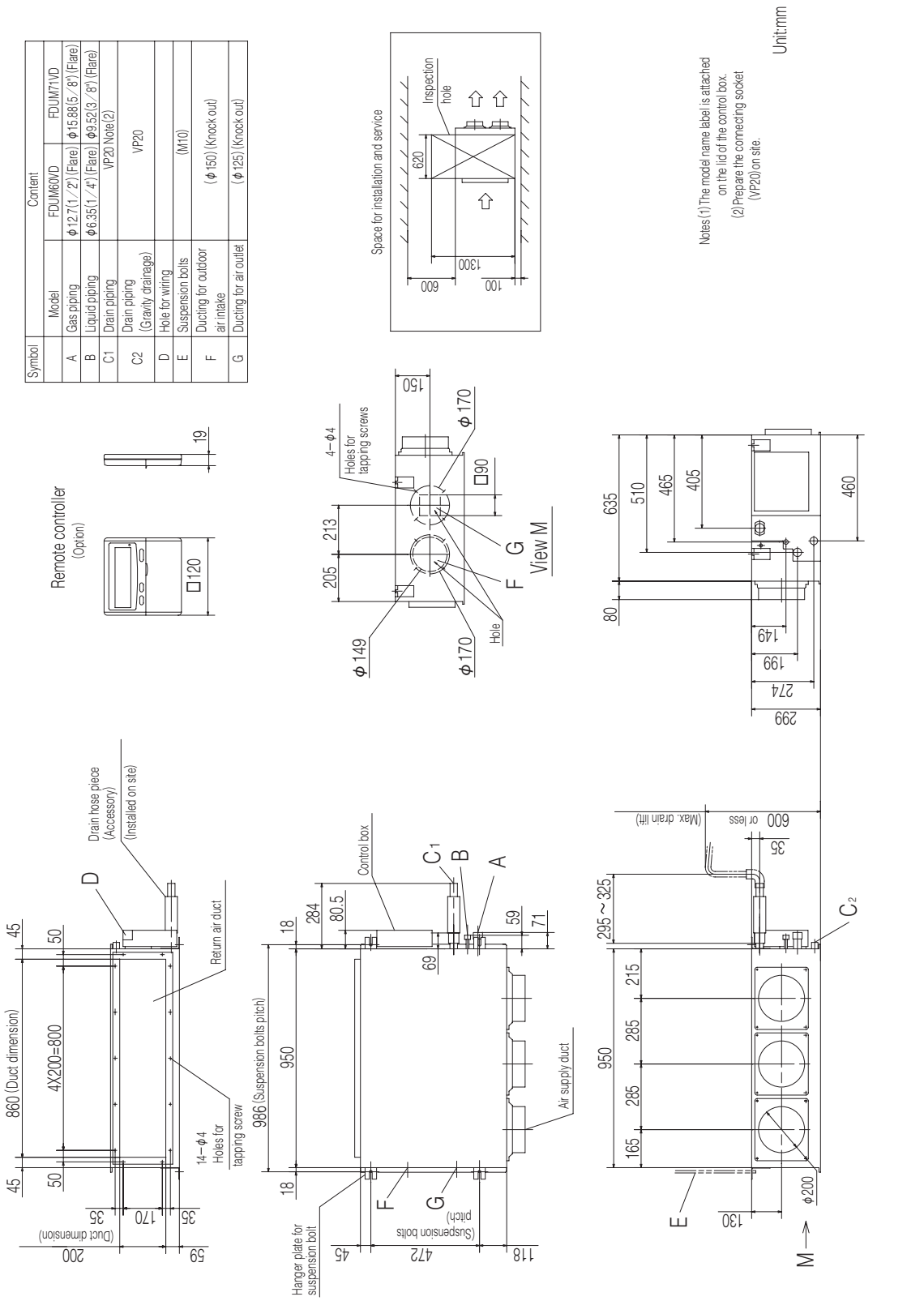






PJR002Z241 b

Models FDUM60VD, 71VD

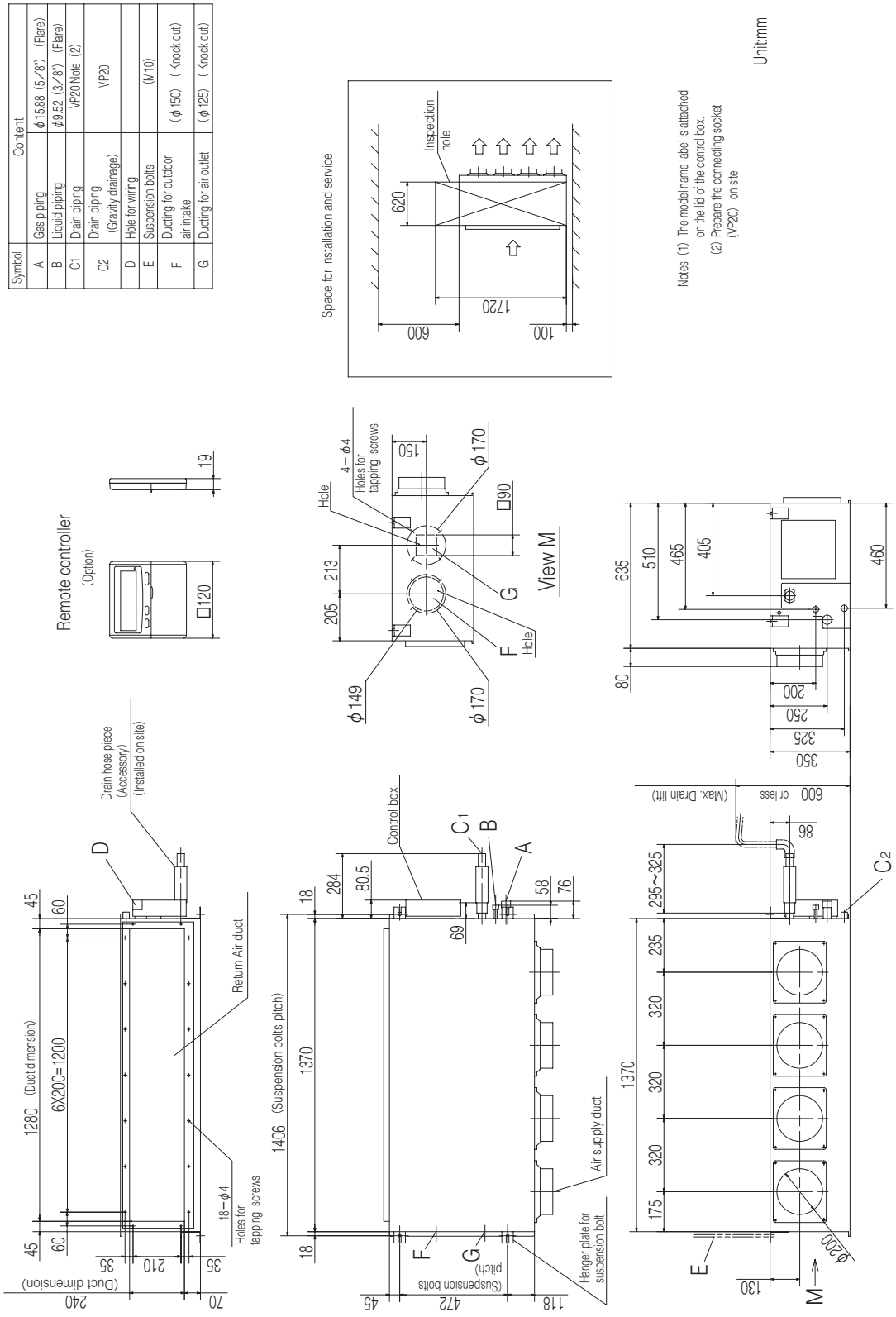


Symbol	Content		
	Model	FDUM60VD	FDUM71VD
A	Gas piping	φ12.7(1/2") (Flare)	φ15.88(5/8") (Flare)
B	Liquid piping	φ6.35(1/4") (Flare)	φ9.52(3/8") (Flare)
C1	Drain piping	VP20 Note(2)	
C2	Drain piping (Gravity drainage)	VP20	
D	Hole for wiring		
E	Suspension bolts	(M10)	
F	Ducting for outdoor air intake	(φ150) (Knock out)	
G	Ducting for air outlet	(φ125) (Knock out)	

PJR002Z242 B

Models FDUM100VD, 125VD, 140VD

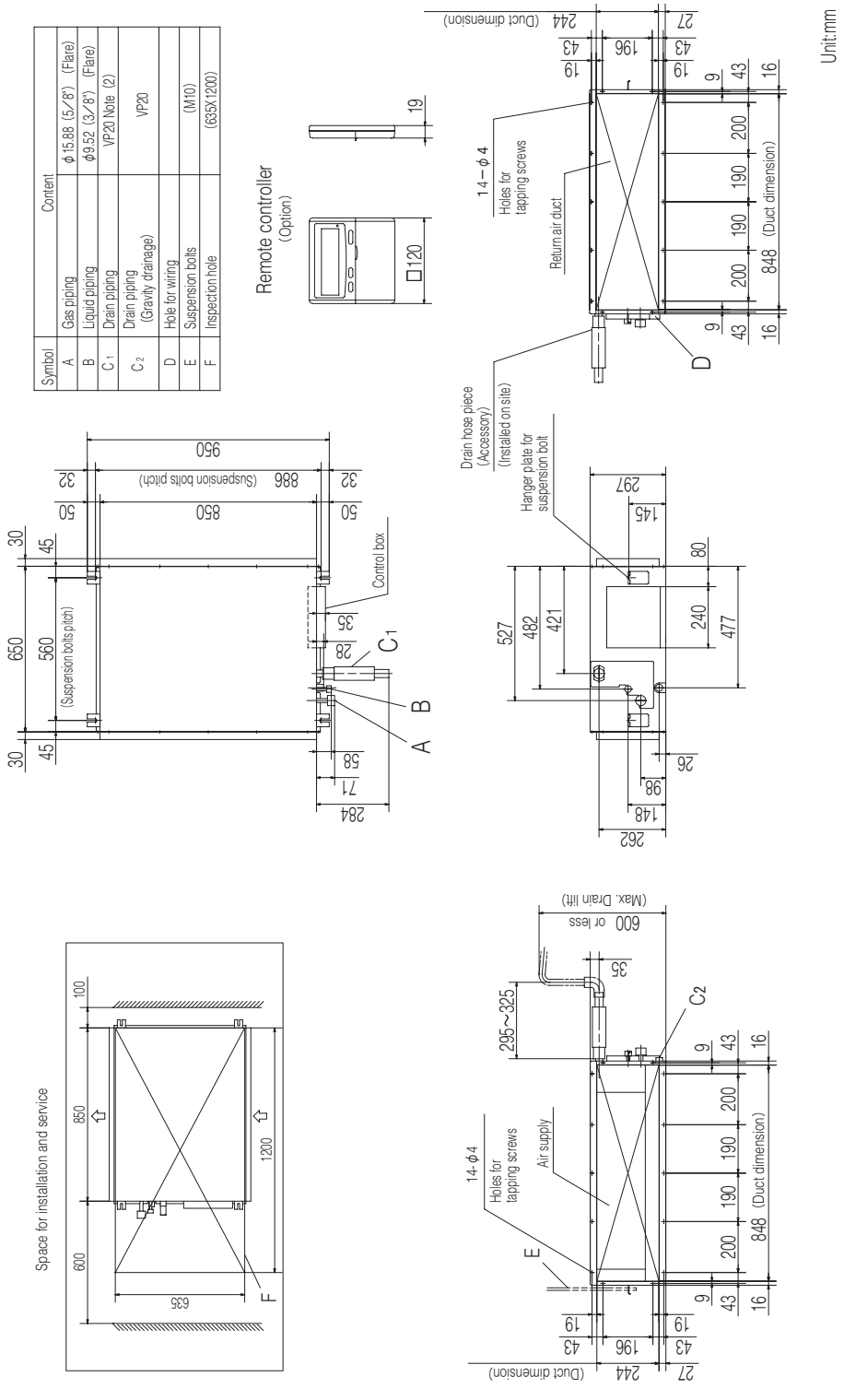
Symbol	Content	
A	Gas piping	φ15.88 (5/8") (Flare)
B	Liquid piping	φ9.52 (3/8") (Flare)
C1	Drain piping	VP20 Note (2)
C2	Drain piping (Gravity drainage)	VP20
D	Hole for wiring	
E	Suspension bolts	(M10)
F	Ducting for outdoor air intake	(φ150) (Knock out)
G	Ducting for air outlet	(φ125) (Knock out)



PJR002Z243 b

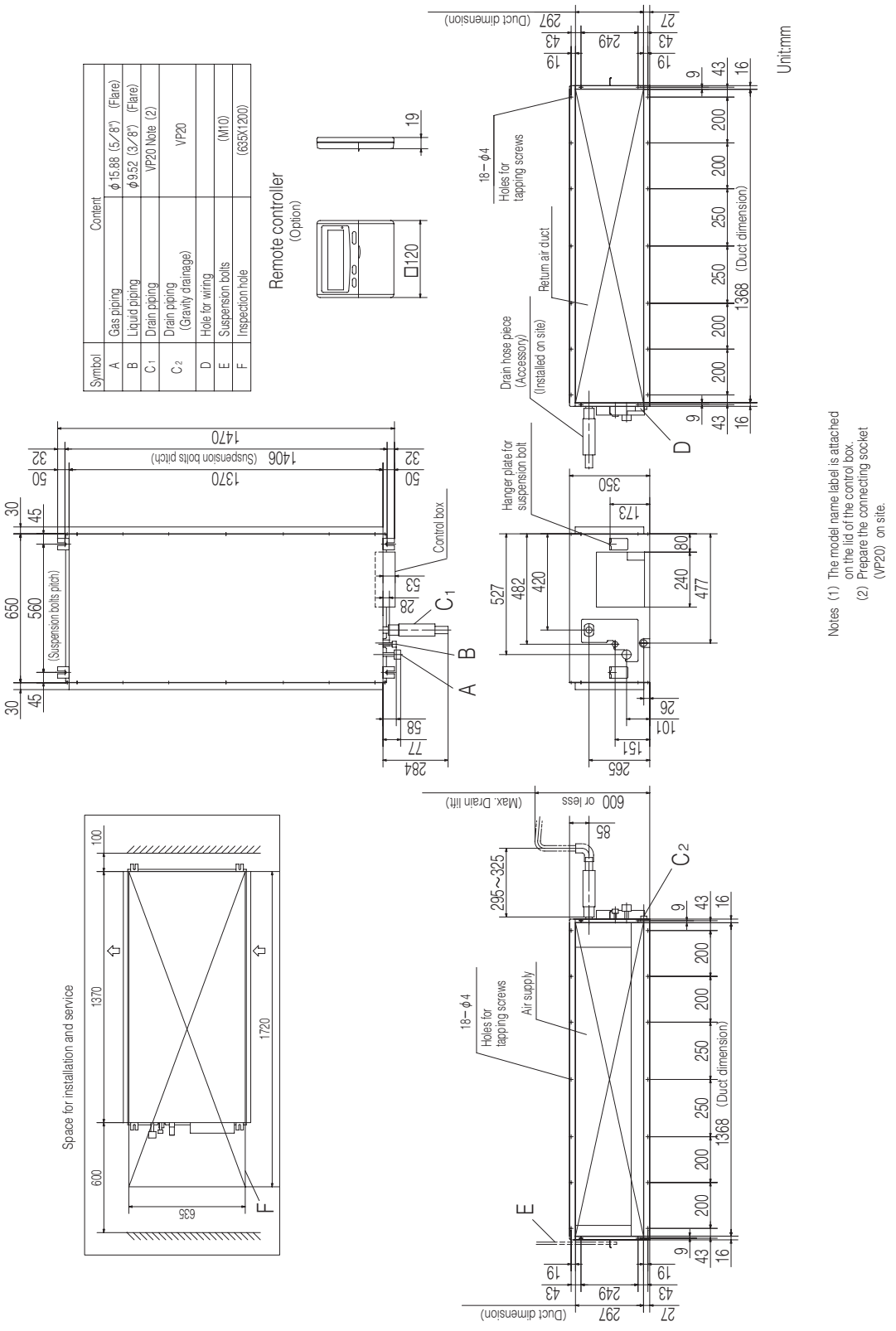
(e) Duct connected-High static pressure type (FDU)

Model FDU71VD



PJD001Z214 B

Models FDU100VD, 125VD, 140VD

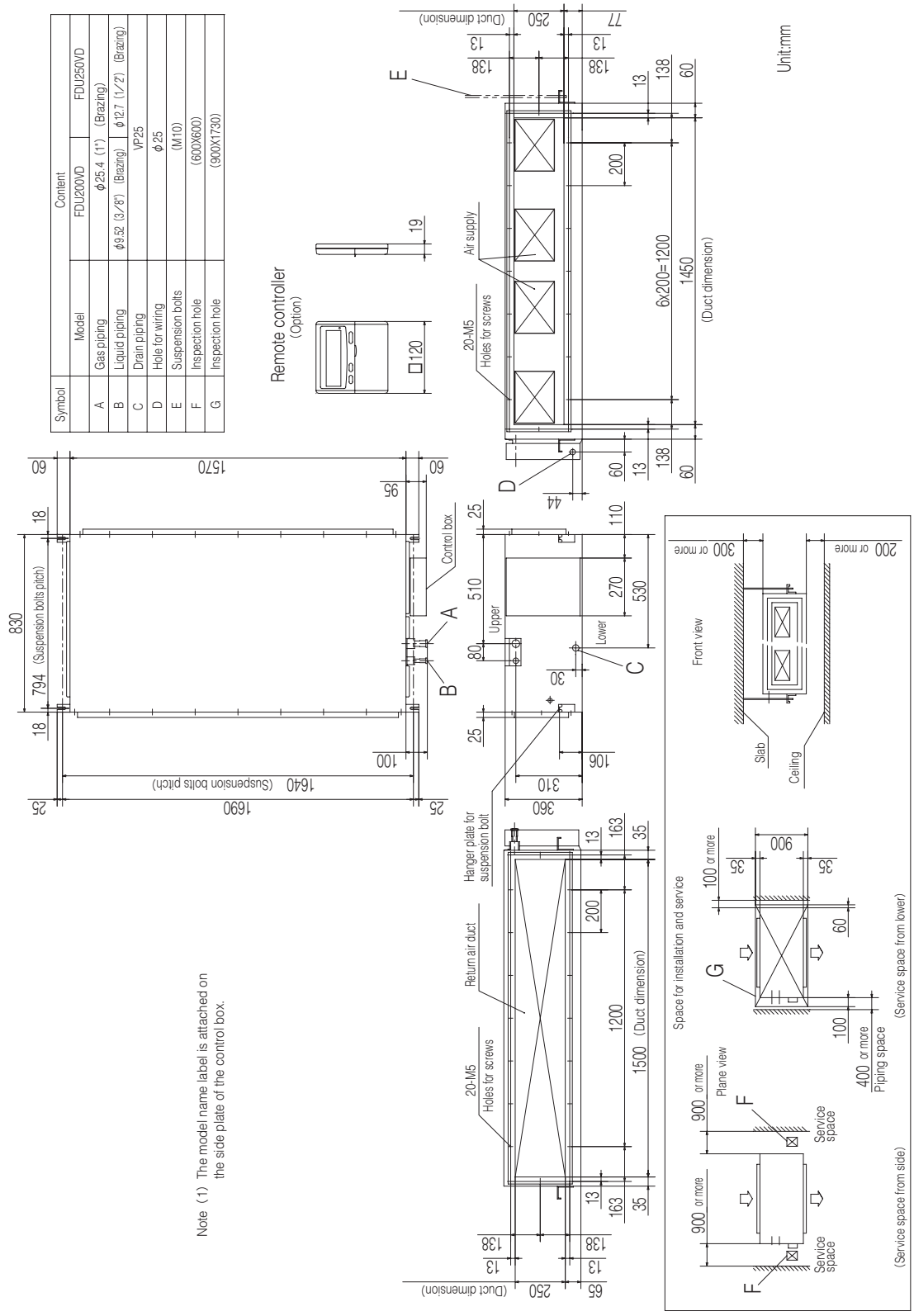


Notes (1) The model name label is attached on the lid of the control box.
(2) Prepare the connecting socket (VP20) on site.

PJD001Z215 B

Models FDU200VD, 250VD

Symbol	Model	Content FDU200VD	FDU250VD
A	Gas piping	φ25.4 (1") (Brazing)	
B	Liquid piping	φ9.52 (3/8") (Brazing)	φ12.7 (1/2") (Brazing)
C	Drain piping	VP25	
D	Hole for wiring	φ25	
E	Suspension bolts	(M10)	
F	Inspection hole	(600X600)	
G	Inspection hole	(900X1730)	



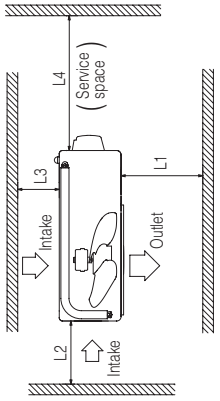
Note (1) The model name label is attached on the side plate of the control box.

PJD001Z216 A

(2) Outdoor units

Models SRC40ZIX-S, 50ZIX-S, 60ZIX-S

Notes
(1) It must not be surrounded by walls on the four sides.
(2) The unit must be fixed with anchor bolts. An anchor bolt must not protrude more than 15mm.
(3) Where the unit is subject to strong winds, lay it in such a direction that the blower outlet faces perpendicularly to the dominant wind direction.
(4) Leave 1m or more space above the unit.
(5) A wall in front of the blower outlet must not exceed the units height.
(6) The model name label is attached on the lower right corner of the front panel.

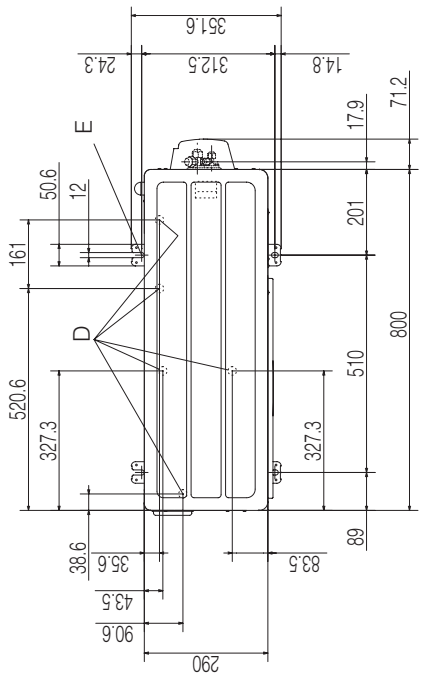


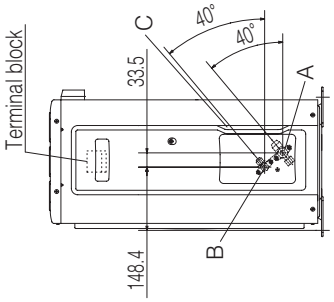
Minimum installation space

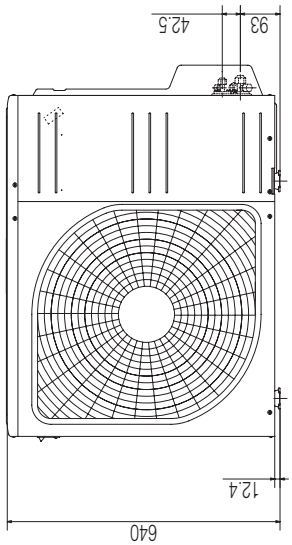
Examples of installation / Dimensions	I	II	III	IV
L1	Open	280	280	180
L2	100	75	Open	Open
L3	100	80	80	80
L4	250	Open	250	Open

Unit:mm

Symbol	Content	
A	Service valve connection (gas side)	φ12.7 (1/2") (Flare)
B	Service valve connection (liquid side)	φ6.35 (1/4") (Flare)
C	Pipe / cable draw-out hole	
D	Drain discharge hole	φ20×5places
E	Anchor bolt hole	M10×4places

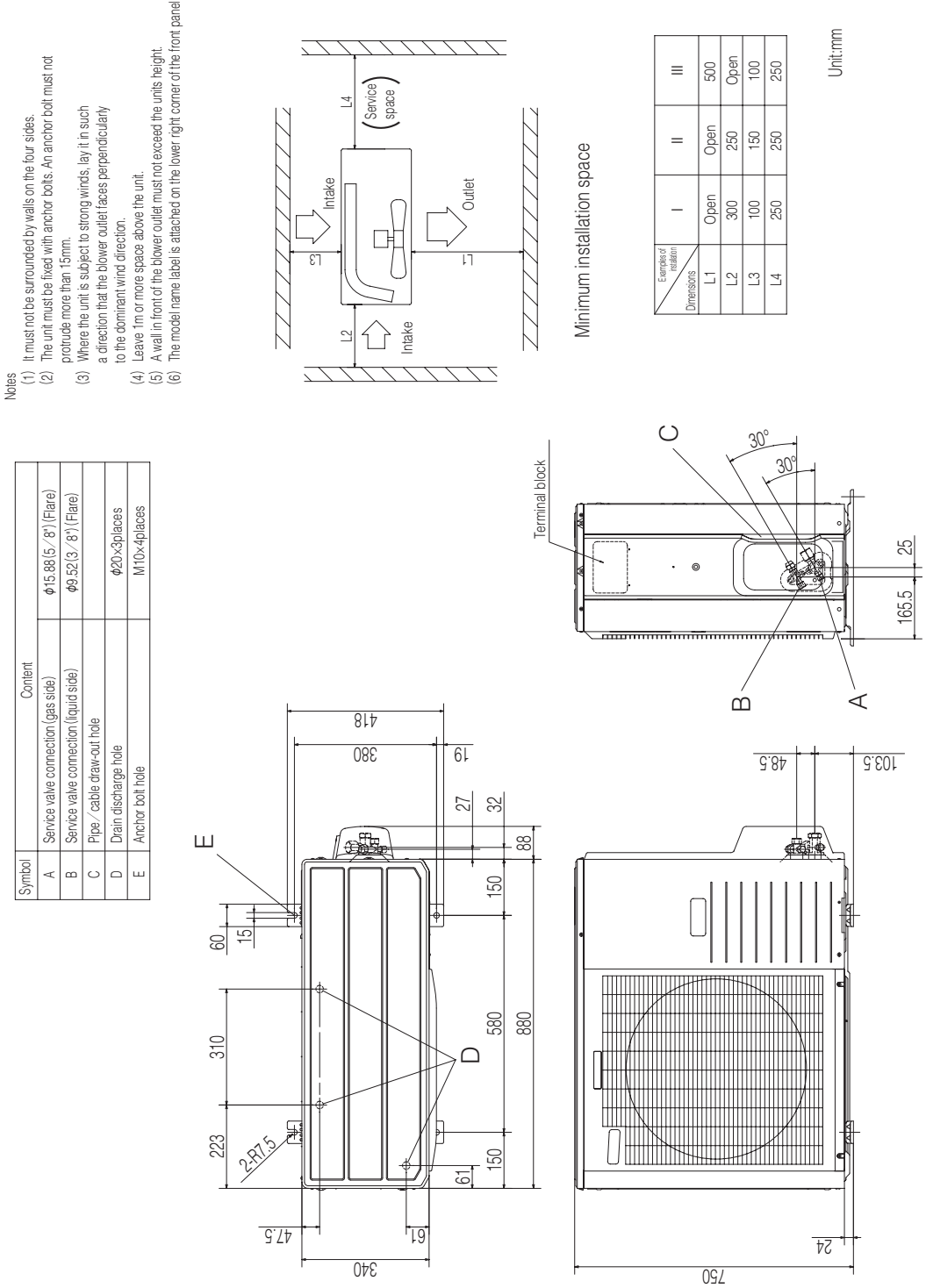






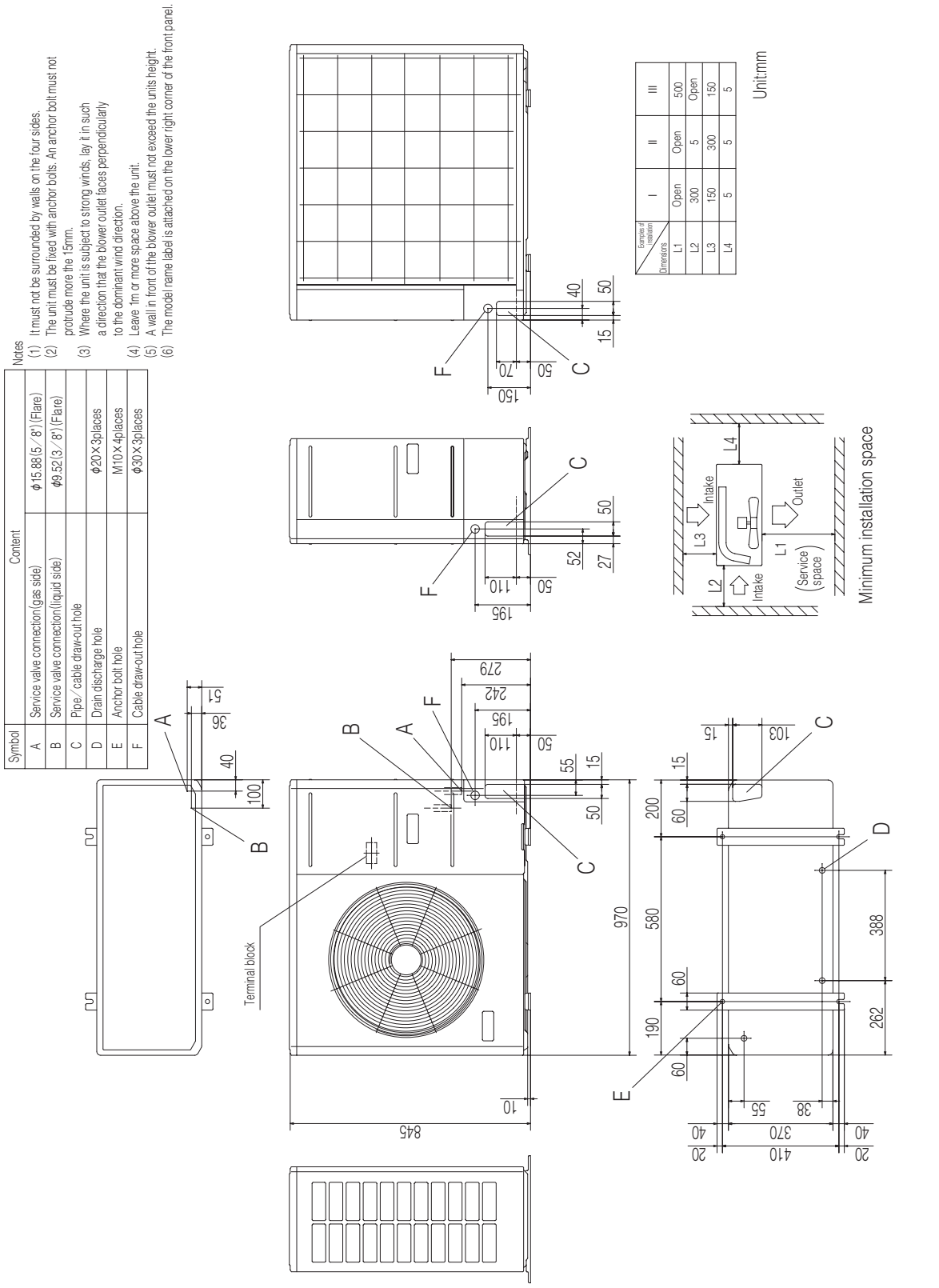
RCT000Z004

Model FDC71VN



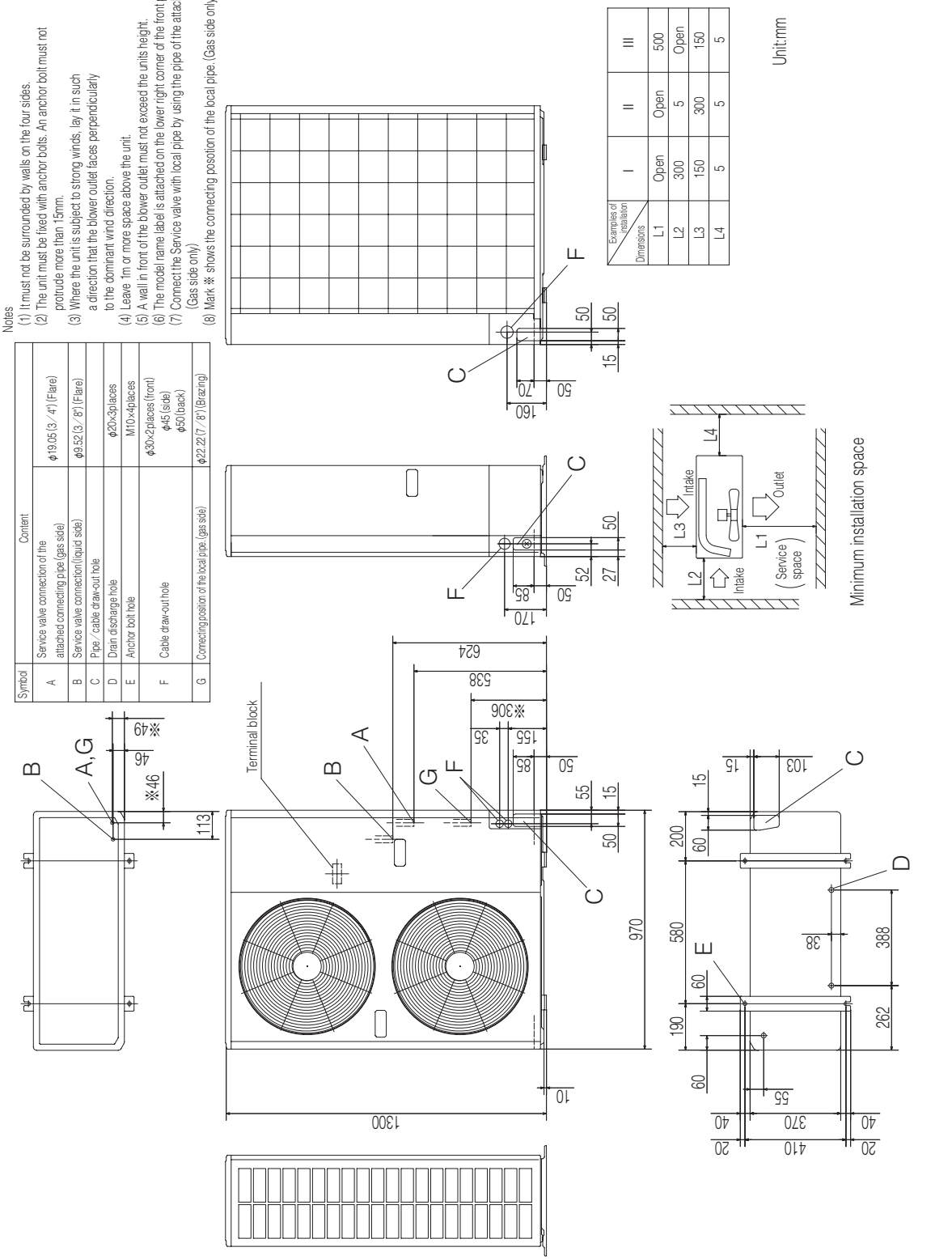
PCA001Z534 ⚠a

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



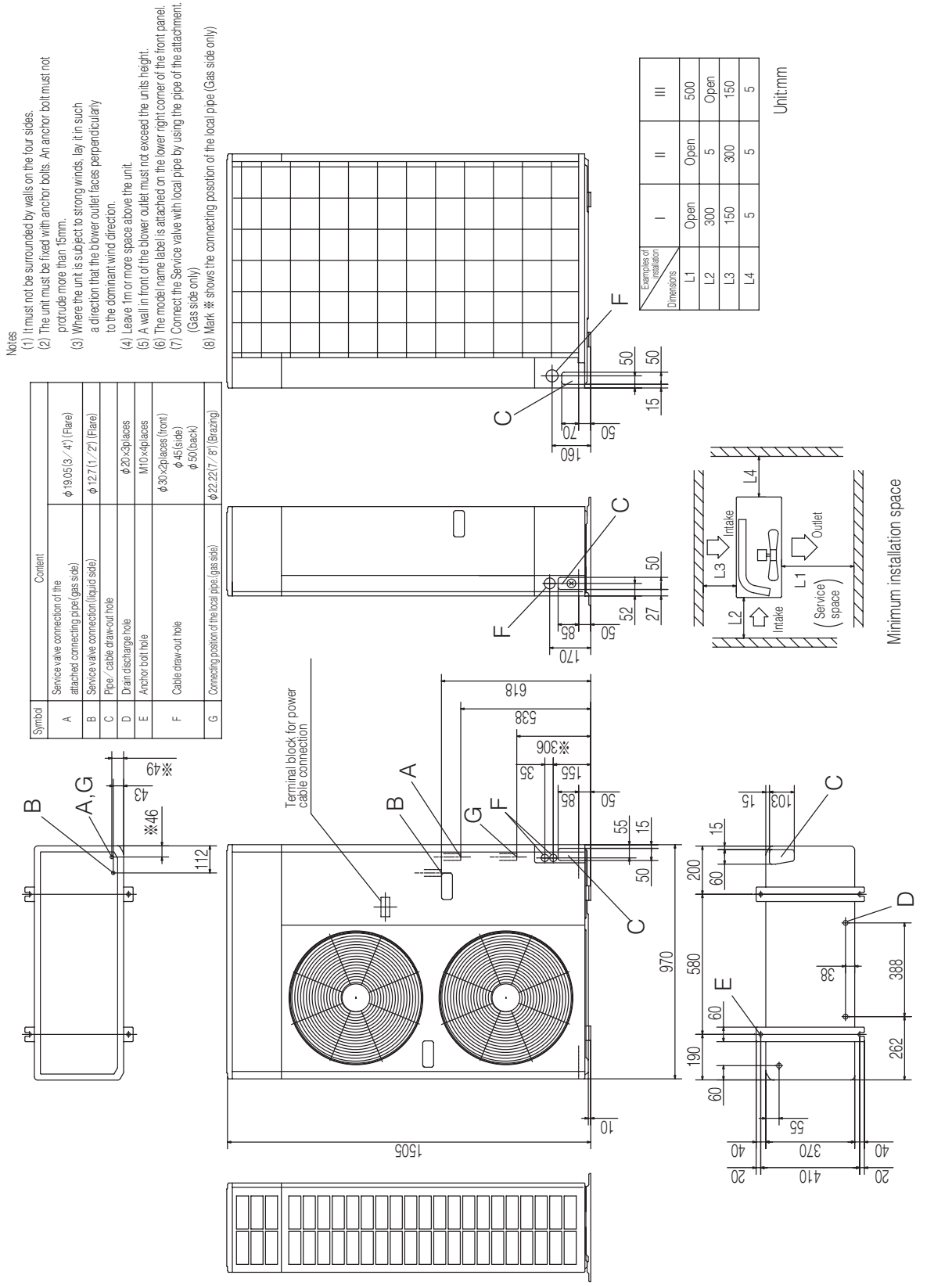
PCA001Z535 a

Model FDC200VS



PCA001Z536 a

Model FDC250VS

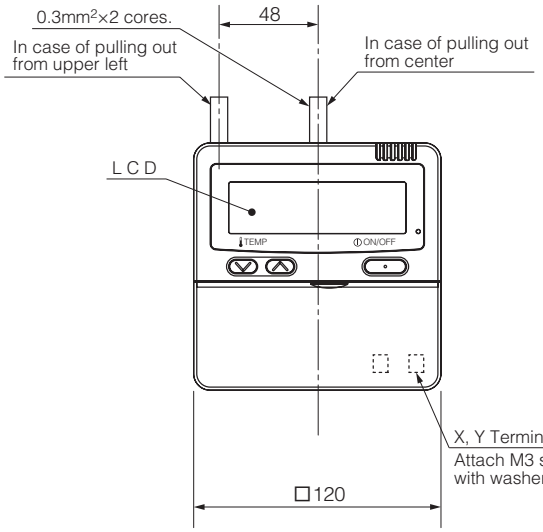


PCA001Z537 a

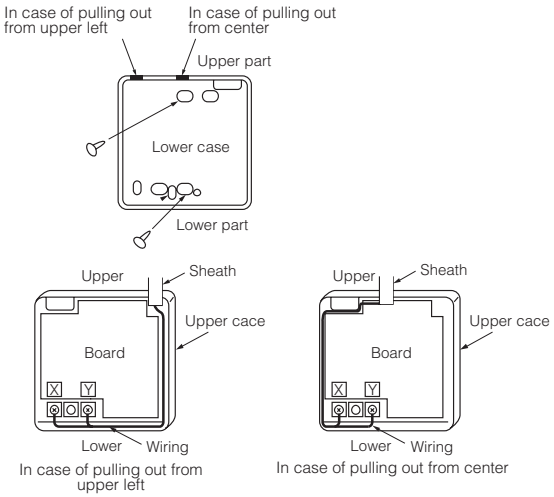
(3) Remote controller (Option parts)

(a) wired remote controller (RC-E4)

Exposed mounting

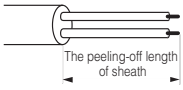


Wiring outlet
Cut off the upper thin part of remote control lower case with a nipper or knife, and grind burrs with a file etc.

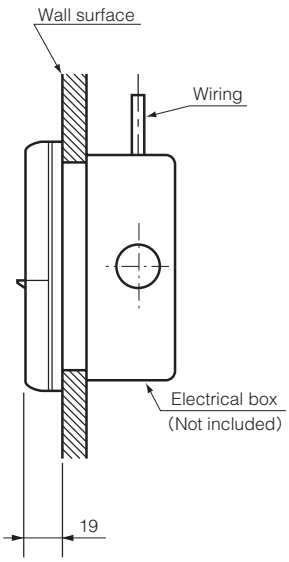


The peeling-off length of sheath

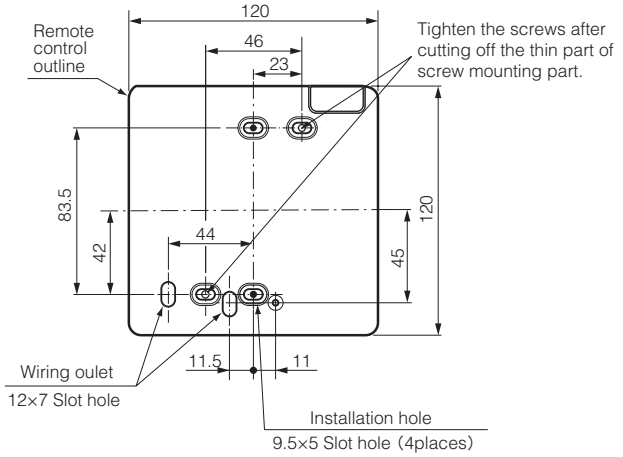
Pulling out from upper left	Pulling out from center
X wiring : 215mm Y wiring : 195mm	X wiring : 170mm Y wiring : 190mm



Embedded mounting



Remote control installation dimensions



(1) Installation screw for remote control
M4 Screw (2 pieces)

Unit:mm

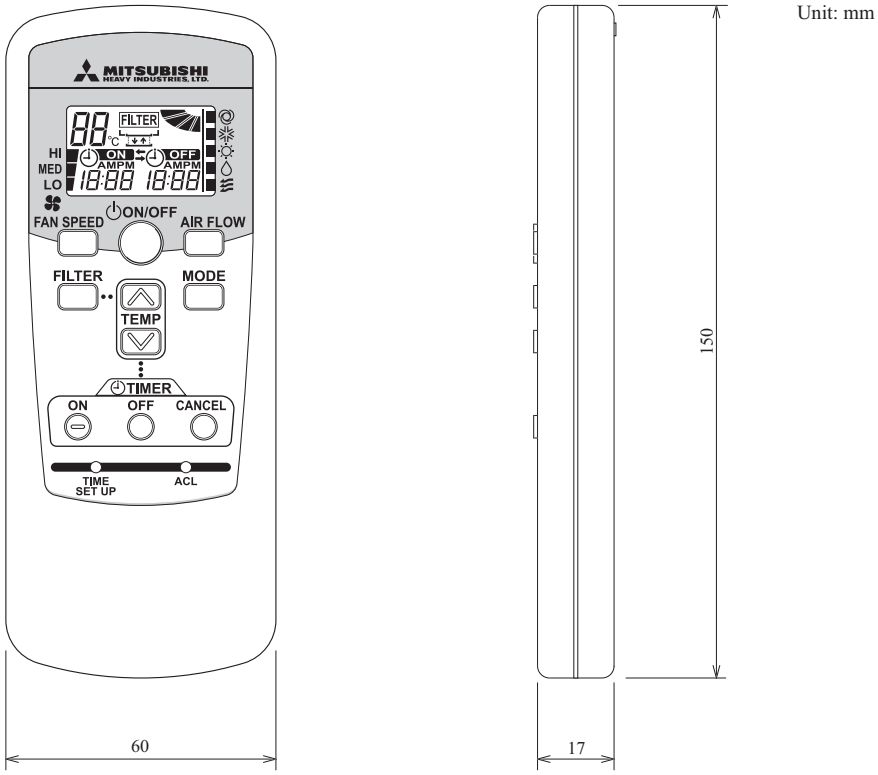
Wiring specifications

(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	0.5mm²×2 cores
Under 300m	0.75mm²×2 cores
Under 400m	1.25mm²×2 cores
Under 600m	2.0mm²×2 cores

PJZ000Z274

(b) Wireless remote controller (RCN-E1R)



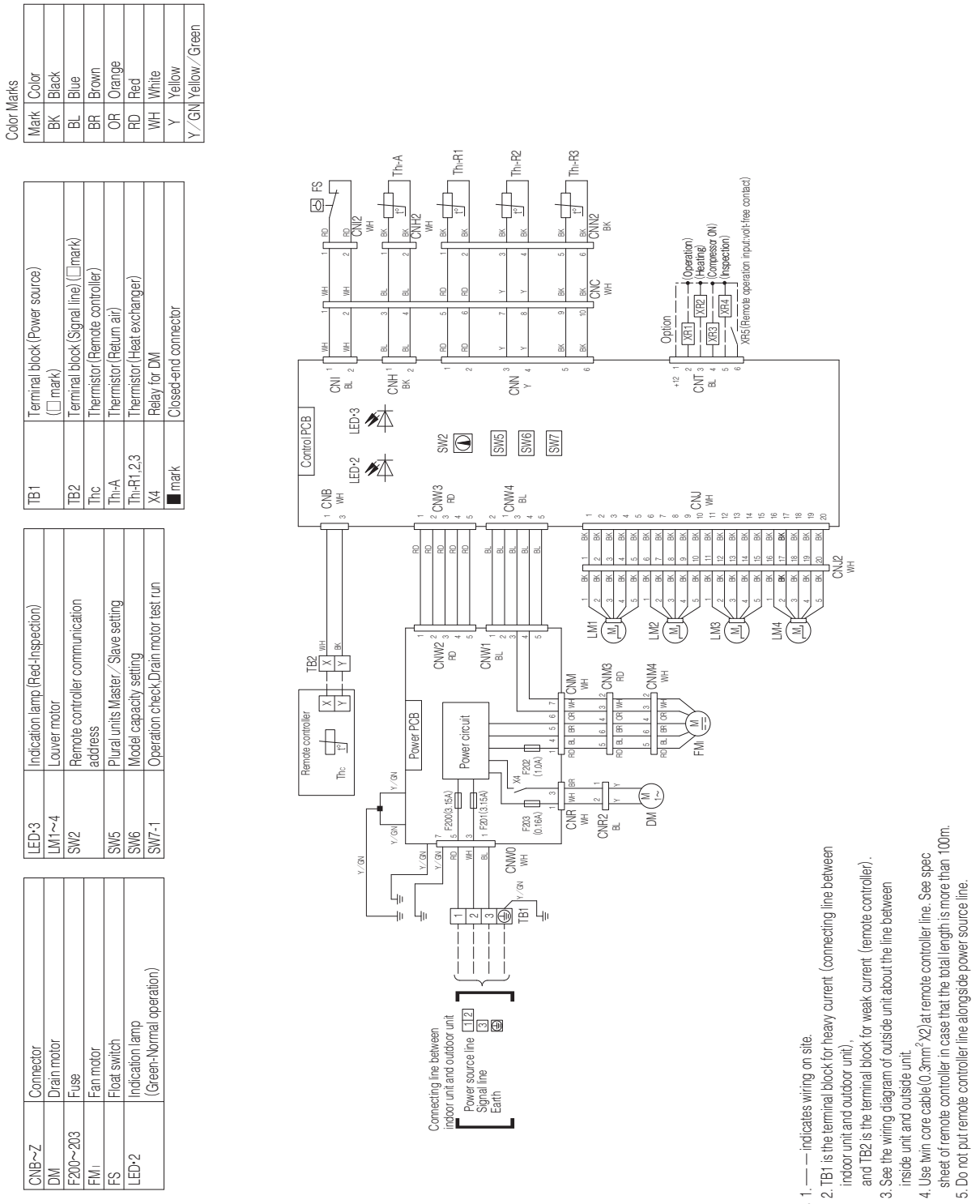
Unit: mm

1.3 ELECTRICAL WIRING

(1) Indoor units

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

Models FDTC40VD, 50VD, 60VD



Notes 1. — indicates wiring on site.
2. TB1 is the terminal block for heavy current (connecting line between 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 (0.3mm² X2) 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.

PJA003Z340 A

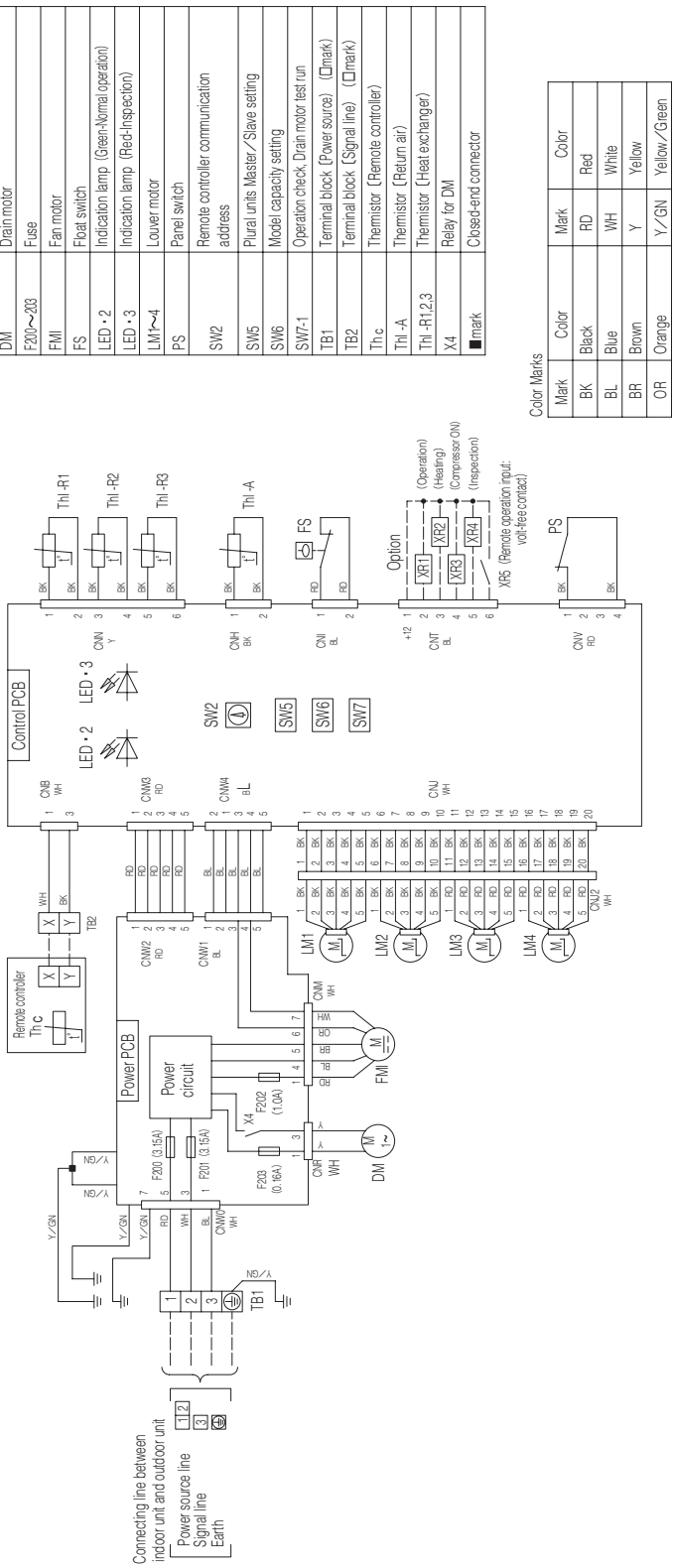
(b) Ceiling cassette-4way type (FDT)

Models FDT40VD, 50VD, 60VD, 71VD, 100VD, 125VD, 140VD

CN6~Z	Connector
DM	Drain motor
F200~203	Fuse
FMI	Fan motor
FS	Float switch
LED・2	Indication lamp (Green-Nomal operation)
LED・3	Indication lamp (Red-Inspection)
LM1~4	Louver motor
PS	Panel switch
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)
Th c	Thermistor (Remote controller)
Thl -A	Thermistor (Return air)
Thl -R1,2,3	Thermistor (Heat exchanger)
X4	Relay for DM
■mark	Closed-end connector

Color Marks

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

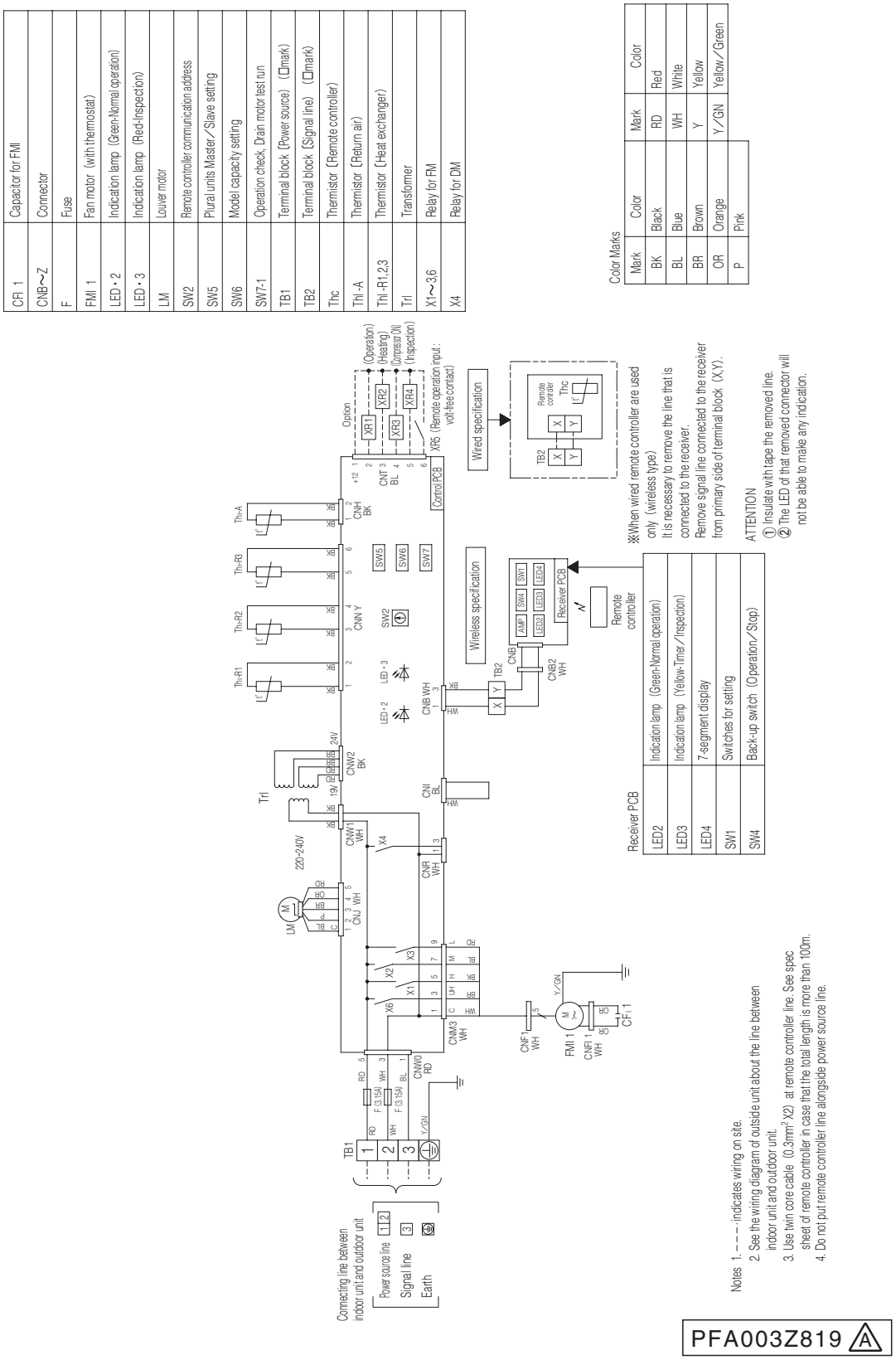


Notes 1. – – –: indicates wiring on site.
2. See the wiring diagram of outside unit about the line between inside unit and outside unit.
3. Use twin core cable (0.3mm² X2) at remote controller line. See spec sheet of remote controller in case that the total length is more than 100m.
4. Do not put remote controller line alongside power source line.

PJF000Z190

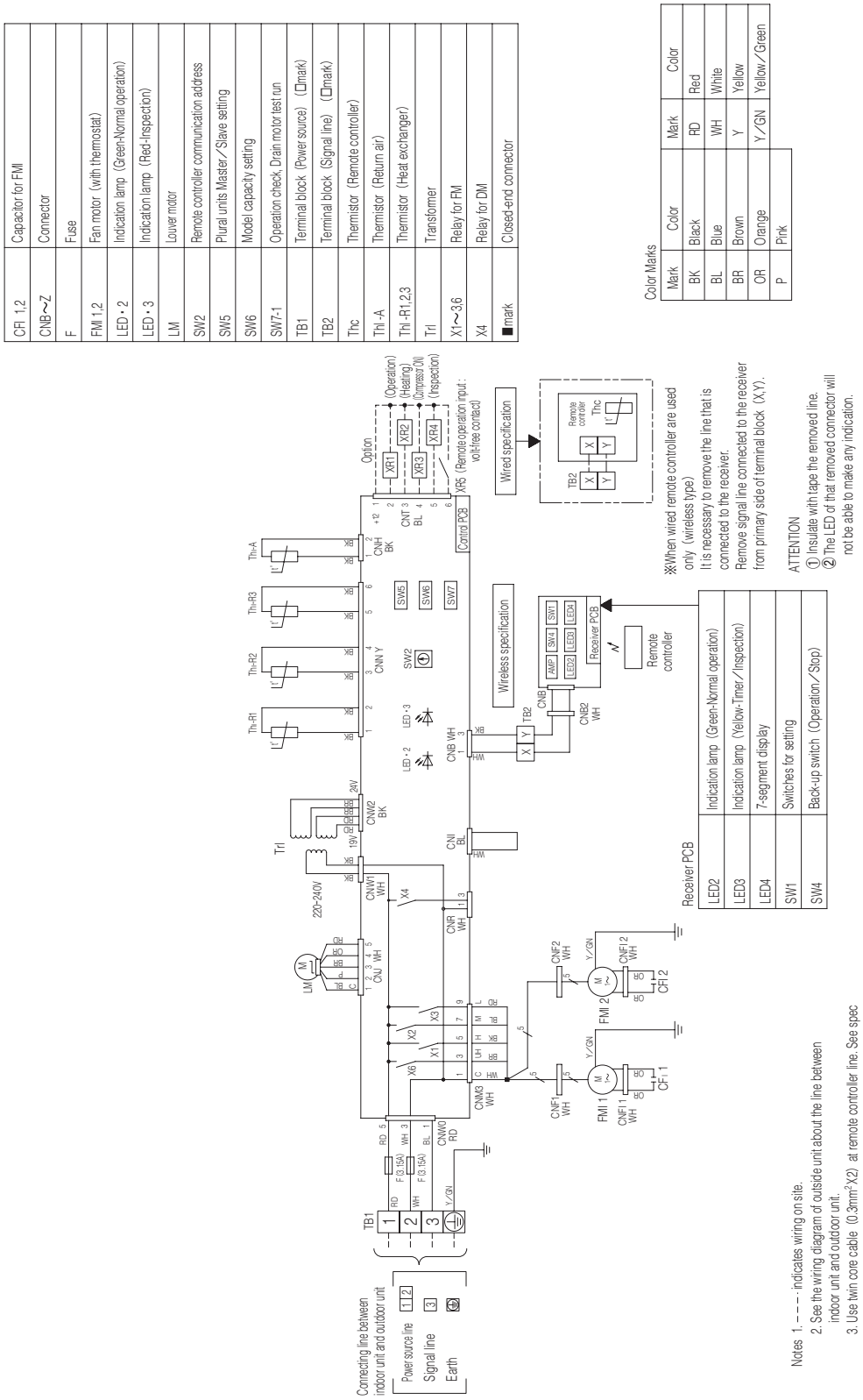
(c) Ceiling suspended type (FDEN)

Models FDEN40VD, 50VD



PFA003Z819 A

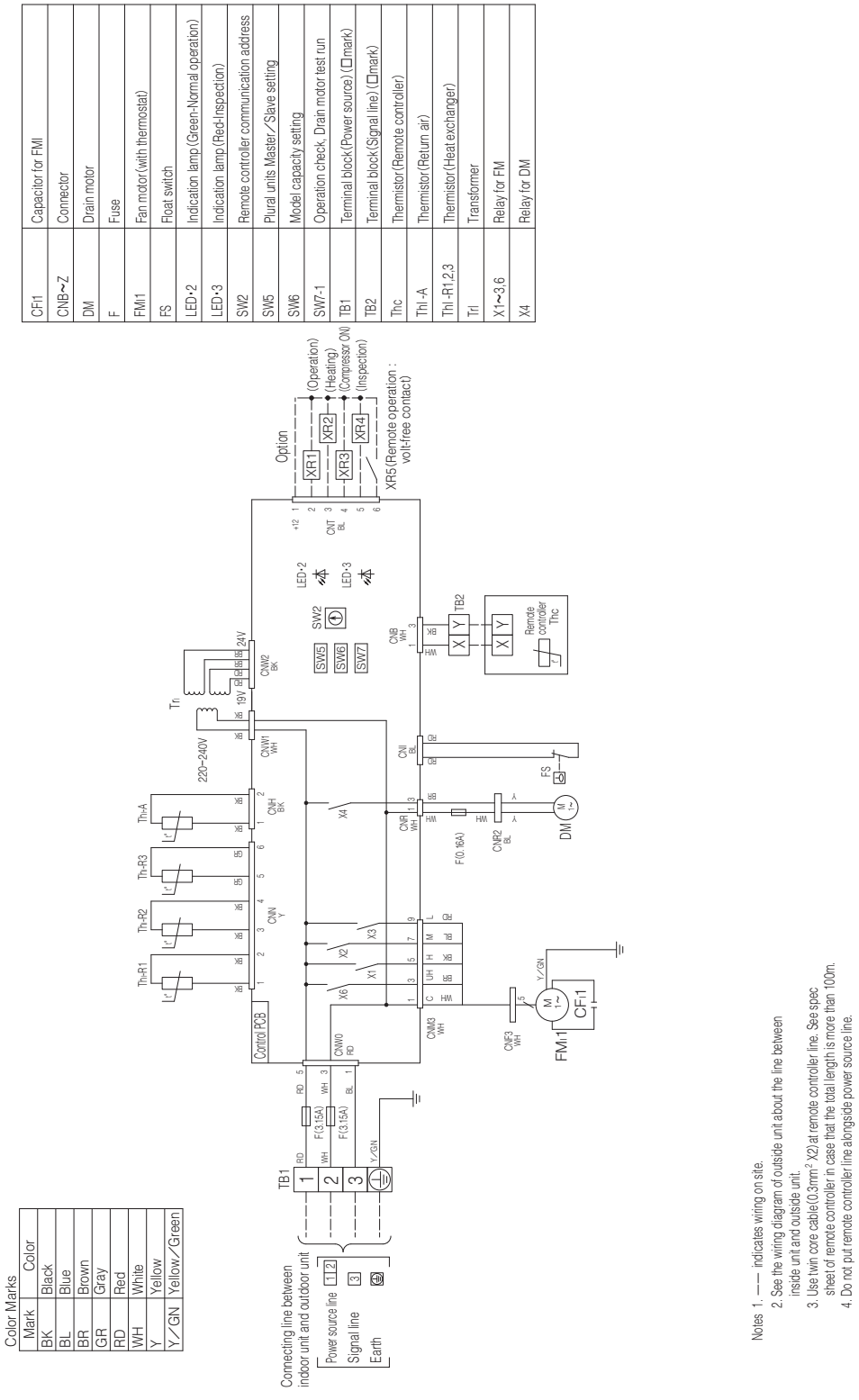
Models FDEN60VD, 71VD, 100VD, 125VD, 140VD



PFA003Z820 A

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

Models FDUM50VD, 60VD, 71VD

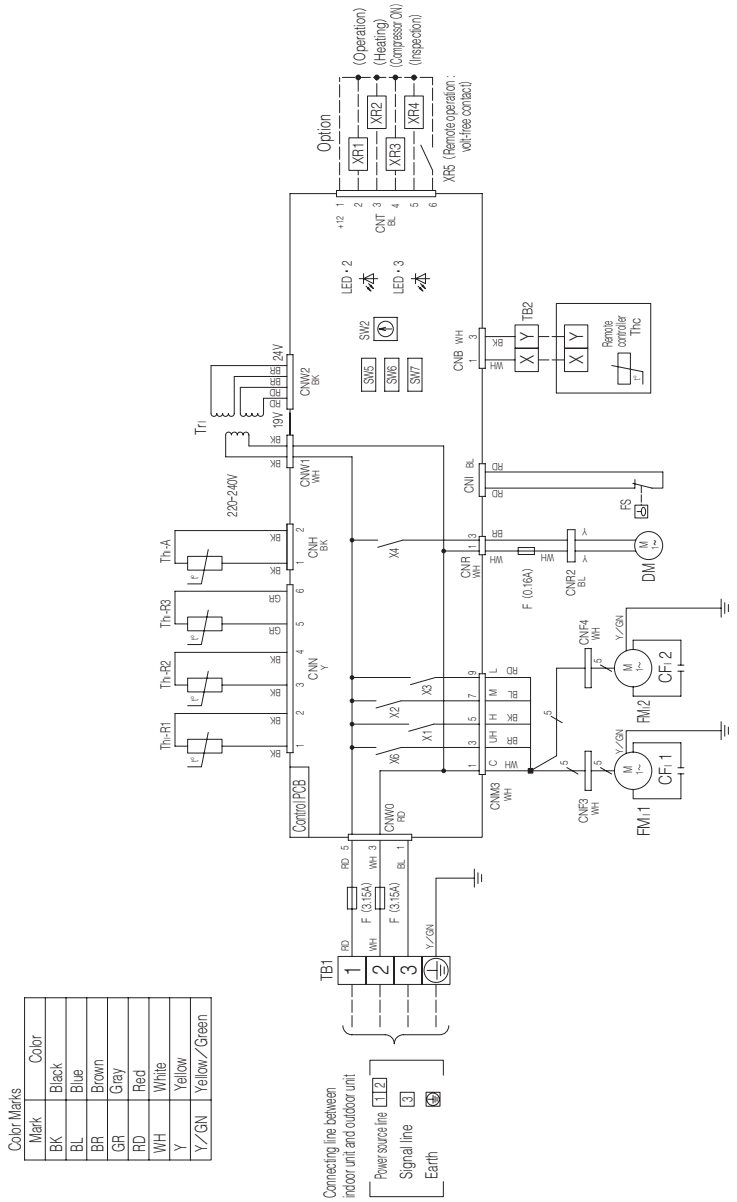


Notes 1. —— indicates wiring on site.
2. See the wiring diagram of outside unit about the line between inside unit and outside unit.
3. Use twin core cable (0.3mm² X2) at remote controller line. See spec sheet of remote controller in case that the total length is more than 100m.
4. Do not put remote controller line alongside power source line.

PJR002Z244 B

Models FDUM100VD, 125VD, 140VD

CFr1,2	Capacitor for FMI
CNB~Z	Connector
DM	Drain motor
F	Fuse
FM 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
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
■mark	Closed-end connector



Color Marks

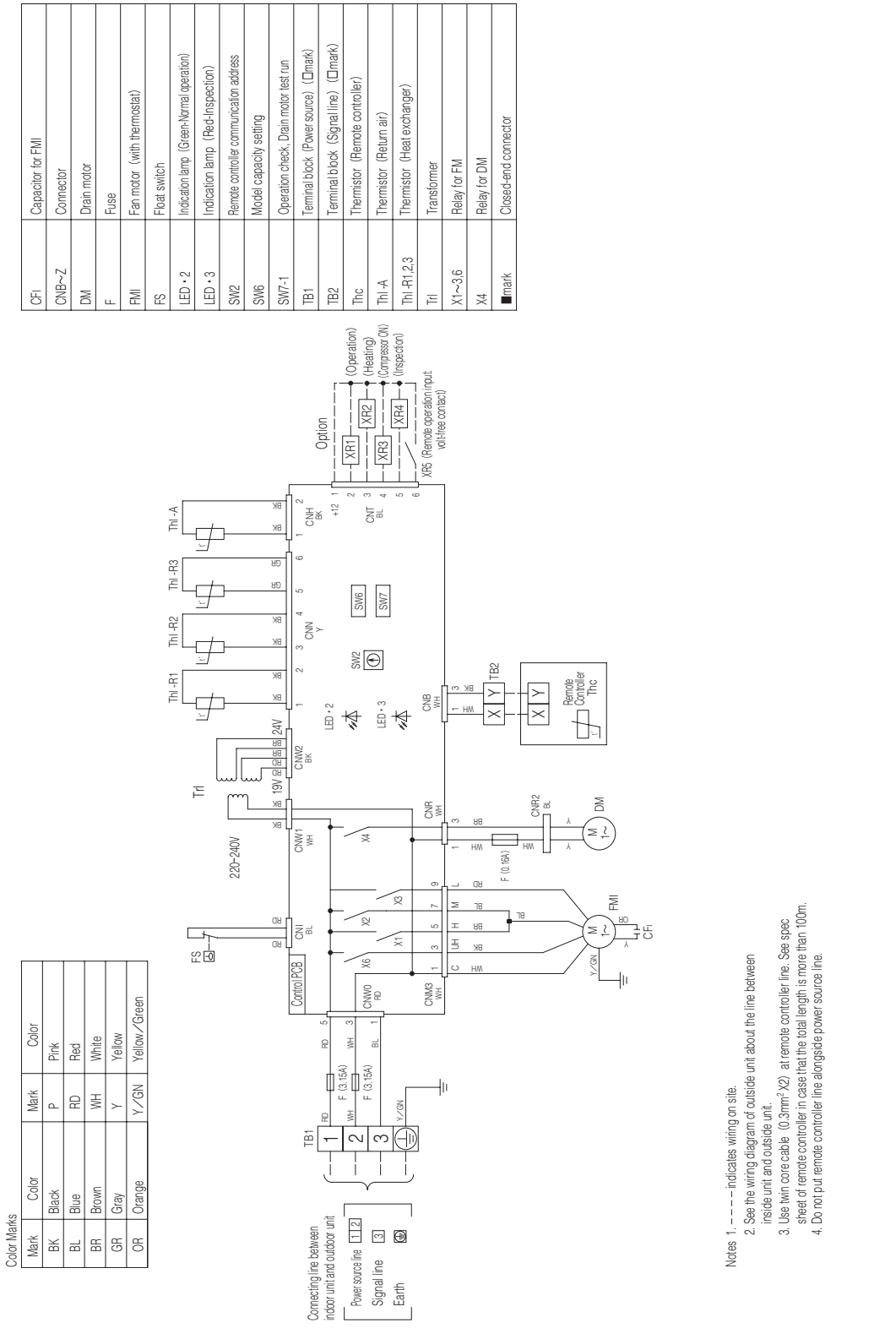
Mark	Color
BK	Black
BL	Blue
BR	Brown
GR	Gray
RD	Red
WH	White
Y	Yellow
Y／GN	Yellow／Green

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.

