Manual No.'20 • SR-DB-284

MITSUBISHI HEAVY INDUSTRIES

DATA BOOK

INVERTER RESIDENTIAL AIR-CONDITIONERS

(Split system, air to air heat pump type)

Ceiling concealed type

SRR25ZS-W
SRR35ZS-W

4-way ceiling cassette type

FDTC25VH1
FDTC35VH1

MITSUBISHI HEAVY INDUSTRIES THERMAL SYSTEMS, LTD.

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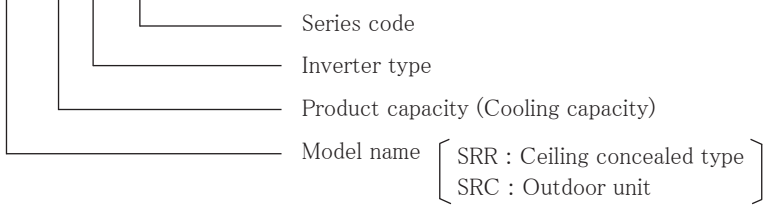
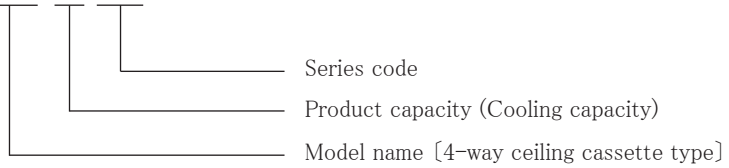
■How to read the model name

Example: SRR 25 Z S-W



Example: FDTC 25 VH1



1. SPECIFICATIONS

(1) Ceiling concealed type (SRR)

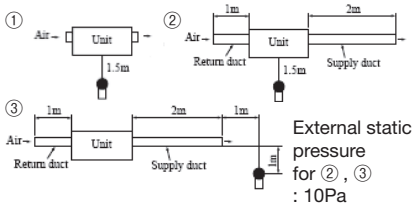
Item			Model	SRR25ZS-W	
				Indoor unit **SRR25ZS-W**	Outdoor unit **SRC25ZS-W1**
Power source				1 Phase, 220 - 240V, 50Hz	
Operation data	Nominal cooling capacity (range)		kW	2.5 (0.9 (Min.) - 3.2 (Max.))	
	Nominal heating capacity (range)		kW	2.9 (0.9 (Min.) - 4.4 (Max.))	
	Heating capacity (H2)		kW	—	
	Power consumption	Cooling	kW	0.62 (0.19 - 0.99)	
		Heating		0.65 (0.19 - 1.32)	
		Heating (H2)		—	
	Max power consumption			1.65	
	Running current	Cooling	A	3.2 / 3.1 / 3.0 (220/ 230/ 240V)	
		Heating		3.4 / 3.2 / 3.1 (220/ 230/ 240V)	
	Inrush current, max current			3.4 / 3.2 / 3.1 (220/ 230/ 240V) Max. 9	
	Power factor	Cooling	%	87	
		Heating		88	
	EER	Cooling		4.03	
	COP	Heating		4.46	
		Heating (H2)		—	
	Sound power level	Cooling	dB(A)	56	58
		Heating		59	58
	Sound pressure level ①	Cooling		Hi: 37 Me: 33 Lo: 30 ULo: 24	47
		Heating		Hi: 40 Me: 37 Lo: 34 ULo: 28	47
	Sound pressure level ②	Cooling		Hi: 31 Me: 28 Lo: 26 ULo: 21	47
		Heating		Hi: 33 Me: 30 Lo: 28 ULo: 23	47
	Sound pressure level ③	Cooling		Hi: 39 Me: 35 Lo: 32 ULo: 25	47
		Heating		Hi: 44 Me: 41 Lo: 38 ULo: 31	47
	Silent mode sound pressure level			—	Cooling:41 / Heating:42
Exterior dimensions (Height x Width x Depth)			mm	200 x 750 x 500	540 x 780(+62) x 290
Exterior appearance (Equivalent color : Munsell, RAL)				—	Stucco white (4.2Y 7.5/1.1) , (7044)
Net weight			kg	20.5	31.0
Compressor type & Quantity				—	RM-C5077SBE71(Rotary type) x 1
Compressor motor (Starting method)			kW	—	0.75 (Inverter driven)
Refrigerant oil (Amount, type)			L	—	0.30 (DIAMOND FREEZE MB75)
Refrigerant (Type, amount, pre-charge length)			kg	R32 0.62 in outdoor unit (Incl. the amount for the piping of 15m)	
Heat exchanger				Louver fins & inner grooved tubing	M fins & inner grooved tubing
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Quantity				Centrifugal fan x 2	Propeller fan x 1
Fan motor (Starting method)			W	51 x1 (Direct drive)	24 x1 (Direct drive)
Air flow		Cooling	m^3/min	Hi: 9.5 Me: 8.0 Lo: 6.5 ULo: 4.5	27.4
		Heating		Hi: 10.0 Me: 9.0 Lo: 8.0 ULo: 6.0	23.6
Available external static pressure			Pa	35 (Initial static pressure with air filter:5Pa)	0
Outside air intake				Not possible	—
Air filter, Quality / Quantity				Polypropylene net x 1	—
Shock & vibration absorber				Cushion rubber (for fan motor)	Rubber sleeve (for fan motor & compressor)
Electric heater				—	—
Operation control	Remote control			Wireless remote control	
	Room temperature control			Microcomputer thermostat	
	Operation display			RUN: Green, TIMER: Yellow, HI POWER: Green, ECONO: Green	
Safety equipments				Compressor overheat protection, Overcurrent protection, Drain error protection Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection	
Installation data	Refrigerant piping size (O.D.)		mm	Liquid line: ϕ6.35 (1/4")	Gas line: ϕ 9.52 (3/8")
	Connecting method			Flare connection	Flare connection
	Attached length of piping		m	—	—
	Insulation for piping			Necessary (Both sides), independent	
	Refrigerant line (one way) length		m	Max.20	
	Vertical height diff. between O/U and I/U		m	Max.10 (Outdoor unit is higher) / Max.10 (Outdoor unit is lower)	
	Drain hose			Hose connectable (VP 25)	Hole size ϕ20 x 2 pcs
Drain pump, max lift height			mm	Built-in, MAX600	—
Recommended breaker size			A	16	
L.R.A. (Locked rotor ampere)			A	3.7 / 3.6 / 3.4 (220/ 230/ 240V)	
Interconnecting wires	Size x Core number			1.5mm^2 x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	IPX4
Standard accessories				Mounting kit, Joint for drain piping	
Option parts				Wired remote control, Interface kit (SC-BIKN2-E), Bottom air inlet kit	

Notes (1) The data are measured at the following conditions. The pipe length is 5m.

Item / Operation	Indoor air temperature DB	Indoor air temperature WB	Outdoor air temperature DB	Outdoor air temperature WB	Standards
Cooling	27℃	19℃	35℃	24℃	ISO5151-T1
Heating	20℃	—	7℃	6℃	ISO5151-H1
Heating (H2)	20℃	—	2℃	1℃	ISO5151-H2

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.

(5) Mike positions of measureing sound pressure level of indoor unit is shown below.



External static pressure for ② , ③ : 10Pa

RWA000Z282

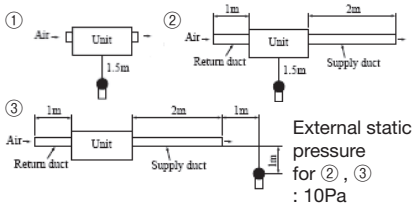
Item			Model	SRR35ZS-W	
				Indoor unit **SRR35ZS-W**	Outdoor unit **SRC35ZS-W1**
Power source				1 Phase, 220 - 240V, 50Hz	
Operation data	Nominal cooling capacity (range)		kW	3.5 (0.9 (Min.) - 4.1 (Max.))	
	Nominal heating capacity (range)		kW	4.2 (1.0 (Min.) - 5.2 (Max.))	
	Heating capacity (H2)		kW	—	
	Power consumption	Cooling	kW	0.93 (0.19 - 1.26)	
		Heating		1.01 (0.20 - 1.45)	
		Heating (H2)		—	
	Max power consumption			1.65	
	Running current	Cooling	A	4.5 / 4.3 / 4.2 (220/ 230/ 240V)	
		Heating		4.9 / 4.7 / 4.5 (220/ 230/ 240V)	
	Inrush current, max current			4.9 / 4.7 / 4.5 (220/ 230/ 240V) Max. 9	
	Power factor	Cooling	%	93	
		Heating		94	
	EER	Cooling		3.76	
	COP	Heating		4.16	
		Heating (H2)		—	
	Sound power level	Cooling	dB(A)	57	62
		Heating		60	62
	Sound pressure level ①	Cooling		Hi: 38 Me: 34 Lo: 31 ULo: 25	50
		Heating		Hi: 42 Me: 38 Lo: 35 ULo: 29	50
	Sound pressure level ②	Cooling		Hi: 33 Me: 30 Lo: 27 ULo: 22	50
		Heating		Hi: 34 Me: 32 Lo: 29 ULo: 24	50
	Sound pressure level ③	Cooling		Hi: 40 Me: 37 Lo: 33 ULo: 27	50
		Heating		Hi: 45 Me: 42 Lo: 39 ULo: 33	50
	Silent mode sound pressure level			—	Cooling:45 / Heating:43
Exterior dimensions (Height x Width x Depth)			mm	200 x 750 x 500	540 x 780(+62) x 290
Exterior appearance (Equivalent color : Munsell, RAL)				—	Stucco white (4.2Y 7.5/1.1) , (7044)
Net weight			kg	20.5	34.5
Compressor type & Quantity				—	RM-B5077SBE2(Rotary type) x 1
Compressor motor (Starting method)			kW	—	0.90 (Inverter driven)
Refrigerant oil (Amount, type)			L	—	0.30 (DIAMOND FREEZE MB75)
Refrigerant (Type, amount, pre-charge length)			kg	R32 0.78 in outdoor unit (Incl. the amount for the piping of 15m)	
Heat exchanger				Louver fins & inner grooved tubing	M fins & inner grooved tubing
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Quantity				Centrifugal fan x 2	Propeller fan x 1
Fan motor (Starting method)			W	51 x1 (Direct drive)	24 x1 (Direct drive)
Air flow		Cooling	m^3/min	Hi: 10.0 Me: 8.5 Lo: 7.0 ULo: 5.0	31.5
		Heating		Hi: 10.5 Me: 9.5 Lo: 8.5 ULo: 6.5	27.8
Available external static pressure			Pa	35 (Initial static pressure with air filter:5Pa)	0
Outside air intake				Not possible	—
Air filter, Quality / Quantity				Polypropylene net x 1	—
Shock & vibration absorber				Cushion rubber (for fan motor)	Rubber sleeve (for fan motor & compressor)
Electric heater				—	—
Operation control	Remote control			Wireless remote control	
	Room temperature control			Microcomputer thermostat	
	Operation display			RUN: Green, TIMER: Yellow, HI POWER: Green, ECONO: Green	
Safety equipments				Compressor overheat protection, Overcurrent protection, Drain error protection Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection	
Installation data	Refrigerant piping size (O.D.)		mm	Liquid line: ϕ6.35 (1/4") Gas line: ϕ 9.52 (3/8")	
	Connecting method			Flare connection	Flare connection
	Attached length of piping		m	—	—
	Insulation for piping			Necessary (Both sides), independent	
	Refrigerant line (one way) length		m	Max.20	
	Vertical height diff. between O/U and I/U		m	Max.10 (Outdoor unit is higher) / Max.10 (Outdoor unit is lower)	
	Drain hose			Hose connectable (VP 25)	Hole size ϕ20 x 2 pcs
Drain pump, max lift height			mm	Built-in, MAX600	—
Recommended breaker size			A	16	
L.R.A. (Locked rotor ampere)			A	4.6 / 4.4 / 4.2 (220/ 230/ 240V)	
Interconnecting wires	Size x Core number			1.5mm^2 x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	IPX4
Standard accessories				Mounting kit, Joint for drain piping	
Option parts				Wired remote control, Interface kit (SC-BIKN2-E), Bottom air inlet kit	

Notes (1) The data are measured at the following conditions. The pipe length is 5m.

Item / Operation	Indoor air temperature DB	Indoor air temperature WB	Outdoor air temperature DB	Outdoor air temperature WB	Standards
Cooling	27℃	19℃	35℃	24℃	ISO5151-T1
Heating	20℃	—	7℃	6℃	ISO5151-H1
Heating (H2)	20℃	—	2℃	1℃	ISO5151-H2

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.

(5) Mike positions of measureing sound pressure level of indoor unit is shown below.



External static pressure for ② , ③ : 10Pa

RWA000Z282

(2) 4-way ceiling cassette type (FDTC)

Item			Model	FDTC25VH1	
				Indoor unit **FDTC25VH1**	Outdoor unit **SRC25ZS-W1**
Power source				1 Phase, 220 - 240V, 50Hz	
Operation data	Nominal cooling capacity (range)		kW	2.5 (0.9 (Min.) - 3.2 (Max.))	
	Nominal heating capacity (range)		kW	2.9 (0.9 (Min.) - 4.0 (Max.))	
	Heating capacity (H2)		kW	—	
	Power consumption	Cooling	kW	0.61 (0.18 - 0.98)	
		Heating		0.71 (0.19 - 1.31)	
		Heating (H2)		—	
	Max power consumption			1.65	
	Running current	Cooling	A	3.2 / 3.1 / 3.0 (220/ 230/ 240 V)	
		Heating		3.6 / 3.4 / 3.3 (220/ 230/ 240 V)	
	Inrush current, max current			3.6 / 3.4 / 3.3 (220/ 230/ 240V) Max. 9	
	Power factor	Cooling	%	86	
		Heating		90	
	EER	Cooling		4.10	
	COP	Heating		4.08	
		Heating (H2)		—	
	Sound power level	Cooling	dB(A)	51	58
		Heating		52	59
	Sound pressure level	Cooling		P-Hi: 38 Hi: 34 Me: 30 Lo: 27	47
		Heating		P-Hi: 39 Hi: 36 Me: 32 Lo: 28	47
	Silent mode sound pressure level			—	Cooling:41 / Heating:42
Exterior dimensions (Height x Width x Depth)			mm	Unit 248 x 570 x 570 Panel 10 x 620 x 620	540 x 780(+62) x 290
Exterior appearance (Equivalent color : Munsell, RAL)				Fine snow (8.0Y 9.3/0.1) near equivalent	Stucco white (4.2Y 7.5/1.1) , (7044)
Net weight			kg	Unit 13.5 Panel 2.5	31.0
Compressor type & Quantity				—	RM-C5077SBE71(Rotary type) x 1
Compressor motor (Starting method)			kW	—	0.75 (Inverter driven)
Refrigerant oil (Amount, type)			L	—	0.30 (DIAMOND FREEZE MB75)
Refrigerant (Type, amount, pre-charge length)			kg	R32 0.62 in outdoor unit (Incl. the amount for the piping of 15m)	
Heat exchanger				Louver fins & inner grooved tubing	M fins & inner grooved tubing
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Quantity				Tangential fan x 1	Propeller fan x 1
Fan motor (Starting method)			W	50 (Direct line start)	24 x1 (Direct drive)
Air flow		Cooling	m^3/min	P-Hi: 8.5 Hi: 7.5 Me: 7.0 Lo: 6.0	27.4
		Heating		P-Hi: 9.5 Hi: 8.5 Me: 7.5 Lo: 6.5	27.4
Available external static pressure			Pa	0	0
Outside air intake				Possible	—
Air filter, Quality / Quantity				Pocket plastic net x 1 (Washable)	—
Shock & vibration absorber				Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor & compressor)
Electric heater				—	—
Operation control	Remote control			(Option) Wired: RC-EX3A, RC-E5, RCH-E3 Wireless: RCN-TC-5AW-E2	
	Room temperature control			Thermostat by electronics	
	Operation display			—	
Safety equipments				Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection	
Installation data	Refrigerant piping size (O.D.)		mm	Liquid line: ϕ6.35 (1/4") Gas line: ϕ 9.52 (3/8")	
	Connecting method			Flare connection	Flare connection
	Attached length of piping		m	—	—
	Insulation for piping			Necessary (Both sides), independent	
	Refrigerant line (one way) length		m	Max.20	
	Vertical height diff. between O/U and I/U		m	Max.10 (Outdoor unit is higher) / Max.10 (Outdoor unit is lower)	
	Drain hose			Hose connectable with VP25 (O.D.32)	Hole size ϕ20 x 2 pcs
Drain pump, max lift height			mm	Built-in drain pump, 850	—
Recommended breaker size			A	16	
L.R.A. (Locked rotor ampere)			A	3.7 / 3.6 / 3.4 (220/ 230/ 240V)	
Interconnecting wires		Size x Core number		1.5mm^2 x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	IPX4
Standard accessories				Mounting kit, Drain hose	
Option parts				OA spacer : TC-OAS-E2, TC-OAD-E, Motion sensor : LB-TC-5W-E	

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

The pipe length is 5m.

Item / Operation	Indoor air temperature DB	Indoor air temperature WB	Outdoor air temperature DB	Outdoor air temperature WB	Standards
Cooling	27℃	19℃	35℃	24℃	ISO5151-T1
Heating	20℃	—	7℃	6℃	ISO5151-H1
Heating (H2)	20℃	—	2℃	1℃	ISO5151-H2

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.

Item			Model	FDTC35VH1	
				Indoor unit **FDTC35VH1**	Outdoor unit **SRC35ZS-W1**
Power source				1 Phase, 220 - 240V, 50Hz	
Operation data	Nominal cooling capacity (range)		kW	3.5 (0.9 (Min.) - 4.3 (Max.))	
	Nominal heating capacity (range)		kW	4.25 (0.9 (Min.) - 4.6 (Max.))	
	Heating capacity (H2)		kW	—	
	Power consumption	Cooling	kW	0.91 (0.18 - 1.37)	
		Heating		1.15 (0.19 - 1.33)	
		Heating (H2)		—	
	Max power consumption			1.65	
	Running current	Cooling	A	4.4 / 4.3 / 4.1 (220/ 230/ 240 V)	
		Heating		5.5 / 5.3 / 5.0 (220/ 230/ 240 V)	
	Inrush current, max current			5.5 / 5.3 / 5.0 (220/ 230/ 240V) Max. 9	
	Power factor	Cooling	%	93	
		Heating		95	
	EER	Cooling		3.85	
	COP	Heating		3.70	
		Heating (H2)		—	
	Sound power level	Cooling	dB(A)	52	62
		Heating		53	62
	Sound pressure level	Cooling		P-Hi: 39 Hi: 36 Me: 32 Lo: 29	50
		Heating		P-Hi: 41 Hi: 38 Me: 34 Lo: 30	50
	Silent mode sound pressure level			—	Cooling:45 / Heating:43
Exterior dimensions (Height x Width x Depth)			mm	Unit 248 x 570 x 570 Panel 10 x 620 x 620	540 x 780(+62) x 290
Exterior appearance (Equivalent color : Munsell, RAL)				Fine snow (8.0Y 9.3/0.1) near equivalent	Stucco white (4.2Y 7.5/1.1) , (7044)
Net weight			kg	Unit 13.5 Panel 2.5	34.5
Compressor type & Quantity				—	RM-B5077SBE2(Rotary type) x 1
Compressor motor (Starting method)			kW	—	0.90 (Inverter driven)
Refrigerant oil (Amount, type)			L	—	0.30 (DIAMOND FREEZE MB75)
Refrigerant (Type, amount, pre-charge length)			kg	R32 0.78 in outdoor unit (Incl. the amount for the piping of 15m)	
Heat exchanger				Louver fins & inner grooved tubing	M fins & inner grooved tubing
Refrigerant control				Capillary tubes + Electronic expansion valve	
Fan type & Quantity				Tangential fan x 1	Propeller fan x 1
Fan motor (Starting method)			W	50 (Direct line start)	24 x1 (Direct drive)
Air flow		Cooling	m^3/min	P-Hi: 9.0 Hi: 8.0 Me: 7.5 Lo: 6.5	31.5
		Heating		P-Hi: 10.0 Hi: 9.0 Me: 8.0 Lo: 7.0	31.5
Available external static pressure			Pa	0	0
Outside air intake				Possible	—
Air filter, Quality / Quantity				Pocket plastic net x 1 (Washable)	—
Shock & vibration absorber				Rubber sleeve (for fan motor)	Rubber sleeve (for fan motor & compressor)
Electric heater				—	—
Operation control	Remote control			(Option) Wired: RC-EX3A, RC-E5, RCH-E3 Wireless: RCN-TC-5AW-E2	
	Room temperature control			Thermostat by electronics	
	Operation display			—	
Safety equipments				Compressor overheat protection, Overcurrent protection, Frost protection, Serial signal error protection, Indoor fan motor error protection, Heating overload protection(High pressure control), Cooling overload protection	
Installation data	Refrigerant piping size (O.D.)		mm	Liquid line: ϕ6.35 (1/4") Gas line: ϕ 9.52 (3/8")	
	Connecting method			Flare connection	Flare connection
	Attached length of piping		m	—	—
	Insulation for piping			Necessary (Both sides), independent	
	Refrigerant line (one way) length		m	Max.20	
	Vertical height diff. between O/U and I/U		m	Max.10 (Outdoor unit is higher) / Max.10 (Outdoor unit is lower)	
	Drain hose			Hose connectable with VP25 (O.D.32)	Hole size ϕ20 x 2 pcs
Drain pump, max lift height			mm	Built-in drain pump, 850	—
Recommended breaker size			A	16	
L.R.A. (Locked rotor ampere)			A	4.6 / 4.4 / 4.2 (220/ 230/ 240V)	
Interconnecting wires		Size x Core number		1.5mm^2 x 4 cores (Including earth cable) / Terminal block (Screw fixing type)	
IP number				IPX0	IPX4
Standard accessories				Mounting kit, Drain hose	
Option parts				OA spacer : TC-OAS-E2, TC-OAD-E, Motion sensor : LB-TC-5W-E	

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

The pipe length is 5m.

Item / Operation	Indoor air temperature DB	Indoor air temperature WB	Outdoor air temperature DB	Outdoor air temperature WB	Standards
Cooling	27℃	19℃	35℃	24℃	ISO5151-T1
Heating	20℃	—	7℃	6℃	ISO5151-H1
Heating (H2)	20℃	—	2℃	1℃	ISO5151-H2

(2) This air-conditioner is manufactured and tested in conformity with the ISO.
(3) Sound level indicates the value in an anechoic chamber. During operation these values are somewhat higher due to ambient conditions.
(4) Select the breaker size according to the own national standard.