PJR002Z245 Ⓑ

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

Model FDU71VD

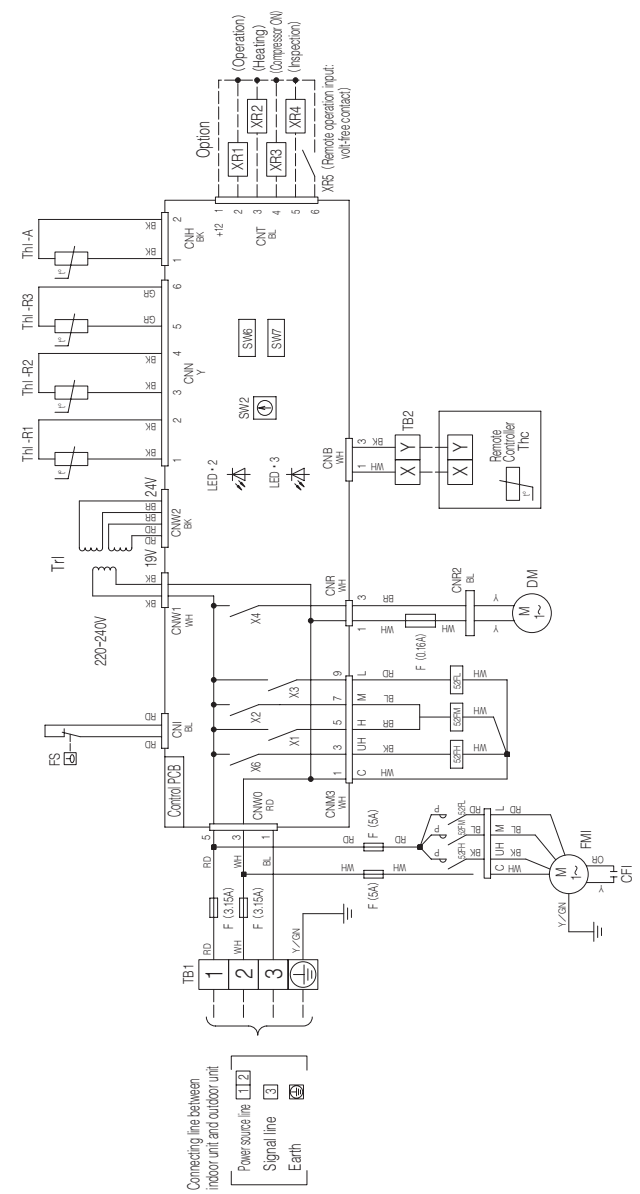


Notes 1. – – – indicates wiring on site.
2. See the wiring diagram of outside unit about the line between inside unit and outside unit.
3. Use twin core cable (0.3mm² X2) at remote controller line. See spec sheet of remote controller in case that the total length is more than 100m.
4. Do not put remote controller line alongside power source line.

PJD001Z304

Models FDU100VD, 125VD, 140VD

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)
Thl-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



Color Marks

Mark	Color
BK	Black
BL	Blue
BR	Brown
GR	Gray
OR	Orange

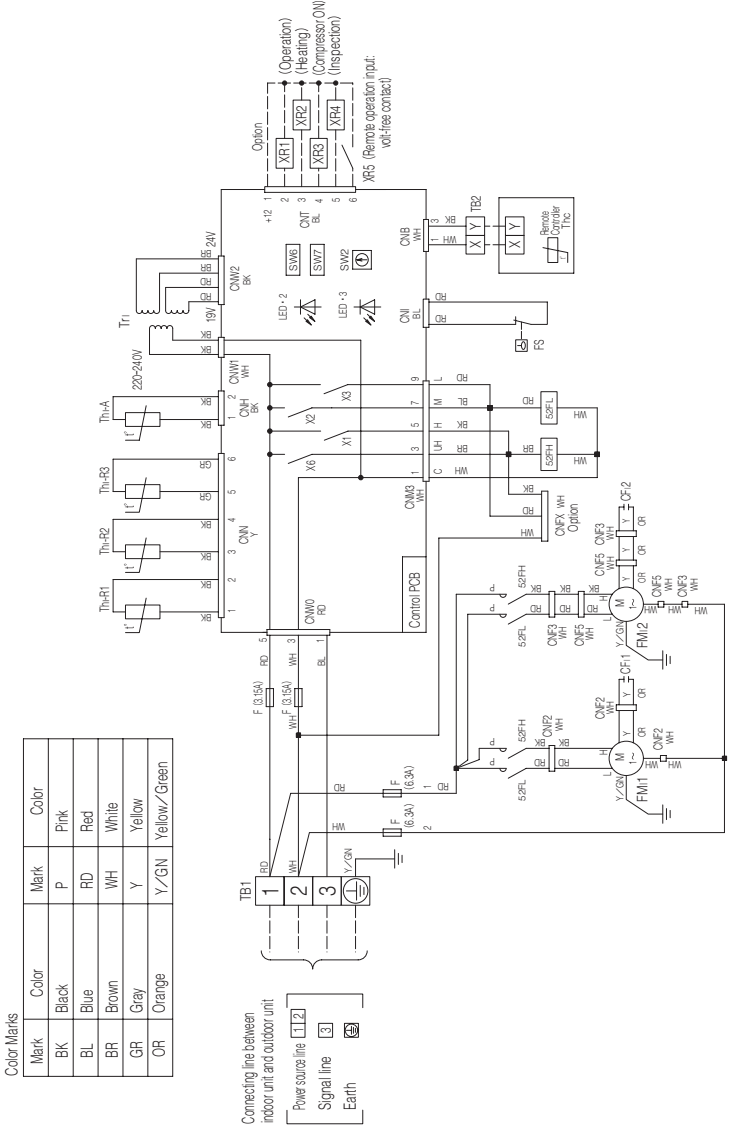
Mark	Color
P	Pink
RD	Red
WH	White
Y	Yellow
Y/GN	Yellow/Green

Notes 1. – – – indicates wiring on site.
2. See the wiring diagram of ouiside 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.

PJD001Z217 B

Models FDU200VD, 250VD

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



Color Marks

Mark	Color	Mark	Color
BK	Black	P	Pink
BL	Blue	RD	Red
BR	Brown	WH	White
GR	Gray	Y	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 (0.3mm^{2}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.

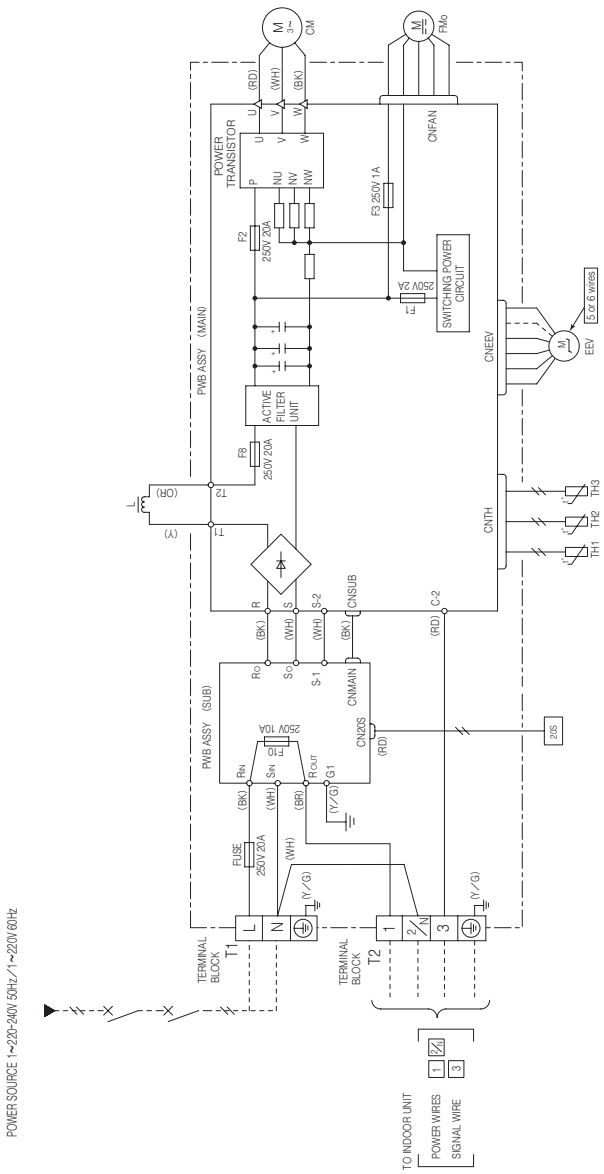
PJD001Z218 B

(2) Outdoor units

Models SRC40ZIX-S, 50ZIX-S, 60ZIX-S

Item	Description
CM	Compressor motor
CNEEV~20S	Connector
EEV	Electric expansion valve (coil)
FMo	Fan motor
L	Reactor
T1.2	Terminal block
TH1	Heat exchanger sensor (outdoor unit)
TH2	Outdoor air temp.sensor
TH3	Discharge pipe temp.sensor
20S	Solenoid valve for 4 way valve

Mark	Color
BK	Black
BR	Brown
OR	Orange
RD	Red
WH	White
Y	Yellow
Y/G	Yellow/Green



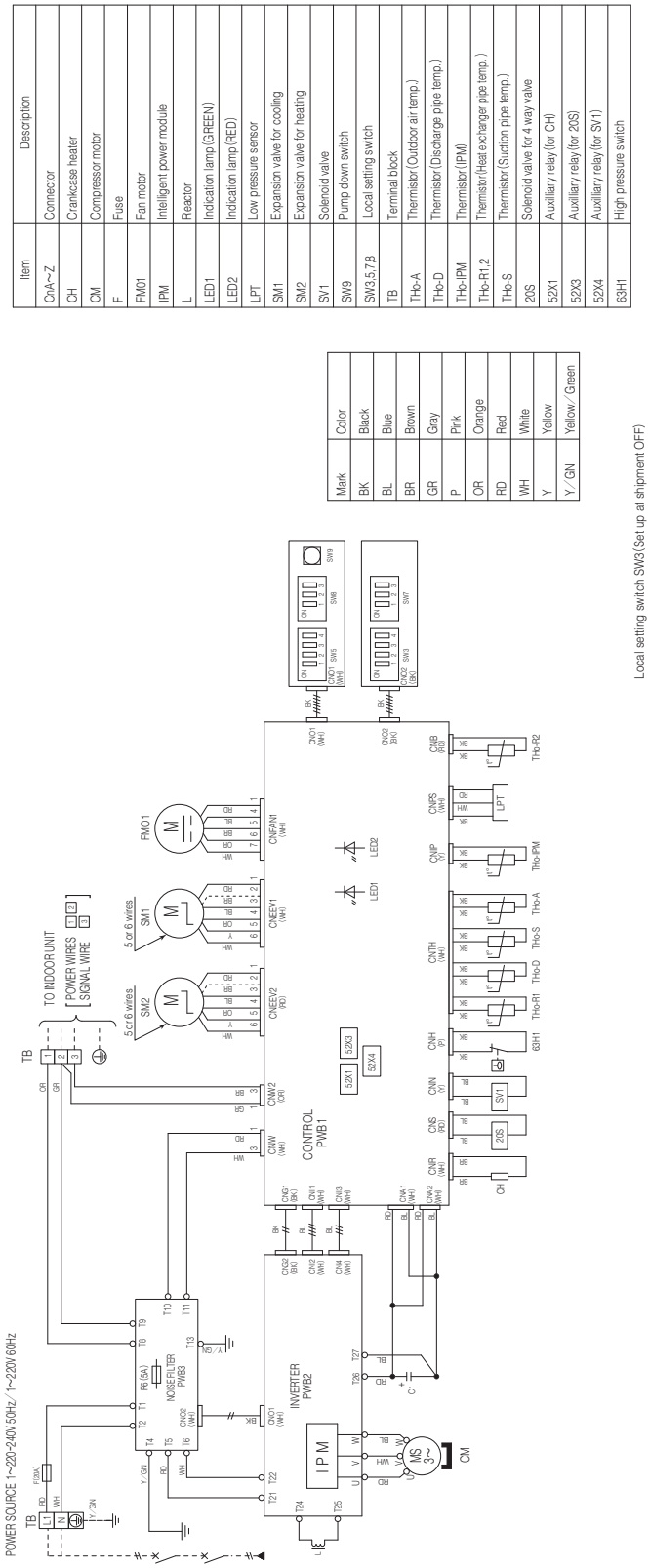
Power cable, indoor-outdoor connecting wires

Model	MAX running current (A)	Power cable size (mm^2)	Power cable length (m)	indoor-outdoor wire size x number	Earth wire size (mm)
40	12	2.0	21	ϕ1.6mm x 3	ϕ1.6mm
50	14		18		
60					

- 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.

RWC000Z214 A

Model FDC71VN



Item	Description
CnA~Z	Connector
CH	Crankcase heater
CM	Compressor motor
F	Fuse
FM01	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
SV1	Solenoid valve
SW9	Pump down switch
SW3,5,7,8	Local setting switch
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	Auxiliary relay (for CH)
52X3	Auxiliary relay (for 20S)
52X4	Auxiliary relay (for SV1)
63H1	High pressure switch

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

Local setting switch SW3(Set up at shipment OFF)

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 running 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. ③Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON. ④Be sure to turn OFF SW3-3 after the trial operation is finished.

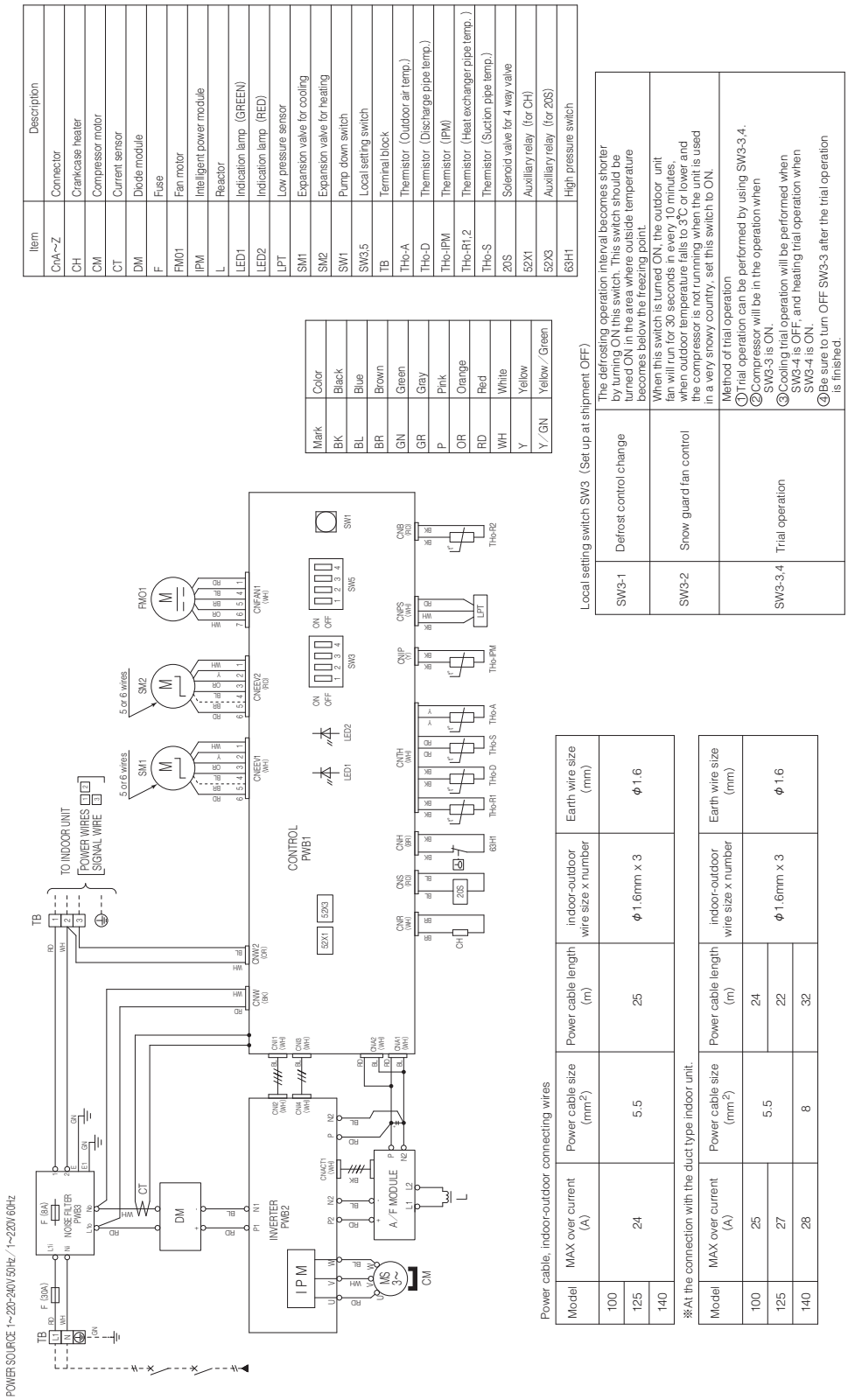
Power cable, indoor-outdoor connecting wires

Model	MAX over current (A)	Power cable size (mm^2)	Power cable length (m)	indoor-outdoor wire size x number	Earth wire size (mm)
71	17	3.5	21	ϕ1.6mm x 3	ϕ16

- 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.

PCA001Z538 a

Models FDC100VN, 125VN, 140VN



Item	Description
CnA~Z	Connector
CH	Crankcase heater
CM	Compressor motor
CT	Current sensor
DM	Diode module
F	Fuse
FM01	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-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	Auxiliary relay (for CH)
52X3	Auxiliary relay (for 20S)
63H1	High pressure switch

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

Local setting switch SW3 (Set up at shipment OFF)

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 running 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. ③Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON. ④Be sure to turn OFF SW3-3 after the trial operation is finished.

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)
100	24	5.5	25	ϕ 1.6mm x 3	ϕ 1.6
125					
140					

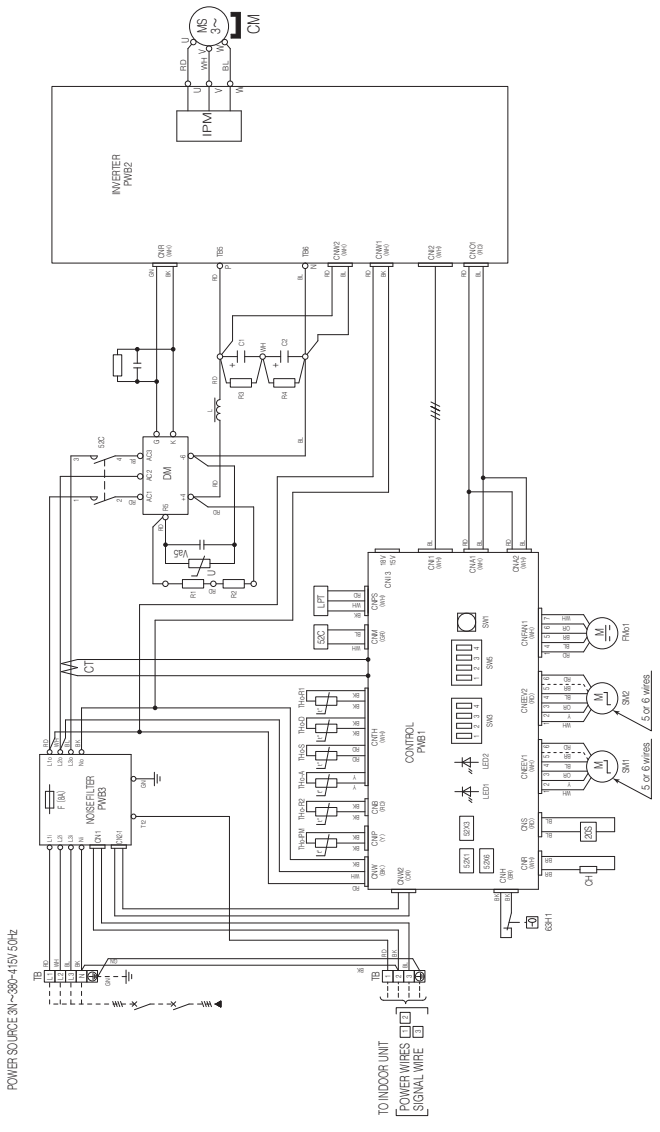
※At the connection with the duct type indoor unit.

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	25	5.5	24	ϕ 1.6mm x 3	ϕ 1.6
125	27		22		
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.

PCA001Z539 ⚠a

Models FDC100VS, 125VS, 140VS



Item	Description
CnA~Z	Connector
CH	Crankcase heater
CM	Compressor motor
CT	Current sensor
DM	Diode module
F	Fuse
FM01	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 (Discharger 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	Auxiliary relay (for CH)
52X3	Auxiliary relay (for 20S)
52X6	Auxiliary relay (for 52C)
63H1	High pressure switch

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

Local setting switch SW3 (Set up at shipment OFF)

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 ①Trial operation can be performed by using SW3-3,4. ②Compressor will be in the operation when SW3-3 is ON. ③Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON. ④Be sure to turn OFF SW3-3 after the trial operation is finished.

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)
100	15	3.5	27	ϕ1.6mm x 3	ϕ1.6
125					
140					

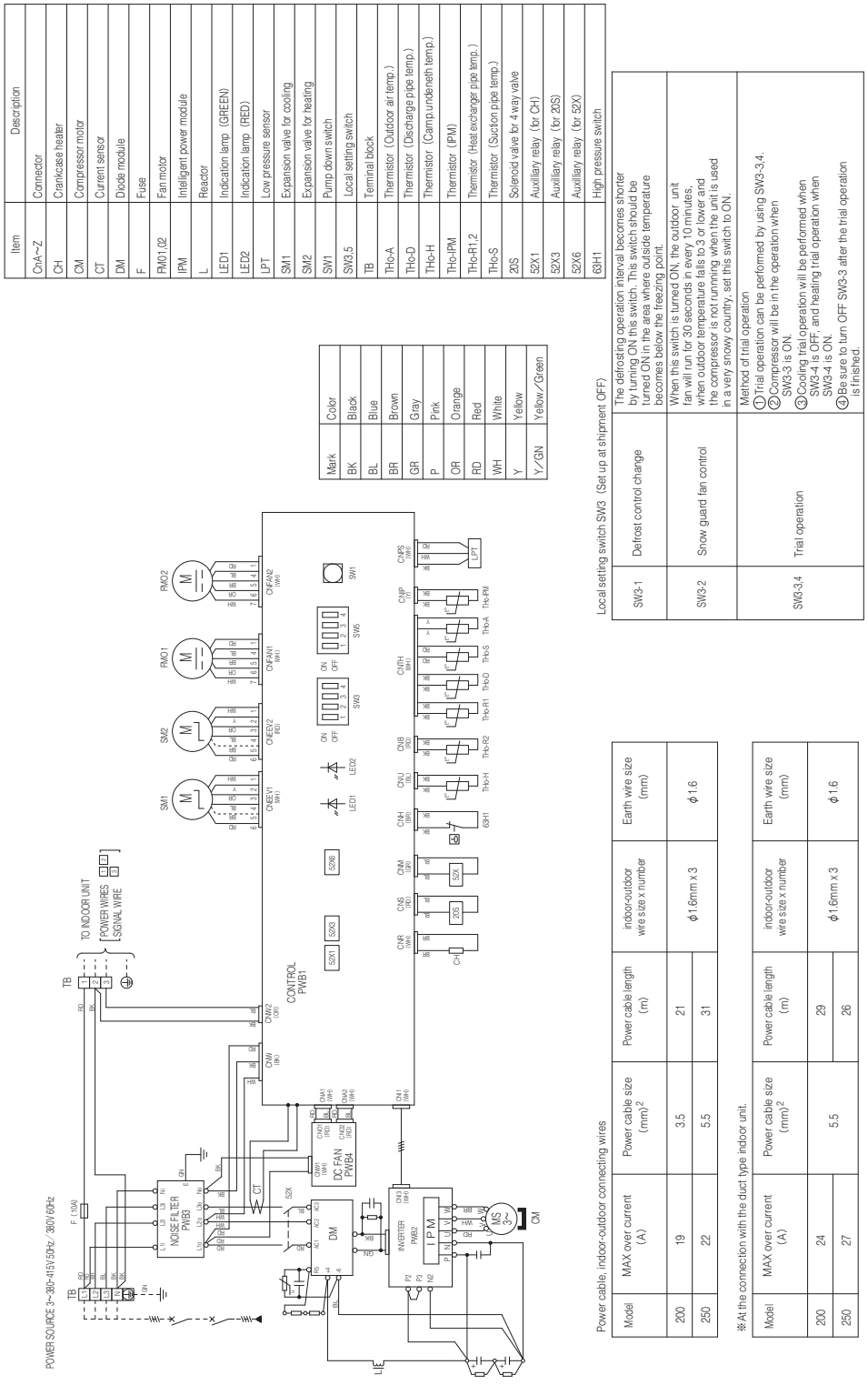
※At the connection with the duct type indoor unit.

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	3.5	26	ϕ1.6mm x 3	ϕ1.6
125	18		23		
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.

PCA001Z540 a

Models FDC200VS, 250VS



Item	Description
CnA~Z	Connector
CH	Crankcase heater
CM	Compressor motor
CT	Current sensor
DM	Diode module
F	Fuse
FMO1,02	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.undeneith 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	Auxiliary relay (for CH)
52X3	Auxiliary relay (for 20S)
52X6	Auxiliary relay (for 52X)
63H1	High pressure switch

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

Local setting switch SW3 (Set up at shipment OFF)

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 running 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. ③Cooling trial operation will be performed when SW3-4 is OFF, and heating trial operation when SW3-4 is ON. ④Be sure to turn OFF SW3-3 after the trial operation is finished.

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	ϕ1.6mm x 3	ϕ1.6
250	22	5.5	31		

※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)
200	24	5.5	29	ϕ1.6mm x 3	ϕ1.6
250	27		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.

PCA001Z541 a

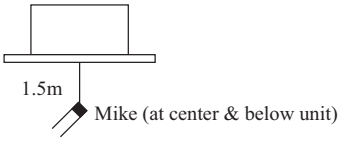
1.4 NOISE LEVEL

Notes (1) The data are based on the following conditions.
Ambient air temperature: Indoor unit 27℃WB. Outdoor unit 35℃DB.
(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

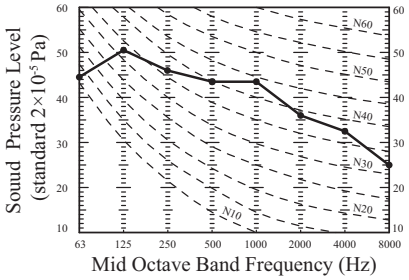
(a) Ceiling cassette-4way compact type (FDTC)

Measured based on JIS B 8616
Mike position as right

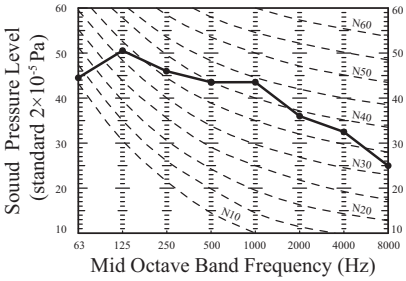


Models FDTC40VD,50VD

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

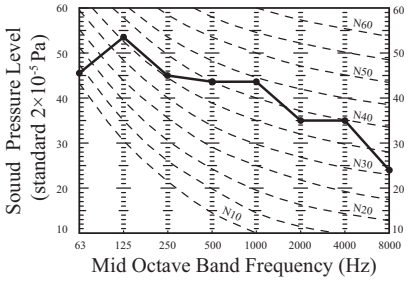


Heating noise level 47 dB (A) at P-HIGH
42 dB (A) at HIGH
36 dB (A) at MEDIUM
32 dB (A) at LOW

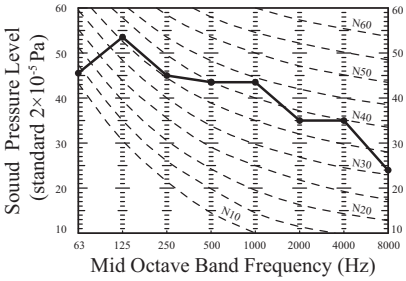


Model FDTC60VD

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

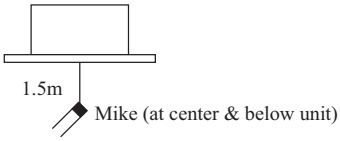


Heating noise level 47 dB (A) at P-HIGH
46 dB (A) at HIGH
39 dB (A) at MEDIUM
32 dB (A) at LOW



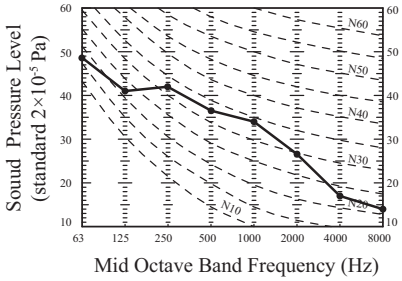
(b) Ceiling cassette-4way type (FDT)

Measured based on JIS B 8616
Mike position as right



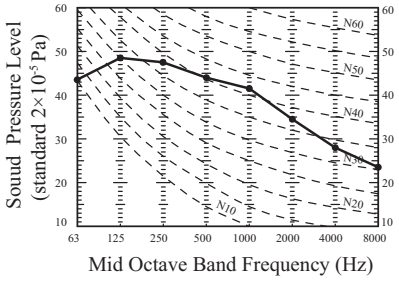
Models FDT40,50VD

Noise level 39 dB (A) at P-HIGH
33 dB (A) at HIGH
31 dB (A) at MEDIUM
30 dB (A) at LOW



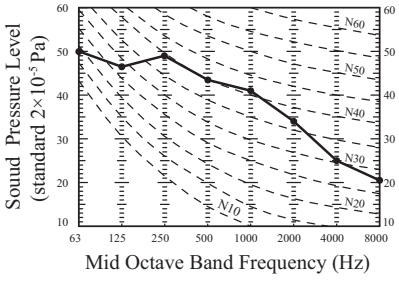
Model FDT60VD

Noise level 46 dB (A) at P-HIGH
33 dB (A) at HIGH
31 dB (A) at MEDIUM
30 dB (A) at LOW



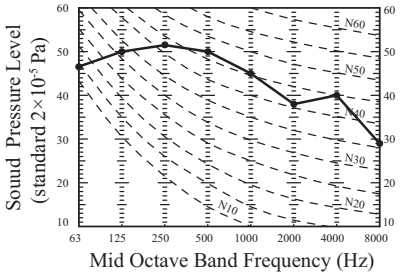
Model FDT71VD

Noise level 46 dB (A) at P-HIGH
35 dB (A) at HIGH
33 dB (A) at MEDIUM
31 dB (A) at LOW



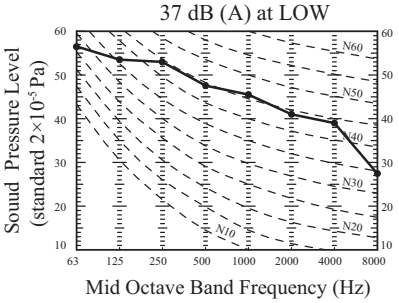
Model FDT100VD

Noise level 51 dB (A) at P-HIGH
40 dB (A) at HIGH
37 dB (A) at MEDIUM
35 dB (A) at LOW



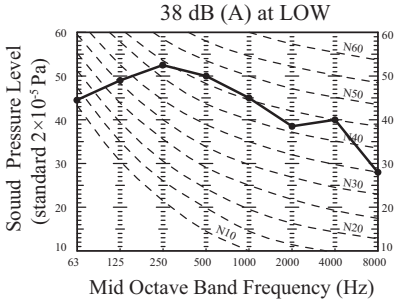
Model FDT125VD

Noise level 51 dB (A) at P-HIGH
42 dB (A) at HIGH
40 dB (A) at MEDIUM
37 dB (A) at LOW



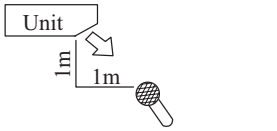
Model FDT140VD

Noise level 51 dB (A) at P-HIGH
43 dB (A) at HIGH
41 dB (A) at MEDIUM
38 dB (A) at LOW



(c) Ceiling suspended type (FDEN)

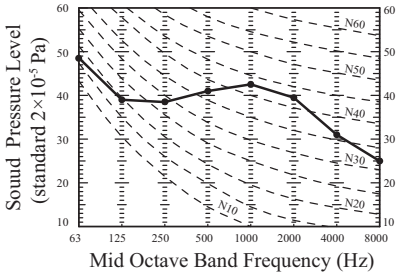
Measured based on JIS B 8616
Mike position as right



Mike (in front & below unit)

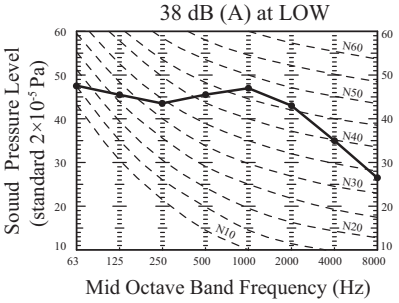
Models FDEN40,50VD

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



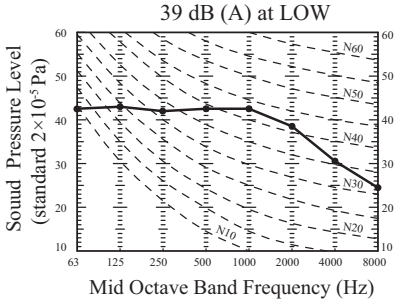
Models FDEN60,71VD

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



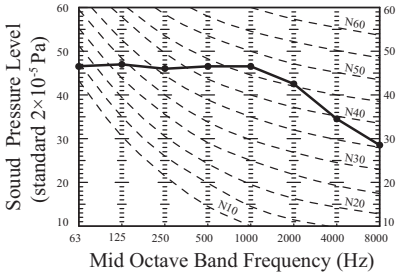
Model FDEN100VD

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



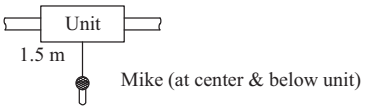
Models FDEN125,140VD

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



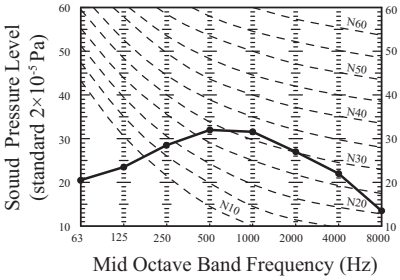
(d) Duct connected-Low/Middle static pressure type (FDUM)

Measured based on JIS B 8616
Mike position as right



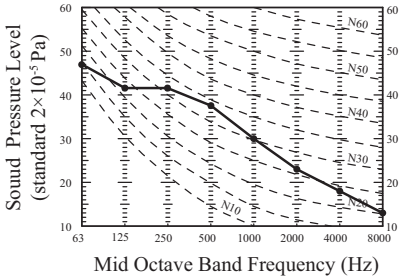
Model FDUM50VD

Noise level 35 dB (A) at P-HIGH
34 dB (A) at HIGH
31 dB (A) at MEDIUM
28 dB (A) at LOW



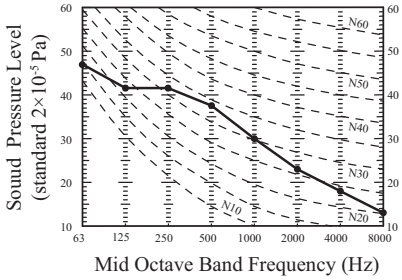
Model FDUM60VD

Noise level 38 dB (A) at P-HIGH
34 dB (A) at HIGH
31 dB (A) at MEDIUM
28 dB (A) at LOW



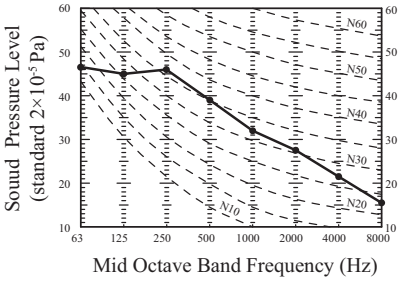
Model FDUM71VD

Noise level 38 dB (A) at P-HIGH
35 dB (A) at HIGH
32 dB (A) at MEDIUM
29 dB (A) at LOW



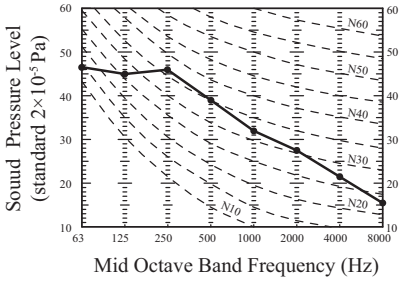
Model FDUM100VD

Noise level 41 dB (A) at P-HIGH
37 dB (A) at HIGH
35 dB (A) at MEDIUM
32 dB (A) at LOW



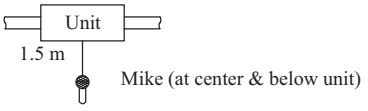
Models FDUM125,140VD

Noise level 41 dB (A) at P-HIGH
38 dB (A) at HIGH
36 dB (A) at MEDIUM
33 dB (A) at LOW



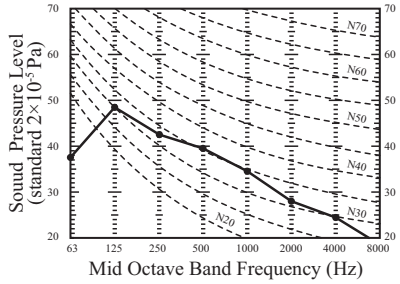
(e) Duct connected-High static pressure-type (FDU)

Measured based on JIS B 8616
Mike position as right



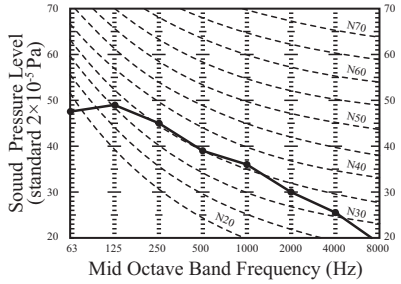
Model FDU71VD

Noise level 41 dB (A) at HIGH
37 dB (A) at LOW



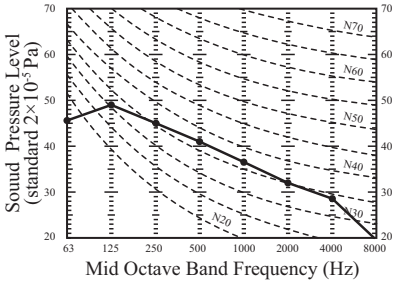
Model FDU100VD

Noise level 42 dB (A) at HIGH
37 dB (A) at LOW



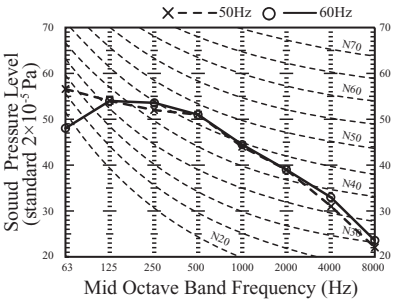
Models FDU125VD, 140VD

Noise level 43 dB (A) at HIGH
38 dB (A) at LOW



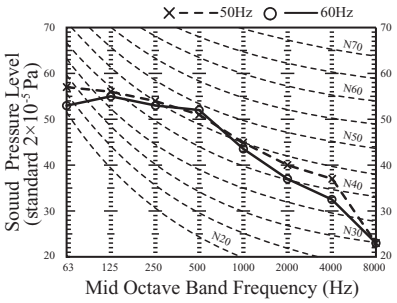
Model FDU200VD

Noise level 51 dB (A)



Model FDU250VD

Noise level 52 dB (A)



Power level

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

Unit: dB

Model	Air supply side	Air return side
FDU71VD	65	65
FDU100VD	66	66
FDU125VD, 140VD	67	67

Note(1) Values are for external static pressure of 50Pa.

Unit: dB

Model	Air supply side	Air return side
FDU200VD	75	64
FDU250VD	76	65

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

(2) Outdoor units

Measured based on JIS B 8616

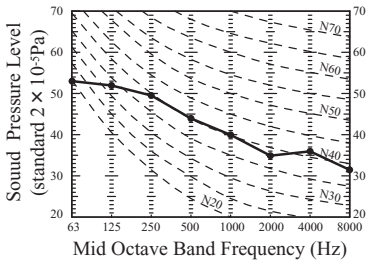
Mike position: at highest noise level in position as mentined below

Distance from front side 1m

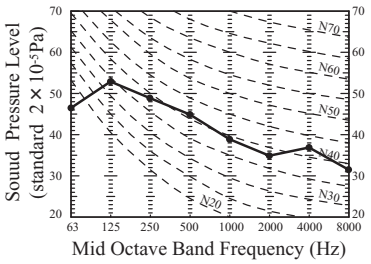
Height 1m

Models SRC40ZIX-S, 50ZIX-S

Cooling noise level 47 dB (A)

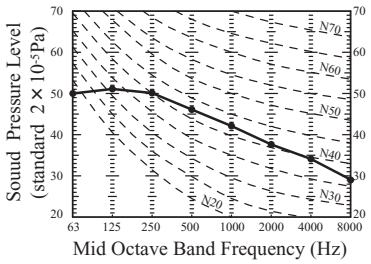


Heating noise level 47 dB (A)

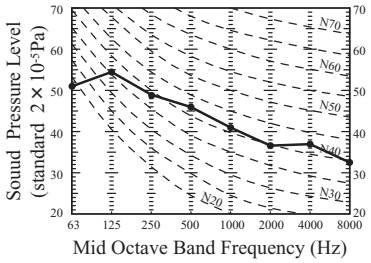


Model SRC60ZHIX-S

Cooling noise level 48 dB (A)

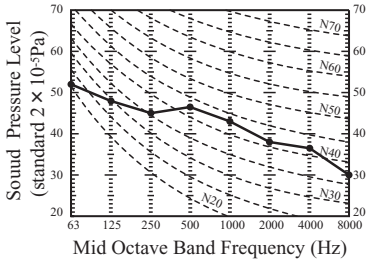


Heating noise level 48 dB (A)



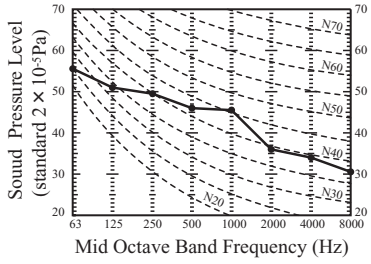
Model FDC71VN

Noise level 48 dB (A)



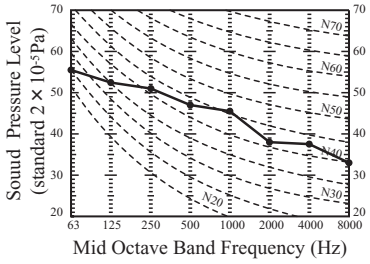
Model FDC100VN,100VS

Noise level 49 dB (A)

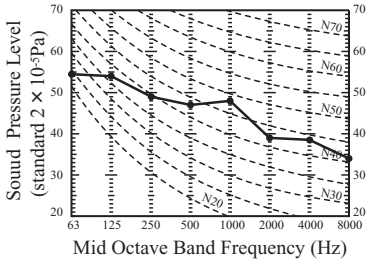


Model FDC125VN,125VS

Cooling noise level 50 dB (A)

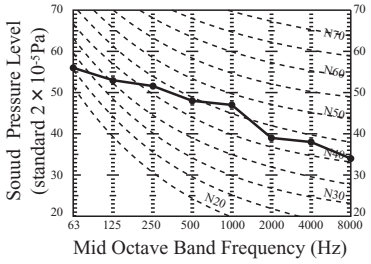


Heating noise level 51 dB (A)



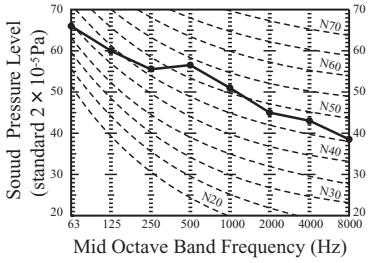
Model FDC140VN,140VS

Noise level 51 dB (A)



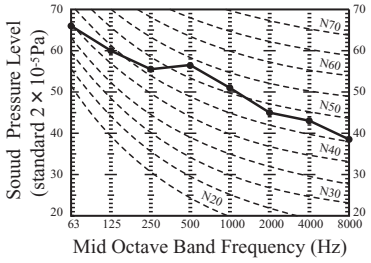
Model FDC200VS

Noise level 57 dB (A)

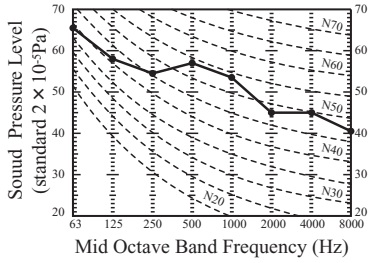


Model FDC250VS

Cooling noise level 57 dB (A)



Heating noise level 58 dB (A)



1.5 CHARACTERISTICS FAN

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

• External static pressure table

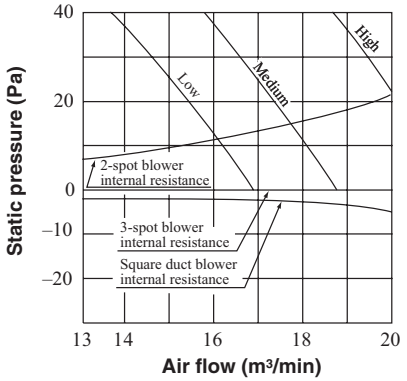
Unit : Pa (50Hz/60Hz)

Model \ Air flow (m^3/min) \ Duct specs.		1 spot closing (1)	Standard (2)	Square duct (3)
FDUM50VD	14	-	85/90	90/90
FDUM60VD	18	70/85	85/100	90/100
FDUM71VD	20	65/80	85/100	90/105
FDUM100VD	28	80/90	90/100	95/105
FDUM125VD FDUM140VD	34	75/90	85/100	95/105

Notes(1) 1 spot closing: Round duct flange at center is removed and shield with a special panel (option).
(2) Standard: ø200 duct are installed at all blowout holes.
(3) Square duct: All round ducts are removed and replaced with special square duct flanges (option)

How to interpret the blower characteristics table

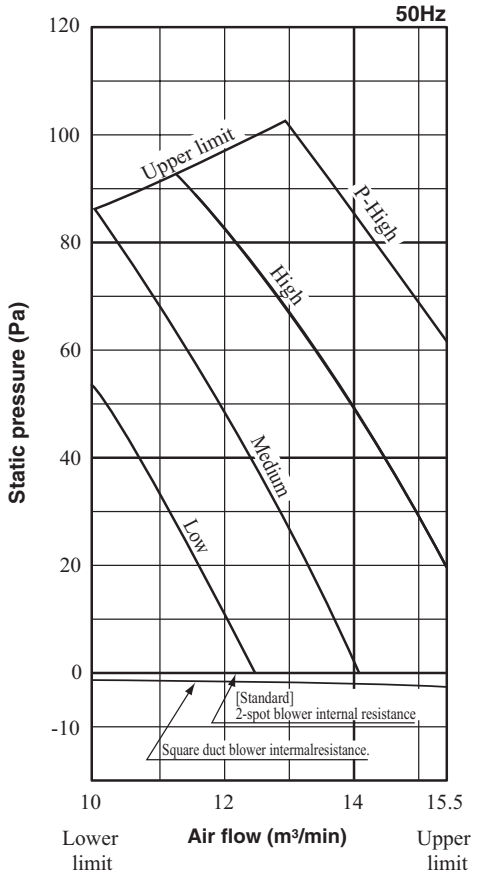
Example : Case of FDUM60VD (50Hz)

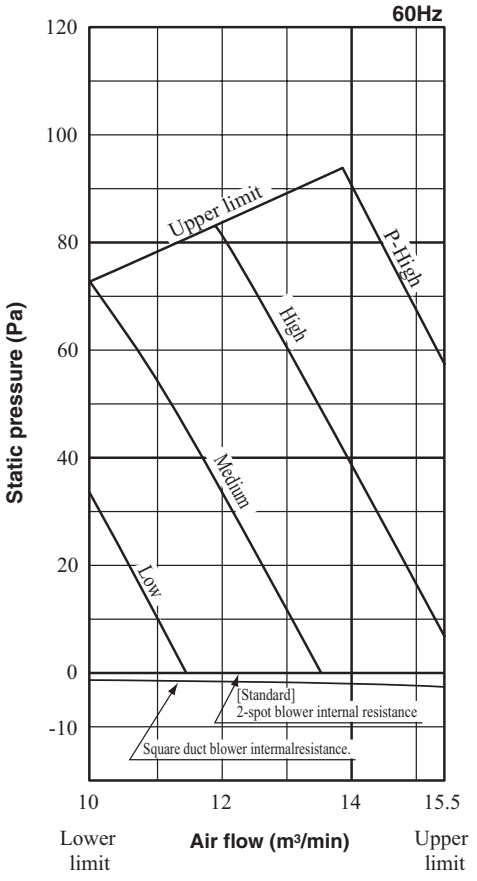


① 2-spot blowout.....
Internal resistance increases more than the standard 3-spot blowout.Approx. 14Pa at 17m³/min

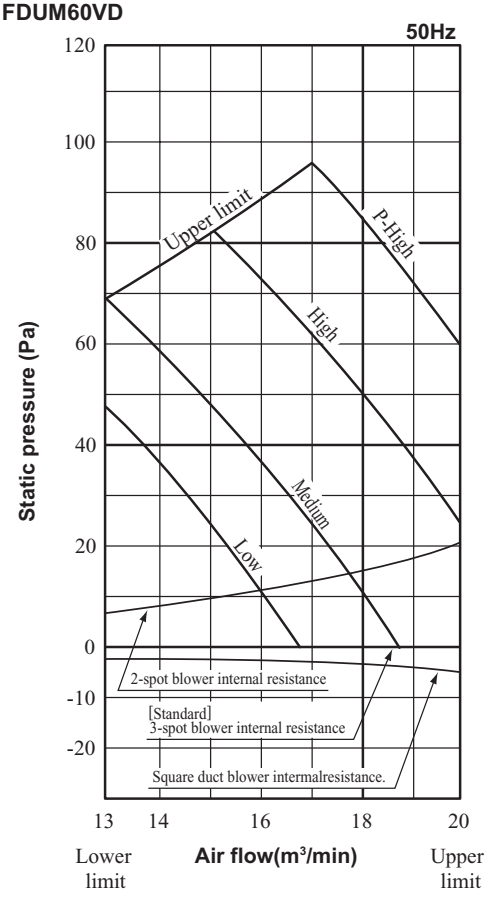
② Square duct blowout.....
Internal resistance decreases more than the standard round duct (ø200 3-spot). 3Pa at 17m³/min. (External static pressure increases in reverse.)

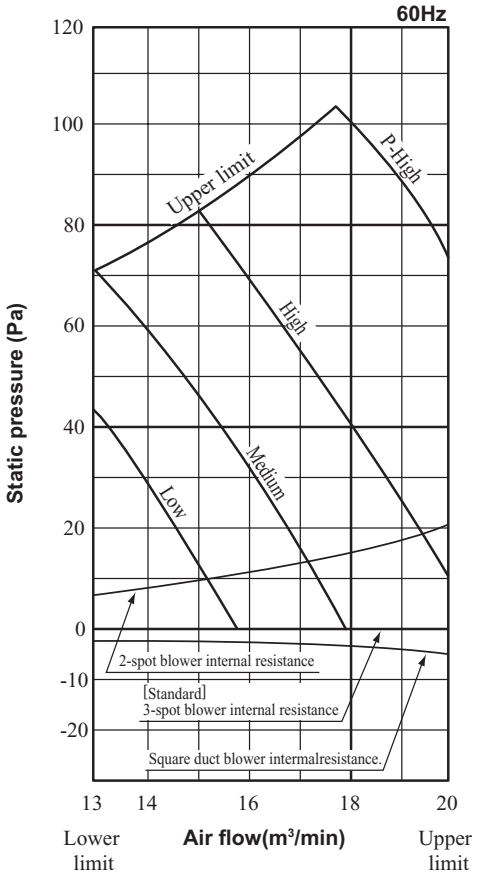
Model FDUM50VD



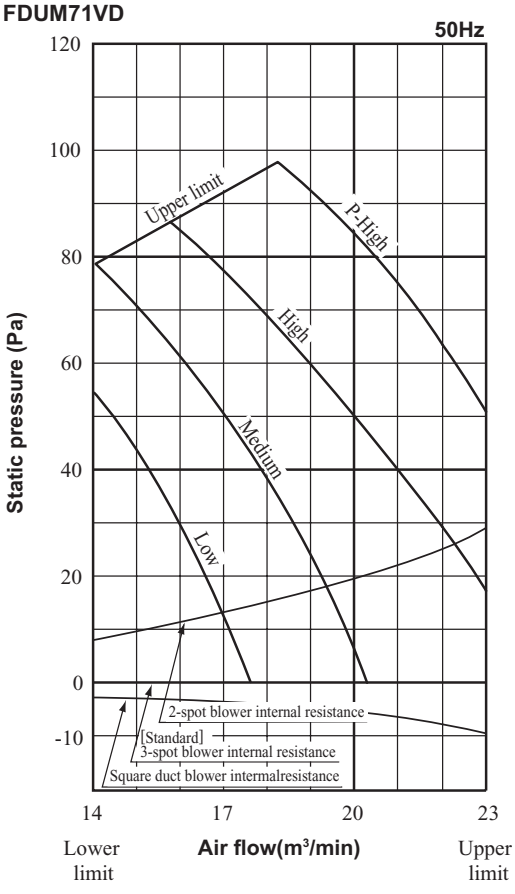


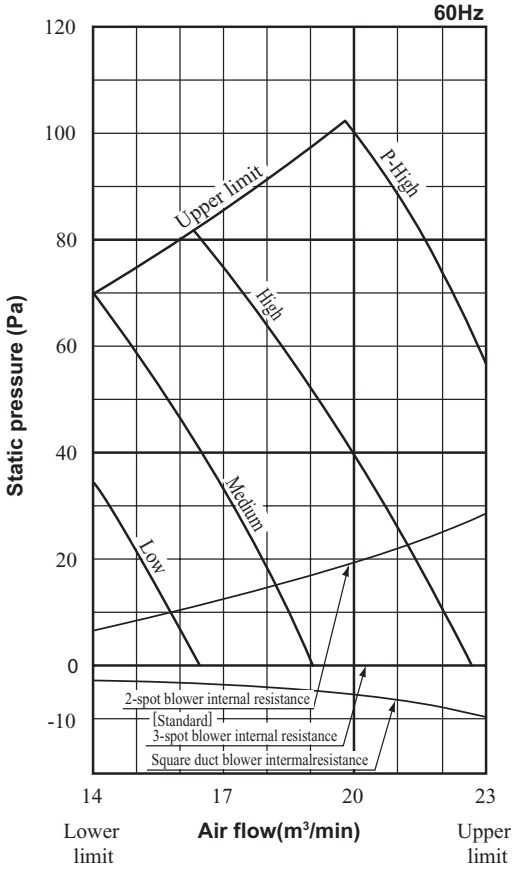
Model FDUM60VD



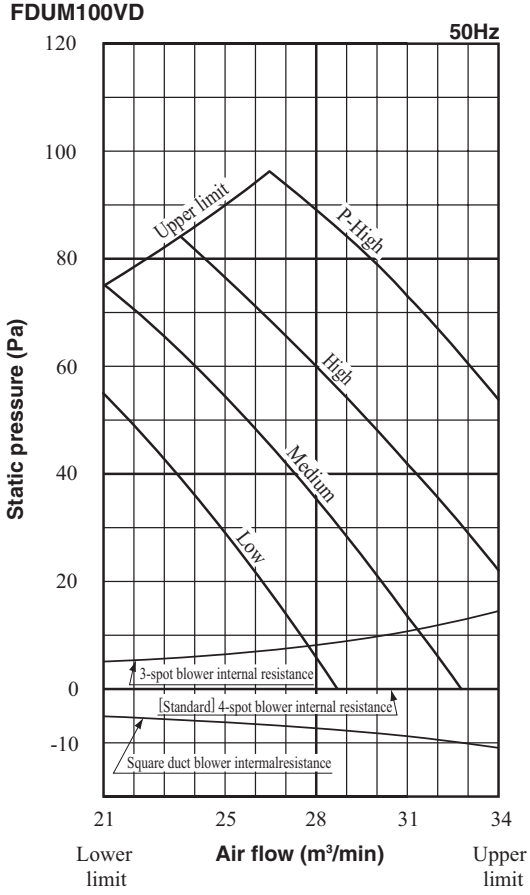


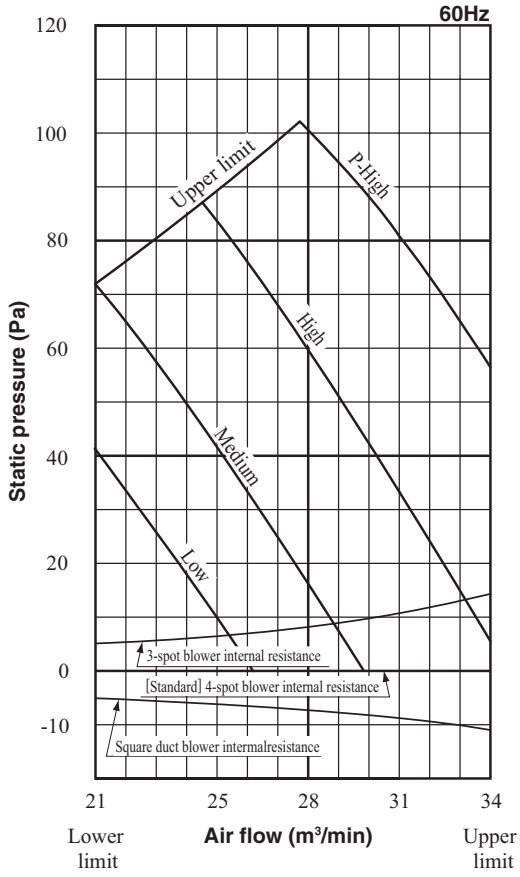
Model FDUM71VD



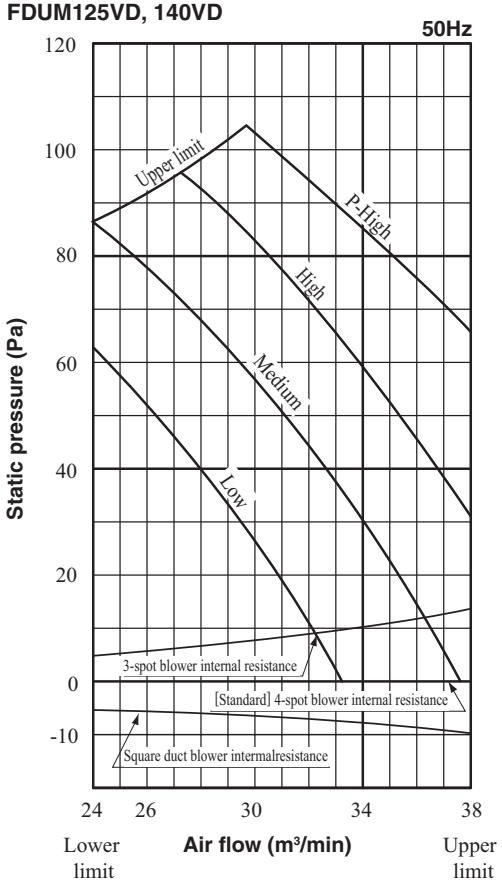


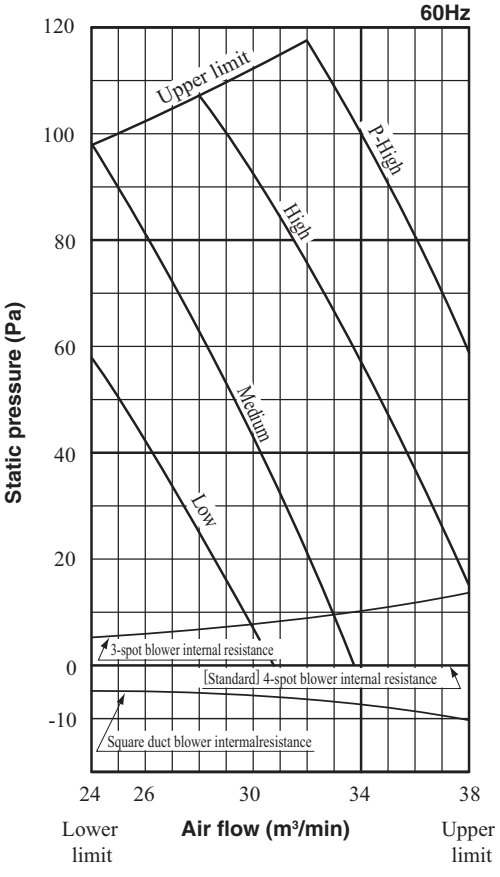
Model FDUM100VD





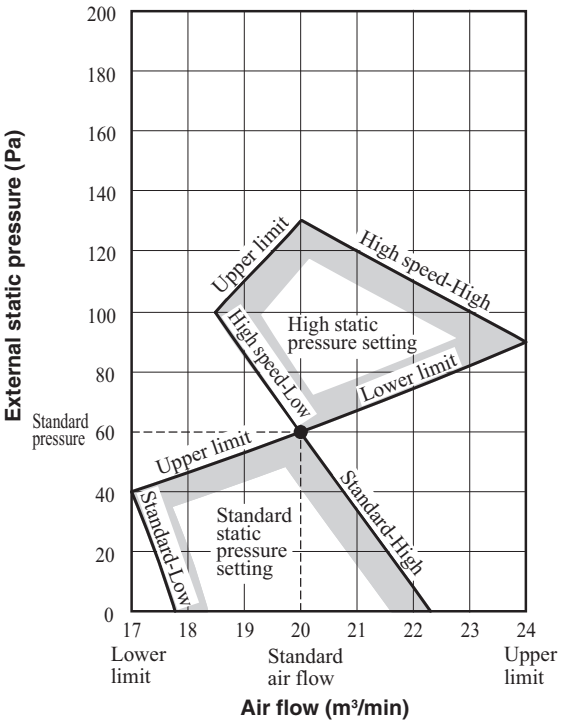
Models FDUM125VD, 140VD



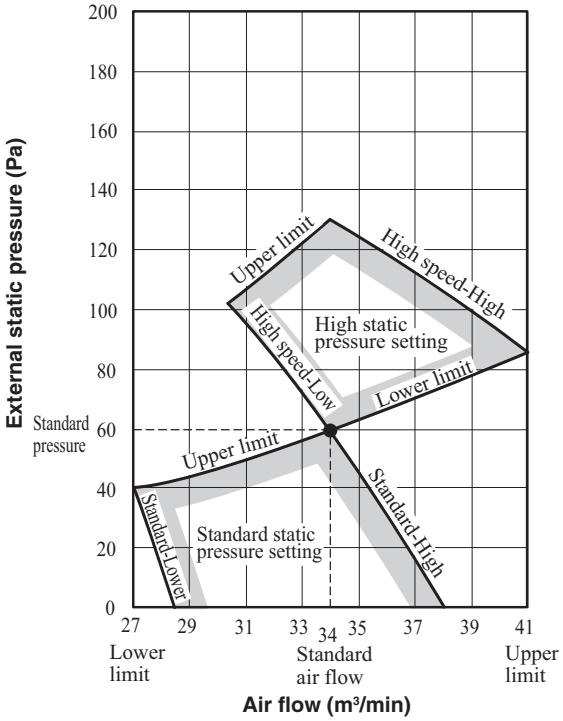


(2) Duct connected-High static pressure type (FDU)

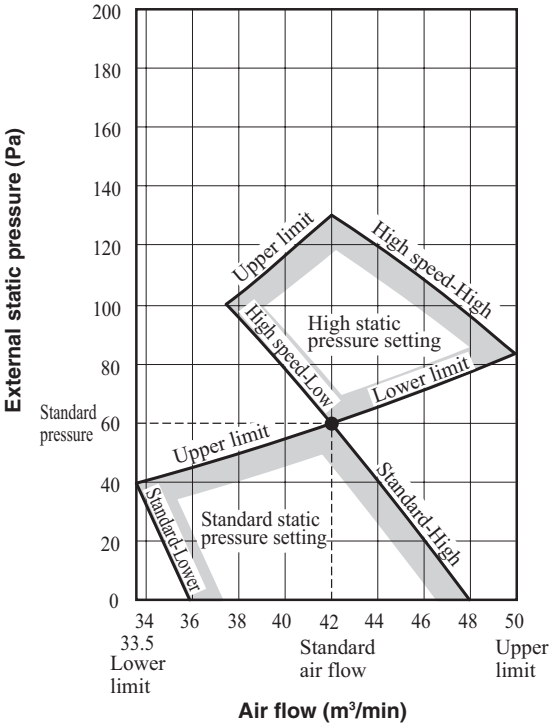
Model FDU71VD



Model FDU100VD



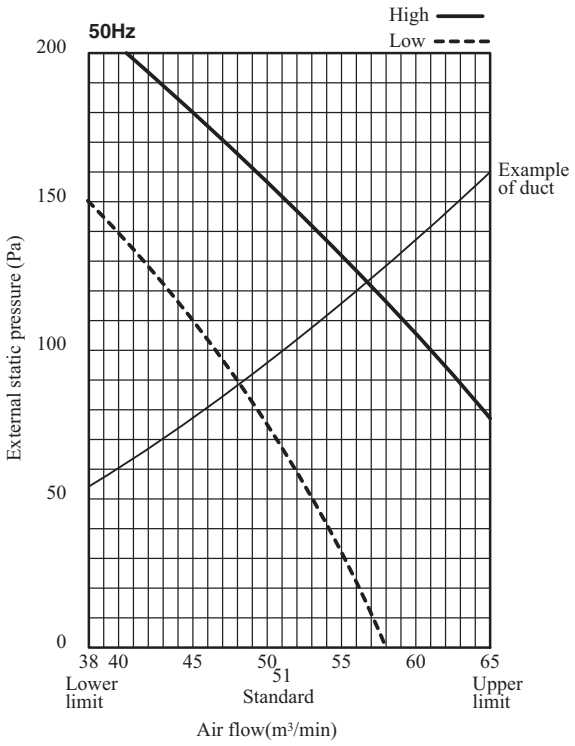
Models FDU125,140VD

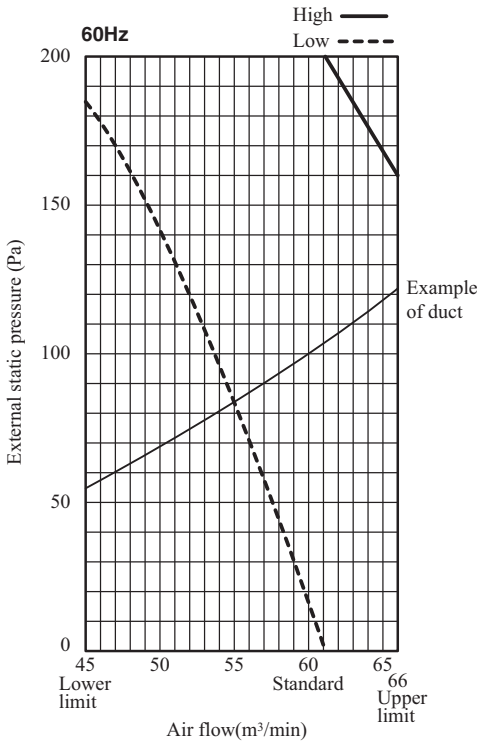


Notes 1) Factory default setting of fan speed is [STANDARD] which has standard static pressure.
If high static pressure setting is required, change setting to [HIGH SPEED 1] with remote controller on site.
(Regarding the setting method, refer to the user's manual of remote controller for detail)
2) When 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 FDU200VD

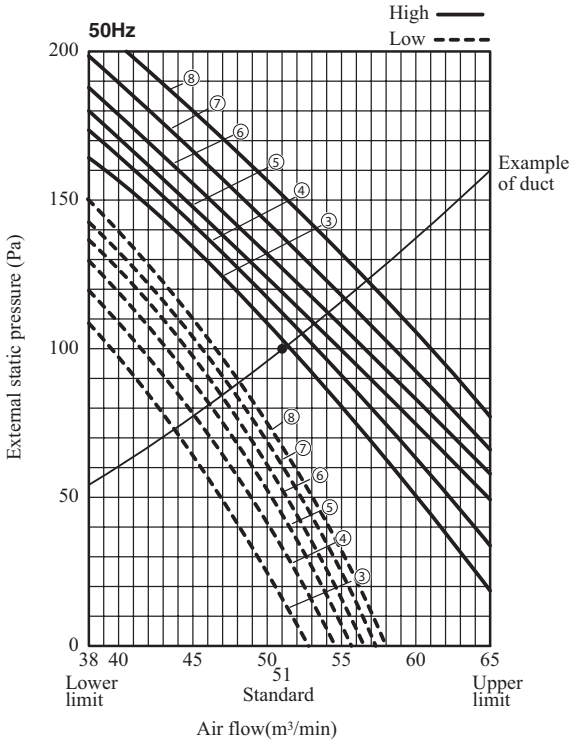
■Standard (Factory Settings)



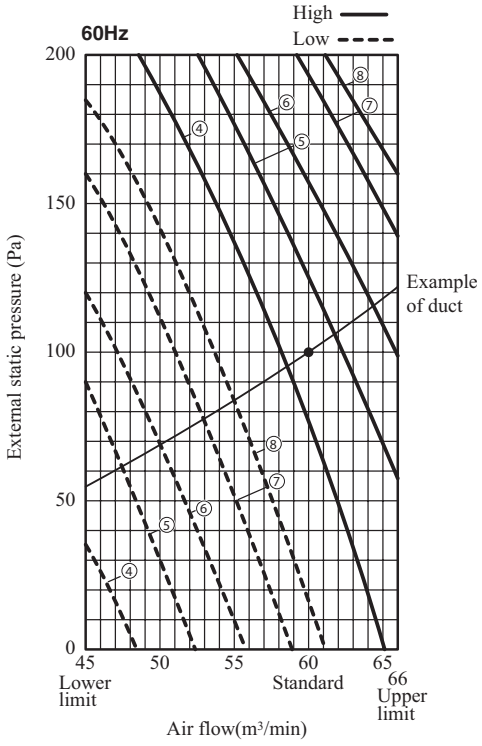


■When the fan controller kit is used (Option : Refer to page 290)

•Standard rating point rated air volume at 100Pa



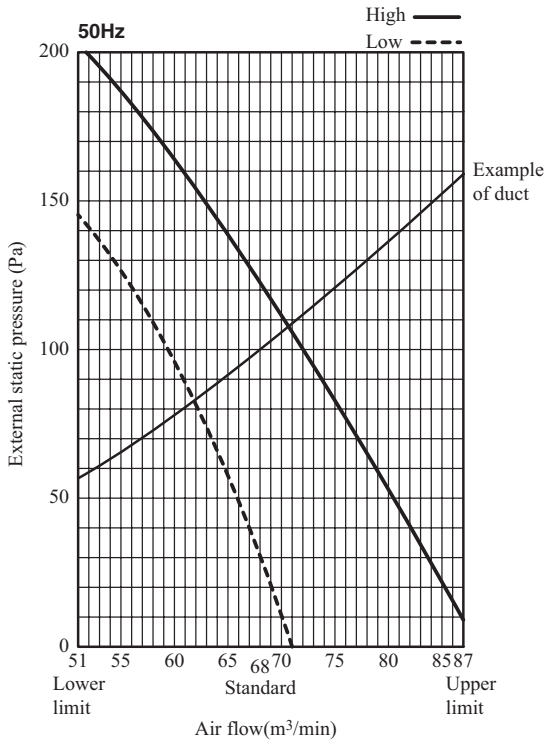
Note (1) Nos.②, ① of fan controller should not be used because the fan motor could produce electromagnetic noise.

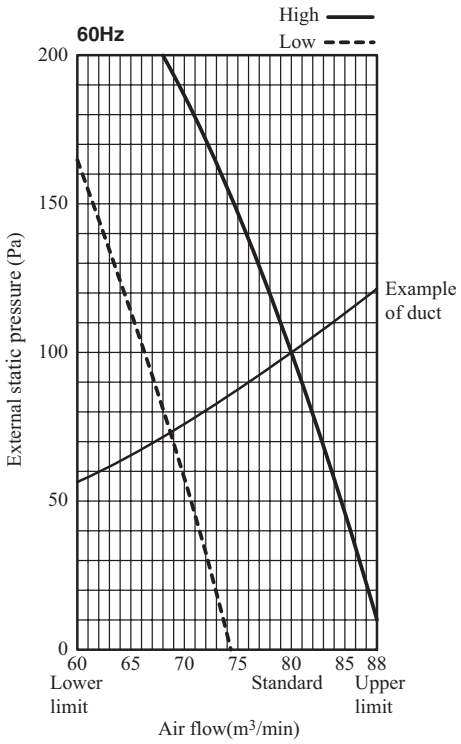


Note (1) Nos.③, ② and ① of fan controller should not be used because the fan motor could produce electromagnetic noise.

Model FDU250VD

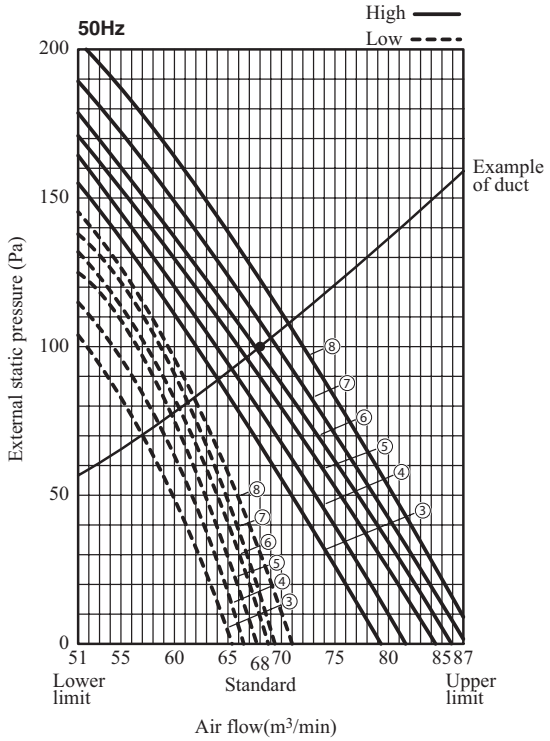
■Standard (Factory Settings)



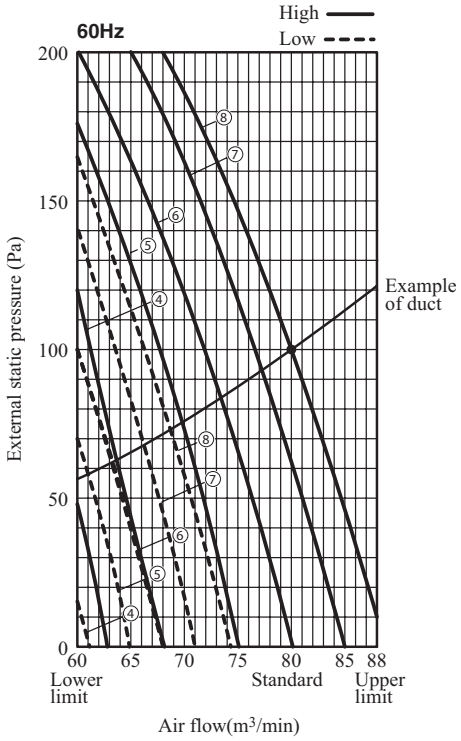


■When the fan controller kit is used (Option)

•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.