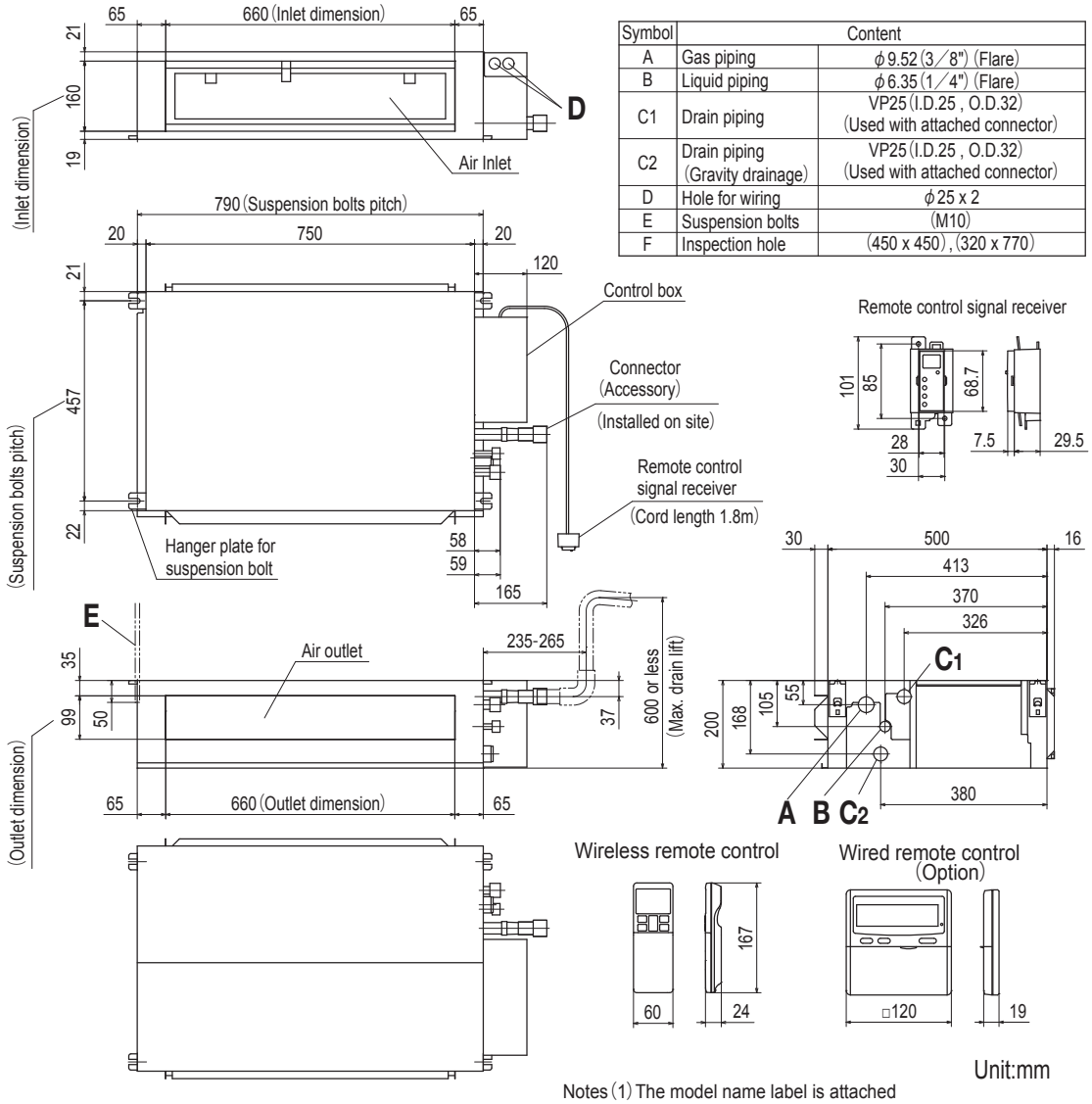
RWA000Z281

2. EXTERIOR DIMENSIONS

(1) Indoor units

(a) Ceiling concealed type (SRR)

Models SRR25ZS-W, 35ZS-W

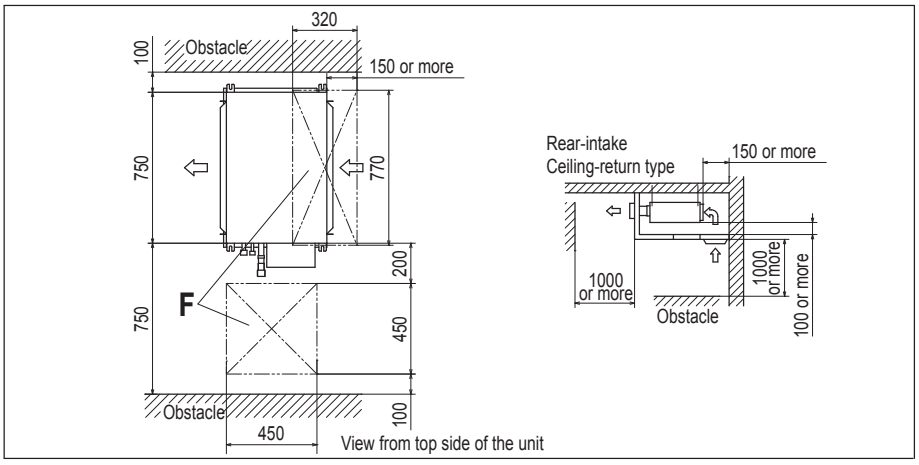


Symbol	Content	
A	Gas piping	ϕ9.52 (3/8") (Flare)
B	Liquid piping	ϕ6.35 (1/4") (Flare)
C1	Drain piping	VP25 (I.D.25 , O.D.32) (Used with attached connector)
C2	Drain piping (Gravity drainage)	VP25 (I.D.25 , O.D.32) (Used with attached connector)
D	Hole for wiring	ϕ25 x 2
E	Suspension bolts	(M10)
F	Inspection hole	(450 x 450) , (320 x 770)

Unit:mm

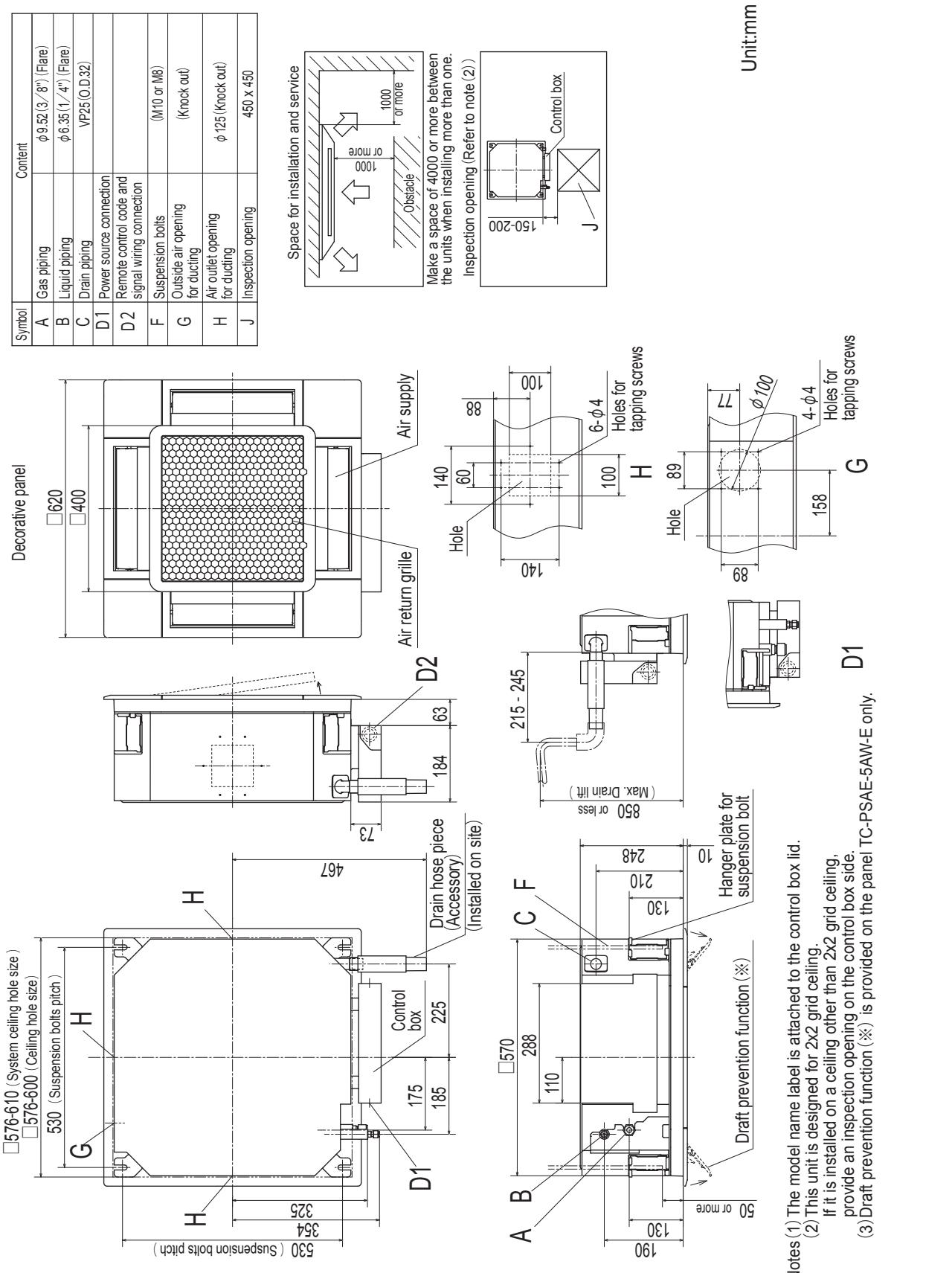
Notes (1) The model name label is attached on the lid of the control box.
(2) To connect the wired remote control, the interface kit (SC-BIKN2-E) is required.

Space for installation and service



(b) 4-way ceiling cassette type (FDTC)

Models FDTC25VH1, 35VH1



Notes (1) The model name label is attached to the control box lid.
(2) This unit is designed for 2x2 grid ceiling.
If it is installed on a ceiling other than 2x2 grid ceiling, provide an inspection opening on the control box side.
(3) Draft prevention function (※) is provided on the panel TC-PSAE-5AW-E only.

PJF000Z515 B

(2) Outdoor units

Models SRC25ZS-W1, 35ZS-W1

Notes (1) The unit 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) If the unit is installed in the location where there is a possibility of strong winds, place the unit such that the direction of air from the outlet gets perpendicular to the wind direction.
(4) Leave 200mm or more space above the unit.
(5) The wall height on the outlet side should be 1200mm or less.
(6) The model name label is attached on the right side of the unit.

	Installation space
L1	280 or more
L2	100 or more
L3	80 or more
L4	250 or more

Unit:mm

Symbol	Content	
A	Service valve connection (gas side)	φ9.52 (3/8") (Flare)
B	Service valve connection (liquid side)	φ6.35 (1/4") (Flare)
C	Pipe/cable draw-out hole	
D	Drain discharge hole	φ20×2 places
E	Anchor bolt hole	M10-12×4 places

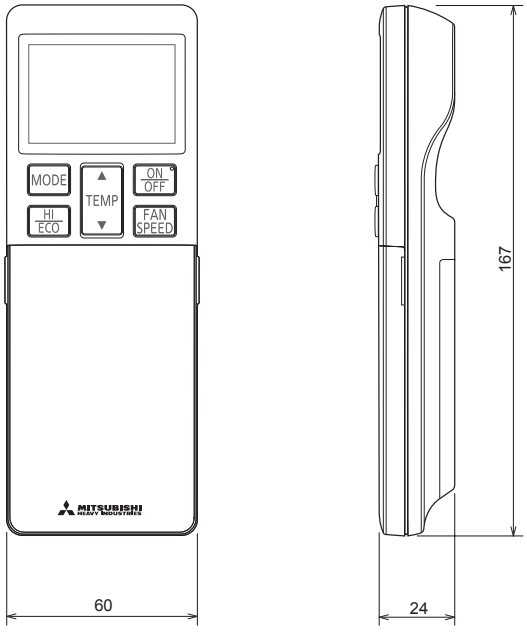
RCV000Z036 B

(3) Remote control

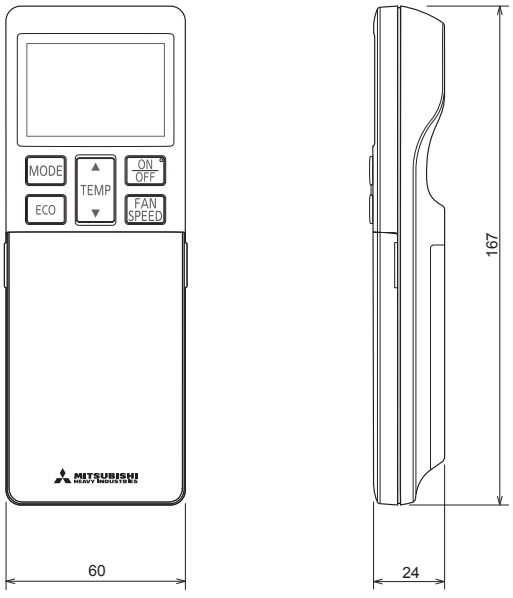
(a) Wireless remote control

Unit:mm

Model SRR (Standard part)



Model FDTC (Option part)

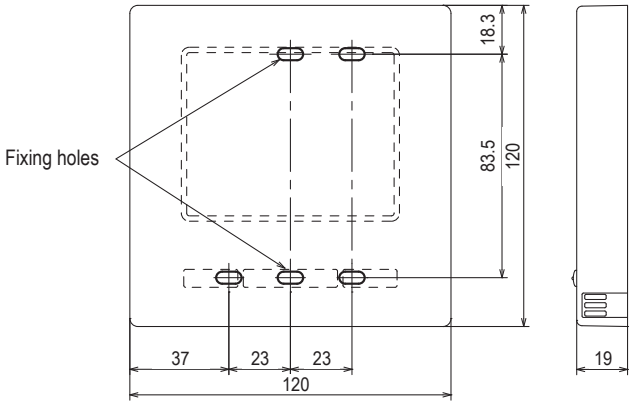


(b) Wired remote control (Option parts)

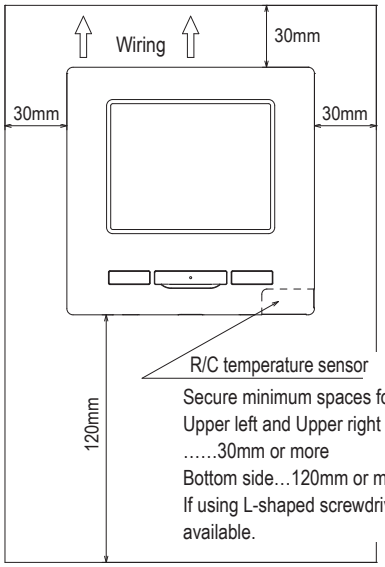
Interface kit (SC-BIKN2-E) is required to use the wired remote control.

Model RC-EX3A

Dimensions (Viewed from front)



Installation space



Secure minimum spaces for disassembling the case.
Upper left and Upper right sides
……30mm or more
Bottom side…120mm or more
If using L-shaped screwdriver, 50mm or more is available.

● Do not install the remote control at following places.

① It could cause break-down or deformation of remote control.
- Where it is exposed to direct sunlight
- Where the ambient temperature becomes 0 °C or below, or 40 °C or above
- Where the surface is not flat
- Where the strength of installation area is insufficient

② Moisture may be attached to internal parts of the remote control, resulting in a display failure.
- Place with high humidity where condensation occurs on the remote control
- Where the remote control gets wet

③ Accurate room temperature may not be detected using the temperature sensor of the remote control.
- Where the average room temperature cannot be detected
- Place near the equipment to generate heat
- Place affected by outside air in opening/closing the door
- Place exposed to direct sunlight or wind from air-conditioner
- Where the difference between wall and room temperature is large

④ When you are using the automatic grille up and down panel in the IU, you may not be able to confirm the up and down motion.
- Where the IU cannot be visually confirmed

● When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.

It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.
The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.

R/C cable:0.3mm^2 x 2 cores

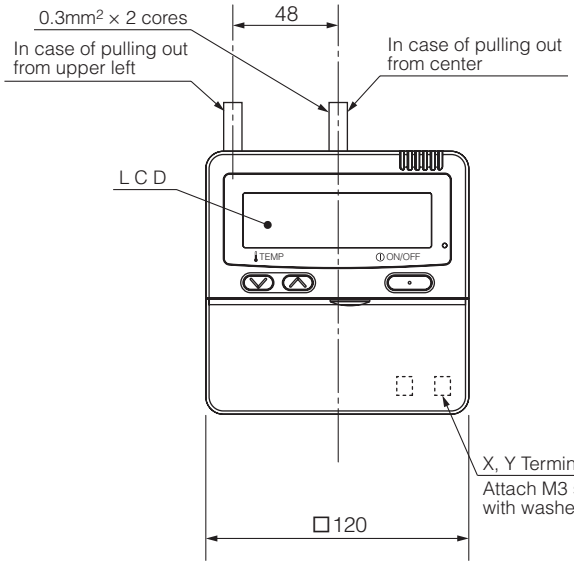
When the cable length is longer than 100 m, the max size for wires used in the R/C case is 0.5 mm^2 . Connect them to wires of larger size near the outside of R/C. When wires are connected, take measures to prevent water, etc. from entering inside.

≦ 200 m	0.5 mm^2 x 2 cores
≦ 300m	0.75 mm^2 x 2 cores
≦ 400m	1.25 mm^2 x 2 cores
≦ 600m	2.0 mm^2 x 2 cores

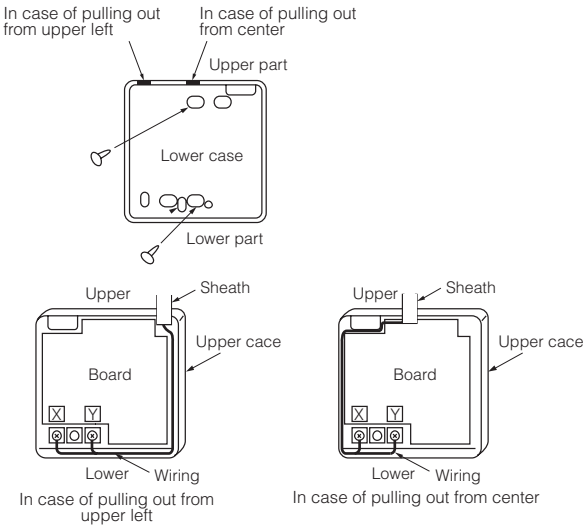
Adapted RoHS directive

Model RC-E5

Exposed mounting

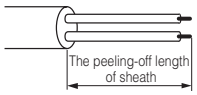


Wiring outlet
Cut off the upper thin part of remote control lower case with a nipper or knife, and grind burrs with a file etc.



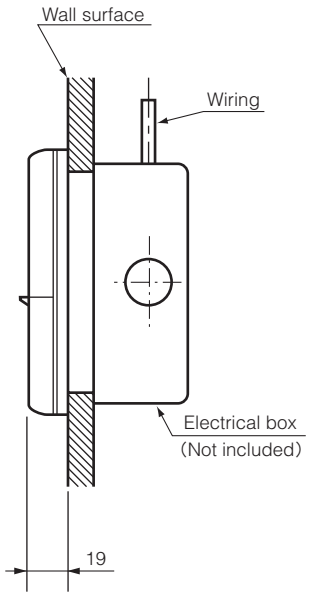
The peeling-off length of sheath

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

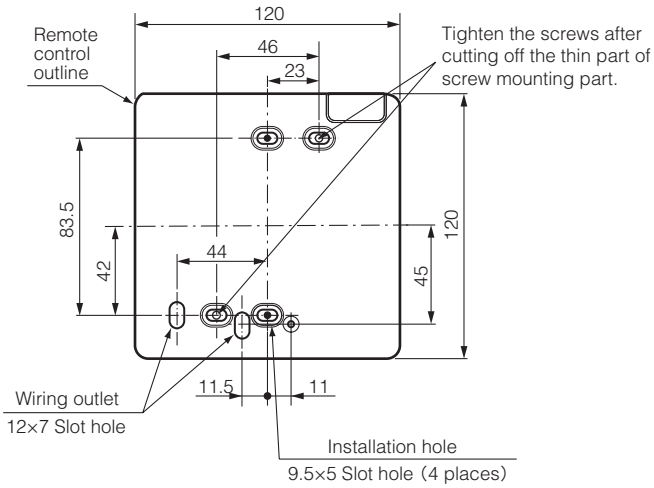


Exterior appearance (Munsell color)	Pearl white (N8.5) near equivalent

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 control 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

PJZ000Z295

3. ELECTRICAL WIRING

(1) Indoor units

(a) Ceiling concealed type (SRR)

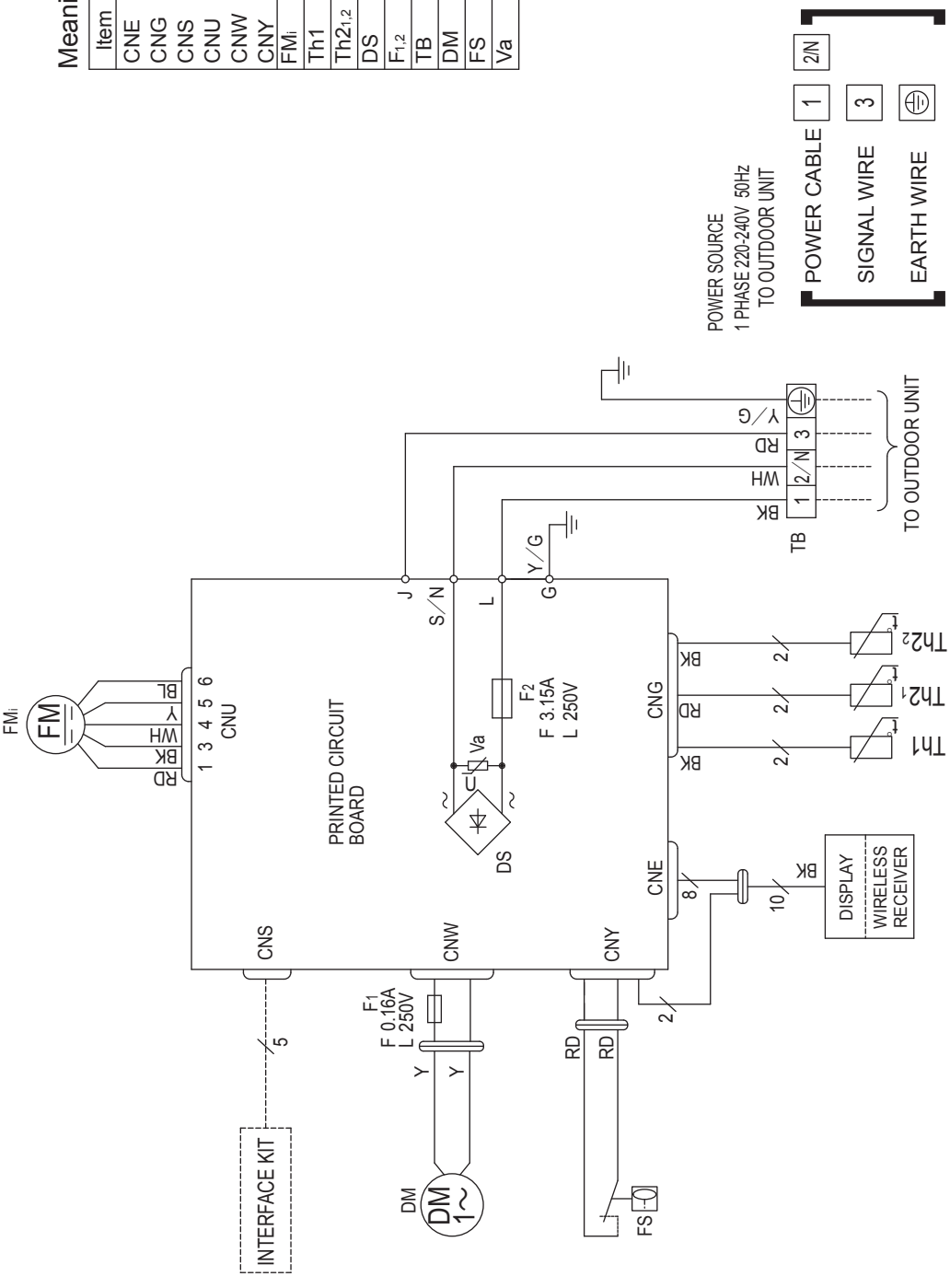
Models SRR25ZS-W, 35ZS-W

Meaning of marks

Item	Description
CNE	Connector
CNG	
CNS	
CNU	
CNW	
CNY	
FM_i	Fan motor
Th1	Room temperature sensor
$Th2_{1,2}$	Heat exchanger temperature sensor
DS	Diode stack
$F_{1,2}$	Fuse
TB	Terminal block
DM	Drain motor
FS	Float switch
Va	Varistor

Color Marks

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



RJJ000Z003 B

(b) 4-way ceiling cassette type (FDTC)

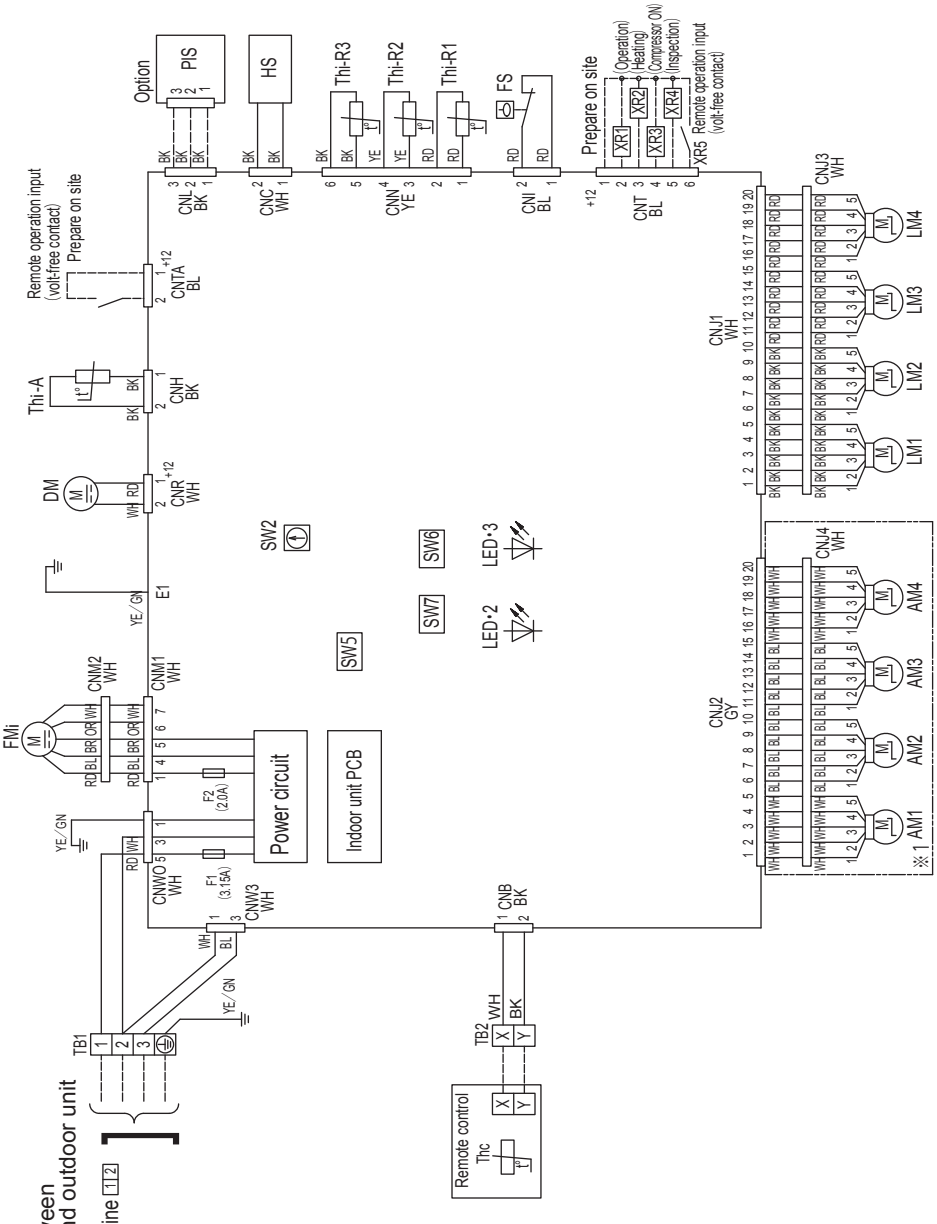
Models FDTC25VH1, 35VH1

Meaning of marks

Item	Description
AM1 - 4	Draft prevention function motor
CNB - Z	Connector
DM	Drain pump motor
F1,2	Fuse
FMi	Fan motor
FS	Float switch
HS	Humidity sensor
LED･2	Indication lamp (Green-Nomal operation)
LED･3	Indication lamp (Red-Inspection)
LM1-4	Louver motor
PIS	Motion sensor
SW2	Remote control communication address
SW5	Plural units Master／Slave setting
SW6	Model capacity setting
SW7-1	Operation check,drain pump motor test run
TB1	Terminal block (Power source) (□ mark)
TB2	Terminal block (Signal line) (□ mark)
Thc	Temperature sensor (Remote control)
Thi-A	Temperature sensor (Return air)
Thi-R1,2,3	Temperature sensor (Heat exchanger)