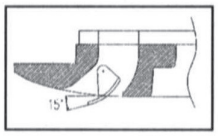
1.6 TEMPERATURE AND VELOCITY DISTRIBUTION

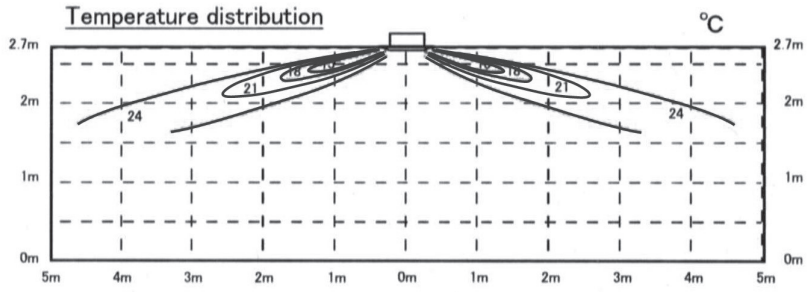
(1) Ceiling cassett-4way compact type (FDTC)

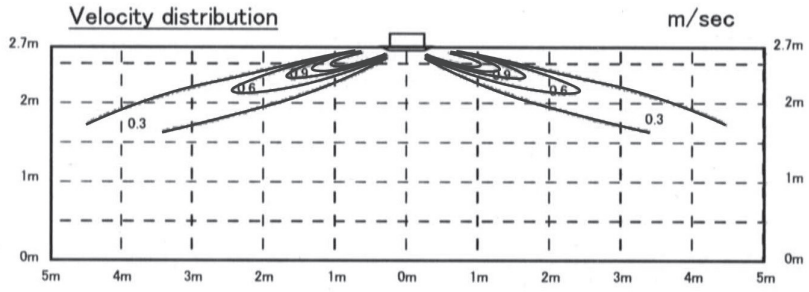
Models FDTC40, 50, 60VD

Cooling Air flow : P-Hi

Louver position

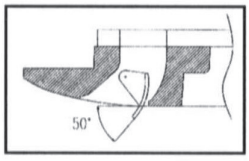


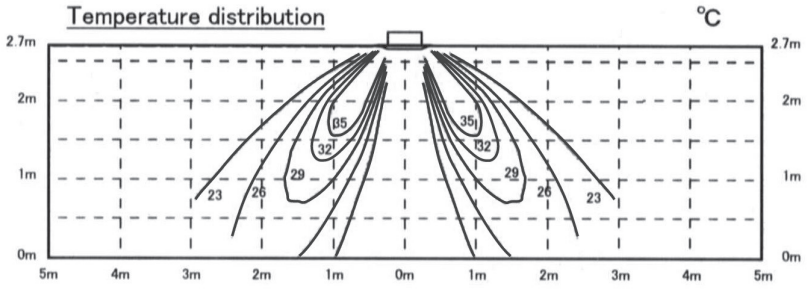


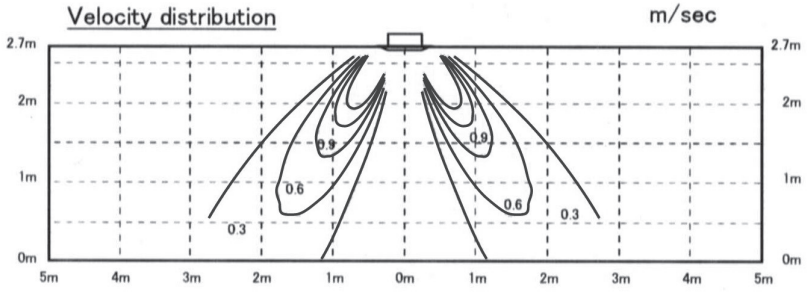


Heating Air flow : P-Hi

Louver position







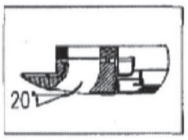
ISD09407

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

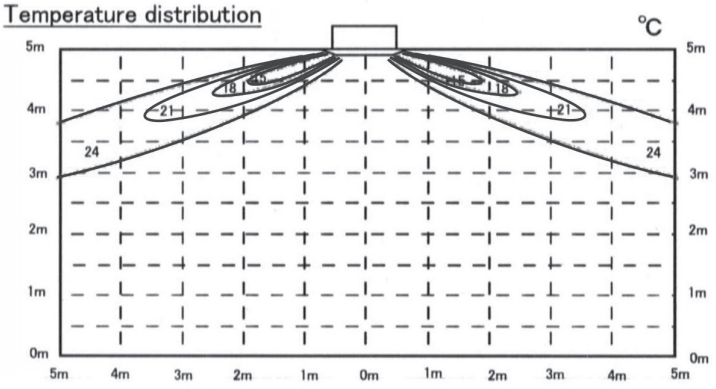
Models FDT40, 50VD

Cooling Air flow : P-Hi

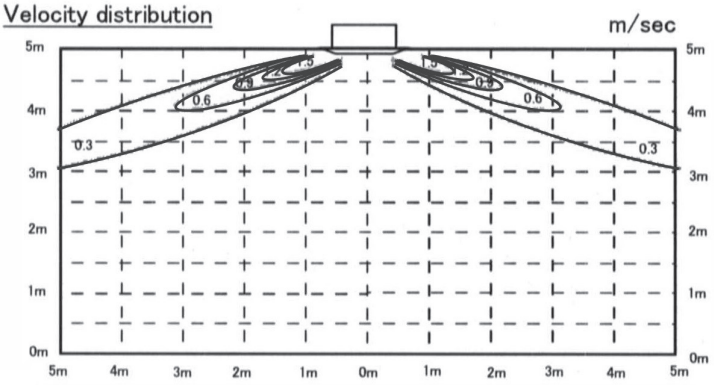
Louver position



Temperature distribution °C

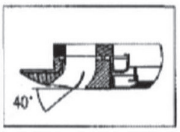


Velocity distribution m/sec

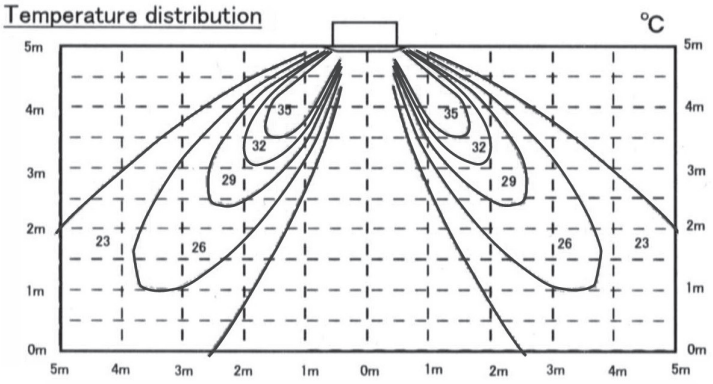


Heating Air flow : P-Hi

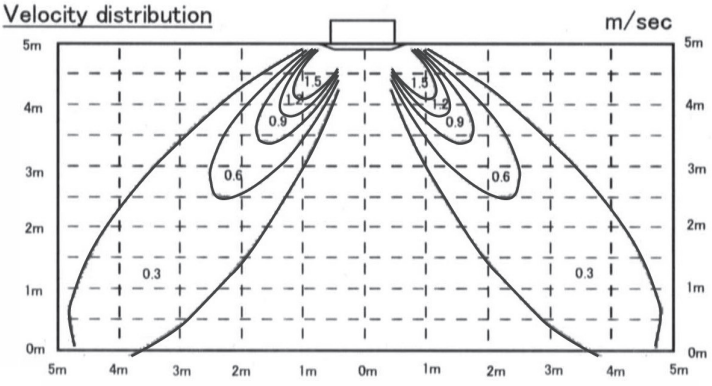
Louver position



Temperature distribution °C



Velocity distribution m/sec

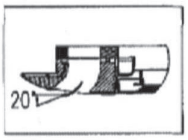


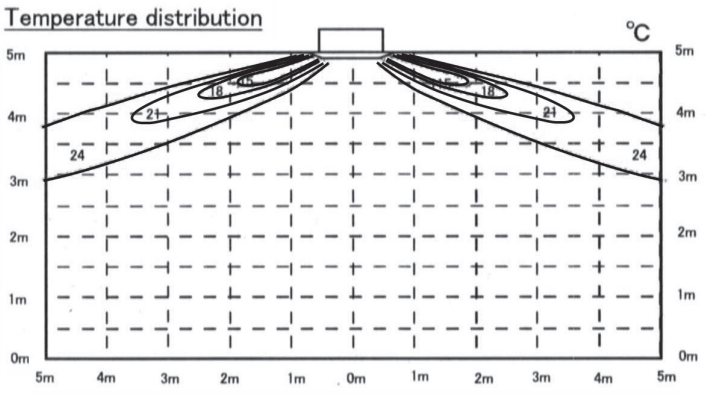
ISD09406

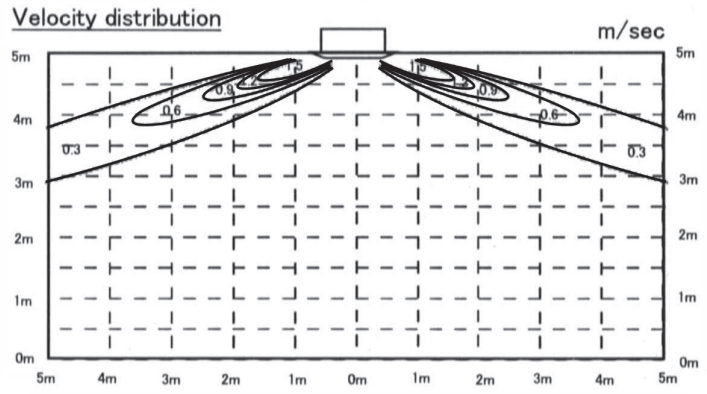
Models FDT60, 71VD

Cooling Air flow : P-Hi

Louver position

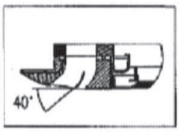


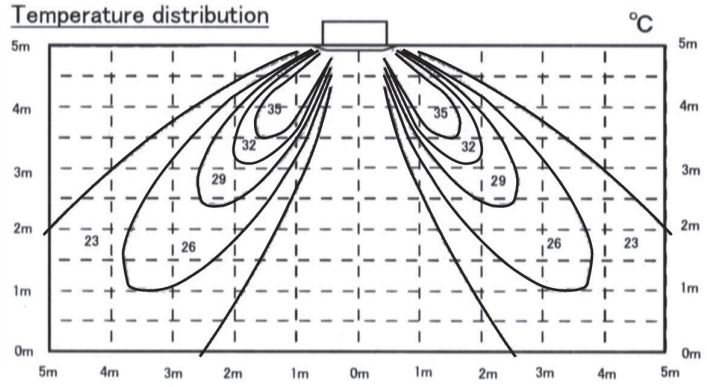


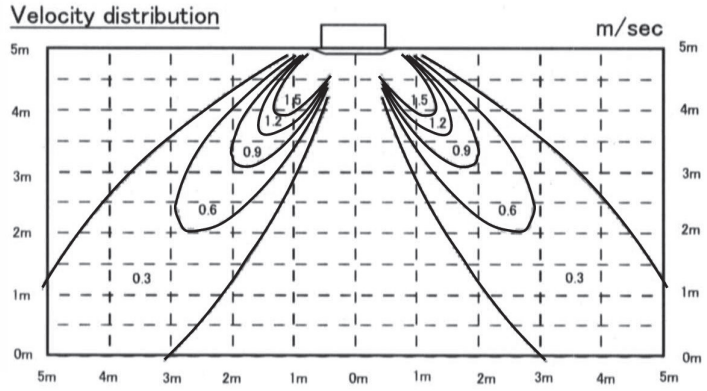


Heating Air flow : P-Hi

Louver position





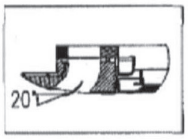


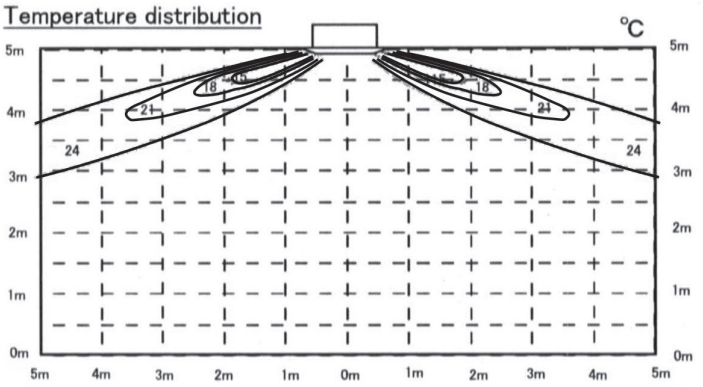
ISD09406

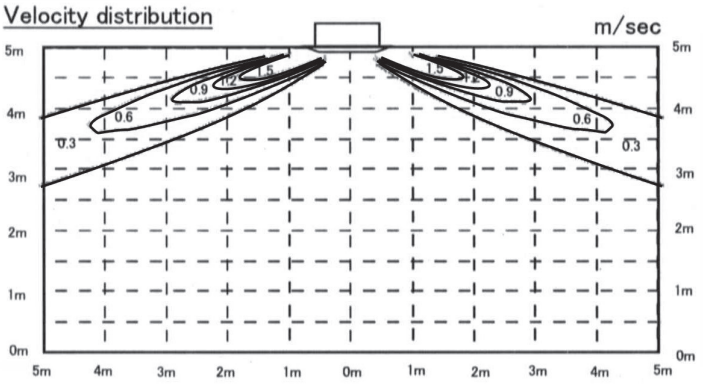
Models FDT100, 125, 140VD

Cooling Air flow : P-Hi

Louver position

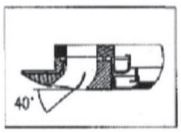


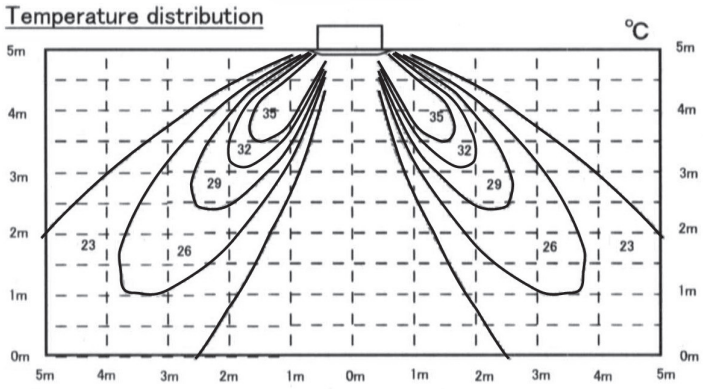


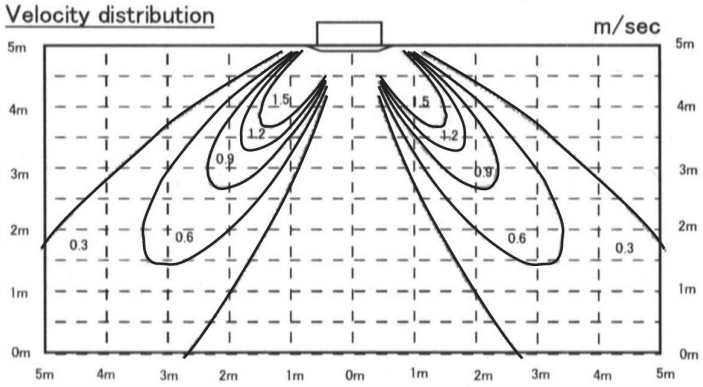


Heating Air flow : P-Hi

Louver position







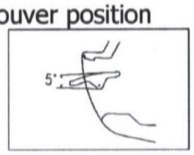
ISD09406

(3) Ceiling suspended type (FDEN)

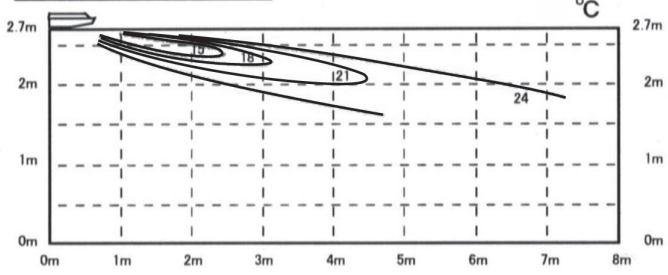
Models FDEN40, 50VD

Cooling Air flow : P-Hi

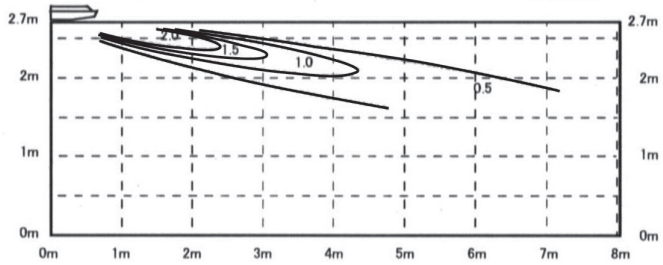
Louver position



Temperature distribution

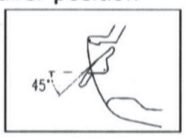


Velocity distribution

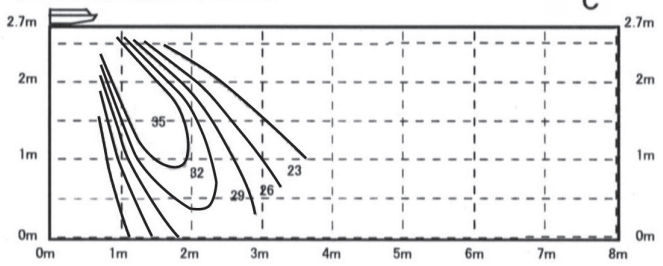


Heating Air flow : P-Hi

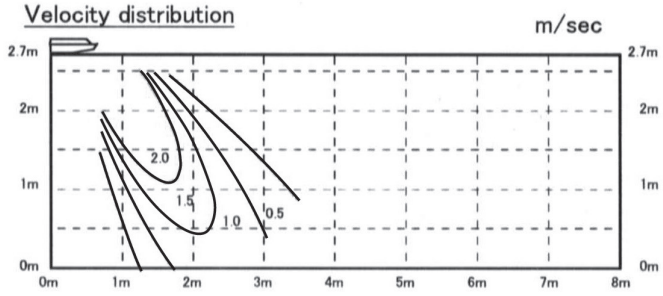
Louver position



Temperature distribution



Velocity distribution

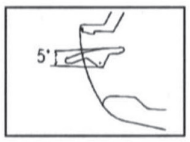


ISD09408

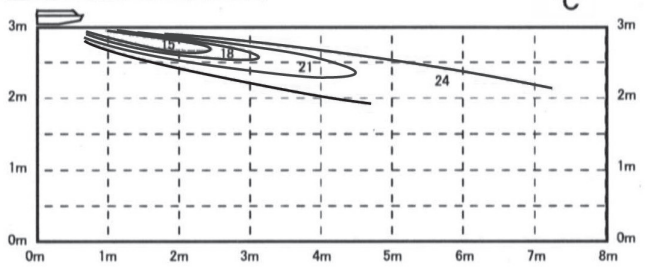
Models FDEN60, 71VD

Cooling Air flow : P-Hi

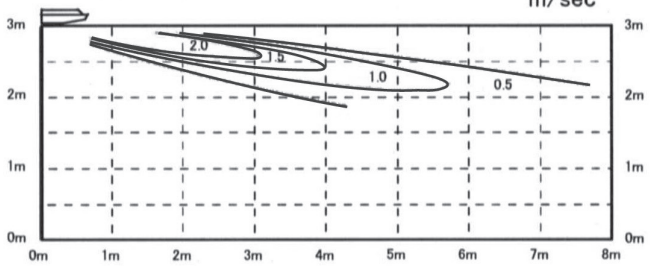
Louver position



Temperature distribution

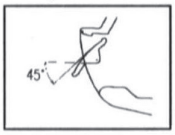


Velocity distribution

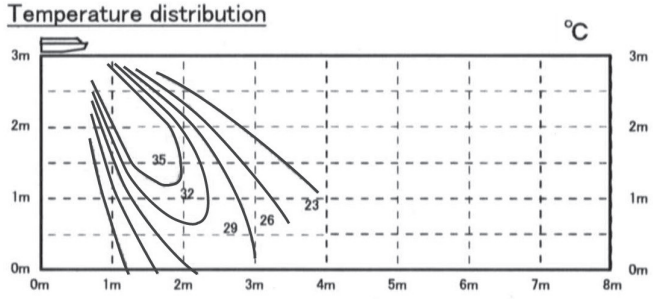


Heating Air flow : P-Hi

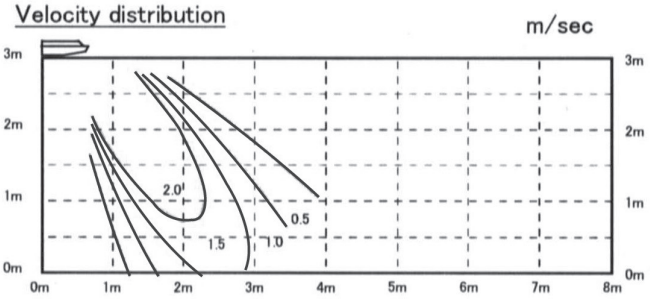
Louver position



Temperature distribution



Velocity distribution

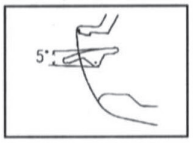


ISD09408

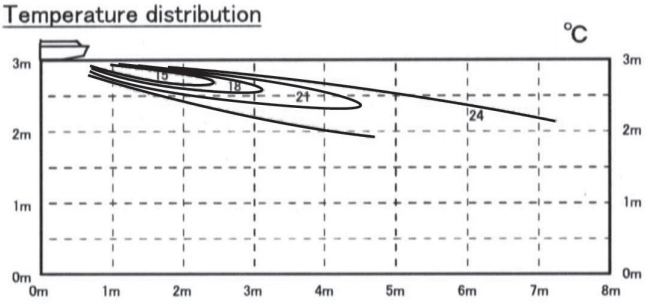
Models FDEN100VD

Cooling Air flow : P-Hi

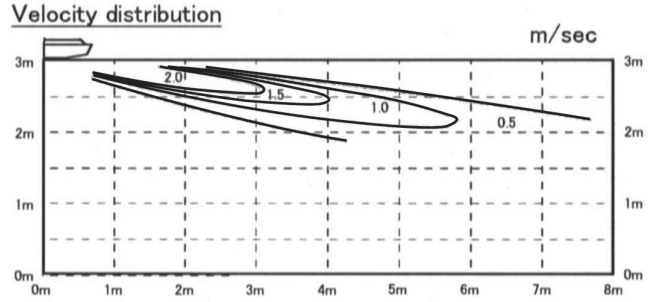
Louver position



Temperature distribution

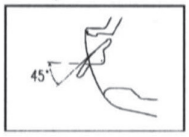


Velocity distribution

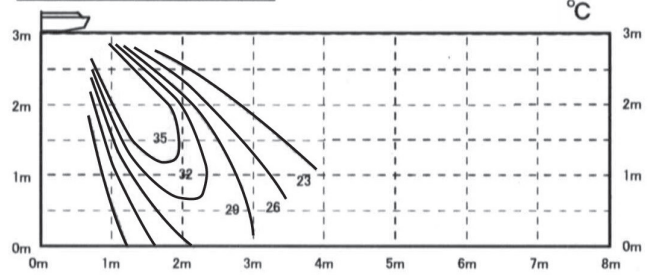


Heating Air flow : P-Hi

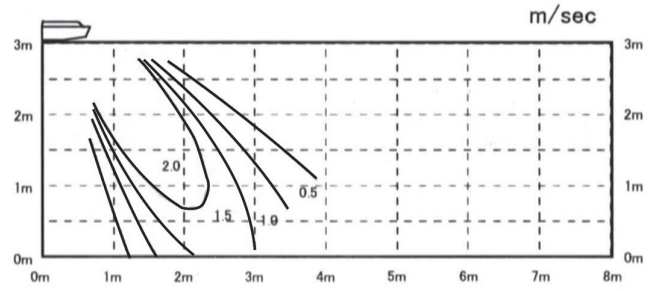
Louver position



Temperature distribution



Velocity distribution

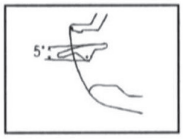


ISD09408

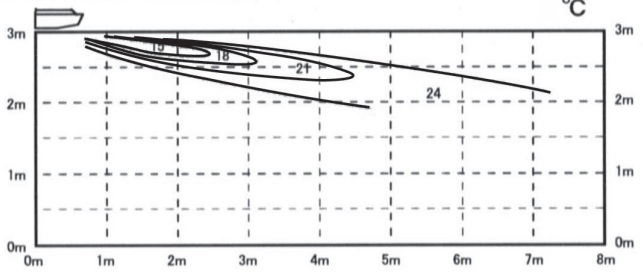
Models FDEN125, 140VD

Cooling Air flow : P-Hi

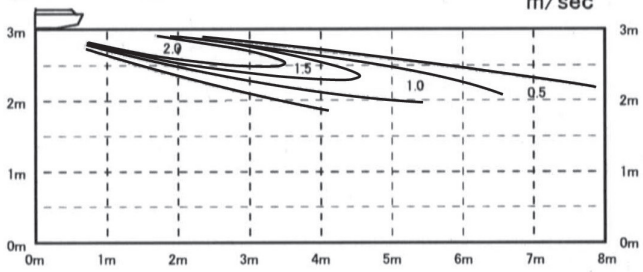
Louver position



Temperature distribution

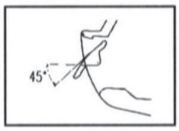


Velocity distribution

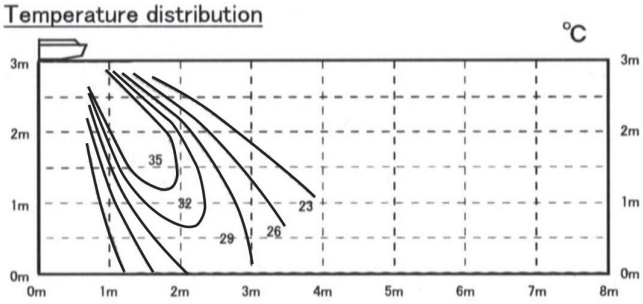


Heating Air flow : P-Hi

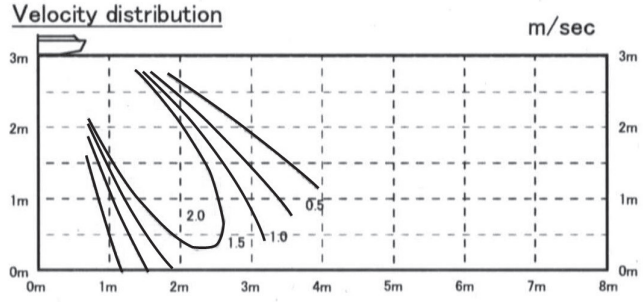
Louver position



Temperature distribution



Velocity distribution

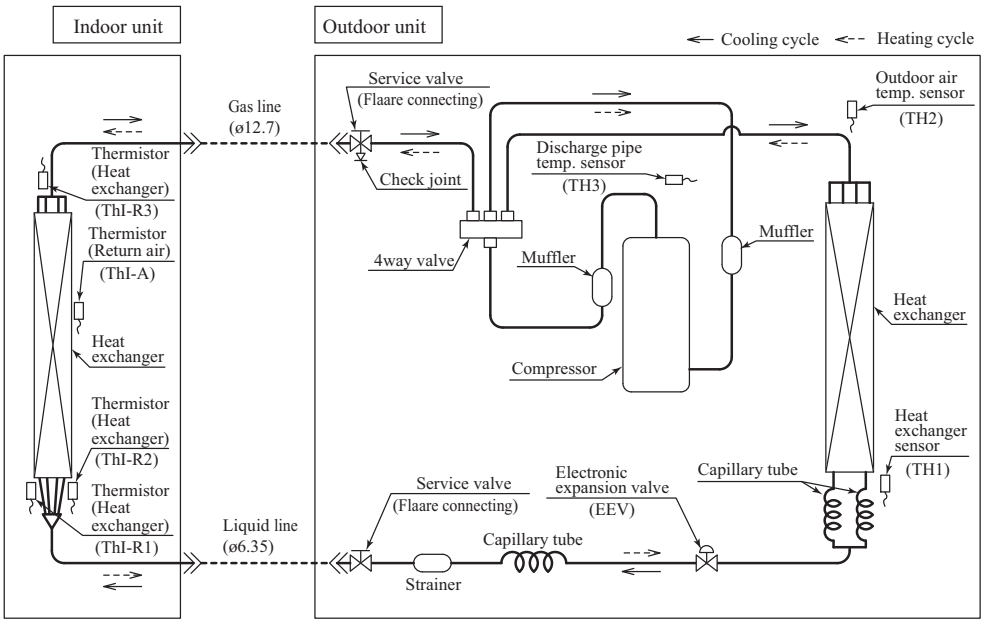


ISD09408

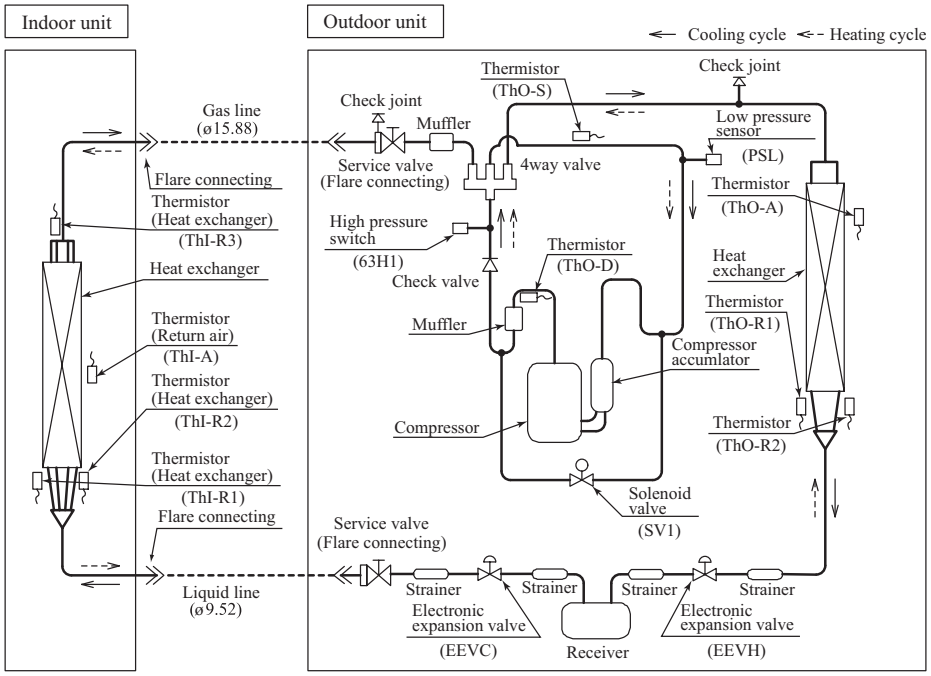
1.7 PIPING SYSTEM

(1) Single type

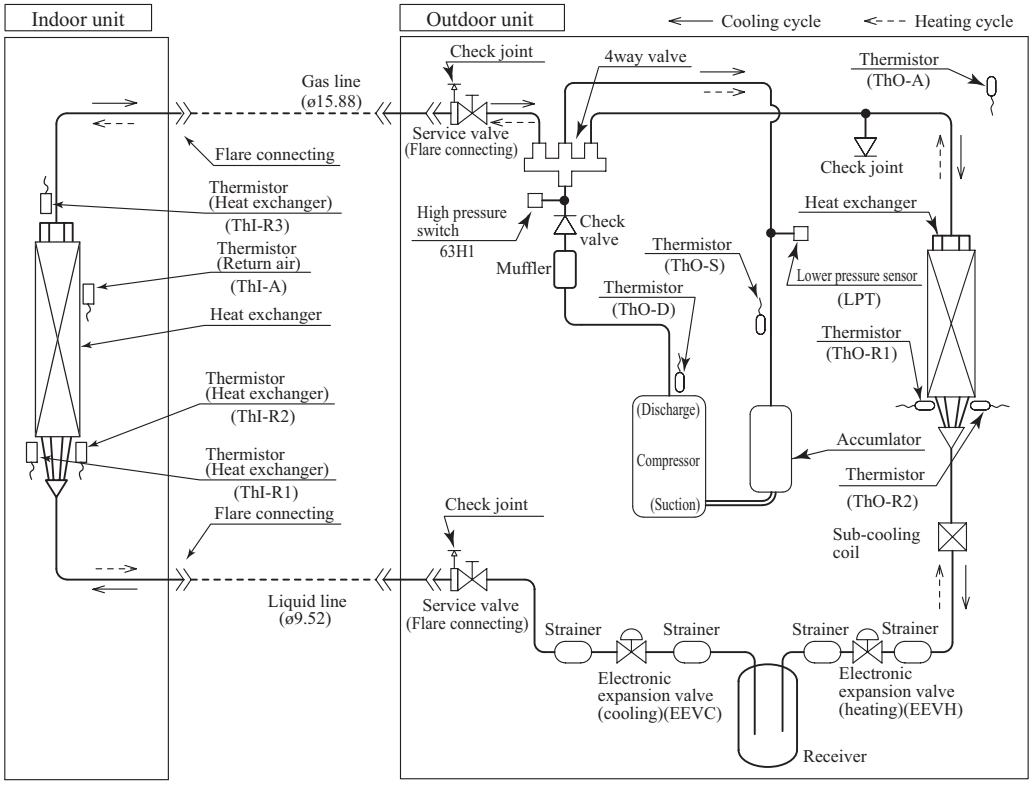
Models 40, 50, 60



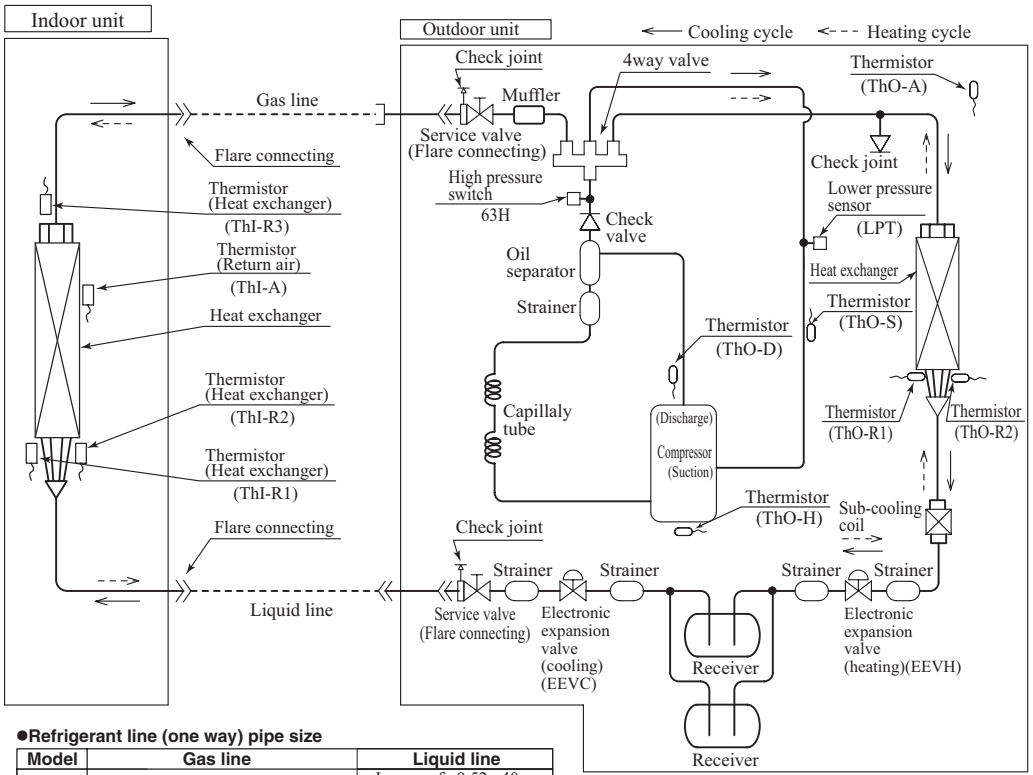
Model 71



Models 100, 125, 140



Models 200, 250

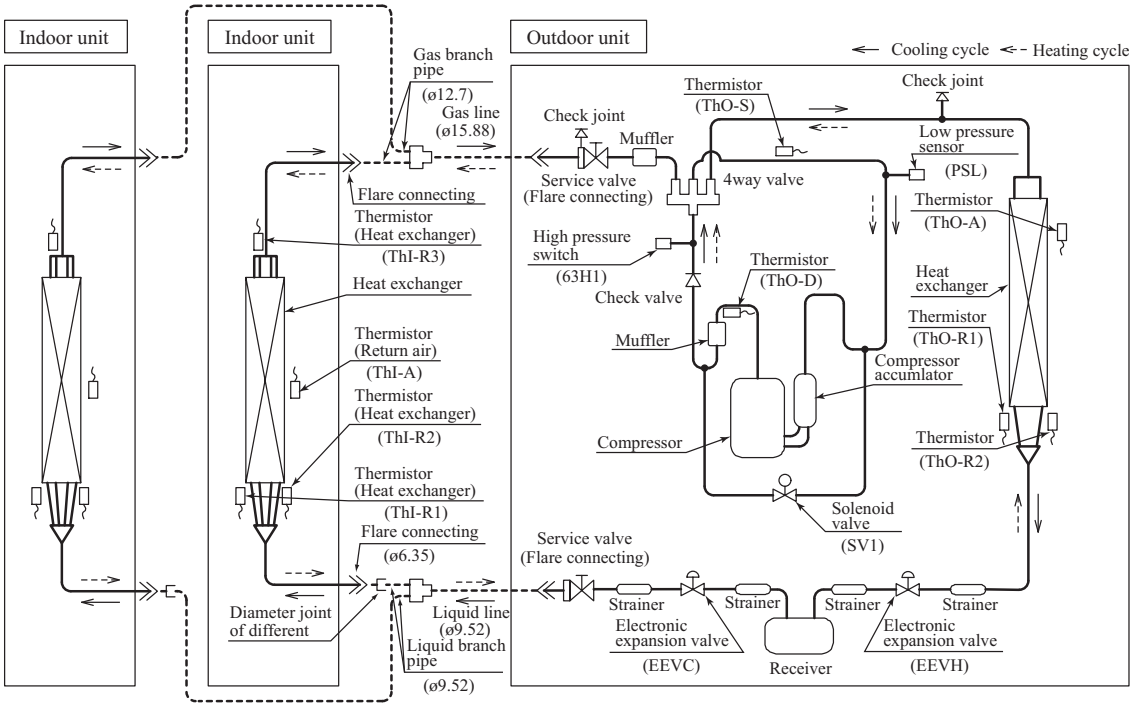


●**Refrigerant line (one way) pipe size**

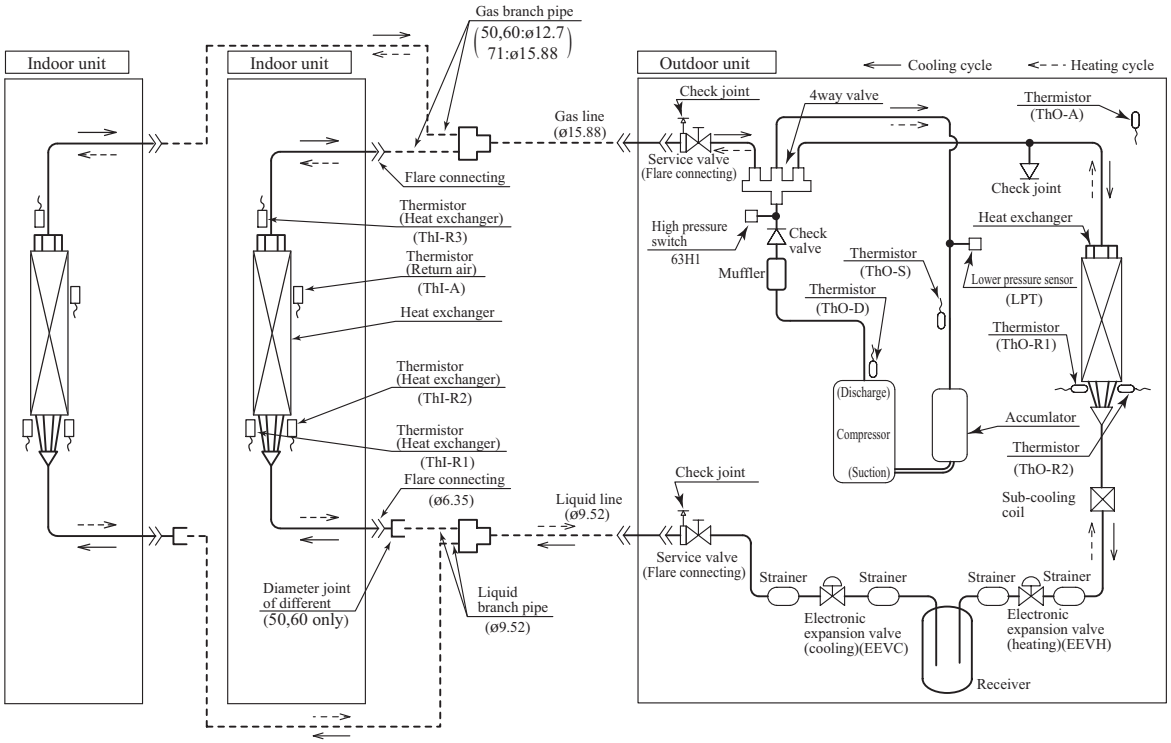
Model	Gas line	Liquid line
200	In case of ø22.22 : 35m In case of ø25.4 orø28.58 : 70m	In case of ø9.52 : 40m In case of ø12.7 : 70m
250		In case of ø12.7 : 70m

(2) Twin type

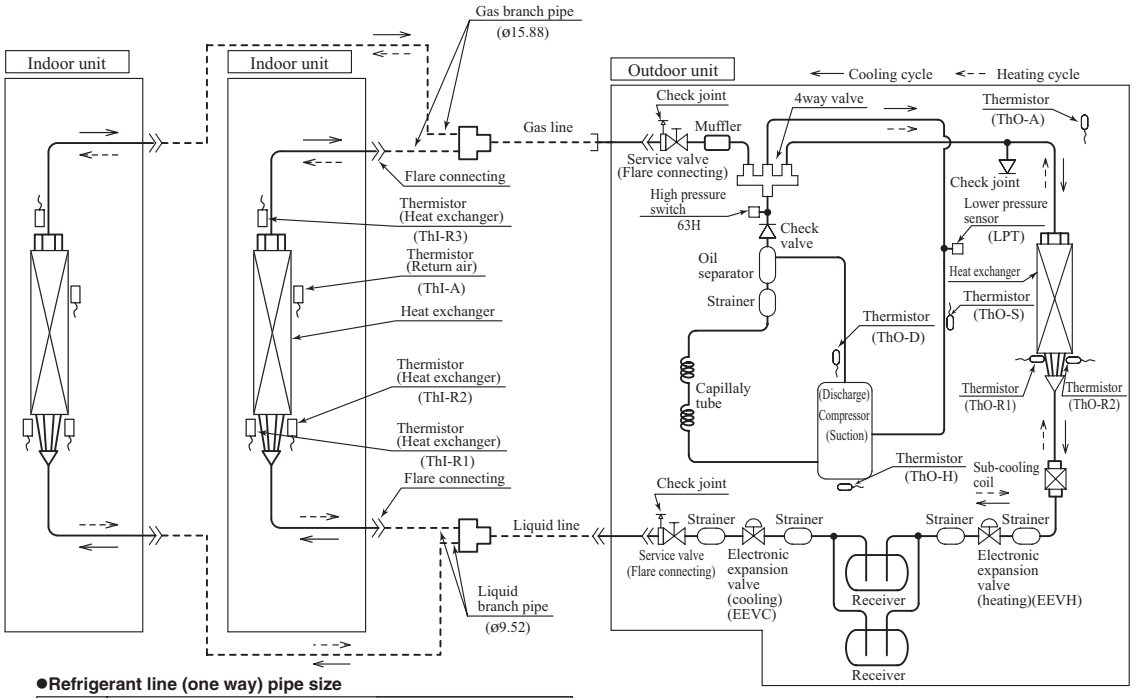
Model 71



Models 100, 125, 140



Models 200, 250

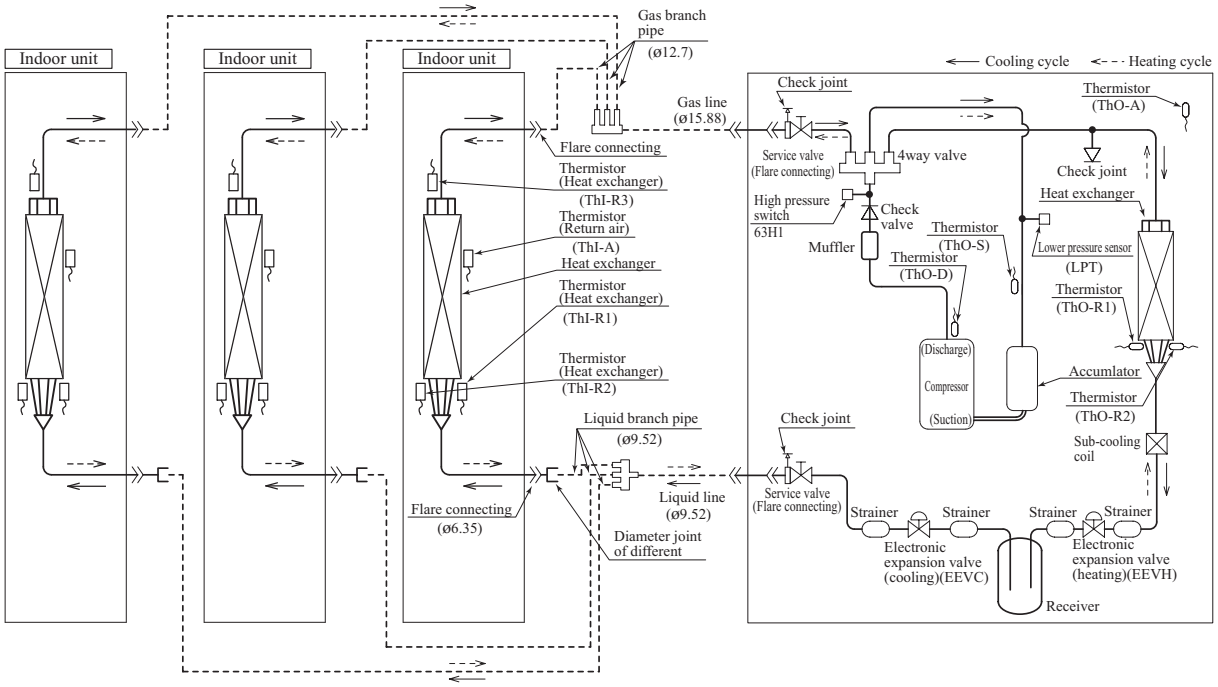


●**Refrigerant line (one way) pipe size**

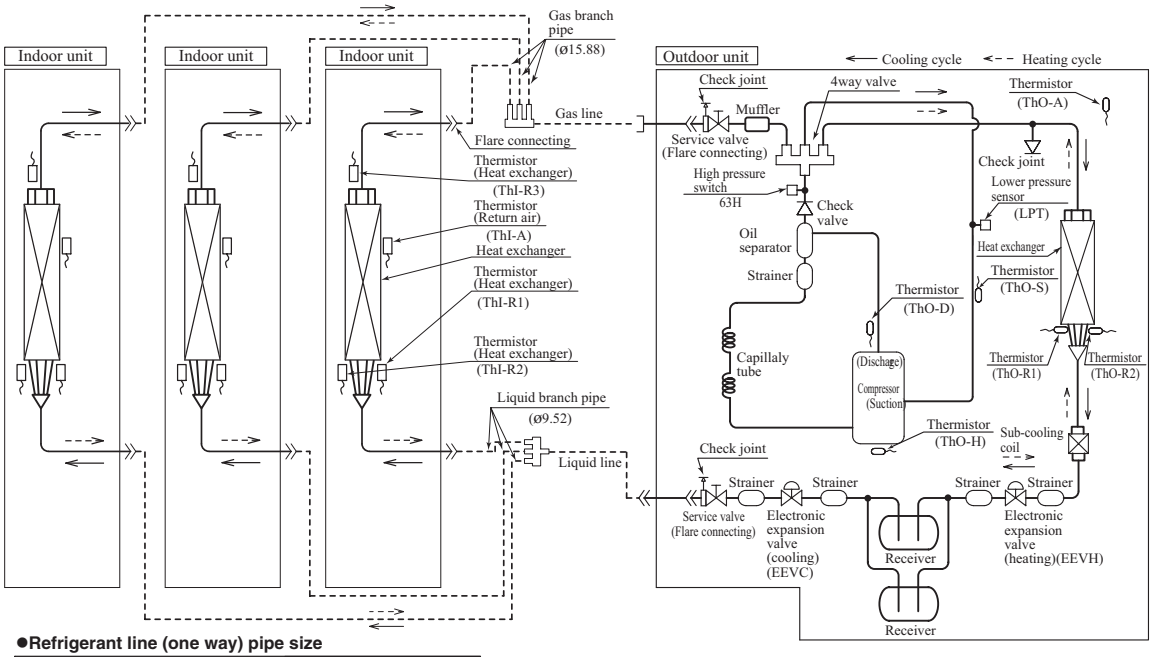
Model	Gas line	Liquid line
200	In case of ø22.22 : 35m In case of ø25.4 or ø28.58 : 70m	In case of ø9.52 : 40m In case of ø12.7 : 70m
250		In case of ø12.7 : 70m

(3) Triple type

Model 140



Model 200

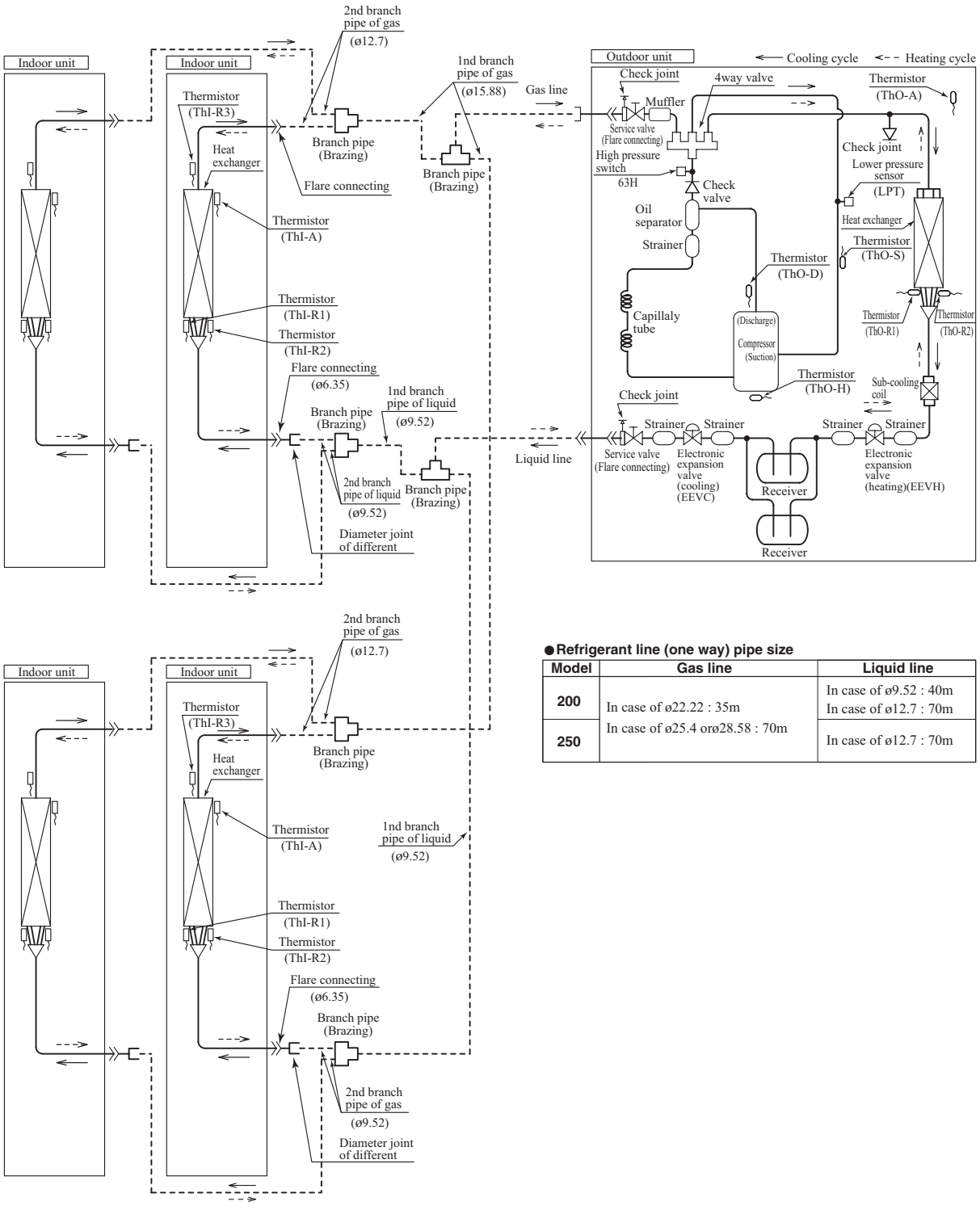


●**Refrigerant line (one way) pipe size**

Gas line	Liquid line
In case of ø22.22 : 35m	In case of ø9.52 : 40m
In case of ø25.4 orφ28.58 : 70m	In case of ø12.7 : 70m

(4) Double Twin type

Models 200, 250



●Refrigerant line (one way) pipe size

Model	Gas line	Liquid line
200	In case of ø22.22 : 35m	In case of ø9.52 : 40m In case of ø12.7 : 70m
250	In case of ø25.4 orø28.58 : 70m	In case of ø12.7 : 70m

Preset point of the protective devices

Parts name	Mark	Equipped unit	40, 50, 60 model	71, 100, 125, 140 model	200, 250 model
Thermistor (for protection over-loading in heating)	**Thı-R**	Indoor unit	OFF 63˚C ON 56˚C		
Thermistor (for frost prevention)			OFF 1.0˚C ON 10˚C		
Thermistor (for protection high pressure in cooling.)	**Tho-R (TH1)**	Outdoor unit	OFF 53˚C ON 63˚C	OFF 51˚C ON 65˚C	
Thermistor (for detecting dis-charge pipe temp.)	**Tho-D (TH3)**	Outdoor unit	OFF 115˚C ON 95˚C	OFF 115˚C ON 85˚C	OFF 135˚C ON 90˚C
High pressure switch (for protection)	**63H1**	Outdoor unit	———	OFF 4.15MPa ON 3.15MPa	
Low pressure sensor (for protection)	**LPT**	Outdoor unit	———	OFF 0.227MPa ON 0.079MPa	

1.8 RANGE OF USAGE & LIMITATIONS

Operating temperature range		See next page.
		When used below -5℃, install a snow hood (option). <FDC71～250 only>
Recommendable area to install		Considering to get sufficient heating capacity, the area where the averaged lowest ambient air temperature in day time during winter is above 0℃, 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℃ or less, relative hummdity : 80% or less Other models Dew point temperature : 28℃ or less, relative hummdity : 80% or less
Limitations on unit and piping installation		See page 154 and 155
Compressor ON-OFF cycling	Cycle Time	7 minutes or more (from OFF to OFF) or (from ON to ON)
	Stop Time	3 minutes or more
Power source	Voltage range	Rating ±10%
	Voltage drop at start-up	Min.85% of rating
	Phase-to-phase imbalance	3% or less

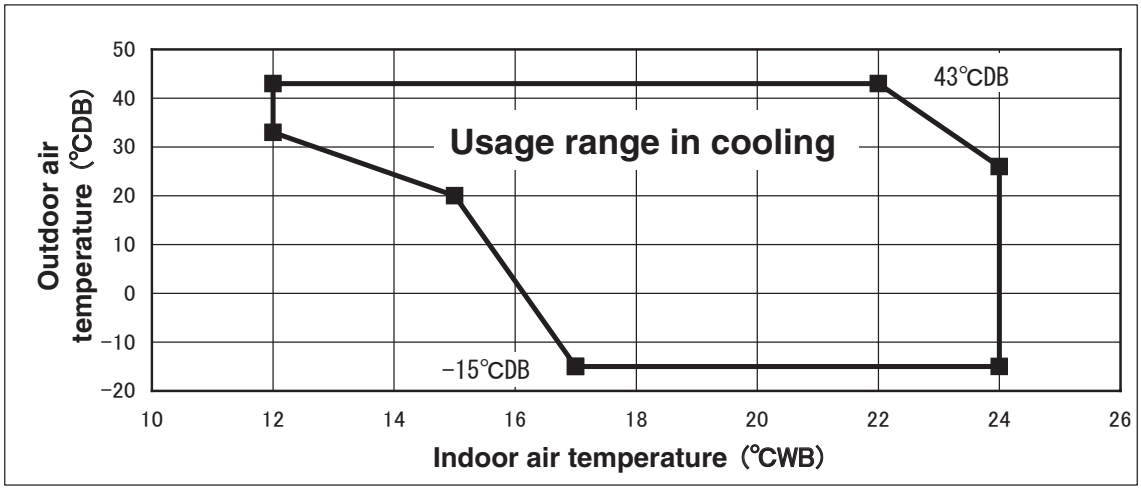
Note 1. Do not install the unit in places which :
1) Flammable gas may leak.
2) Carbon fiber, metal particles, powder, etc. are floating.
3) Cosmetic or special sprays are used frequently.
4) Exposed to oil splashes or steam (e.g. kitchen and machine plant).
5) Exposed to sea breeze (e.g. coastal area) 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.

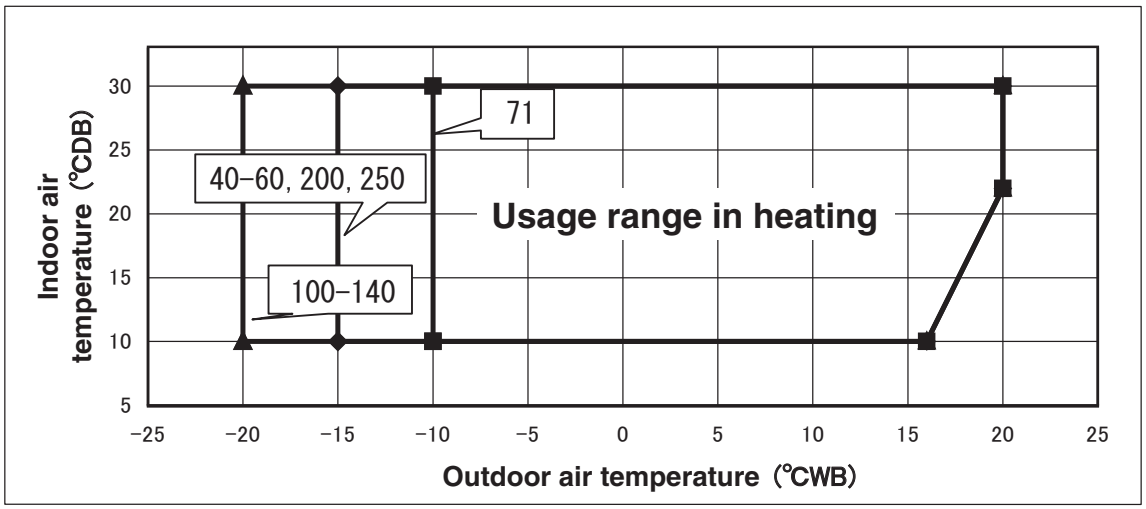
Note 3. Both gas and liquid pipes need to be coverd with 20mm or thicker heat insulation materials at the place where humidity exceeds 70%.

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.

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"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]

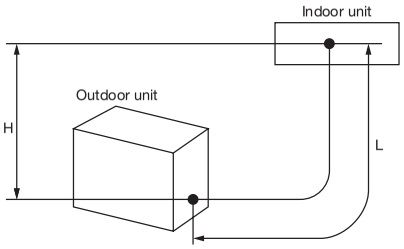
Under the low outdoor air temperature conditions of -5℃ or lower, the outdoor fan is controlled at lower or lowest speed by outdoor fan control, but if strong wind directly blow into the outdoor unit, the outdoor heat exchanger temperature will drop more.

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.

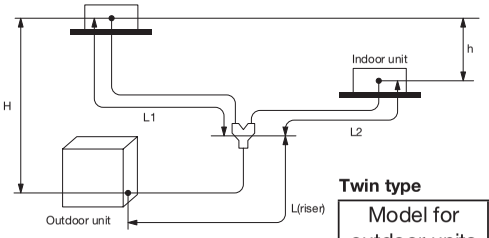
Limitation on unit and piping installation - single,twin,Double twin.

Descriptions	Model for outdoor units			Dimensional limitations	Marks appearing in the drawing		
					Single type	Twin type	Double-Twin type
One-way pipe length	40V・50V・60V			≦ 30m	L		
	71V・100V・125V・140V			≦ 50m		L+L1+L2	
	200V	Liquid piping	φ9.52	≦ 40m		L+L1 L+L2	L+La+L1 L+La+L2 L+Lb+L3 L+Lb+L4
			φ12.7	≦ 70m			
	200V・250V	Cas piping	φ25.4 or φ28.58				
			φ22.22	≦ 35m			
Main pipe length	71V・100V・125V・140V			≦ 50m		L	
	200V	Liquid piping	φ9.52	≦ 40m			L
			φ12.7	≦ 70m			
	200V・250V	Cas piping	φ25.4 or φ28.58				
			φ22.22	≦ 35m			
One-way pipe length after the first branching point	71V			≦ 20m		L1, L2	
	100V・125V・140V			≦ 30m			
	200V・250V						La+L1, La+L2, Lb+L3, Lb+L4
Difference of pipe length after the first branching point				≦ 10m		L1-L2 L2-L1	L1-L2, L2-L1, L3-L4, L4-L3 (L1+La)-(L3+Lb), (L1+La)-(L4+Lb) (L2+La)-(L3+Lb), (L2+La)-(L4+Lb)
Total pipe length after the second branching point				≦ 15m			L1+L2, L3+L4
Elevation difference between indoor and outdoor units	When the outdoor unit is positioned higher		40V・50V・60V	≦ 20m	H	H	H
			71V～250V	≦ 30m			
	When the outdoor unit is positioned higher		40V・50V・60V	≦ 20m			
			71V～250V	≦ 15m			
Elevation difference among indoor units				≦ 0.5m		h	h1, h2, h3, h4, h5, h6

Single type



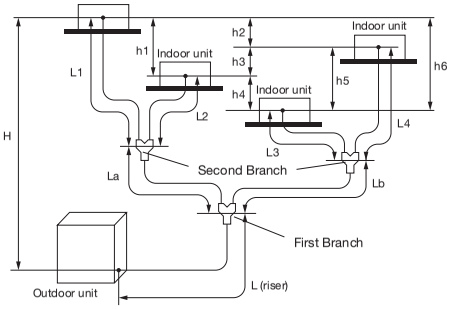
Twin type



Twin type

Model for outdoor units	Branch piping set(option)
71V・100V 125V・140V	DIS-WA1
200V・250V	DIS-WB1

Double-Twin type



Double-Twin type

Model for outdoor units	Branch piping set(option)	
	First Branch	Second Branch
200V・250V	DIS-WB1	DIS-WA1×2

(1) A riser pipe must be part of the main.
A branching pipe set should be installed horizontally at a point as close to an indoor unit as possible.

(2) Reduce refrigerant amount by according to table below from factory charge when refrigerant piping is shorter than 3m.

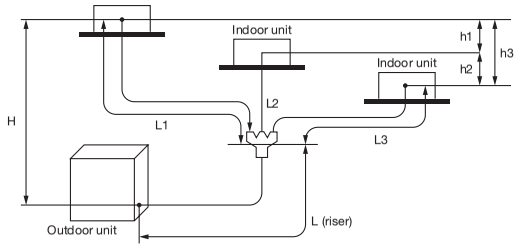
Model for outdoor units	refrigerant to be reduced
71V・100V・125V・140V・200V・250V	-1.0kg

Limitation on unit and piping installation - triple.

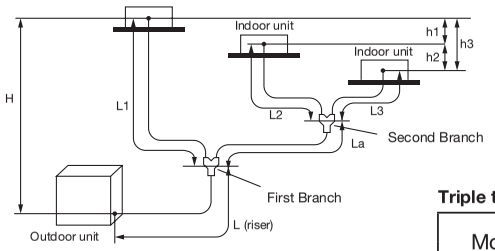
Triple type (in case of 140V · 200V)	One-way pipe length difference from the first branching point to the indoor unit			Dimensional limitations	Marks appearing in the drawing: < 3m	Marks appearing in the drawing: ≧ 3m
Descriptions	Model for outdoor units			Dimensional limitations	Triple type A	Triple type B
One-way pipe length	140V			≦ 50m	L+L1+L2+L3	L+La+L1+L2+L3 ※ 1
	200V	Liquid piping	ϕ9.52	≦ 40m	L+L1, L+L2, L+L3	L+L1 ※ 1
			ϕ12.7	≦ 70m		
		Gas piping	ϕ25.4 or ϕ28.58			
			ϕ22.22	≦ 35m		
Main pipe length	140V			≦ 50m	L	L
	200V	Liquid piping	ϕ9.52	≦ 40m		
			ϕ12.7	≦ 70m		
		Gas piping	ϕ25.4 or ϕ28.58			
			ϕ22.22	≦ 35m		
Piping length between the first branching point and the second branching point				≦ 5m		La
One-way pipe length between the first branching point and indoor units				≦ 30m	L1, L2, L3	L1 ※ 1
One-way pipe length from the first branching point to indoor units through the second branching point				≦ 27m		La+L2, La+L3 ※ 1
Piping length difference from the first branching point to indoor unit				< 3m	L1-L2, L1-L3, L2-L3	
				3m ≦ , ≦ 10m		L1-(La+L2), L1-(La+L3) ※ 1
One-way pipe length difference from the second branching point to indoor unit				≦ 10m		L2-L3, L3-L2
Elevation difference between indoor and outdoor units	When the outdoor unit is positioned higher			≦ 30m	H	H
	When the outdoor unit is positioned lower			≦ 15m		
Elevation difference among indoor units				≦ 0.5m	h1, h2, h3	h1, h2, h3

Triple type (in case of 250V)	One-way pipe length difference from the first branching point to the indoor unit			Dimensional restrictions	Marks appearing in the drawing: < 3m	Marks appearing in the drawing: ≧ 3m
Restrictions	Model for outdoor units			Dimensional restrictions	Triple type B	
One-way pipe length		Gas piping	ϕ22.22	≦ 35m	L+L1, L+La+L2, L+La+L3 ※2	Prohibition of the use
			ϕ25.4 or ϕ28.58	≦ 70m		
Main pipe length		Gas piping	ϕ22.22	≦ 35m	L	
			ϕ25.4 or ϕ28.58	≦ 70m		
One-way pipe length between the first branching point from to the second branching point				≦ 5m	La	
One-way pipe length between the first branching point and indoor units				≦ 30m	L1, La+L2, La+L3 ※ 2	
Piping length difference from the first branching point to indoor unit				< 3m	L1-(La+L2), L1-(La+L3) L2-L3, L3-L2 ※ 2	
Elevation difference between indoor and outdoor units	When the outdoor unit is positioned higher			≦ 30m	H	
	When the outdoor unit is positioned lower			≦ 15m		
Elevation difference among indoor units				≦ 0.5m	h1, h2, h3	

Triple type A



Triple type B



※ 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 Connect the unit that is the maximum capacity with L1.

(1) A riser pipe must be part of the main.
A branching pipe set should be installed horizontally at a point as close to an indoor unit as possible.

(2) Reduce refrigerant amount by 1.0kg from the factory charge when refrigerant piping is shorter than 3m.

Triple type

Model for outdoor units	Branch piping set(option)		
	Type A	Type B	
	Branch pipe	First Branch	Second Branch
140V	DIS-TA1	DIS-WA1	DIS-WA1
200V · 250V	DIS-TB1	DIS-WB1	DIS-WA1

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 he 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 compact type (FDTC)

(a) Single type

Model FDTC40ZIXVD Indoor unit FDTC40VD Outdoor unit SRC40ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	3.83	3.21	4.06	3.42	4.17	3.39	4.30	3.35	4.54	3.54	4.78	3.46
25	3.97	3.27	4.19	3.47	4.31	3.43	4.44	3.40	4.70	3.59	4.97	3.51
30	3.82	3.21	4.04	3.41	4.15	3.38	4.28	3.35	4.54	3.54		
35	3.62	3.13	3.87	3.36	4.00	3.33	4.12	3.30	4.36	3.49		
40	3.38	3.04	3.66	3.28	3.80	3.26	3.91	3.23	4.14	3.43		
43	3.20	2.98	3.49	3.22	3.63	3.21	3.76	3.19	4.02	3.39		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	2.56	2.53	2.48	2.43	2.38
-9.6	-10	3.79	3.74	3.69	3.64	3.47
-3.4	-4	4.19	4.17	4.06	3.74	3.54
1.8	1	4.28	4.25	4.15	3.81	3.62
4.9	4	4.36	4.34	4.23	3.89	3.69
7.0	6	4.56	4.53	4.50	4.39	4.23
11.2	10	4.99	4.96	4.92	4.89	4.85

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Model FDTC50ZIXVD Indoor unit FDTC50VD Outdoor unit SRC50ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	4.79	3.60	5.07	3.79	5.22	3.75	5.37	3.71	5.67	3.88	5.98	3.79
25	4.93	3.66	5.22	3.85	5.36	3.81	5.52	3.77	5.85	3.94	6.18	3.84
30	4.76	3.59	5.04	3.78	5.18	3.74	5.34	3.70	5.66	3.88		
35	4.53	3.49	4.84	3.71	5.00	3.67	5.15	3.64	5.45	3.82		
40	4.23	3.37	4.58	3.61	4.75	3.59	4.89	3.55	5.17	3.73		
43	4.00	3.28	4.36	3.53	4.54	3.51	4.70	3.49	5.03	3.69		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	3.08	3.03	2.98	2.92	2.85
-9.6	-10	4.55	4.49	4.43	4.37	4.17
-3.4	-4	5.02	4.99	4.87	4.49	4.25
1.8	1	5.12	5.10	4.97	4.58	4.34
4.9	4	5.22	5.20	5.08	4.67	4.43
7.0	6	5.45	5.43	5.40	5.27	5.08
11.2	10	5.97	5.94	5.90	5.87	5.84

PJA003Z377 ⚠

Model FDTC60ZIXVD Indoor unit FDTC60VD Outdoor unit SRC60ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	5.36	3.84	5.68	4.03	5.84	3.99	6.01	3.94	6.35	4.10	6.69	3.99
25	5.56	3.93	5.88	4.11	6.03	4.06	6.21	4.01	6.56	4.17	6.91	4.06
30	5.36	3.84	5.66	4.02	5.82	3.98	5.99	3.93	6.33	4.10		
35	5.07	3.72	5.42	3.93	5.60	3.89	5.77	3.85	6.10	4.02		
40	4.73	3.57	5.12	3.81	5.30	3.78	5.46	3.74	5.77	3.92		
43	4.48	3.47	4.88	3.72	5.08	3.70	5.27	3.68	5.58	3.86		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	3.82	3.76	3.69	3.62	3.54
-9.6	-10	5.64	5.57	5.49	5.42	5.17
-3.4	-4	6.21	6.18	6.05	5.57	5.28
1.8	1	6.33	6.31	6.17	5.68	5.38
4.9	4	6.46	6.43	6.30	5.80	5.49
7.0	6	6.76	6.73	6.70	6.53	6.30
11.2	10	7.44	7.40	7.37	7.33	7.29

PJA003Z377 ⚠

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

(b) Twin type

Model FDTC71VNPVD Indoor unit FDTC40VD (2 units) Outdoor unit FDC71VN

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	6.96	6.16	7.39	6.59	7.61	6.53	7.84	6.47	8.31	6.86	8.78	6.72
25	6.86	6.12	7.44	6.61	7.72	6.57	7.98	6.51	8.49	6.92	8.91	6.75
30	6.67	6.05	7.17	6.51	7.41	6.46	7.67	6.42	8.14	6.82		
35	6.43	5.96	6.88	6.41	7.10	6.36	7.31	6.31	7.74	6.71		
40	6.00	5.80	6.50	6.29	6.75	6.25	6.94	6.19	7.34	6.60		
43	5.68	5.69	6.19	6.18	6.45	6.16	6.68	6.11	7.14	6.54		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	4.53	4.51	4.50	4.48	4.46
-9.6	-10	5.11	5.09	5.06	5.03	5.00
-3.4	-4	5.69	5.66	5.62	5.59	5.55
1.8	1	6.13	6.09	6.04	6.00	5.96
4.9	4	7.78	7.71	7.52	6.92	6.56
7.0	6	8.16	8.08	8.00	7.80	7.52
11.2	10	8.86	8.75	8.64	8.52	8.41

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Model FDTC100VNPVD FDTC100VSPVD Indoor unit FDTC50VD (2 units) Outdoor unit FDC100VN FDC100VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	9.98	7.36	10.55	7.74	10.84	7.66	11.15	7.57	11.78	7.91	12.41	7.70
25	9.71	7.25	10.28	7.64	10.56	7.55	10.87	7.47	11.49	7.82	12.12	7.62
30	9.44	7.14	10.00	7.53	10.28	7.45	10.59	7.37	11.21	7.73		
35	9.05	6.98	9.68	7.41	10.00	7.35	10.30	7.28	10.90	7.63		
40	8.45	6.74	9.15	7.21	9.50	7.17	9.78	7.10	10.34	7.46		
43	8.00	6.56	8.72	7.06	9.08	7.03	9.40	6.97	10.05	7.37		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	6.89	6.51	6.13	5.75	5.50
-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
1.8	1	8.55	8.52	8.06	7.45	6.99
4.9	4	10.28	10.14	9.33	8.47	7.84
7.0	6	11.35	11.27	11.20	10.92	10.40
11.2	10	12.19	12.10	12.02	11.73	10.69

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Model FDTC125VNPVD FDTC125VSPVD Indoor unit FDTC60VD (2 units) Outdoor unit FDC125VN FDC125VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	12.31	8.39	12.97	8.72	13.30	8.61	13.66	8.50	14.38	8.78	15.10	
25	12.05	8.27	12.71	8.61	13.03	8.50	13.39	8.39	14.11	8.69	14.83	
30	11.79	8.15	12.44	8.50	12.77	8.40	13.13	8.30	13.84	8.59		
35	11.31	7.94	12.10	8.36	12.50	8.29	12.86	8.19	13.58	8.50		
40	10.56	7.61	11.44	8.09	11.88	8.05	12.23	7.96	12.93	8.28		
43	10.00	7.37	10.90	7.88	11.35	7.85	11.76	7.79	12.57	8.16		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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
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
11.2	10	15.16	15.06	14.97	14.66	13.36

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(c) Triple type

Model FDTC140VNTVD FDTC140VSTVD Indoor unit FDTC50VD (3 units) Outdoor unit FDC140VN FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	10.28	13.91	10.89	14.31	10.78	14.62	10.63	15.23	11.10	15.85	10.78
25	12.92	10.20	13.78	10.84	14.21	10.74	14.48	10.59	15.04	11.05	15.59	10.71
30	12.73	10.13	13.65	10.79	14.10	10.71	14.35	10.54	14.84	10.99		
35	12.53	10.05	13.51	10.74	14.00	10.67	14.21	10.50	14.64	10.93		
40	11.83	9.77	12.59	10.41	12.97	10.31	13.27	10.19	13.86	10.70		
43	11.20	9.53	12.04	10.21	12.35	10.11	12.70	10.00	13.39	10.56		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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

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

(d) Double Twin type

Model FDTC200VSDVD Indoor unit FDTC50VD (4 units) Outdoor unit FDC200VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	20.36	14.90	21.49	15.63	22.06	15.45	22.70	15.28	23.99	15.95	25.28	15.53
25	19.71	14.62	20.82	15.37	21.37	15.20	22.00	15.04	23.26	15.72	24.52	15.31
30	19.07	14.36	20.15	15.12	20.69	14.95	21.30	14.79	22.53	15.49		
35	18.10	13.96	19.37	14.82	20.00	14.70	20.60	14.55	21.80	15.26		
40	16.90	13.47	18.30	14.43	18.97	14.33	19.54	14.19	20.68	14.92		
43	16.00	13.12	17.44	14.11	18.16	14.05	18.81	13.95	20.01	14.72		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	12.86	12.83	12.79	12.75	12.72
-9.6	-10	14.51	14.47	14.42	14.37	14.32
-3.4	-4	15.89	15.82	15.76	15.70	15.63
1.8	1	17.03	16.95	16.88	16.80	16.72
4.9	4	21.70	21.57	21.06	19.38	18.37
7.0	6	22.68	22.54	22.40	21.84	21.06
11.2	10	24.90	24.73	24.57	24.40	24.23

PJA003Z377 ⚠

Model FDTC250VSDVD Indoor unit FDTC60VD (4 units) Outdoor unit FDC250VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	25.45	17.16	26.87	17.84	27.58	17.62	28.38	17.41	29.99	18.00	31.60	17.48
25	24.64	16.79	26.03	17.48	26.72	17.26	27.50	17.07	29.08	17.67	30.65	17.17
30	23.84	16.42	25.18	17.12	25.86	16.92	26.63	16.73	28.17	17.35		
35	22.63	15.88	24.21	16.72	25.00	16.58	25.75	16.40	27.25	17.04		
40	21.13	15.23	22.88	16.18	23.71	16.08	24.43	15.91	25.85	16.56		
43	20.00	14.74	21.80	15.76	22.70	15.69	23.51	15.57	25.02	16.29		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	16.08	16.03	15.99	15.94	15.90
-9.6	-10	18.14	18.08	18.02	17.96	17.90
-3.4	-4	19.86	19.78	19.70	19.62	19.54
1.8	1	21.29	21.19	21.10	21.00	20.91
4.9	4	27.12	26.96	26.32	24.22	22.96
7.0	6	28.35	28.17	28.00	27.30	26.32
11.2	10	31.13	30.92	30.71	30.50	30.29

PJA003Z377 ⚠

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

(a) Single type

Model FDT40ZIXVD Indoor unit FDT40VD Outdoor unit SRC40ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	3.83	3.27	4.06	3.51	4.17	3.42	4.30	3.34	4.54	3.54	4.78	3.35
25	3.97	3.29	4.19	3.52	4.31	3.44	4.44	3.35	4.70	3.55	4.97	3.35
30	3.82	3.27	4.04	3.50	4.15	3.42	4.28	3.33	4.54	3.54		
35	3.62	3.23	3.87	3.48	4.00	3.40	4.12	3.32	4.36	3.54		
40	3.38	3.20	3.66	3.46	3.80	3.39	3.91	3.31	4.14	3.53		
43	3.20	3.17	3.49	3.44	3.63	3.37	3.76	3.30	4.02	3.52		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	2.56	2.53	2.48	2.43	2.38
-9.6	-10	3.79	3.74	3.69	3.64	3.47
-3.4	-4	4.19	4.17	4.06	3.74	3.54
1.8	1	4.28	4.25	4.15	3.81	3.62
4.9	4	4.36	4.34	4.23	3.89	3.69
7.0	6	4.56	4.53	4.50	4.39	4.23
11.2	10	4.99	4.96	4.92	4.89	4.85

PJF002Z192 ⚠

Model FDT50ZIXVD Indoor unit FDT50VD Outdoor unit SRC50ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	4.79	3.85	5.07	4.10	5.22	4.02	5.37	3.94	5.67	4.16	5.98	3.98
25	4.93	3.88	5.22	4.13	5.36	4.05	5.52	3.97	5.85	4.19	6.18	4.00
30	4.76	3.84	5.04	4.09	5.18	4.01	5.34	3.93	5.66	4.16		
35	4.53	3.78	4.84	4.04	5.00	3.97	5.15	3.90	5.45	4.12		
40	4.23	3.70	4.58	3.99	4.75	3.92	4.89	3.85	5.17	4.08		
43	4.00	3.64	4.36	3.94	4.54	3.88	4.70	3.82	5.03	4.06		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	3.08	3.03	2.98	2.92	2.85
-9.6	-10	4.55	4.49	4.43	4.37	4.17
-3.4	-4	5.02	4.99	4.87	4.49	4.25
1.8	1	5.12	5.10	4.97	4.58	4.34
4.9	4	5.22	5.20	5.08	4.67	4.43
7.0	6	5.45	5.43	5.40	5.27	5.08
11.2	10	5.97	5.94	5.90	5.87	5.84

PJF002Z192 ⚠

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

Model FDT60ZIXVD Indoor unit FDT60VD Outdoor unit SRC60ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	5.36	4.57	5.68	4.91	5.84	4.79	6.01	4.67	6.35	4.96	6.69	4.69
25	5.56	4.61	5.88	4.93	6.03	4.81	6.21	4.69	6.56	4.97	6.91	4.69
30	5.36	4.57	5.66	4.91	5.82	4.79	5.99	4.67	6.33	4.96		
35	5.07	4.53	5.42	4.88	5.60	4.77	5.77	4.65	6.10	4.95		
40	4.73	4.47	5.12	4.84	5.30	4.74	5.46	4.63	5.77	4.94		
43	4.48	4.44	4.88	4.81	5.08	4.72	5.27	4.61	5.58	4.93		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	3.82	3.76	3.69	3.62	3.54
-9.6	-10	5.64	5.57	5.49	5.42	5.17
-3.4	-4	6.21	6.18	6.05	5.57	5.28
1.8	1	6.33	6.31	6.17	5.68	5.38
4.9	4	6.46	6.43	6.30	5.80	5.49
7.0	6	6.76	6.73	6.70	6.53	6.30
11.2	10	7.44	7.40	7.37	7.33	7.29

PJF002Z192 ⚠

Model FDT71VNVD Indoor unit FDT71VD Outdoor unit FDC71VN

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	6.96	5.45	7.39	5.80	7.61	5.69	7.84	5.58	8.31	5.88	8.78	5.62
25	6.86	5.43	7.44	5.81	7.72	5.72	7.98	5.61	8.49	5.91	8.91	5.63
30	6.67	5.38	7.17	5.75	7.41	5.65	7.67	5.55	8.14	5.85		
35	6.43	5.31	6.88	5.69	7.10	5.58	7.31	5.48	7.74	5.79		
40	6.00	5.20	6.50	5.60	6.75	5.51	6.94	5.41	7.34	5.73		
43	5.68	5.12	6.19	5.53	6.45	5.45	6.68	5.36	7.14	5.70		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	4.53	4.51	4.50	4.48	4.46
-9.6	-10	5.11	5.09	5.06	5.03	5.00
-3.4	-4	5.69	5.66	5.62	5.59	5.55
1.8	1	6.13	6.09	6.04	6.00	5.96
4.9	4	7.78	7.71	7.52	6.92	6.56
7.0	6	8.16	8.08	8.00	7.80	7.52
11.2	10	8.86	8.75	8.64	8.52	8.41

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Model FDT100VNVD FDT100VSVD Indoor unit FDTC100VD Outdoor unit FDC100VN FDC100VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	9.98	7.24	10.55	7.64	10.84	7.47	11.15	7.29	11.78	7.64	12.41	7.24
25	9.71	7.16	10.28	7.58	10.56	7.41	10.87	7.24	11.49	7.59	12.12	7.21
30	9.44	7.09	10.00	7.52	10.28	7.36	10.59	7.19	11.21	7.55		
35	9.05	6.99	9.68	7.45	10.00	7.30	10.30	7.14	10.90	7.51		
40	8.45	6.84	9.15	7.34	9.50	7.20	9.78	7.05	10.34	7.44		
43	8.00	6.73	8.72	7.25	9.08	7.13	9.40	6.98	10.05	7.40		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	6.89	6.51	6.13	5.75	5.50
-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
1.8	1	8.55	8.52	8.06	7.45	6.99
4.9	4	10.28	10.14	9.33	8.47	7.84
7.0	6	11.35	11.27	11.20	10.92	10.40
11.2	10	12.19	12.10	12.02	11.73	10.69

PJF002Z192 ⚠

Model FDT125VNVD FDT125VSVD Indoor unit FDT125VD Outdoor unit FDC125VN FDC125VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	12.31	8.65	12.97	9.06	13.30	8.89	13.66	8.72	14.38	9.08	15.10	8.69
25	12.05	8.56	12.71	8.98	13.03	8.81	13.39	8.65	14.11	9.02	14.83	8.64
30	11.79	8.47	12.44	8.90	12.77	8.74	13.13	8.58	13.84	8.95		
35	11.31	8.30	12.10	8.80	12.50	8.66	12.86	8.51	13.58	8.89		
40	10.56	8.05	11.44	8.60	11.88	8.49	12.23	8.34	12.93	8.75		
43	10.00	7.87	10.90	8.44	11.35	8.34	11.76	8.22	12.57	8.67		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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
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
11.2	10	15.16	15.06	14.97	14.66	13.36

PJF002Z192 ⚠

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

Model FDT140VNVD Indoor unit FDT140VD Outdoor unit FDC140VN
FDT140VSVD FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23°CDB 16°CWB		26°CDB 18°CWB		27°CDB 19°CWB		28°CDB 20°CWB		31°CDB 22°CWB		33°CDB 24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	9.51	13.91	10.01	14.31	9.88	14.62	9.71	15.23	10.07	15.85	9.71
25	12.92	9.43	13.78	9.96	14.21	9.85	14.48	9.67	15.04	10.02	15.59	9.64
30	12.73	9.36	13.65	9.92	14.10	9.81	14.35	9.62	14.84	9.96		
35	12.53	9.28	13.51	9.87	14.00	9.77	14.21	9.58	14.64	9.91		
40	11.83	9.01	12.59	9.54	12.97	9.43	13.27	9.28	13.86	9.69		
43	11.20	8.77	12.04	9.36	12.35	9.23	12.70	9.11	13.39	9.56		

Heat Mode

Outdoor air temp.		Indoor air temperature °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

PJF002Z192 ⚠

(b) Twin type

Model FDT71VNPVD Indoor unit FDT40VD (2 units) Outdoor unit FDC71VN

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23°CDB 16°CWB		26°CDB 18°CWB		27°CDB 19°CWB		28°CDB 20°CWB		31°CDB 22°CWB		33°CDB 24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	6.96	5.66	7.39	6.07	7.61	5.87	7.84	5.67	8.31	6.01	8.78	5.55
25	6.86	5.65	7.44	6.07	7.72	5.87	7.98	5.66	8.49	6.00	8.91	5.54
30	6.67	5.64	7.17	6.07	7.41	5.88	7.67	5.67	8.14	6.02		
35	6.43	5.63	6.88	6.07	7.10	5.88	7.31	5.69	7.74	6.06		
40	6.00	5.61	6.50	6.07	6.75	5.89	6.94	5.70	7.34	6.09		
43	5.68	5.60	6.19	6.07	6.45	5.90	6.68	5.72	7.14	6.11		

Heat Mode

Outdoor air temp.		Indoor air temperature °CDB				
°CDB	°CWB	16	18	20	22	24
-14.7	-15	4.53	4.51	4.50	4.48	4.46
-9.6	-10	5.11	5.09	5.06	5.03	5.00
-3.4	-4	5.69	5.66	5.62	5.59	5.55
1.8	1	6.13	6.09	6.04	6.00	5.96
4.9	4	7.78	7.71	7.52	6.92	6.56
7.0	6	8.16	8.08	8.00	7.80	7.52
11.2	10	8.86	8.75	8.64	8.52	8.41

PJF002Z192 ⚠

Model FDT100VNPVD Indoor unit FDT50VD (2 units) Outdoor unit FDC100VN
FDT100VSPVD FDC100VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23°CDB 16°CWB		26°CDB 18°CWB		27°CDB 19°CWB		28°CDB 20°CWB		31°CDB 22°CWB		33°CDB 24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	9.98	7.80	10.55	8.29	10.84	8.12	11.15	7.96	11.78	8.38	12.41	8.01
25	9.71	7.73	10.28	8.22	10.56	8.06	10.87	7.90	11.49	8.34	12.12	7.97
30	9.44	7.66	10.00	8.16	10.28	8.01	10.59	7.85	11.21	8.30		
35	9.05	7.55	9.68	8.09	10.00	7.95	10.30	7.80	10.90	8.25		
40	8.45	7.40	9.15	7.97	9.50	7.85	9.78	7.70	10.34	8.17		
43	8.00	7.29	8.72	7.88	9.08	7.77	9.40	7.64	10.05	8.13		

Heat Mode

Outdoor air temp.		Indoor air temperature °CDB				
°CDB	°CWB	16	18	20	22	24
-14.7	-15	6.89	6.51	6.13	5.75	5.50
-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
1.8	1	8.55	8.52	8.06	7.45	6.99
4.9	4	10.28	10.14	9.33	8.47	7.84
7.0	6	11.35	11.27	11.20	10.92	10.40
11.2	10	12.19	12.10	12.02	11.73	10.69

PJF002Z192 ⚠

Model FDT125VNPVD Indoor unit FDT60VD (2 units) Outdoor unit FDC125VN
FDT125VSPVD FDC125VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23°CDB 16°CWB		26°CDB 18°CWB		27°CDB 19°CWB		28°CDB 20°CWB		31°CDB 22°CWB		33°CDB 24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	12.31	9.43	12.97	10.03	13.30	9.76	13.66	9.49	14.38	10.00	15.10	9.40
25	12.05	9.38	12.71	9.99	13.03	9.73	13.39	9.46	14.11	9.99	14.83	9.39
30	11.79	9.34	12.44	9.96	12.77	9.70	13.13	9.44	13.84	9.97		
35	11.31	9.25	12.10	9.91	12.50	9.67	12.86	9.41	13.58	9.96		
40	10.56	9.12	11.44	9.83	11.88	9.60	12.23	9.36	12.93	9.93		
43	10.00	9.03	10.90	9.76	11.35	9.55	11.76	9.32	12.57	9.91		

Heat Mode

Outdoor air temp.		Indoor air temperature °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
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
11.2	10	15.16	15.06	14.97	14.66	13.36

PJF002Z192 ⚠

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

Model FDT140VNPVD Indoor unit FDT71VD (2 units) Outdoor unit FDC140VN
FDT140VSPVD FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	10.43	13.91	11.12	14.31	10.89	14.62	10.64	15.23	11.20	15.85	10.66
25	12.92	10.39	13.78	11.09	14.21	10.87	14.48	10.61	15.04	11.17	15.59	10.64
30	12.73	10.34	13.65	11.06	14.10	10.85	14.35	10.59	14.84	11.15		
35	12.53	10.29	13.51	11.03	14.00	10.83	14.21	10.57	14.64	11.12		
40	11.83	10.12	12.59	10.85	12.97	10.64	13.27	10.42	13.86	11.03		
43	11.20	9.98	12.04	10.74	12.35	10.54	12.70	10.33	13.39	10.98		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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

PJF002Z192 ⚠

Model FDT200VSPVD Indoor unit FDT100VD (2 units) Outdoor unit FDC200VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	20.36	14.58	21.49	15.38	22.06	15.02	22.70	14.66	23.99	15.34	25.28	14.53
25	19.71	14.40	20.82	15.22	21.37	14.88	22.00	14.53	23.26	15.23	24.52	14.44
30	19.07	14.23	20.15	15.07	20.69	14.74	21.30	14.40	22.53	15.12		
35	18.10	13.98	19.37	14.90	20.00	14.60	20.60	14.28	21.80	15.02		
40	16.90	13.68	18.30	14.67	18.97	14.40	19.54	14.09	20.68	14.87		
43	16.00	13.46	17.44	14.50	18.16	14.25	18.81	13.97	20.01	14.78		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	12.86	12.83	12.79	12.75	12.72
-9.6	-10	14.51	14.47	14.42	14.37	14.32
-3.4	-4	15.89	15.82	15.76	15.70	15.63
1.8	1	17.03	16.95	16.88	16.80	16.72
4.9	4	21.70	21.57	21.06	19.38	18.37
7.0	6	22.68	22.54	22.40	21.84	21.06
11.2	10	24.90	24.73	24.57	24.40	24.23

PJF002Z192 ⚠

Model FDT250VSPVD Indoor unit FDT125VD (2 units) Outdoor unit FDC250VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	25.45	17.59	26.87	18.42	27.58	18.08	28.38	17.74	29.99	18.46	31.60	17.67
25	24.64	17.30	26.03	18.16	26.72	17.82	27.50	17.50	29.08	18.24	30.65	17.47
30	23.84	17.02	25.18	17.89	25.86	17.57	26.63	17.26	28.17	18.02		
35	22.63	16.61	24.21	17.60	25.00	17.33	25.75	17.03	27.25	17.81		
40	21.13	16.11	22.88	17.20	23.71	16.96	24.43	16.68	25.85	17.49		
43	20.00	15.74	21.80	16.89	22.70	16.69	23.51	16.45	25.02	17.31		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	16.08	16.03	15.99	15.94	15.90
-9.6	-10	18.14	18.08	18.02	17.96	17.90
-3.4	-4	19.86	19.78	19.70	19.62	19.54
1.8	1	21.29	21.19	21.10	21.00	20.91
4.9	4	27.12	26.96	26.32	24.22	22.96
7.0	6	28.35	28.17	28.00	27.30	26.32
11.2	10	31.13	30.92	30.71	30.50	30.29

PJF002Z192 ⚠

(c) Triple type

Model FDT140VNTVD Indoor unit FDT50VD (3 units) Outdoor unit FDC140VN
FDT140VSTVD FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	11.21	13.91	12.00	14.31	11.78	14.62	11.55	15.23	12.21	15.85	11.70
25	12.92	11.16	13.78	11.97	14.21	11.76	14.48	11.52	15.04	12.18	15.59	11.67
30	12.73	11.11	13.65	11.94	14.10	11.74	14.35	11.50	14.84	12.16		
35	12.53	11.06	13.51	11.91	14.00	11.72	14.21	11.47	14.64	12.13		
40	11.83	10.89	12.59	11.72	12.97	11.52	13.27	11.31	13.86	12.02		
43	11.20	10.73	12.04	11.60	12.35	11.41	12.70	11.21	13.39	11.96		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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

PJF002Z192 ⚠

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

Model FDT200VSTVD Indoor unit FDT71VD (3 units) Outdoor unit FDC200VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	20.36	16.78	21.49	17.87	22.06	17.57	22.70	17.27	23.99	18.25	25.28	17.56
25	19.71	16.59	20.82	17.70	21.37	17.41	22.00	17.12	23.26	18.12	24.52	17.45
30	19.07	16.41	20.15	17.54	20.69	17.25	21.30	16.97	22.53	17.99		
35	18.10	16.13	19.37	17.34	20.00	17.09	20.60	16.82	21.80	17.87		
40	16.90	15.80	18.30	17.09	18.97	16.86	19.54	16.60	20.68	17.68		
43	16.00	15.56	17.44	16.89	18.16	16.69	18.81	16.46	20.01	17.56		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	12.86	12.83	12.79	12.75	12.72
-9.6	-10	14.51	14.47	14.42	14.37	14.32
-3.4	-4	15.89	15.82	15.76	15.70	15.63
1.8	1	17.03	16.95	16.88	16.80	16.72
4.9	4	21.70	21.57	21.06	19.38	18.37
7.0	6	22.68	22.54	22.40	21.84	21.06
11.2	10	24.90	24.73	24.57	24.40	24.23

PJF002Z192 ⚠

(d) Double Twin type

Model FDT200VSDVD Indoor unit FDT50VD (4 units) Outdoor unit FDC200VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	20.36	16.78	21.49	17.87	22.06	17.57	22.70	17.27	23.99	18.25	25.28	17.56
25	19.71	16.59	20.82	17.70	21.37	17.41	22.00	17.12	23.26	18.12	24.52	17.45
30	19.07	16.41	20.15	17.54	20.69	17.25	21.30	16.97	22.53	17.99		
35	18.10	16.13	19.37	17.34	20.00	17.09	20.60	16.82	21.80	17.87		
40	16.90	15.80	18.30	17.09	18.97	16.86	19.54	16.60	20.68	17.68		
43	16.00	15.56	17.44	16.89	18.16	16.69	18.81	16.46	20.01	17.56		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	12.86	12.83	12.79	12.75	12.72
-9.6	-10	14.51	14.47	14.42	14.37	14.32
-3.4	-4	15.89	15.82	15.76	15.70	15.63
1.8	1	17.03	16.95	16.88	16.80	16.72
4.9	4	21.70	21.57	21.06	19.38	18.37
7.0	6	22.68	22.54	22.40	21.84	21.06
11.2	10	24.90	24.73	24.57	24.40	24.23

PJF002Z192 ⚠

Model FDT250VSDVD Indoor unit FDT60VD (4 units) Outdoor unit FDC250VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	25.45	19.02	26.87	20.19	27.58	19.64	28.38	19.08	29.99	20.07	31.60	18.82
25	24.64	18.87	26.03	20.07	26.72	19.54	27.50	18.99	29.08	20.02	30.65	18.80
30	23.84	18.72	25.18	19.95	25.86	19.43	26.63	18.91	28.17	19.97		
35	22.63	18.50	24.21	19.82	25.00	19.34	25.75	18.83	27.25	19.92		
40	21.13	18.25	22.88	19.65	23.71	19.20	24.43	18.71	25.85	19.86		
43	20.00	18.06	21.80	19.52	22.70	19.09	23.51	18.64	25.02	19.82		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	16.08	16.03	15.99	15.94	15.90
-9.6	-10	18.14	18.08	18.02	17.96	17.90
-3.4	-4	19.86	19.78	19.70	19.62	19.54
1.8	1	21.29	21.19	21.10	21.00	20.91
4.9	4	27.12	26.96	26.32	24.22	22.96
7.0	6	28.35	28.17	28.00	27.30	26.32
11.2	10	31.13	30.92	30.71	30.50	30.29

PJF002Z192 ⚠

(3) Ceiling suspended type (FDEN)

(a) Single type

Model FDEN40ZIXVD Indoor unit FDEN40VD Outdoor unit SRC40ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	3.83	2.96	4.06	3.13	4.17	3.09	4.30	3.04	4.54	3.20	4.78	3.09
25	3.97	3.01	4.19	3.18	4.31	3.13	4.44	3.08	4.70	3.24	4.97	3.13
30	3.82	2.96	4.04	3.13	4.15	3.08	4.28	3.04	4.54	3.20		
35	3.62	2.89	3.87	3.08	4.00	3.04	4.12	3.00	4.36	3.15		
40	3.38	2.80	3.66	3.01	3.80	2.98	3.91	2.94	4.14	3.10		
43	3.20	2.74	3.49	2.96	3.63	2.93	3.76	2.90	4.02	3.07		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	2.56	2.53	2.48	2.43	2.38
-9.6	-10	3.79	3.74	3.69	3.64	3.47
-3.4	-4	4.19	4.17	4.06	3.74	3.54
1.8	1	4.28	4.25	4.15	3.81	3.62
4.9	4	4.36	4.34	4.23	3.89	3.69
7.0	6	4.56	4.53	4.50	4.39	4.23
11.2	10	4.99	4.96	4.92	4.89	4.85

PFA003Z902 ⚠

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

Model FDEN50ZIXVD Indoor unit FDEN50VD Outdoor unit SRC50ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	4.79	3.31	5.07	3.47	5.22	3.42	5.37	3.36	5.67	3.49	5.98	3.36
25	4.93	3.37	5.22	3.52	5.36	3.46	5.52	3.41	5.85	3.54	6.18	3.41
30	4.76	3.30	5.04	3.46	5.18	3.40	5.34	3.35	5.66	3.49		
35	4.53	3.21	4.84	3.39	5.00	3.35	5.15	3.29	5.45	3.43		
40	4.23	3.10	4.58	3.30	4.75	3.27	4.89	3.22	5.17	3.36		
43	4.00	3.02	4.36	3.23	4.54	3.20	4.70	3.16	5.03	3.32		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	3.08	3.03	2.98	2.92	2.85
-9.6	-10	4.55	4.49	4.43	4.37	4.17
-3.4	-4	5.02	4.99	4.87	4.49	4.25
1.8	1	5.12	5.10	4.97	4.58	4.34
4.9	4	5.22	5.20	5.08	4.67	4.43
7.0	6	5.45	5.43	5.40	5.27	5.08
11.2	10	5.97	5.94	5.90	5.87	5.84

PFA003Z902 A

Model FDEN60ZIXVD Indoor unit FDEN60VD Outdoor unit SRC60ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	5.36	4.63	5.68	4.94	5.84	4.88	6.01	4.81	6.35	5.10	6.69	4.95
25	5.56	4.69	5.88	5.00	6.03	4.93	6.21	4.87	6.56	5.15	6.91	4.99
30	5.36	4.63	5.66	4.94	5.82	4.87	5.99	4.81	6.33	5.09		
35	5.07	4.53	5.42	4.87	5.60	4.81	5.77	4.75	6.10	5.04		
40	4.73	4.42	5.12	4.78	5.30	4.73	5.46	4.67	5.77	4.97		
43	4.48	4.35	4.88	4.72	5.08	4.67	5.27	4.63	5.58	4.93		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	3.82	3.76	3.69	3.62	3.54
-9.6	-10	5.64	5.57	5.49	5.42	5.17
-3.4	-4	6.21	6.18	6.05	5.57	5.28
1.8	1	6.33	6.31	6.17	5.68	5.38
4.9	4	6.46	6.43	6.30	5.80	5.49
7.0	6	6.76	6.73	6.70	6.53	6.30
11.2	10	7.44	7.40	7.37	7.33	7.29

PFA003Z902 A

Model FDEN71VNVD Indoor unit FDEN71VD Outdoor unit FDC71VN

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	6.96	5.18	7.39	5.47	7.61	5.39	7.84	5.31	8.31	5.57	8.78	5.38
25	6.86	5.14	7.44	5.49	7.72	5.43	7.98	5.35	8.49	5.61	8.91	5.41
30	6.67	5.07	7.17	5.40	7.41	5.33	7.67	5.27	8.14	5.53		
35	6.43	4.99	6.88	5.31	7.10	5.24	7.31	5.16	7.74	5.43		
40	6.00	4.84	6.50	5.19	6.75	5.14	6.94	5.06	7.34	5.33		
43	5.68	4.73	6.19	5.10	6.45	5.05	6.68	4.99	7.14	5.28		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	4.53	4.51	4.50	4.48	4.46
-9.6	-10	5.11	5.09	5.06	5.03	5.00
-3.4	-4	5.69	5.66	5.62	5.59	5.55
1.8	1	6.13	6.09	6.04	6.00	5.96
4.9	4	7.78	7.71	7.52	6.92	6.56
7.0	6	8.16	8.08	8.00	7.80	7.52
11.2	10	8.86	8.75	8.64	8.52	8.41

PFA003Z902 A

Model FDEN100VNVD Indoor unit FDEN100VD Outdoor unit FDC100VN
FDEN100VSVD FDC100VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	9.98	7.01	10.55	7.35	10.84	7.23	11.15	7.11	11.78	7.40	12.41	7.13
25	9.71	6.90	10.28	7.25	10.56	7.14	10.87	7.03	11.49	7.33	12.12	7.06
30	9.44	6.80	10.00	7.16	10.28	7.05	10.59	6.94	11.21	7.25		
35	9.05	6.66	9.68	7.05	10.00	6.96	10.30	6.86	10.90	7.17		
40	8.45	6.44	9.15	6.88	9.50	6.81	9.78	6.71	10.34	7.03		
43	8.00	6.29	8.72	6.74	9.08	6.68	9.40	6.60	10.05	6.95		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	6.89	6.51	6.13	5.75	5.50
-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
1.8	1	8.55	8.52	8.06	7.45	6.99
4.9	4	10.28	10.14	9.33	8.47	7.84
7.0	6	11.35	11.27	11.20	10.92	10.40
11.2	10	12.19	12.10	12.02	11.73	10.69

PFA003Z902 A

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

Model **FDEN125VNVD** Indoor unit FDEN125VD Outdoor unit FDC125VN
FDEN125VSVD FDC125VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	12.31	8.36	12.97	8.72	13.30	8.56	13.66	8.42	14.38	8.71	15.10	8.36
25	12.05	8.26	12.71	8.62	13.03	8.47	13.39	8.33	14.11	8.64	14.83	8.30
30	11.79	8.15	12.44	8.53	12.77	8.39	13.13	8.25	13.84	8.56		
35	11.31	7.97	12.10	8.41	12.50	8.30	12.86	8.16	13.58	8.49		
40	10.56	7.69	11.44	8.19	11.88	8.10	12.23	7.97	12.93	8.32		
43	10.00	7.49	10.90	8.01	11.35	7.93	11.76	7.83	12.57	8.22		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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
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
11.2	10	15.16	15.06	14.97	14.66	13.36

PFA003Z902 ⚠A

Model **FDEN140VNVD** Indoor unit FDEN140VD Outdoor unit FDC140VN
FDEN140VSVD FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	8.68	13.91	9.06	14.31	8.91	14.62	8.73	15.23	8.96	15.85	8.55
25	12.92	8.60	13.78	9.01	14.21	8.88	14.48	8.68	15.04	8.90	15.59	8.49
30	12.73	8.53	13.65	8.96	14.10	8.84	14.35	8.64	14.84	8.84		
35	12.53	8.45	13.51	8.91	14.00	8.80	14.21	8.59	14.64	8.79		
40	11.83	8.17	12.59	8.58	12.97	8.45	13.27	8.29	13.86	8.57		
43	11.20	7.93	12.04	8.39	12.35	8.25	12.70	8.12	13.39	8.44		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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

PFA003Z902 ⚠A

(b) Twin type

Model **FDEN71VNPVD** Indoor unit FDEN40VD (2 units) Outdoor unit FDC71VN

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	6.96	5.68	7.39	6.04	7.61	5.96	7.84	5.88	8.31	6.21	8.78	6.02
25	6.86	5.64	7.44	6.06	7.72	6.00	7.98	5.92	8.49	6.25	8.91	6.04
30	6.67	5.58	7.17	5.98	7.41	5.91	7.67	5.84	8.14	6.17		
35	6.43	5.50	6.88	5.89	7.10	5.82	7.31	5.74	7.74	6.08		
40	6.00	5.36	6.50	5.78	6.75	5.72	6.94	5.65	7.34	5.99		
43	5.68	5.26	6.19	5.69	6.45	5.64	6.68	5.58	7.14	5.95		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	4.53	4.51	4.50	4.48	4.46
-9.6	-10	5.11	5.09	5.06	5.03	5.00
-3.4	-4	5.69	5.66	5.62	5.59	5.55
1.8	1	6.13	6.09	6.04	6.00	5.96
4.9	4	7.78	7.71	7.52	6.92	6.56
7.0	6	8.16	8.08	8.00	7.80	7.52
11.2	10	8.86	8.75	8.64	8.52	8.41

PFA003Z902 ⚠A

Model **FDEN100VNPVD** Indoor unit FDEN50VD (2 units) Outdoor unit FDC100VN
FDEN100VSPVD FDC100VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	9.98	6.78	10.55	7.09	10.84	6.97	11.15	6.85	11.78	7.11	12.41	6.83
25	9.71	6.68	10.28	6.99	10.56	6.88	10.87	6.76	11.49	7.03	12.12	6.76
30	9.44	6.57	10.00	6.89	10.28	6.78	10.59	6.68	11.21	6.95		
35	9.05	6.42	9.68	6.78	10.00	6.69	10.30	6.59	10.90	6.86		
40	8.45	6.20	9.15	6.60	9.50	6.53	9.78	6.43	10.34	6.71		
43	8.00	6.04	8.72	6.46	9.08	6.40	9.40	6.32	10.05	6.64		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	6.89	6.51	6.13	5.75	5.50
-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
1.8	1	8.55	8.52	8.06	7.45	6.99
4.9	4	10.28	10.14	9.33	8.47	7.84
7.0	6	11.35	11.27	11.20	10.92	10.40
11.2	10	12.19	12.10	12.02	11.73	10.69

PFA003Z902 ⚠A

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

Model FDEN125VNPVD Indoor unit FDEN60VD (2 units) Outdoor unit FDC125VN
FDEN125VSPVD FDC125VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23°CDB 16°CWB		26°CDB 18°CWB		27°CDB 19°CWB		28°CDB 20°CWB		31°CDB 22°CWB		33°CDB 24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	12.31	9.79	12.97	10.37	13.30	10.22	13.66	10.06	14.38	10.59	15.10	10.23
25	12.05	9.70	12.71	10.29	13.03	10.14	13.39	9.99	14.11	10.52	14.83	10.18
30	11.79	9.61	12.44	10.21	12.77	10.06	13.13	9.92	13.84	10.46		
35	11.31	9.45	12.10	10.11	12.50	9.99	12.86	9.85	13.58	10.40		
40	10.56	9.20	11.44	9.91	11.88	9.81	12.23	9.68	12.93	10.25		
43	10.00	9.02	10.90	9.75	11.35	9.67	11.76	9.56	12.57	10.17		

Heat Mode

Outdoor air temp.		Indoor air temperature °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
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
11.2	10	15.16	15.06	14.97	14.66	13.36

PFA003Z902 ⚠

Model FDEN140VNPVD Indoor unit FDEN71VD (2 units) Outdoor unit FDC140VN
FDEN140VSPVD FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23°CDB 16°CWB		26°CDB 18°CWB		27°CDB 19°CWB		28°CDB 20°CWB		31°CDB 22°CWB		33°CDB 24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	10.07	13.91	10.66	14.31	10.51	14.62	10.33	15.23	10.79	15.85	10.39
25	12.92	10.00	13.78	10.62	14.21	10.48	14.48	10.29	15.04	10.74	15.59	10.33
30	12.73	9.93	13.65	10.58	14.10	10.45	14.35	10.25	14.84	10.70		
35	12.53	9.86	13.51	10.54	14.00	10.42	14.21	10.21	14.64	10.65		
40	11.83	9.62	12.59	10.25	12.97	10.12	13.27	9.96	13.86	10.46		
43	11.20	9.41	12.04	10.09	12.35	9.94	12.70	9.81	13.39	10.36		

Heat Mode

Outdoor air temp.		Indoor air temperature °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

PFA003Z902 ⚠

Model FDEN200VSPVD Indoor unit FDEN100VD (2 units) Outdoor unit FDC200VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23°CDB 16°CWB		26°CDB 18°CWB		27°CDB 19°CWB		28°CDB 20°CWB		31°CDB 22°CWB		33°CDB 24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	20.36	14.17	21.49	14.83	22.06	14.58	22.70	14.35	23.99	14.92	25.28	14.36
25	19.71	13.92	20.82	14.60	21.37	14.36	22.00	14.13	23.26	14.73	24.52	14.18
30	19.07	13.68	20.15	14.37	20.69	14.14	21.30	13.92	22.53	14.53		
35	18.10	13.32	19.37	14.11	20.00	13.92	20.60	13.71	21.80	14.34		
40	16.90	12.89	18.30	13.76	18.97	13.61	19.54	13.41	20.68	14.05		
43	16.00	12.57	17.44	13.49	18.16	13.36	18.81	13.20	20.01	13.89		

Heat Mode

Outdoor air temp.		Indoor air temperature °CDB				
°CDB	°CWB	16	18	20	22	24
-14.7	-15	12.86	12.83	12.79	12.75	12.72
-9.6	-10	14.51	14.47	14.42	14.37	14.32
-3.4	-4	15.89	15.82	15.76	15.70	15.63
1.8	1	17.03	16.95	16.88	16.80	16.72
4.9	4	21.70	21.57	21.06	19.38	18.37
7.0	6	22.68	22.54	22.40	21.84	21.06
11.2	10	24.90	24.73	24.57	24.40	24.23

PFA003Z902 ⚠

Model FDEN250VSPVD Indoor unit FDEN125VD (2 units) Outdoor unit FDC250VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23°CDB 16°CWB		26°CDB 18°CWB		27°CDB 19°CWB		28°CDB 20°CWB		31°CDB 22°CWB		33°CDB 24°CWB	
°CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	25.45	17.05	26.87	17.77	27.58	17.46	28.38	17.17	29.99	17.78	31.60	17.08
25	24.64	16.72	26.03	17.46	26.72	17.17	27.50	16.89	29.08	17.52	30.65	16.84
30	23.84	16.41	25.18	17.16	25.86	16.88	26.63	16.61	28.17	17.26		
35	22.63	15.95	24.21	16.82	25.00	16.60	25.75	16.34	27.25	17.01		
40	21.13	15.38	22.88	16.37	23.71	16.18	24.43	15.94	25.85	16.63		
43	20.00	14.97	21.80	16.01	22.70	15.86	23.51	15.66	25.02	16.42		

Heat Mode

Outdoor air temp.		Indoor air temperature °CDB				
°CDB	°CWB	16	18	20	22	24
-14.7	-15	16.08	16.03	15.99	15.94	15.90
-9.6	-10	18.14	18.08	18.02	17.96	17.90
-3.4	-4	19.86	19.78	19.70	19.62	19.54
1.8	1	21.29	21.19	21.10	21.00	20.91
4.9	4	27.12	26.96	26.32	24.22	22.96
7.0	6	28.35	28.17	28.00	27.30	26.32
11.2	10	31.13	30.92	30.71	30.50	30.29

PFA003Z902 ⚠

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

(c) Triple type

Model FDEN140VNTVD Indoor unit FDEN50VD (3 units) Outdoor unit FDC140VN
FDEN140VSTVD FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	9.46	13.91	9.97	14.31	9.82	14.62	9.63	15.23	10.00	15.85	9.60
25	12.92	9.39	13.78	9.92	14.21	9.79	14.48	9.59	15.04	9.95	15.59	9.54
30	12.73	9.32	13.65	9.88	14.10	9.75	14.35	9.55	14.84	9.90		
35	12.53	9.25	13.51	9.83	14.00	9.72	14.21	9.51	14.64	9.85		
40	11.83	9.00	12.59	9.53	12.97	9.40	13.27	9.24	13.86	9.65		
43	11.20	8.78	12.04	9.36	12.35	9.22	12.70	9.08	13.39	9.54		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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

PFA003Z902 A

Model FDEN200VSPVD Indoor unit FDEN71VD (3 units) Outdoor unit FDC200VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	20.36	15.35	21.49	16.19	22.06	15.95	22.70	15.71	23.99	16.47	25.28	15.90
25	19.71	15.12	20.82	15.98	21.37	15.74	22.00	15.51	23.26	16.29	24.52	15.74
30	19.07	14.89	20.15	15.77	20.69	15.54	21.30	15.31	22.53	16.11		
35	18.10	14.56	19.37	15.53	20.00	15.34	20.60	15.12	21.80	15.93		
40	16.90	14.15	18.30	15.20	18.97	15.04	19.54	14.84	20.68	15.67		
43	16.00	13.85	17.44	14.95	18.16	14.81	18.81	14.64	20.01	15.52		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	12.86	12.83	12.79	12.75	12.72
-9.6	-10	14.51	14.47	14.42	14.37	14.32
-3.4	-4	15.89	15.82	15.76	15.70	15.63
1.8	1	17.03	16.95	16.88	16.80	16.72
4.9	4	21.70	21.57	21.06	19.38	18.37
7.0	6	22.68	22.54	22.40	21.84	21.06
11.2	10	24.90	24.73	24.57	24.40	24.23

PFA003Z902 A

(d) Double Twin type

Model FDEN200VSDVD Indoor unit FDEN50VD (4 units) Outdoor unit FDC200VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	20.36	13.72	21.49	14.31	22.06	14.07	22.70	13.84	23.99	14.34	25.28	13.78
25	19.71	13.47	20.82	14.07	21.37	13.83	22.00	13.61	23.26	14.13	24.52	13.59
30	19.07	13.22	20.15	13.84	20.69	13.61	21.30	13.39	22.53	13.93		
35	18.10	12.85	19.37	13.57	20.00	13.38	20.60	13.18	21.80	13.73		
40	16.90	12.40	18.30	13.21	18.97	13.05	19.54	12.86	20.68	13.43		
43	16.00	12.08	17.44	12.92	18.16	12.80	18.81	12.64	20.01	13.26		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	12.86	12.83	12.79	12.75	12.72
-9.6	-10	14.51	14.47	14.42	14.37	14.32
-3.4	-4	15.89	15.82	15.76	15.70	15.63
1.8	1	17.03	16.95	16.88	16.80	16.72
4.9	4	21.70	21.57	21.06	19.38	18.37
7.0	6	22.68	22.54	22.40	21.84	21.06
11.2	10	24.90	24.73	24.57	24.40	24.23

PFA003Z902 A

Model FDEN250VSDVD Indoor unit FDEN60VD (4 units) Outdoor unit FDC250VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	25.45	19.86	26.87	21.03	27.58	20.72	28.38	20.41	29.99	21.47	31.60	20.76
25	24.64	19.58	26.03	20.77	26.72	20.47	27.50	20.17	29.08	21.25	30.65	20.56
30	23.84	19.31	25.18	20.51	25.86	20.22	26.63	19.94	28.17	21.03		
35	22.63	18.90	24.21	20.22	25.00	19.97	25.75	19.70	27.25	20.82		
40	21.13	18.41	22.88	19.82	23.71	19.61	24.43	19.36	25.85	20.50		
43	20.00	18.04	21.80	19.51	22.70	19.34	23.51	19.12	25.02	20.31		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	16.08	16.03	15.99	15.94	15.90
-9.6	-10	18.14	18.08	18.02	17.96	17.90
-3.4	-4	19.86	19.78	19.70	19.62	19.54
1.8	1	21.29	21.19	21.10	21.00	20.91
4.9	4	27.12	26.96	26.32	24.22	22.96
7.0	6	28.35	28.17	28.00	27.30	26.32
11.2	10	31.13	30.92	30.71	30.50	30.29

PFA003Z902 A

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

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

(a) Single type

Model FDUM50ZIXVD Indoor unit FDUM50VD Outdoor unit SRC50ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	4.79	3.69	5.07	3.90	5.22	3.86	5.37	3.82	5.67	4.00	5.98	3.91
25	4.93	3.75	5.22	3.95	5.36	3.91	5.52	3.87	5.85	4.06	6.18	3.97
30	4.76	3.68	5.04	3.88	5.18	3.84	5.34	3.81	5.66	4.00		
35	4.53	3.58	4.84	3.81	5.00	3.78	5.15	3.74	5.45	3.94		
40	4.23	3.46	4.58	3.71	4.75	3.69	4.89	3.66	5.17	3.85		
43	4.00	3.37	4.36	3.63	4.54	3.62	4.70	3.59	5.03	3.81		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	3.08	3.03	2.98	2.92	2.85
-9.6	-10	4.55	4.49	4.43	4.37	4.17
-3.4	-4	5.02	4.99	4.87	4.49	4.25
1.8	1	5.12	5.10	4.97	4.58	4.34
4.9	4	5.22	5.20	5.08	4.67	4.43
7.0	6	5.45	5.43	5.40	5.27	5.08
11.2	10	5.97	5.94	5.90	5.87	5.84

PJR002Z391

Model FDUM60ZIXVD Indoor unit FDUM60VD Outdoor unit SRC60ZIX-S

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	5.36	4.38	5.68	4.66	5.84	4.61	6.01	4.56	6.35	4.81	6.69	4.70
25	5.56	4.46	5.88	4.73	6.03	4.68	6.21	4.63	6.56	4.87	6.91	4.75
30	5.36	4.38	5.66	4.65	5.82	4.60	5.99	4.56	6.33	4.80		
35	5.07	4.27	5.42	4.56	5.60	4.53	5.77	4.49	6.10	4.74		
40	4.73	4.14	5.12	4.46	5.30	4.43	5.46	4.39	5.77	4.64		
43	4.48	4.05	4.88	4.38	5.08	4.36	5.27	4.33	5.58	4.59		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	3.82	3.76	3.69	3.62	3.54
-9.6	-10	5.64	5.57	5.49	5.42	5.17
-3.4	-4	6.21	6.18	6.05	5.57	5.28
1.8	1	6.33	6.31	6.17	5.68	5.38
4.9	4	6.46	6.43	6.30	5.80	5.49
7.0	6	6.76	6.73	6.70	6.53	6.30
11.2	10	7.44	7.40	7.37	7.33	7.29

PJR002Z391

Model FDUM71VNVD Indoor unit FDUM71VD Outdoor unit FDC71VN

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	6.96	5.30	7.39	5.61	7.61	5.53	7.84	5.45	8.31	5.73	8.78	5.54
25	6.86	5.26	7.44	5.63	7.72	5.57	7.98	5.49	8.49	5.77	8.91	5.56
30	6.67	5.20	7.17	5.54	7.41	5.47	7.67	5.41	8.14	5.68		
35	6.43	5.11	6.88	5.45	7.10	5.38	7.31	5.31	7.74	5.59		
40	6.00	4.97	6.50	5.34	6.75	5.28	6.94	5.21	7.34	5.49		
43	5.68	4.86	6.19	5.24	6.45	5.20	6.68	5.14	7.14	5.45		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	4.53	4.51	4.50	4.48	4.46
-9.6	-10	5.11	5.09	5.06	5.03	5.00
-3.4	-4	5.69	5.66	5.62	5.59	5.55
1.8	1	6.13	6.09	6.04	6.00	5.96
4.9	4	7.78	7.71	7.52	6.92	6.56
7.0	6	8.16	8.08	8.00	7.80	7.52
11.2	10	8.86	8.75	8.64	8.52	8.41

PJR002Z391

Model FDUM100VNVD Indoor unit FDUM100VD Outdoor unit FDC100VN
FDUM100VSVD FDC100VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	9.98	8.02	10.55	8.50	10.84	8.40	11.15	8.30	11.78	8.74	12.41	8.50
25	9.71	7.92	10.28	8.41	10.56	8.31	10.87	8.22	11.49	8.66	12.12	8.43
30	9.44	7.82	10.00	8.32	10.28	8.22	10.59	8.13	11.21	8.59		
35	9.05	7.68	9.68	8.21	10.00	8.14	10.30	8.05	10.90	8.51		
40	8.45	7.46	9.15	8.04	9.50	7.98	9.78	7.89	10.34	8.36		
43	8.00	7.30	8.72	7.90	9.08	7.85	9.40	7.78	10.05	8.28		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	6.89	6.51	6.13	5.75	5.50
-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
1.8	1	8.55	8.52	8.06	7.45	6.99
4.9	4	10.28	10.14	9.33	8.47	7.84
7.0	6	11.35	11.27	11.20	10.92	10.40
11.2	10	12.19	12.10	12.02	11.73	10.69

PJR002Z391

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

Model **FDUM125VNVD** Indoor unit FDUM125VD Outdoor unit FDC125VN
FDUM125VSVD FDC125VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	12.31	9.24	12.97	9.71	13.30	9.60	13.66	9.50	14.38	9.92	15.10	9.66
25	12.05	9.13	12.71	9.61	13.03	9.50	13.39	9.40	14.11	9.83	14.83	9.58
30	11.79	9.02	12.44	9.51	12.77	9.41	13.13	9.31	13.84	9.75		
35	11.31	8.82	12.10	9.38	12.50	9.31	12.86	9.21	13.58	9.67		
40	10.56	8.52	11.44	9.13	11.88	9.09	12.23	9.00	12.93	9.46		
43	10.00	8.30	10.90	8.93	11.35	8.90	11.76	8.84	12.57	9.35		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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
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
11.2	10	15.16	15.06	14.97	14.66	13.36

PJR002Z391

Model **FDUM140VNVD** Indoor unit FDUM140VD Outdoor unit FDC140VN
FDUM140VSVD FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	9.58	13.91	10.08	14.31	9.98	14.62	9.84	15.23	10.20	15.85	9.88
25	12.92	9.50	13.78	10.03	14.21	9.94	14.48	9.79	15.04	10.13	15.59	9.80
30	12.73	9.42	13.65	9.98	14.10	9.90	14.35	9.74	14.84	10.07		
35	12.53	9.33	13.51	9.92	14.00	9.86	14.21	9.69	14.64	10.00		
40	11.83	9.04	12.59	9.57	12.97	9.48	13.27	9.36	13.86	9.75		
43	11.20	8.78	12.04	9.36	12.35	9.25	12.70	9.16	13.39	9.61		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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

PJR002Z391

(b) Twin type

Model **FDUM100VNPVD** Indoor unit FDUM50VD (2 units) Outdoor unit FDC100VN
FDUM100VSPVD FDC100VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	9.98	8.29	10.55	8.81	10.84	8.72	11.15	8.64	11.78	9.11	12.41	8.91
25	9.71	8.18	10.28	8.71	10.56	8.62	10.87	8.54	11.49	9.03	12.12	8.83
30	9.44	8.08	10.00	8.61	10.28	8.53	10.59	8.45	11.21	8.94		
35	9.05	7.93	9.68	8.49	10.00	8.43	10.30	8.36	10.90	8.85		
40	8.45	7.70	9.15	8.31	9.50	8.26	9.78	8.19	10.34	8.69		
43	8.00	7.53	8.72	8.16	9.08	8.12	9.40	8.07	10.05	8.61		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	6.89	6.51	6.13	5.75	5.50
-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
1.8	1	8.55	8.52	8.06	7.45	6.99
4.9	4	10.28	10.14	9.33	8.47	7.84
7.0	6	11.35	11.27	11.20	10.92	10.40
11.2	10	12.19	12.10	12.02	11.73	10.69

PJR002Z391

Model **FDUM125VNPVD** Indoor unit FDUM60VD (2 units) Outdoor unit FDC125VN
FDUM125VSPVD FDC125VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	12.31	9.40	12.97	9.90	13.30	9.79	13.66	9.68	14.38	10.13	15.10	9.86
25	12.05	9.30	12.71	9.81	13.03	9.69	13.39	9.58	14.11	10.04	14.83	9.78
30	11.79	9.19	12.44	9.71	12.77	9.60	13.13	9.50	13.84	9.96		
35	11.31	9.00	12.10	9.58	12.50	9.50	12.86	9.41	13.58	9.88		
40	10.56	8.70	11.44	9.34	11.88	9.29	12.23	9.20	12.93	9.69		
43	10.00	8.49	10.90	9.15	11.35	9.11	11.76	9.04	12.57	9.58		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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
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
11.2	10	15.16	15.06	14.97	14.66	13.36

PJR002Z391

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

Model FDUM140VNPVD Indoor unit FDUM71VD (2 units) Outdoor unit FDC140VN
FDUM140VSPVD FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	10.32	13.91	10.95	14.31	10.80	14.62	10.61	15.23	11.11	15.85	10.71
25	12.92	10.25	13.78	10.91	14.21	10.77	14.48	10.57	15.04	11.07	15.59	10.66
30	12.73	10.19	13.65	10.87	14.10	10.74	14.35	10.54	14.84	11.02		
35	12.53	10.12	13.51	10.83	14.00	10.71	14.21	10.50	14.64	10.97		
40	11.83	9.88	12.59	10.55	12.97	10.41	13.27	10.25	13.86	10.79		
43	11.20	9.67	12.04	10.38	12.35	10.24	12.70	10.10	13.39	10.69		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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

PJR002Z391

Model FDUM200VSPVD Indoor unit FDUM100VD (2 units) Outdoor unit FDC200VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	20.36	16.19	21.49	17.14	22.06	16.93	22.70	16.73	23.99	17.60	25.28	17.12
25	19.71	15.94	20.82	16.91	21.37	16.71	22.00	16.51	23.26	17.40	24.52	16.93
30	19.07	15.71	20.15	16.69	20.69	16.49	21.30	16.30	22.53	17.21		
35	18.10	15.35	19.37	16.43	20.00	16.27	20.60	16.09	21.80	17.01		
40	16.90	14.92	18.30	16.08	18.97	15.95	19.54	15.78	20.68	16.72		
43	16.00	14.60	17.44	15.80	18.16	15.70	18.81	15.57	20.01	16.55		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	12.86	12.83	12.79	12.75	12.72
-9.6	-10	14.51	14.47	14.42	14.37	14.32
-3.4	-4	15.89	15.82	15.76	15.70	15.63
1.8	1	17.03	16.95	16.88	16.80	16.72
4.9	4	21.70	21.57	21.06	19.38	18.37
7.0	6	22.68	22.54	22.40	21.84	21.06
11.2	10	24.90	24.73	24.57	24.40	24.23

PJR002Z391

Model FDUM250VSPVD Indoor unit FDUM125VD (2 units) Outdoor unit FDC250VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	25.45	18.84	26.87	19.79	27.58	19.57	28.38	19.37	29.99	20.24	31.60	19.73
25	24.64	18.49	26.03	19.46	26.72	19.25	27.50	19.05	29.08	19.94	30.65	19.45
30	23.84	18.16	25.18	19.13	25.86	18.93	26.63	18.75	28.17	19.65		
35	22.63	17.65	24.21	18.76	25.00	18.62	25.75	18.44	27.25	19.36		
40	21.13	17.04	22.88	18.26	23.71	18.15	24.43	17.99	25.85	18.92		
43	20.00	16.59	21.80	17.87	22.70	17.80	23.51	17.68	25.02	18.67		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	16.08	16.03	15.99	15.94	15.90
-9.6	-10	18.14	18.08	18.02	17.96	17.90
-3.4	-4	19.86	19.78	19.70	19.62	19.54
1.8	1	21.29	21.19	21.10	21.00	20.91
4.9	4	27.12	26.96	26.32	24.22	22.96
7.0	6	28.35	28.17	28.00	27.30	26.32
11.2	10	31.13	30.92	30.71	30.50	30.29

PJR002Z391

(c) Triple type

Model FDUM140VNTVD Indoor unit FDUM50VD (3 units) Outdoor unit FDC140VN
FDUM140VSTVD FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	13.11	10.55	13.91	11.20	14.31	11.09	14.62	10.95	15.23	11.46	15.85	11.15
25	12.92	10.47	13.78	11.15	14.21	11.06	14.48	10.90	15.04	11.40	15.59	11.08
30	12.73	10.40	13.65	11.10	14.10	11.02	14.35	10.86	14.84	11.34		
35	12.53	10.32	13.51	11.05	14.00	10.98	14.21	10.81	14.64	11.28		
40	11.83	10.04	12.59	10.72	12.97	10.63	13.27	10.50	13.86	11.05		
43	11.20	9.80	12.04	10.52	12.35	10.42	12.70	10.32	13.39	10.91		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃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

PJR002Z391

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

Model FDUM200VSTVD Indoor unit FDUM71VD (3 units) Outdoor unit FDC200VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	20.36	15.72	21.49	16.62	22.06	16.37	22.70	16.13	23.99	16.95	25.28	16.38
25	19.71	15.49	20.82	16.41	21.37	16.17	22.00	15.94	23.26	16.77	24.52	16.22
30	19.07	15.27	20.15	16.20	20.69	15.97	21.30	15.75	22.53	16.60		
35	18.10	14.94	19.37	15.97	20.00	15.77	20.60	15.56	21.80	16.42		
40	16.90	14.54	18.30	15.65	18.97	15.48	19.54	15.28	20.68	16.17		
43	16.00	14.25	17.44	15.40	18.16	15.26	18.81	15.09	20.01	16.01		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	12.86	12.83	12.79	12.75	12.72
-9.6	-10	14.51	14.47	14.42	14.37	14.32
-3.4	-4	15.89	15.82	15.76	15.70	15.63
1.8	1	17.03	16.95	16.88	16.80	16.72
4.9	4	21.70	21.57	21.06	19.38	18.37
7.0	6	22.68	22.54	22.40	21.84	21.06
11.2	10	24.90	24.73	24.57	24.40	24.23

PJR002Z391

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

(a) Single type

Model FDU71VNVD Indoor unit FDU71VD Outdoor unit FDC71VN

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	6.96	5.80	7.39	6.18	7.61	6.12	7.84	6.06	8.31	6.40	8.78	6.24
25	6.86	5.77	7.44	6.20	7.72	6.16	7.98	6.10	8.49	6.45	8.91	6.28
30	6.67	5.70	7.17	6.11	7.41	6.06	7.67	6.00	8.14	6.35		
35	6.43	5.61	6.88	6.01	7.10	5.96	7.31	5.90	7.74	6.25		
40	6.00	5.45	6.50	5.89	6.75	5.85	6.94	5.79	7.34	6.14		
43	5.68	5.34	6.19	5.79	6.45	5.76	6.68	5.71	7.14	6.09		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	4.53	4.51	4.50	4.48	4.46
-9.6	-10	5.11	5.09	5.06	5.03	5.00
-3.4	-4	5.69	5.66	5.62	5.59	5.55
1.8	1	6.13	6.09	6.04	6.00	5.96
4.9	4	7.78	7.71	7.52	6.92	6.56
7.0	6	8.16	8.08	8.00	7.80	7.52
11.2	10	8.86	8.75	8.64	8.52	8.41

PJD001Z306

Model FDU100VNVD Indoor unit FDU100VD Outdoor unit FDC100VN
FDU100VSVD FDC100VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃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

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	6.89	6.51	6.13	5.75	5.50
-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
1.8	1	8.55	8.52	8.06	7.45	6.99
4.9	4	10.28	10.14	9.33	8.47	7.84
7.0	6	11.35	11.27	11.20	10.92	10.40
11.2	10	12.19	12.10	12.02	11.73	10.69

PJD001Z306

Model FDU125VNVD Indoor unit FDU125VD Outdoor unit FDC125VN
FDU125VSVD FDC125VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃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

Outdoor air temp.		Indoor air temperature ℃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
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
11.2	10	15.16	15.06	14.97	14.66	13.36

PJD001Z306

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

Model FDU140VNVD Indoor unit FDU140VD Outdoor unit FDC140VN
FDU140VSVD FDC140VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃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

Outdoor air temp.		Indoor air temperature ℃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

PJD001Z306

Model FDU200VSVD Indoor unit FDU200VD Outdoor unit FDC200VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	20.36	14.80	21.49	15.51	22.06	15.35	22.70	15.20	23.99	15.85	25.28	15.46
25	19.71	14.51	20.82	15.24	21.37	15.08	22.00	14.93	23.26	15.60	24.52	15.23
30	19.07	14.24	20.15	14.97	20.69	14.82	21.30	14.68	22.53	15.35		
35	18.10	13.82	19.37	14.66	20.00	14.56	20.60	14.42	21.80	15.11		
40	16.90	13.32	18.30	14.25	18.97	14.17	19.54	14.04	20.68	14.75		
43	16.00	12.95	17.44	13.92	18.16	13.87	18.81	13.79	20.01	14.53		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	12.86	12.83	12.79	12.75	12.72
-9.6	-10	14.51	14.47	14.42	14.37	14.32
-3.4	-4	15.89	15.82	15.76	15.70	15.63
1.8	1	17.03	16.95	16.88	16.80	16.72
4.9	4	21.70	21.57	21.06	19.38	18.37
7.0	6	22.68	22.54	22.40	21.84	21.06
11.2	10	24.90	24.73	24.57	24.40	24.23

PJD001Z306

Model FDU250VSVD Indoor unit FDU250VD Outdoor unit FDC250VS

Cool Mode

Outdoor air temp.	Indoor air temperature											
	23℃CDB 16℃CWB		26℃CDB 18℃CWB		27℃CDB 19℃CWB		28℃CDB 20℃CWB		31℃CDB 22℃CWB		33℃CDB 24℃CWB	
℃CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
20	25.45	18.84	26.87	19.79	27.58	19.57	28.38	19.37	29.99	20.24	31.60	19.73
25	24.64	18.49	26.03	19.46	26.72	19.25	27.50	19.05	29.08	19.94	30.65	19.45
30	23.84	18.16	25.18	19.13	25.86	18.93	26.63	18.75	28.17	19.65		
35	22.63	17.65	24.21	18.76	25.00	18.62	25.75	18.44	27.25	19.36		
40	21.13	17.04	22.88	18.26	23.71	18.15	24.43	17.99	25.85	18.92		
43	20.00	16.59	21.80	17.87	22.70	17.80	23.51	17.68	25.02	18.67		

Heat Mode

Outdoor air temp.		Indoor air temperature ℃CDB				
℃CDB	℃CWB	16	18	20	22	24
-14.7	-15	16.08	16.03	15.99	15.94	15.90
-9.6	-10	18.14	18.08	18.02	17.96	17.90
-3.4	-4	19.86	19.78	19.70	19.62	19.54
1.8	1	21.29	21.19	21.10	21.00	20.91
4.9	4	27.12	26.96	26.32	24.22	22.96
7.0	6	28.35	28.17	28.00	27.30	26.32
11.2	10	31.13	30.92	30.71	30.50	30.29

PJD001Z306

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

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) Models FDU 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.

(1) Models 40~60

Equivalent piping length(1)(m)		7.5	10	15	20	25	30	35
Heating		1	0.995	0.992	0.990	0.987	0.984	0.981
Cooling	40 model	1	0.997	0.991	0.985	0.980	0.974	0.968
	50 model	1	0.996	0.989	0.981	0.973	0.966	0.958
	60 model	1	0.995	0.986	0.977	0.967	0.958	0.948

Note (1) Calculate the equivalent length using the following formula.
However, install the piping so that the equivalent length is within +5 m of the piping distance limit (actual length) for each respective piping system.

(2) Models 71 ~ 140

Equivalent piping length (1)(m)			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
Cooling	71 model	ϕ15.88	1	0.996	0.989	0.982	0.975	0.968	0.961	0.954	0.947	0.940	0.933
	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		1	0.986	0.968	0.950	0.932	0.914	0.896	0.878	0.860	0.842	0.824
	140 model		1	0.985	0.966	0.946	0.927	0.907	0.888	0.868	0.849	0.829	0.810
	71 model	ϕ19.05	1.008	1.006	1.003	1	0.997	0.994	0.991	0.988	0.985	0.982	0.979
	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		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.

(3) Models 200, 250

Equivalent 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
Cooling	200 model	ϕ25.4	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		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
	200 model	ϕ22.22	1	0.997	0.991	0.984	0.978	0.971	0.965	–	–	–	–	–	–	–	–
	250 model		1	0.995	0.985	0.975	0.965	0.954	0.944	–	–	–	–	–	–	–	–
	200 model	ϕ28.58	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		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)	ϕ12.7	ϕ15.88	ϕ19.05	ϕ22.22	ϕ25.4	ϕ28.58
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	0.01	0.02	0.03	0.04	0.05	0.06

Piping length limitations

Item \ Model	40~60	71, 100, 125, 140	200, 250
Max. one way piping length	30m	50m	70m(2)
Max. vertical height difference	Outdoor unit is higher 20m Outdoor unit is lower 20m	Outdoor unit is higher 30m Outdoor unit is lower 15m	

Notes (1) Values in the table indicate the one way piping length between the indoor and outdoor units.
(2) When ϕ22.22 gas pipe is applied to 200 and 250, maximum one way length is limited to 35m.

How to obtain the cooling and heating capacity

Example : The net cooling capacity of the model FDUM100VNVD with the air flow "High", the piping length of 15m, the outdoor unit located 5m lower than the indoor unit, indoor wet-bulb temperature at 19.0℃ and outdoor dry-bulb temperature 35℃ is

Net cooling capacity = 10.0 × 1.00 × (0.978 - 0.01) ≒ 9.7kW

- 10.0: Net cooling total capacity of FDUM100VNVD (Outdoor temp. : 35℃DB Indoor temp. : 19℃WB) shown in table 1.9.1
- 1.00: Air flow : High shown in table (1.9.2)
- 0.978: Piping length :15m (Gas pipe size is ϕ15.88) shown in table 1.9.3
- 0.01: Height diff. :5m (Outdoor unit : below) shown in table 1.9.4

1.10 APPLICATION DATA

1.10.1 Installation of indoor unit

PJA012D786

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

This manual is for the installation of an indoor unit.
For electrical wiring work (Indoor), refer to the electrical wiring work installation manual. For remote controller installation, refer to the installation manual attached to a remote controller. For wireless kit installation, refer to the installation manual attached to a wireless kit. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to the installation manual attached to an outdoor unit.
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, ⚠WARNING and ⚠CAUTION .
  ⚠WARNING : Wrong installation would cause serious consequences such as injuries or death.
  ⚠CAUTION : 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. ❶ 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.
- **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 produced.
- **Install the unit in a location that can hold heavy weight.**
  Improper installation may cause the unit to fall leading to accidents.
- **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.
- **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 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.
- **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 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 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 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 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 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 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 frostbite.
- **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.

① Before installation

- Install correctly according to the installation manual.
- Confirm the following points:
  ○ Unit type/Power supply specification ○ Pipes/Wires/Small parts ○ 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
								
8	4	1	1	4	1	1	1	1
For unit hanging	For adjustment in hoisting in the unit's main body	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 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.)

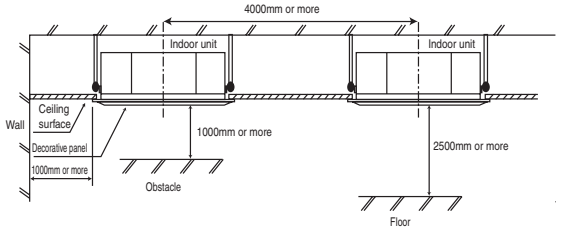
② Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

③ If there are 2 units of wireless type, keep them away for more than 5m to avoid malfunction due to cross communication.

④ When plural indoor units are installed nearby, keep them away for more than 4m.

Space for installation and service

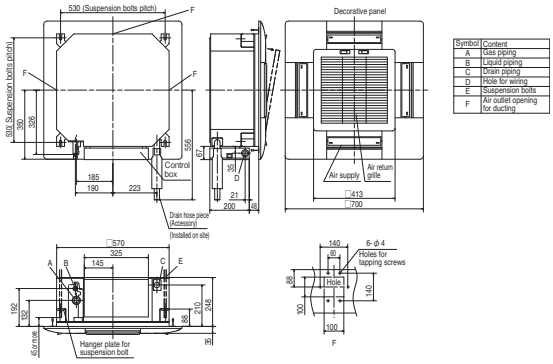
- When it is not possible to keep enough space between indoor unit and wall or between indoor units, close the air supply port where it is not possible to keep space and confirm there is no short circuit of airflow.
- Install the indoor unit at a height of more than 2.5m above the floor.



③ Preparation before installation

- If suspension bolt becomes longer, do reinforcement of earthquake resistant.
  ○ 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.
  ○ 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.

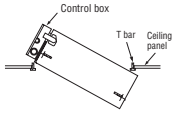
Ceiling opening, Suspension bolts pitch, Pipe position



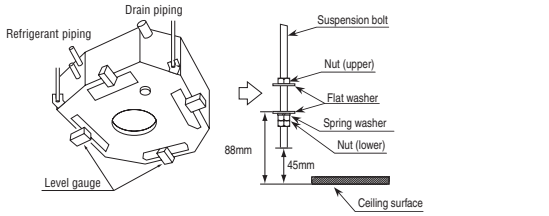
④ Installation of indoor unit

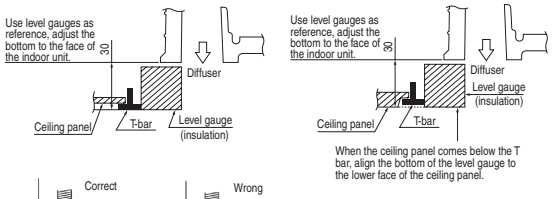
Work procedure

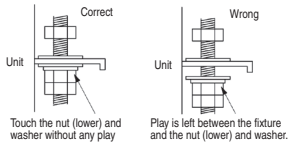
1. This units is designed for 2 x 2 grid ceiling.
   If necessary, please detach the T bar temporarily before you install it.
   If it is installed on a ceiling other than 2 x 2 grid ceiling, provide an inspection port on the control box side.
2. Arrange the suspension bolt at the right position (530mm×530mm).
3. Make sure to use four suspension bolts and fix them so as to be able to hold 500N load.
4. 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.



5. 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.

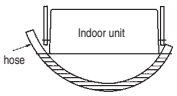






④ Installation of indoor unit (continued)

6. 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.

⑤ Refrigerant pipe

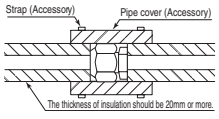
Caution

- 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

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.)
2. 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.
3. 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
ϕ 15.88	68 to 82
ϕ 19.05	100 to 120



⑥ Drain pipe

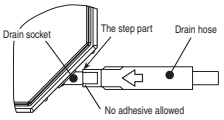
Caution

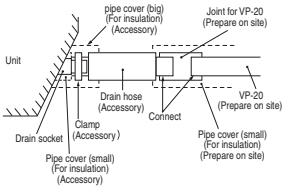
- Install the drain pipe according to the installation manual in order to drain properly.
  Imperfection in draining may cause flood indoors and wetting the household goods etc.
- Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is 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 maintenance.

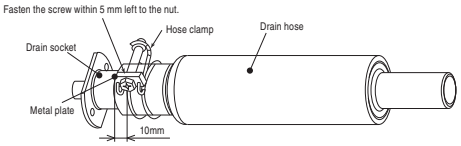
⑥ Drain pipe (continued)

Work procedure

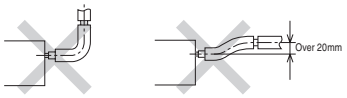
1. Make sure to insert the drain hose (the end mode of soft PVC) to the end of the step part of drain socket.
   Attach the hose clamp to the drain hose around 10mm from the end, and fasten the screw within 5mm left to the nut.
   - Do not apply adhesives on this end.



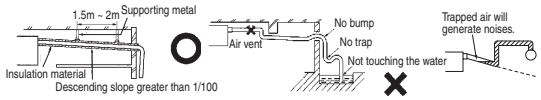




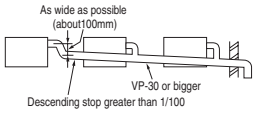
2. Prepare a joint for connecting VP-20 pipe, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP-20 pipe (prepare on site).
   ※ As for drain pipe, apply VP-20 made of rigid PVC which is on the market.
   - Make sure that the adhesive will not get into 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.