Color marks

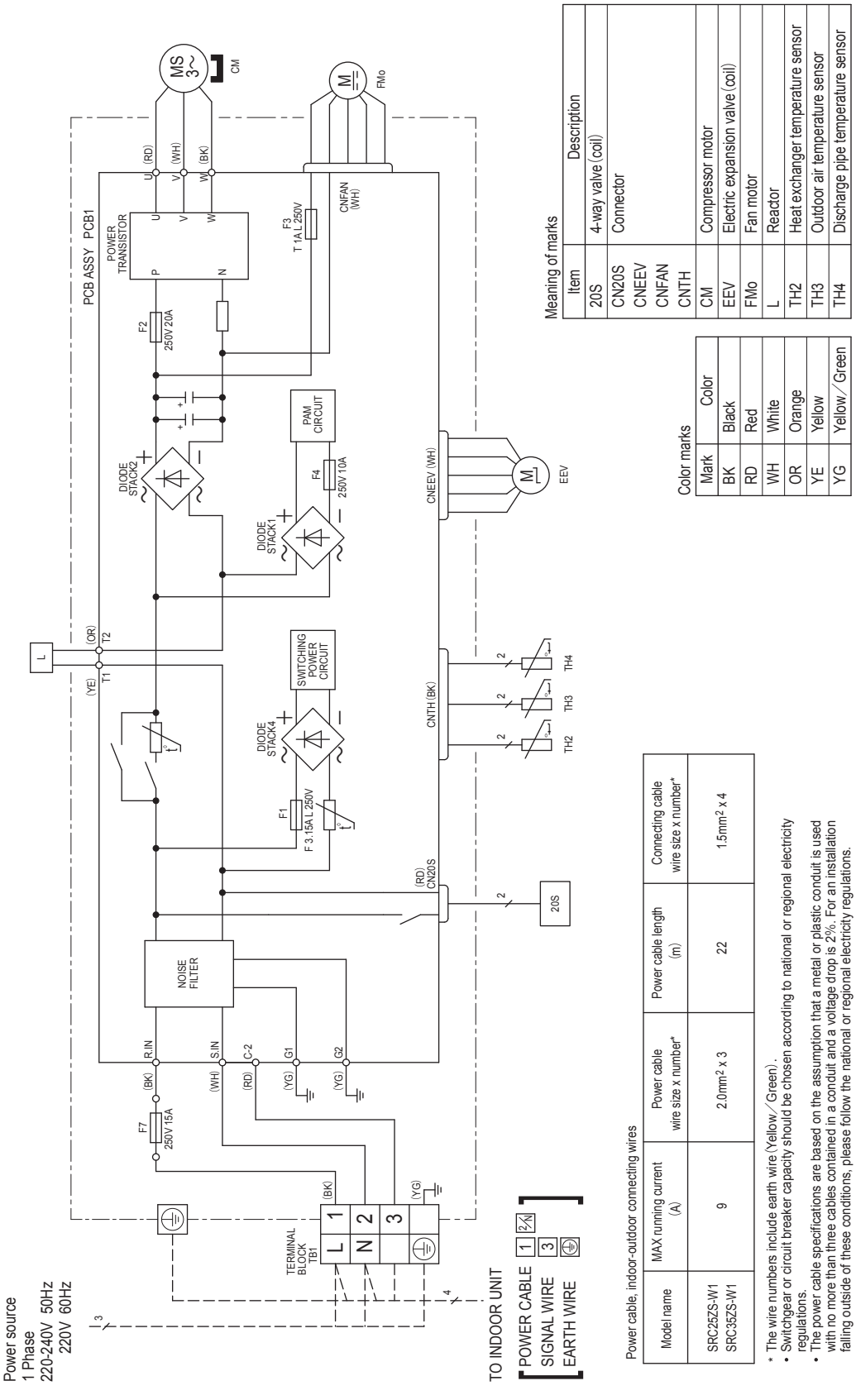
Mark	Color	Mark	Color
BK	Black	WH	White
BL	Blue	YE	Yellow
BR	Brown	GY	Gray
OR	Orange	YE／GN	Yellow／Green
RD	Red		



Notes (1) ---- indicates wiring on site.
(2) See the wiring diagram of outdoor unit about the line between indoor unit and outdoor unit.
(3) Use twin core cord (0.3mm^2) at remote control line.
See spec sheet of remote control in case that the total length is more than 100m.
(4) Do not put remote control line alongside power source line.
(5) Draft prevention function (※1) is provided on the panel TC-PSAE-5AW-E only.

(2) Outdoor units

Models SRC25ZS-W1, 35ZS-W1



Meaning of marks

Item	Description
20S	4-way valve (coil)
CN20S	Connector
CNEEV	
CNFAN	
CNTH	
CM	Compressor motor
EEV	Electric expansion valve (coil)
FMo	Fan motor
L	Reactor
TH2	Heat exchanger temperature sensor
TH3	Outdoor air temperature sensor
TH4	Discharge pipe temperature sensor

Color marks

Mark	Color
BK	Black
RD	Red
WH	White
OR	Orange
YE	Yellow
YG	Yellow／Green

Power cable, indoor-outdoor connecting wires

Model name	MAX running current (A)	Power cable wire size x number*	Power cable length (m)	Connecting cable wire size x number*
SRC25ZS-W1 SRC35ZS-W1	9	2.0mm² x 3	22	1.5mm² x 4

* The wire numbers include earth wire (Yellow／Green).
- Switchgear or circuit breaker capacity should be chosen according to national or regional electricity regulations.
- The power 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 national or regional electricity regulations.

RWC000Z315 B

4. NOISE LEVEL

(1) Ceiling concealed type (SRR)

(a) Sound power level

Model SRR25ZS-W

●Non duct

Condition	ISO5151 T1/H1

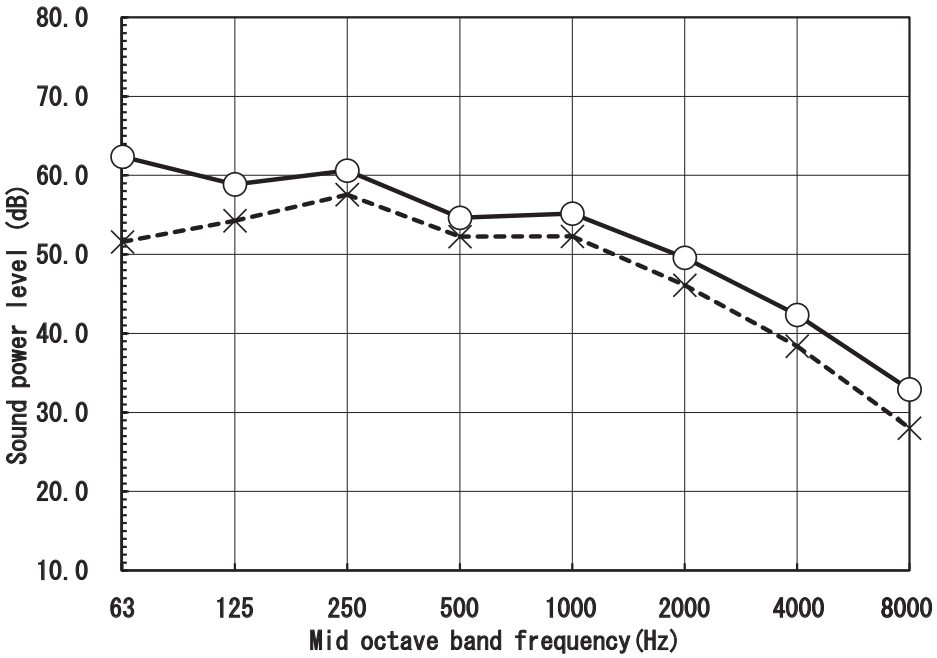
MODE	Rated capacity value (Hi)

Air→ Unit →

(Indoor unit)

Model	SRR25ZS-W	
Noise level	Cooling	56 dB(A)
	Heating	59 dB(A)

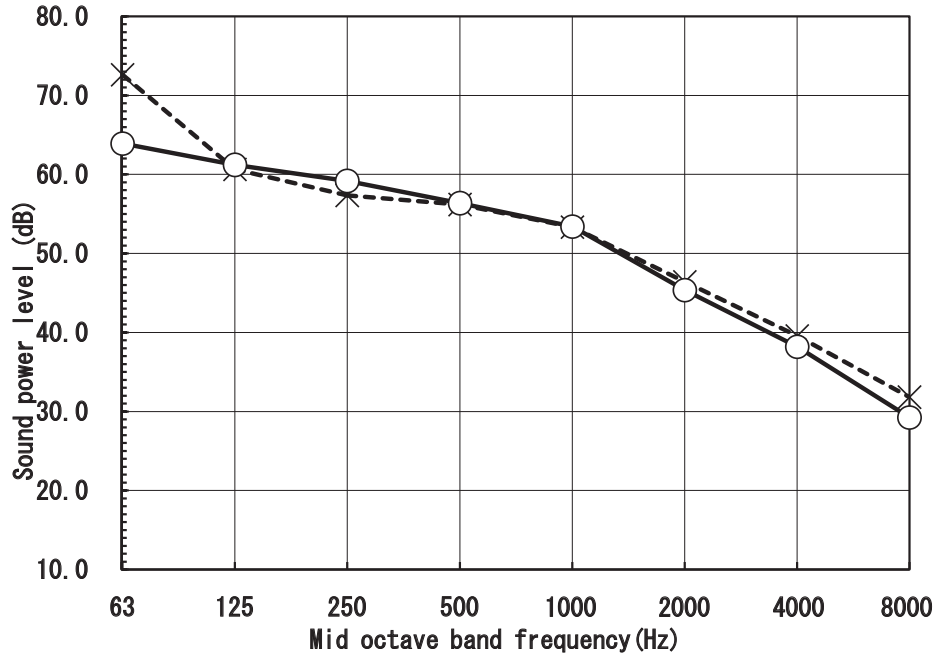
×..... Cooling ○—— Heating



(Outdoor unit)

Model	SRC25ZS-W1	
Noise level	Cooling	58 dB(A)
	Heating	58 dB(A)

×..... Cooling ○—— Heating



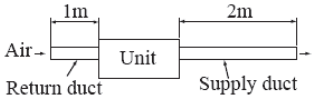
●With duct

(Indoor unit)

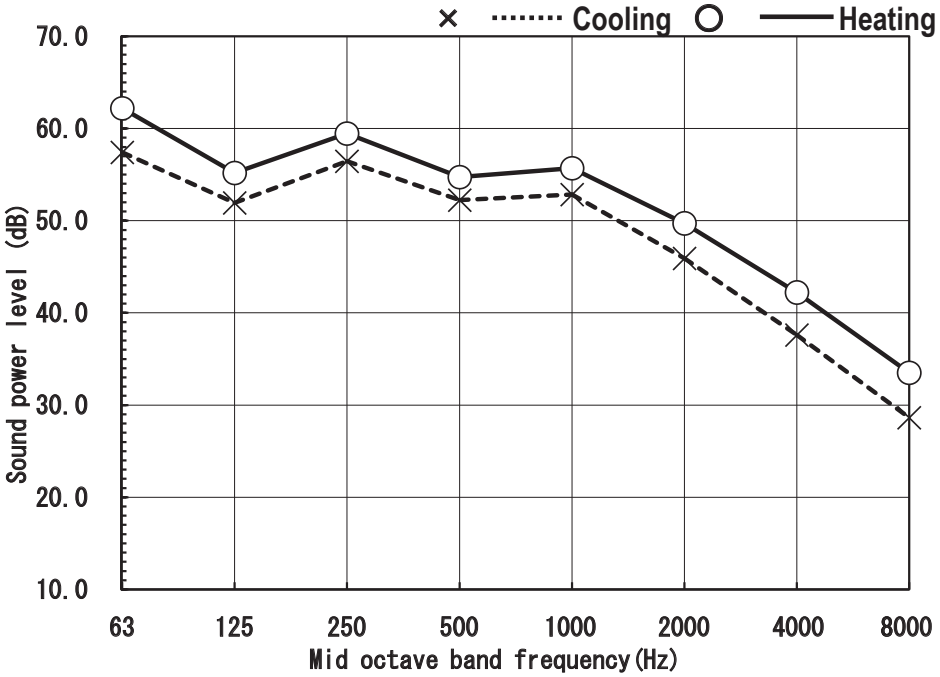
Model	SRR25ZS-W	
Noise level	Cooling	56 dB(A)
	Heating	59 dB(A)

Condition	ISO5151 T1/H1

MODE	Rated capacity value (Hi)



External staic pressure : 10Pa



Model SRR35ZS-W

●Non duct

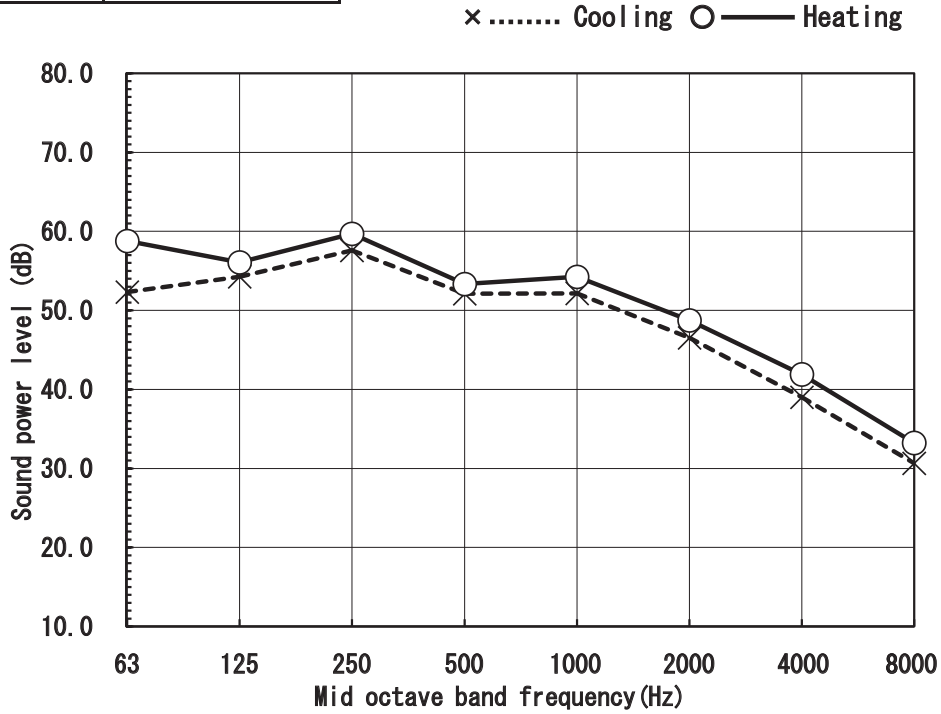
Condition	ISO5151 T1/H1

MODE	Rated capacity value (Hi)

Air → Unit →

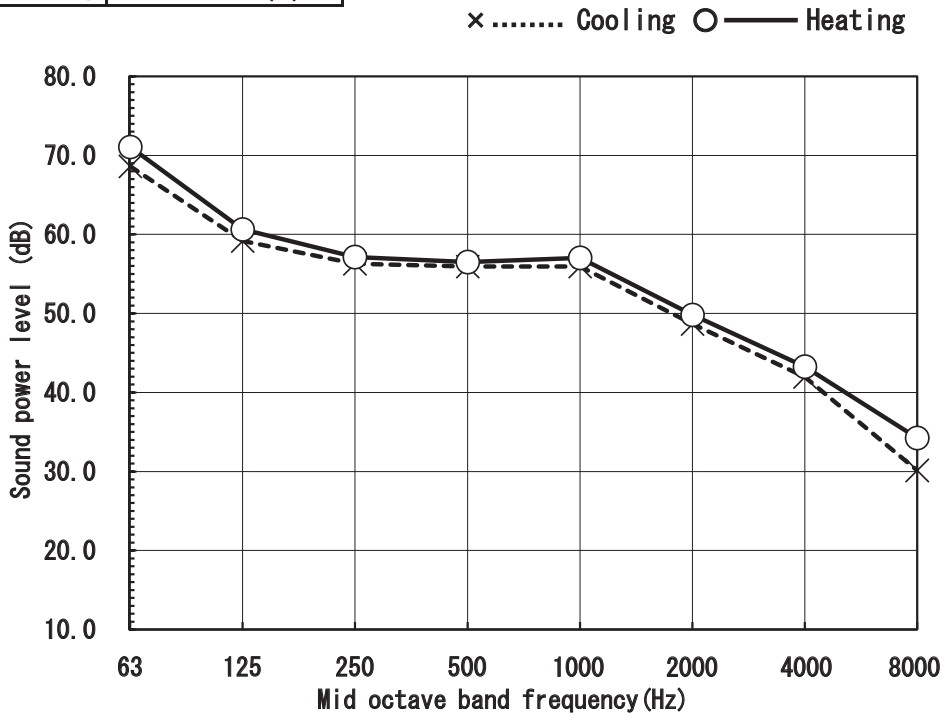
(Indoor unit)

Model	SRR35ZS-W	
Noise level	Cooling	56 dB(A)
	Heating	58 dB(A)



(Outdoor unit)

Model	SRC35ZS-W1	
Noise level	Cooling	59 dB(A)
	Heating	60 dB(A)



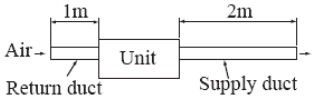
●With duct

(Indoor unit)

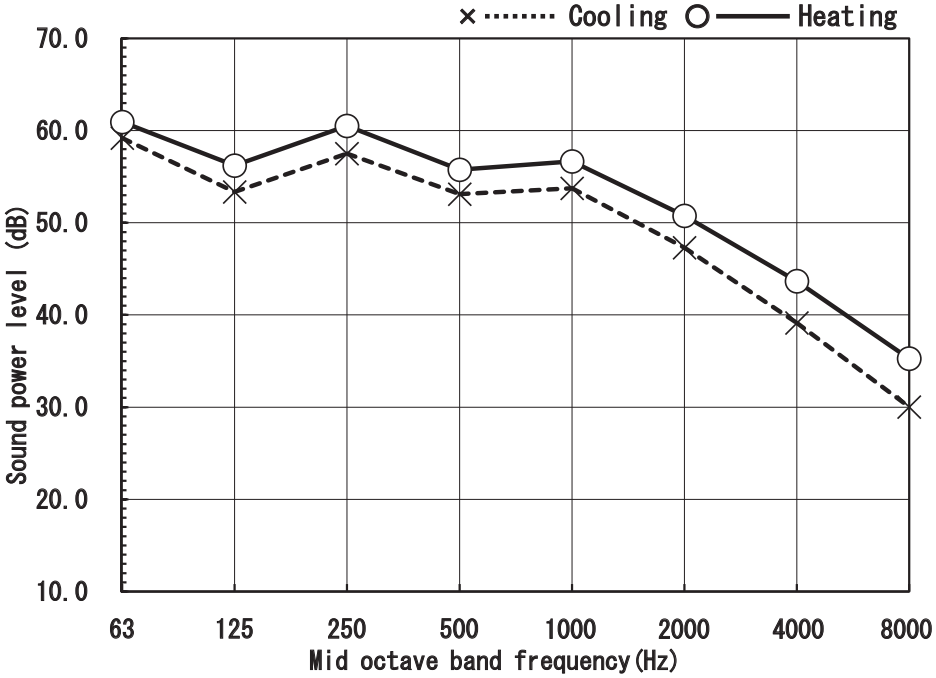
Model	SRR35ZS-W	
Noise level	Cooling	57 dB(A)
	Heating	60 dB(A)

Condition	ISO5151 T1/H1

MODE	Rated capacity value (Hi)



External staic pressure : 10Pa



(b) Sound pressure level

(i) Rated capacity value (Hi)

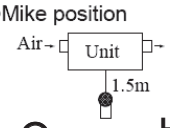
Model SRR25ZS-W

●Sound pressure level ①

Condition	ISO5151 T1/H1

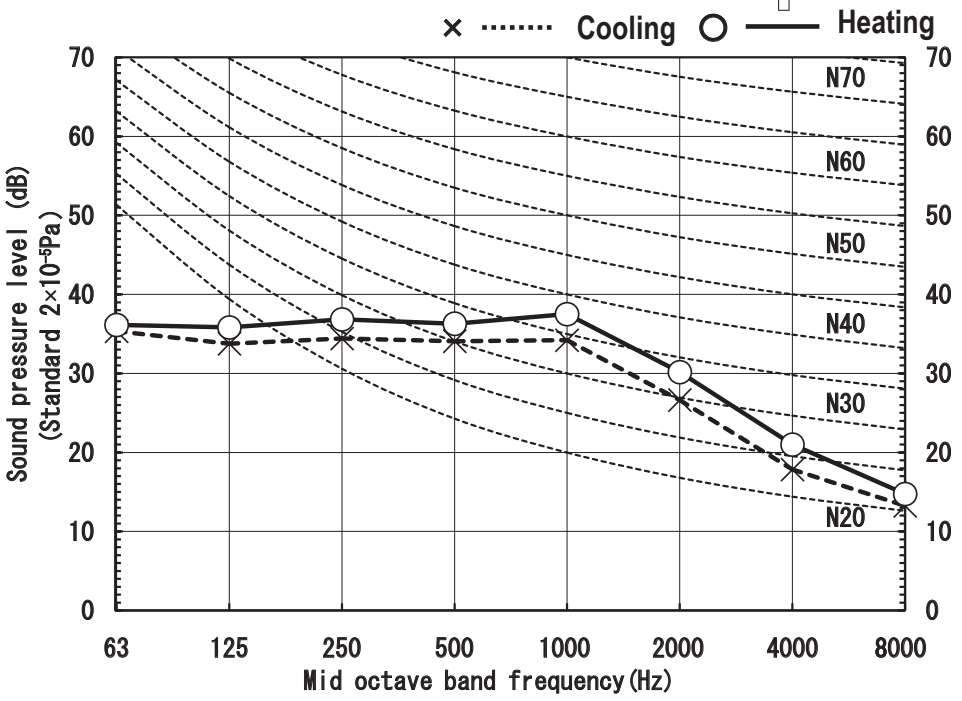
MODE	Hi

●Mike position



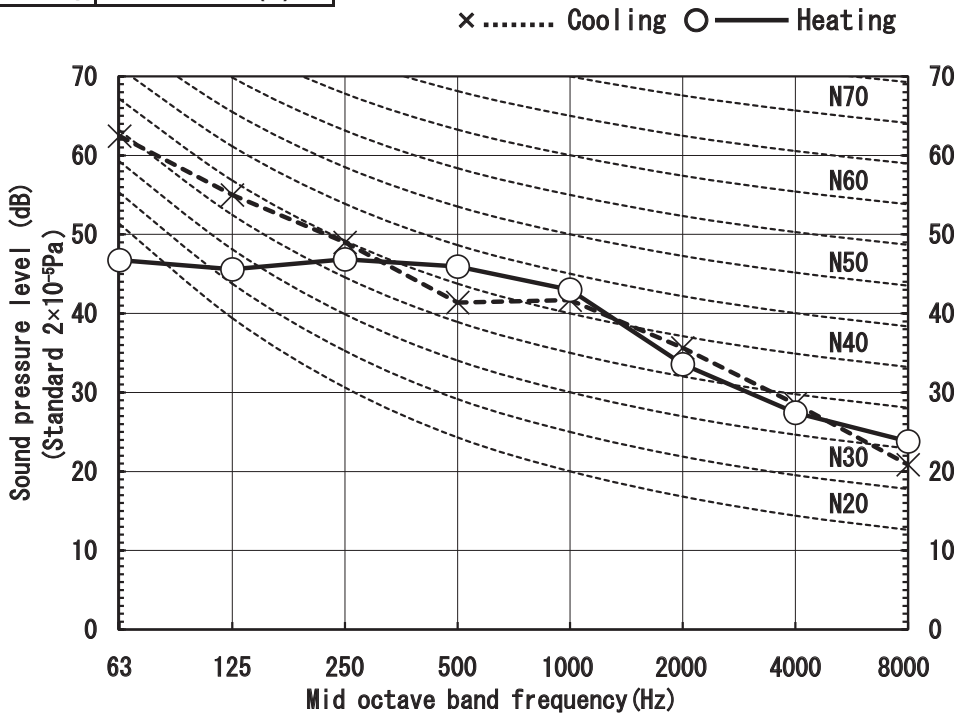
(Indoor unit)

Model	SRR25ZS-W	
Noise level	Cooling	37 dB(A)
	Heating	40 dB(A)