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.



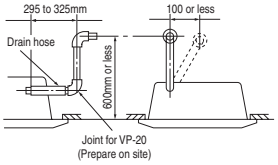
   - When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



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.

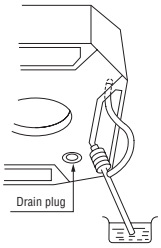


⑥ Drain pipe (continued)

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.
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.
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

○ 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.

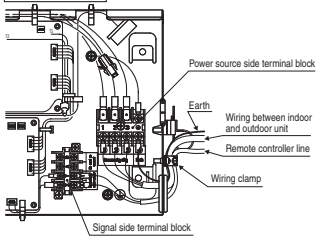
○ In case electrical wiring work not finished
Drain pump will run continuously when the dip switch"SW7-1" on the indoor unit PCB is turned ON, the Connector CNB is disconnected, and then the power supply (220-240VAC on the terminal block [① and ②] or [Ⓛ and Ⓝ]) is turned ON.
Make sure to turn OFF "SW7-1" and reconnect the Connector CNB after the test.

⑦ Wiring-out position and wiring connection

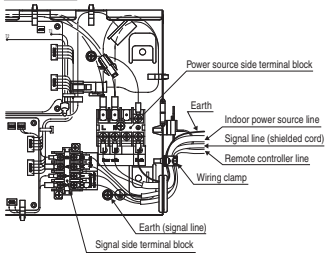
- Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country. 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.

Single split (PAC) series



VRF (KX) series



⑧ 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

1	Hook		1 piece	For fixing temporarily
2	Chain		2 pieces	
3	Bolt		4 pieces	For installing the panel
4	Screw		1 piece	For attaching a hook
5	Screw		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)

⑨ 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	

PANEL INSTALLATION MANUAL

PJA012D783 a

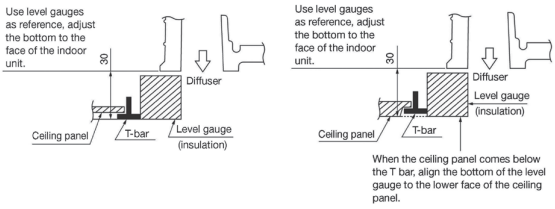
Please read this manual together with the indoor unit's installation manual.

⚠ 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.

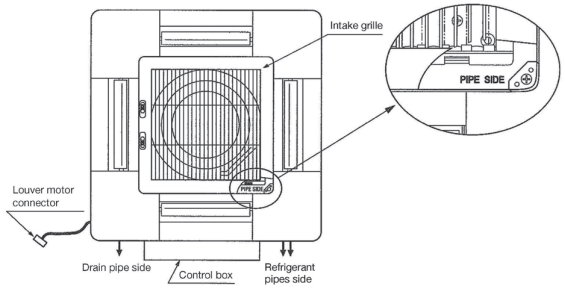


② Orientation of the panel and return air grille installation

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.

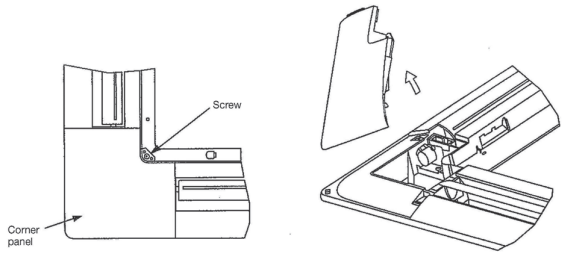
Caution

· 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.



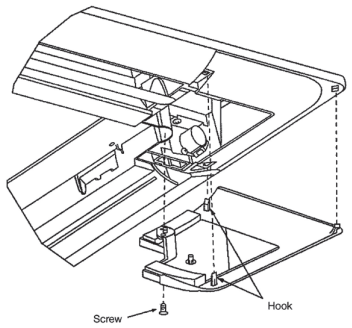
③ Removing a corner panel

- 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.



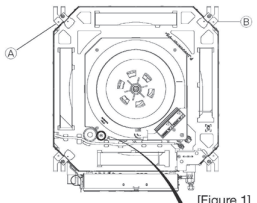
⑤ Panel installation

- Install the panel on the unit after completing the electrical wiring.

Accessories

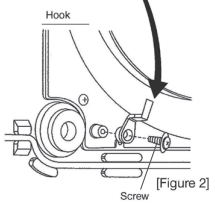
1	Hook		1 piece	For fixing temporarily
2	Chain		2 pieces	
3	Screw		4 pieces	For hoisting the panel
4	Screw		1 piece	For attaching a hook
5	Screw		2 pieces	For attaching a chain

1. Screw in two bolts out of the four supplied with the panel by about slightly less than 5mm. (● mark ⒶⒷ) [Figure 1]



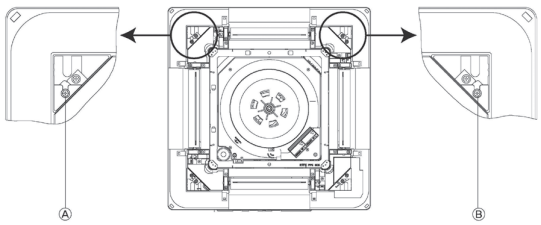
[Figure 1]

2. Attach the hook supplied with the panel to the main body with the hook fixing screw (1 screw). [Figure 2]
3. Open the intake grille.
4. Please remove the screw of a corner panel and remove a corner panel. (four places)



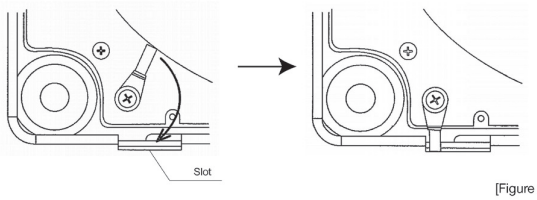
[Figure 2]

5. A panel is hooked on two bolts (● mark ⒶⒷ). [Figure 3]



[Figure 3]

6. Please rotate a hook, put in the slot on the panel, and carry out fixing the panel temporarily. [Figure 4]

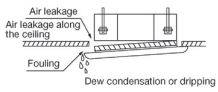


[Figure 4]

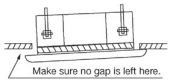
7. Tighten the two bolts used for fixing the panel temporarily and the other two.

Caution

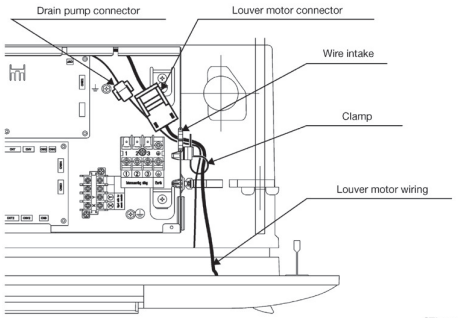
- Improperly tightened hanging bolts can cause the problems listed below, so make sure that you have tightened them securely.



- 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.

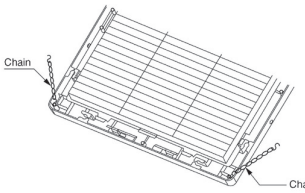


8. Please open the lid of a control box.
9. Like drain pump wiring, please band together by the clamp and put in louver motor wiring into a control box. [Figure 5]
10. Please connect a louver motor connector. [Figure 5]



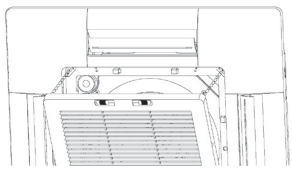
[Figure 5]

11. Attach two chains to the intake grille with two screws. [Figure 6]



[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]

Caution

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.

⑦ 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.

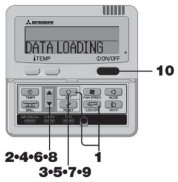
1 Stop the air conditioner and press SET button and LOUVER button simultaneously for three seconds or more.

The following is displayed if the number of the indoor units connected to the remote controller is one. Go to step **4**.

"DATA LOADING "
↓
"No.1 ▲"

The following is displayed if the number of the indoor units connected to the remote controller are more than one

"SELECT I/U "
↓
"I/U000 ▲"



2 Press ▲ or ▼ button. (selection of indoor unit)

Select the indoor unit of which the louver is set.

[EXAMPLE]

"I/U000 ▲"⇔"I/U001 ▲"⇔"I/U002 ▲"⇔
"I/U003 ▲"

3 Press SET button. (determination of indoor unit)

Selected indoor unit is fixed.

[EXAMPLE]

"I/U001 " (displayed for two seconds)
↓
"DATA LOADING "
↓
"No.1 ▲"

NOTICE

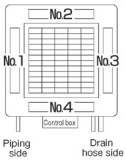
- In case the louver No to be set is uncertain, set any louver temporarily. The louver will swing once when the setting is completed and it is possible to confirm the louver No and the position. After that, choose the correct louver No and set the top and bottom position.

4 Press ▲ or ▼ button. (selection of louver No.)

Select the louver No. to be set according to the right figure.

[EXAMPLE]

"No.1 ▲"⇔"No.2 ▲"⇔"No.3 ▲"⇔
"No.4 ▼"



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.

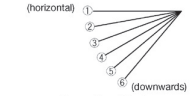
[EXAMPLE] If No. louver is selected

"No.1 UPPER2 ▲" ← 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 setting, use "position --".

"No.1 UPPER1 ▼" (the most horizontal)
⇔"No.1 UPPER2 ▲"
⇔"No.1 UPPER3 ▲"
⇔"No.1 UPPER4 ▲"
⇔"No.1 UPPER5 ▲"
⇔"No.1 UPPER6 ▲" (the most downwards)
⇔"No.1 UPPER-- ▲" (return to the default setting)



Press SET button. (i in 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 UPPER2 (displayed for two seconds)
↓
"No.1 LOWER5 ▲" (shows current setting)

8 Press ▲ or ▼ button. (Selection of lower limit position)

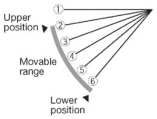
Select the lower limit position of louver.
"position 1" is the most horizontal, and "position 6" is the most downwards.
"position --" is to return to the factory setting. If you need to change the setting to the default setting, use "position --".

"No.1 LOWER1 ▼" (the most horizontal)
"No.1 LOWER2 ▲"
"No.1 LOWER3 ▲"
"No.1 LOWER4 ▲"
"No.1 LOWER5 ▲"
"No.1 LOWER6 ▲" (the most downwards)
"No.1 LOWER-- ▲" (return to the default setting)

Press SET button. (i in 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 (displayed for two seconds)
SET COMPLETE
"No.1 ▲"

10 Press ⏻ON/OFF button.

Louver adjusting mode ends and returns to the original display.

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.

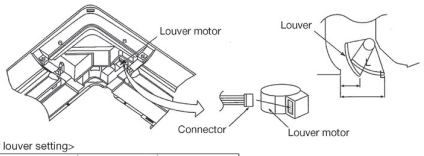
ATTENTION

If you press RESET button during settings, the display will return to previous display.
If you press ⏻ON/OFF 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.

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 vinyl 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	Horizontal 23°	Downwards 50°
Dimension L (mm)	40	24

※It can be set between 24~40mm freely.

Caution

- 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.

PJF012D016

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

This manual is for the installation of an indoor unit.
For electrical wiring work (Indoor), refer to the electrical wiring work installation manual. For remote controller installation, refer to the installation manual attached to a remote controller. For wireless kit installation, refer to the installation manual attached to a wireless kit. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to the installation manual attached to an outdoor unit.
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, ⚠WARNING and ⚠CAUTION .
  ⚠WARNING : Wrong installation would cause serious consequences such as injuries or death.
  ⚠CAUTION : 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 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 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.**
  Improper installation may cause the unit to fall leading to accidents.
- **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.
- **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 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.
- **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 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 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 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 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 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 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 frostbite.
- **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.

①Before installation

- ●Install correctly according to the installation manual.
- ●Confirm the following points:
  - ○Unit type/Power supply specification ○Pipes/Wires/Small parts ○Accessory items

Accessory item

For unit 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
								
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

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 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.)

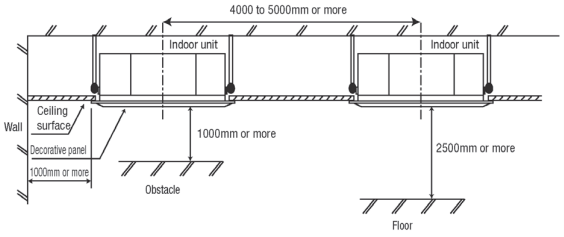
②Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

③If 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.



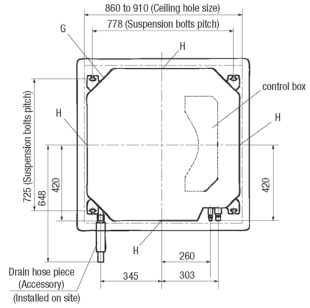
Set blow-out pattern

- ●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. (sold as accessory)
- ●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 tne user's manual for details.

③Preparation before installation

- ●If suspension bolt becomes longer, do reinforcement of earthquake resistant.
  - ○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.
  - ○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.

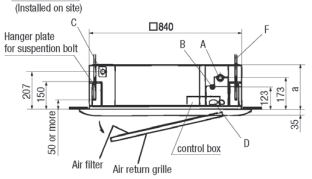
Ceiling opening, Suspension bolts pitch, Pipe position

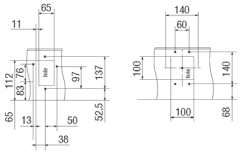


(mm)

Series	Type	a
Single Split (PAC) series	40 to 71 type	246
	100 to 140 type	298
VRF (KX) series	28 to 71 type	246
	90 to 160 type	298

Symbol	
A	Gas piping
B	Liquid piping
C	Drain piping
D	Hole for wiring
F	Suspension bolts
G	Outside air opening for ducting
H	Air outlet opening for ducting

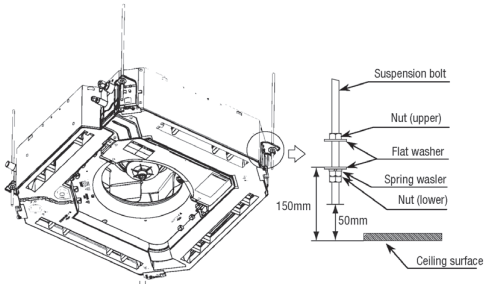


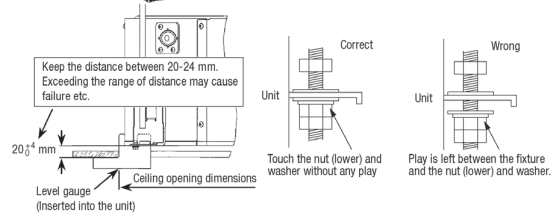


④Installation of indoor unit

Work procedure

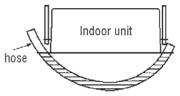
1. Prepare a ceiling hole with the size of from 860mm × 860mm to 910mm × 910mm referring to the template attached in the package.
2. Arrange the suspension bolt at the right position (725mm×778mm).
3. Make sure to use four suspension bolts and fix them so as to be able to hold 500N load.
4. Ensure that 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.
5. 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.





④Installation of indoor unit (continued)

6. 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

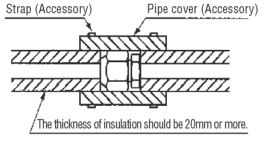
Caution

- 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

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.)
2. 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.
3. 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
ϕ 15.88	68 to 82
ϕ 19.05	100 to 120



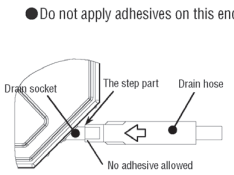
⑥Drain pipe

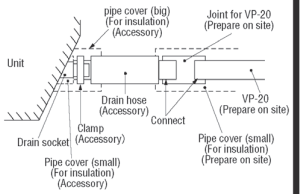
Caution

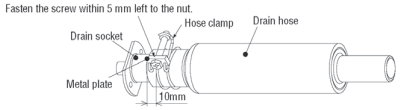
- Install the drain pipe according to the installation manual in order to drain properly.
  Imperfection in draining may cause flood indoors and wetting the household goods, etc.
- Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas 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

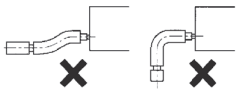
1. Make sure to insert the drain hose (the end mode of soft PVC) to the end of the step part of drain socket.
   Attach the hose clamp to the drain hose around 10mm from the end, and fasten the screw within 5mm left to the nut.
   - Do not apply adhesives on this end.



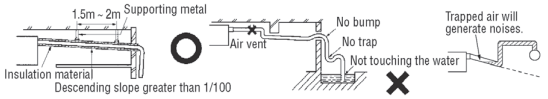




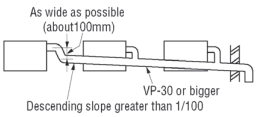
2. Prepare a joint for connecting VP-20 pipe, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP-20 pipe (prepare on site).
   ※As for drain pipe, apply VP-20 made of rigid PVC which is on the market.
   - Make sure that the adhesive will not get into 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.



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 nt set up air vent.



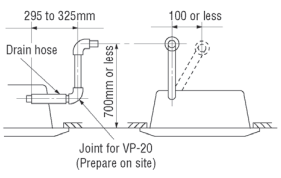
- When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



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.

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.

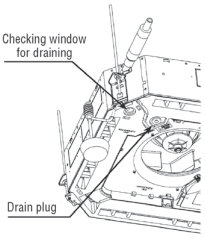


⑥Drain pipe (continued)

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.
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.
3. Unplug the drain plug on the indoor unit to remove remain ing water on the drain pan after the test, and re-plug it. And insulate the drain pipe properly finally.



Drain pump operation

○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.

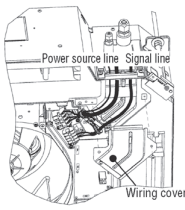
○In case electrical wiring work not finished

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 (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.

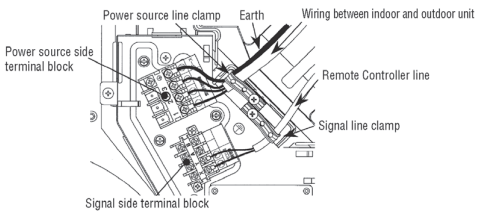
⑦Wiring-out position and wiring connection

- 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.

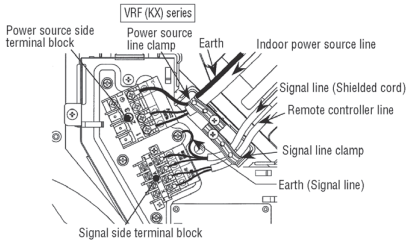
1. Remove a lid of the control box (3 screws) and the wiring cover (2 screws).
2. Hold each wiring inside the unit and fasten them to terminal block securely.
3. Fix the wiring with clamps.
4. Install the removed parts back to original place.



Single Split (PAC) series



VRF (KX) series



⑧Panel installation

- Attach the panel on the indoor unit after electrical wiring work.
- Refer to attached manual for panel installation for details. (See next page)

⑨Check list after installation

- Check the following items after all installation work completed.

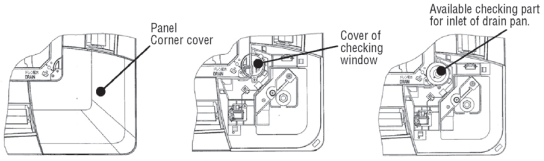
Check if;	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Supply voltage is same as mentioned in the model 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	

⑩How to check the dirt of drain pan (Maintenance)

The method of checking the dirt of drain pan

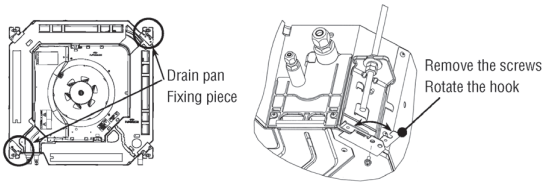
- It is possible to check the dirt for inlet of drain pan without detaching the panel.
  (Inspection is not possible when the high efficient filter and option spacer is installed.)

1. Open the air return grille and remove the panel corner cover on drain pan side.
2. Remove the cover of inspection window. (1screw)
3. Check the drain pan from the inspection window.
   If the drain pan is very dirty, remove the drain pan and clean it.
4. 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 leakage.



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

PJF012D003A Ⓐ

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.**

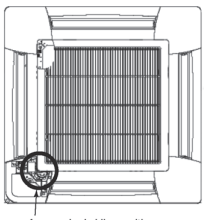
① Before installation

- Follow installation manual carefully, and install the panel properly.
- Check the following items.
  - ○ Accessories

Accessories

Bolt		4 pieces	For panel installation
Strap		4 pieces	For avoiding the corner panel from falling

Note: Acessories are laid in the position removing the corner panel.



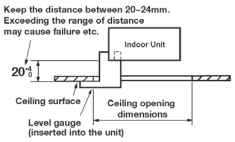
Accessories holding position

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.

Caution

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.

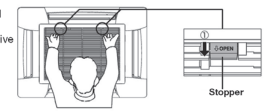


- The installation level of the indoor unit can be adjusted finely from the opening provided on the corner, even after panel is attached. (Refer to ⑥ Attaching the panel for details.)

③ Removing the air return grille

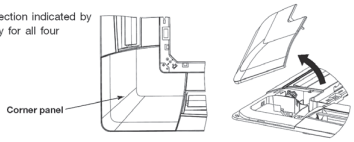
1. Hold the stoppers on the air return grille (2 places) toward OPEN direction, open the air return grille.
2. Remove the hooks of the air return grille from the decorative panel while it is in the open position.

<Removal>



④ 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)



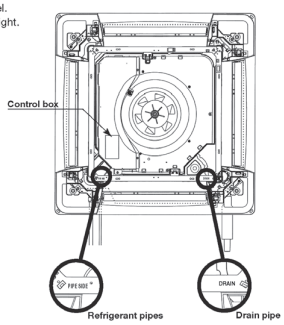
⑤ Orientation of the panel installation

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.

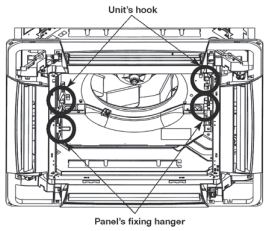
CAUTION

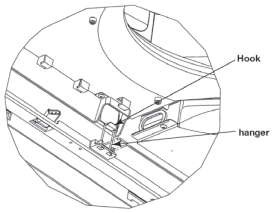
In case the orientation of the panel is not correct, it will lead to air leakage and also it is not possible to connect the louver motor wiring.



⑥ Attaching the panel

1. Temporary attaching
   - Lift up the hanger (2 places) on the panel for temporary support.
   - Hang the panel on the hook on the indoor unit.

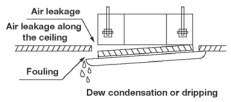


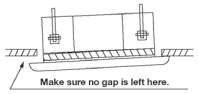


2. Fix the panel on the indoor unit
   - Fasten the panel on the indoor unit with the four bolts supplied with the panel.

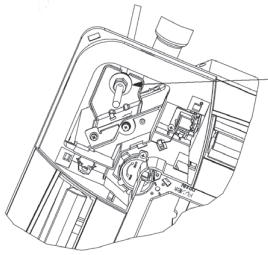
Caution

- Improperly tightened hanging bolts can cause the problems listed below, so make sure that you have tightened them securely.
- 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.



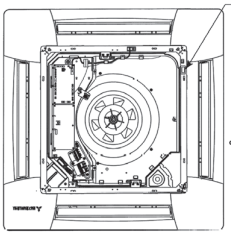
To adjust finely, please turn a nut fastening the indoor unit using a spanner or similar tool from the opening on the corner.

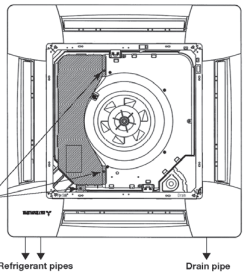
Caution

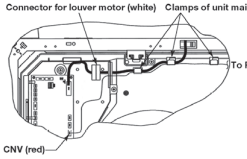
Make sure there is no stress given on the panel when adjusting the height of the indoor unit to avoid unexpected distortion. It may cause the distortion of panel or failing to close the air return grille.

⑦ 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.
   - Connect CNV (red) inside the control box.





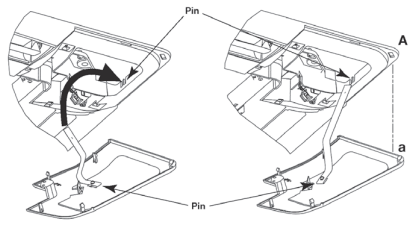


CAUTION

- If the air return grill is opened, the panel switch is turned off so that the air-conditioner cannot be operated any more.
- To start the air conditioner, close the air return grill.

⑧ Attaching a corner panel

1. To avoid unexpected falling of the corner panel, put the strap onto the corner panel's pin with turning the strap up.
2. Then hang the strap of a corner panel onto the decorative panel's pin.
3. First insert the part "a" of a corner panel into the part "A" of the decorative panel, and then engage four hooks.



⑨ 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.

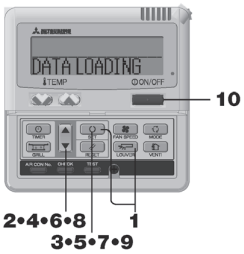
1 Stop the air conditioner and press SET button and LOUVER button simultaneously for three seconds or more.

The following is displayed if the number of the indoor units connected to the remote controller is one. Go to step **4**.

"DATA LOADING"
↓
"No.1 ▲"

The following is displayed if the number of the indoor units connected to the remote controller are more than one

"SELECT I/U"
↓
"I/U000 ▲"



2 Press ▲ or ▼ button.(selection of indoor unit)

Select the indoor unit of which the louver is set.

[EXAMPLE]
"I/U000 ▲"⇔"I/U001 ⇕"⇔"I/U002 ⇕"⇔"I/U003 ⇕"

3 Press SET button. (determination of indoor unit)

Selected indoor unit is fixed.

[EXAMPLE]
"I/U001" (displayed for two seconds)
↓
"DATA LOADING"
↓
"No.1 ▲"

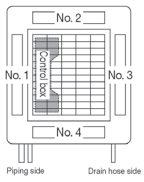
NOTICE

- For FDT type, 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 the louver No and the position. After that, choose the correct louver No and set the top and bottom position.

4 Press ▲ or ▼ button. (selection of louver No.)

Select the louver No. to be set according to the right figure.

[EXAMPLE]
"No.1 ▲"⇔"No.2 ⇕"⇔"No.3 ⇕"⇔"No.4 ▼"



Louver No.

5 Press SET button. (Determination of louver No.)

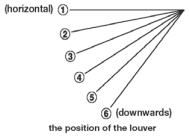
The louver No. to be set is confirmed and the display shows the upper limit of the movable range.

[EXAMPLE] If No.1 louver is selected,
"No.1 UPPER2 ⇕" ←current upper limit position

6 Press ▲ or ▼ button. (selection of upper limit position)

Select the upper limit of louver movable range.
"position1" 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 setting, use "position --".

"No.1 UPPER1 ▼" (the most horizotal)
⇔"No.1 UPPER2 ⇕"
⇔"No.1 UPPER3 ⇕"
⇔"No.1 UPPER4 ⇕"
⇔"No.1 UPPER5 ⇕"
⇔"No.1 UPPER6 ▲" (the most downwards)
⇔"No.1 UPPER-- ▲" (return to the default setting)



the position of the louver

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 UPPER2 (displayed for two seconds)
↓
No.1 LOWER5 ⇕ (shows current setting)

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 --".

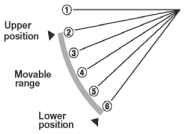
No.1 LOWER1 ▼ (the most horizontal)
No.1 LOWER2 ⇕
No.1 LOWER3 ⇕
No.1 LOWER4 ⇕
No.1 LOWER5 ⇕
No.1 LOWER6 ⇕ (the most horizontal)
No.1 LOWER-- ▲ (return to the default setting)

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 (displayed for two seconds)
SET COMPLETE
No.1 ▲



10 Press ⏻ON/OFF button.

Louver adjusting mode ends and returns to the original display.

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 funtion.

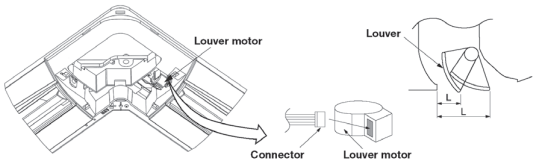
ATTENTION

If you press RESET button during settings, the display will return to previous display. If you press ⏻ON/OFF 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.

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 vinyl 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	Horizontal 0°	Downwards 45°
Dimension L (mm)	43	26

※It can be set between 26–43mm freely.

Caution

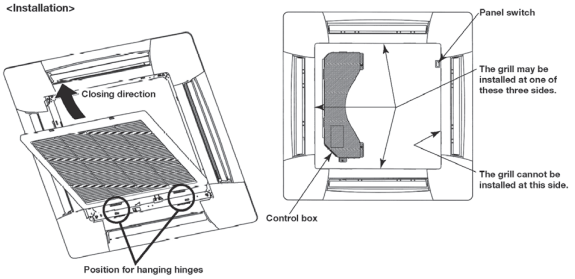
- Any automatic control or operation from the remote controller will be disabled on the louver whose position is fixed in the above way.
- Do not set a louver beyond the specified range. Failure to observe this instruction may result in dripping, dew condensation, the fouling of the ceiling and the malfunctioning of the unit.

⑩ Attaching the air return grille

To attach the air return grille, follow the procedure described in ⑧ Removing 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.

<Installation>



Caution

- 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.

PFA012D621

(3) Ceiling suspended type (FDEN)

This manual is for the installation of an indoor unit.
For electrical wiring work (Indoor), refer to the electrical wiring work installation manual. For remote controller installation, refer to the installation manual attached to a remote controller. For wireless kit installation, refer to the installation manual attached to a wireless kit. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to the installation manual attached to an outdoor unit.

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, ⚠WARNING and ⚠CAUTION .
  ⚠WARNING : Wrong installation would cause serious consequences such as injuries or death.
  ⚠CAUTION : 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.
- **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 produced.
- **Install the unit in a location that can hold heavy weight.**
  Improper installation may cause the unit to fall leading to accidents.
- **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.
- **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 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.
- **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 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 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 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 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 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.

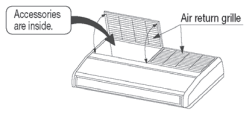
  It can affect performance or function and etc..
- **Do not put any valuables which will break down by getting wet under the air conditioner.**
  Condensation could drop when the relative humidity is higher than 80% or drain pipe is clogged, and it damages user's belongings.
- **Do not use the base frame 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 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 frostbite.
- **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.

①Before installation

- Install correctly according to the installation manual.
- Confirm the following points:
  ○Unit type/Power supply specification ○Pipes/Wires/Small parts ○Accessory items

Accessory item

For unit hanging		For refrigerant pipe			For drain pipe					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	Heavy insulation	Screw
										
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 fixing of pipe cover	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

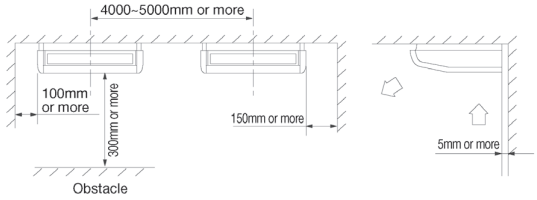
① Select the suitable areas to install the unit under approval of the user.
- Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
- Areas where there is enough 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.

④ When plural indoor units are installed nearby, keep them away for more than 4 to 5m.

Space for installation and service



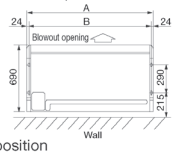
③Preparation before installation

- If suspension bolt becomes longer, do reinforcement of earthquake resistant.
  ○ 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.
  ○ 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.

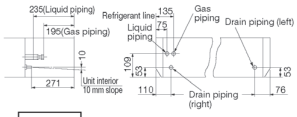
③Preparation before installation (continued)

Pitch of suspension bolts and pipe position

Pitch of suspension bolts



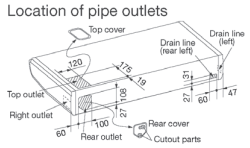
Pipe position



(mm)

Series	type	A	B
Single Split (PAC) series	40 to 50type	1070	1022
	60 to 71type	1320	1272
	100 to 140type	1620	1572
VRF (KX) series	36 to 56type	1070	1022
	71type	1320	1272
	112 to 140type	1620	1572

Location of pipe outlets



※The outlet through which the pipings are taken out is available in three directions.

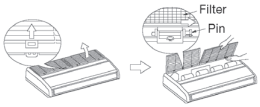
Haulage

- 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.
- If you need to lay the unit on a floor after unpacking, always put it with the intake grille facing upward.

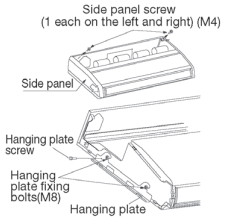


Preparation before instalation

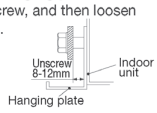
1. Remove the air return grille.
Slide stoppers (4 places) of the catches, then pull out the pins (4 or 6 places).



2. Remove the side panel.
Remove the screw and detach the side panel by sliding it toward the direction indicated by the arrow mark.



3. Remove the hanging plate.
Remove the screw, and then loosen the fixing bolts.



④Remote controller

Installation of remote controller

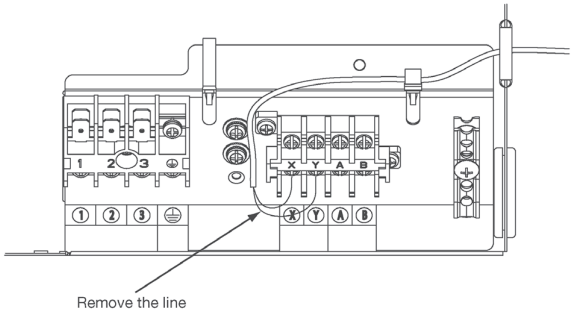
Up to two receiver or wired remote controller can be installed in one indoor unit group.

● 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

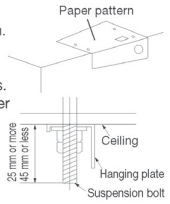
①Insulate with tape the removed line.
②The LED of that removed connector will not be able to make any indication.



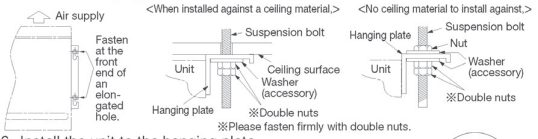
⑤Installation of indoor unit

Work procedure

1. 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 bolts.

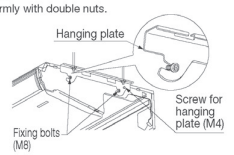


5. Fasten the hanging plate onto the suspension bolts.



※Please fasten firmly with double nuts.

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.

⑥Refrigerant pipe

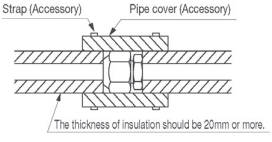
Caution

- ●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.

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.)
2. 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.
3. 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.

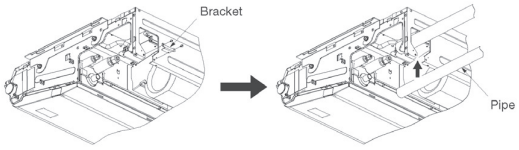
Pipe diameter	Tightening torque N·m
ø 6.35	14 to 18
ø 9.52	34 to 42
ø 12.7	49 to 61
ø 15.88	68 to 82
ø 19.05	100 to 120



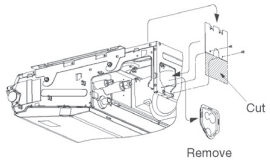
⑥Refrigerant pipe (continued)

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.



⑦Drain pipe

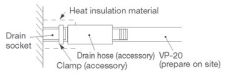
The drain pipes may face out towards the back to the left, or to the right side.

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 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.

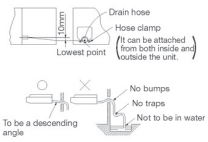
Work procedure

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 may occur upon removal of a drain plug.

2. Fix the drain hose at the lowest point with a hose clamp supplied as an accessory.
   ※Give a drain hose a gradient of 10mm 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.)
   ※ Use commercially available rigid PVC general pipe VP-20 for drain pipe.
4. 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.
5. 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

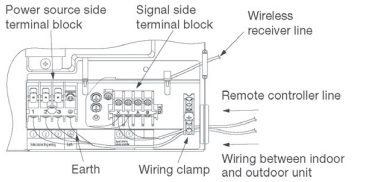
- ● After installation of drain pipe, make sure that drain system work in good condition and no water leakage from joint and drain pan.
- ● Do drain test even if installation of heating season.

⑧Wiring-out position and wiring connection

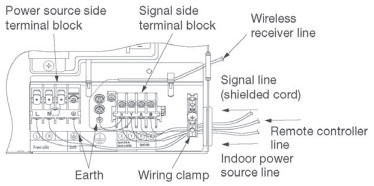
- Electrical installation work must be performed according to the installation manual by an electrical installation service provider qualified by a power provider of the country, and be executed according to the technical standards and other regulations applicable to electrical installation in the country.
  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 electrical box (2 screws).
2. Hold each wiring inside the unit and connect to a terminal block surely.
3. Fix the wiring by clamps.
4. Install the removed parts back to original place.

Single split (PAC) series



VRF(KX) series

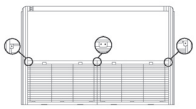


⑨Attaching the air return grille

●The air return grille must be attached when electrical cabling work is completed.

1. Fix the chains tied to the air return grille onto the indoor unit with screws supplied as accessories (4 pieces).
2. Close the air return grille.
   This completes the unit installtion work.





⑩Check list after installation

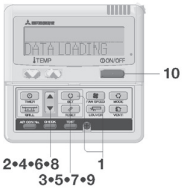
●Check the following items after all installation work completed.

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	

⑪How 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.

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 the remote controller is one. Go to step 4.
   "DATA LOADING"
   ↓
   "No.1"
   ●The following is displayed if the number of the indoor units connected to the remote controller are more than one.
   "SELECT I/U"
   ↓
   "I/U000"



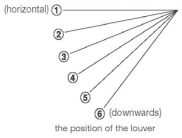
2. Press▲or▼button.(selection of indoor unit)●Select the indoor unit of which the louver is set.
   [EXAMPLE]
   "I/U000 ▲⇔"I/U001 ⇕"⇔" I/U002 ⇕"⇔
   "I/U003 ⇕"

3. Press SET button.(determination of indoor unit) ●Selected indoor unit is fixed.
   [EXAMPLE]
   "I/U001" (displayed for two seconds)
   ↓
   "DATA LOADING"
   ↓
   "No.1 ▲"

4. Press▲or▼button.(selection of louver No.) ●Select the louver No. to be set according to the right figure.
   [EXAMPLE]
   "No.1 ▲"⇔ No.2 ⇕"⇔ No.3 ⇕"⇔
   "No.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.
   [EXAMPLE] If No.1 louver is selected,
   "No.1 UPPER2 ⇕" ←current upper limit position

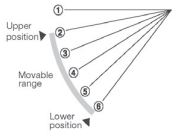
6. Press▲or▼button.(selection of upper limit position)
   ● Select the upper limit of louver movable range.
   "position 1" is the most horizontal, and "position 6" is the most downward.
   "position --" is to return to the factory setting.
   If you need to change the setting to the default setting, use "position --".
   "No.1 UPPER1 ▼" (the most horizotal)
   ⇔"No.1 UPPER2 ⇕"
   ⇔"No.1 UPPER3 ⇕"
   ⇔"No.1 UPPER4 ⇕"
   ⇔"No.1 UPPER5 ⇕"
   ⇔"No.1 UPPER6 ⇕" (the most downwards)
   ⇔"No.1 UPPER-- ▲" (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.
   [EXAMPLE]
   No.1 UPPER2 (displayed for two seconds)
   ↓
   No.1 LOWER5 ⇕ (shows current setting)

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 LOWER1 ▼ (the most horizontal)
   No.1 LOWER2 ⇕
   No.1 LOWER3 ⇕
   No.1 LOWER4 ⇕
   No.1 LOWER5 ⇕
   No.1 LOWER6 ⇕ (the most downwards)
   No.1 LOWER-- ▲ (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 (displayed for two seconds)
   SET COMPLETE
   No.1 ▲



10. Press ⏻ON/OFF button.
    ●Louver adjusting mode ends and returns to the original display.

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 funtion.

ATTENTION

If you press RESET button during settings, the display will return to previous display.If you press ⏻ON/OFF 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.

PJR012D319 A

(4) 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 the electrical wiring work installation manual. For remote controller installation, refer to the installation manual attached to a remote controller. For wireless kit installation, refer to the installation manual attached to a wireless kit. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to the installation manual attached to an outdoor unit.

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, ⚠WARNING and ⚠CAUTION .
  ⚠WARNING : Wrong installation would cause serious consequences such as injuries or death.
  ⚠CAUTION : 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 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 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.**
  Improper installation may cause the unit to fall leading to accidents. ❗
- **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. ❗
- **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 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. ⃠
- **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 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 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 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 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 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 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 frostbite. ⃠
- **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. ⃠

○This model is middle 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:

○Unit type/Power supply specification ○Pipes/Wires/Small parts ○Accessory items

Accessory item

For refrigerant pipe			For drain pipe			
Pipe cover(big)	Pipe cover (small)	Strap	Pipe cover(big)	Pipe cover(small)	Drain hose	Hose clamp
						
1	1	4	1	1	1	1
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



Accessory parts are stored inside this suction side.

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 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.)

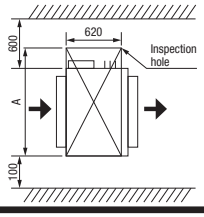
②Check if the place where the air conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

Space for installation and service

●Make installation altitude over 2.5m.

(Indoor Unit)

Installation Space



UNIT: mm

Multi type	22~56	71, 90	112, 140
Single type	50	60, 71	100~140
A	1100	1300	1720

③Preparation before installation

●If suspension bolt becomes longer, do reinforcement of earthquake resistant.

○For grid ceiling

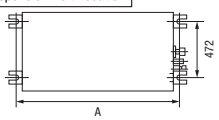
When the suspension bolt length is over 500mm, or the gap between the ceiling and roof is over 700mm, apply earthquake resistant brace to the bolt.

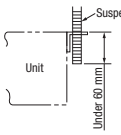
○In case the unit is hanged directly from the slab and is installed on the ceiling plane which has enough strength.

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.

Suspension Bolt Location





○ Adhere to the measurements given below for the length of the suspension bolts.

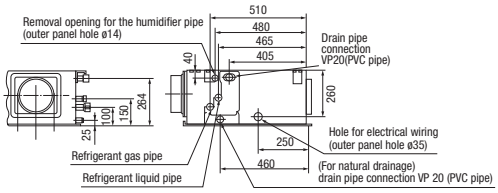
UNIT: mm

Multi type	22~56	71, 90	112, 140
Single type	50	60, 71	100~140
A	786	986	1406

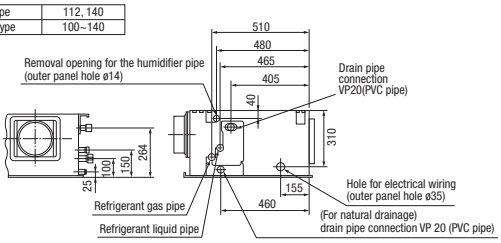
③Preparation before installation (continued)

Pipe locations UNIT: mm

Multi type	22~90
Single type	50~71



Multi type	112, 140
Single type	100~140

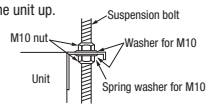


④Installation of indoor unit

Installation

[Hanging]

Hang the unit up.



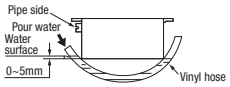


If the measurements between the unit and the ceiling hole do not match upon installation, it may be adjusted with the long holed installation tool.

Adjustment for horizontality

○Either 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.



Let the pipe side be slightly sloped.

○If the unit is not leveled, it may cause malfunctions or inoperation of the float switch.

⑤Duct Work

①A 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.

②Blowout duct

●Use according to the spot numbers shown in the table below with a 200 circular duct.

Multi type	22	36, 45, 56	71, 90	112, 140
Single type	–	50	56, 71	100~140
Spot numbers	1 spot	2 spots	3 or 2 spots	4 or 3 spots

●The difference of the duct lengths between each spot should be less than 2:1.

●The ducts should be at their minimum lengths.

●Keep the bends to a minimum. (The bending radius should be as large as possible.)



●Tie and secure the connection to the duct flange of the main unit/blowout hole with a band. Then, apply insulation materials to the secured part for dew condensation prevention.

●Use of the sound and heat insulated flexible duct is recommended for condensation prevention and soundproofing. (sold separately; 1m, 2m, 4m available)

●Conduct the duct work before ceiling attachment.

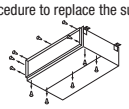
③Inlet port

●When shipped the inlet port lies on the back.

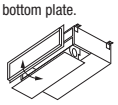
●When connecting the duct to the inlet port, remove the air filter if it is fitted to the inlet port.

⑤Duct Work (continued)

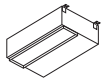
●When placing the inlet port to carry out suction from the bottom side, use the following procedure to replace the suction duct joint and the bottom plate.



●Remove the screws which fasten the bottom plate and the duct joint on the inlet port side of the unit.



●Replace the removed bottom plate and duct joint.



●Fit the duct join with a screw; fit the bottom plate.

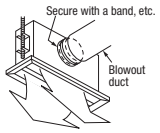
●Make sure to insulate the duct to prevent dewing on it.

④Install the specific blowout duct in a location where the air will circulate to the entire room.

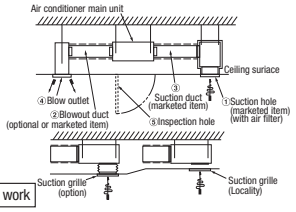
●The duct connection is specific to the 200 circular duct.

●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.



⑤Make 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

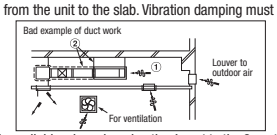
①If a duct is not provided at the suction side but it is substituted with the space over the ceiling, humidity in the space will increase by the influence of capacity of ventilation fan, strength of wind blowing against the out door air louver, weather (rainy day) and others.

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.

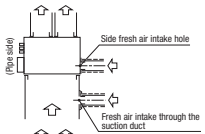


Notice

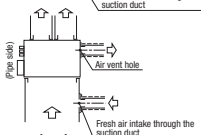
A specific cover plate is available when changing the 4 spot to the 3 spot, or when changing the 3 spot to the 2 spot.
Note: Do not change from 2 spot to 1 spot.

Connecting the air intake/vent ducts

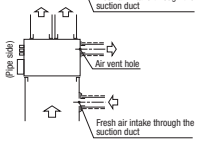
①Fresh Air Intake
[for air intake duct only]
○Use the side fresh air intake hole, or supply through a part of the suction duct.



[for simultaneous air intake/vent]
○Intake air through the suction duct.
(the side cannot be used)



②Air Vent
○Use the side air vent hole.
(always use together with the air intake)



○Use the duct flange for the air intake/vent (sold separately; for 125 circular duct connection), and connect the 125 circular duct (tighten with band).
○Insulate 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.

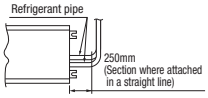
●Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H3300) for refrigeration pipe installation.
In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.

●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 R410 refrigerant.

Piping work

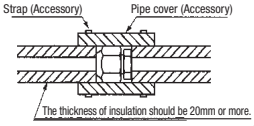


When conducting piping work, make sure to allow the pipes to be aligned in a straight line for at least 250 mm, as shown in the left illustration. (This is necessary for the drain pump to function)

Work procedure

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.)
2. 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.
3. 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
ϕ 15.88	68 to 82
ϕ 19.05	100 to 120



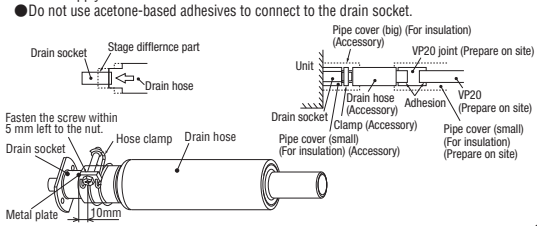
⑦Drain pipe

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.

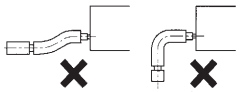
Work procedure

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.
●Do not use acetone-based adhesives to connect to the drain socket.

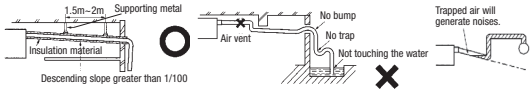


⑦Drain pipe (continued)

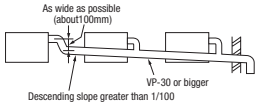
2. Prepare a joint for connecting VP-20 pipe, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP-20 pipe (prepare on site).
※As for drain pipe, apply VP-20 made of rigid PVC which is on the market.
● Make sure that the adhesive will not get into the 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.



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.



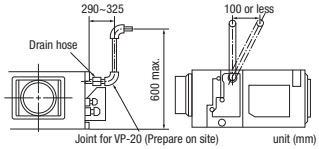
● When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



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.



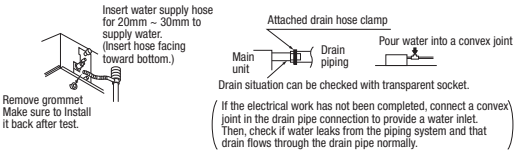
Otherwise, the construction point makes it same as drain pipe construction.

Drain test

1. Conduct a drain test after completion of the electrical work.
2. 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

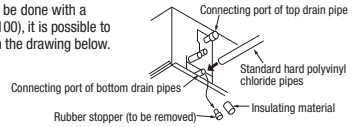
1. Supply about 1000 cc of water to the unit through the air outlet by using a feed water pump.
2. Check the drain while cooling operation.



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.

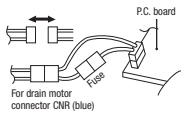
Outline of bottom drain piping work

● 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 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.)

⑦Drain pipe (continued)

Drain pump operation

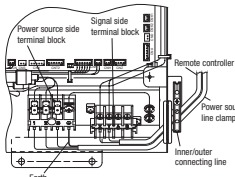
○In case electrical wiring work finished
Drain pump can be operated by remote controller (wired).
For the operation method, refer to Operation for drain pump in the installation manual for wiring work.

○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 (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.

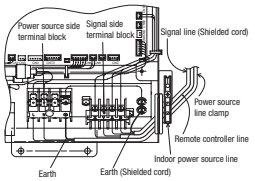
⑧Wiring-out position and wiring connection

● 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 (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.



Single unit wiring connection



Multi unit wiring connection

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	

⑩Tap selection on blower unit (when the high peformance filter is used)

Following table shows the maximum external static pressure for models adapted to the fan setting speed (Hi, UH). Select at site the fan setting speed according to the external static pressure.

50/60Hz

Multi type		22~56	71, 90, 140	112
Single type		50	60, 71, 125, 140	100
Fan Speed	Hi	60/60	60/60	60/60
	UH	85/90	85/100	90/100

Unit:Pa

⚠ CAUTION

● Taps should not be used under external static pressure mentioned above. Dew condensation may occur with the unit and wet the ceiling or furniture.
● Do not use under external static pressure of 60Pa or less. Water drops may be blown from the diffuser outlet of the unit and wet the ceiling or furniture.

PJD012D052 A

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

(a) Models FDU71 ～ 140

This manual is for the installation of an indoor unit.
For electrical wiring work (Indoor), refer to the electrical wiring work installation manual. For remote controller installation, refer to the installation manual attached to a remote controller. For wireless kit installation, refer to the installation manual attached to a wireless kit. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to the installation manual attached to an outdoor unit.

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, ⚠WARNING and ⚠CAUTION .
  ⚠WARNING : Wrong installation would cause serious consequences such as injuries or death.
  ⚠CAUTION : 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 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 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.**
  Improper installation may cause the unit to fall leading to accidents.
- **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.
- **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 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.
- **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 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 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 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 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 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 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 frostbite.
- **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.

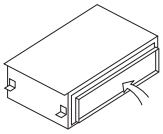
○This model is middle static ducted type air conditioning unit. Therefore, do not use this model for direct blow type air conditioning unit.

①Before installation

●Install correctly according to the installation manual.
●Confirm the following points:
○Unit type/Power supply specification
○Pipes/Wires/Small parts
○Accessory items

Accessory item

For refrigerant pipe		
Pipe cover(big)	Pipe cover (small)	Strap
		
1	1	4
For heat insulation of gas pipe	For heat insulation of liquid tube	For pipe cover fixing


Accessory parts are stored inside this suction side.

For drain pipe			
Pipe cover(big)	Pipe cover(small)	Drain hose	Hose clamp
			
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

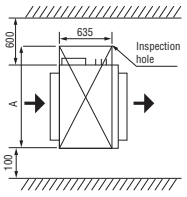
① Select the suitable areas to install the unit under approval of the user.
- Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
- Areas where there is enough space to install and service.
- Areas where it can be drained properly. Areas where drain pipe descending slope can be 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.)

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.
(Indoor Unit)

Installation Space



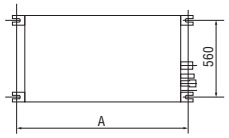
UNIT: mm

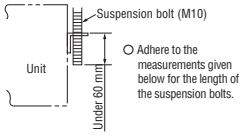
Multi type	71	90, 112, 140
Single type	71	100, 125, 140
A	1200	1720

③Preparation before installation

●If suspension bolt becomes longer, do reinforcement of earthquake resistant.
○For 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.
○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.

Suspension Bolt Location



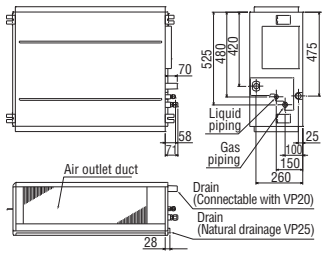


UNIT: mm

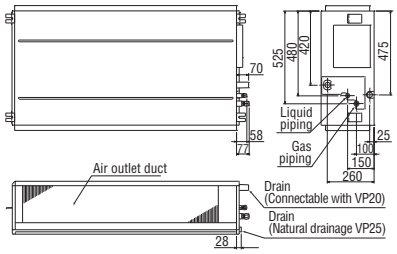
Multi type	71	90, 112, 140
Single type	71	100, 125, 140
A	986	1406

Pipe locations UNIT: mm

Multi type	71
Single type	71



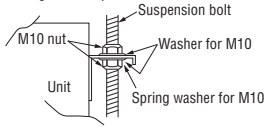
Multi type	90, 112, 140
Single type	100, 125, 140



④Installation of indoor unit

Installation

[Hanging]
Hang the unit up.



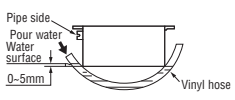


If the measurements between the unit and the ceiling hole do not match upon installation, it may be adjusted with the long holed installation tool.

Adjustment for horizontality

○Either 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.



Let the pipe side be slightly sloped.

○If 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.

②Blowout duct

●The ducts should be at their minimum lengths.

●Keep the bends to a minimum. (The bending radius should be as large as possible.)



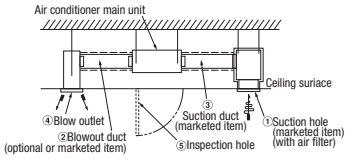
●Conduct the duct work before ceiling attachment.

③Suction duct

●Make sure to insulate the duct to prevent dewing on it.

④Location 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.

⑤Make 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

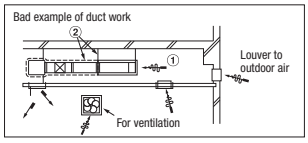
①If a duct is not provided at the suction side but it is substituted with the space over the ceiling, humidity in the space will increase by the influence of capacity of ventilation fan, strength of wind blowing against the out door air louver, weather (rainy day) and others.

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

●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.

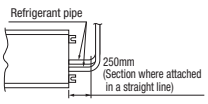
●Use phosphorus deoxidized copper alloy seamless pipe (C1220T specified in JIS H3300) for refrigeration pipe installation. In addition, make sure there is no damage both inside and outside of the pipe, and no harmful substances such as sulfur, oxide, dust or a contaminant stuck on the pipes.

●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.

Piping work



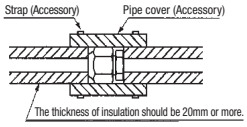
When conducting piping work, make sure to allow the pipes to be aligned in a straight line for at least 250 mm, as shown in the left illustration. (This is necessary for the drain pump to function)

⑥Refrigerant pipe (continued)

Work procedure

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.)
2. 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.
3. 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
ϕ 15.88	68 to 82
ϕ 19.05	100 to 120



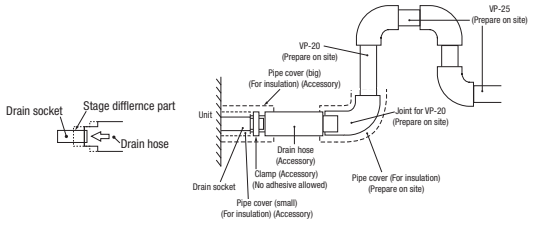
⑦Drain pipe

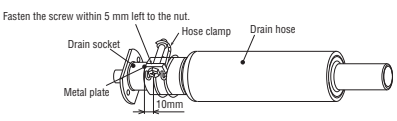
Caution

● 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

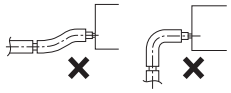
1. Make sure to insert the drain hose (the end mode of soft PVC) to the end of the step part of drain socket.
Attach the hose clamp to the drain hose around 10mm from the end, and fasten the screw within 5mm left to the nut.
●Do not apply adhesives on this end.
●Do not use acetone-based adhesives to connect to the drain socket.



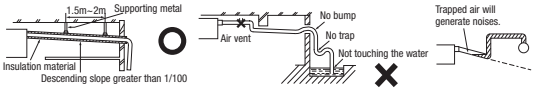


⑦Drain pipe (continued)

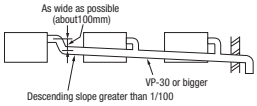
2. Prepare a joint for connecting VP-20 pipe, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP-20 pipe (prepare on site).
※As for drain pipe, apply VP-20 made of rigid PVC which is on the market.
- When installing drain pipe, use VP-20 for the pipe 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 water leakage.



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.



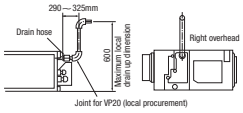
- When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



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.



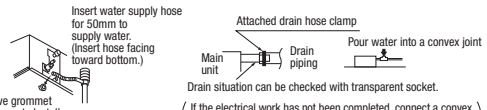
Otherwise, the construction point makes it same as drain pipe construction.

Drain test

1. Conduct a drain test after completion of the electrical work.
2. 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

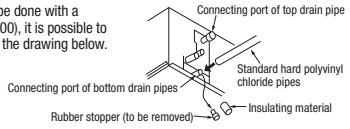
1. Supply about 1000 cc of water to the unit through the air outlet by using a feed water pump.
2. Check the drain while cooling operation.



(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

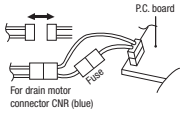
- If the bottom drain piping can be done with a descending gradient (1/50-1/100), it is possible to connect the pipes as shown in the drawing below.



Uncoupling the drain motor connector

- Uncouple the connector CNR for the drain motor 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.)



⑦Drain pipe (continued)

Drain pump operation

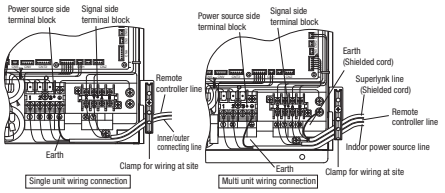
○In case electrical wiring work finished
Drain pump can be operated by remote controller (wired).
For the operation method, refer to Operation for drain pump in the installation manual for wiring work.

○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 (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.

⑧Wiring-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 (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.



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	

⑩Tap 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 number A	Functional content B	Setting content C	Default setting
02	Fan Speed Set	Standard	○
		High Speed 1	

UNIT: Pa

Static Pressure	Standard Tap	60
	High Speed 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.

PJD012D053

(b) Models FDU200, 250

This manual is for the installation of an indoor unit.
For electrical wiring work (Indoor), refer to the electrical wiring work installation manual. For remote controller installation, refer to the installation manual attached to a remote controller. For wireless kit installation, refer to the installation manual attached to a wireless kit. For electrical wiring work (Outdoor) and refrigerant pipe work installation for outdoor unit, refer to the installation manual attached to an outdoor unit.

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, ⚠WARNING and ⚠CAUTION .
  ⚠WARNING : Wrong installation would cause serious consequences such as injuries or death.
  ⚠CAUTION : 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

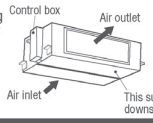
- **Installation should be performed by the specialist.**
  If you install the unit by yourself, it may lead to serious trouble such as water leakage, electric shock, fire, and injury due to overturn of the unit.
- **Install the system correctly according to these installation manuals.**
  Improper installation 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 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.**
  Improper installation may cause the unit to fall leading to accidents.
- **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.
- **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 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.
- **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 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 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 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 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 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 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 frostbite.
- **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.

○This model is high static ducted type air conditioning unit. Therefore, do not use this model for direct blow type air conditioning unit.



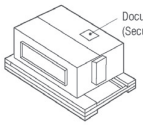
①Before installation

●Install correctly according to the installation manual.
●Confirm the following points:
○Unit type/Power supply specification ○Pipes/Wires/Small parts ○Accessory items

Accessory item

Hose clamp
1
For drain hose mounting

Accessories storage position (during packing)



②Selection of installation location for the indoor unit

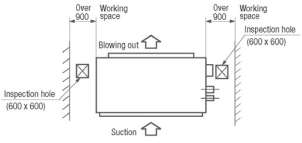
① Select the suitable areas to install the unit under approval of the user.
- Areas where the indoor unit can deliver hot and cold wind sufficiently. Suggest to the user to use a circulator if the ceiling height is over 3m to avoid warm air being accumulated on the ceiling.
- Areas where there is enough space to install and service.
- Areas where it can be drained properly. Areas where drain pipe descending slope can be 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.)

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.

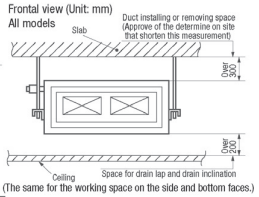
Space for installation and service

●Make installation altitude over 2.5m.

Top view (Unit: mm)
All models



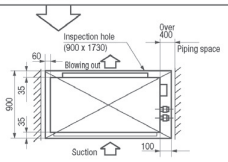
Frontal view (Unit: mm)
All models



(The same for the working space on the side and bottom faces.)

If the conditions shown in the left hand side cannot be met, the following method is also possible.

Top view (Unit: mm)
All models
The frontal view is as the left hand illustration.



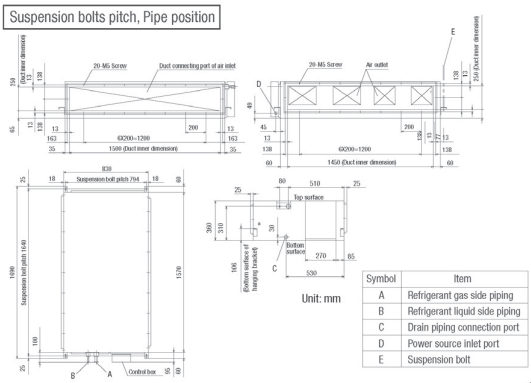
Air Conditions and Airflow Limits

Single	Multi	Airflow m³/min			Temperature of the blow-in air of the indoor unit		Air temperature surrounding the indoor unit
		Rating	Lower limit	Upper limit	Cooler	Heater	
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	Upper limit 27°C DB Outdoor temperature is below 20°C WB Lower limit 10°C DB Outdoor temperature is above 10°C WB	Dew point temperature below 28°C
250	280	68	51	87	Refer to the technical document published by our company for more details.		

③Preparation before installation

●If suspension bolt becomes longer, do reinforcement of earthquake resistant.
○For 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.
○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.

Suspension bolts pitch, Pipe position



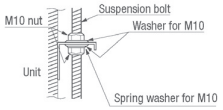
Unit: mm

Symbol	Item
A	Refrigerant gas side piping
B	Refrigerant liquid side piping
C	Drain piping connection port
D	Power source inlet port
E	Suspension bolt

④Installation of indoor unit

Installation

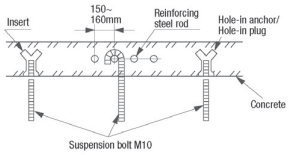
[Hanging]
○Hang the unit up.



○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.

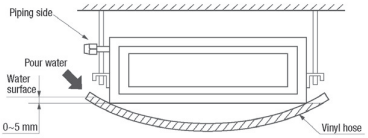


[Method for Fixing the Suspension Bolt]
○Secure the suspension bolt with one of the methods shown in the following illustration.



Horizontal Adjustment

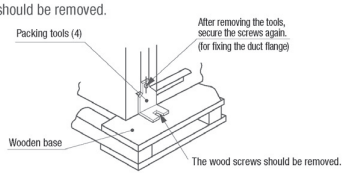
○Use a level vial or adjust the level as shown in the following illustration.



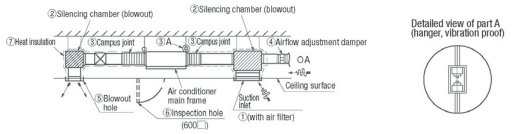
Set the pipe side slightly lower than the other side.

○If it is not horizontal, the float switch malfunctions or does not function.

(Packing Tools)
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.

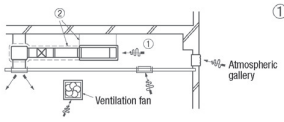
④Attach an airflow adjustment damper to the connection point of the OA duct so airflow adjustment may be possible after installation.

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.

⑦Insulation 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).

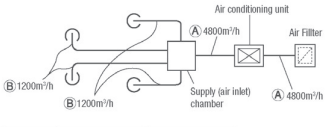
b. Operation of the unit may exceed its limits (for example, when the temperature of the suction air is 24 °C with the outdoor temperature of 35 °C DB). In such a cases, problems such as an overload of the compressor may occur.

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.



	Airflow	Duct (mm x mm)
Ⓐ	4800m³/h (80m³/min)	250 x 950
Ⓑ	1200m³/h (20m³/min)	250 x 310

○Calculation 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

[Simplified duct dimension selection table] 1Pa/m

Airflow / Duct type / Item	Quadrangle duct Dimensions
m³/h (m³/min)	(mm×mm)
100	250× 60
200	250× 90
300	250× 120
400	250× 140
450 (7.5)	250× 160
500	250× 170
600 (10)	250× 190
800	250× 230
1,000	250× 270
Ⓑ 1,200 (20)	250× 310
1,400	250× 350
1,600	250× 390
1,800 (30)	250× 430
2,000	250× 470
2,400 (40)	250× 560
3,000 (50)	250× 650
3,500	250× 740
4,000	250× 830
4,500	250× 920
Ⓐ 4,800 (80)	250× 950
5,000	250×1000
5,500	250×1090
6,000 (100)	250×1180

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

1. When brazing work, perform it while cool down around the brazing port with wet towels to prevent the overheating.
2. 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
	Gas piping	ϕ 25.4		Gas piping	ϕ 19.05	Flaring
Type 250	Liquid piping	ϕ 12.7	Type 280	Liquid piping	ϕ 9.52	Flaring
	Gas piping	ϕ 25.4		Gas piping	ϕ 22.22	Flaring

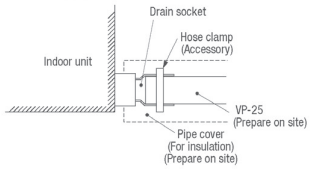
⑦Drain pipe

Caution

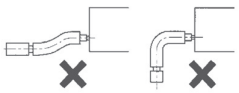
- Install the drain pipe according to the installation manual in order to drain properly.
  Imperfection in draining may cause flood indoors and wetting the household goods, etc.
- Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas 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

1. 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.

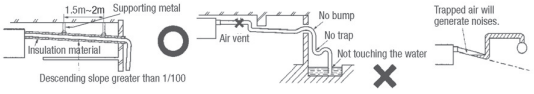


2. Prepare a joint for connecting VP-25 pipe, adhere and connect the joint to the drain hose (the end made of rigid PVC), and adhere and connect VP-25 pipe (prepare on site).
   ※As for drain pipe, apply VP-25 made of rigid PVC which is on the market.
   - Make sure that the adhesive will not get into 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.

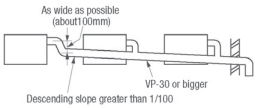


⑦Drain pipe (continued)

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.



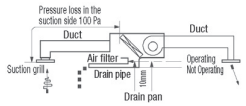
- ●When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



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.

Caution

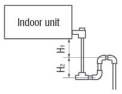
When the duct is connected and the blowing device is operated, the pressure inside the unit becomes negative to the atmospheric pressure.



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.



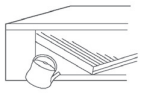
- ●Make one trap along the drain pipe as the left illustration.

H1 = 100 mm or the static pressure of the blowing device
H2 = 1/2 H1 or 50 ~ 100 mm

Drain test

Upon completion of drain piping, check by running water through it.

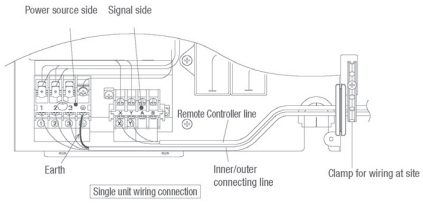
- ○Remove the side panel and gradually pour 1000 cc of water into the drain pan. Ensure that the water drains smoothly.
  Also, ensure that there are no water leaks from the connections and joints.

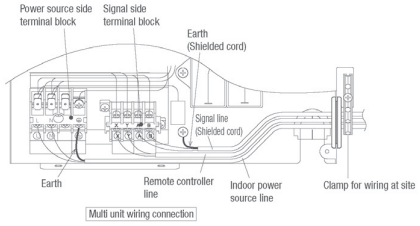


⑧Wiring-out position and wiring connection

- ● 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 (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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1.10.2 Instullation of wired remote controller

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

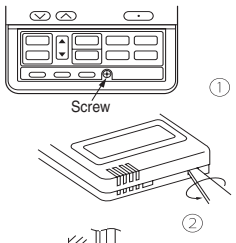
- DO NOT install the remote controller at the following places in order to avoid malfunction.
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) Uneven surface
- 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 insulated 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

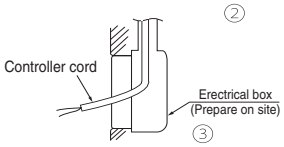
① Open the cover of remote controller , and remove the screw under the buttons without fail.

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.

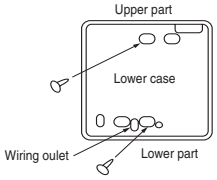


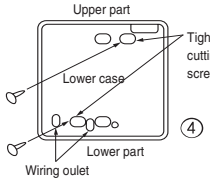
[In case of embedding cord]

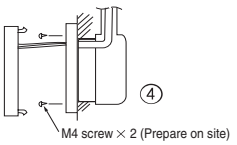
③ Embed the erectrical box and remote controller cord beforehand.



④ 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.

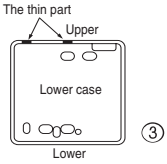






⑤ Connect the remote controller cord to the terminal block.
Connect the terminal of remote controller (X,Y) with the terminal of indoor unit (X,Y). (X and Y are no polarity)

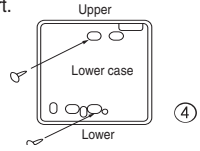
⑥ Install the upper case as before so as not to catch up the remote controller cord, and tighten with the screws.



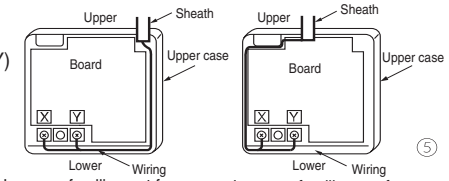
[In case of exposing cord]

③ 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.

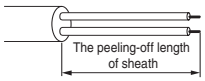


⑤ Connect the remote controller cord to the terminal block.
Connect the terminal of remote controller (X,Y) with the terminal of indoor unit (X,Y).
(X and Y are no polarity)
Wiring route is as shown in the right diagram depending on the pulling out direction.



The wiring inside the remote controller case should be within 0.3mm^2 (recommended) to 0.5mm^2.
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 Y wiring : 195mm	X wiring : 170mm Y wiring : 190mm



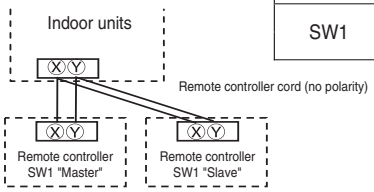
⑥ Install the upper case as before so as not to catch up the remote controller cord, and tighten with the screws.
⑦ In case of exposing cord, fix the cord on the wall with cord clamp so as not to slack.

Installation and wiring of remote controller

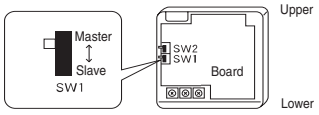
① Wiring of remote controller should use 0.3mm^2 × 2 core wires or cables. (on-site configuration)
② Maximum prolongation of remote controller wiring is 600 m.
If the prolongation is over 100m, change to the size below.
But, wiring in the remote controller case should be under 0.5mm^2 . Change the wire size outside of the case according to wire connecting. Waterproof treatment is necessary at the wire connecting section. Be careful about contact failure.
100 - 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

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.)



Switch	Setting	Contents
SW1	M	Master remote controller
	S	Slave remote controller

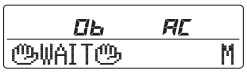


Set SW1 to "Slave" for the slave remote controller. It was factory set to "Master" for shipment.
Note: The setting "Remote controller thermistor enabled" is only selectable with the master remote controller in the position where you want to check room temperature.
The air conditioner operation follows the last operation of the remote controller regardless of the master/ slave setting of it.

The indication when power source is supplied

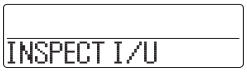
When power source is turned on, the following is displayed on the remote controller until the communication between the remote controller and indoor unit settled.
Master remote controller : "WAIT M"
Slave remote controller : "WAIT S"

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.



※ 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 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.

1. When ⑫ 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.

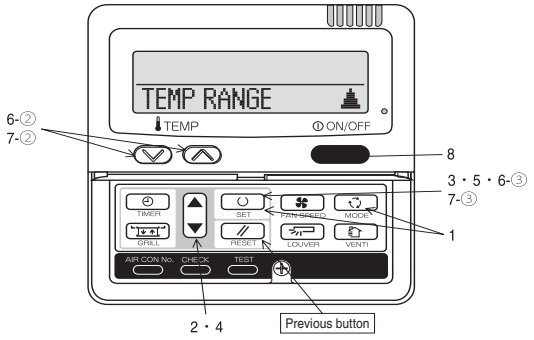
2. When ⑫ TEMP RANGE SET, remote controller function of function setting mode is "NO INDN CHANGE"
   【If upper limit value is set】
   During heating, even if the value exceeding the upper limit is set, upper limit value will be sent to the indoor unit. But, the indication is the same as the temperature 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: " ∨ ∧ SET UP" → "UPPER 30˚C ∨"
   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 ▲" is selected (valid during cooling, dry, fan, automatic)
   ① Indication: " ∨ ∧ SET UP" → "LOWER 18˚C ∧"
   ② Select the lower limit value with temperature setting button ∨ ∧. Indication example: "LOWER 24˚C ∨ ∧" (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 ▼".
8. Press ON/OFF button to finish.

- 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.



The functional setting

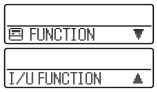
Refer to page 240

How to set function

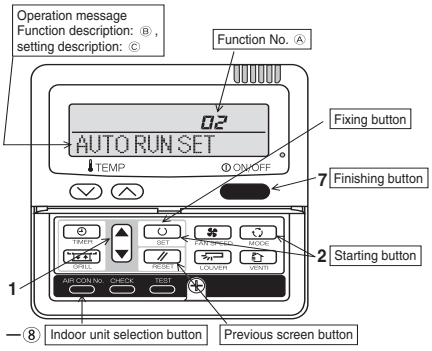
1. **Stop air-conditioner and press ( ) (SET) ( ) (MODE) buttons at the same time for over three seconds, and the "FUNCTION SET ▼" will be displayed.**



2. **Press ( ) (SET) button.**
3. **Make sure which do you want to set, "FUNCTION ▼" (remote controller function) or "I/U FUNCTION ▲" (indoor unit function).**
4. **Press ▲ or ▼ button.**
   Selecct "FUNCTION ▼" (remote controller function) or "I/U FUNCTION ▲" (indoor unit function).



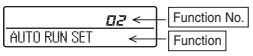
5. **Press ( ) (SET) button.**



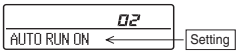
6. **【On the occasion of remote controller function selection】**

① "DATA LOADING" (Indication with blinking)
↓
Display is changed to "01 GRILLE ↑↓SET".

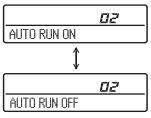
② Press ▲ or ▼ button.
"No. and function"are indicated by turns on the remote controller function table, then you can select from them.
(For example)



③ Press ( ) (SET) button.
The current setting of selected function is indicated.
(for example) "AUTO RUN ON" ← If "02 AUTO RUN SET" is selected



④ 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.



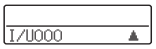
7. **Press ON/OFF button.**
   Setting is finished.

【On the occasion of indoor unit function selection】

① "DATA LOADING" (Blinking for 2 to 23 seconds to read the data)
↓
Indication is changed to "02 FAN SPEED SET".
Go to ②.

[Note]

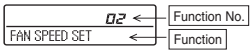
(1) If plural indoor units are connected to a remote controller, the indication is "I/U 000" (blinking) ← The lowest number of the indoor unit connected is indicated.



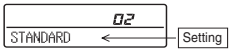
(2) Press ▲ or ▼ button.
Select the number of the indoor unit you are to set
If you select "ALL UNIT ▼", you can set the same setting with all unites.

(3) Press ( ) (SET) button.

② 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 selected.



④ Press ▲ or ▼ button.
Select the setting.

⑤ 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.)

1.10.3 Installation of outdoor unit

(1) Models SRC40 ~ 60ZIX-S

RWC012A029B C

Model 40·50·60
R410A REFRIGERANT USED

- **This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to the respective installation manuals supplied with the units.**
- **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 ⚠ **WARNING** 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 ⚠ **CAUTION**. These are very important precautions for safety. Be sure to observe all of them without fail.
- 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.
- 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.
- If unusual noise can be heard during operation, consult the dealer.
- Symbols which appear frequently in the text have the following meaning:

❗	Observe instructions with great care	⃠	Strictly prohibited	⏚	Provide proper earthing

⚠ 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.
- **Install the system in full accordance with the instruction manual.**
  Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire.
- **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.
- **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.
- **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.
- **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.
- **Do not open the operation 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 operation valves before completed connection of refrigerant piping work, air can be sucked into refrigerant circuit, which can cause bust or personal injury due to anomalously high pressure in the refrigerant.
- **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.
- **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.**
- **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.
- **Be sure to fix up the service panels.**
  Incorrect fixing can cause electric shocks or fire due to intrusion of dust or water.
- **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.
- **Stop the compressor before disconnecting refrigerant pipes in case of pump down operation.**
  If disconnecting refrigerant pipes in state of opening operation valves before compressor stopping, air can be sucked, which can cause burst or personal injury due to anomalously high pressure in the refrigerant circuit.
- **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.

⃠

- **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.
- **Do not run the unit with removed panels or protections.**
  Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks.
- **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.

⚠ CAUTION

- **Use the circuit breaker with sufficient breaking capacity.**
  If the breaker does not have sufficient breaking capacity, it can cause the unit malfunction and fire.
- **Earth leakage breaker must be installed.**
  If the earth leakage breaker is not installed, it can cause electric shocks.
- **Install isolator or disconnect switch on the power supply wiring in accordance with the local codes and regulations.**
- **After maintenance, all wiring, wiring ties and the like, should be returned to their original state and wiring route, and the necessary clearance from all metal parts should be secured.**
- **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.
- **Take care when carrying the unit by hand.**
  If the unit weights more than 20kg, it must be carried by two or more persons. Do not carry by the plastic straps, always use the carry handle when carrying the unit by hand. Use gloves to minimize the risk of cuts by the aluminum fins.
- **Dispose of any packing materials correctly.**
  Any remaining packing materials can cause personal injury as it contains nails and wood. And to avoid danger of suffocation, be sure to keep the plastic wrapper away from children and to dispose after tear it up.
- **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 operation) 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.**

- **Do not install the unit in the locations listed below.**
  - Locations where carbon fiber, metal powder or any powder is floating.
  - Locations where any substances that can affect the unit such as sulphide gas, chloride gas, acid and alkaline can occur.
  - Vehicles and ships.
  - 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 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 installation).
  - Locations where strong air blows against the air outlet of outdoor unit.

  It can cause remarkable decrease in performance, corrosion and damage of components, malfunction and fire.
- **Do not install the outdoor unit in the locations listed below.**
  - Locations where discharged hot air or operating sound of the outdoor unit can bother neighborhood.
  - Locations where outlet air of the outdoor unit blows directly to plants.
  - Locations where vibration can be amplified and transmitted due to insufficient strength of structure.
  - Locations where vibration and operation sound generated by the outdoor unit can affect seriously (on the wall or at the place near bed room).
  - 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 surrounding environment and cause a claim.
- **Do not install the unit near the location where leakage of combustible gases can occur.**
  If leaked gases accumulate around the unit, it can cause fire.
- **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 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 cause jamming.
- **Do not install the outdoor unit in a location where insects and small animals can inhabit.**
  Insects and small animals can enter the electric parts and cause damage or fire. Instruct the user to keep the surroundings clean.
- **Do not use the base flame for outdoor unit which is corroded or damaged due to long periods of operation.**
  Using an old and damage base flame can cause the unit falling down and cause personal injury.
- **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.
- **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.
- **Do not touch the suction or aluminum fin on the outdoor unit.**
  This may cause injury.
- **Do not put anything on the outdoor unit and operating unit.**
  This may cause damage the objects or injury due to falling to the object.

Check before installation work

- Model name and power source
- Refrigerant piping length
- Piping, wiring and miscellaneous small parts
- Indoor unit installation manual

Accessories for outdoor unit		Q'ty
①	Grommet (Heat pump type only)	4
②	Drain elbow (Heat pump type only)	1

Option parts		Q'ty
ⓐ	Sealing plate	1
ⓑ	Sleeve	1
ⓒ	Inclination plate	1
ⓓ	Putty	1
ⓔ	Drain hose (extension hose)	1
ⓕ	Piping cover (for insulation of connection piping)	1

Necessary tools for the installation work			
1	Plus headed driver	9	Wrench key (Hexagon) [4m/m]
2	Knife	10	Vacuum pump
3	Saw	11	Vacuum pump adapter (Anti-reverse flow type) (Designed specifically for R410A)
4	Tape measure	12	Gauge manifold (Designed specifically for R410A)
5	Hammer	13	Charge hose (Designed specifically for R410A)
6	Spanner wrench	14	Flaring tool set (Designed specifically for R410A)
7	Torque wrench [14.0～62.0N·m (1.4～6.2kgf·m)]	15	Gas leak detector (Designed specifically for R410A)
8	Hole core drill (65mm in diameter)	16	Gauge for projection adjustment (Used when flare is made by using conventional flare tool)

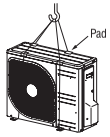
Notabilia as a unit designed for R410A

- 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)

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.)

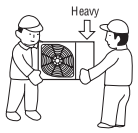
⚠CAUTION When a unit is hoisted with slings for haulage, take into consideration the offset of its gravity center position. If not properly balanced, the unit can be thrown off-balance and fall.

1) Delivery



- Deliver the unit as close as possible to the installation site before removing it from the packaging.
- When you have to unpack the unit for a compelling reason before you haul it to the installation point, hoist the unit with nylon slings or ropes and protection pads so that you may not damage the unit.

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

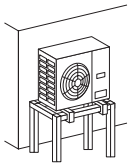
Be sure to select a suitable installation place in consideration of following conditions.

- ○ 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.
- ○ A place where the unit is not exposed to oil splashes.
- ○ A place where it can be free from danger of flammable gas leakage.
- ○ A place where drain water can be disposed without any trouble.
- ○ A place where the unit will not be affected by heat radiation from other heat source.
- ○ A place where snow will not accumulate.
- ○ 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.
- ○ A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
- ○ A place where the unit will not be affected by electromagnetic waves and/or high-harmonic waves generated by other equipment.
- ○ 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.
- ○ If a operation is conducted when the outdoor air temperature is -5 lower, the outdoor unit should be installed at a place where it is not influenced by natural wind.
- ○ A place where strong wind will not blow against the outlet air blow of the unit.

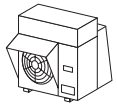
4) Caution about selection of installation location

(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.

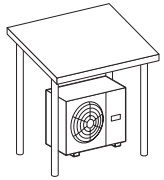
1 Install the unit on the base so that the bottom is higher than snow cover surface.



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 provide the roof on site.

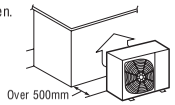


Since drain water generated by defrost control may freeze, following measures are required.

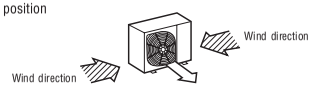
- Don't execute drain piping work by using a drain elbow and drain grommets (optional parts). [Refer to Drain piping work.]
- Recommend setting Defrost Control (SW3-1) and Snow Guard Fan Control (SW3-2). [Refer to Setting SW3-1, SW3-2.]

(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.

1.Install the outlet air blow side of the unit to face a wall of building, or provide a fence or a windbreak screen.



2.Install the outlet air blow side of the unit in a position perpendicular to the direction of wind.

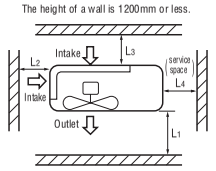


5) Installation space

- Walls surrounding the unit in the four sides are not acceptable.
- There must be a 1-meter or larger space in the above.
- When more than one unit are installed side by side, provide a 250mm or wider interval between them as a service space. In order to facilitate servicing of controllers, please provide a sufficient space between units so that their top plates can be removed easily.
- 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.

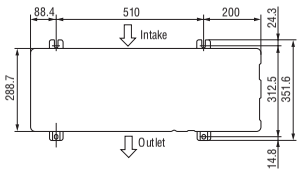
(mm)

Size \ Example installation	Model 40, 50, 60			
	I	II	III	IV
L1	Open	280	280	180
L2	100	75	Open	Open
L3	100	80	80	80
L4	250	Open	250	Open

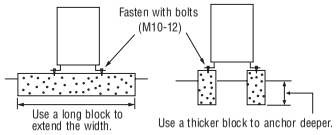


6) Installation

① Anchor bolt fixed position



② Notabilia for installation



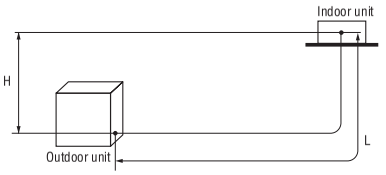
- In installing the unit, fix the unit's legs with bolts specified on the left.
- The protrusion of an anchor bolt on the front side must be kept within 15 mm.
- Securely install the unit so that it does not fall over during earthquakes or strong winds, etc.
- Refer to the above illustrations for information 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.

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.

Restrictions		Dimensional restrictions	Marks appearing in the drawing on the right
Main pipe length		30m or less	L
Elevation difference between indoor and outdoor units	When the outdoor unit is positioned higher,	20m or less	H
	When the outdoor unit is positioned lower,	20m or less	H



⚠CAUTION ● 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, please see " 5. UTILIZATION OF EXISTING PIPING."

2) Determination of pipe size

- Determine refrigerant pipe size pursuant to the following guidelines based on the indoor unit specifications.

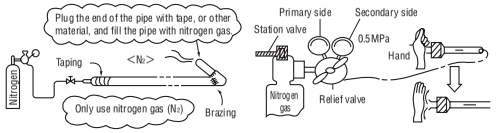
	Model 40, 50, 60	
	Gas pipe	Liquid pipe
Outdoor unit connected	ϕ12.7 Flare	ϕ6.35 Flare
Refrigerant piping (branch pipeL)	ϕ12.7	ϕ6.35
Indoor unit connected	ϕ12.7	ϕ6.35

When pipe is brazing.

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.

NOTE ● Select pipes having a wall thickness larger than the specified minimum pipe thickness.

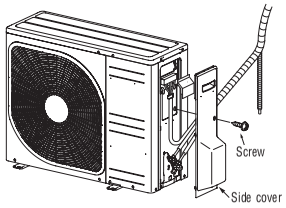
Pipe diameter [mm]	6.35	12.7
Minimum pipe wall thickness [mm]	0.8	0.8
Pipe material*	O-type pipe	O-type pipe

*Phosphorus deoxidized seamless copper pipe ICS 23.040.15, ICS 77.150.30

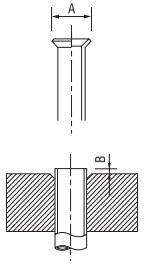
4) On-site piping work

⚠ 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 side cover Please remove the screw of a side cover and remove to the front.



- 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.
- The pipe should be anchored every 1.5m or less to isolate the vibration.
- Tighten a flare joint securely with a double spanner.



Flared pipe end : A (mm)

Copper pipe outer diameter	A 0 −0.4
ϕ6.35	9.1
ϕ12.7	16.6

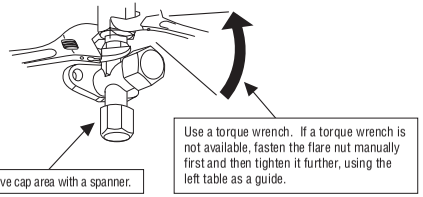
Copper pipe protrusion for flaring : B (mm)

Copper pipe outer diameter	In the case of a rigid (clutch) type	
	With an R410A tool	With a conventional tool
ϕ6.35	0~0.5	1.0~1.5
ϕ12.7		

⚠ CAUTION **Do not apply force beyond proper fastening torque in tightening the flare nut.**

Fix both liquid and gas operation valves at the valve main bodies as illustrated on the right, and then fasten them, applying appropriate fastening torque.

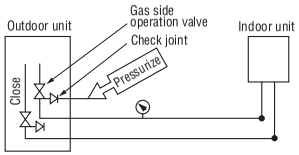
Operation valve size (mm)	Tightening torque (N·m)	Tightening angle (°)	Recommended length of a tool handle (mm)
ϕ6.35 (1/4")	14~18	45~60	150
ϕ12.7 (1/2")	49~61	30~45	250



5) Air tightness test

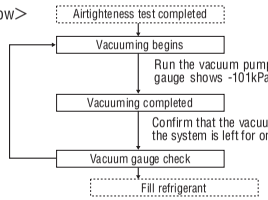
① Although outdoor and indoor units themselves have been tested for air tightness at the factory, check the connecting pipes after the installation work for air tightness from the operation valve's check joint equipped on the outdoor unit side. While conducting a test, keep the operation valve shut all 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℃, 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.

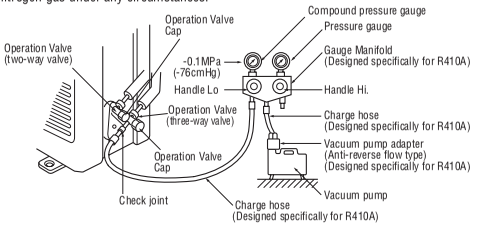


6) Evacuation

<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.



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.).

○Use a counterflow prevention adapter to prevent vacuum pump oil from entering the refrigerant system.

Securely tighten the operation valve cap and the check joint blind nut after adjustment.

Operation valve size (mm)	Operation valve cap tightening torque (N·m)	Check joint blind nut tightening torque (N·m)
φ6.35 (1/4")	20~30	10~12
φ12.7 (1/2")	25~35	

7) Additional refrigerant charge

(1) Calculate a required refrigerant charge volume from the following table.

	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe φ6.35)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
Model 40, 50, 60	0.02	1.40	15

●This unit contains factory charged refrigerant covering 15m of refrigerant piping and additional refrigerant charge on the installation site is not required for an installation with up to 15m refrigerant piping.
When refrigerant piping exceeds 15m, additionally charge an amount calculated from the pipe length and the above table for the portion in excess of 15m.

●If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, please see "5. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

Additional charge volume (kg) = { Main length (m) – Factory charged volume 15 (m) } x 0.02 (kg/m)

*When an additional charge volume calculation result is negative, it is not necessary to charge refrigerant additionally.

●For an installation measuring 15 m or shorter in pipe length, please charge the refrigerant volume charged for shipment at the factory, when you recharge refrigerant after servicing etc.

(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.

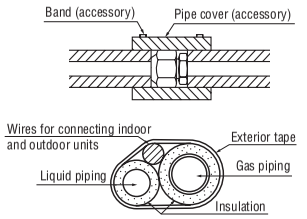
●When refrigerant is charged with the unit being run, complete a charge operation within 30 minutes. Running the unit with an insufficient quantity of refrigerant for a long time can cause a compressor failure.

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

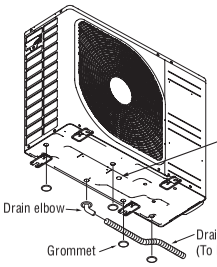
(1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
・ Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.

(2) Use a heat insulating material that can withstand 120℃ or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.
・ 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.
・ **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%.**



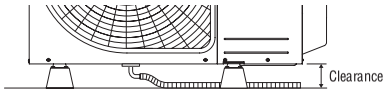
3. DRAIN PIPING WORK

- 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.
- Water may drip where there is a larger amount of drain water. Seal around the drain elbow and drain grommets with putty or adequate caulking material.
- Condensed water may flow out from vicinity of operation valve or connected pipes.
- Where you are likely to have several days of sub-zero temperatures in a row, do not use a drain elbow and drain grommets. (There is a risk of drain water freezing inside and blocking the drain.)



⚠ CAUTION

Do not put a grommet on this hole.
This is a supplementary drain hole to discharge drain water, when a large quantity of it is gathered.



- 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.
  Then, please secure space for the drain elbow and the drain hose.

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);

  Use 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 improperly 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 unit, if water penetrates into the box.)
- Always use a three-core cable for an indoor-outdoor connecting cable. Never use a shield cable.

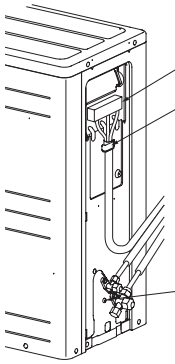
⚠ CAUTION

In case of faulty wiring connection, the indoor unit stops, and then the run lamp turns on and the timer lamp blinks.

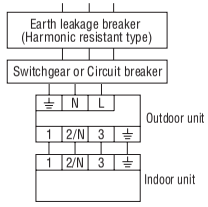
Use cables for interconnection wiring to avoid loosening of the wires.
CENELEC code for cables Required field cables.

H05RNR4G1.5 (Example) or 245IEC57

H	Harmonized cable type
05	300/500 volts
R	Natural-and/or synth. rubber wire insulation
N	Polychloroprene rubber conductors insulation
R	Stranded core
4or5	Number of conductors
G	One conductor of the cable is the earth conductor (yellow/green)
1.5	Section of copper wire (mm^2)



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 prorided in the control box.

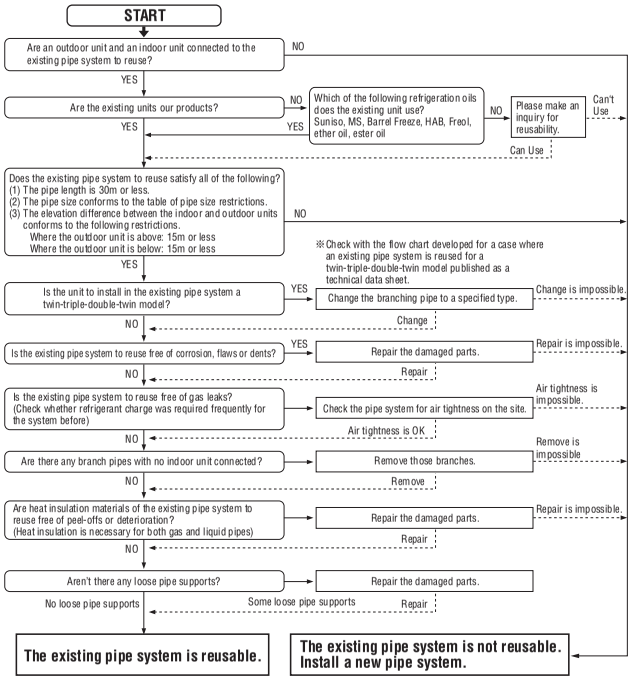
⚠ CAUTION Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.

Phase	Model	Earth leakage breaker	Switchgear or Circuit Breaker		Power souce (minimum)	Interconnecting and grounding wires (minimum)
			Switch breaker	Over current protector rated capacity		
Single-phase	40	15A,30mA, 0.1sec or less	30A	16A	2.0mm^2	1.5mm×4
	50					
	60					

- 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, please follow the internal cabling regulations. Adapt it to the regulation in effect in each country.

5. UTILIZATION OF EXISTING PIPING

Check whether an existing pipe system is reusable or not by using the following flow chart.



<Table of pipe size restrictions>

◎:Standard pipe size ○:Usable △:Restricted to shorter pipe length limits

Additional charge volume per meter of pipe		0.02kg/m	0.06kg/m
Pipe size	Liquid pipe	ø6.35	ø9.52
	Gas pipe	ø12.7	ø12.7
40	Usability	◎	△
	Maximum one-way pipe length	30	10
	Length covered without additional charge	15	5
50	Usability	◎	△
	Maximum one-way pipe length	30	10
	Length covered without additional charge	15	15
60	Usability	◎	△
	Maximum one-way pipe length	30	10
	Length covered without additional charge	15	5

- **Please consult with our distributor in the area, if you need to recover refrigerant and charge it again.**
- Any combinations of pipe sizes not listed in the table are not usable.

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)

※ If you obtain a negative figure as a result of calculation, no additional refrigerant needs to be charged.

Example) When an 60 is installed in a 10m long existing pipe system (liquid ϕ9.52, gas ϕ12.7), the quantity of refrigerant to charge additionally should be (10m-5m) x 0.06kg/m = 0.3 kg.

⚠ WARNING

<Where the existing unit can be run for a cooling operation.>

Carry out the following steps with the excising unit (in the order of (1), (2), (3) and (4))

(1) Run the unit for 30 minutes for a cooling operation.
(2) Stop the indoor fan and run the unit for 3 minutes for a cooling operation (returning liquid)
(3) Close the liquid side operation valve of the outdoor unit and pump down (refrigerant recovery)
(4) Blow with nitrogen gas. ※ If discolored refrigeration oil or any foreign matters is discharged by the blow, wash the pipe system or install a new pipe system.
- For the flare nut, do not use the old one, but use the one supplied with the outdoor unit. Process a flare to the dimensions specified for R410A.

<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, please contact our distributor in the area.

INSTALLATION TEST CHECK POINTS

Check the following points again after completion of the installation, and before turnig on the power. Conduct a test run again and ensure that the unit operates properly.
Explain to the customer how to use the unit and how to take care of the unit following the instruction manual.

After installation

- ☐ Power cables and connecting wires are securely fixed to the terminal block.
- ☐ The power supply voltage is correct as the rating.
- ☐ The drain hose is fixed securely.
- ☐ Operational valve is fully open.
- ☐ No gas leaks from the joints of the operational valve.
- ☐ The pipe joints for indoor and outdoor pipes have been insulated.
- ☐ The reverse flow check cap is attached.
- ☐ The cover of the pipe cover (A) faces downward to prevent rain from entering.
- ☐ Gaps are properly sealed between the pipe covers (A) (B) and the wall surface / pipes.

(2) Model FDC71VN

Inverter driven single split PAC
71V
Designed for R410A refrigerant

◎This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to the respective installation manuals supplied with the units.
◎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 ⚠WARNING 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 ⚠CAUTION. **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.	❗	Always do it according to the instruction

- 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

- 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 malfunction.
- **Install the system in full accordance with the instruction manual.**
  Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire.
- **Use the original accessories and the specified components for installation.**
  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 tighten the flare nut too much.**
  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 personal injury.
- **Do not run the unit with removed panels or protections**
  Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks.
- **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.

⚠ CAUTION

- **Carry out the electrical work for ground lead with care**
  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. Never connect the grounding wire to a gas pipe because if gas leaks,it could cause explosion or ignition.
- **Use the circuit breaker for all pole with correct capacity.**
  Using the incorrect circuit breaker, it can cause the unit malfunction 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 accordanced with EN60204-1.
- **Take care when carrying the unit by hand.**
  If the unit weights more than 20kg, it must be carried by two or more persons. Do not carry by the plastic straps, always use the carry handle when carrying the unit by hand. Use gloves to minimize the risk of cuts by the aluminum fins.
- **Dispose of any packing materials correctly.**
  Any remaining packing materials can cause personal injury as it contains nails and wood. And to avoid danger of suffocation, be sure to keep the plastic wrapper away from children and to dispose after tear it up.
- **Pay attention not to damage the drain pan by weld spatter when welding work is done near the indoor unit.**
  If weld spatter entered into the indoor unit during welding work, it can cause pin-hole in drain pan and result in water leakage. To prevent such damage, keep the indoor unit in its packing or cover it.
- **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.
- **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.
- **Perform installation work properly according to this installation manual.**
  Improper installation can cause abnormal vibrations or increased noise generation.
- **Earth leakage breaker must be installed**
  If the earth leakage breaker is not installed, it can cause fire or electric shocks.
- **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 install the unit near the location where leakage of combustible gases can occur.**
  If leaked gases accumulate around the unit, it can cause fire.
- **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.
- **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..
- **When the outdoor unit is installed on a roof or a high place, provide permanent ladders and handrails along the access route and fences and handrails around the outdoor unit.**
  If safety facilities are not provided, it can cause personal injury due to falling from the installation place.
- **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 cause jamming.
- **Do not install the outdoor unit in a location where insects and small animals can inhabit.**
  Insects and small animals can enter the electric parts and cause damage or fire. Instruct the user to keep the surroundings clean.
- **Do not use the base flame for outdoor unit which is corroded or damaged due to long periods of operation.**
  Using an old and damage base flame can cause the unit falling down and cause personal injury.
- **Do not install the unit in the locations listed below**
  - Locations where carbon fiber, metal powder or any powder is floating.
  - Locations where any substances that can affect the unit such as sulphide gas, chloride gas, acid and alkaline can occur.
  - Vehicles and ships
  - 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 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 installation)
  - Locations where strong air blows against the air outlet of outdoor unit

  It can cause remarkable decrease in performance, corrosion and damage of components, malfunction and fire.
- **Do not install the outdoor unit in the locations listed below.**
  - Locations where discharged hot air or operating sound of the outdoor unit can bother neighborhood.
  - Locations where outlet air of the outdoor unit blows directly to an animal or plants. The outlet air can affect adversely to the plant etc.
  - Locations where vibration can be amplified and transmitted due to insufficient strength of structure.
  - Locations where vibration and operation sound generated by the outdoor unit can affect seriously. (on the wall or at the place near bed room)
  - 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 surrounding environment and cause a claim
- **Do not use the unit for special purposes such as storing foods, cooling precision instruments and preservation of animals, plants or art.**
  It can cause the damage of the items.
- **Do not touch any buttons with wet hands**
  It can cause electric shocks
- **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.
- **Do not clean up the unit with water**
  It can cause electric shocks
- **Do not operate the outdoor unit with any article placed on it.**
  You may incur property damage or personal injure from a fall of the article.
- **Do not step onto the outdoor unit.**
  You may incur injury from a drop or fall.

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)

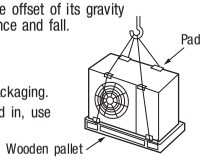
	Dedicated R410A tools
a)	Gauge manifold
b)	Charge hose
c)	Electronic scale for refrigerant charging
d)	Torque wrench
e)	Flare tool
f)	Protrusion control copper pipe gauge
g)	Vacuum pump adapter
h)	Gas leak detector

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.

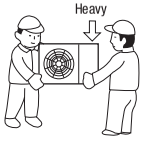
1) Delivery

- 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.



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

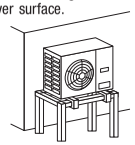
Be sure to select a suitable installation place in consideration of following conditions.

- ○ 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
- ○ A place where the unit is not exposed to oil splashes.
- ○ A place where it can be free from danger of flammable gas leakage.
- ○ A place where drain water can be disposed without any trouble.
- ○ A place where the unit will not be affected by heat radiation from other heat source.
- ○ A place where snow will not accumulate.
- ○ 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.
- ○ A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
- ○ A place where the unit will not be affected by electromagnetic waves and/or high-harmonic waves generated by other equipment.
- ○ 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.
- ○ A place where strong wind will not blow against the outlet air blow of the unit.

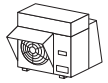
4) Caution about selection of installation location

(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.

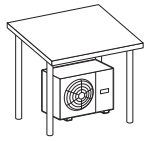
1. Install the unit on the base so that the bottom is higher than snow cover surface.



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 provide the roof on site.

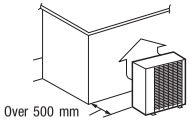


Since drain water generated by defrost control may freeze, following measures are required.

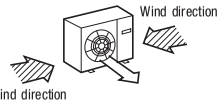
- ● Don't execute drain piping work by using a drain elbow and drain grommets (optional parts). [Refer to Drain piping work.]
- ● Recommend setting Defrost Control (SW3-1) and Snow Guard Fan Control (SW3-2). [Refer to Setting SW3-1, SW3-2.]

(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.

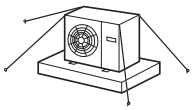
1.Install the outlet air blow side of the unit to face a wall of building, or provide a fence or a windbreak screen.



2.Install the outlet air blow side of the unit in a position perpendicular to the direction of wind.



3.The unit should be installed on the stable and level foundation. If the foundation is not level, tie down the unit with wires.

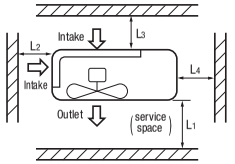


5) Installation space

- ● Walls surrounding the unit in the four sides are not acceptable.
- ● There must be a 1-meter or larger space in the above.
- ● When more than one unit are installed side by side, provide a 250mm or wider interval between them as a service space. In order to facilitate servicing of controllers, please provide a sufficient space between units so that their top plates can be removed easily.
- ● 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.

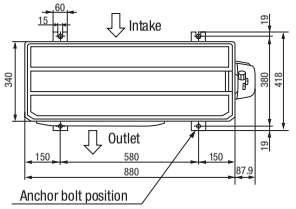
(mm)

Example installation / Size	71V		
	Ⅰ	Ⅱ	Ⅲ
L1	Open	Open	500
L2	300	250	Open
L3	100	150	100
L4	250	250	250

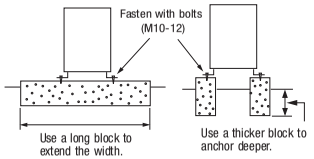


6) Installation

① Anchor bolt fixed position



② Notabilia for installation



- ● In installing the unit, fix the unit's legs with bolts specified on the above.
- ● 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 above 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.

Restrictions		Dimensional restrictions	Marks appearing in the drawing on the right	
			Single type	Twin type
One-way pipe length of refrigerant piping	Model 71V	50m or less	L	L1+L1+L2
Main pipe length			L	L
One-way pipe length after the first branching point		20m or less	—	L1, L2
Difference of pipe length after the first branching point		10m or less	—	L1—L2
Elevation difference between indoor and outdoor units	When the outdoor unit is positioned higher,	30m or less	H	H
	When the outdoor unit is positioned lower,	15m or less	H	H
Elevation difference between indoor units		0.5m or less	—	h

⚠CAUTION

- ● 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, please see " 6. UTILIZATION OF EXISTING PIPING."

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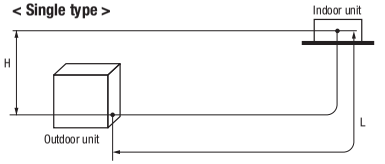

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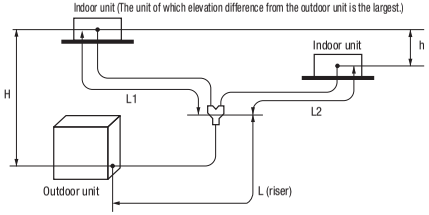


2) Determination of pipe size

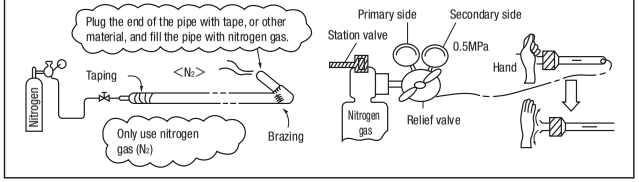
● Determine refrigerant pipe size pursuant to the following guidelines based on the indoor unit specifications.

		Model 71V	
		Gas pipe	Liquid pipe
Outdoor unit connected		φ15.88 Flare	φ9.52 Flare
Refrigerant piping (branch pipeL)		φ15.88	φ9.52
In the case of a single type	Indoor unit connected	φ15.88	φ9.52
	Capacity of indoor unit	Model 71V	
In the case of a twin type	Branching pipe set	DIS-WA1	
	Refrigerant piping (branch pipe L1,L2)	φ12.7	φ9.52
	Indoor unit connected	φ12.7	φ6.35
	Capacity of indoor unit	Model 40V×2	

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.



⚠CAUTION

- When the 40V 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 φ6.35 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 the rated capacity.
- 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.

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.

Pipe diameter [mm]	6.35	9.52	12.7	15.88
Minimum pipe wall thickness [mm]	0.8	0.8	0.8	1.0
Pipe material*	O-type pipe	O-type pipe	O-type pipe	O-type pipe

NOTE ● Select pipes having a wall thickness larger than the specified minimum pipe thickness.

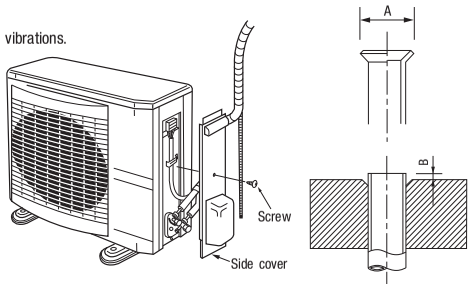
*Phosphorus deoxidized seamless copper pipe C1220T, JIS H3300

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 side cover Please remove the screw of a side cover and remove to the front.



- 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.
- The pipe should be anchored every 1.5m or less to isolate the vibration.
- Tighten a flare joint securely with a double spanner.

Flared pipe end: A (mm)

Copper pipe outer diameter	A 0 −0.4
φ6.35	9.1
φ9.52	13.2
φ12.7	16.6
φ15.88	19.7

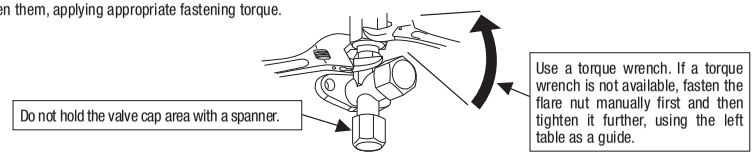
Copper pipe protrusion for flaring: B (mm)

Copper pipe outer diameter	In the case of a rigid (clutch) type	
	With an R410A tool	With a conventional tool
φ6.35	0～0.5	0.7～1.3
φ9.52		
φ12.7		
φ15.88		

⚠ CAUTION **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.

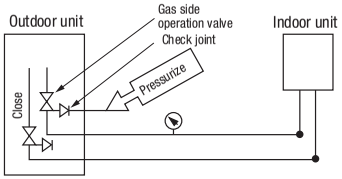
Operation valve size (mm)	Tightening torque (N-m)	Tightening angle (°)	Recommended length of a tool handle (mm)
φ6.35 (1/4")	14～18	45～60	150
φ9.52 (3/8")	34～42	30～45	200
φ12.7 (1/2")	49～61	30～45	250
φ15.88(5/8")	68～82	15～20	300



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.

Airtightness test completed
↓
Vacuuming begins
↓
Vacuuming completed
↓
Vacuum gauge 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, R407C, etc.).
○Use 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.

	Standard refrigerant charge volume (kg)	Pipe length for standard refrigerant charge volume (m)	Additional charge volume (kg) per meter of refrigerant piping (liquid pipe ϕ6.35)	Refrigerant volume charged for shipment at the factory (kg)	Installation's pipe length (m) covered without additional refrigerant charge
Model 71V	2.35	20	0.06	2.95	30

● 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 1.95kg.
● If an existing pipe system is used, a required refrigerant charge volume will vary depending on the liquid pipe size. For further information, please see "6. UTILIZATION OF EXISTING PIPING."

Formula to calculate the volume of additional refrigerant required

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.

● For an installation measuring 3m or longer, but not more than 20m, in pipe length, please charge the standard refrigerant charge volume, when you recharge refrigerant after servicing etc.
● When refrigerant piping is shorter than 3m, recharge 1.95kg of refrigerant.
Ex.) For a 10m installation, charge 2.35 kg of refrigerant.
For a 25m installation, charge "2.35 + (25-20) x 0.06 = 2.65 kg."

(2) Charging refrigerant

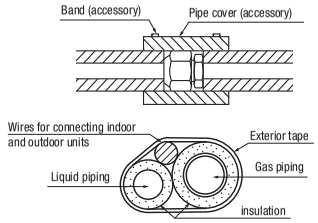
● Since R410A refrigerant must be charged in the liquid phase, you should charge it, keeping the container cylinder upside down or using a refrigerant cylinder equipped with a siphon tube.
● Charge refrigerant always from the liquid side service port with the operation valve shut. When you find it difficult 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

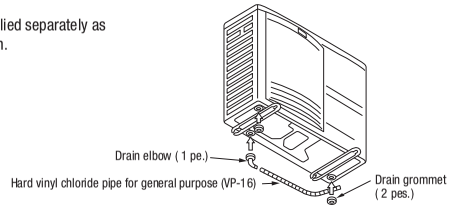
(1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.
- Improper heat insulation/anti-dew dressing can result in a water leak or dripping causing damage to household effects, etc.

(2) Use a heat insulating material that can withstand 120℃ or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.
- 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%.**



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.



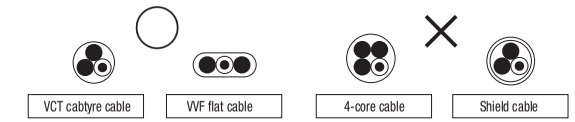
○ There are 3 drain holes provided on the bottom plate of an outdoor unit to discharge condensed water.
○ When condensed water needs to be led to a drain, etc., install the unit on a flat base (supplied separately as an optional part) or concrete blocks.
○ Connect a drain elbow as shown in the illustration 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.

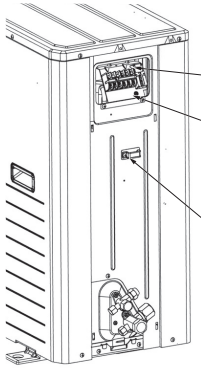
Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country.
Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.

- 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 improperly 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 unit, if water penetrates into the box.)
- Always use a three-core cable for an indoor-outdoor connecting cable. Never use a shield cable.



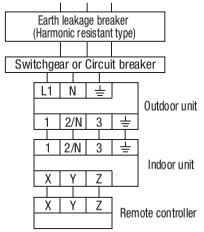
● Connect a pair bearing a common terminal number with an indoor-outdoor connecting wire.
● In cabling, fasten cables securely with cable clamps so that no external force may work on terminal connections.
● Grounding terminals are provided in the control box.



Power cable, indoor-outdoor connecting wires

● Always perform grounding system installation work with the power cord unplugged.

⚠ CAUTION Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.



Model	Power source	Power cable thickness (mm^2)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness x number
71V	Single phase 3 wire 220-240V 50Hz	3.5	17	21	ϕ1.6mm	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.
●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.

5. TEST RUN

⚠ WARNING

- 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 dangerous. Take utmost care not to incur an electric shock or burns. Do not leave the unit with the service panel open.

} A failure to observe these instructions can result in a compressor breakdown.

⚠ CAUTION

- When you operate switches for on-site setting, be careful not to touch a live part.
- 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, "E-5" (Communication error) may occur.

About insulation resistance

- An insulation resistance value may drop to several M ohms immediately after installation or when the unit is left for a long time without power, because refrigerant is gathered in the compressor. When the earth-leakage breaker is actuated due to low insulation resistance, please check the following:

(1) Check whether a normal insulation resistance value is restored about 6 hours after power is turned. Turning on power will energize the compressor and heat it to evaporate refrigerant gathered in it.
(2) Check whether the earth-leakage breaker is a harmonic resistant type.
This unit is equipped with an inverter and therefore, the use of a harmonic resistant type earth-leakage breaker is necessary to prevent a false actuation.

1) Test run method

Please remove a side cover.

(1) A test run can be initiated from an outdoor unit by using SW5-4 and SW5-4 for on-site setting.
(2) Switching SW3-3 to ON will start the compressor.
(3) The unit will start a cooling operation, when SW5-4 is OFF, or a heating operation, when SW5-4 is ON.
(4) **Do not fail to switch SW5-3 to OFF when a test run is completed.**

※ **In case of the first operation after turning on the power supply, when the unit runs in the cooling mode at outside temperature 5°C or lower, it automatically changes into the cooling mode after it runs in the heating mode for 10 minutes.**

SW-3-3	SW-3-4	
ON	OFF	Cooling during a test run
	ON	Heating during a test run
OFF	—	Normal or After the test operation

2) Checking the state of the unit in operation

Please remove a service panel.

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.

Please remove a service panel.

(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 30 seconds in every 10 minutes, when outdoor temperature falls to 3℃ 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 remote control unit	Printed circuit board LED(The cycles of 5 seconds)		Failure event	Action
	Red LED	Green LED		
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)	1. Check whether the operation valves are open. 2. If an error has been canceled when 3 minutes have elapsed since a compressor stop, you can restart the unit by effecting Check Reset from the remote control unit.
E49	Blinking once	Blinking continuously	Low pressure error or operation with operation valves shut (occurs mainly during a cooling operation)	

- 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.

	When power is turned on	When the unit comes to a normal stop		When the unit comes to an abnormal stop	
		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.

Items to checkbefore a test run

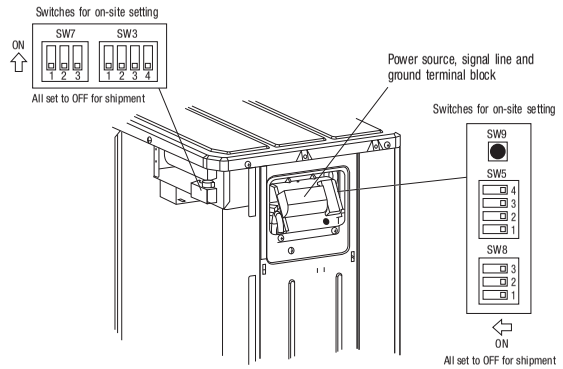
- When you leave the outdoor unit with power supplied to it, be sure to close the panel.

Item No.used in the installation manual	Item	Check item	Check
2	Refrigerant plumbing	If brazed, was it brazed under a nitrogen gas flow?	
		Were air-tightness test and vacuum extraction surely performed?	
		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?	
4	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?	
		Do indoor-outdoor connecting cables connect between the same terminal numbers?	
		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.

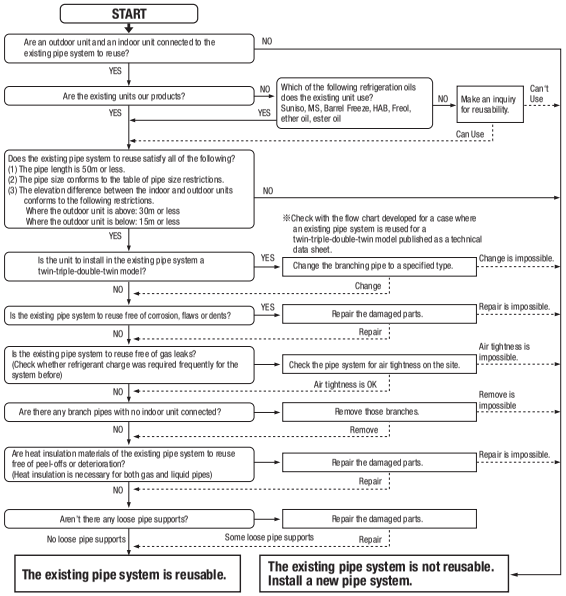
Turn	The contents of operation	Check
①	Open the gas side operation valve fully.	
②	Open the liquid side operation valve fully.	
③	Close the panel.	
④	Where a remote control unit is used for unit setup on the installation site, follow instructions for unit setup on the installation site with a remote control unit.	
⑤	SW5-3 / SW5-4 OFF: the unit will start a cooling operation. SW5-3 / SW5-4 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, please turn on SW5-3 for 1 second and be sure to end a test run.	
⑩	Where options are used, check their operation according to the respective instruction manuals.	



※1 Do not operate SW3-3, SW5-1, SW5-2, SW8.
※2 Refer to TECHNICAL MANUAL about SW9. (Pump down SW)

6. UTILIZATION OF EXISTING PIPING.

Check whether an existing pipe system is reusable or not by using the following flow chart.



⚠ WARNING <Where the existing unit can be run for a cooling operation.>

Carry out the following steps with the excising unit (in the order of (1), (2), (3) and (4))

(1) Run the unit for 30 minutes for a cooling operation.
(2) Stop the indoor fan and run the unit for 3 minutes for a cooling operation (returning liquid)
(3) Close the liquid side operation valve of the outdoor unit and pump down (refrigerant recovery)
(4) Blow with nitrogen gas. ※ If discolored refrigeration oil or any foreign matters is discharged by the blow, wash the pipe system or install a new pipe system.

- For the flare nut, do not use the old one, but use the one supplied with the outdoor unit. Process a flare to the dimensions specified for R410A.
- **Turn on-site setting switch SW8-1** to the ON position. (Where the gas pipe size is ϕ19.05)

<Table of pipe size restrictions>

◎:Standard pipe size ○:Usable △:Restricted to shorter pipe length limits Cool ↓: Cooling capacity drop

Additional charge volume per meter of pipe		0.06kg/m		0.08kg/m
Pipe size	Liquid pipe	ϕ9.52	ϕ9.52	ϕ12.7
	Gas pipe	ϕ12.7	ϕ15.88	ϕ15.88
71V	Usability	Cool ↓	◎	△
	Maximum one-way pipe length	35	50	25
	Length covered without additional charge	30	30	15

- **The pipe length should be at least 3m. If the pipe length is shorter than 3m, the quantity of refrigerant needs to be reduced. Please consult with our distributor in the area, if you need to recover refrigerant and charge it again.**
- Any combinations of pipe sizes not listed in the table are not usable.

<Pipe system after the branching pipe>

◎:Standard pipe size ○:Usable

Additional charging amount of refrigerant per 1m			0.06kg/m	
Pipe size	Liquid pipe		ϕ9.52	
	Gas pipe		ϕ12.7	ϕ15.88
Model	Combination type	Combination of capacity		
FDC71	Twin	40+40	◎	○

- Any combinations of pipe sizes not listed in the tableare not usable.

<The model types of existing units of which branching pipes are reusable.>

The branching pipes used with models other than those listed above are not reusable.

Use our genuine branching pipes for R410A.

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 71V (single installation) is installed in a 30m long existing pipe system (liquid ϕ12.7, gas ϕ15.88), the quantity of refrigerant to charge additionally should be (30m-15m) x 0.08kg/m = 1.2 kg.

Example) When an 71V (twin installation) is installed in a 30m long existing pipe system (main pipe length 20m, liquid ϕ12.7, gas ϕ15.88; pipe length after branching pipe 5m x 2, liquid ϕ9.52, gas ϕ12.7), the quantity of refrigerant to charge additionally should be (20m-15m) x 0.08kg/m + 5m x 2 x 0.06kg/m = 1.0 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.

PSB012D923D

(3) Models FDC100 ～ 140VN, 100 ～ 140VS

Inverter driven single split PAC
100V・125V・140V
Designed for R410A refrigerant

◎This installation manual deals with outdoor units and general installation specifications only. For indoor units, refer to the respective installation manuals supplied with the units.
◎Read this manual carefully before you set to installation work and carry it out according to the instructions contained in this manual.

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 phase 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.

Check before installation work

[Accessory]

Edging		1 piece	knock-out hole protection

- Model name and power source
- Refrigerant piping length
- Piping, wiring and miscellaneous small parts
- Indoor unit installation 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.

⚠ 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.

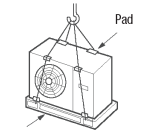
Notabilia as a unit designed for R410A

- 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

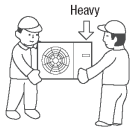
1. HAULAGE AND INSTALLATION (Take particular care in carrying in or moving the unit, and always perform such an operation with two or more persons.)

⚠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.



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

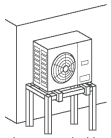
Be sure to select a suitable installation place in consideration of following conditions.

- ○ 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
- ○ A place where the unit is not exposed to oil splashes.
- ○ A place where it can be free from danger of flammable gas leakage.
- ○ A place where drain water can be disposed without any trouble.
- ○ A place where the unit will not be affected by heat radiation from other heat source.
- ○ A place where snow will not accumulate.
- ○ 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.
- ○ A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
- ○ A place where the unit will not be affected by electromagnetic waves and/or high-harmonic waves generated by other equipment.
- ○ 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.
- ○ 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.

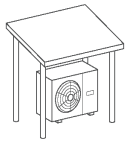
1.Install the unit on the base so that the bottom is higher than snow cover surface.



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.

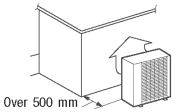


Since drain water generated by defrost control may freeze, following measures are required.

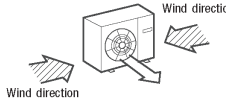
- Don't execute drain piping work by using a drain elbow and drain grommets (optional parts). [Refer to Drain piping work.]
- Recommend setting Defrost Control (SW3-1) and Snow Guard Fan Control (SW3-2). [Refer to Setting SW3-1, SW3-2.]

(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.

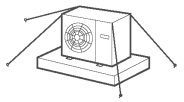
1.Install the outlet air blow side of the unit to face a wall of building, or provide a fence or a windbreak screen.



2.Install the outlet air blow side of the unit in a position perpendicular to the direction of wind.



3.The unit should be installed on the stable and level foundation. If the foundation is not level, tie down the unit with wires.

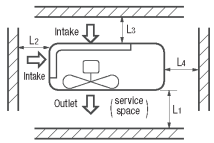


5) Installation space

- 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.

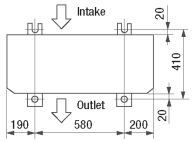
(mm)

Size \ Example installation	100V~140V I	II	III
L1	Open	Open	500
L2	300	5	Open
L3	150	300	150
L4	5	5	5

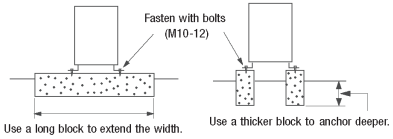


6) Installation

① Anchor bolt fixed position



② Notabilia for 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.

Descriptions	One-way pipe length difference from the first branching point to the indoor unit		Marks appearting in the drawing			
					< 3m	≧ 3m
	Model for outdoor units	Dimensional limitations	Single type	Twin type	Triple type A	Triple type B
One-way pipe length of refrigerant piping	100V,125V	≦ 50m	L	L+L1+L2	—	—
	140V				L+L1+L2+L3	L+La+L1+L2+L3
Main pipe length	100V,125V	≦ 50m	—	L	—	—
	140V				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 branching point	100V,125V	≦ 30m	—	L1, L2	—	—
	140V				L1, L2, L3	L1 (1)
One-way pipe length after the first branching point and second branching point	140V	≦ 27m	—	—	—	La+L2, La+L3 (1)
One-way pipe length difference from the first branching point to the indoor unit	Twin type	≦ 10m	—	| L1—L2 |	—	—
	Triple type 140V	≦ 3m			| L1—L2 | , | L2—L3 | , | L3—L1 |	
		≦ 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 indoor and outdoor units	When the outdoor unit is positioned higher,	≦ 30m	H	H	H	H
	When the outdoor unit is positioned lower,	≦ 15m				
Elevation difference between indoor units		≦ 0.5m	—	h	h1, h2, h3	h1, h2, h3

⚠CAUTION

- 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
Outdoor unit connected		ϕ15.88 Flare	ϕ9.52 Flare	ϕ15.88 Flare	ϕ9.52 Flare	ϕ15.88 Flare	ϕ9.52 Flare	ϕ15.88 Flare	ϕ9.52 Flare
Refrigerant piping (branch pipe L)		ϕ15.88	ϕ9.52	ϕ15.88	ϕ9.52	ϕ15.88	ϕ9.52	ϕ15.88	ϕ9.52
In the case of a single type	Indoor unit connected	ϕ15.88	ϕ9.52	ϕ15.88	ϕ9.52	—		ϕ15.88	ϕ9.52
	Capacity of indoor unit	Model 100V, Model VA40		Model 125V, Model VA50				Model 140V, Model VA60	
In the case of a twin type	Branching pipe set	DIS-WA1		DIS-WA1		DIS-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
	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 60V×2		Model VA25×2		Model 71V×2, Model 30V×2	
In the case of a triple type A	Branching pipe set	—		—		—		DIS-TA1	
	Refrigerant piping (branch pipe L1,L2,L3)							ϕ12.7	ϕ9.52
	Indoor unit connected							ϕ12.7	ϕ6.35
	Capacity of indoor unit							Model 50Vx3, Model VA20x3	
In the case of a triple type B	Branching pipe set	—		—		—		DIS-WA1	
	Refrigerant piping (branch pipe La)							ϕ15.88	ϕ9.52
	Refrigerant piping (branch pipe L1)							ϕ12.7	ϕ9.52
	Indoor unit connected							DIS-WA1	
	Refrigerant piping (branch pipe L2,L3)							ϕ12.7	ϕ9.52
	Indoor unit connected							ϕ12.7	ϕ6.35
	Capacity of indoor unit							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 ϕ6.35 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 the rated capacity.
- 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.

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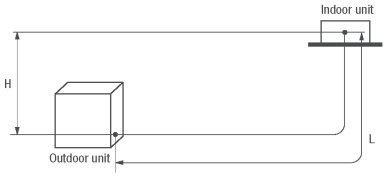

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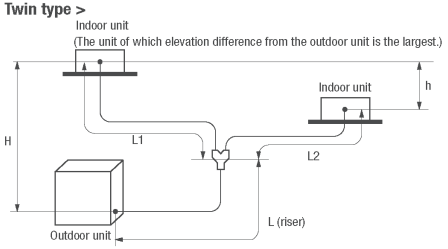

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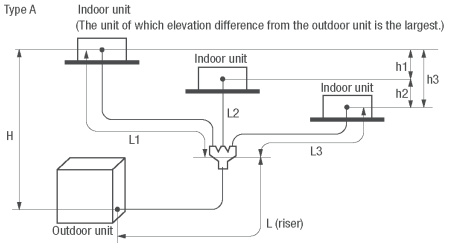

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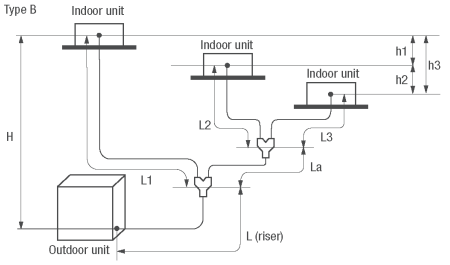
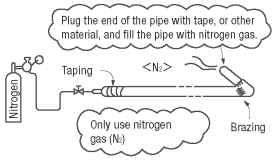
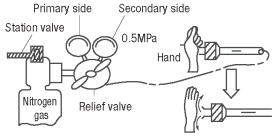


About brazing

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 ϕ19.05 or larger pipes, because O-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]	0.8	0.8	0.8	1.0	1.0	1.0	1.0
Pipe material*	O-type pipe	O-type pipe	O-type pipe	O-type pipe	1/2H-type pipe	1/2H-type pipe	1/2H-type pipe

*Phosphorus deoxidized seamless copper pipe C1220T, JIS H3300

NOTE

- Select pipes having a wall thickness larger than the specified minimum pipe thickness.

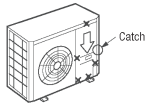
4) On-site piping work

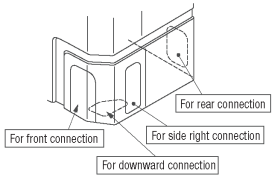
⚠IMPORTANT

- 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.

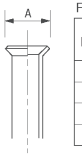
How to remove the service panel

First remove the five screws (✕ 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.



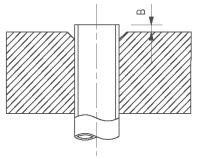


- The pipe can be laid in any of the following directions: side right, front, rear and downward.
- Remove a knock-out plate provided on the pipe penetration to open a minimum necessary area and attach an edging material supplied as an accessory by cutting it to an appropriate length before laying a pipe.
- 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.



Flared pipe end: A (mm)

Copper pipe outer diameter	A $^{0}_{-0.4}$
ϕ6.35	9.1
ϕ9.52	13.2
ϕ12.7	16.6
ϕ15.88	19.7



Copper pipe protrusion for flaring: B (mm)

Copper pipe outer diameter	In the case of a rigid (clutch) type	
	With an R410A tool	With a conventional tool
ϕ6.35	0～0.5	0.7～1.3
ϕ9.52		
ϕ12.7		
ϕ15.88		

- Tighten a flare joint securely with a double spanner.

⚠ CAUTION

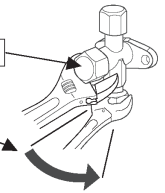
Do not apply force beyond proper fastening torque in tightening the flare nut.

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

Do not hold the valve cap area with a spanner.

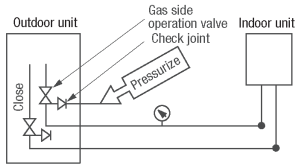
Use a torque wrench. If a torque wrench is not available, fasten the flare nut manually first and then tighten it further, using the left table as a guide.



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℃, 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.

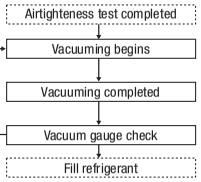


6) Evacuation

＜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.).
○Use 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>

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	2.0	0	0.06	3.8	30
Model 125V					
Model 140V					

<Twin, triple, W-twin type>

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
			Main pipe	Branch pipe		
Model 100V	2.0	0	0.06		3.8	30
Model 125V						
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)**

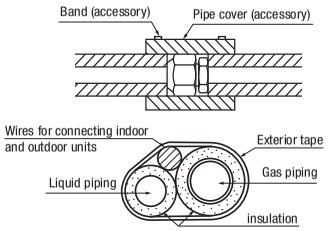
(2) Charging refrigerant

- 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.

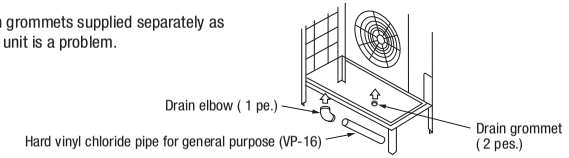
8) Heating and condensation prevention

(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 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 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%.**



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.
○ 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.
○ Connect a drain elbow as shown in the illustration and close the other two drain holes with grommets.

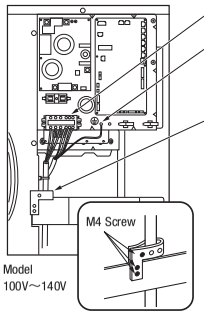
4. ELECTRICAL WIRING WORK For details of electrical cabling, refer to the indoor unit installation manual.

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 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 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 source, signal line and ground terminal block

Grounding terminal
○Do not connect to the grounding wire from another unit, but install a dedicated wire up to the grounding wire from the distribution board.

Wiring clamp
○Fasten cables and protect the terminal connection from external force.

Wiring diagram
○It is attached on the back side of the service panel.

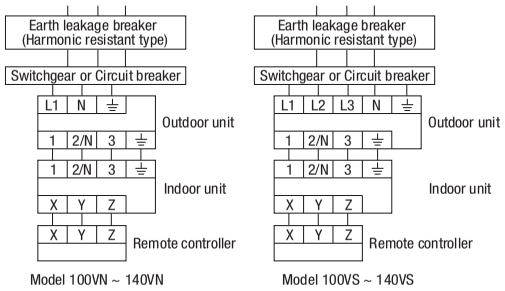
Outgoing cable direction
○As like the refrigerant pipe, it can be let out in any of the following directions: side right, front, rear and downward.

Power cable, indoor-outdoor connecting wires

● Always perform grounding system installation work with the power cord unplugged.

○ VCT cabtyre cable　VVF flat cable　× 4-core cable　Shield cable

⚠ CAUTION 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 220-240V 50Hz 220V 60Hz	5.5	24	25	φ1.6mm	φ1.6mm x 3
125VN						
140VN						
100VS	3 phase 4 wire 380-415V 50Hz 380V 60Hz	3.5	15	27		
125VS						
140VS						

※At the connection with the duct type indoor unit.

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 220-240V 50Hz 220V 60Hz	5.5	25	24	φ1.6mm	φ1.6mm x 3
125VN			27	22		
140VN		8	28	32		
100VS	3 phase 4 wire 380-415V 50Hz 380V 60Hz	3.5	16	26		
125VS			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.

5. TEST RUN

⚠ WARNING

- 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 dangerous.
  Take utmost care not to incur an electric shock or burns. Do not leave the unit with the service panel open.

} A failure to observe these instructions can result in a compressor breakdown.

⚠ CAUTION

- When you operate switches (SW3, SW5) for on-site setting, be careful not to touch a live part.
- 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	OFF	Cooling during a test run
	ON	Heating during a test run
OFF	—	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, 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 remote control unit	Printed circuit board LED(The cycles of 5 seconds)		Failure event	Action
	Red LED	Green LED		
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)	1. Check whether the operation valves are open. 2. If an error has been canceled when 3 minutes have elapsed since a compressor stop, you can restart the unit by effecting Check Reset from the remote control unit.
E49	Blinking once	Blinking continuously	Low pressure error or operation with operation valves shut (occurs mainly during a cooling operation)	

- 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.

	When power is turned on	When the unit comes to a normal stop		When the unit comes to an abnormal stop	
		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.

Items to checkbefore a test run

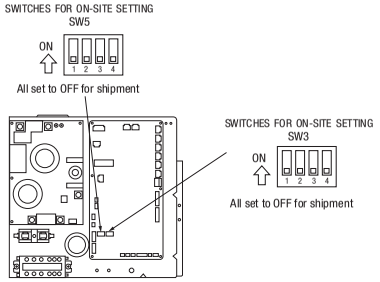
- When you leave the outdoor unit with power supplied to it, be sure to close the panel.

Item No.used in the installation manual	Item	Check item	Check
2	Refrigerant plumbing	If brazed, was it brazed under a nitrogen gas flow?	
		Were air-tightness test and vacuum extraction surely performed?	
		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?	
4	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?	
		Do indoor-outdoor connecting cables connect between the same terminal numbers?	
		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

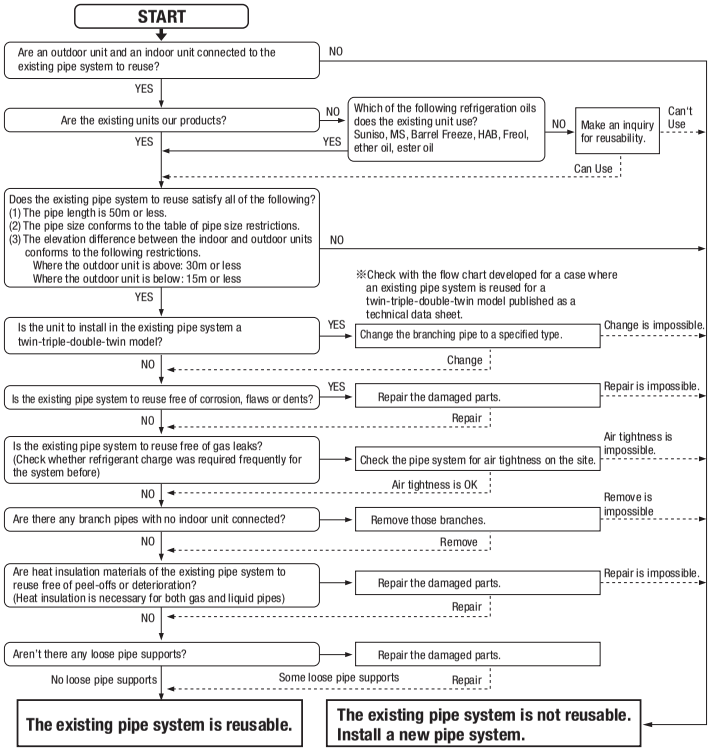
- Always carry out a test run and check the following in order as listed.

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, 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.	
	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.

Check whether an existing pipe system is reusable or not by using the following flow chart.



⚠ WARNING <Where the existing unit can be run for a cooling operation.>

Carry out the following steps with the excising unit (in the order of (1), (2), (3) and (4))

(1) Run the unit for 30 minutes for a cooling operation.
(2) Stop the indoor fan and run the unit for 3 minutes for a cooling operation (returning liquid)
(3) Close the liquid side operation valve of the outdoor unit and pump down (refrigerant recovery)
(4) Blow with nitrogen gas. ※ If discolored refrigeration oil or any foreign matters is discharged by the blow, wash the pipe system or install a new pipe system.
- For the flare nut, do not use the old one, but use the one supplied with the outdoor unit. Process a flare to the dimensions specified for R410A.
- **Turn on-site setting switch SW5-1** to the ON position. (Where the gas pipe size is ϕ19.05)

<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.

<Table of pipe size restrictions>

◎:Standard pipe size ○:Usable
△:Restricted to shorter pipe length limits

Additional charging amount of refrigerant per 1m		0.06kg/m		0.08kg/m	
Pipe size	Liquid pipe	ϕ9.52	ϕ9.52	ϕ12.7	ϕ12.7
	Gas pipe	ϕ15.88	ϕ19.05	ϕ15.88	ϕ19.05
100V	Usability	◎	○※1	△	△※1
	Maximum one-way pipe length	50	50	25	25
	Length covered without additional charge	30	30	15	15
125V	Usability	◎	○※1	△	△※1
	Maximum one-way pipe length	50	50	25	25
	Length covered without additional charge	30	30	15	15
140V	Usability	◎	○※1	△	△※1
	Maximum one-way pipe length	50	50	25	25
	Length covered without additional charge	30	30	15	15

※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 ϕ19.05 × 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 used.

※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 ϕ12.7 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 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		
Additional charging amount of refrigerant per 1m			0.06kg/m			0.06kg/m		
Pipe size	Liquid pipe		ϕ9.52			ϕ9.52		
	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	◎	○	×	—	—	—
125V	Twin	60+60	◎	○	×	—	—	—
140V	Twin	71+71	×	◎	○	—	—	—
	Triple A	50+50+50	◎	○	×	—	—	—
	Triple B	50+50+50	×	◎※5	○※5	◎	○	×

※4 Piping size after branch should be equal or smaller than main pipe size.
※5 Piping size from first branch to indoor unit should be ϕ9.52 (Liquid) / ϕ12.7 (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. □□□ 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 ϕ12.7, gas ϕ19.05), the quantity of refrigerant to charge additionally should be (20m-15m) x 0.08kg/m = 0.4 kg.

(4) Models FDC200, 250VS

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 the respective installation manuals supplied with the units.
◎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

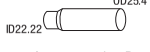
- We recommend you to read this "SAFETY PRECAUTIONS" carefully before the installation work in order to gain full advantage of the functions of the unit and to avoid malfunction due to mishandling.
- The precautions described below are divided into ⚠WARNING and ⚠CAUTION. The matters with possibilities leading to serious consequences such as death or serious personal injury due to erroneous handling are listed in the ⚠WARNING 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 ⚠CAUTION. **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.	❗	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]

Edging	Accessory pipe	
1 piece	1 piece	1 piece
 knock-out hole protection	 ID22.22 Accessory pipe A	 OD25.4 ID22.22 Accessory pipe B

- 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 malfunction.
- **Install the system in full accordance with the instruction manual.**
  Incorrect installation may cause bursts, personal injury, water leaks, electric shocks and fire.
- **Use the original accessories and the specified components for installation.**
  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 tighten the flare nut too much.**
  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 personal injury.
- **Do not run the unit with removed panels or protections**
  Touching rotating equipments, hot surfaces or high voltage parts can cause personal injury due to entrapment, burn or electric shocks.
- **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.

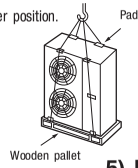
Notabilia as a unit designed for R410A

- 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.

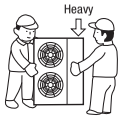


1) Delivery

- 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.

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

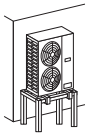
Be sure to select a suitable installation place in consideration of following conditions.

- ○ 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
- ○ A place where the unit is not exposed to oil splashes.
- ○ A place where it can be free from danger of flammable gas leakage.
- ○ A place where drain water can be disposed without any trouble.
- ○ A place where the unit will not be affected by heat radiation from other heat source.
- ○ A place where snow will not accumulate.
- ○ 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.
- ○ A place where good air circulation can be secured, and enough service space can be secured for maintenance and service of the unit safely.
- ○ A place where the unit will not be affected by electromagnetic waves and/or high-harmonic waves generated by other equipment.
- ○ 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.
- ○ A place where strong wind will not blow against the outlet air blow of the unit

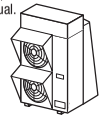
4) Caution about selection of installation location

(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 provide the roof on site.

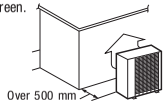


Since drain water generated by defrost control may freeze, following measures are required.

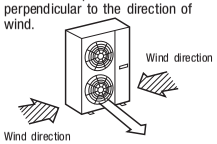
- Don't execute drain piping work by using a drain elbow and drain grommets (optional parts). [Refer to Drain piping work.]
- Recommend setting Defrost Control (SW3-1) and Snow Guard Fan Control (SW3-2). [Refer to Setting SW3-1, SW3-2.]

(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.

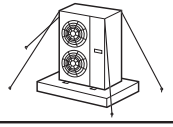
1. Install the outlet air blow side of the unit to face a wall of building, or provide a fence or a windbreak screen.



2. Install the outlet air blow side of the unit in a position perpendicular to the direction of wind.



3. The unit should be installed on the stable and level foundation. If the foundation is not level, tie down the unit with wires.

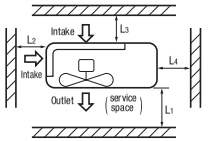


5) Installation space

- 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.