(Outdoor unit)

Model	SRC25ZS-W1	
Noise level	Cooling	47 dB(A)
	Heating	47 dB(A)



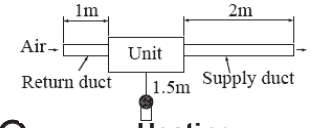
●Sound pressure level ②

(Indoor unit)

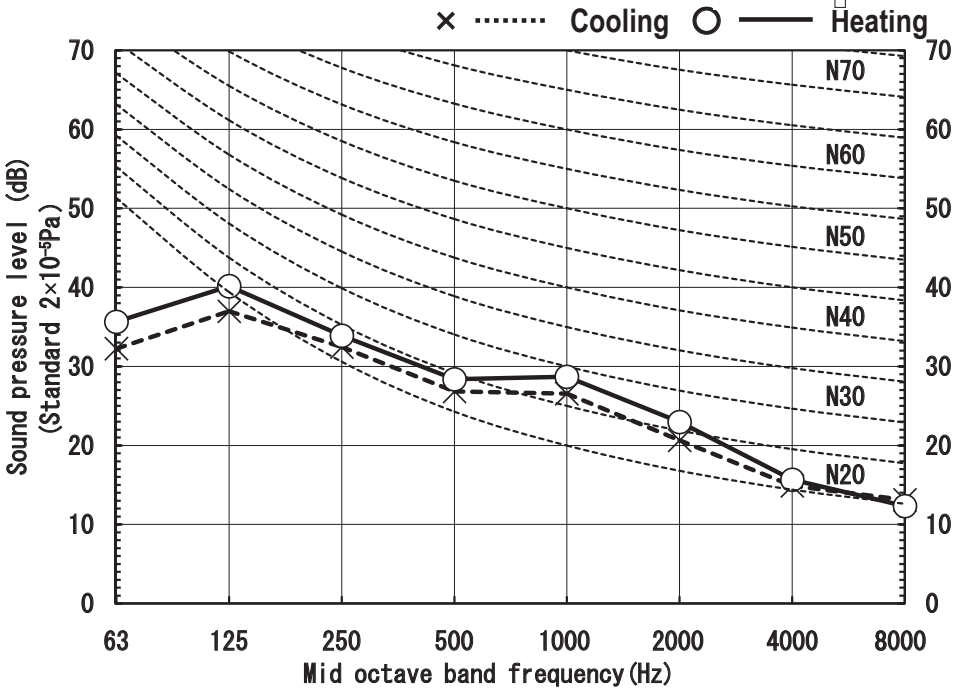
Model	SRR25ZS-W	
Noise level	Cooling	31 dB(A)
	Heating	33 dB(A)

Condition	ISO5151 T1/H1
MODE	Hi

●Mike position



External staic pressure : 10Pa



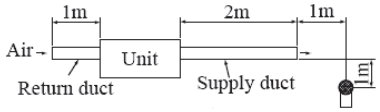
●Sound pressure level ③

(Indoor unit)

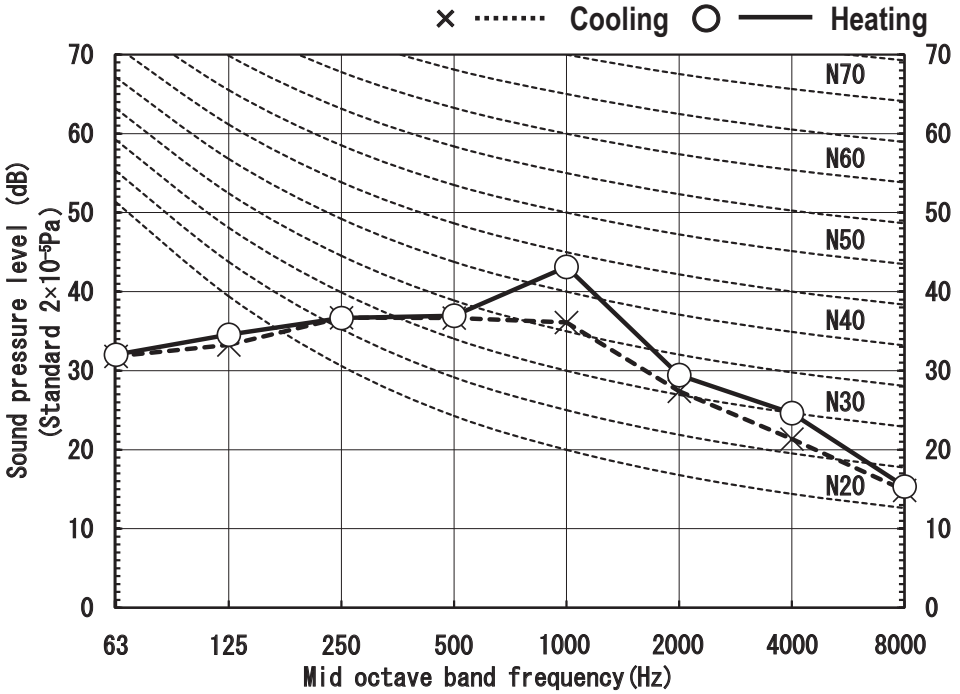
Model	SRR25ZS-W	
Noise level	Cooling	39 dB(A)
	Heating	44 dB(A)

Condition	ISO5151 T1/H1
MODE	Hi

●Mike position



External staic pressure : 10Pa



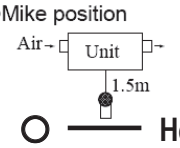
Model SRR35ZS-W

●Sound pressure level ①

Condition	ISO5151 T1/H1

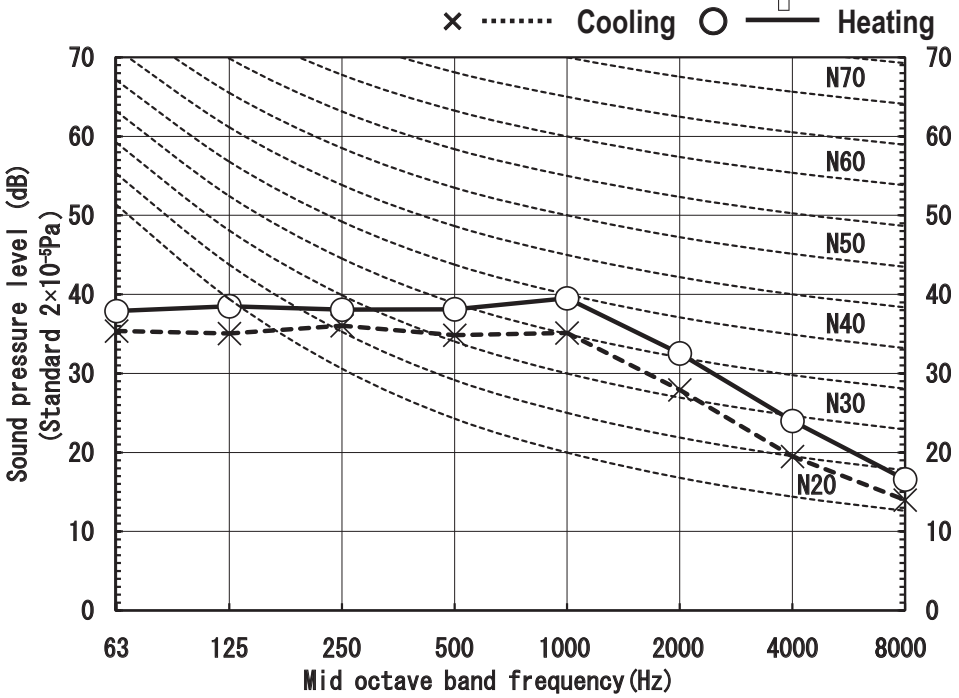
MODE	Hi

●Mike position



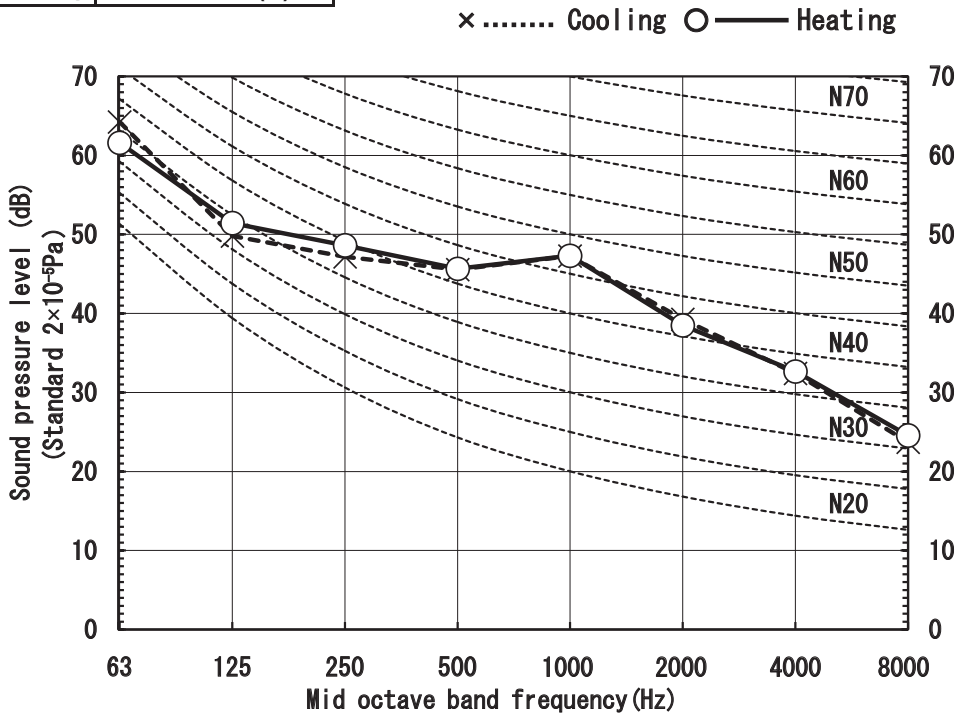
(Indoor unit)

Model	SRR35ZS-W	
Noise level	Cooling	38 dB(A)
	Heating	42 dB(A)



(Outdoor unit)

Model	SRC35ZS-W1	
Noise level	Cooling	50 dB(A)
	Heating	50 dB(A)



●Sound pressure level ②

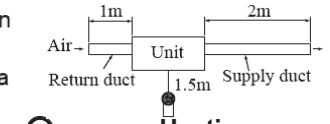
(Indoor unit)

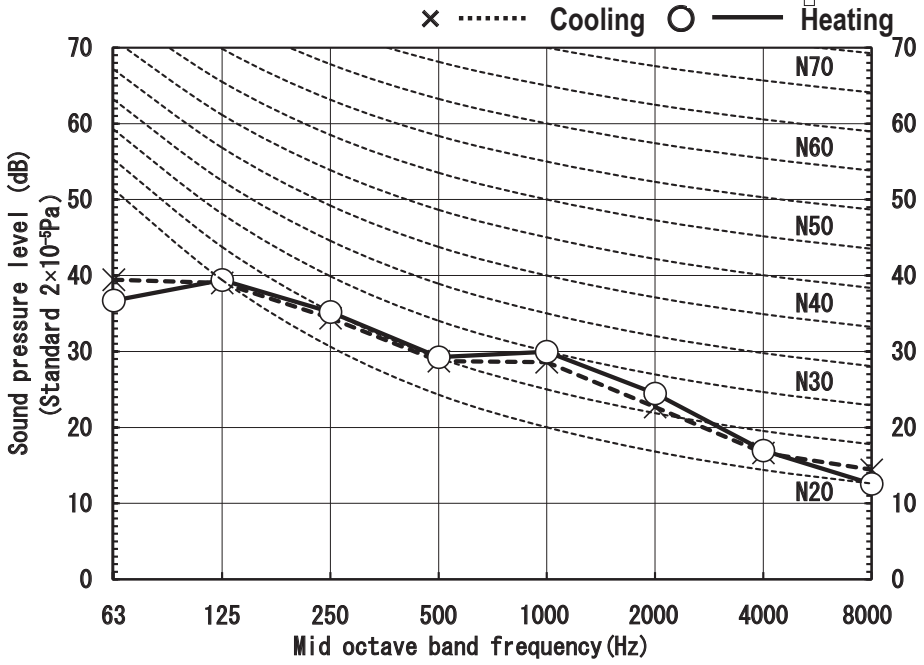
Model	SRR35ZS-W	
Noise level	Cooling	33 dB(A)
	Heating	34 dB(A)

Condition	ISO5151 T1/H1
MODE	Hi

●Mike position

External staic pressure : 10Pa





●Sound pressure level ③

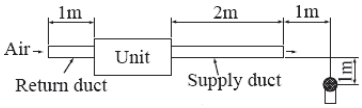
(Indoor unit)

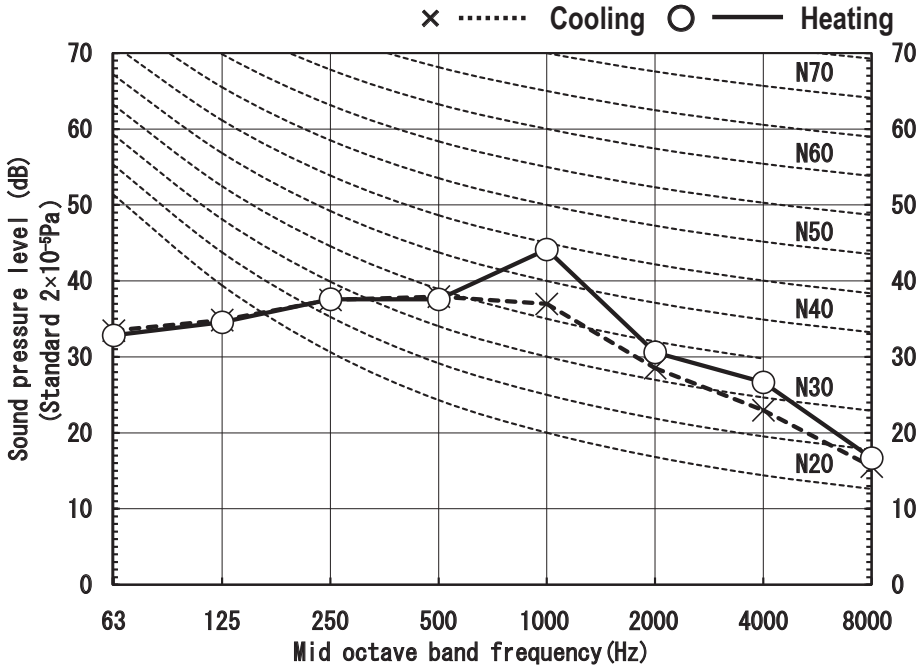
Model	SRR35ZS-W	
Noise level	Cooling	40 dB(A)
	Heating	45 dB(A)

Condition	ISO5151 T1/H1
MODE	Hi

●Mike position

External staic pressure : 10Pa





(ii) Each fan speed mode

Model SRR25ZS-W

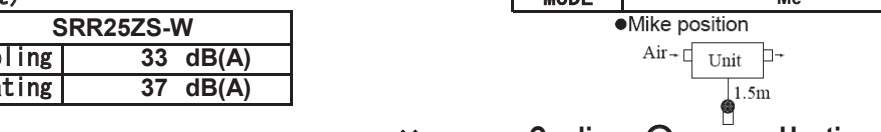
●Sound pressure level ①

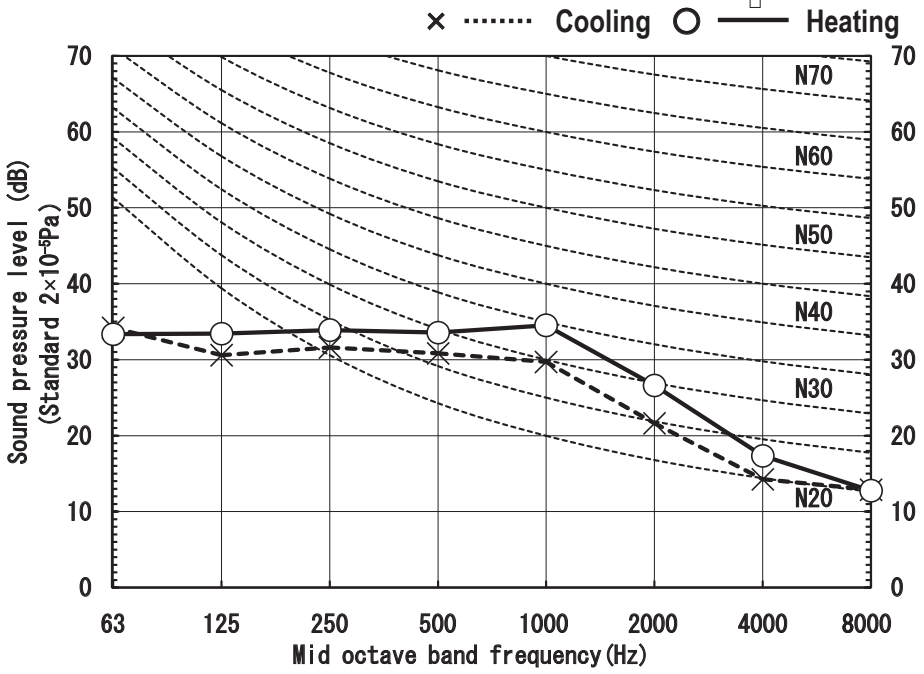
(Indoor unit)

Model	SRR25ZS-W	
Noise level	Cooling	33 dB(A)
	Heating	37 dB(A)

Condition	ISO5151 T1/H1
MODE	Me

●Mike position



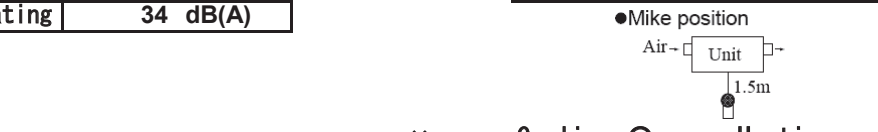


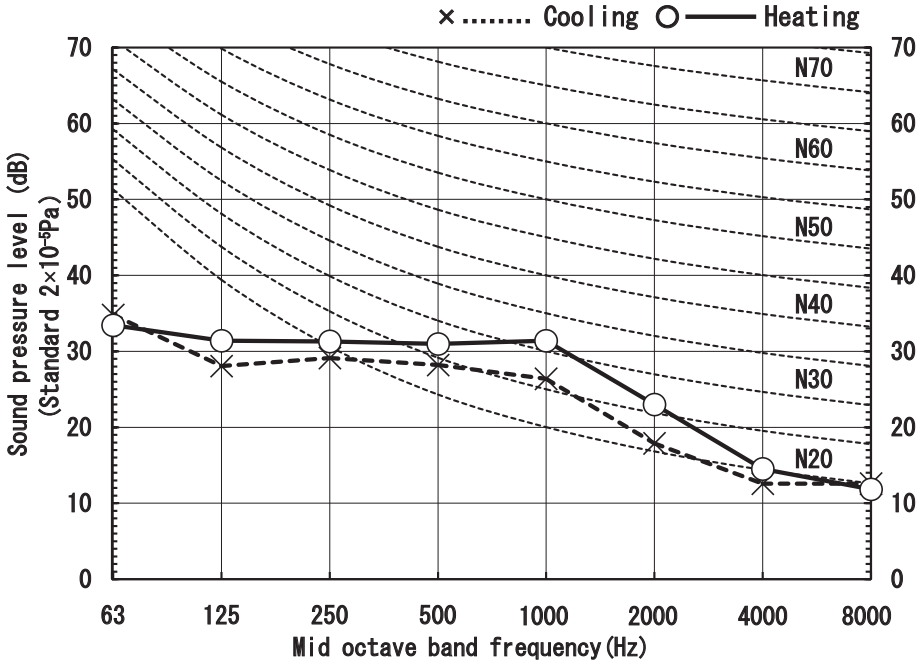
(Indoor unit)

Model	SRR25ZS-W	
Noise level	Cooling	30 dB(A)
	Heating	34 dB(A)

Condition	ISO5151 T1/H1
MODE	Lo

●Mike position



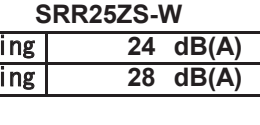


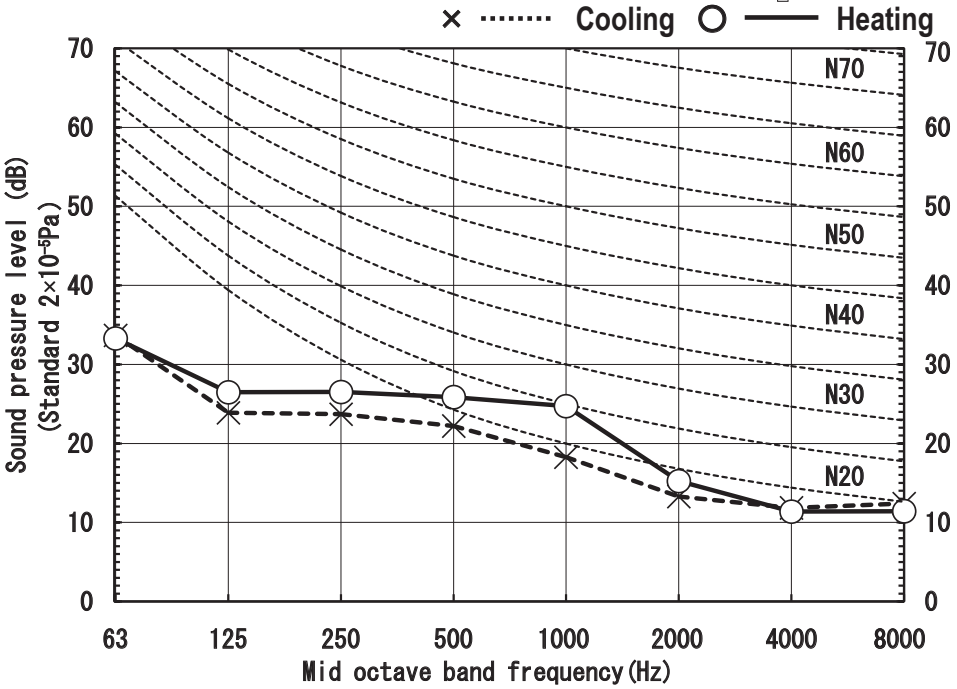
(Indoor unit)

Model	SRR25ZS-W	
Noise level	Cooling	24 dB(A)
	Heating	28 dB(A)

Condition	ISO5151 T1/H1

MODE	ULo



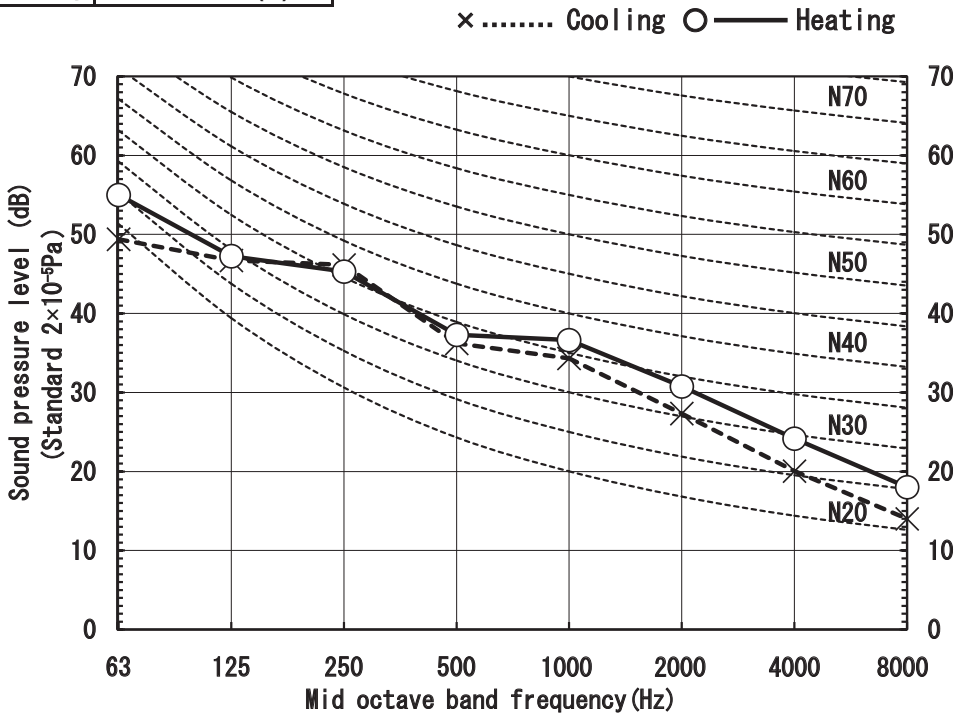


(Outdoor unit)

Model	SRC25ZS-W1	
Noise level	Cooling	41 dB(A)
	Heating	42 dB(A)

Condition	ISO5151 T1/H1

MODE	Silent



●Sound pressure level ②

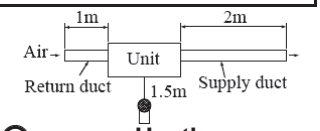
(Indoor unit)