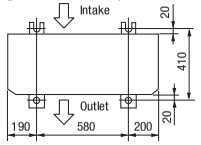
(mm)

Size \ Example installation	200V, 250V		
	I	II	III
L1	Open	Open	500
L2	300	5	Open
L3	150	300	150
L4	5	5	5

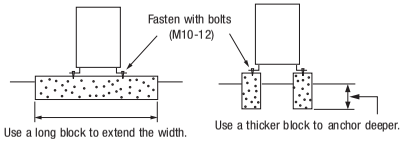


6) Installation

① Anchor bolt fixed position



② Notabilia for 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.

Restrictions				Marks appearing in the drawing				
	One-way pipe length difference from the first branching point to the indoor unit					< 3m	≧ 3m	
	Model for outdoor units			Dimensional restrictions	Single type	Twin type	Triple type A	Triple type B	W-twin type
One-way pipe length of refrigerant piping	200V	Liquid Piping	φ9.52	≦ 40m	L	L+L1 L+L2	L+L1, L+L2, L+L3	L+L1 (1)	L+La+L1, L+La+L2 Lb+L3, Lb+L4
			φ12.7	≦ 70m				
	200V 250V	Gas piping	φ25.4 or φ28.58				L+L1, L+La+L2, L+La+L3 (2) (type B)	Prohibitation of the use	
			φ22.22	≦ 35m					
Main pipe length	200V	Liquid Piping	φ9.52	≦ 40m	—	L	L	L+L1 (1)	L
			φ12.7	≦ 70m					
	200V 250V	Gas piping	φ25.4 or φ28.58					Prohibitation of the use	
			φ22.22	≦ 35m					
One-way pipe length between the first branching point from to the second branching point	200V			≦ 5m	—	—	—	La	—
	250V						La	Prohibitation of the use	
One-way pipe length after the first branching point	200V			≦ 30m	—	—	L1, L2, L3	L1 (1)	La+L1, L+La+L2 Lb+L3, Lb+L4
	250V						L1, La+L2, L+La+L3 (2) (type B)	Prohibitation of the use	
One-way pipe length after the first branching point and second branching point	200V			≦ 27m	—	—	—	La+L2, La+L3 (1)	—
One-way pipe length difference from the first branching point to the indoor unit	Twin type			≦ 10m	—	| L1—L2 |	—	—	—
	Triple type	200V		≦ 3m			| L1—L2 | , | L2—L3 | , | L3—L1 |		
				≦ 10m			—	L1—(La+L2), L1—(La+L3) (1)	
		250V		≦ 3m			| L1—(La+L2) | , | L1—(La+L3) | , | L2—L3 | (1) (type B)	Prohibitation of the use	
	W-twin type	200V-250V		≦ 10m			—	—	| L1—L2 | , | L3—L4 | (L1+La)—(L3+Lb) , (L2+La)—(L3+Lb) | , | (L1+Lb)—(L4+Lb) , (L2+Lb)—(L4+Lb) |
One-way pipe length difference from the second branching point to the indoor unit	200V			≦ 10m	—	—	—	| L2—L3 |	| L1—L2 | , | L3—L4 |
Total pipe length after the second branching point				≦ 15m	—	—	—	—	L1+L2, L3+L4
Elevation difference between indoor and outdoor units	When the outdoor unit is positioned higher,			≦ 30m	H	H	H	H	H
	When the outdoor unit is positioned lower,			≦ 15m					
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 φ12.7mm liquid pipes**, when the length of the main "L" exceeds 40m. If φ9.52mm 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.

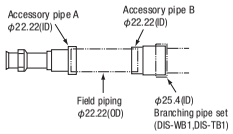
		Model 200V		Model 250V					
		Gas pipe	Liquid pipe	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe	Gas pipe	Liquid pipe
Outdoor unit connected		φ22.22	φ9.52	φ22.22	φ12.7	φ22.22	φ12.7	φ22.22	φ12.7
		Brazing	Flare	Brazing	Flare	Brazing	Flare	Brazing	Flare
Refrigerant piping (branch pipeL)		φ22.22	φ9.52 or φ12.7	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	—		—	
	Capacity of indoor unit	Model 200V, Model VA80		Model 250V, Model VA100					
In the case of atwin type	Branching pipe set	DIS-WB1		DIS-WB1		—		—	
	Refrigerant piping (branch pipe L1,L2)	φ15.88	φ9.52	φ15.88	φ9.52				
	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					
In the case of a triple type A	Branching pipe set	DIS-TB1		—		—		—	
	Refrigerant piping (branch pipe L1,L2,L3)	φ15.88	φ9.52						
	Indoor unit connected	φ15.88	φ9.52						
	Capacity of indoor unit	Model 71V×3, Model VA30×3							
In the case of a triple type B	Branching pipe set	DIS-WB1		DIS-WB1		DIS-WB1		DIS-WB1	
	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-WA1		DIS-WA1		DIS-WA1	
	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	
In the case of a W-twin type	Branching pipe set	DIS-WA1		DIS-WB1		DIS-WB1		—	
	Refrigerant piping (branch pipe La,Lb)	φ15.88	φ9.52	φ15.88	φ9.52	φ15.88	φ9.52		
	Branching pipe set	DIS-WA1 × 2		DIS-WA1 × 2		DIS-WA1 × 2			
	Refrigerant piping (branch pipe L1,L2,L3,L4)	φ12.7	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 VA25×4			

⚠CAUTION

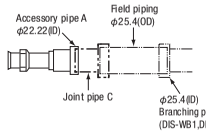
- When the model 50V or model 60V model is connected as an indoor unit, always use a φ9.52 liquid pipe for the branch (branching pipe – indoor unit) and a different diameter joint supplied with the branching pipe set for connection with the indoor unit (φ6.35 on the liquid pipe side).
  If a φ6.35 pipe is used for connection with a branching pipe, a refrigerant distribution disorder may occur, causing one of the indoor units to fall short of the rated capacity.
- 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.

3) How to use pipe reducer.

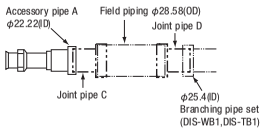
- φ22.22(OD) size of the refrigerant gas pipe can be used by using accessory pipe A,B.



- φ25.4(OD) 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.



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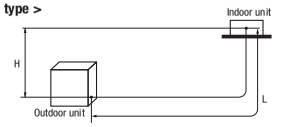

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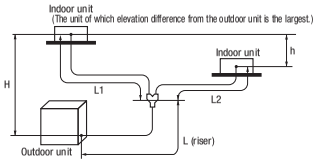

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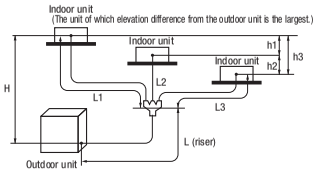
Type A



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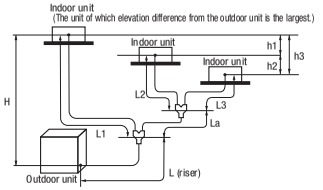
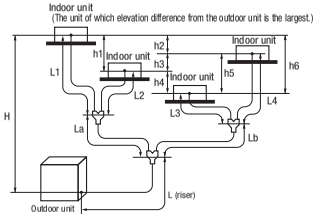
Type B



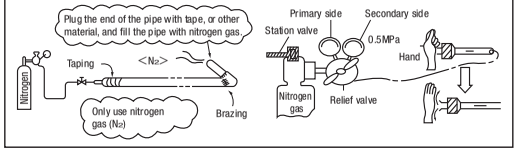
< W-twin type >



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.



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 ϕ19.05 or larger pipes, because O-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]	0.8	0.8	0.8	1.0	1.0	1.0	1.0
Pipe material*	O-type pipe	O-type pipe	O-type pipe	O-type pipe	1/2H-type pipe	1/2H-type pipe	1/2H-type pipe

*Phosphorus deoxidized seamless copper pipe C1220T, JIS H3300

NOTE

- Select pipes having a wall thickness larger than the specified minimum pipe thickness.

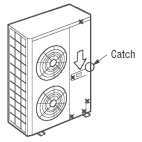
5) On-site piping work

⚠IMPORTANT

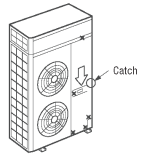
- Take care so that installed pipes may not touch components within a unit. If touching with an internal component, it will generate abnormal sounds and/or vibrations.

How to remove the service panel

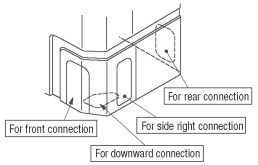
First remove the five screws (✕ mark) of the service panel and push it down into the direction of the arrow mark and then remove it by pulling it toward you.



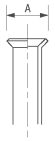
Model 200V



Model 250V

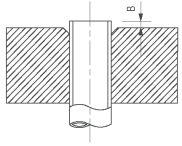


- The pipe can be laid in any of the following directions: side right, front, rear and downward.
- Remove a knock-out plate provided on the pipe penetration to open a minimum necessary area and attach an edging material supplied as an accessory by cutting it to an appropriate length before laying a pipe.
- 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.



Flared pipe end: A (mm)

Copper pipe outer diameter	A $^{0}_{-0.4}$
ϕ6.35	9.1
ϕ9.52	13.2
ϕ12.7	16.6
ϕ15.88	19.7



Copper pipe protrusion for flaring: B (mm)

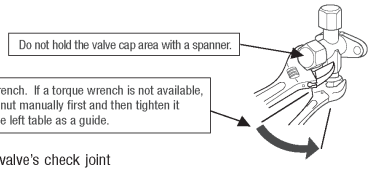
Copper pipe outer diameter	In the case of a rigid (clutch) type	
	With an R410A tool	With a conventional tool
ϕ6.35	0~0.5	0.7~1.3
ϕ9.52		
ϕ12.7		
ϕ15.88		

⚠ CAUTION

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.

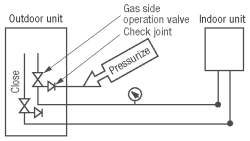
Operation valve size (mm)	Tightening torque (N-m)	Tightening angle (°)	Recommended length of a tool handle (mm)
ϕ6.35 (1/4")	14~18	45~60	150
ϕ9.52 (3/8")	34~42	30~45	200
ϕ12.7 (1/2")	49~61	30~45	250
ϕ15.88(5/8")	68~82	15~20	300
ϕ19.05(3/4")	100~120	15~20	450



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 pressurized to the specified level and left for about one day, it is acceptable. When the ambient Temperature fall 1℃, 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.



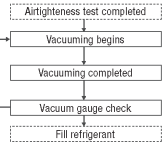
7) Evacuation

<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.



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.).
- 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>

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 200V	3.6	0	0.06 (Liquid piping ϕ9.52)	5.4	30
			0.12 (Liquid piping ϕ12.7)		
Model 250V			0.12	7.2	

<Twin, triple, W-twin type>

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
			Main pipe	Branch pipe		
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 ϕ9.52mm 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)
	In the case of ϕ12.7mm 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		

*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.

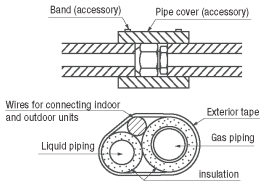
NOTE Put down the refrigerant volume calculated from the pipe length onto the caution label attached on the back side of the service panel.

9) Heating and condensation prevention

(1) Dress refrigerant pipes (both gas and liquid pipes) for heat insulation and prevention of dew condensation.

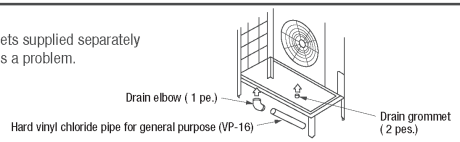
(2) Use a heat insulating material that can withstand 120℃ or a higher temperature. Poor heat insulating capacity can cause heat insulation problems or cable deterioration.

- 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 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%.**



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.



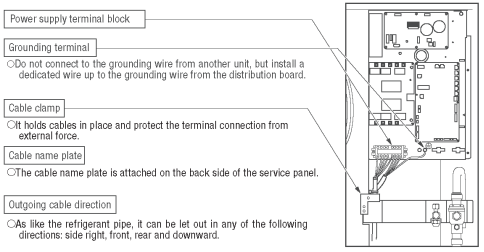
- ○ There are 3 drain holes provided on the bottom plate of an outdoor unit to discharge condensed water.
- ○ When condensed water needs to be led to a drain, etc., install the unit on a flat base (supplied separately as an optional part) or concrete blocks.
- ○ Connect a drain elbow as shown in the 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.

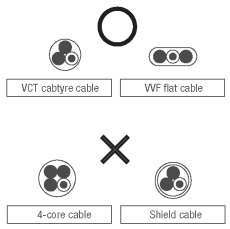
Electrical installation work must be performed by an electrical installation service provider qualified by a power provider of the country.
Electrical installation work must be executed according to the technical standards and other regulations applicable to electrical installations in the country.

- 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 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 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.



Model 200V, 250V

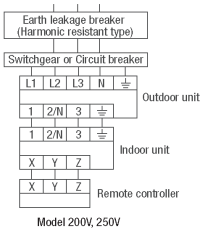


Power cable, indoor-outdoor connecting wires

- Always perform grounding system installation work with the power cord unplugged.

⚠ CAUTION

Always use an earth leakage circuit breaker designed for inverter circuits to prevent a faulty operation.



Model 200V, 250V

Model	Power source	Power cable thickness (mm²)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness × number
200V	3 phase 4 wire 380-415V 50Hz 380V 60Hz	3.5	19	21	φ1.6mm	φ1.6mm x 3
250V		5.5	22	31		

Model	Power source	Power cable thickness (mm²)	MAX. over current (A)	Cable length (m)	Grounding wire thickness	Indoor-outdoor wire thickness × number
200V	3 phase 4 wire 380-415V 50Hz 380V 60Hz	5.5	24	29	φ1.6mm	φ1.6mm x 3
250V			27	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 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

⚠ WARNING

- 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.
- Always give a 3-minute or longer interval before you start the unit again whenever it is stopped.

} A failure to observe these instructions can result in a compressor breakdown.

- Removing the service panel will expose high-voltage live parts and high-temperature parts, which are quite dangerous. Take utmost care not to incur an electric shock or burns. Do not leave the unit with the service panel open.

⚠ CAUTION

- When you operate switches (SW3, SW5) for on-site setting, be careful not to touch a live part.
- 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	OFF	Cooling during a test run
	ON	Heating during a test run
OFF	—	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 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.

(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.



4) Failure diagnosis in a test run

Error indicated on the remote control unit	Printed circuit board LED(The cycles of 5 seconds)		Failure event	Action
	Red LED	Green LED		
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)	1. Check whether the operation valves are open. 2. If an error has been canceled when 3 minutes have elapsed since a compressor stop, you can restart the unit by effecting Check Reset from the remote control unit.
E49	Blinking once	Blinking continuously	Low pressure error or operation with operation valves shut (occurs mainly during a cooling operation)	

- 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.

	When power is turned on	When the unit comes to a normal stop		When the unit comes to an abnormal stop	
		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.

Items to checkbefore a test run

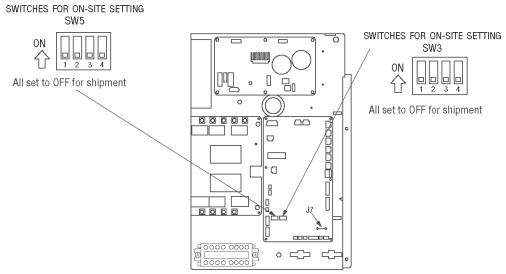
- When you leave the outdoor unit with power supplied to it, be sure to close the panel.

Item No.used in the installation manual	Item	Check item	Check
2	Refrigerant plumbing	If brazed, was it brazed under a nitrogen gas flow?	
		Were air-tightness test and vacuum extraction surely performed?	
		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?	
4	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?	
		Do indoor-outdoor connecting cables connect between the same terminal numbers?	
		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.

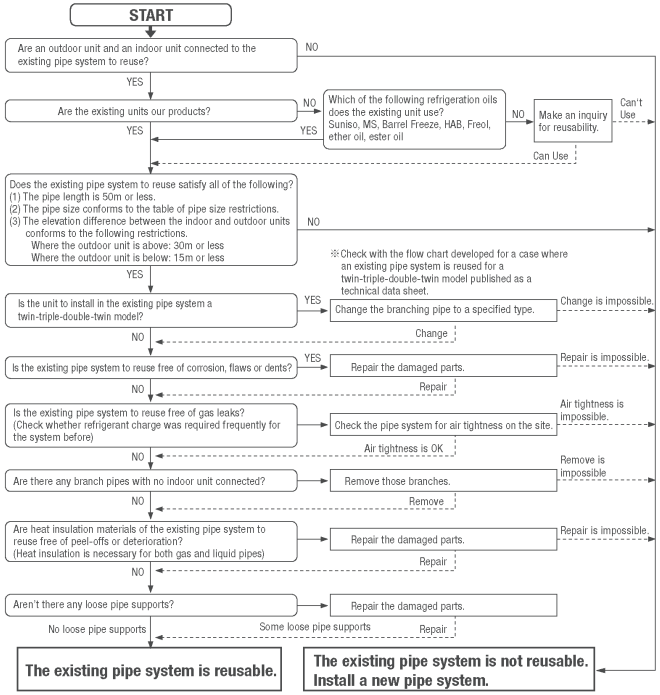
Turn	The contents of operation	Check
①	Open the gas side operation valve fully.	
②	Open the liquid side operation valve fully.	
③	Close the panel.	
④	Where a remote control unit is used for unit setup on the installation site, please follow instructions for unit setup on the installation site with a remote control unit.	
⑤	SW3-3 ON / SW3-4 OFF: the unit will start a cooling operation.	
	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.	



Model 200V, 250V

6. UTILIZATION OF EXISTING PIPING.

Check whether an existing pipe system is reusable or not by using the following flow chart.



⚠ WARNING <Where the existing unit can be run for a cooling operation.>

Carry out the following steps with the excising unit (in the order of (1), (2), (3) and (4))

(1) Run the unit for 30 minutes for a cooling operation.
(2) Stop the indoor fan and run the unit for 3 minutes for a cooling operation (returning liquid)
(3) Close the liquid side operation valve of the outdoor unit and pump down (refrigerant recovery)
(4) Blow with nitrogen gas. ※ If discolored refrigeration oil or any foreign matters is discharged by the blow, wash the pipe system or install a new pipe system.
- For the flare nut, do not use the old one, but use the one supplied with the outdoor unit. Process a flare to the dimensions specified for R410A.
- **Turn on-site setting switch SW5-1** to the ON position. (Where the gas pipe size is φ19.05)

<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.

<Table of pipe size restrictions> ◎:Standard pipe size ○:Usable △:Restricted to shorter pipe length limits Cool↓: Cooling capacity drop ×:Not usable

Additional charging amount of refrigerant per 1m		0.06kg/m			0.12kg/m			0.2kg/m		
Pipe size	Liquid pipe	φ9.52	φ9.52	φ9.52	φ12.7	φ12.7	φ12.7	φ15.88	φ15.88	φ15.88
	Gas pipe	φ22.22	φ25.4 ※2	φ28.6 ※2	φ22.22	φ25.4	φ28.6	φ22.22	φ25.4	φ28.6
200V	Usability	◎	○	○	◎	△※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	×	×	×	◎	○	○	△※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 φ19.05 × 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 used.

※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 φ12.7 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 × in the table are not usable.

<Pipe system after the branching pipe> ◎:Standard pipe size ○:Usable ×:Not usable —: Outside of an object

- 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		
Additional charging amount of refrigerant per 1m			0.06kg/m			0.06kg/m		
Pipe size	Liquid pipe		φ9.52			φ9.52		
	Gas pipe		φ12.7	φ15.88	φ19.05※1	φ12.7	φ15.88	φ19.05※1
Model	Combination type	Combination of capacity						
200V	Twin	100+100	×	◎	○	—	—	—
	Triple A	71+71+71	×	◎	○	—	—	—
	Triple B	71+71+71	×	◎	○ ※5	×	◎	○
	Double twin	50+50+50+50	×	◎	○	◎	○	×
250V	Twin	125+125	×	◎	○	—	—	—
	Triple A	—	—	—	—	—	—	—
	Triple B	60+60+125	×	◎	○ ※5	◎	×	×
	Triple B	71+71+100	×	◎	○ ※5	×	◎	×
	Double twin	60+60+60+60	×	◎	○	◎	○	×

※4 Piping size after branch should be equal or smaller than main pipe size.

※5 Piping size from first branch to indoor unit should be φ9.52 (Liquid) / φ15.88 (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. □□□ 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 φ15.88, gas φ25.4; pipe length after branching pipe 5m x 2, liquid φ9.52, gas φ15.88), 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.

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(5) Method for connecting the accessory pipe (Models FDC200,250 only)

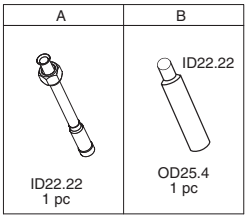
Be sure to use the accessory pipe to connect the operation valve on the gas side with the field pipe.

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 Ⓐ ~ Ⓓ applicable to the connecting direction.

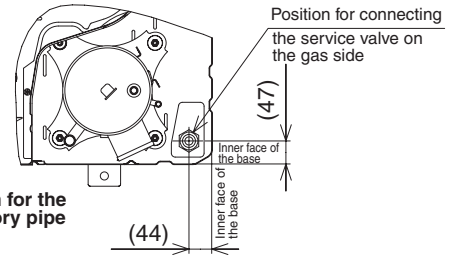
② Firstly, use the accessory pipe to assemble the connecting pipe assembly outside the outdoor unit.
As shown in the figures of construction examples Ⓐ ~ Ⓓ applicable to the connecting direction(chain double dashed line), braze the accessory pipe and the parts prepared in the above ①.

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	
ϕ19.05	100~120N·m



Position for the accessory pipe

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)

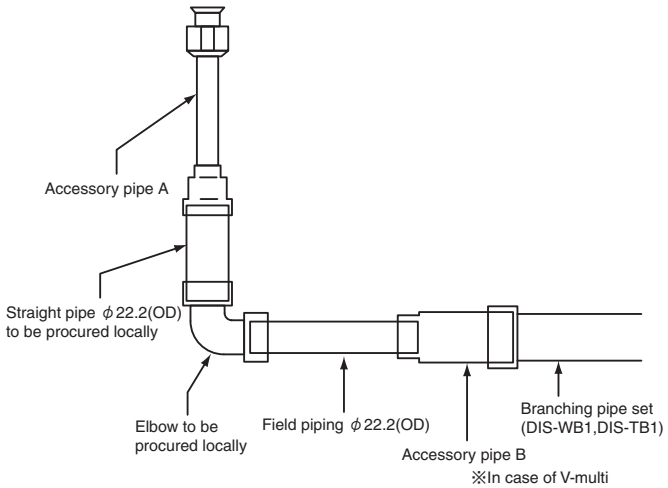
	Pipe size	Ⓐ Downward	Ⓑ Forward	Ⓒ Rightward	Ⓓ Backward
Straight pipe①	ϕ22.22×t1.6	above 415mm	185~235mm	185~235mm	185~235mm
Straight pipe②	ϕ22.22×t1.6	–	above 125mm	above 125mm	above 405mm

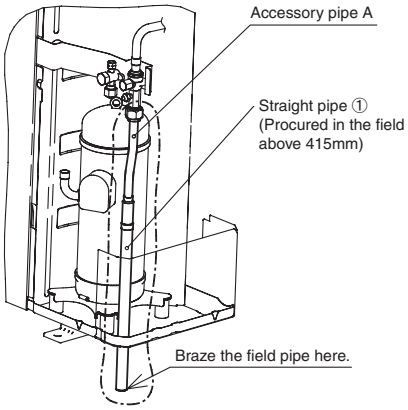
- Be sure to use pipes of 1/2H material, and wall thickness above 1mm. (Pressure resistance of O-type pipe is not enough)
- Switch ON SW5-1 on the control PCB, if O-type pipe must be used and bent with the bender.
  During heating operation, the high-pressure protection may be actuated under the condition lower than the normal pressure, and the heating capacity may decrease.

About brazing

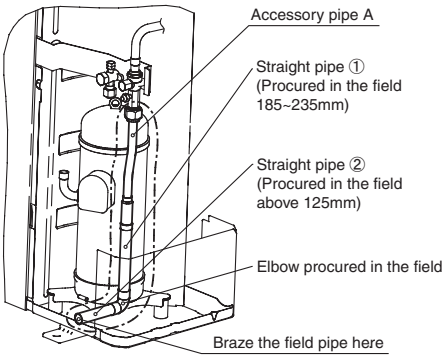
- **Be sure to braze while supplying nitrogen gas.**
  If no nitrogen gas is supplied, a large amount of impurity (oxidized fi lm) will be generated, which may clog the capillary tube and the expansion valve, resulting in fatal malfunction.

- 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.

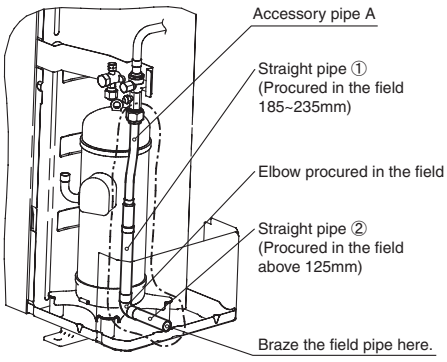




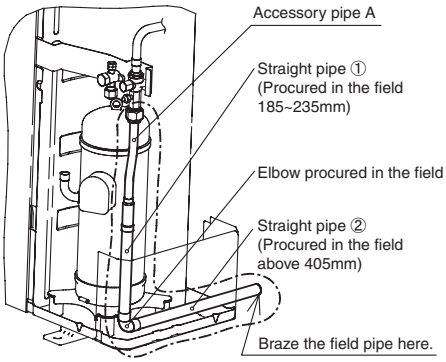
Construction example Ⓐ
(Downward)



Construction example Ⓑ
(Forward)



Construction example Ⓒ
(Rightward)



Construction example Ⓓ
(Backward)

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1.10.4 Electric wiring work installation

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 ⚠CAUTION .**
  ⚠WARNING : Wrong installation would cause serious consequences such as injuries or death.
  ⚠CAUTION : 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 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.

①Electrical 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.
- 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.

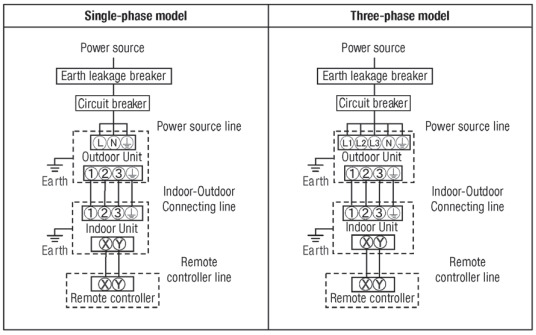
③If the function of selected earth leakage breaker is only for earth-fault protection, hand switch (switch itself and type "B" fuse) or circuit breaker is required in series with the earth leakage breaker.

④Install 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.



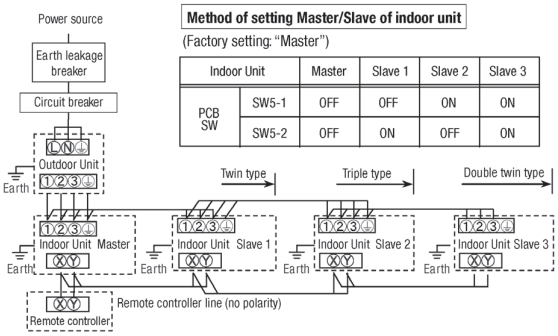
Cable connection for a V multi configuration installation

①Connect the same pairs number of terminal block "①, ②, and ③"and "Ⓧ and Ⓨ" 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.

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 ▲ or ▼ button.



Method of setting Master/Slave of indoor unit
(Factory setting: "Master")

Indoor Unit		Master	Slave 1	Slave 2	Slave 3
PCB SW	SW5-1	OFF	OFF	ON	ON
	SW5-2	OFF	ON	OFF	ON

②Remote Control, Wiring and functions

●DO NOT install it on the following places
①Places exposed to direct sunlight
②Places near heat devices
③High humidity places
④Hot surface or cold surface enough to generate condensation
⑤Places exposed to oil mist or steam directly.
⑥Uneven surface

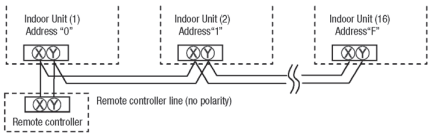
Installation and wiring of remote controller

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.
100 - 200m ..... 0.5mm² × 2 cores
Under 300m ..... 0.75mm² × 2 cores
Under 400m ..... 1.25mm² × 2 cores
Under 600m ..... 2.0mm² × 2 cores
④Avoid 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 ▲ or ▼ button to make sure that all indoor units connected are displayed in order.



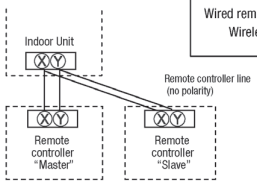
Confirming method of indoor units

When indoor unit address number is displayed on remote controller, pushing the (MODE) button to make the indoor unit with that number blow air (Display example:" I/U001 ≋ ")
Push the (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.

Switch	setting	contents
Wired remote controller: SW1 Wireless kit: SW1-2	M	Master remote controller
	S	Slave remote controller



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 ON/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 ▼ "
④When the (SET) button is pressed while " TEST RUN ▼ " is indicated, a cooling test run will start.
The screen display will switch to " TEST RUN ".
2. Ending a cooling test run.
Pressing the ON/OFF 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.
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 7.
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 ▲ " blinking.
5. Select the indoor unit number you would like to have data displayed with the ▲ ▼ button.
6. 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.
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.

Number	Data Item	
01		(Operation Mode)
02	SET TEMP	(Set Temperature)
03	RETURN AIR	(Return Air Temperature)
04	SENSOR	(Remote Controller Thermistor Temperature)
05	THI-R1	(Indoor Unit Heat Exchanger Thermistor / U Bend)
06	THI-R2	(Indoor Unit Heat Exchanger Thermistor /Capillary)
07	THI-R3	(Indoor Unit Heat Exchanger Thermistor /Gas Header)
08	I/U FANSPEED	(Indoor Unit Fan Speed)
09	DEMAND Hz	(Frequency Requirements)
10	ANSWER Hz	(Response Frequency)
11	I/U EEV P	(Pulse of Indoor Unit Expansion Value)
12	TOTAL I/U RUN H	(Total Running Hours of The Indoor Unit)
21	OUTDOOR	(Outdoor Air Temperature)
22	THD-R1	(Outdoor Unit Heat Exchanger Thermistor)
23	THD-R2	(Outdoor Unit Heat Exchanger Thermistor)
24	COMP Hz	(Compressor Frequency)
25	HP MPa	(High Pressure)
26	LP MPa	(Low Pressure)
27	Td	(Discharge Pipe Temperature)
28	COMP BOTTOM	(Comp Bottom Temperature)
29	CT AMP	(Current)
30	TARGET SH	(Target Super Heat)
31	SH	(Super Heat)
32	TDSH	(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	O/U EEV1 P	(Pulse of The Outdoor Unit Expansion Valve EEV1)
39	O/U EEV2 P	(Pulse of The Outdoor Unit Expansion Valve EEV2)

※Depending on outdoor unit model, there are data not shown.

◎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.)

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.
③When the (SET) button is pressed, a drain pump operation will start.
Display: " TO STOP "
2. To cancel a drain pump operation.
①If either (SET) or ON/OFF button is pressed, a forced drain pump operation will stop. The air conditioning system will become OFF.

◎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.)

④Function Setting by Remote Controller

The functional setting

● The initial function setting for typical using is performed automatically for a remote control unit and an indoor unit by the door unit connected, when remote controller and inside 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.
As for detail of setting, refer to the installation manual of remote controller.

[Flow of function setting]

Start : While indoor unit do not operate, press " (SET) " and " (MODE) " button for 3 seconds at the same time.
Finalize : Press " (SET) " button.
Reset : Press " (RESET) " button.
Select : Press ▲ ▼ button.
End : Press ⏻ON/OFF button.
It is possible to finish above setting on the way, and unfinished change of setting is unavailable.
" ○ " : Initial settings
" ※ " : Automatic criterion
As for detail, refer to the installation manual of remote controller.

During air-conditioner stopping push (SET) + (MODE) button simultaneously for 3 seconds → FUNCTION SET ▼

Consult the technical data etc for each control details

Record and save the setting

FUNCTION ▼ (Remote controller function)

Function	setting		
01 GRILLE ↑↓ SET			
	↑↓ INVALID	○	
	50Hz ZONE ONLY		When you use at 50Hz area
	60Hz ZONE ONLY		When you use at 60Hz area
02 AUTO RUN SET			
	AUTO RUN ON	※	
	AUTO RUN OFF	※	Automatic operation is impossible
03 50/60 TEMP SW			
	50/60 VALID	○	
	50/60 INVALID		Temperature setting button is not working
04 MODE SW			
	VALID	○	
	INVALID		Mode button is not working
05 ON/OFF SW			
	VALID	○	
	INVALID		On/Off button is not working
06 FAN SPEED SW			
	VALID	※	
	INVALID	※	Fan speed button is not working
07 LOUVER SW			
	VALID	※	
	INVALID	※	Louver button is not working
08 TIMER SW			
	VALID	○	
	INVALID		Timer button is not working
09 SENSOR SET			
	SENSOR OFF	○	Remote thermistor is not working.
	SENSOR ON		Remote thermistor is working.
	SENSOR +3.0℃		Remote thermistor is working, and to be set for producing +3.0°C increase in temperature.
	SENSOR +2.0℃		Remote thermistor is working, and to be set for producing +2.0°C increase in temperature.
	SENSOR +1.0℃		Remote thermistor is working, and to be set for producing +1.0°C increase in temperature.
	SENSOR -1.0℃		Remote thermistor is working, and to be set for producing -1.0°C increase in temperature.
	SENSOR -2.0℃		Remote thermistor is working, and to be set for producing -2.0°C increase in temperature.
	SENSOR -3.0℃		Remote thermistor is working, and to be set for producing -3.0°C increase in temperature.
10 AUTO RESTART			
	INVALID	○	
	VALID		
11 VENT LINK SET			
	NO VENT	○	
	VENT LINK		Connect the Single split series and the VRF series to the indoor board CNT and indoor board CND respectively. If a ventilation device is connected, been geared with the motion of indoor device, the ventilation device is operated/stopped. By connecting the ventilation device with the Single split series device to indoor board CNT, the VRF series device to CND, you can operate/stop the ventilation device independently by the handling of ventilation button.
	NO VENT LINK		
12 TEMP RANGE SET			
	INDIN CHANGE	○	If you change the range of set temperature, the indication of set temperature will vary following the control.
	NO INDIN CHANGE		If you change the range of set temperature, the indication of set temperature will not vary following the control, and keep the set temperature.
13 I/U FAN			
	HI-MID-LO	※	Airflow of fan becomes the three speed of ※ - ※ - ※ or ※ - ※ - ※ - ※ .
	HI-LO	※	Airflow of fan becomes the two speed of ※ - ※ .
	HI-MID		Airflow of fan becomes the two speed of ※ - ※ .
	I FAN SPEED	※	Airflow of fan is fixed at one speed.
14 ⇆ POSITION			If you want to change the remote control function "14 ⇆ POSITION", You must change the indoor function "04 ⇆ POSITION" accordingly.
	4POSITION STOP	○	You can select the louver stop position in the four.
	FREE STOP		The louver can stop at any position.
15 MODEL TYPE			
	HEAT PUMP	※	
	COOLING ONLY	※	
16 EXTERNAL CONTROL SET			
	INDIVIDUAL	○	If you input into the indoor printed circuit board CNT from outside, the indoor device will be operated independently following the input from outside.
	FOR ALL UNITS		If you input into indoor printed circuit board CNT from outside, All units which share the same one remote control network work following the input from outside.
17 ROOM TEMP INDICATION SET			
	INDICATION OFF	○	
	INDICATION ON		In normal working indication, indoor unit temperature is indicated instead of airflow. (Only the master remote control can be indicated.)
18 ※ INDICATION			
	INDICATION ON	○	
	INDICATION OFF		Heating preparation indication should not be indicated.
19 ℃/℉ SET			
	℃	○	Temperature indication is by degree C
	℉		Temperature indication is by degree F

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.

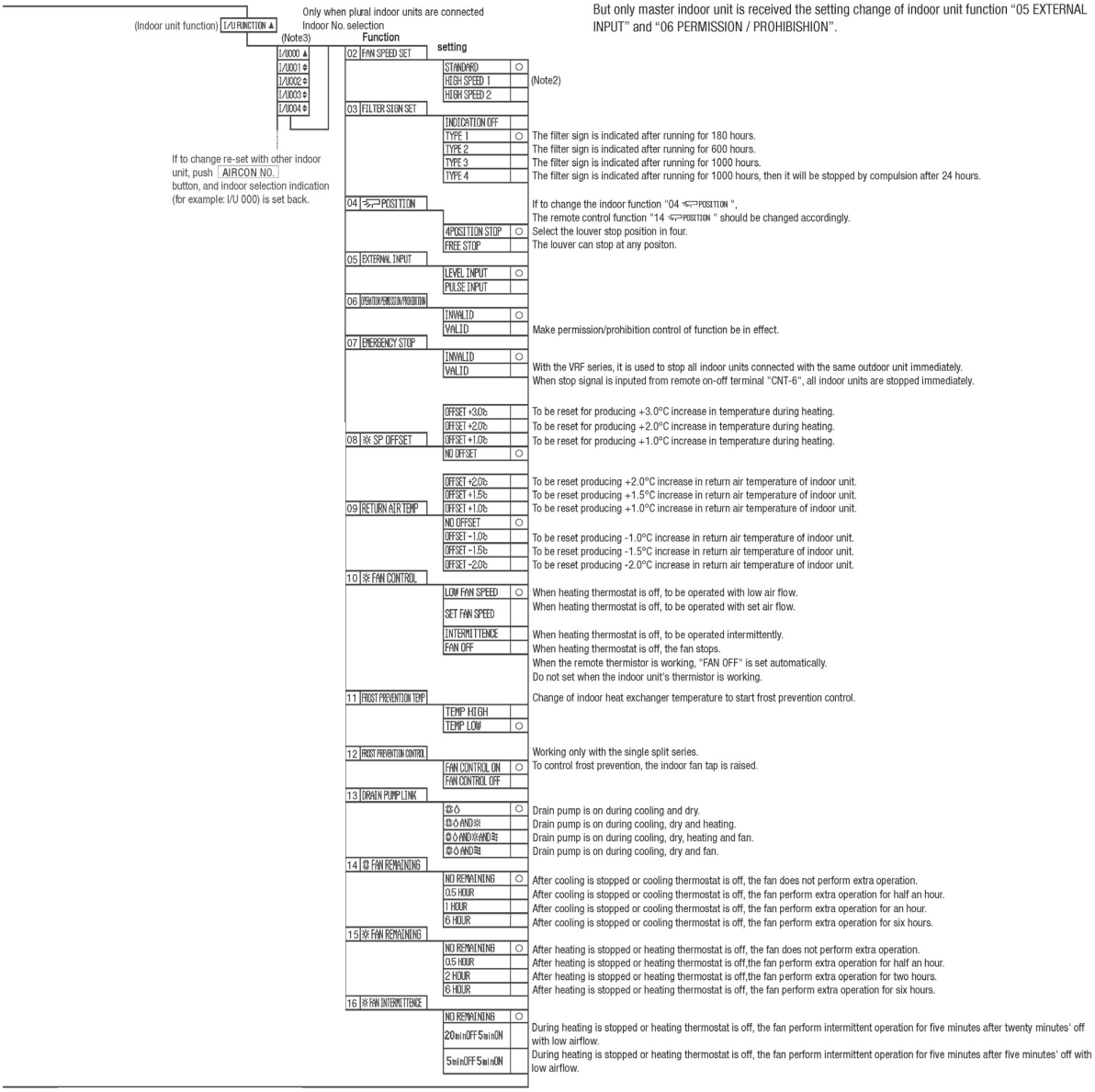
Function No.	Item	Default	Model
Function 02 of remote controller	AUTO RUN SET	AUTO RUN ON	"Auto-RUN" mode selectable indoor unit.
		AUTO RUN OFF	Indoor unit without "Auto-RUN" mode
Function 06 of remote controller	FAN SPEED SW	VALID	Indoor unit with two or three step of air flow setting
		INVALID	Indoor unit with only one of air flow setting
Function 07 of remote controller	LOUVER SW	VALID	Indoor unit with automatically swing louver
		INVALID	Indoor unit without automatically swing louver
Function 13 of remote controller	I/U FAN	HI-MED-LO	Indoor unit with three step of air flow setting
		HI-LO	Indoor unit with two step of air flow setting
		HI-MED	
		1 FAN SPEED	Indoor unit with only one of air flow setting
Function 15 of remote controller	MODEL TYPE	HEAT PUMP	Heat pump unite
		COOLING ONLY	Exclusive cooling unite

Note 2: Fan setting of "HIGH SPEED"

Fan tap		Indoor unit air flow setting			
		■■■■ - ■■■■ - ■■■■ - ■■■■	■■■■ - ■■■■ - ■■■■	■■■■ - ■■■■	■■■■ - ■■■■
FAN SPEED SET	STANDARD	UH - Hi - Me - Lo	Hi - Me - Lo	Hi - Lo	Hi - Me
	HIGH SPEED1, 2	UH - UH - Hi - Me	UH - Hi - Me	UH - Me	UH - Hi

Initial function 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 "05 EXTERNAL INPUT" and "06 PERMISSION / PROHIBISHION".

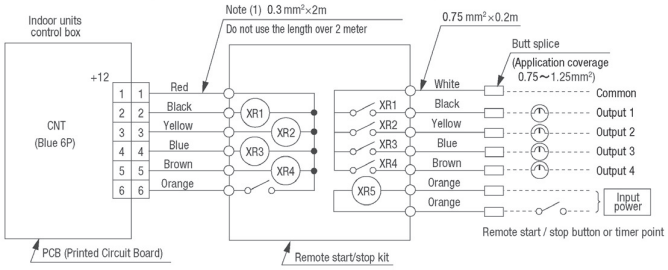


⑤Control mode switching

●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		
SW6-1～4	Model capacity setting	
SW7－1	ON	Operation check, Drain motor test run
	OFF	Normal operation

⑥Function of CNT connector of indoor printed circuit board



●CNT connector (local) vendor model
Connector : Made by molex 5264 - 06
Terminals : Made by molex 5263T

●Function

Output 1	Operation output (there is output when unit is in operation.)
Output 2	Heating output (there is output when operation MODE is HEATING.)
Output 3	Compressor ON output (there is output when compressor is in operation.)
Output 4	Inspection output (there is output when unit is stopped by error.)
Input 5	Remote operation input (Volt-free contact) (Inputted to operate unit)

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.
   The display change " OPER DATA ▼ "
2. Once, press the ▼ button, and the display change
   " ERROR DATA ♟ ".
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.
   ①The 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.
   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.
   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)
   " I/U000 ♟ " blinking
   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 ○ (SET) button.
   [Example]: [E8] (ERROR CODE)
   " I/U000 ♟ " (The address of selected indoor unit is blinking for 2 seconds.)
   ↓
   [E8] "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 ③Trial 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.

◎If 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 controller	LED on indoor circuit board		Content
	red (checking)	green (normal)	
Off	Off	Continuous blinking	Normal
	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)

1.10.5 Instructions for branching pipe set (DIS-WA1, WB1, TA1, TB1)

For R410A

PSB012D865 ⑨

⚠ 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

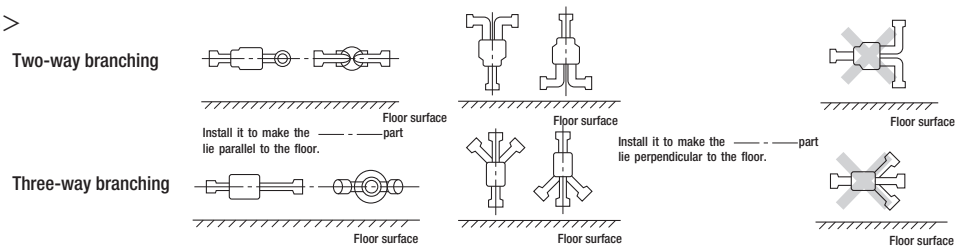
(1) Please make sure that you have chosen the right branching pipe set and the specifications of the parts contained in it by checking with the table below.
(2) Connect pipes as illustrated in the table below. The pipe from an outdoor unit must be brazed to the pipe connection port "①" and the pipes from indoor units to "②," "③" and "④."

Branching pipe set type	Supported outdoor/indoor unit combinations		Part lists			
	Outdoor unit model	Indoor unit model	Branching pipe set for a liquid pipe	Branching pipe set for a gas pipe	Different diameter pipe joint	Heat insulation material
DIS-WA1 (Two-way branching set)	3HP	1.5HP＋1.5HP	ID9.52 ① ② ③ ID9.52 ID9.52 1 piece	ID15.88 ① ② ③ ID15.88 ID15.88 1 piece	Joint A ID9.52 2 pieces; Flare joint (for indoor unit side connection); Joint B OD15.88 ID12.7 2 pieces	One each for liquid and gas
	4HP	2HP＋2HP				
		1.5HP＋2.5HP				
	5HP	2.5HP＋2.5HP				
		2HP＋3HP				
	6HP	3HP＋3HP				
		2HP＋4HP				
DIS-WB1 (Two-way branching set)	8HP	4HP＋4HP	ID9.52 ① ② ③ ID12.7 ID9.52 1 piece	ID15.88 ① ② ③ ID25.4 ID15.88 1 piece	Joint C 1 piece OD12.7 ID9.52	One each for liquid and gas
		3HP＋5HP				
	10HP	5HP＋5HP				
DIS-TA1 (Three-way branching set)	6HP	2HP＋2HP＋2HP	ID9.52 ① ② ③ ④ ID9.52 1 piece	ID12.7 ① ② ③ ④ ID15.88 1 piece	Joint A ID9.52 3 pieces; Flare joint (for indoor unit side connection)	One each for liquid and gas
DIS-TB1 (Three-way branching set)	8HP	3HP＋3HP＋3HP	ID9.52 ① ② ③ ④ ID9.52 1 piece	ID15.88 ① ② ③ ④ ID25.4 1 piece	Joint A ID9.52 2 pieces; Flare joint (for indoor unit side connection); Joint B OD15.88 ID12.7 1 piece; Joint D ID12.7 OD9.52 1 piece	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.

＜Posture to install into＞

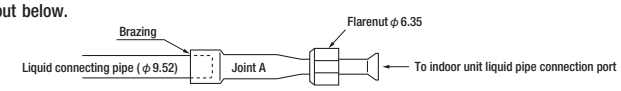


2. Pipe connecting procedure

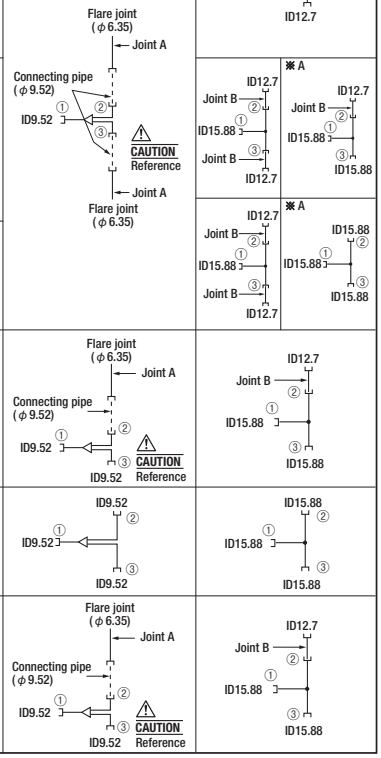
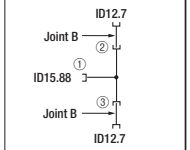
Braze the different diameter pipe joint found in the set matching the connected outdoor and indoor unit capacities according to the instructions set out below.

⚠ CAUTION

In connecting an indoor unit of which capacity is 1.5HP, 2HP or 2.5HP, always use a φ9.52 liquid pipe to connect to the branching pipe (branching pipe – indoor unit).
In connecting to an indoor unit (liquid pipe side: φ6.35), use the different diameter pipe joint A supplied with the set and follow the procedure set out below.

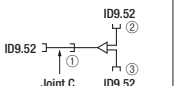
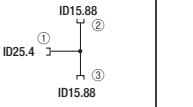
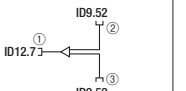
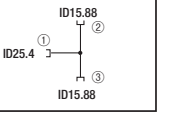


2-1 DIS-WA1

Supported combinations		Liquid branching pipe	Gas branching pipe
Outdoor unit model	Indoor unit model		
3HP	1.5HP＋1.5HP		
4HP	2HP＋2HP		
	1.5HP＋2.5HP		※A
5HP	2.5HP＋2.5HP		※A
	2HP＋3HP		
6HP	3HP＋3HP		
	2HP＋4HP		

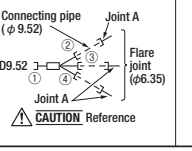
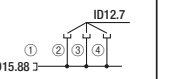
Note When connect the indoor unit of an old model that is shown in the model list, use the joint supplied with the branch piping set like ※A

2-2 DIS-WB1

Supported combinations		Liquid branching pipe	Gas branching pipe
Outdoor unit model	Indoor unit model		
8HP	3HP＋5HP		
	4HP＋4HP		
10HP	5HP＋5HP		

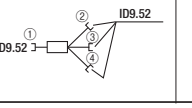
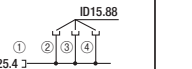
2-3 DIS-TA1

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.

Supported combinations		Liquid branching pipe	Gas branching pipe
Outdoor unit model	Indoor unit model		
6HP	2HP＋2HP＋2HP		

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.

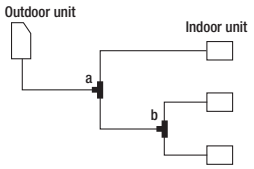
Supported combinations		Liquid branching pipe	Gas branching pipe
Outdoor unit model	Indoor unit model		
8HP	3HP＋3HP＋3HP		

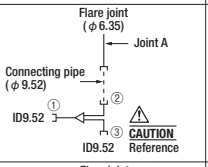
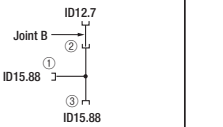
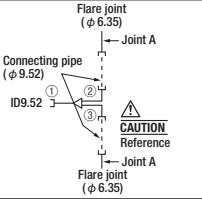
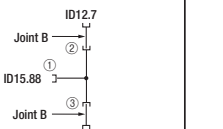
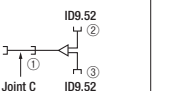
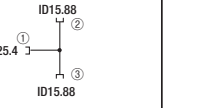
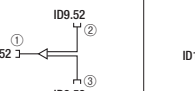
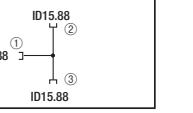
▷ OLD Model list

model name
FDTA251R
FDENA251R
FDKNA251R
FDURA251R
FDUMA252R

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

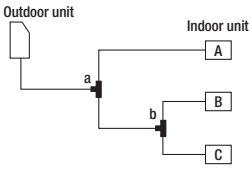


Outdoor unit model	Indoor unit model	Branching pipe	Branching pipe set type	Liquid branching pipe	Gas branching pipe
6HP	2HP＋2HP＋2HP	a	DIS-WA1		
		b			
8HP	3HP＋3HP＋3HP	a	DIS-WB1		
		b	DIS-WA1		

2-6. Triple type for same model/different capacity or different model/different capacity

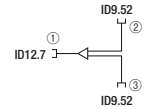
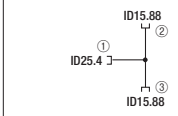
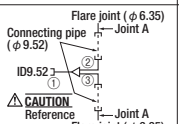
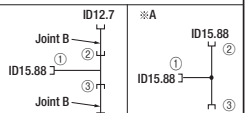
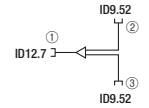
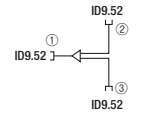
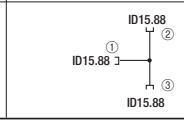
Applicable to the difference in length of pipes after the branch being less than 3 m

* Connection is not allowed when the difference in length of pipes is larger than 3 m.



Connecting position

Outdoor unit model	Indoor unit model	A	B	C
10HP	2.5HP+2.5HP+5HP	5HP	2.5HP	2.5HP
	3HP+3HP+4HP	4HP	3HP	3HP

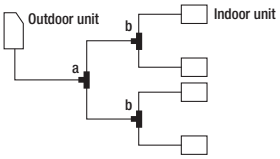
Outdoor unit model	Indoor unit model	Branching pipe	Branching pipe set type	Liquid branching pipe	Gas branching pipe
10HP	2.5HP+2.5HP+5HP	a	DIS-WB1		
		b	DIS-WA1		
10HP	3HP+3HP+4HP	a	DIS-WB1		
		b	DIS-WA1		

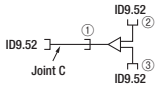
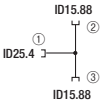
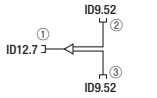
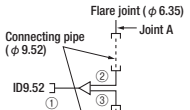
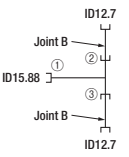
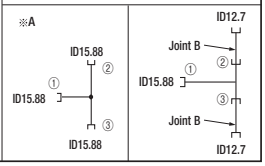
Note When connect the indoor unit of an old model that is shown in the model list, use the joint supplied with the branch piping set like※ A.

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 8HP or 10HP only):

Outdoor unit capacity	Indoor unit capacity
8HP	2HP×4 units
10HP	2.5HP×4 units



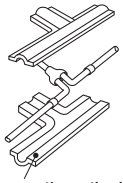
Branching pipe	Branching pipe set type	Outdoor unit model	Liquid branching pipe	Gas branching pipe
a	DIS-WB1	8HP		
		10HP		
b	DIS-WA1	8HP		
		10HP		

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.

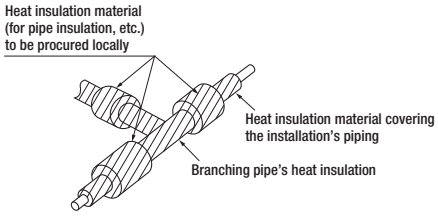
3. Heat insulation work

(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.



1. 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.

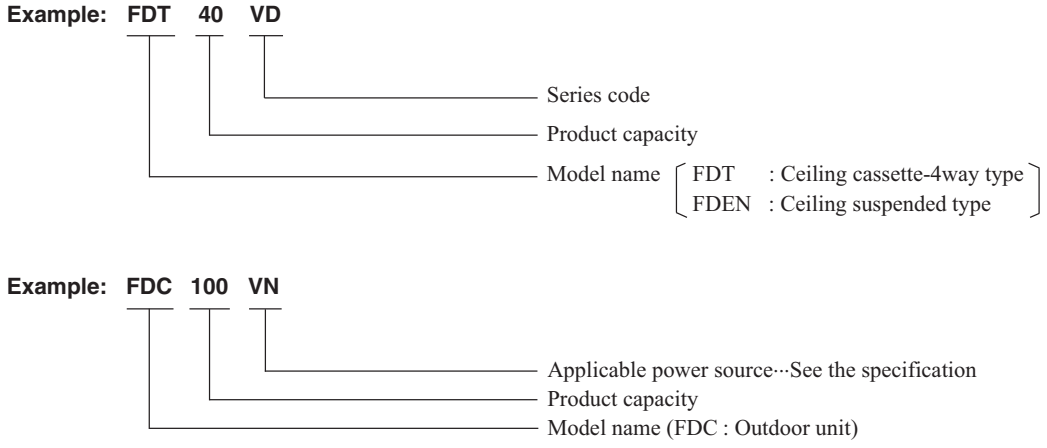
2. V MULTI SYSTEM

CONTENTS

2.1 GENERAL INFORMATION 246
2.1.1 How to read the model name 246
2.1.2 Table of models 247
2.1.3 Table of system combinations 247
2.2 SPECIFICATIONS 248
(1) Indoor units 248
(a) Ceiling cassette-4way type (FDT) 248
(b) Ceiling suspended type (FDEN) 254
(2) Outdoor units 260
(3) Operation chart 269
2.3 EXTERIOR DIMENSIONS 272
2.4 ELECTRICAL WIRING 272
2.5 NOISE LEVEL 272
2.6 TEMPERATURE AND VELOCITY DISTRIBUTION 272
2.7 PIPING SYSTEM 272
2.8 RANGE OF USAGE & LIMITATIONS 272
2.9 SELECTION CHART 272
2.10 APPLICATION DATE 272

2.1 GENERAL INFORMATION

2.1.1 How to read the model name



2.1.2 Table of models

Model \ Capacity	40	50	60	71	100	125
Ceiling cassette-4way type (FDT)	○	○	○	○	○	○
Ceiling suspended type (FDEN)	○	○	○	○	○	○
Outdoor unit to be combined (FDC)	FDC71VN (3 Horse Power) FDC100VN FDC100VS (4 Horse Power)	FDC125VN FDC125VS (5 Horse Power)	FDC140VN FDC140VS (6 Horse Power)		FDC200VS (8 Horse Power)	FDC250VS (10 Horse Power)

2.1.3 Table of system combinations

Outdoor unit	Type	Indoor unit assembly capacity	Branch pipe set (Optional)
FDC71VN	Twin	40+40	DIS-WA1
FDC100VN FDC100VS		50+50	
FDC125VN FDC125VS		60+60 50+71	
FDC140VN FDC140VS	Twin	71+71	
	Triple	50+50+50	DIS-TA1
FDC200VS	Twin	100+100	DIS-WB1
		71+125	
	Triple	71+71+71	DIS-TB1
	Double Twin	50+50+50+50	DIS-WA1 x 2set DIS-WB1 x 1set
FDC250VS	Twin	125+125	DIS-WB1
	Triple	60+60+125	DIS-TB1
		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

Item \ Model		FDT40VD	
		Panel **T-PSA-3AW-E**	
Power source		220-240V～50Hz / 220V～60Hz	
Operation data		Cooling	Heating
Nominal capacity	kW	4.0	4.5
Sound Pressure Level	dB(A)	P-Hi : 39 Hi : 33 Me : 31 Lo : 30	
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	UNIT 22 PANEL 5.5	
Heat exchanger		Louver fin & inner grooved tubing	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	
Motor <Starting method>	W	50 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 20 Hi : 18 Me : 16 Lo : 14	
Available static pressure	Pa	0	
Outdoor air intake		Possible	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Overload protection for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ 6.35 (1/4")	
		Gas line : ϕ 12.7 (1/2")	
Connecting method		Flare piping	
Drain pump		Built-in Drain pump	
Drain		Hose Connectable with VP20	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT50VD	
		Panel **T-PSA-3AW-E**	
Power source		220-240V～50Hz / 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 × 840 × 840 Panel 35 × 950 × 950	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	UNIT 22 PANEL 5.5	
Heat exchanger		Louver fin & inner grooved tubing	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	
Motor <Starting method>	W	50 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 20 Hi : 18 Me : 16 Lo : 14	
Available static pressure	Pa	0	
Outdoor air intake		Possible	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Overload protection for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ 6.35 (1/4")	
		Gas line : ϕ 12.7 (1/2")	
Connecting method		Flare piping	
Drain pump		Built-in Drain pump	
Drain		Hose Connectable with VP20	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT60VD	
		Panel **T-PSA-3AW-E**	
Power source		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 × 840 × 840 Panel 35 × 950 × 950	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	UNIT 24 PANEL 5.5	
Heat exchanger		Louver fin & inner grooved tubing	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	
Motor <Starting method>	W	50 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 28 Hi : 18 Me : 16 Lo : 14	
Available static pressure	Pa	0	
Outdoor air intake		Possible	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Overload protection for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ6.35 (1/4")	
		Gas line : ϕ12.7 (1/2")	
Connecting method		Flare piping	
Drain pump		Built-in Drain pump	
Drain		Hose Connectable with VP20	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT71VD	
		Panel **T-PSA-3AW-E**	
Power source		220-240V～50Hz / 220V～60Hz	
Operation data		Cooling	Heating
Nominal capacity	kW	7.1	8.0
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 35 Me : 33 Lo : 31	
Exterior dimensions Height x Width x Depth	mm	Unit 246 × 840 × 840 Panel 35 × 950 × 950	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	UNIT 24 PANEL 5.5	
Heat exchanger		Louver fin & inner grooved tubing	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	
Motor <Starting method>	W	50 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 28 Hi : 21 Me : 19 Lo : 17	
Available static pressure	Pa	0	
Outdoor air intake		Possible	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Overload protection for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Drain pump		Built-in Drain pump	
Drain		Hose Connectable with VP20	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT100VD	
		Panel **T-PSA-3AW-E**	
Power source		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 × 840 × 840 Panel 35 × 950 × 950	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	UNIT 27 PANEL 5.5	
Heat exchanger		Louver fin & inner grooved tubing	
Refrigerant control		—	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	
Motor <Starting method>	W	140 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 37 Hi : 27 Me : 24 Lo : 20	
Available static pressure	Pa	0	
Outdoor air intake		Possible	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Overload protection for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Drain pump		Built-in Drain pump	
Drain		Hose Connectable with VP20	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		FDT125VD	
		Panel **T-PSA-3AW-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.)]
Sound Pressure Level	dB(A)	P-Hi : 51 Hi : 42 Me : 40 Lo : 37	
Exterior dimensions Height x Width x Depth	mm	Unit 298 × 840 × 840 Panel 35 × 950 × 950	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	UNIT 27 PANEL 5.5	
Heat exchanger		Louver fin & inner grooved tubing	
Refrigerant control		—	
Air handling equipment Fan type & Q'ty		Turbo fan × 1	
Motor <Starting method>	W	140 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 37 Hi : 30 Me : 27 Lo : 23	
Available static pressure	Pa	0	
Outdoor air intake		Possible	
Air filter, Q'ty		Pocket plastic net × 1 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-T-36W-E (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Overload protection for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ9.52 (3/8")	
		Gas line : ϕ15.88 (5/8") ϕ15.88 (5/8") x 1.0 ϕ15.88 (5/8")	
Connecting method		Flare piping	
Drain pump		Built-in Drain pump	
Drain		Hose Connectable with VP20	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

(b) Ceiling suspended type (FDEN)

Adapted to **RoHS** directive

Item \ Model		FDEN40VD	
Power source		220-240V～50Hz / 220V～60Hz	
Operation data		Cooling	Heating
Nominal capacity	kW	4.0	4.5
Power factor	%	97 / 98	
Sound Pressure Level	dB(A)	P-Hi : 46 Hi : 39 Me : 38 Lo : 37	
Exterior dimensions Height x Width x Depth	mm	210 × 1,070 × 690	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	28	
Heat exchanger		Louver fin & inner grooved tubing	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	
Motor <Starting method>	W	25 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 13 Hi : 11 Me : 9 Lo : 7	
Available static pressure	Pa	0	
Outdoor air intake		Not possible	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ 6.35 (1/4")	
		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)	
Standard Accessories		Mounting kit, Drain hose	

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 230V50Hz or 220V60Hz.
(5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN50VD	
Power source		220-240V～50Hz / 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 × 1,070 × 690	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	28	
Heat exchanger		Louver fin & inner grooved tubing	
Refrigerant control		—	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 2	
Motor <Starting method>	W	25 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 13 Hi : 11 Me : 9 Lo : 7	
Available static pressure	Pa	0	
Outdoor air intake		Not possible	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ 6.35 (1/4")	
		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)	
Standard Accessories		Mounting kit, Drain hose	

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 230V50Hz or 220V60Hz.
(5) When wireless remote controller is used, fan is 3 speed setting (Hi-Me-Lo) only.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN60VD	
Power source		220-240V～50Hz / 220V～60Hz	
Operation data		Cooling	Heating
Nominal capacity	kW	5.6	6.7
Sound Pressure Level	dB(A)	P-Hi : 50 Hi : 41 Me : 39 Lo : 38	
Exterior dimensions Height x Width x Depth	mm	210 × 1,320 × 690	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	37	
Heat exchanger		Louver fin & inner grooved tubing	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	
Motor <Starting method>	W	20 × 2 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 22 Hi : 18 Me : 14 Lo : 12	
Available static pressure	Pa	0	
Outdoor air intake		Not possible	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ 6.35 (1/4")	
		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)	
Standard Accessories		Mounting kit, Drain hose	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN71VD	
Power source		220-240V～50Hz / 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 × 1,320 × 690	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	37	
Heat exchanger		Louver fin & inner grooved tubing	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	
Motor <Starting method>	W	20 × 2 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 22 Hi : 18 Me : 14 Lo : 12	
Available static pressure	Pa	0	
Outdoor air intake		Not possible	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Drain pump		—	
Drain		Hose Connectable with VP20	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN100VD	
Power source		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 × 1,620 × 690	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	49	
Heat exchanger		Louver fin & inner grooved tubing	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	
Motor <Starting method>	W	30 × 2 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 28 Hi : 26 Me : 23 Lo : 21	
Available static pressure	Pa	0	
Outdoor air intake		Not possible	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Drain pump		—	
Drain		Hose Connectable with VP20	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PFA003Z900 A

Adapted to **RoHS** directive

Item \ Model		FDEN125VD	
Power source		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 × 1,620 × 690	
Exterior appearance (Munsell color)		Plaster White (6.8Y8.9/0.2) near equivalent	
Net weight	kg	49	
Heat exchanger		Louver fin & inner grooved tubing	
Refrigerant control		—	
Air handling equipment Fan type & Q'ty		Centrifugal fan × 4	
Motor <Starting method>	W	40 × 2 < Direct line start >	
Air flow (Standard)	CMM	P-Hi : 32 Hi : 29 Me : 26 Lo : 23	
Available static pressure	Pa	0	
Outdoor air intake		Not possible	
Air filter, Q'ty		Pocket plastic net × 2 (Washable)	
Shock & vibration absorber		Rubber sleeve (for fan motor)	
Insulation (noise & heat)		Polyurethane form	
Remote controller		wired : RC-E4 (option) wireless : RCN-E1R (option)	
Room temperature control		Thermostat by electronics	
Safety equipment		Internal thermostat for fan motor Frost protection thermostat	
Installation data Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Drain pump		—	
Drain		Hose Connectable with VP20	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		Mounting kit, Drain hose	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PFA003Z900 A

(2) Outdoor units

Adapted to **RoHS** directive

Item \ Model		FDC71VN	
Power source		220-240V～50Hz / 220V～60Hz	
Operation data		Cooling	Heating
Nominal capacity	kW	7.1 [3.2 (Min.)～8.0 (Max.)]	8.0 [3.6 (Min.)～9.0 (Max.)]
Sound Pressure Level	dB(A)	48	
Exterior dimensions Height x Width x Depth	mm	750 × 968 × 340	
Exterior appearance (Munsell color)		Stucco White (4.2Y7.5/1.1) near equivalent	
Net weight	kg	60	
Refrigerant equipment Compressor type & Q'ty		2YC45DXD × 1	
Starting method		Direct line start	
Refrigerant oil	ℓ	0.65 FVC50K	
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>	W	86 < Direct line start >	
Air flow (Standard)	CMM	Cooling : 60 , Heating : 50	
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 Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Refrigerant line (one way) length		Max.50m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 2.95kg in outdoor unit (incl. the amount for the piping of : 30m)	
Drain		Holes size ϕ 20 x 3pcs	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		—	

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

Item	Indoor air temperature		Outdoor air temperature	
Operation	DB	WB	DB	WB
Cooling	27℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		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.)]
Sound Pressure Level	dB(A)	49	
Exterior dimensions Height x Width x Depth	mm	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>	W	86 < Direct line start >	
Air flow (Standard)	CMM	Cooling : 75, Heating : 73	
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 Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 in outdoor unit (incl. the amount for the piping of : 30m)	
Drain		Holes size ϕ 20 x 3pcs	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		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℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		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.)]
Sound Pressure Level	dB(A)	49	
Exterior dimensions Height x Width x Depth	mm	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>	W	86 < Direct line start >	
Air flow (Standard)	CMM	Cooling : 75, Heating : 73	
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 Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 in outdoor unit (incl. the amount for the piping of : 30m)	
Drain		Holes size ϕ 20 x 3pcs	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		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.)]
Sound Pressure Level	dB(A)	Cooling : 50 Heating : 51	
Exterior dimensions Height x Width x Depth	mm	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>	W	86 < Direct line start >	
Air flow (Standard)	CMM	Cooling : 75, Heating : 73	
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 Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 in outdoor unit (incl. the amount for the piping of : 30m)	
Drain		Holes size ϕ 20 x 3pcs	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		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℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		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.)]
Sound Pressure Level	dB(A)	Cooling : 50 Heating : 51	
Exterior dimensions Height x Width x Depth	mm	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>	W	86 < Direct line start >	
Air flow (Standard)	CMM	Cooling : 75, Heating : 73	
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 Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Refrigerant line (one way) length		Max.50m	※1.See page 154
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 in outdoor unit (incl. the amount for the piping of : 30m)	
Drain		Holes size ϕ 20 x 3pcs	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		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.)]
Sound Pressure Level	dB(A)	51	
Exterior dimensions Height x Width x Depth	mm	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>	W	86 < Direct line start >	
Air flow (Standard)	CMM	Cooling : 75, Heating : 73	
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 Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Refrigerant line (one way) length		Max.50m	※1.See page 154 and 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 in outdoor unit (incl. the amount for the piping of : 30m)	
Drain		Holes size ϕ 20 x 3pcs	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		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℃	19℃	35℃	24℃
Heating	20℃		7℃	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.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		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.)]
Sound Pressure Level	dB(A)	51	
Exterior dimensions Height x Width x Depth	mm	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>	W	86 < Direct line start >	
Air flow (Standard)	CMM	Cooling : 75, Heating : 73	
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 Refrigerant piping size	mm	Liquid line : ϕ 9.52 (3/8")	
		Gas line : ϕ 15.88 (5/8")	
Connecting method		Flare piping	
Refrigerant line (one way) length		Max.50m	※1.See page 154 and 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 in outdoor unit (incl. the amount for the piping of : 30m)	
Drain		Holes size ϕ 20 x 3pcs	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		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.)]
Sound Pressure Level	dB(A)	57	
Exterior dimensions Height x Width x Depth	mm	1,300 × 970 × 370	
Exterior appearance (Munsell color)		Stucco White (4.2Y7.5/1.1) near equivalent	
Net weight	kg	122	
Refrigerant equipment Compressor type & Q'ty		GTC5150ND70K × 1	
Starting method		Direct line start	
Refrigerant oil	ℓ	1.45 M-MA32R	
Heat exchanger		Straight fin & inner grooved tubing	
Refrigerant control		Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Propeller fan × 2	
Motor <Starting method>	W	86 × 2 < Direct line start >	
Air flow (Standard)	CMM	Cooling : 150, Heating : 145	
Shock & vibration absorber		Rubber sleeve (for Compressor)	
Electric heater	W	33 (Crank case heater)	
Safety equipment		Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data Refrigerant piping size	mm	Liquid line : ϕ9.52 (3/8")	
		Gas line : ϕ22.22 (7/8")	
Connecting method		Liquid : Flare / Gas : Brazing	
Refrigerant line (one way) length		Max.70m	※1.See page 154 and 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 5.4kg (Pre-charged up to the piping length of 30m) Outdoor unit	
Drain		Holes size ϕ20 × 3pcs	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.

PJF000Z188 A

Adapted to **RoHS** directive

Item \ Model		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.)]
Sound Pressure Level	dB(A)	Cooling : 57 Heating : 58	
Exterior dimensions Height x Width x Depth	mm	1,505 × 970 × 370	
Exterior appearance (Munsell color)		Stucco White (4.2Y7.5/1.1) near equivalent	
Net weight	kg	140	
Refrigerant equipment Compressor type & Q'ty		GTC5150ND70K × 1	
Starting method		Direct line start	
Refrigerant oil	ℓ	1.45 M-MA32R	
Heat exchanger		Straight fin & inner grooved tubing	
Refrigerant control		Electronic expansion valve	
Air handling equipment Fan type & Q'ty		Propeller fan × 2	
Motor <Starting method>	W	86 × 2 < Direct line start >	
Air flow (Standard)	CMM	Cooling : 150, Heating : 145	
Shock & vibration absorber		Rubber sleeve (for Compressor)	
Electric heater	W	33 (Crank case heater)	
Safety equipment		Internal thermostat for fan motor Abnormal discharge temperature protection.	
Installation data Refrigerant piping size	mm	Liquid line : ϕ12.7 (1/2")	
		Gas line : ϕ22.22 (7/8")	
Connecting method		Liquid : Flare / Gas : Brazing	
Refrigerant line (one way) length		Max.70m	※1.See page 154
Vertical height difference between outdoor unit and indoor unit		Max.30m (Outdoor unit is higher) Max.15m (Outdoor unit is lower)	
Refrigerant Quantity		R410A 7.2kg (Pre-charged up to the piping length of 30m) Outdoor unit	
Drain		Holes size ϕ20 × 3pcs	
Insulation for piping		Necessary (both Liquid & Gas lines)	
Standard Accessories		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℃	19℃	35℃	24℃
Heating	20℃		7℃	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 400V50Hz or 380V60Hz.