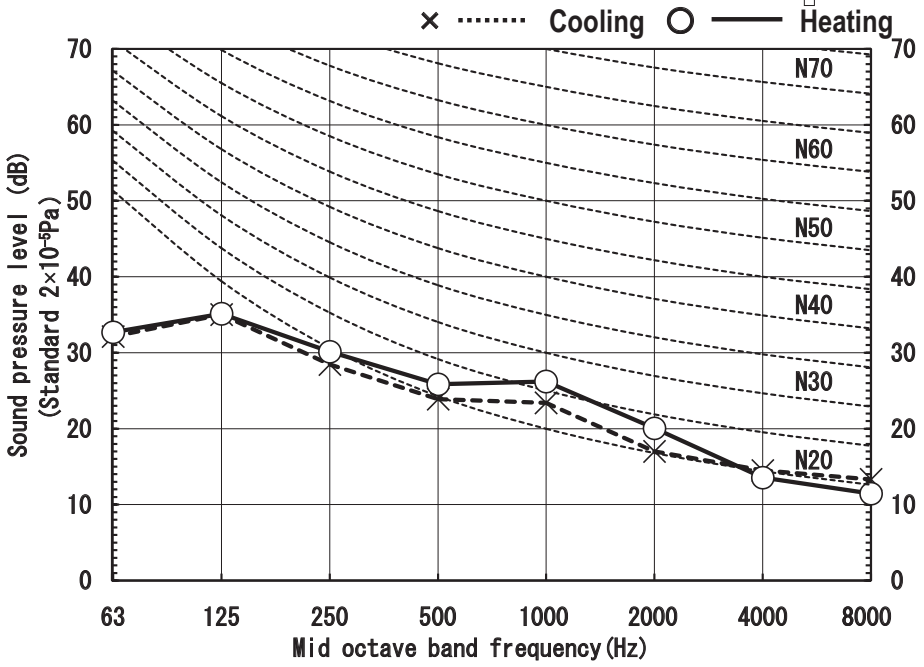
Model	SRR25ZS-W	
Noise level	Cooling	28 dB(A)
	Heating	30 dB(A)

Condition	ISO5151 T1/H1
MODE	Me

●Mike position

External staic pressure : 10Pa





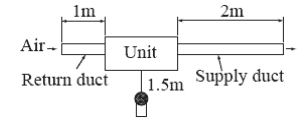
(Indoor unit)

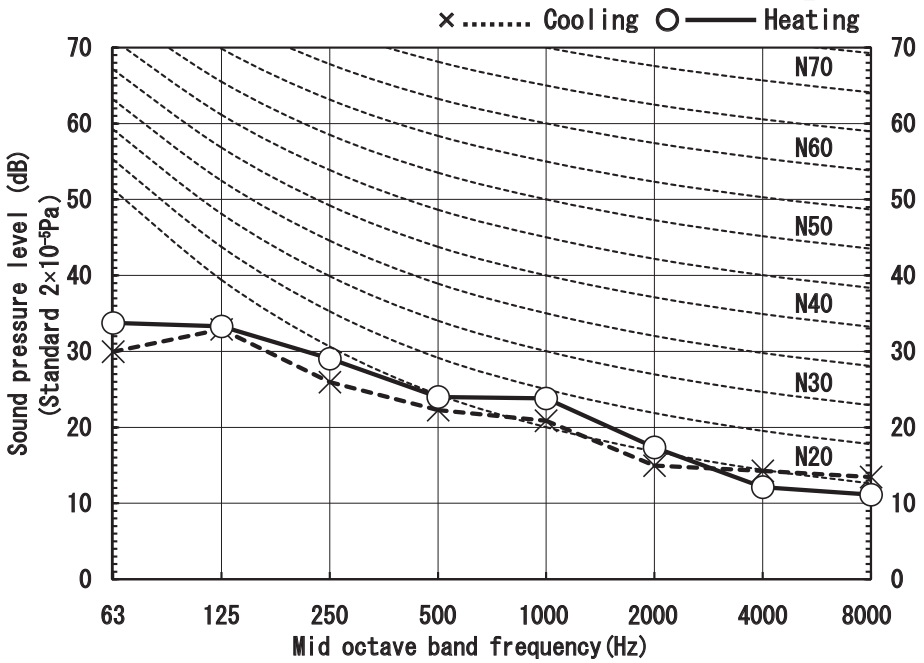
Model	SRR25ZS-W	
Noise level	Cooling	26 dB(A)
	Heating	28 dB(A)

Condition	ISO5151 T1/H1
MODE	Lo

●Mike position

External staic pressure : 10Pa





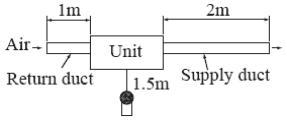
Condition	ISO5151 T1/H1

MODE	ULo

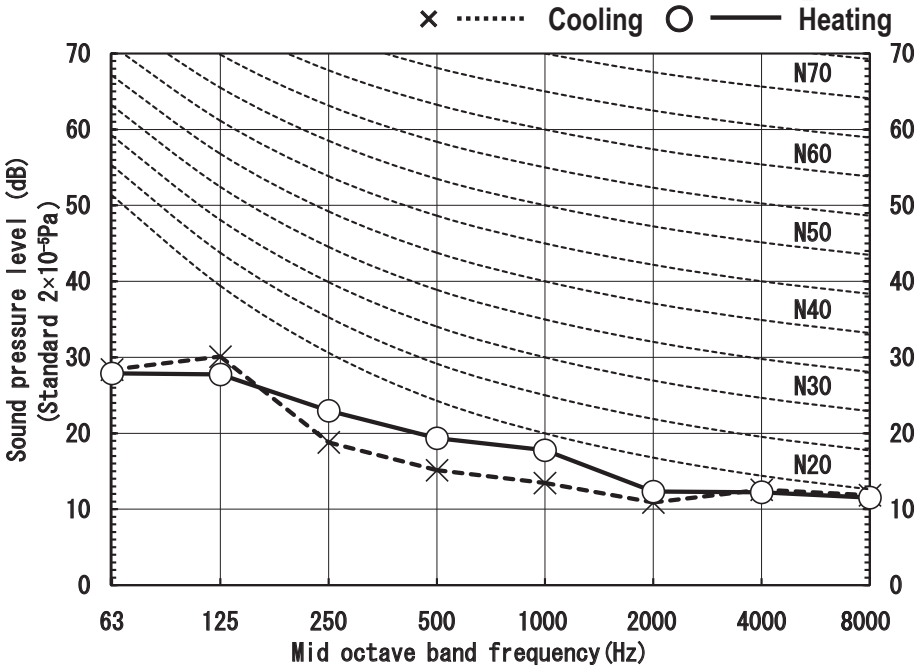
(Indoor unit)

Model	SRR25ZS-W	
Noise level	Cooling	21 dB(A)
	Heating	23 dB(A)

●Mike position



External staic pressure : 10Pa



●Sound pressure level ③

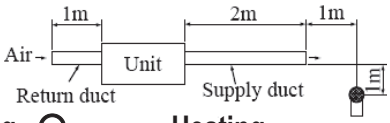
Condition	ISO5151 T1/H1

MODE	Me

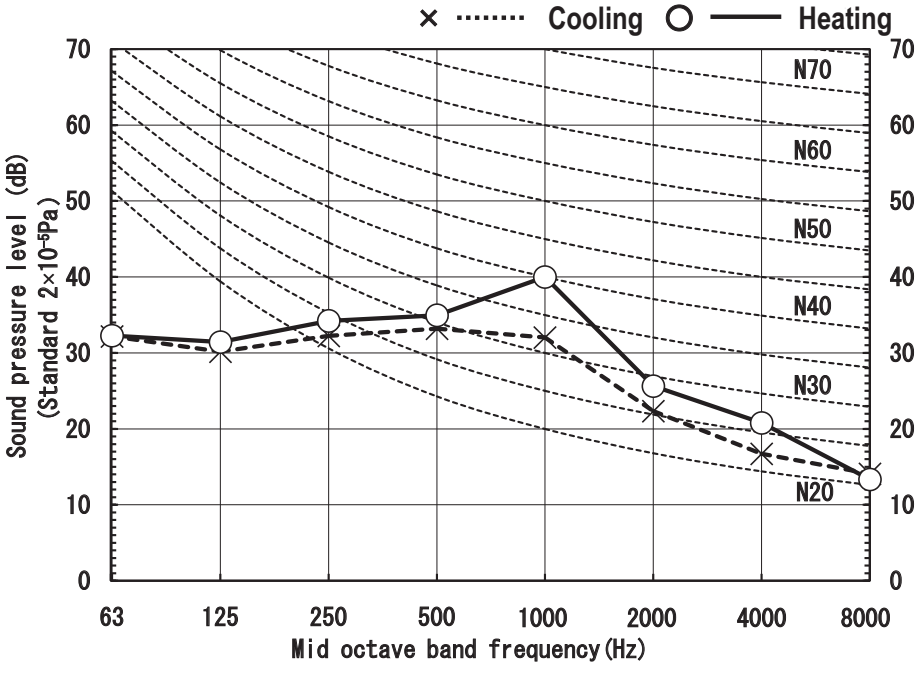
(Indoor unit)

Model	SRR25ZS-W	
Noise level	Cooling	35 dB(A)
	Heating	41 dB(A)

●Mike position



External staic pressure : 10Pa



Condition	ISO5151 T1/H1

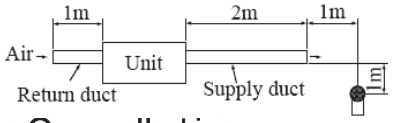
MODE	Lo

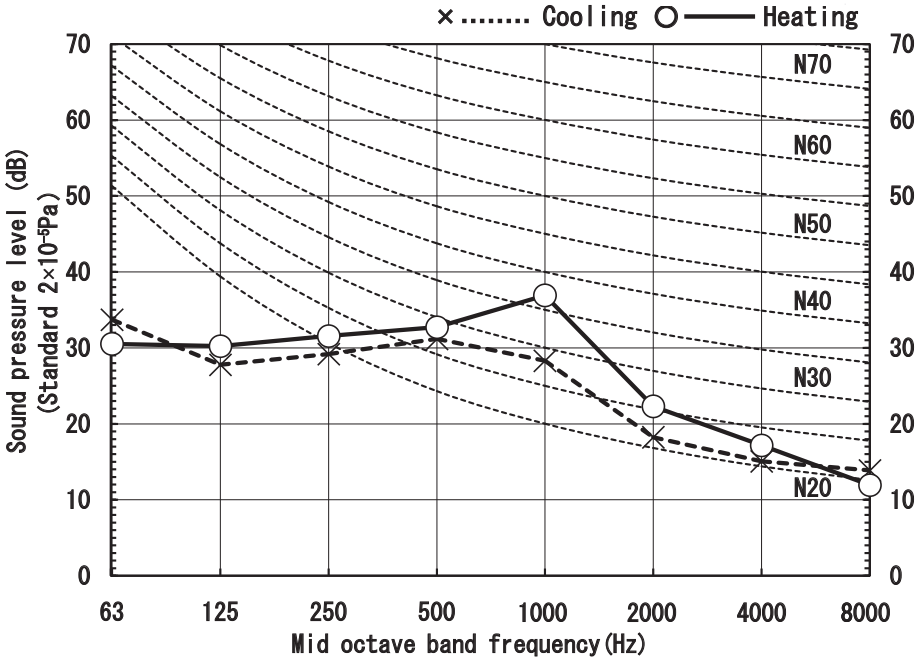
(Indoor unit)

Model	SRR25ZS-W	
Noise level	Cooling	32 dB(A)
	Heating	38 dB(A)

●Mike position

External staic pressure : 10Pa





Condition	ISO5151 T1/H1

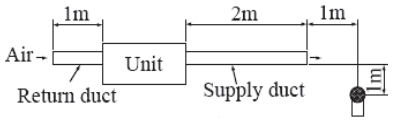
MODE	ULo

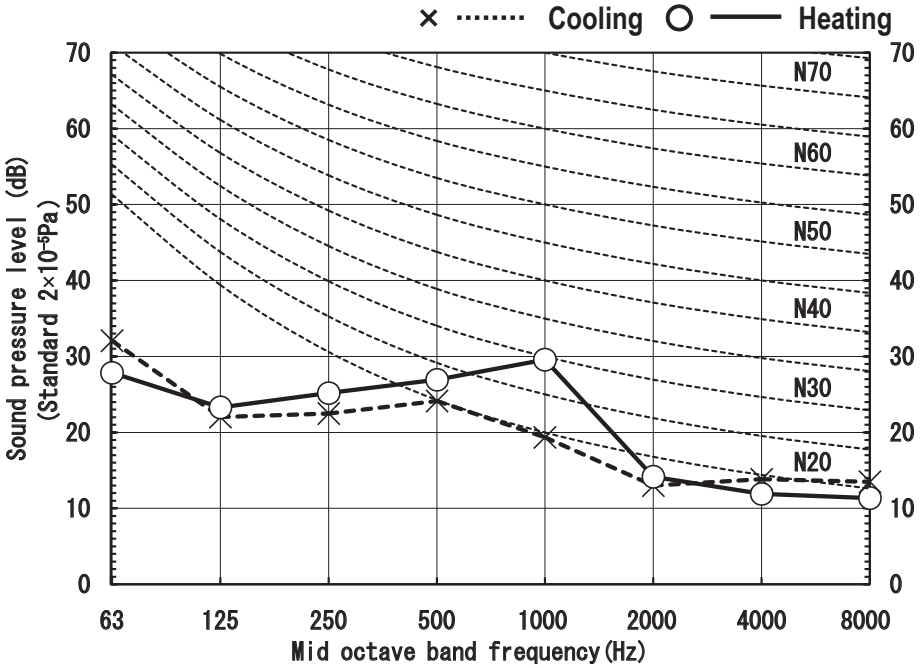
(Indoor unit)

Model	SRR25ZS-W	
Noise level	Cooling	25 dB(A)
	Heating	31 dB(A)

●Mike position

External staic pressure : 10Pa





Model SRR35ZS-W

●Sound pressure level ①

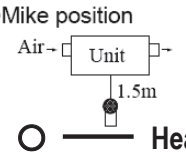
(Indoor unit)

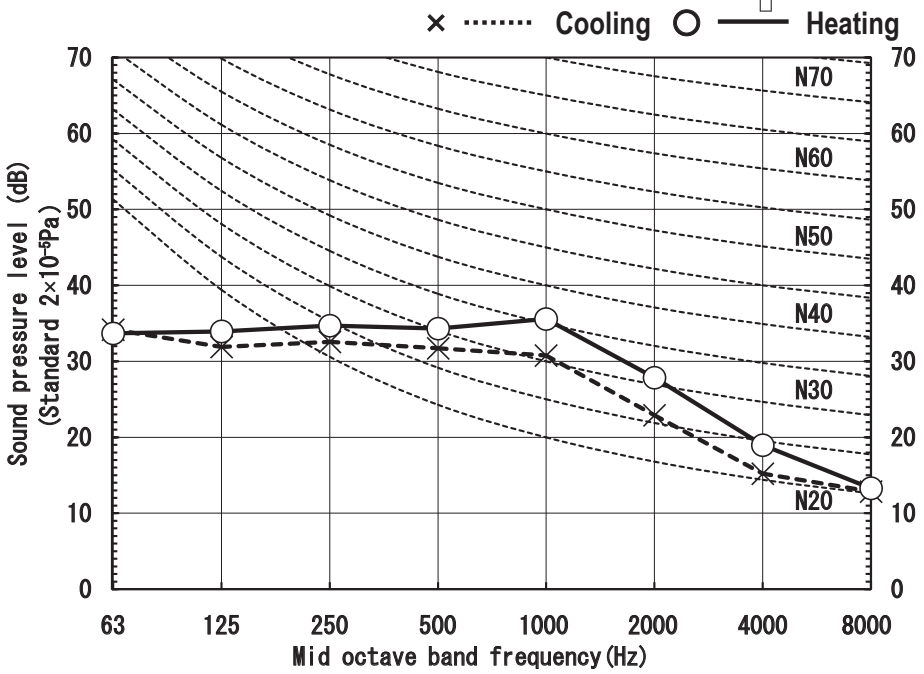
Model	SRR35ZS-W	
Noise level	Cooling	34 dB(A)
	Heating	38 dB(A)

Condition	ISO5151 T1/H1

MODE	Me

●Mike position





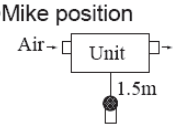
(Indoor unit)

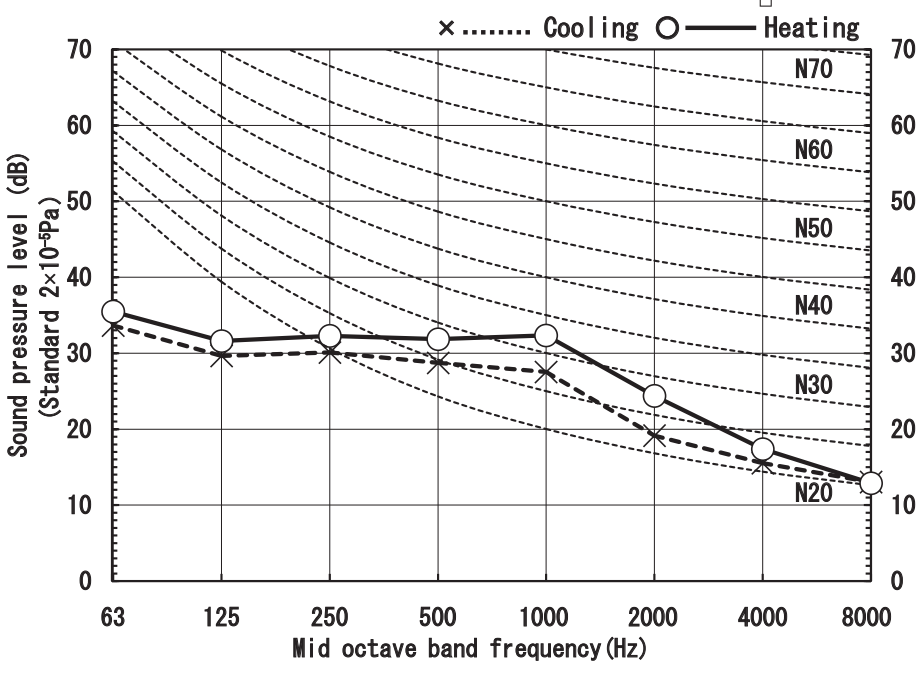
Model	SRR35ZS-W	
Noise level	Cooling	31 dB(A)
	Heating	35 dB(A)

Condition	ISO5151 T1/H1

MODE	Lo

●Mike position



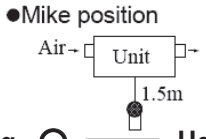


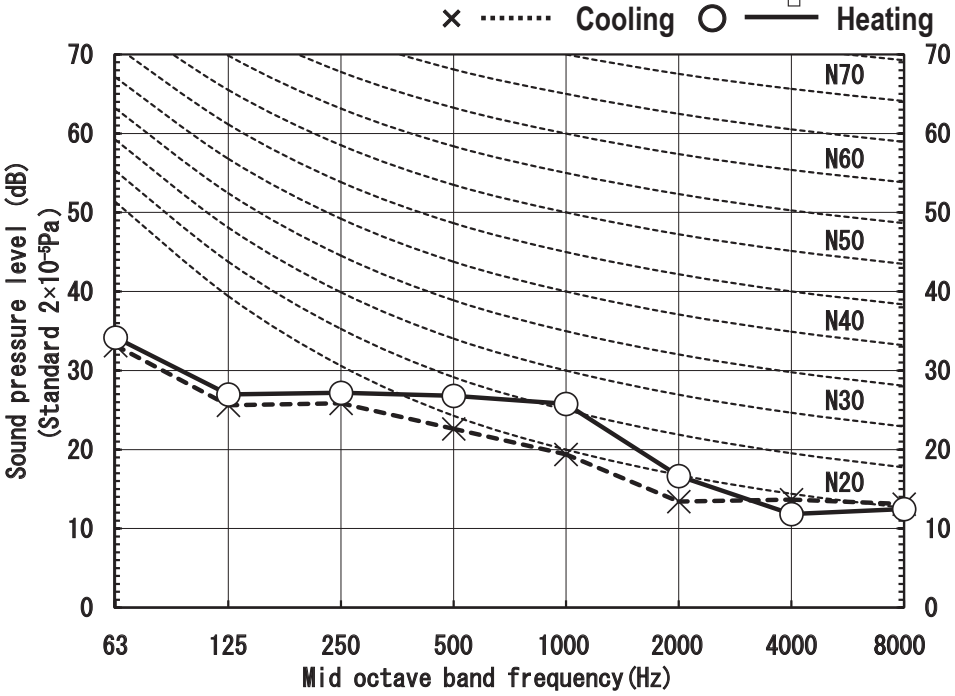
(Indoor unit)

Model	SRR35ZS-W	
Noise level	Cooling	25 dB(A)
	Heating	29 dB(A)

Condition	ISO5151 T1/H1

MODE	ULo



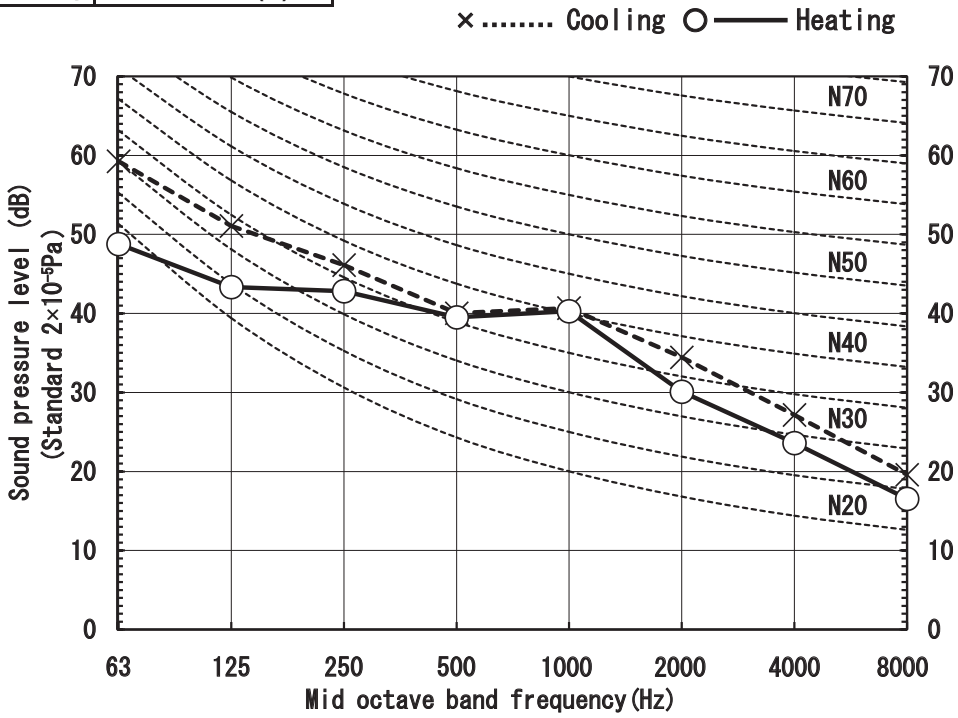


(Outdoor unit)

Model	SRC35ZS-W1	
Noise level	Cooling	45 dB(A)
	Heating	43 dB(A)

Condition	ISO5151 T1/H1

MODE	Silent



●Sound pressure level ②

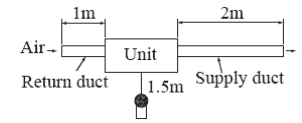
(Indoor unit)

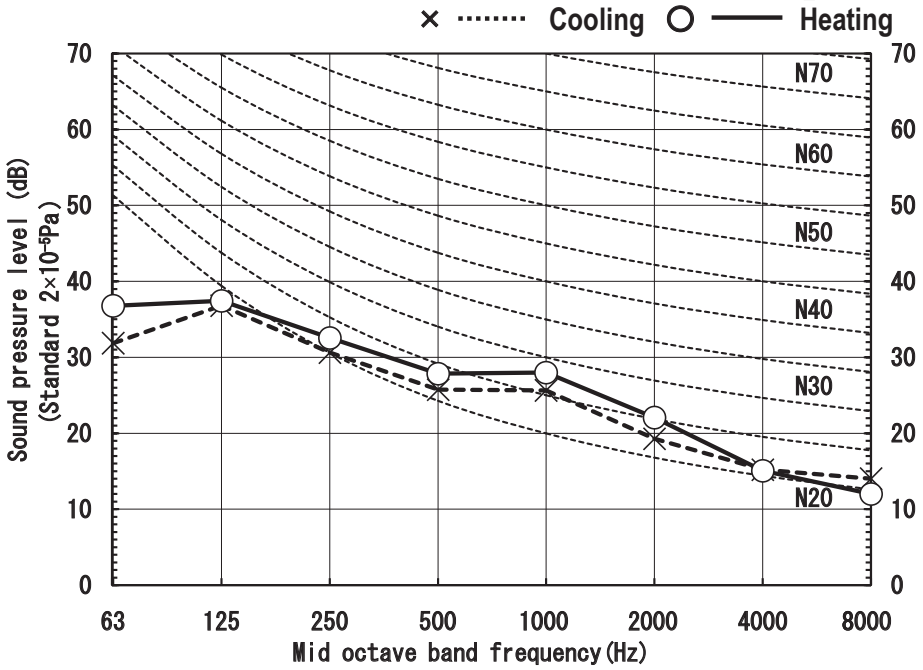
Model	SRR35ZS-W	
Noise level	Cooling	30 dB(A)
	Heating	32 dB(A)

Condition	ISO5151 T1/H1
MODE	Me

●Mike position

External staic pressure : 10Pa





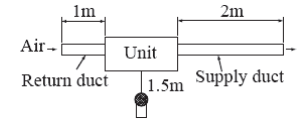
(Indoor unit)

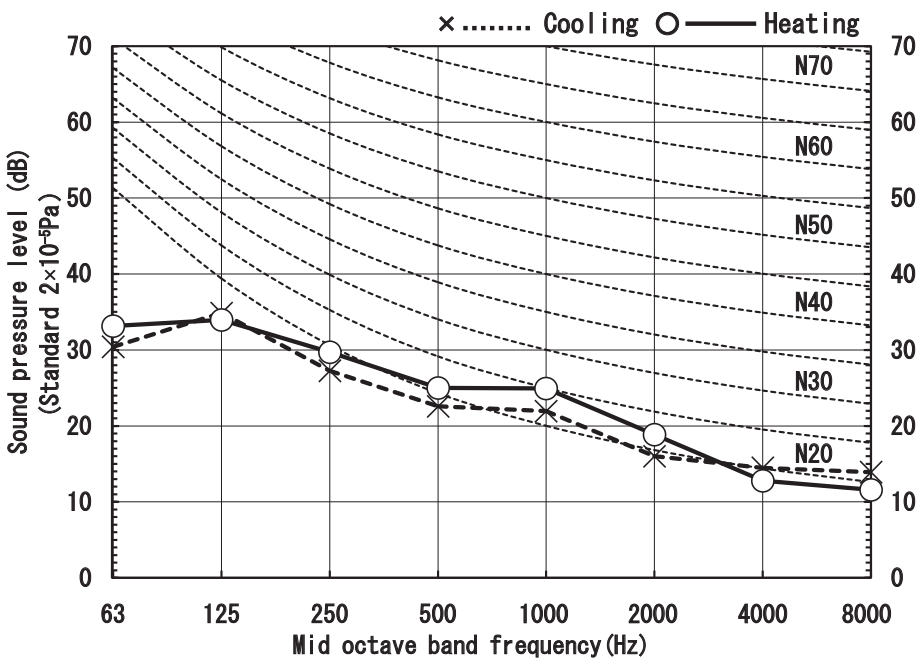
Model	SRR35ZS-W	
Noise level	Cooling	27 dB(A)
	Heating	29 dB(A)

Condition	ISO5151 T1/H1
MODE	Lo

●Mike position

External staic pressure : 10Pa





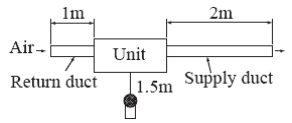
Condition	ISO5151 T1/H1

(Indoor unit)

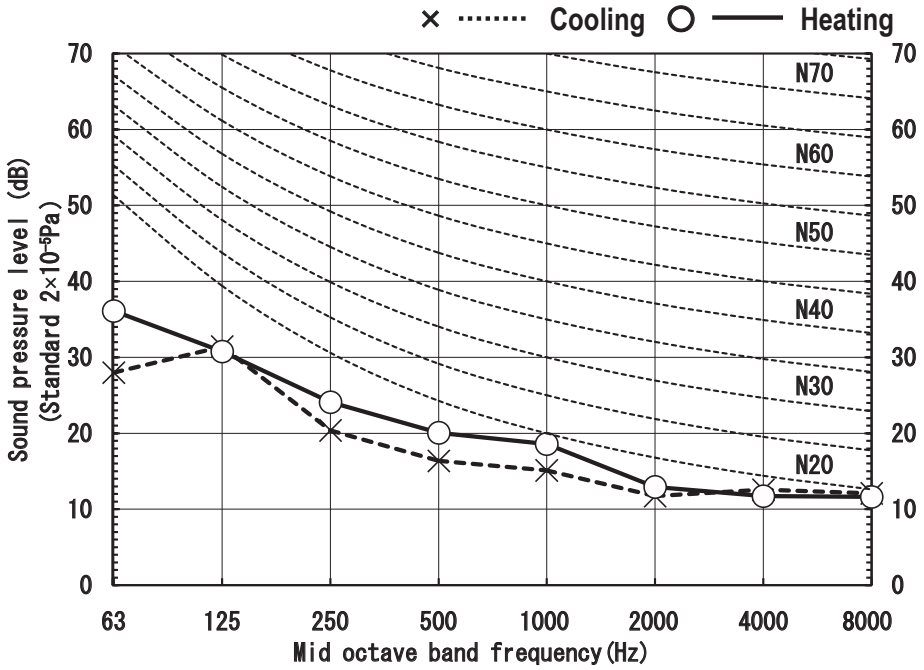
Model	SRR35ZS-W	
Noise level	Cooling	22 dB(A)
	Heating	24 dB(A)

MODE	ULo

●Mike position



External staic pressure : 10Pa



●Sound pressure level ③

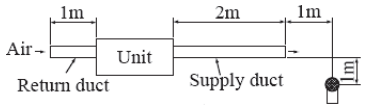
Condition	ISO5151 T1/H1

(Indoor unit)

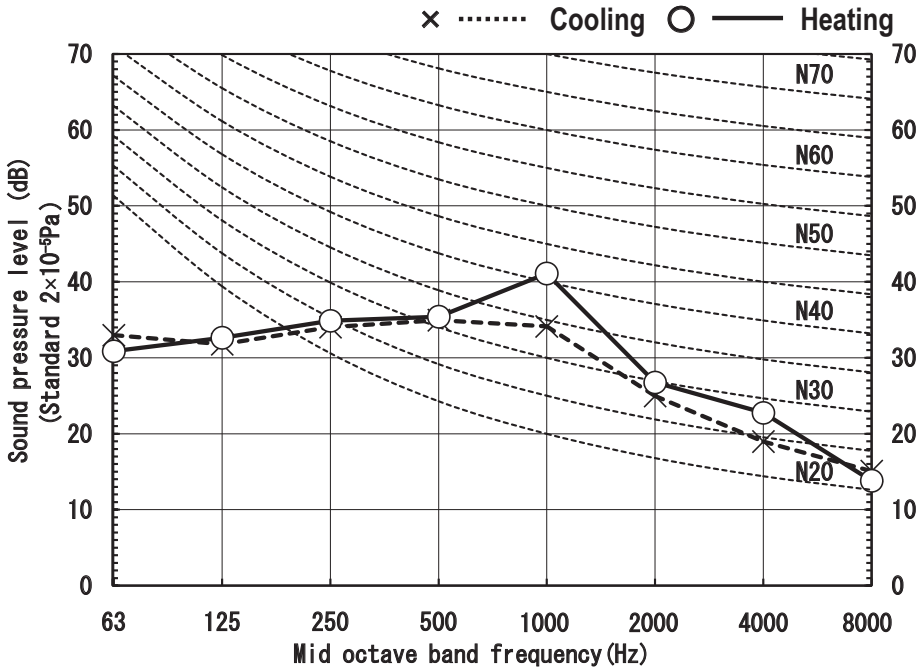
Model	SRR35ZS-W	
Noise level	Cooling	37 dB(A)
	Heating	42 dB(A)

MODE	Me

●Mike position



External staic pressure : 10Pa



Condition	ISO5151 T1/H1

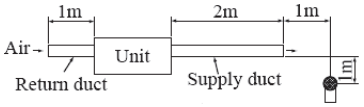
(Indoor unit)

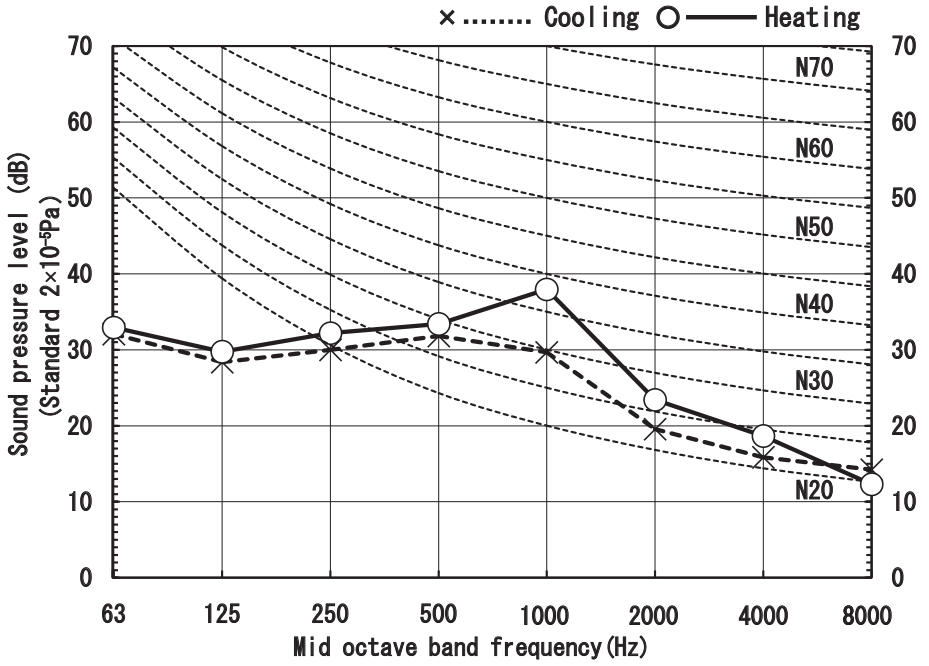
Model	SRR35ZS-W	
Noise level	Cooling	33 dB(A)
	Heating	39 dB(A)

MODE	Lo

●Mike position

External staic pressure : 10Pa





Condition	ISO5151 T1/H1

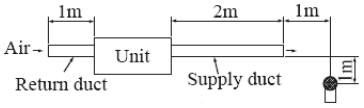
(Indoor unit)

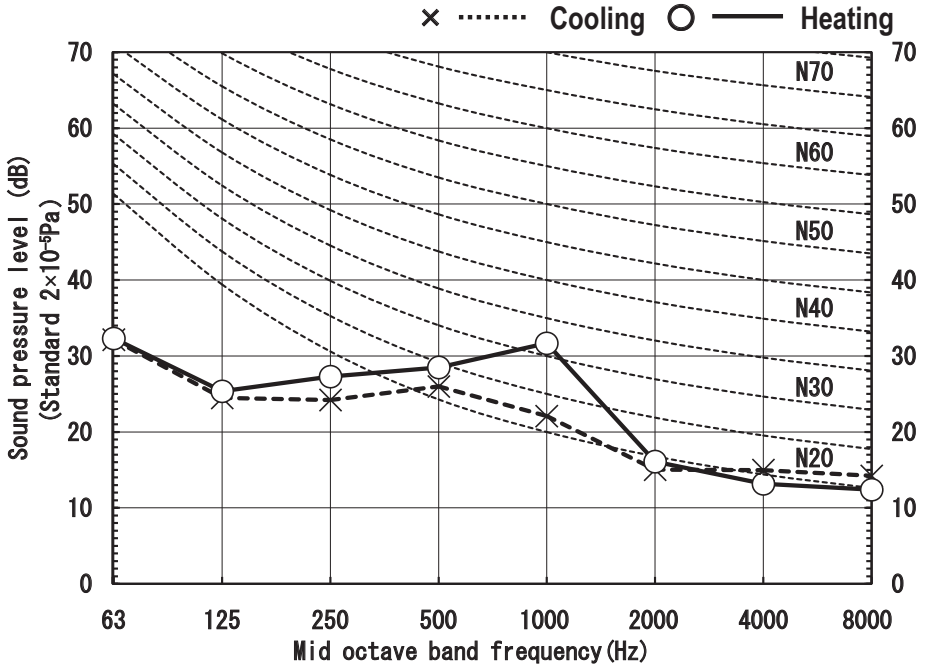
Model	SRR35ZS-W	
Noise level	Cooling	27 dB(A)
	Heating	33 dB(A)

MODE	ULo

●Mike position

External staic pressure : 10Pa





(2) 4-way ceiling cassette type (FDTC)

(a) Sound power level

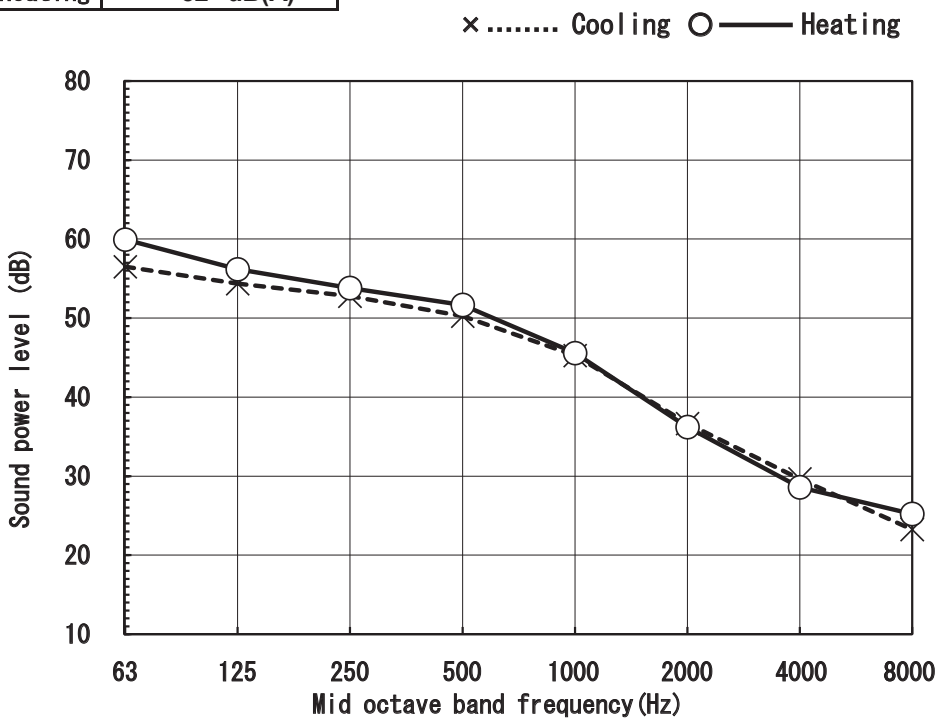
Model FDTC25VH1

(Indoor unit)

Model	FDTC25VH1	
Noise level	Cooling	51 dB(A)
	Heating	52 dB(A)

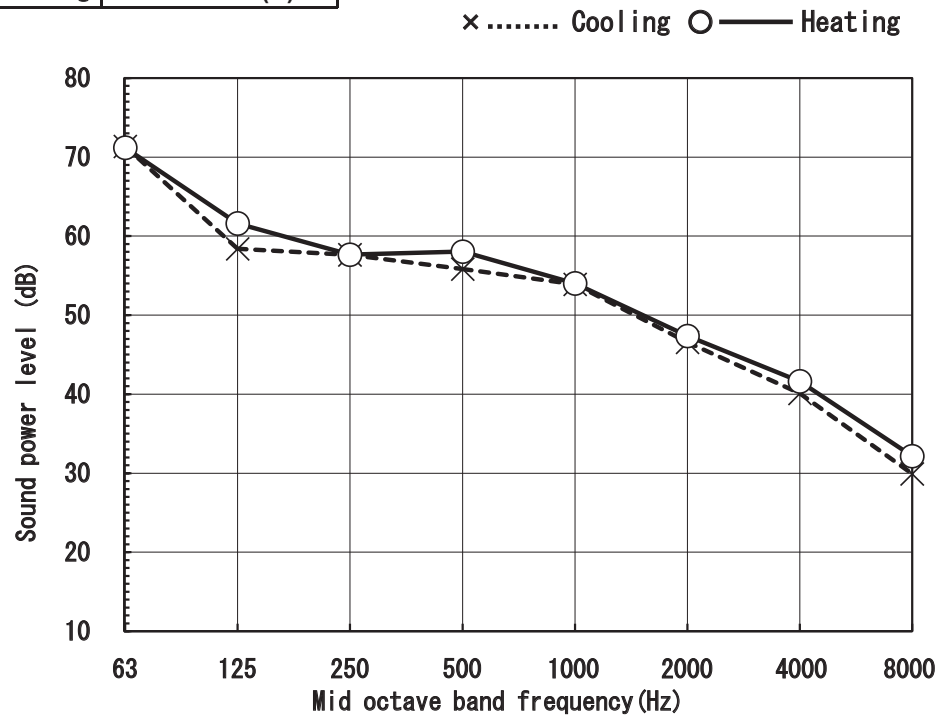
Condition	ISO5151 T1/H1

MODE	Rated capacity value (P-Hi)



(Outdoor unit)

Model	SRC25ZS-W1	
Noise level	Cooling	58 dB(A)
	Heating	59 dB(A)

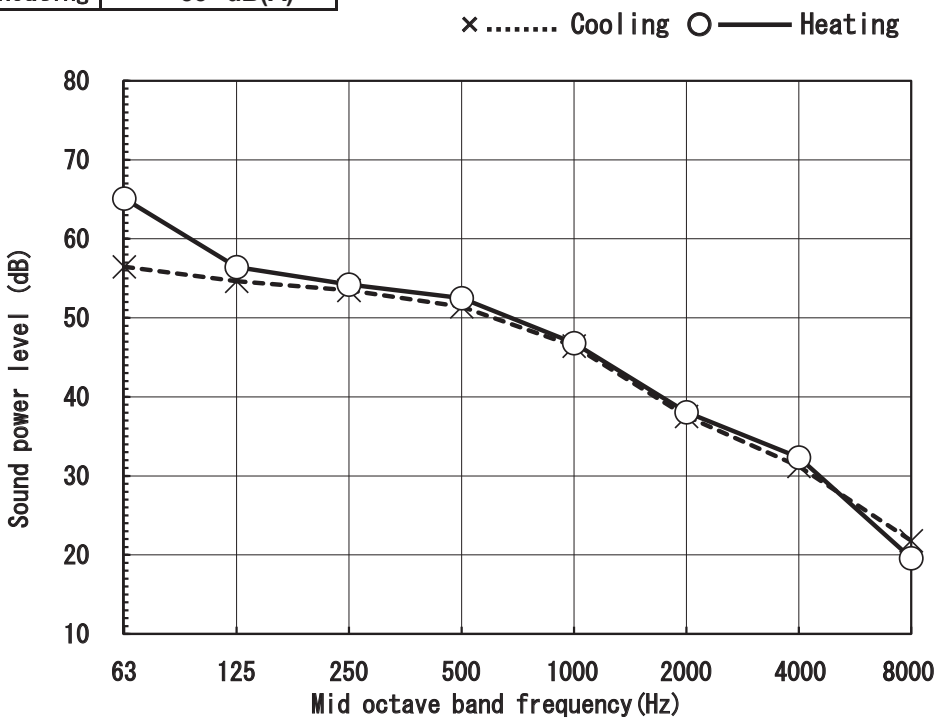


Model FDTC35VH1

(Indoor unit)

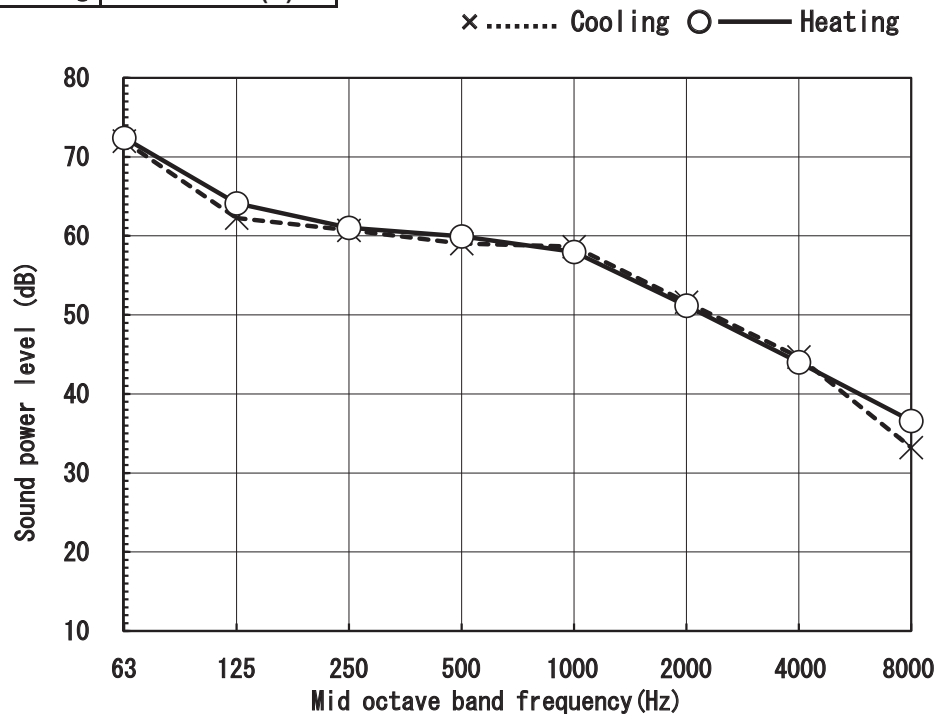
Model	FDTC35VH1	
Noise level	Cooling	52 dB(A)
	Heating	53 dB(A)

Condition	ISO5151 T1/H1
MODE	Rated capacity value (P-Hi)



(Outdoor unit)

Model	SRC35ZS-W1	
Noise level	Cooling	62 dB(A)
	Heating	62 dB(A)



(b) Sound pressure level

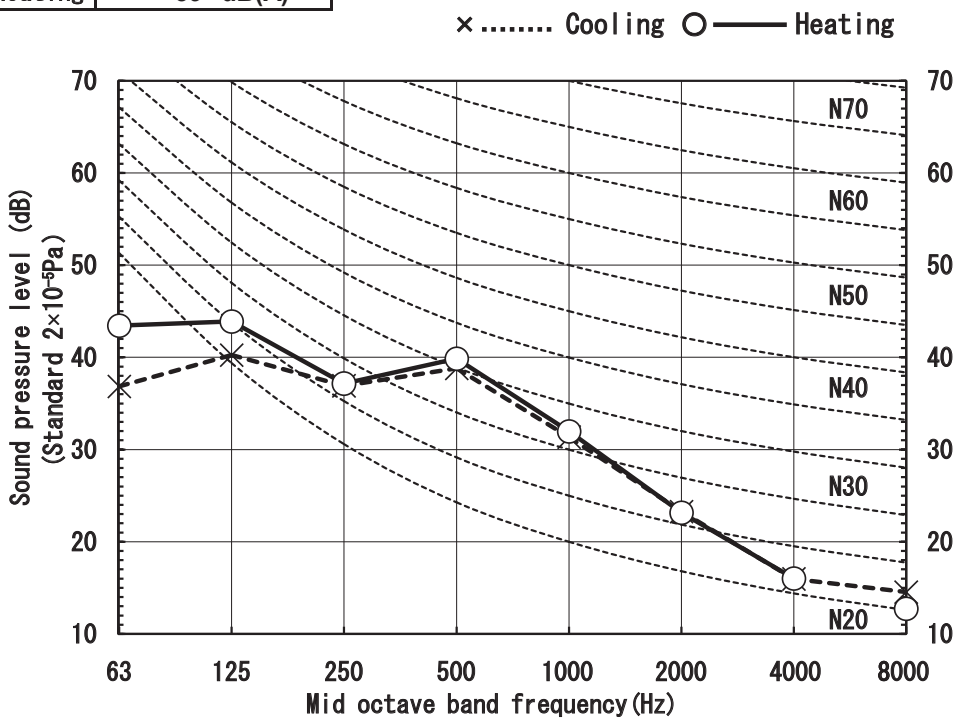
(i) Rated capacity value

Model FDTC25VH1

(Indoor unit)

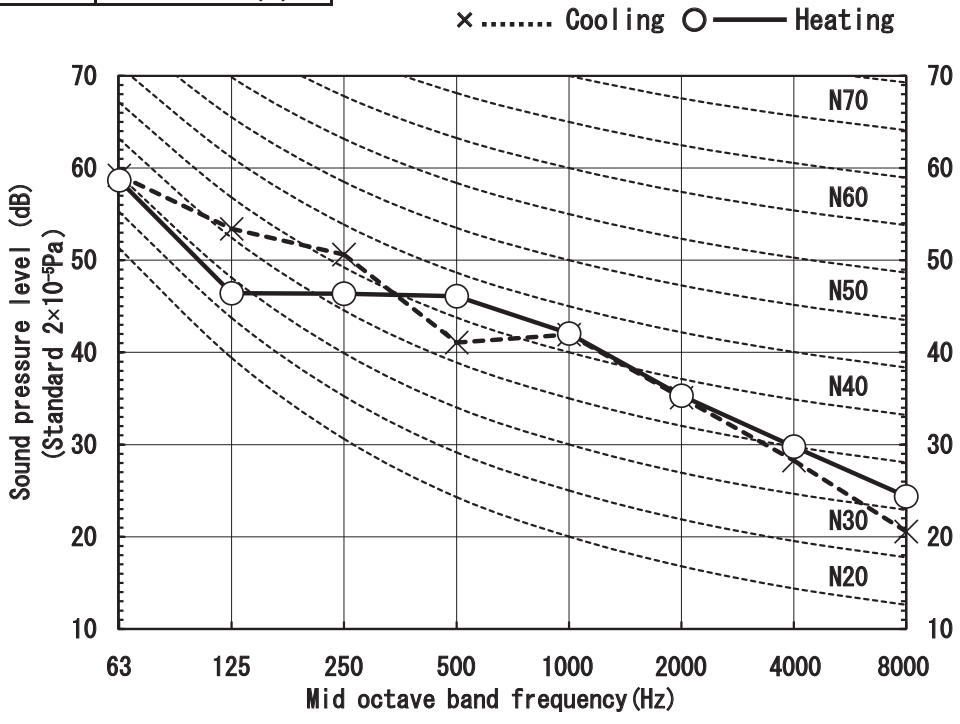
Model	FDTC25VH1	
Noise level	Cooling	38 dB(A)
	Heating	39 dB(A)

Condition	ISO5151 T1/H1
MODE	Rated capacity value (P-Hi)



(Outdoor unit)