PJF000Z188 A

(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		FDC71VN	FDC100VN	FDC125VN	FDC140VN
Cooling power consumption	kW	2.02/2.02	2.62/2.62	3.91/3.91	4.51/4.51
Heating power consumption		2.16/2.16	2.60/2.60	3.63/3.63	4.40/4.40
Cooling running current	A	10.4/10.4	11.7/12.3	17.3/18.2	20.4/21.4
Heating running current		11.1/11.1	11.6/12.2	16.2/16.9	19.5/20.4
Inrush current (L.R.A) <Max. running current>	A	5 <17>	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		2.60/2.60	3.63/3.63	4.40/4.40
Cooling running current	A	3.8/4.0	5.5/5.9	6.5/6.9
Heating running current		3.8/4.0	5.1/5.5	6.3/7.0
Inrush current (L.R.A) <Max. running current>	A	5 <15>		

(380-415V 50Hz/380V 60Hz)

Item \ Model		FDC200VS	FDC250VS
Cooling power consumption	kW	6.34/6.34	8.71/8.71
Heating power consumption		6.20/6.20	7.75/7.75
Cooling running current	A	9.1/9.1	12.7/12.7
Heating running current		9.0/9.0	11.4/11.4
Inrush current (L.R.A) <Max. running current>	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)

Item \ Model		FDT40VD	FDT50VD	FDT60VD	FDT71VD	FDT100VD	FDT125VD
Cooling power consumption	kW	0.03-0.03/0.03	0.04-0.04/0.04	0.10-0.10/0.10		0.14-0.14/0.14	
Heating power consumption		0.03-0.03/0.03	0.04-0.04/0.04	0.10-0.10/0.10		0.14-0.14/0.14	
Cooling running current	A	0.20-0.18/0.20	0.20-0.18/0.20	0.30-0.28/0.30		0.45-0.40/0.45	
Heating running current		0.20-0.18/0.20	0.20-0.18/0.20	0.30-0.28/0.30		0.45-0.40/0.45	

FDEN Series

(220-240V 50Hz/220V 60Hz)

Item \ Model		FDEN40VD	FDEN50VD	FDEN60VD	FDEN71VD	FDEN100VD	FDEN125VD
Cooling power consumption	kW	0.05-0.06/0.06		0.10-0.11/0.11	0.10-0.12/0.14	0.14-0.16/0.16	0.16-0.18/0.20
Heating power consumption		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	A	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		0.23-0.25/0.28		0.42-0.44/0.46	0.46-0.48/0.63	0.59-0.63/0.70	0.70-0.72/0.83

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 + ∑ (Power consumption of indoor unit)

b) Total running current

Total running current (A) = Running current of outdoor unit + ∑ (Running current of indoor unit)

c) Total power factor

Total power factor (%) = [Total power consumption (W) / Total running current (A) × Power source] × 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 × 1 unit
Indoor unit: FDT71VD × 2 units

Operation characteristics of each unit (Cooling/Heating)

Item \ Model	FDC140VN	FDT71VD
Power consumption (kW)	4.51/4.40	0.10/0.10
Running current (A)	20.4/19.5	0.30/0.30

① Total power consumption (kW)

(Cooling) 4.51 + (0.10 × 2) = 4.71

(Heating) 4.40 + (0.10 × 2) = 4.60

② Total running current (A)

(Cooling) 20.4 + (0.30 × 2) = 21.0

(Heating) 19.5 + (0.30 × 2) = 20.1

③ Total power factor (%)

(Cooling) $\frac{4.71 \times 1000}{21.0 \times 220} \times 100 \fallingdotseq 99\ \%$

(Heating) $\frac{4.60 \times 1000}{20.1 \times 220} \times 100 \fallingdotseq 99\ \%$

2) 3 Phase models

a) Total power consumption

Total power consumption (kW) = Power consumption of outdoor unit + ∑ (Power consumption of indoor unit)

b) Total running current

Total running current (A) = Running current of outdoor unit + [∑ (Running current of indoor unit) × 1/3]

c) Total power factor

Total power factor (%) = [Total power consumption (W) / $\sqrt{3}$ × Total running current (A) × Power source] × 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: FDT71VD × 1 unit, FDT125VD × 1 unit

Operation characteristics of each unit

(Cooling/Heating)

Item \ Model	FDC200VS	FDT71VD	FDT125VD
Power consumption (kW)	6.34/6.20	0.10/0.10	0.14/0.14
Running current (A)	9.1/9.0	0.30/0.30	0.45/0.45

① Total power consumption (kW)

(Cooling) 6.34 + 0.100 + 0.14 = 6.58 (kW)

(Heating) 6.20 + 0.100 + 0.14 = 6.44 (kW)

② Total running current (A)

(Cooling) $9.1 + \left[(0.30 + 0.45) \times \frac{1}{3}\right) \fallingdotseq 9.6$ (A)

(Heating) $9.0 + \left[(0.30 + 0.45) \times \frac{1}{3}\right) \fallingdotseq 9.5$ (A)

③ Total power factor (%)

(Cooling) $\frac{6.58 \times 1000}{\sqrt{3} \times 9.6 \times 380} \times 100 \fallingdotseq 99$ %

(Heating) $\frac{6.44 \times 1000}{\sqrt{3} \times 9.5 \times 380} \times 100 \fallingdotseq 99$ %

2.3 EXTERIOR DIMENSIONS

(1) Indoor units

(a) Ceiling cassette-4way type (FDT) .....See page 94

(b) Ceiling suspended type (FDEN) .....See page 96

(2) Outdoor units .....See page 105

(3) Remote controller (Option parts) .....See page 110

2.4 ELECTRICAL WIRING

(1) Indoor units

(a) Ceiling cassette-4way type (FDT) .....See page 113

(b) Ceiling suspended type (FDEN) .....See page 114

(2) Outdoor units .....See page 121

2.5 NOISE LEVEL

(1) Indoor units

(a) Ceiling cassette-4way type (FDT) .....See page 126

(b) Ceiling suspended type (FDEN) .....See page 127

(2) Outdoor units .....See page 130

2.6 TEMPERATURE AND VELOCITY DISTRIBUTION

(1) Indoor units

(a) Ceiling cassette-4way type (FDT) .....See page 138

(b) Ceiling suspended type (FDEN) .....See page 141

2.7 PIPING SYSTEM .....See page 147

2.8 RANGE OF USAGE & LIMITATIONS .....See page 152

2.9 SELECTION CHART .....See page 156

2.10 APPLICATION DATE

2.10.1 Installation of indoor unit

(1) Ceiling cassette-4way type (FDT) .....See page 180

(2) Ceiling suspended type (FDEN) .....See page 186

2.10.2 Installation of wired remote controller .....See page 202

2.10.3 Installation of outdoor unit

(1) Model FDC71VN .....See page 213

(2) Models FDC100～140VN,100～140VS .....See page 221

(3) Models FDC200,250VS .....See page 229

(4) Method for connecting the accessory pipe

(Models FDC200,250 only) .....See page 236

2.10.4 Electric wiring work installation .....See page 238

2.10.5 Instructions for branching pipe set (DIS-WA1,WB1,TA1,TB1) .....See page 243

3. OPTION PARTS

CONTENTS

3.1 WIRELESS KIT 274
3.1.1 FDTC Series (RCN-TC-24W-ER) 274
3.1.2 FDT Series (RCN-T-36W-E) 276
3.1.3 FDEN Series (RCN-E1R) 278
3.1.4 FDUM,FDU Series (RCN-KIT3-E) 282
3.2 SIMPLE WIRED REMOTE CONROLLER (RCH-E3) 284
3.3 FAN CONTROLLERT KIT (U-FCRA) 290
3.4 BASE HEATER KIT (CW-H-E) 291

3.1 WIRELES KIT

3.1.1 FDTC Series (RCN-TC-24W-ER)

PJA012D758

Notes :
Following functions of FDTC Type-D indoor unit series are not able to be set with this wireless remote control (RCN-TC-24W-ER).
1. Individual flap control system
2. 4-fan speed setting (P-Hi/Hi/Me/Lo) → 3-fan speed setting (Hi/Me/Lo)

⚠ 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 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 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 devices
  (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.

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 package.

① Accessories

Please make sure that you have all of the following accessories.

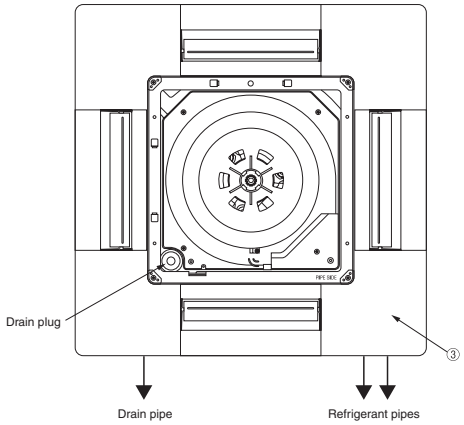
Receiver		1	Remote controller holder		1
Wireless remote controller		1	Wood screw for holder		2
Parts set		1	AAA dry cell battery (RO3)		2

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 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 with ☐ mark.

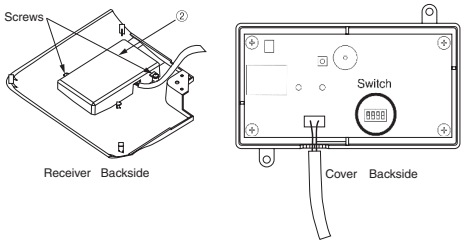
S W 1	Customized signal setting to avoid mixed communication	ON : Normal OFF : Remote
S W 2	Receiver master/slave setting	ON : Master OFF : Slave
S W 3	Buzzer valid/Invalid	ON : Valid OFF : Invalid
S W 4	Auto restart	ON : Valid OFF : Invalid

<To change the settings>

② Remove the cover by unscrewing two screws from the back of receiver.
③ Change the setting by the switch on PCB.



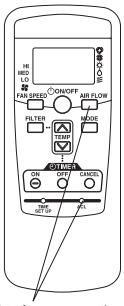
Default settings



④ When SW1 is turned to OFF position, change the corresponding remote controller setting as follows:

How to change the remote controller setting

Pressing ACL switch with AIR FLOW button kept pressing or inserting the batteries with pressing AIR FLOW button will customize the signal.



Radio interference prevention mode

Note

※ When the batteries are removed, the setting will return to the default setting. Please make sure to reset it when the batteries are replaced.

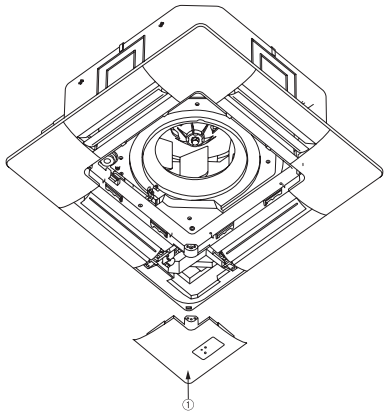
Caution

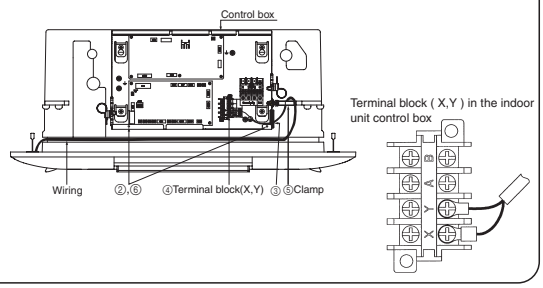
Instruct the customer to set the mentioned above when replacing the batteries. (How to set is also mentioned in the user's manual attached on the air conditioner.)

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.
③ Put the wiring in the control box with other wiring as shown below.
④ Connect the wiring to the terminal block (X,Y) provided in the control box.(Non-polarized)
⑤ Fix the wiring with the clamp as shown below.
⑥ Reattach the control box lid with 2 screws removed.

※ Note: Make sure wires not to be pinched by any other parts like panel and control box.





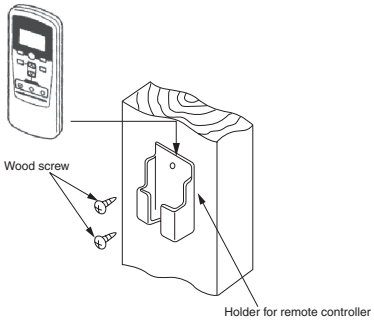
*

③ Remote controller

Installation of the controller holder

Caution

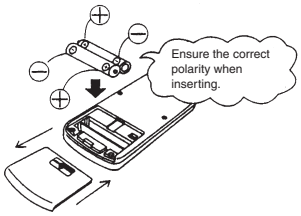
DO NOT install it on the following places
1. Places exposed to direct sunlight
2. Places near heat devices
3. High humidity places
4. Hot surface or cold surface enough to generate condensation
5. Places exposed to oil mist or steam directly.
6. Uneven surface



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 on plaster wall.

How to insert batteries

① Detach the back lid.
② Insert the batteries. (two AAA batteries)
③ Reattach the back lid.

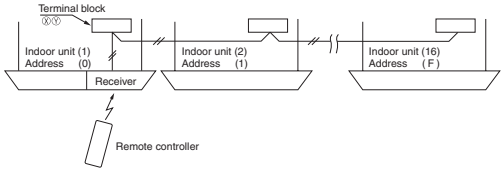


Control plural indoor units with one remote controller

Up to 16 indoor units can be connected.
① Connect the XY terminal with 2-core wire. As for the size, refer to the following note.
② 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 100m x 0.3 mm^2
	Within 200m x 0.5 mm^2
	Within 300m x 0.75mm^2
	Within 400m x 1.25mm^2
	Within 600m x 2.0 mm^2



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.

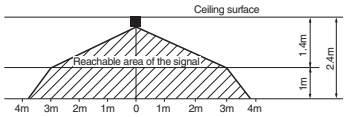
Master/Slave setting when using plural remote controllers

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.

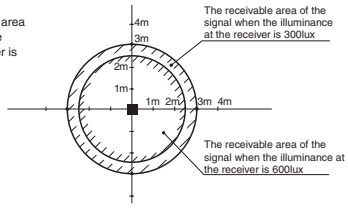
(For the method of switching, please see **Setting on site** in the section of **② How to install the receiver** in this manual.)

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 correlation between the reachable area 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.



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 in Auto mode.
Make sure to set the remote controller for the models so as not to be able to choose Auto mode.

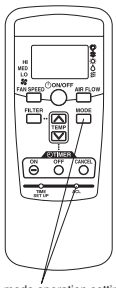
Pressing ACL switch with MODE button kept pressing or inserting the batteries with pressing MODE button will make auto mode operation.

Note

※ When the batteries are removed, the setting will return to the default setting (Auto mode is valid).

Caution

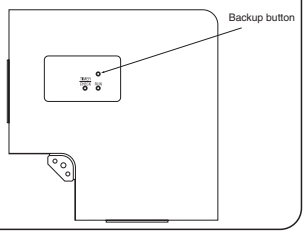
Instruct the customer to set the mentioned above when replacing the batteries. (How to set is also mentioned in the user's manual attached on the air conditioner.)



Auto mode operation setting

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 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 with the condition of Auto mode, 23˚C of set point, High fan 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 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 FDT Series (RCN-T-36W-E)

Notes :
Following functions of FDT Type-D indoor unit series are not able to be set with this wireless remote control (RCN-TC-36W-E).
1. Individual flap control system
2. 4-fan speed setting (P-Hi/Hi/Me/Lo) → 3-fan speed setting (Hi/Me/Lo)

PJF012D010

⚠ 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 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 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 devices
  (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.

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.

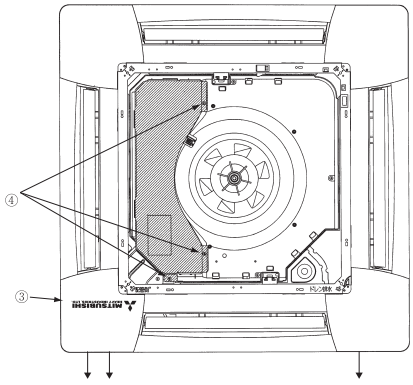
Receiver		1	Remote controller holder		1
Wireless remote controller		1	Wood screw for holder		2
Parts set		1	AAA dry cell battery (RO3)		2

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.

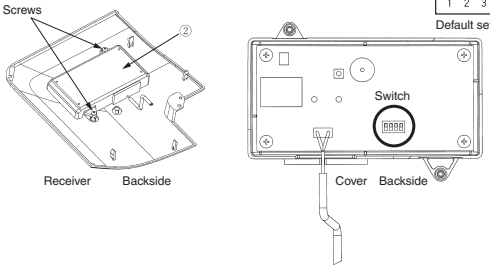
S W 1	Customized signal setting to avoid mixed communication	☐ ON : Normal OFF : Remote
S W 2	Receiver master/slave setting	☐ ON : Master OFF : Slave
S W 3	Buzzer valid/Invalid	☐ ON : Valid OFF : Invalid
S W 4	Auto restart	ON : Valid ☐ OFF : Invalid

<To change the settings>

② Remove the cover by unscrewing two screws from the back of receiver.
③ Change the setting by the switch on PCB.



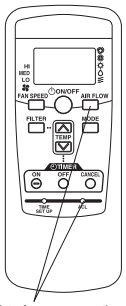
Default settings



④ When SW1 is turned to OFF position, change the corresponding remote controller setting as follows:

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.



Radio interference prevention mode

Note

※ When the batteries are removed, the setting will return to the default setting.
Please make sure to reset it when the batteries are replaced.

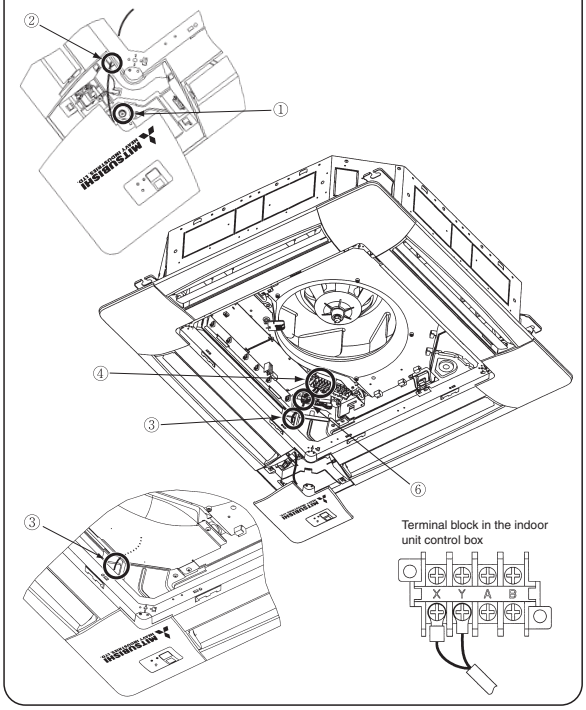
Caution

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.)

Installation of the receiver

① Loosen the bolts which fix the panel and make a gap between the panel and the indoor unit
② Put the wiring of the receiver through the opening.
③ Put the wiring on the notch on the control box so as not to be pinched by the control box and lid as shown below.
④ Connect the wiring to the terminal block provided in the control box. (Non- polarized)
⑤ Attach the receiver to the panel according to the panel installation manual.
⑥ Fix the wiring with the clamp so that the wiring do not contact the edge of control box's metal sheet.
⑦ 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.



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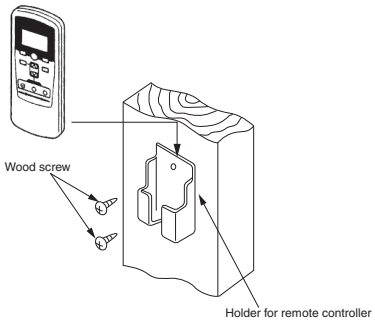
③ Remote controller

Installation of the controller holder

Caution

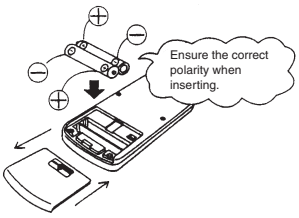
DO NOT install it on the following places
1. Places exposed to direct sunlight
2. Places near heat devices
3. High humidity places
4. Hot surface or cold surface enough to generate condensation
5. Places exposed to oil mist or steam directly.
6. Uneven surface



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 on plaster wall.

How to insert batteries

① Detach the back lid.
② Insert the batteries. (two AAA batteries)
③ Reattach the back lid.

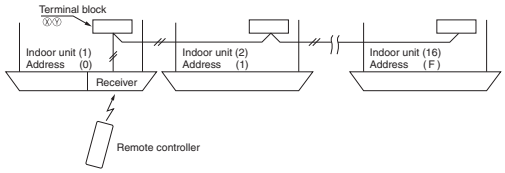


Control plural indoor units with one remote controller

Up to 16 indoor units can be connected.
① Connect the XY terminal with 2-core wire. As for the size, refer to the following note.
② 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.)

Standard	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



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.

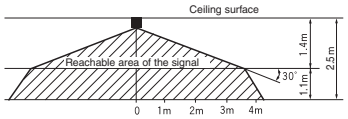
Master/Slave setting when using plural remote controllers

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.

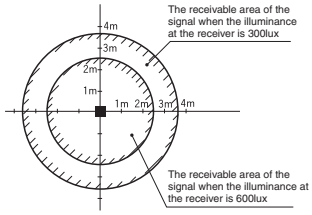
(For the method of switching, please see **Setting on site** in the section of ② **How to install the receiver** in this manual.)

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 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 thirds.



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 in Auto mode.
Make sure to set the remote controller for the models so as not to be able to choose Auto mode.

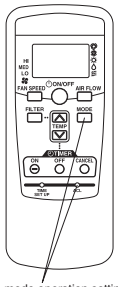
Pushing ACL and MODE button at the same time or inserting the batteries with pressing MODE button will make auto mode operation.

Attention

※ When the batteries are removed, the setting will return to the default setting (Auto mode is valid).

Caution

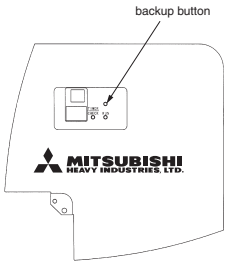
Instruct the customer to set the mentioned above when replacing the batteries. (How to set is also mentioned in the user's manual attached on the air conditioner.)



Auto mode operation setting

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 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 with the condition of Auto mode, 23˚C of set point, High fan 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 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.

3.1.3 FDEN Series (RCN-E1R)

Notes :
Following functions of FDEN Type-D indoor unit series are not able to be set with this wireless remote control (RCN-E1R).
1. Flap control system
2. 4-fan speed setting (P-Hi/Hi/Me/Lo) → 3-fan speed setting (Hi/Me/Lo)

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.

⚠ 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
			
1	2	2	1

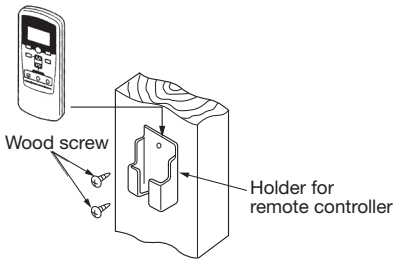
② Installation of the controller holder

⚠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

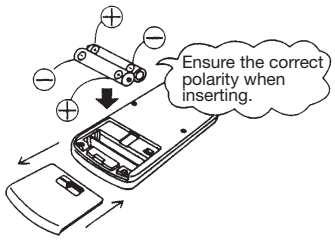
Installation tips for the remote controller holder

- 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.



How to insert batteries

① Detach the back lid.
② Insert the batteries. (two AAA batteries)
③ Reattach the back lid.



*

③ FDEN

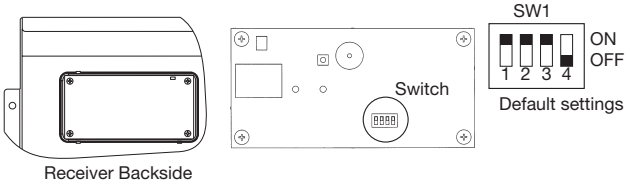
Setting on site

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 ☐ OFF : Invalid

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.



4. 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 ⑤ FDEN in case of plural setting.

Master/Slave setting when using plural remote controllers

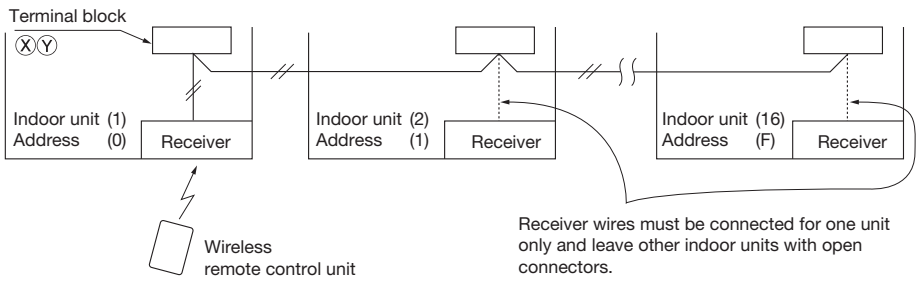
Up to two receiver or wired remote controller can be installed in one indoor unit group.
When two receivers or wired remote controller are used, it is necessary to change SW on the PCB to set it as slave.

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.

Restrictions on the thickness and length of wire
(Maximun total extension 600m.)

Standard	Within 100m x 0.3 mm²
	Within 200m x 0.5 mm²
	Within 300m x 0.75 mm²
	Within 400m x 1.25 mm²
	Within 600m x 2.0 mm²



※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)

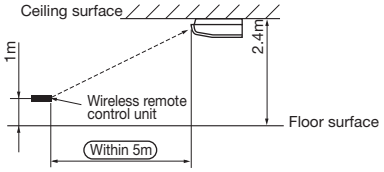
③ FDEN (continued)

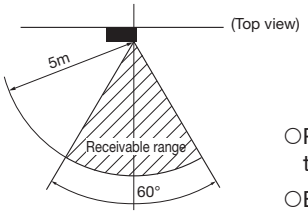
Wireless remote controller unit operation distance

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)

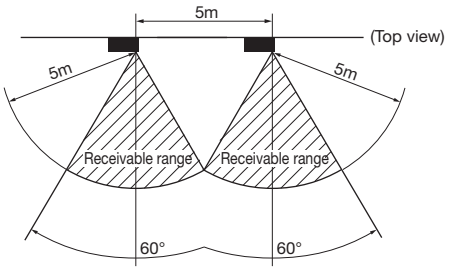




② Points for attention in connecting a plural number of indoor units

[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.



○Please operate remote control unit switches with the unit faced correctly toward the indoor unit's receiver section.

○Effective operation distance can vary with the luminance around the receiver and the reflection from walls of the room.

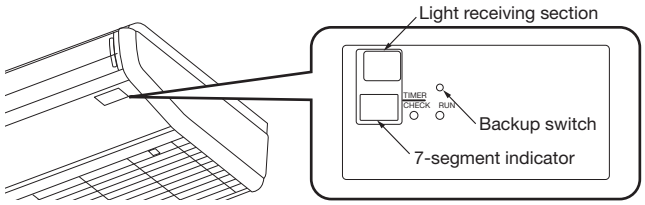
○When the receiver is exposed to intensive light such as from the direct sun or a strong light, it may become operable only from a short distance or unable to receive signals at all.

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

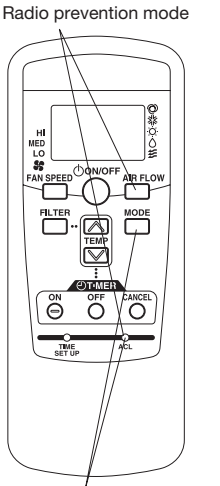
Setting to avoid mixed communication

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 Series (RCN-KIT3-E)

Read this manual together with the installation manual attached to the air conditioner.

PJZ012D060A

⚠ 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 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 AC unit.
  (8)Places where the receiver is influenced by the fluorescent lamp (especially in verter 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
- 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.

① Receiver	1
② Wiring (3m)	1
③ Parts set (A)	1
④ Parts set (B)	1
⑤ Parts set (C)	1
⑥ Wireless remote controller	1
⑦ User's manual	1

③ Parts set (A)	
① Remote controller holder	1
② Screw for holder	2
③ AAA dry cell battery (R03)	2

④ Parts set (B)	
① Screw for receiver	2
② Fixing band	1
③ Clamp	5
④ Screw for clamp	5

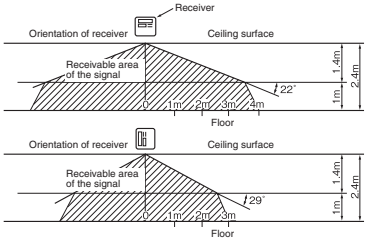
⑤ Parts set (C)	
① Receiver installation bracket	1
② Screw for the bracket	2
③ Installation fitting	2

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.)

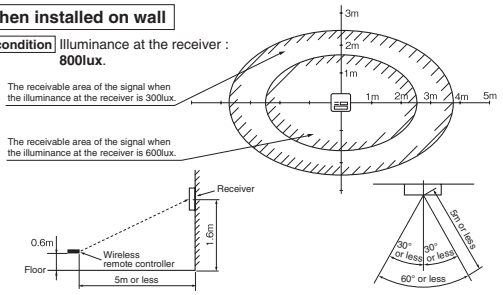


② Correlation between illuminance at the receiver and reachable area of the signal in a plain view.

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.
When the illuminance becomes double, the area is narrowed down to two third.

(2) When installed on wall

condition Illuminance at the receiver : **800lux**.



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.

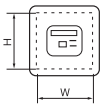
<Installation position>

(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.

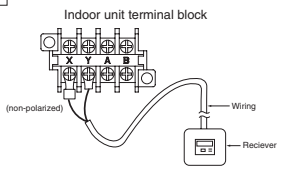
(A) Direct installation onto the ceiling with wood screws.	88mm(H)×101mm(W)
(B) Installation with enclosed bracket.	108mm(H)×108mm(W)



(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.

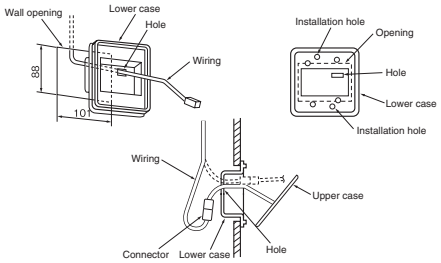


(3) Installation of the receiver

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

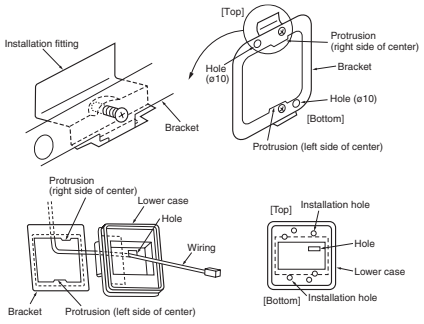
Use this installation method when the ceiling is wooden, and there is no problem for strength in installing directly with wood screws.



①Put through the wiring from the back side to the hole of the lower case.
②Fit 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.)
④Connect the wiring with the wiring from the upper case by the connector.
⑤Take 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.



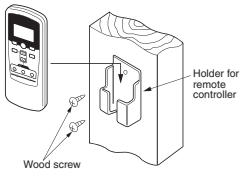
①Catch the two protrusion of the enclosed bracket onto the tting as shown above, and temporarily fix with the screws. (The bracket has an up/down and front/back orientation. Con rm the top/bottom protrusion positions and the positional relation of the ø 10 holes on the bracket and the installation hole on the lower case with the above drawing.)
②Insert 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.
④Fit 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

Caution

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



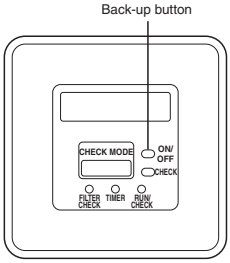
Installation tips for the remote controller holder
- Adjust and keep the holder upright.
- Tighten the screw to the end to avoid scratching the remote controller.
- DO NOT attach the holder to plaster wall.

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**

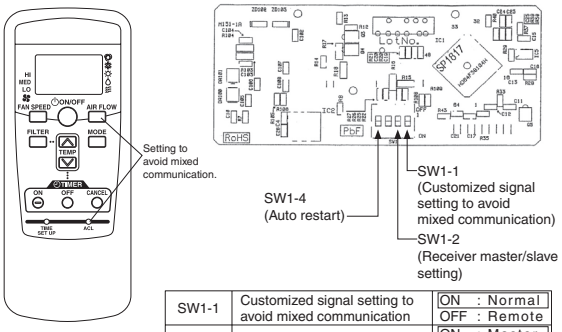
Pressing ACL and AIRFLOW button at the same time or inserting the batteries with pressing AIRFLOW button will customize the signal.

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** † ●**PCB of the receiver**



SW1-1	Customized signal setting to avoid mixed communication	ON : Normal OFF : Remote
SW1-2	Receiver master/slave setting	ON : Master OFF : Slave
SW1-4	Auto restart	ON : Valid OFF : Invalid

: Default setting

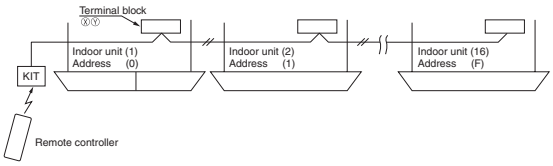
(B) Control plural indoor units with one remote controller

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.

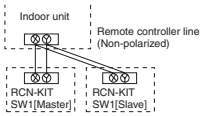
Restrictions on the thickness and length of wire (Maximun total extension 600m.)	
Standard	Within 100m x 0.3 mm²
	Within 200m x 0.5 mm²
	Within 300m x 0.75mm²
	Within 400m x 1.25mm²
	Within 600m x 2.0 mm²



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
	OFF	Slave

(D) Change setting of auto mode operation

Auto mode operation is prohibited to be selected for KX models (except for KXR models).
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 can be invalid.
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 once again.

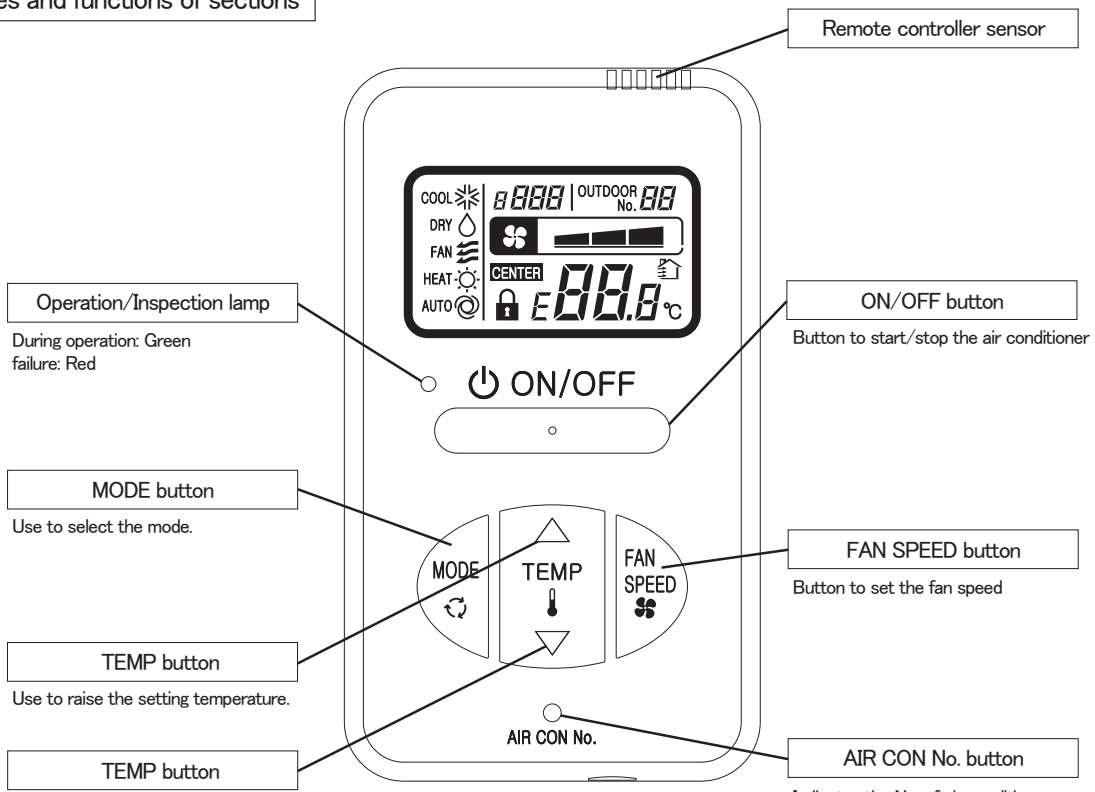
(E) Change setting of fan speed

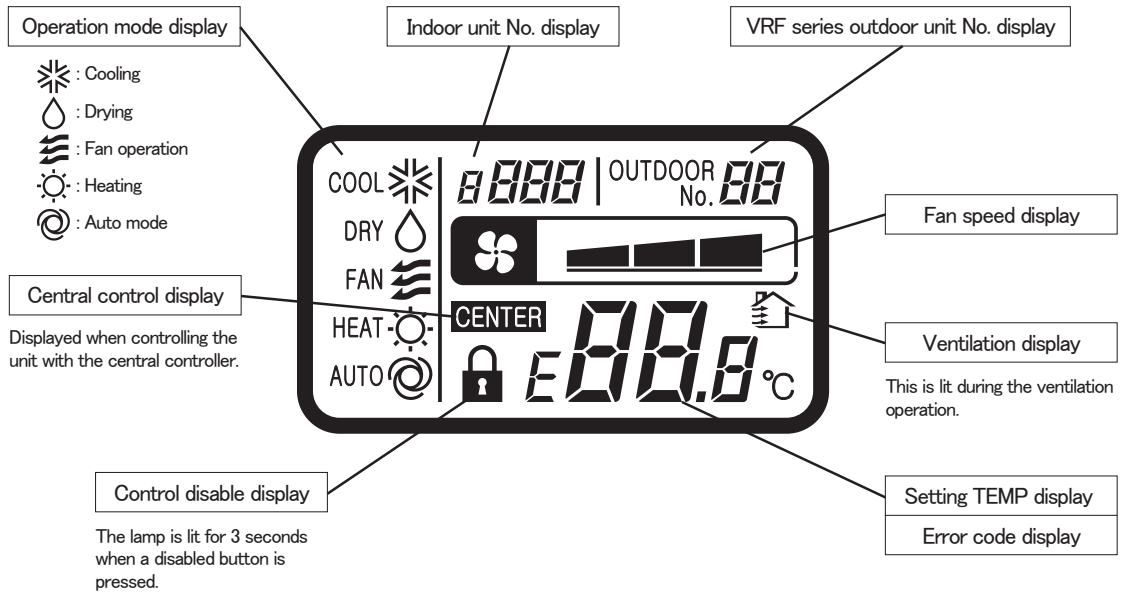
While pressing the FAN SPEED button, press the ACL switch, or while pressing the FAN SPEED button, insert the batteries to the remote controller. Then the fan speed can be changed from 2-speed setting to 3-speed setting.
When changing fan speed setting of remote controller, be sure to perform the same fan speed setting as that of the indoor unit model to be used.
Attention
When the batteries are removed, it is returned to initial setting (Fan speed setting is 2-speed).
Accordingly when replacing the batteries, be sure to perform the above operation once again.

3.2 SIMPLE WIRED REMOTE CONTROLLER (RCH-E3)

Notes :
Following functions of Type-D indoor unit series are not able to be set with this simple wired remote control (RCH-E3).
1. Individual flap control system (for FDT/FDTC)
2. Flap control system (for FDEN)
3. 4-fan speed setting (P-Hi/Hi/Me/Lo) → 3-fan speed setting (Hi/Me/Lo) (for FDT/FDTC/FDUM/FDEN)

Names and functions of sections





Installation of remote controller

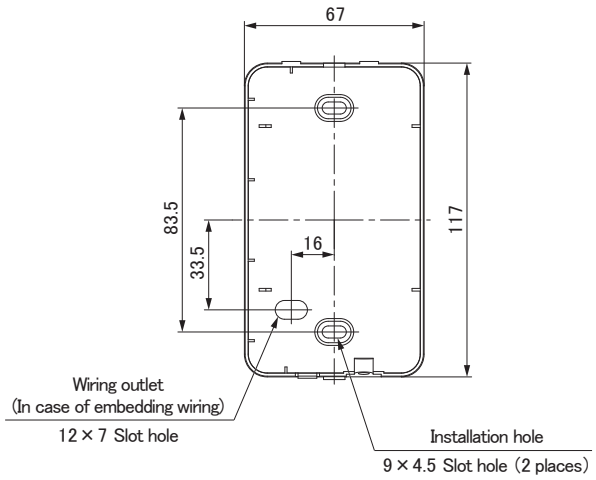
DO NOT install the remote controller at the following places in order to avoid malfunction.

(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

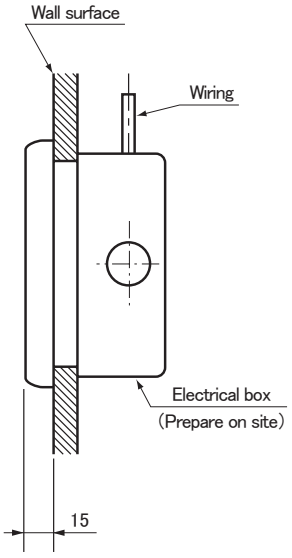
*

Remote control installation dimensions

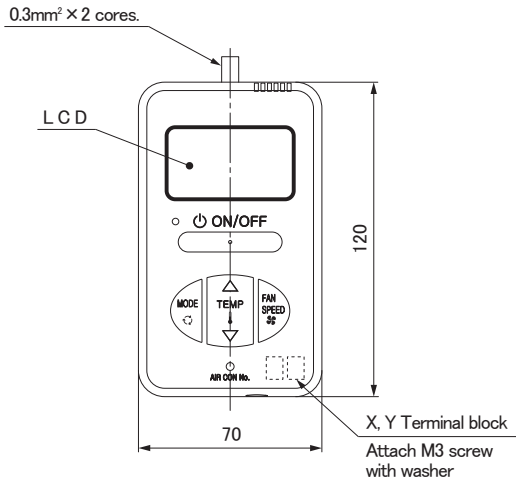


Note: Installation screw for remote controller
M4 Screw (2 pieces)

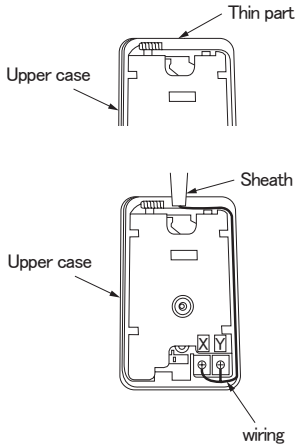
In case of embedding wiring



In case of exposing wiring

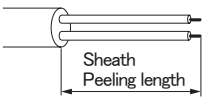


The remote controller wiring can be extracted from the upper center.
After the thin part in the upper side of the remote controller upper case is scraped with a nipper or knife, remove burr with a file.



The peeling length of each wiring is as follows:

X wiring : 160mm Y wiring : 150mm



Wiring specifications

(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 600m.
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.

Unit:mm

Length	Wiring thickness
100 to 200m	0.5mm² × 2 cores
Under 300m	0.75mm² × 2 cores
Under 400m	1.25mm² × 2 cores
Under 600m	2.0mm² × 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

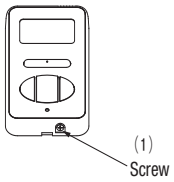
- **DO NOT install the remote controller at the following places in order to avoid malfunction.**
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) Uneven surface
- **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 (ϕ 3.5 × 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)

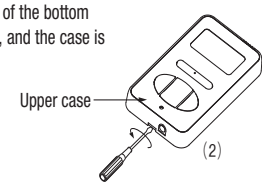
1. Installation procedure

In case of embedding cord

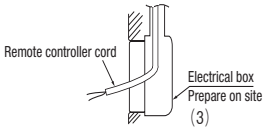
(1) Make certain to remove the screw on the bottom surface of the remote controller.



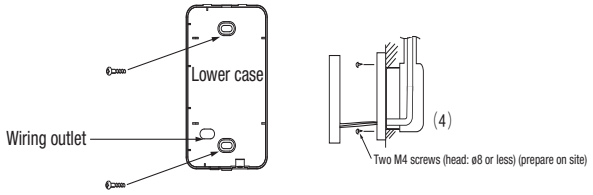
(2) Remove the upper case of the remote controller.
Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote controller and slightly twist it, and the case is removed.



(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.

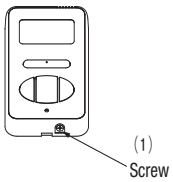


(5) Connect the remote controller cord to the terminal block.
Connect the terminals (X and Y) of the remote controller and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)

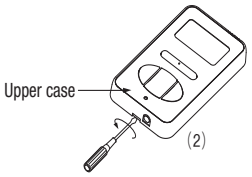
(6) Mount the upper case for restoring to its former state so as not to crimp the remote controller cord, and secure with the removed screw.

In case of exposing cord

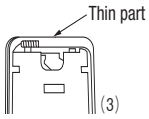
(1) Make certain to remove a screw on the bottom surface of the remote controller.



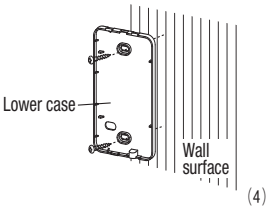
(2) Remove the upper case of the remote controller.
Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed.



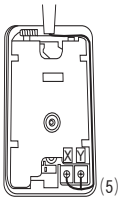
(3) The remote controller cord can be extracted from the upper center.
After the thin part in the upper side of the remote controller upper case is scraped with a nipper or knife, remove burr with a file.



(4) The lower case of the remote controller is mounted to a flat wall with two accessory wood screws.

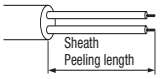


(5) Connect the remote controller cord to the terminal block.
Connect the terminals (X and Y) of the remote controller and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)
The wiring route is as shown in the right.



The wiring in the remote controller case should be 0.3 mm^2 (recommended) to 0.5 mm^2 at maximum.
Further, peel off the sheath.
The peeling length of each wiring is as follows:

X wiring : 160mm
Y wiring : 150mm



(6) 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.

(7) 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.

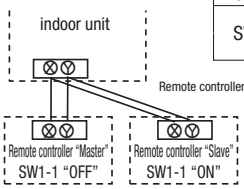
2. Installation and wiring of remote controller

(1) Wiring of remote controller should use 0.3mm^2 × 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 0.3mm^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.
100 - 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

3. Master/ slave setting when more than one remote controller are used

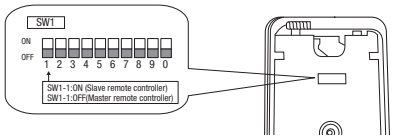
(1) Up to two remote controllers can be connected to one unit (or one group) of indoor unit.

Switch	Setting	Function detail
SW1-1	ON	Slave remote controller
	OFF	Master remote controller



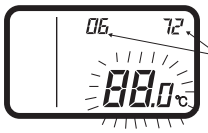
(2) Set the switch SW1-1 of the slave remote controller is "Slave" (ON). The factory default is set as "Master" (OFF).

(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

(1) 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.)

(2) Then, "88.0 °C" blinks on the remote controller until the communication between the remote controller and the indoor unit is established.

(3) 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.

(4) 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.



5. Confirmation method for return air temperature

Return air temperature can be confirmed by the remote controller operation.

(1) **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)

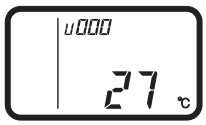


(Note) For the return air temperature, in the normal case, the return air temperature of the indoor unit is displayed; however, in the case that the remote control thermistor is effective, detected temperature by the remote controller thermistor is displayed.

(2) **Press ⏻ ON/OFF button.**
End.

[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.)



(2) **Press TEMP△ or TEMP▽ button.**
Select the indoor unit No.

(3) **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").

(4) **Press ⏻ ON/OFF button.**
End.

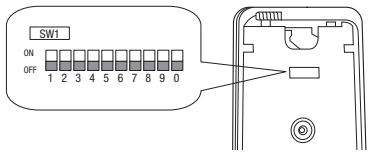
6. Function setting

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 " ○ ", 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	
	OFF	Master remote controller	○
SW1-2	ON	Remote controller thermistor enabled	
	OFF	Remote controller thermistor disabled	○
SW1-3	ON	"MODE" button prohibited	
	OFF	"MODE" button enabled	○
SW1-4	ON	"ON/OFF" button prohibited	
	OFF	"ON/OFF" button enabled	○

Switch No.	Setting	Setting detail	Initial setting
SW1-5	ON	"TEMP" button prohibited	
	OFF	"TEMP" button enabled	○
SW1-6	ON	"FAN SPEED" button prohibited	※ Note 1
	OFF	"FAN SPEED" button enabled	※ Note 1
SW1-7	ON	Auto restart function enabled	
	OFF	Auto restart function disabled	○
SW1-8, 9, 0	ON	Not used	
	OFF		



- 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
Remote controller function	01	Indoor unit fan speed	01	Fan speed: three steps	※ Note 1	The fan speed is three steps, ❋ ■■■ - ❋ ■■ - ❋ ■ .
			02	Fan speed: two steps (Hi-Lo)	※ Note 1	The fan speed is two steps, ❋ ■■■ - ❋ ■ .
			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.
	03	Remote controller thermistor at the time of cooling	01	Remote controller thermistor: no offset	○	
			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.
			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.
			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.
			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.
			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.
	04	Remote controller thermistor at the time of heating	01	Remote controller thermistor: no offset	○	
			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.
			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	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.
			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.
	05	Ventilation setting	01	No ventilator connection	○	
			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, by 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 setting	01	"Auto" operation enabled	※ Note 1	
			02	"Auto" operation disabled	※ Note 1	"Auto" operation disabled
Indoor unit function	07	Operation permission/ prohibition	01	Disabled	○	
			02	Enabled		Operation permission/prohibition controller is enabled.
	08	External input	01	Level input	○	
			02	Pulse input		
	09	Fan speed setting	01	Standard	Note2	
			02	High speed 1	Note2	
			03	High speed 2	Note2	
	10	Fan remaining operation at the time of cooling	01	No remaining operation	○	After cooling stopped, no fan remaining operation
			02	0.5 hours		After cooling stopped, fan remaining operation for 0.5 hours
			03	1 hour		After cooling stopped, fan remaining operation for 1 hour
			04	6 hours		After cooling stopped, fan remaining operation for 6 hours
	11	Fan remaining operation at the time of heating	01	No remaining operation	○	After heating stopped or after heating thermostat OFF, no fan remaining operation
			02	0.5 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 0.5 hours
			03	2 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 2 hours
			04	6 hours		After heating stopped or after heating thermostat OFF, fan remaining operation for 6 hours
	12	Setting temperature offset at the time of heating	01	No offset	○	
			02	Setting temperature offset + 3.0 °C		The setting temperature at the time of heating is offset by +3.0 °C.
			03	Setting temperature offset + 2.0 °C		The setting temperature at the time of heating is offset by +2.0 °C.
			04	Setting temperature offset + 1.0 °C		The setting temperature at the time of heating is offset by +1.0 °C.
	13	Heating fan controller	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.
			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.
	14	Return air temperature offset	01	No offset	○	
			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.
			04	Return air temperature offset +1.0 °C		Offset the return air temperature of the indoor unit by +1.0 °C.
			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		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:

Swith No. Function No.	Function	Setting	Product model
SW1-6	"FAN SPEED" button	"FAN SPEED" button prohibited	Product model whose indoor fan speed is only one step
		"FAN SPEED" button enabled	Product model whose indoor fan speed is two steps or three steps
Remote controller function 01	Indoor unit fan speed	Fan speed: three steps	Product model whose indoor unit fan speed is three steps
		Fan speed: two steps (Hi-Lo)	Product model whose indoor unit fan speed is two steps
		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 setting	"Auto" operation enabled	Product model where "Auto" mode is selectable
		"Auto" operation disabled	Product model without "Auto" mode
Indoor unit function 13	Heating fan control	Low fan speed	Product model except FDUS
		Intermittent operation	FDUS

Note 2: Fan speed of "High speed" setting

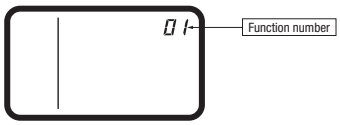
Fan speed setting	Indoor unit fan speed setting		
	❋ ■■■ - ❋ ■■ - ❋ ■	❋ ■■■ - ❋ ■	❋ ■■■ - ❋ ■■
Standard	Hi — Mid — Lo	Hi — Lo	Hi — Mid
High speed 1・2	UHi — Hi — Mid	UHi — Mid	UHi — Hi

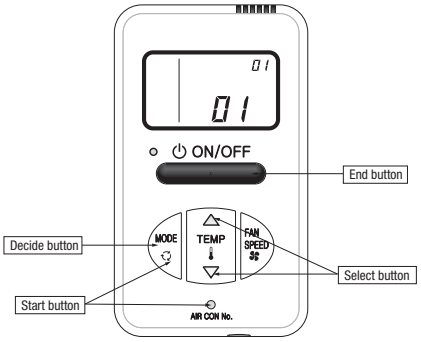
Initial setting of some indoor unit is "High speed".

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 MODE buttons at the same time for over three seconds.**
The function number "01" blinks in the upper right.

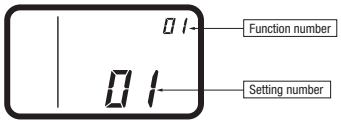




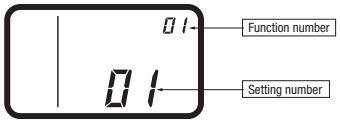
(2) **Press TEMP△ or TEMP▽ button.**
Select the function number.

(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)



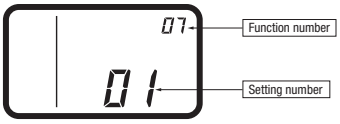
② **Press TEMP△ or TEMP▽ button.**
Select the setting number.
③ **Press MODE button.**
The setting is completed.
Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted.
(Example)
Function number: "01" (lighting for 3 to 20 seconds)
Setting 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).

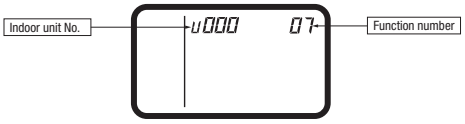
(5) **Press ON/OFF button.**
The setting is completed.

[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 ②.

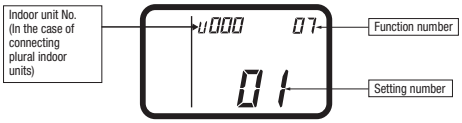
[Note]
a. In the case of connecting one remote control to plural indoor units, the display will be as follows:
Indoor unit No. display: "U 000" (blinking)
(Display the lowest number among the connected indoor units.)



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 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

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)
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).

- Even if ON/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 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.

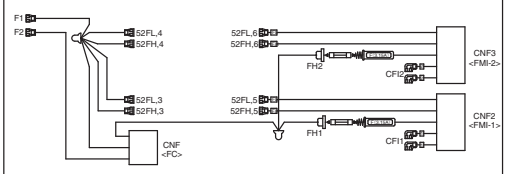
1.Applicable models and corresponding fan controller kit

Standard type	FDU200VD,250VD
Fan controller kit	U-FCRA (PJZ006A102A)

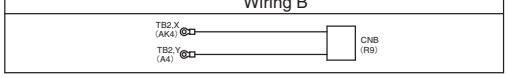
2.Component parts list

Fan controller	Band	Tapping Screw
1 piece	ⓐ(L=92) : 5 pieces	(M3 : 2 pcs.) 2 pieces

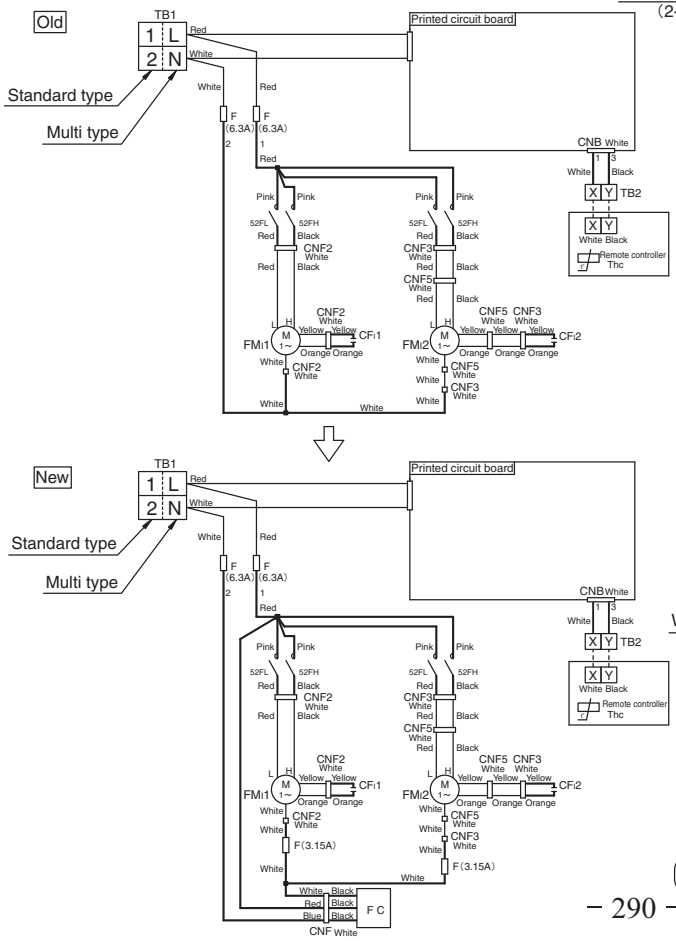
Wiring A



Wiring B



3.Electric circuit diagram (Change the sections indicated with bald lines.)



<Precautions for wiring>

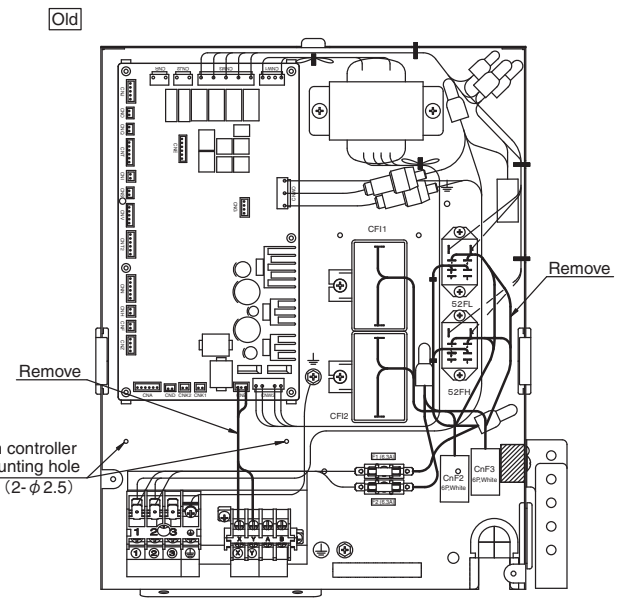
○ Connect wires correctly as shown by the electric wiring diagram. Be sure to tighten set screws firmly to prevent them generating heat or causing other troubles after becoming loose.
○ Number of wires connected to the terminal block must be 2 wires or less. Never connect 3 more wires in any event.

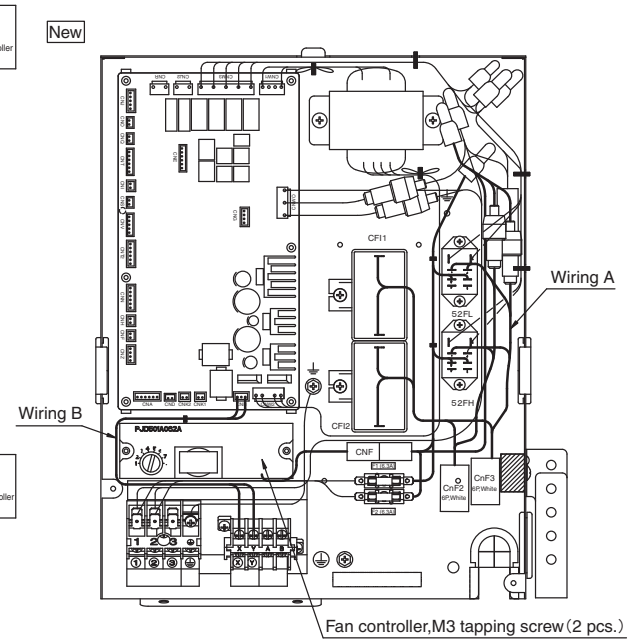
4. Installation procedure

(1) Remove the lid from the control box.
(2) Remove the wiring (fuse～CNF2,3) and wiring(TBⓍⓎ～CNB).

⚠CAUTION Confirm that electricity has been dischaged before touching the capacitor terminals.There is risk of electric shocks.

(3) Install the fan controller.
(4) Referring to "3.Electric circuit diagram",connect wires as illustrated and fix with bands ⓐ.
(5) Reinstall the removed lid on the control box.





Regarding the Characteristics fan please see to page 135

3.4 BASE HEATER KIT (CW-H-E)

PCZ012D007

Model Name: CW-H-E

Parts Number: 518325

⚠ 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.

⚠ 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.

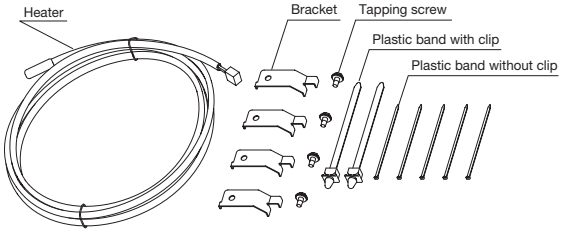
AREAS TO BE APPLIED

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.

Components

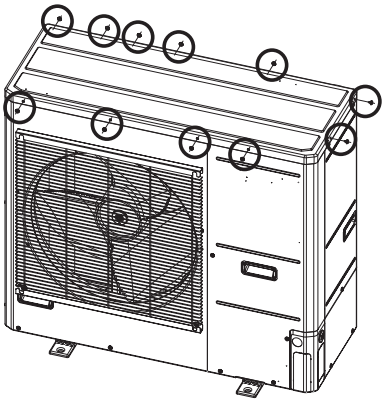
- Heater : 1pc
- Bracket : 4pcs
- Tapping screw : 4pcs
- Plastic band with clip : 2pcs
- Plastic band : 5pcs



Installation procedure

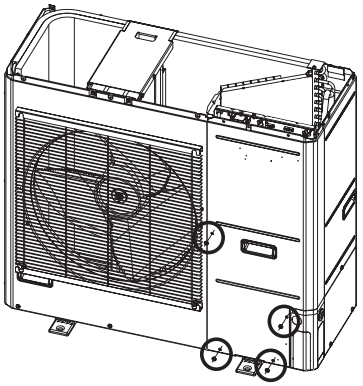
Step 1

1. Remove the top panel of the outdoor unit (11 pcs of tapping screws).



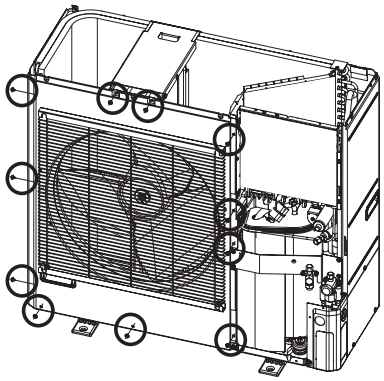
Step 2

2. Remove the service panel (4 pcs of tapping screws).



Step 3

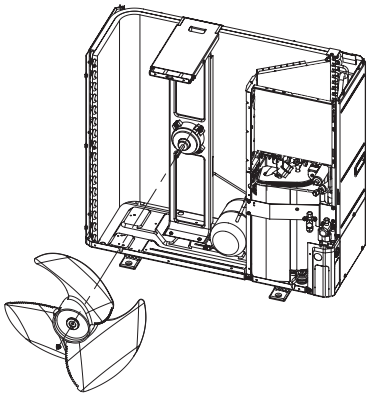
3. Remove the front panel
   (11 pcs of tapping screws).
   Pull the panel straightforward so that the panel doesn't touch the fan blade.



Step 4

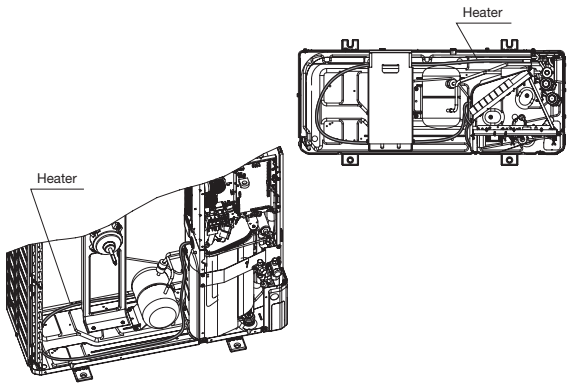
4. Remove the fan blade if necessary.

   <Note>
   Do not rotate the axis of fan motor when removing the fan blade.
   It may cause malfunction of the fan motor.



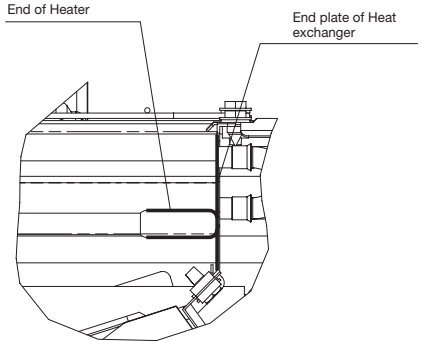
Step 5

5. Lay down the drain pan heater on the base.



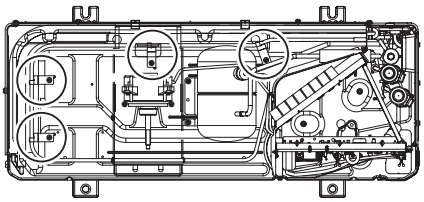
Step 6

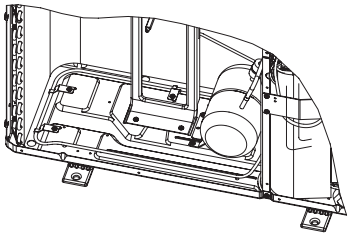
6. Put the heater underneath the heat exchanger and align the end of heater with the end plate of heat exchanger.



Step 7

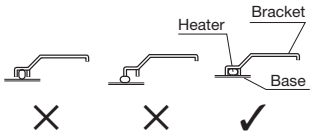
7. Fix the heater with 4 brackets.



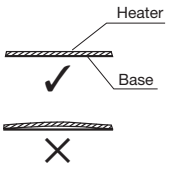


<Note>

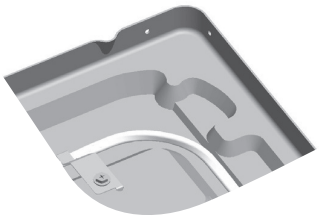
1) Fix the heater so that the bracket doesn't pinch the heater as figure shows.



2) Place the heater so as to touch the base completely.



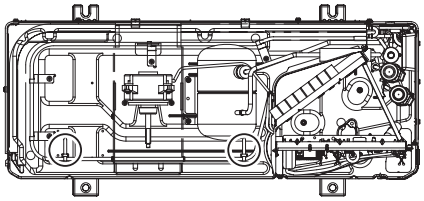
3) In bending position, twist the heater to make it easier to bend, and get back to be able to fix it with bracket.

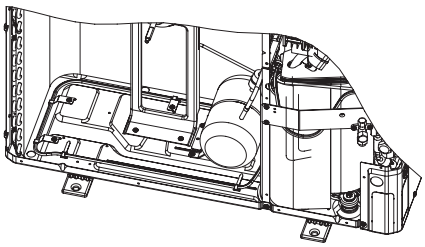


4) Be careful not to be injured by aluminum fin when fixing the heater with screw.

Step 8

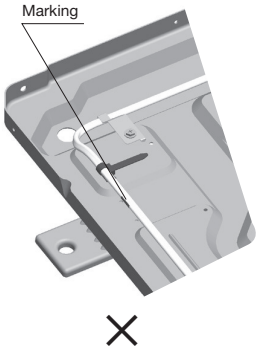
8. Insert the plastic band with clip on the designated place (2 places), and fix the heater.



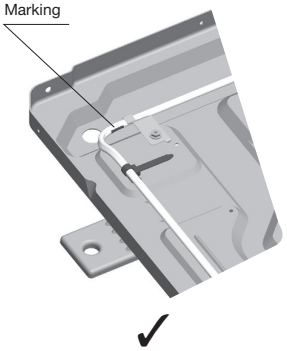


<Note>

1) Do not fasten the heating part with the plastic band.
There is a marking on the end of heating part.

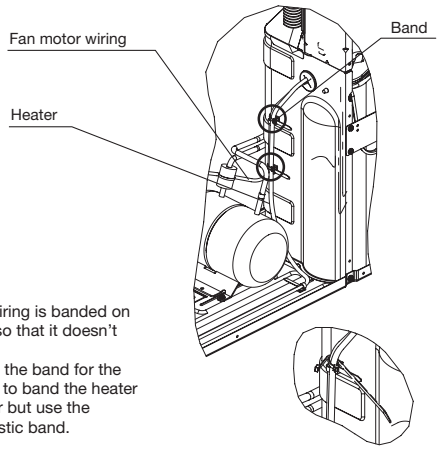


2) When the heater is laid down correctly, the end of heating part comes to the corner of the base.



Step 9

9. Lay down the wiring on the same route of fan motor wiring, and fix the wire with attached plastic band (2 places) at the same place where the fan motor wiring is banded.

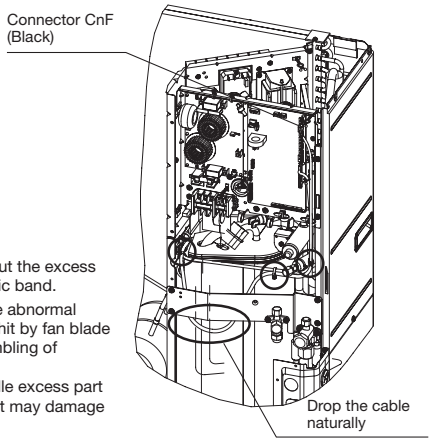


<Note>

Fan motor wiring is banded on the bracket so that it doesn't loosen.
Do not loose the band for the motor wiring to band the heater wire together but use the attached plastic band.

Step 10

10. Insert the connector to the port CnF (Black) on the top right of the PCB, and fix the wire with bands (3 places). Excess part of the wire should be dropped naturally.



<Note>

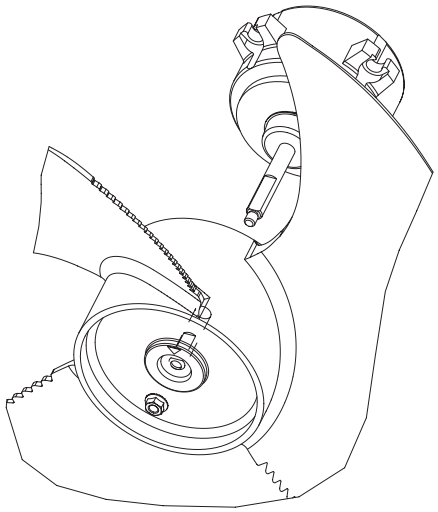
Be sure to cut the excess part of plastic band.
It may cause abnormal noise when hit by fan blade or misassembling of panels.
Do not bundle excess part of the wire. It may damage the heater.

Step 11

11. Reassemble the fan blade.
    Take care to align the D-cut of motor shaft and the fan blade.
    ▽ mark on the center of the fan shows the position of D-cut.

<Note>

1. Tightening torque of the nut is 4.0-4.9 N·m.
2. Do not rotate the axis of fan motor when tightening the nut.
   It may cause malfunction of the fan motor.

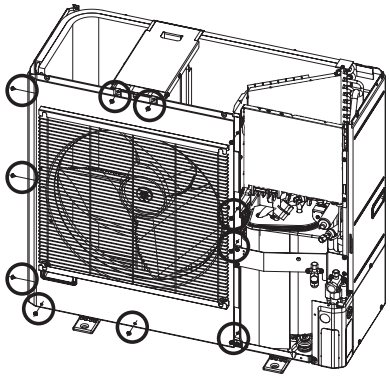


Step 12

12. Reassemble the panels.

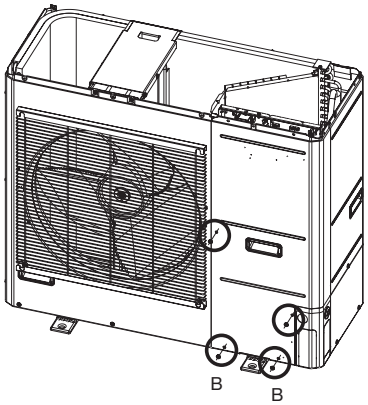
1) Front panel

Use screw B for all places.

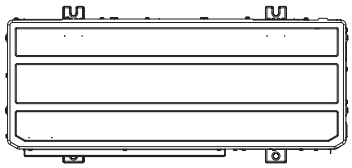


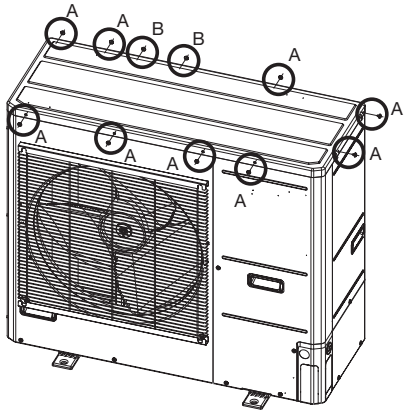
2) Service panel

Use screw B for all places.



3) Top panel





<Note>

1) When reassembling the service panel, take care not to damage the front panel with the edge.
2) There are two different length of screws.
   Be sure to use correct screw.
   Long screw A: used for Top panel other than fixing fan bracket.
   Short screw B: other place than A.



<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.

STANDARD INVERTER PACKAGED AIR-CONDITIONERS

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Because of our policy of continuous improvement, we reserve the right to make changes in all specifications without notice.
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