Model	SRC25ZS-W1	
Noise level	Cooling	47 dB(A)
	Heating	47 dB(A)

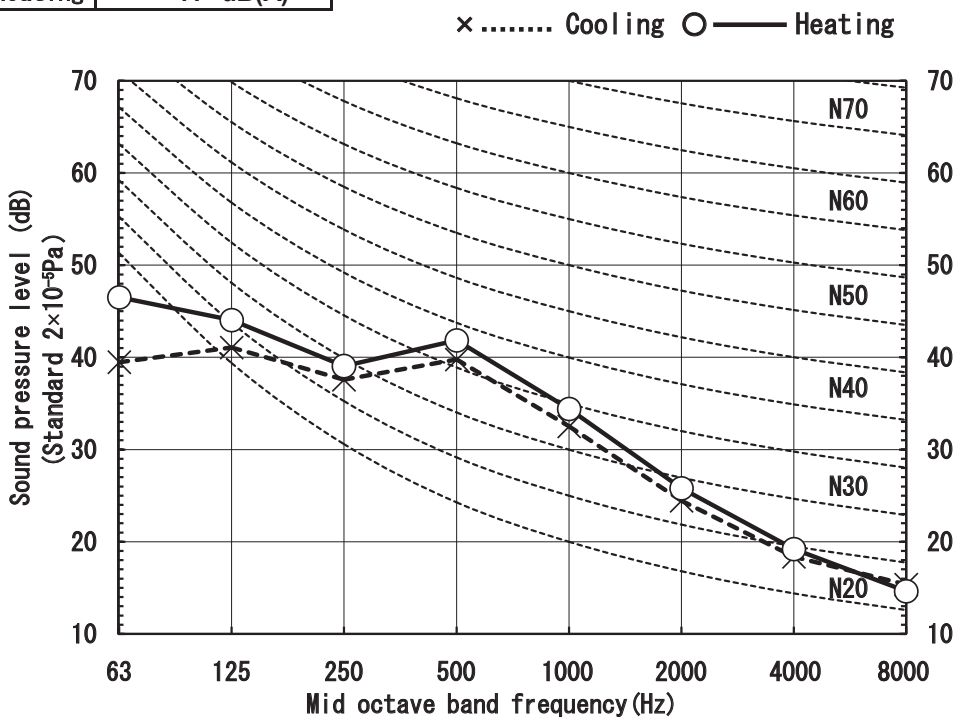


Model FDTC35VH1

(Indoor unit)

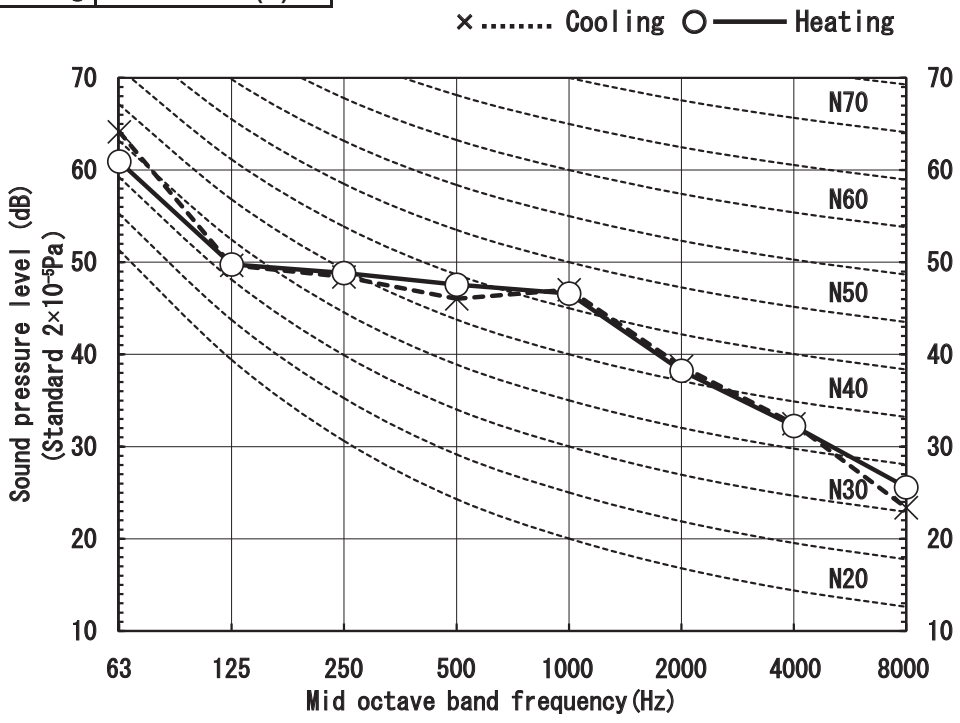
Model	FDTC35VH1	
Noise level	Cooling	39 dB(A)
	Heating	41 dB(A)

Condition	ISO5151 T1/H1
MODE	Rated capacity value (P-Hi)



(Outdoor unit)

Model	SRC35ZS-W1	
Noise level	Cooling	50 dB(A)
	Heating	50 dB(A)



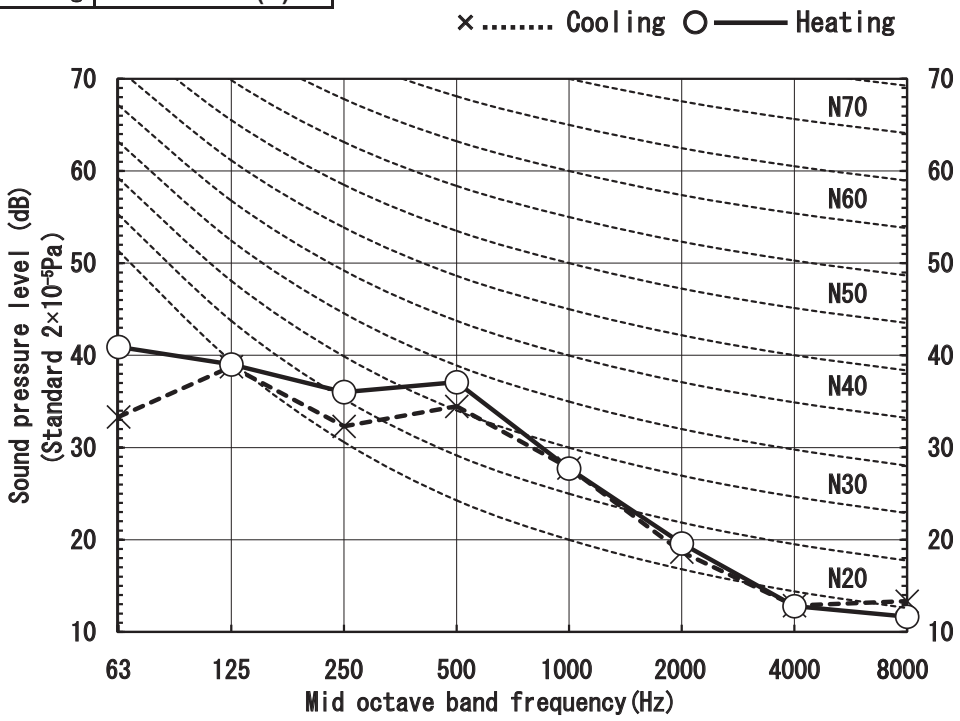
(ii) Each fan speed mode

Model FDTC25VH1

(Indoor unit)

Model	FDTC25VH1	
Noise level	Cooling	34 dB(A)
	Heating	36 dB(A)

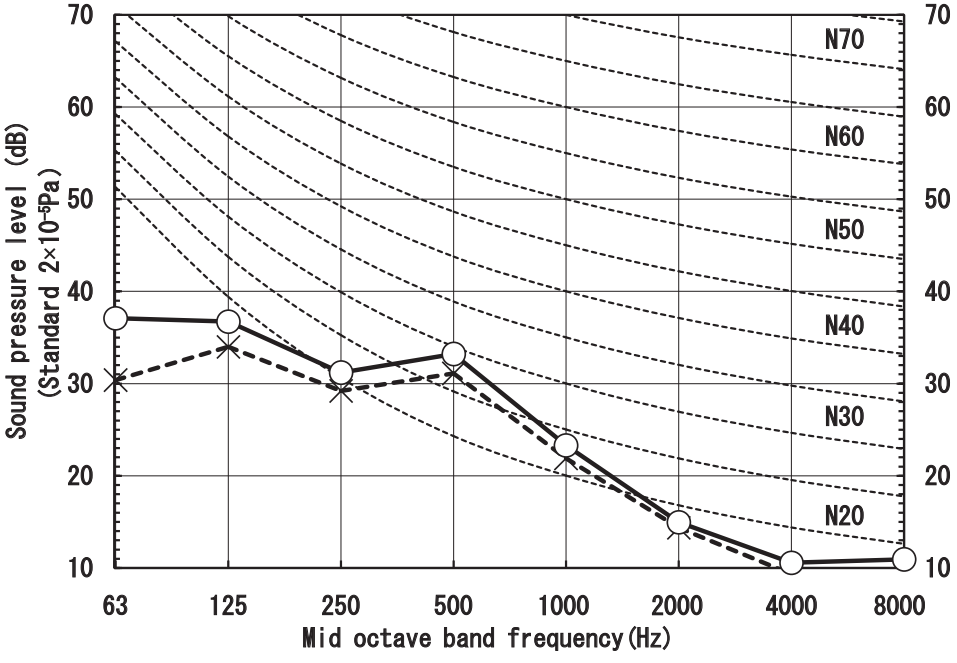
Condition	ISO5151 T1/H1
MODE	Hi



(Indoor unit)

Model	FDTC25VH1	
Noise level	Cooling	30 dB(A)
	Heating	32 dB(A)

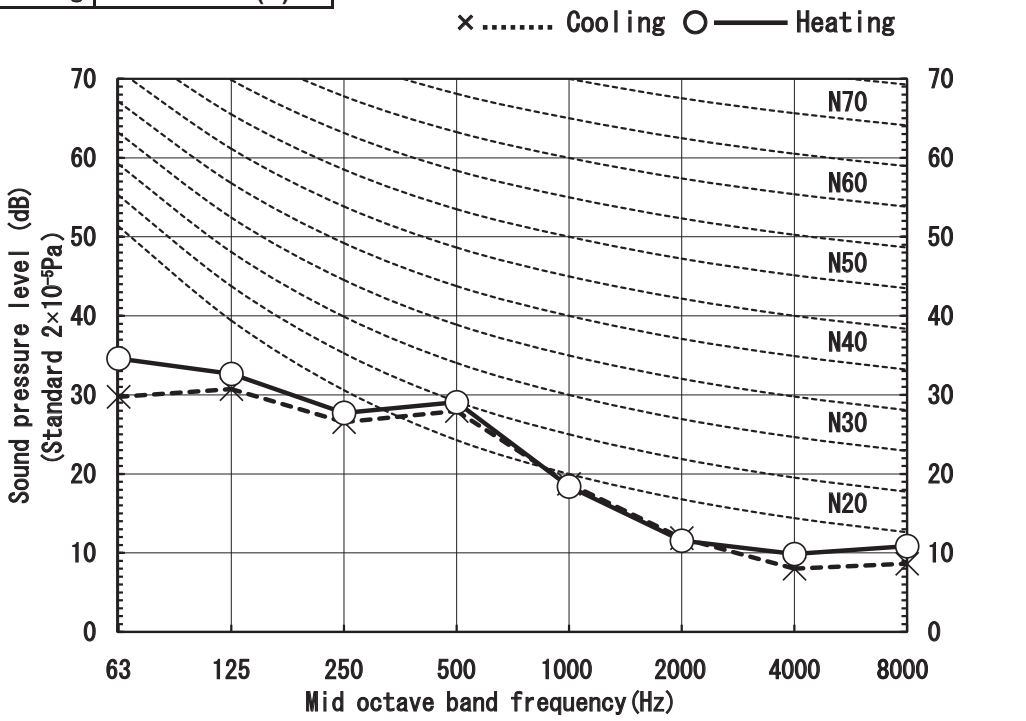
Condition	ISO5151 T1/H1
MODE	Me



(Indoor unit)

Model	FDTC25VH1	
Noise level	Cooling	27 dB(A)
	Heating	28 dB(A)

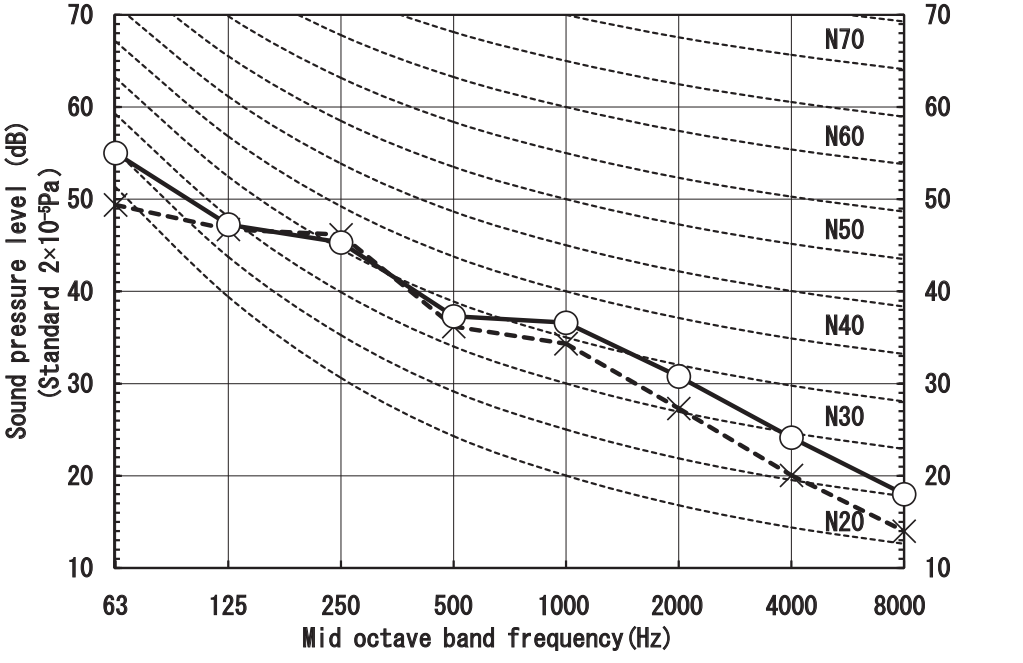
Condition	ISO5151 T1/H1
MODE	Lo



(Outdoor unit)

Model	SRC25ZS-W1	
Noise level	Cooling	41 dB(A)
	Heating	42 dB(A)

Condition	ISO5151 T1/H1
MODE	Silent



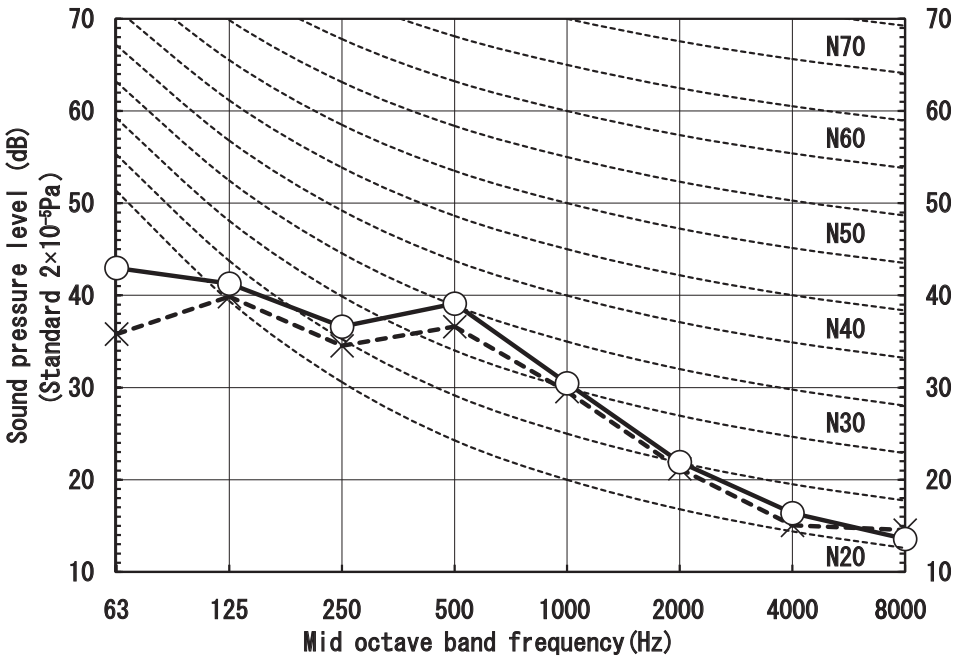
Model FDTC35VH1/1

(Indoor unit)

Model	FDTC35VH1	
Noise level	Cooling	36 dB(A)
	Heating	38 dB(A)

Condition	ISO5151 T1/H1
MODE	Hi

×..... Cooling ○—— Heating

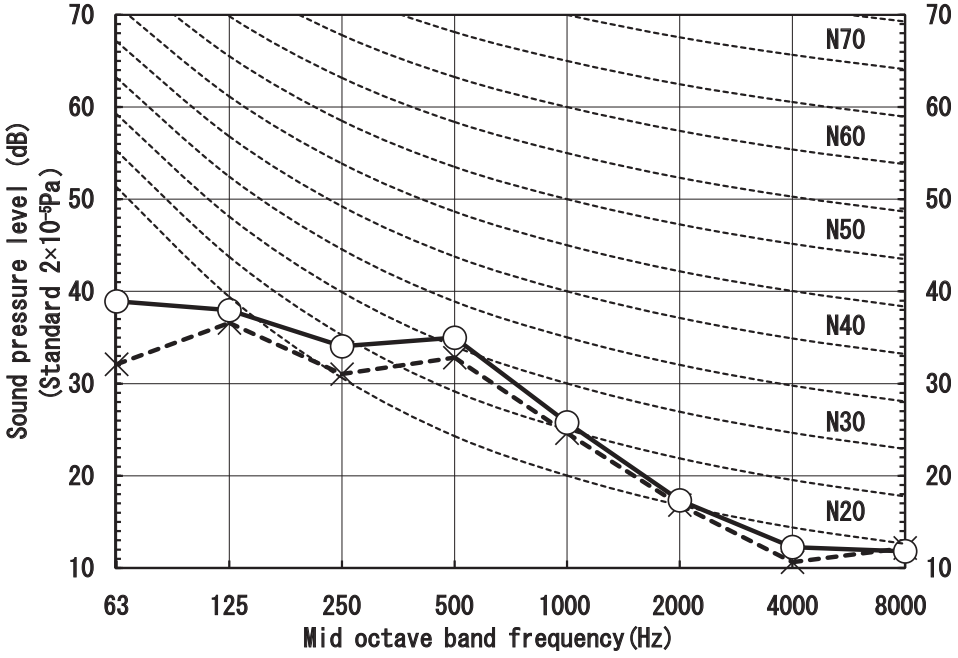


(Indoor unit)

Model	FDTC35VH1	
Noise level	Cooling	32 dB(A)
	Heating	34 dB(A)

Condition	ISO5151 T1/H1
MODE	Me

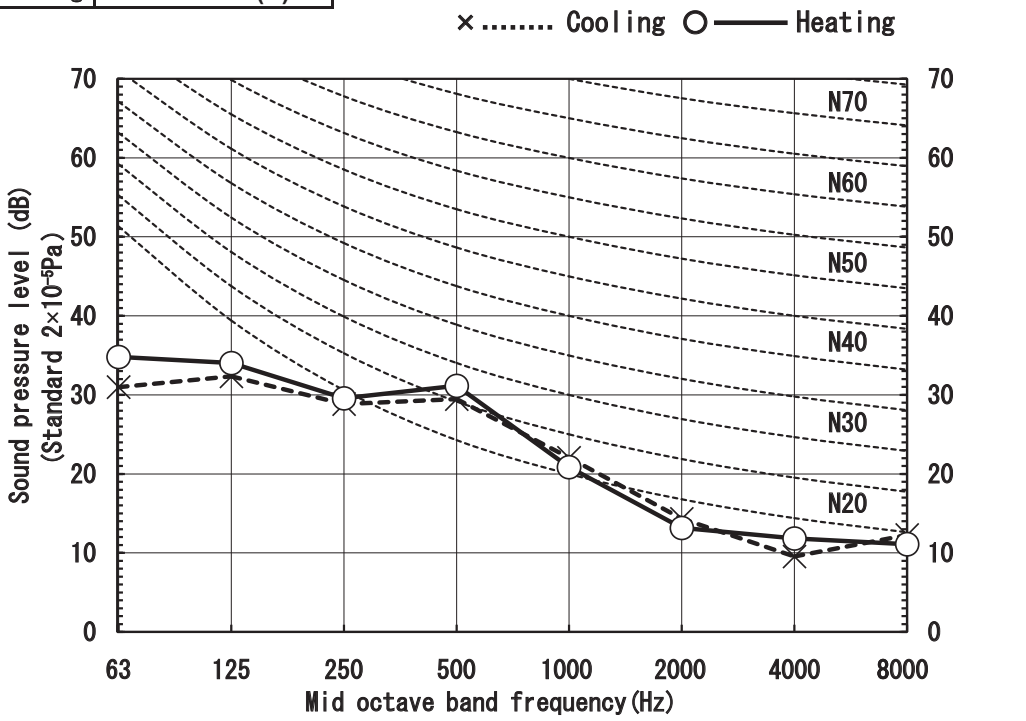
×..... Cooling ○—— Heating



(Indoor unit)

Model	FDTC35VH1	
Noise level	Cooling	29 dB(A)
	Heating	30 dB(A)

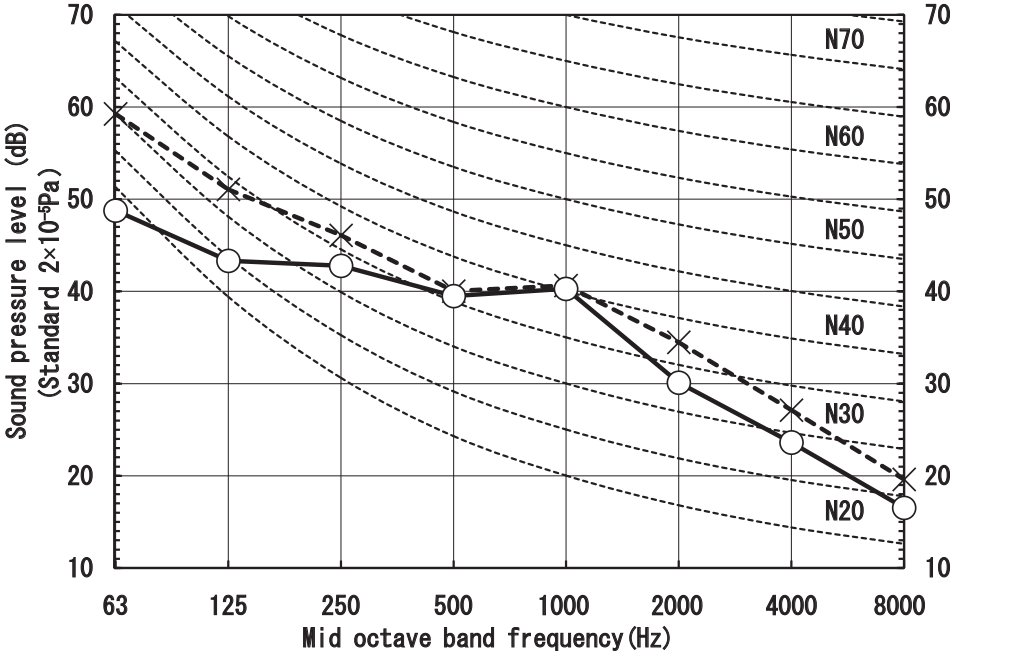
Condition	ISO5151 T1/H1
MODE	Lo



(Outdoor unit)

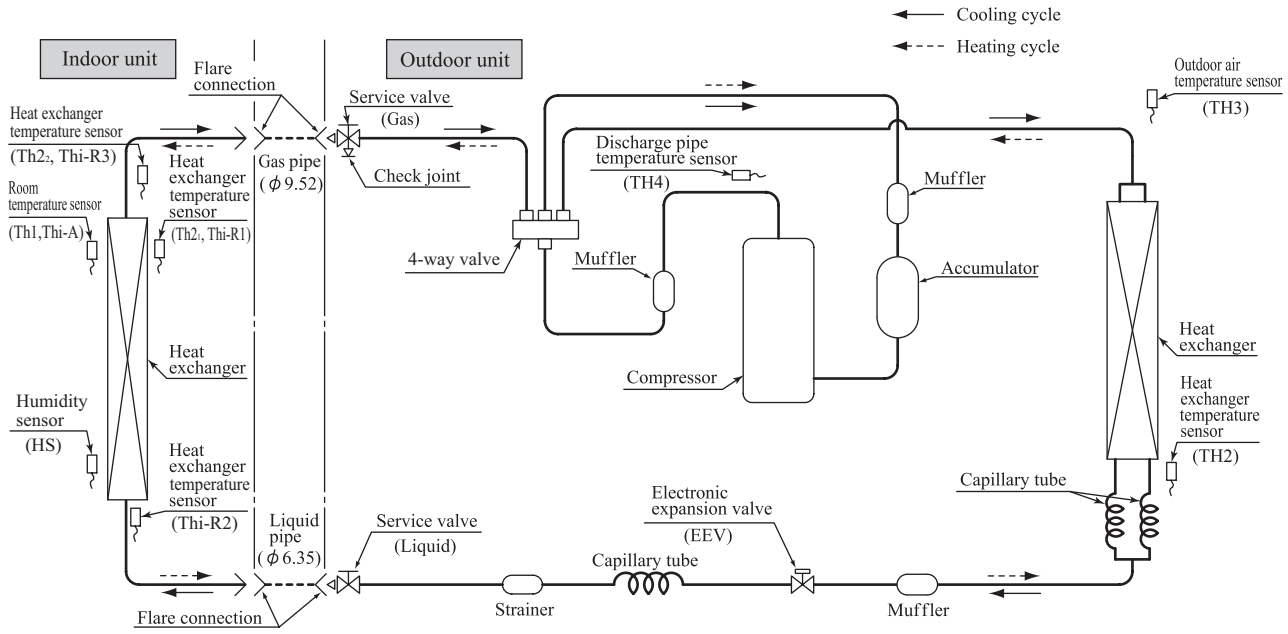
Model	SRC35ZS-W1	
Noise level	Cooling	45 dB(A)
	Heating	43 dB(A)

Condition	ISO5151 T1/H1
MODE	Silent



5. PIPING SYSTEM

Models SRR25ZS-W, 35ZS-W
FDTC25VH1, 35VH1



6. RANGE OF USAGE & LIMITAIONS

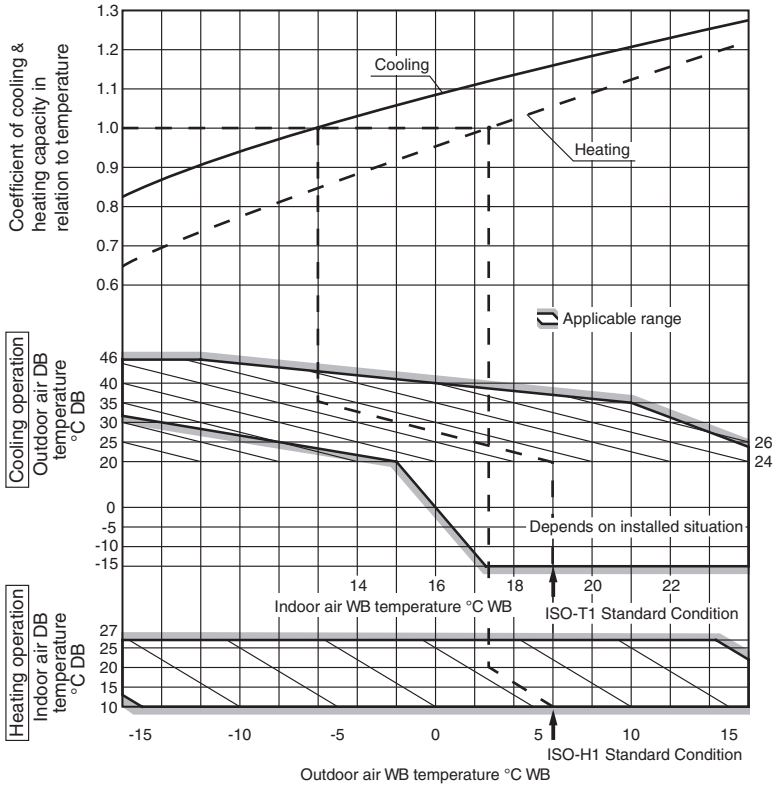
Item \ Model	SRR25ZS-W, 35ZS-W FDTC25VH1,FDTC35VH1
Indoor return air temperature (Upper, lower limits)	Cooling operation : Approximately 18 to 32℃ DB Heating operation : Approximately 10 to 30℃ DB (Refer to the selection chart.)
Outdoor air temperature (Upper, lower limits)	Cooling operation : Approximately -15 to 46℃ DB Heating operation : Approximately -15 to 24℃ DB (Refer to the selection chart.)
Refrigerant line (one way) length	Max. 20m
Vertical height difference between outdoor unit and indoor unit	Max. 10m (Outdoor unit is higher.) Max. 10m (Outdoor unit is lower.)
Power source voltage	Rating ±10%
Voltage at starting	Min. 85% of rating
Frequency of ON-OFF cycle	Max. 4 times/h (Inching prevention 10 minutes)
ON and OFF interval	Min. 3 minutes

Selection chart

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

Net capacity = Capacity shown on specification × Correction factors as follows

(1) Coefficient of cooling and heating capacity in relation to temperature



(2) 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 piping length between the indoor and outdoor units.

Piping length [m]	7	10	15	20
Cooling	1.0	0.99	0.975	0.965
Heating	1.0	1.0	1.0	1.0

(3) Correction relative to frosting on outdoor heat exchanger during heating

In additions to the foregoing corrections (1), (2) the heating capacity needs to be adjusted also with respect to the frosting on the outdoor heat exchanger.

Air inlet temperature of outdoor unit in °CWB	-15	-10	-9	-7	-5	-3	-1	1	3	5 or more
Adjustment coefficient	0.95	0.95	0.94	0.93	0.91	0.88	0.86	0.87	0.92	1.00

How to obtain the cooling and heating capacity

Example : The net cooling capacity of the model SRR35ZS-W with the piping length of 15m, indoor wet-bulb temperature at 19.0˚C and outdoor dry-bulb temperature 35˚C is

Net cooling capacity = 3.5 × 0.975 × 1.0 ≒ 3.4 kW

- 3.5 : SRR35ZS-W
- 0.975 : Length 15m
- 1.0 : Factor by air temperatures

7. CAPACITY TABLES

(1) Ceiling concealed type (SRR)

Model SRR25ZS-W

Cooling mode (kW)

Air flow	Outdoor air temperature °CDB	Indoor air temperature													
		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
Hi 9.5 (m^3/min)	10	2.82	2.34	2.95	2.31	3.06	2.41	3.11	2.38	3.16	2.35	3.26	2.43	3.34	2.37
	12	2.77	2.32	2.90	2.28	3.01	2.39	3.07	2.36	3.12	2.34	3.22	2.42	3.31	2.36
	14	2.71	2.29	2.85	2.26	2.97	2.37	3.03	2.34	3.08	2.32	3.18	2.41	3.28	2.35
	16	2.66	2.27	2.80	2.24	2.92	2.35	2.98	2.33	3.04	2.30	3.15	2.40	3.24	2.34
	18	2.60	2.24	2.74	2.21	2.88	2.33	2.94	2.31	2.99	2.28	3.11	2.38	3.20	2.32
	20	2.55	2.22	2.68	2.19	2.83	2.31	2.89	2.29	2.95	2.27	3.07	2.37	3.17	2.31
	22	2.49	2.19	2.63	2.16	2.78	2.29	2.84	2.27	2.90	2.25	3.02	2.35	3.13	2.30
	24	2.43	2.16	2.57	2.14	2.72	2.27	2.80	2.25	2.85	2.23	2.98	2.34	3.08	2.29
	26	2.37	2.12	2.51	2.11	2.67	2.25	2.74	2.23	2.80	2.21	2.93	2.33	3.04	2.27
	28	2.31	2.10	2.44	2.07	2.61	2.22	2.69	2.21	2.75	2.19	2.89	2.31	3.00	2.26
	30	2.24	2.07	2.38	2.05	2.56	2.20	2.64	2.19	2.70	2.17	2.84	2.29	2.95	2.25
	32	2.18	2.04	2.31	2.02	2.50	2.18	2.58	2.17	2.64	2.15	2.79	2.28	2.90	2.23
	34	2.11	2.00	2.25	2.00	2.44	2.16	2.53	2.15	2.59	2.13	2.74	2.26	2.85	2.22
	35	2.08	1.97	2.21	1.98	2.41	2.14	2.50	2.14	2.56	2.12	2.71	2.25	2.83	2.21
	36	2.04	1.94	2.18	1.96	2.38	2.13	2.47	2.13	2.53	2.11	2.69	2.24	2.80	2.20
	38	1.97	1.87	2.11	1.94	2.32	2.11	2.41	2.10	2.47	2.09	2.63	2.22	2.75	2.18
	40	1.90	1.81	2.03	1.90	2.25	2.07	2.35	2.08	2.41	2.07	2.58	2.20	2.70	2.17
	43	1.79	1.70	1.92	1.83	2.15	2.03	2.26	2.04	2.32	2.02	2.49	2.17	2.61	2.14
	46	1.68	1.59	1.81	1.72	2.05	1.95	2.16	2.00	2.22	1.99	2.40	2.14	2.53	2.11

Heating mode (HC) (kW)

Air flow	Outdoor air temperature °CWB	Indoor air temperature				
		16°CDB	18°CDB	20°CDB	22°CDB	24°CDB
Hi 10.0 (m^3/min)	-15	1.78	1.75	1.70	1.67	1.63
	-10	2.02	1.98	1.96	1.91	1.87
	-5	2.19	2.16	2.11	2.09	2.05
	0	2.29	2.26	2.22	2.19	2.16
	5	2.92	2.89	2.87	2.81	2.77
	6	2.97	2.93	2.90	2.86	2.83
	10	3.15	3.12	3.10	3.06	3.03
	15	3.43	3.40	3.38	3.34	3.31
	20	3.69	3.66	3.64	3.60	3.57

Model SRR35ZS-W

Cooling mode (kW)

Air flow	Outdoor air temperature °CDB	Indoor air temperature													
		21°CDB		23°CDB		26°CDB		27°CDB		28°CDB		31°CDB		33°CDB	
		14°CWB		16°CWB		18°CWB		19°CWB		20°CWB		22°CWB		24°CWB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
Hi 10.0 (m^3/min)	10	3.94	2.93	4.13	2.87	4.28	2.96	4.35	2.92	4.43	2.88	4.56	2.94	4.68	2.84
	12	3.87	2.89	4.06	2.85	4.22	2.93	4.29	2.90	4.37	2.85	4.51	2.92	4.63	2.82
	14	3.80	2.85	3.99	2.81	4.16	2.91	4.24	2.87	4.31	2.83	4.46	2.90	4.59	2.79
	16	3.72	2.81	3.91	2.77	4.09	2.87	4.18	2.84	4.25	2.80	4.40	2.88	4.54	2.78
	18	3.65	2.77	3.84	2.74	4.03	2.84	4.11	2.81	4.19	2.78	4.35	2.86	4.49	2.76
	20	3.57	2.73	3.76	2.69	3.96	2.81	4.05	2.78	4.13	2.75	4.29	2.82	4.43	2.75
	22	3.49	2.69	3.68	2.66	3.89	2.78	3.98	2.76	4.06	2.72	4.23	2.80	4.38	2.73
	24	3.40	2.64	3.59	2.61	3.81	2.74	3.91	2.72	3.99	2.69	4.17	2.79	4.32	2.71
	26	3.32	2.60	3.51	2.57	3.74	2.71	3.84	2.69	3.92	2.66	4.11	2.76	4.26	2.69
	28	3.23	2.55	3.42	2.53	3.66	2.68	3.77	2.66	3.85	2.63	4.04	2.74	4.20	2.67
	30	3.14	2.51	3.33	2.49	3.58	2.64	3.70	2.63	3.78	2.60	3.98	2.71	4.13	2.64
	32	3.05	2.46	3.24	2.44	3.50	2.60	3.62	2.60	3.70	2.57	3.91	2.68	4.06	2.62
	34	2.95	2.42	3.14	2.40	3.41	2.57	3.54	2.56	3.62	2.54	3.84	2.66	4.00	2.60
	35	2.91	2.39	3.10	2.38	3.37	2.55	3.50	2.54	3.58	2.52	3.80	2.64	3.96	2.59
	36	2.86	2.36	3.05	2.36	3.33	2.53	3.46	2.53	3.54	2.50	3.76	2.63	3.92	2.57
	38	2.76	2.32	2.95	2.30	3.24	2.49	3.38	2.49	3.46	2.47	3.69	2.60	3.85	2.53
	40	2.66	2.27	2.85	2.26	3.15	2.45	3.29	2.45	3.37	2.43	3.61	2.56	3.78	2.51
	43	2.51	2.20	2.69	2.19	3.01	2.39	3.16	2.40	3.24	2.38	3.49	2.52	3.66	2.48
	46	2.35	2.12	2.53	2.12	2.87	2.33	3.03	2.35	3.11	2.33	3.36	2.48	3.54	2.44

Heating mode (HC) (kW)

Air flow	Outdoor air temperature °CWB	Indoor air temperature				
		16°CDB	18°CDB	20°CDB	22°CDB	24°CDB
Hi 10.5 (m^3/min)	-15	2.58	2.53	2.47	2.42	2.36
	-10	2.92	2.87	2.83	2.76	2.70
	-5	3.17	3.12	3.06	3.02	2.97
	0	3.32	3.27	3.21	3.18	3.13
	5	4.23	4.18	4.16	4.07	4.02
	6	4.30	4.25	4.20	4.15	4.10
	10	4.57	4.52	4.49	4.43	4.39
	15	4.97	4.93	4.89	4.84	4.79
	20	5.34	5.30	5.27	5.21	5.17

Notes(1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.
(2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :5m
Level difference of Zero.
(3) Symbols are as follows.
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

(2) 4-way ceiling cassette type (FDTC)

Model FDTC25VH1

Cooling mode (kW)

Air flow	Outdoor air temperature °CDB	Indoor air temperature 21°CDB 14°CWB TC	SHC	23°CDB 16°CWB TC	SHC	26°CDB 18°CWB TC	SHC	27°CDB 19°CWB TC	SHC	28°CDB 20°CWB TC	SHC	31°CDB 22°CWB TC	SHC	33°CDB 24°CWB TC	SHC
Hi 8.5 (m^3/min)	10	2.82	2.40	2.95	2.36	3.06	2.47	3.11	2.44	3.16	2.41	3.26	2.51	3.34	2.44
	12	2.77	2.37	2.90	2.34	3.01	2.45	3.07	2.43	3.12	2.40	3.22	2.50	3.31	2.43
	14	2.71	2.35	2.85	2.31	2.97	2.43	3.03	2.41	3.08	2.38	3.18	2.48	3.28	2.42
	16	2.66	2.32	2.80	2.29	2.92	2.41	2.98	2.39	3.04	2.37	3.15	2.47	3.24	2.41
	18	2.60	2.30	2.74	2.27	2.88	2.39	2.94	2.37	2.99	2.35	3.11	2.46	3.20	2.40
	20	2.55	2.27	2.68	2.24	2.83	2.37	2.89	2.35	2.95	2.33	3.07	2.44	3.17	2.38
	22	2.49	2.24	2.63	2.22	2.78	2.35	2.84	2.33	2.90	2.31	3.02	2.43	3.13	2.37
	24	2.43	2.21	2.57	2.19	2.72	2.33	2.80	2.31	2.85	2.29	2.98	2.41	3.08	2.36
	26	2.37	2.19	2.51	2.16	2.67	2.31	2.74	2.30	2.80	2.27	2.93	2.39	3.04	2.34
	28	2.31	2.16	2.44	2.14	2.61	2.29	2.69	2.28	2.75	2.26	2.89	2.38	3.00	2.33
	30	2.24	2.13	2.38	2.11	2.56	2.27	2.64	2.26	2.70	2.24	2.84	2.36	2.95	2.32
	32	2.18	2.07	2.31	2.08	2.50	2.24	2.58	2.23	2.64	2.22	2.79	2.35	2.90	2.30
	34	2.11	2.00	2.25	2.05	2.44	2.22	2.53	2.21	2.59	2.20	2.74	2.33	2.85	2.29
	35	2.08	1.97	2.21	2.04	2.41	2.21	2.50	2.20	2.56	2.19	2.71	2.32	2.83	2.28
	36	2.04	1.94	2.18	2.03	2.38	2.20	2.47	2.19	2.53	2.17	2.69	2.31	2.80	2.27
	38	1.97	1.87	2.11	2.00	2.32	2.17	2.41	2.17	2.47	2.15	2.63	2.29	2.75	2.25
	40	1.90	1.81	2.03	1.93	2.25	2.14	2.35	2.15	2.41	2.13	2.58	2.28	2.70	2.24
	43	1.79	1.70	1.92	1.83	2.15	2.04	2.26	2.11	2.32	2.10	2.49	2.25	2.61	2.21
	46	1.68	1.59	1.81	1.72	2.05	1.95	2.16	2.05	2.22	2.06	2.40	2.22	2.53	2.19

Heating mode (HC) (kW)

Air flow	Outdoor air temperature °CWB	Indoor air temperature 16°CDB	18°CDB	20°CDB	22°CDB	24°CDB
Hi 9.5 (m^3/min)	-15	1.78	1.75	1.70	1.67	1.63
	-10	2.02	1.98	1.96	1.91	1.87
	-5	2.19	2.16	2.11	2.09	2.05
	0	2.29	2.26	2.22	2.19	2.16
	5	2.92	2.89	2.87	2.81	2.77
	6	2.97	2.93	2.90	2.86	2.83
	10	3.15	3.12	3.10	3.06	3.03
	15	3.43	3.40	3.38	3.34	3.31
	20	3.69	3.66	3.64	3.60	3.57

Model FDTC35VH1

Cooling mode (kW)

Air flow	Outdoor air temperature °CDB	Indoor air temperature 21°CDB 14°CWB TC	SHC	23°CDB 16°CWB TC	SHC	26°CDB 18°CWB TC	SHC	27°CDB 19°CWB TC	SHC	28°CDB 20°CWB TC	SHC	31°CDB 22°CWB TC	SHC	33°CDB 24°CWB TC	SHC
Hi 9.0 (m^3/min)	10	3.94	3.00	4.13	2.94	4.28	3.04	4.35	3.00	4.43	2.95	4.56	3.02	4.68	2.93
	12	3.87	2.96	4.06	2.91	4.22	3.01	4.29	2.97	4.37	2.93	4.51	3.01	4.63	2.91
	14	3.80	2.92	3.99	2.87	4.16	2.98	4.24	2.94	4.31	2.90	4.46	2.99	4.59	2.89
	16	3.72	2.88	3.91	2.84	4.09	2.95	4.18	2.92	4.25	2.88	4.40	2.97	4.54	2.88
	18	3.65	2.84	3.84	2.80	4.03	2.92	4.11	2.89	4.19	2.86	4.35	2.94	4.49	2.86
	20	3.57	2.80	3.76	2.76	3.96	2.89	4.05	2.86	4.13	2.83	4.29	2.92	4.43	2.84
	22	3.49	2.76	3.68	2.73	3.89	2.86	3.98	2.83	4.06	2.80	4.23	2.90	4.38	2.82
	24	3.40	2.71	3.59	2.68	3.81	2.83	3.91	2.80	3.99	2.77	4.17	2.88	4.32	2.79
	26	3.32	2.67	3.51	2.64	3.74	2.79	3.84	2.78	3.92	2.75	4.11	2.86	4.26	2.77
	28	3.23	2.62	3.42	2.60	3.66	2.76	3.77	2.74	3.85	2.71	4.04	2.82	4.20	2.75
	30	3.14	2.58	3.33	2.56	3.58	2.72	3.70	2.71	3.78	2.69	3.98	2.79	4.13	2.73
	32	3.05	2.54	3.24	2.51	3.50	2.69	3.62	2.68	3.70	2.66	3.91	2.77	4.06	2.71
	34	2.95	2.49	3.14	2.47	3.41	2.65	3.54	2.65	3.62	2.62	3.84	2.74	4.00	2.69
	35	2.91	2.47	3.10	2.45	3.37	2.63	3.50	2.63	3.58	2.61	3.80	2.73	3.96	2.67
	36	2.86	2.45	3.05	2.43	3.33	2.62	3.46	2.61	3.54	2.59	3.76	2.72	3.92	2.66
	38	2.76	2.40	2.95	2.39	3.24	2.58	3.38	2.58	3.46	2.56	3.69	2.69	3.85	2.64
	40	2.66	2.35	2.85	2.34	3.15	2.54	3.29	2.55	3.37	2.53	3.61	2.67	3.78	2.62
	43	2.51	2.28	2.69	2.27	3.01	2.48	3.16	2.49	3.24	2.47	3.49	2.62	3.66	2.58
	46	2.35	2.20	2.53	2.20	2.87	2.42	3.03	2.44	3.11	2.42	3.36	2.58	3.54	2.54

Heating mode (HC) (kW)

Air flow	Outdoor air temperature °CWB	Indoor air temperature 16°CDB	18°CDB	20°CDB	22°CDB	24°CDB
Hi 10.0 (m^3/min)	-15	2.61	2.56	2.50	2.45	2.39
	-10	2.96	2.91	2.87	2.79	2.74
	-5	3.20	3.16	3.09	3.06	3.01
	0	3.36	3.31	3.25	3.21	3.17
	5	4.28	4.23	4.21	4.12	4.07
	6	4.35	4.30	4.25	4.20	4.15
	10	4.62	4.58	4.55	4.49	4.44
	15	5.03	4.99	4.95	4.90	4.85
	20	5.41	5.36	5.34	5.28	5.23

Notes(1) These data show average statuses.
Depending on the system control, there may be ranges where the operation is not conducted continuously.
These data show the case where the operation frequency of a compressor is fixed.
(2) Capacities are based on the following conditions.
Corresponding refrigerant piping length :5m
Level difference of Zero.
(3) Symbols are as follows.
TC : Total cooling capacity (kW)
SHC : Sensible heat capacity (kW)
HC : Heating capacity (kW)

8. APPLICATION DATA

8.1 Installation of indoor unit

(1) Ceiling concealed type (SRR)

Models SRR25ZS-W, 35ZS-W

RJU012A003F

FOR MODEL SRR SERIES
R32/R410A REFRIGERANT USED

- This installation manual illustrates the method of installing an indoor unit.
- For electrical wiring work, see instructions set out on the backside.
- For outdoor unit installation and refrigerant piping, refer to Page 59.

SAFETY PRECAUTIONS

- Before installation, read the "SAFETY PRECAUTIONS" carefully and 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 mention the important items to protect your health and safety so strictly follow them by any means.

- Be sure to confirm no anomaly on the equipment by commissioning after completed installation and explain the operating methods as well as the maintenance methods of this equipment to the user according to the owner's manual.
- A wired remote control unit is supplied separately as an optional part.
- While installing the unit, be sure to check the selection of installation place, power source specifications, usage limitation (piping length, height differences between indoor and outdoor units, power source voltage etc.) and installation spaces.
- 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.
- Before starting the installation work, proper precautions (using suitable protective clothing, groves etc.) should be taken by qualified installer.
- 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.
- The meanings of "Marks" used here are shown as follows:

⊘ Never do it under any circumstances.	❗ Always do it according to the instruction.

⚠ WARNING

- **Installation must be carried out by the qualified installer.**
  If you install the system by yourself, it may cause serious trouble such as water leaks, electric shocks, fire and personal injury, as a result of a system malfunction. Do not carry out the installation and maintenance work except the by qualified installer.
- **Install the system in full accordance with the installation 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 resulting in 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.
- **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, consult the dealer and install the ventilation system, otherwise lack of oxygen can occur, which can cause serious accident.
- **After completing installation, check that no refrigerant leaks from the system.**
  If refrigerant leaks into the room and comes into contact with an oven or other hot surface, poisonous gas is produced.
- **Use the prescribed pipes, flare nuts and tools for R32 or 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 nuts were tightened with excess torque, this may cause burst and refrigerant leakage after a long period.
- **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 source 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 source by means of a circuit breaker or switch (fuse:16A) with a contact separation of at least 3mm.**
- **When plugging this appliance, a plug conforming to the norm IEC60884-1 must be used.**
- **Use the prescribed cables for electrical connection, tighten the cables securely in terminal block and relieve the cables correctly to prevent overloading the terminal blocks.**
  Loose connections or cable mountings can cause anomalous heat 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 switch off the power source in the event of installation, inspection or servicing.**
  If the power source is not shut off, there is a risk of electric shocks, unit failure or personal injury due to the unexpected start of fan.
- **Be sure to wear protective goggles and gloves while at work.**
- **Earth leakage breaker must be installed.**
  If the earth leakage breaker is not installed, it can cause electric shocks.

- **Do not put the drainage pipe directly into drainage channels where poisonous gases such as sulphide gas can occur.**
  Poisonous gases will flow into the room through drainage pipe and seriously affect the user's health and safety. This can also cause the corrosion of the indoor unit and a resultant unit failure or refrigerant leak.
- **Ensure that no air enters in the refrigerant circuit when the unit is installed and removed.**
  If air enters in the refrigerant circuit, the pressure in the refrigerant circuit becomes too high, which can cause burst and personal injury.
- **Do not process or splice the power cord, or share the socket with other power plugs.**
  This may cause fire or electric shock due to defecting contact, defecting insulation and over-current etc.
- **Do not bundle or wind or process the power cord. Do not deform the power cord by treading it.**
  This may cause fire or heating.
- **Do not vent R32 or R410A into atmosphere.**
  R32 is a fluorinated greenhouse gas with a Global Warming Potential (GWP) = 675. R410A is a fluorinated greenhouse gas with a Global Warming Potential (GWP) = 2088.
- **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

- **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.

- **Use the circuit breaker of correct capacity. Circuit breaker should be able to disconnect all poles under over current.**
  Using the incorrect one could cause the system failure and fire.
- **Install isolator or disconnect switch on the power source wiring in accordance with the local codes and regulations.**
  The isolator should be locked in OFF state in accordance with EN60204-1.
- **Be sure to install indoor unit properly according to instruction manual so that drainage can run off smoothly.**
  Improper installation of indoor unit can cause dropping water into the room and damaging personal property.
- **Install the drainage pipe to run off drainage securely according to the installation manual.**
  Incorrect installation of the drainage pipe can cause dropping water into the room and damaging personal property.
- **Be sure to install the drainage pipe with descending slope of 1/100 or more, and not to make traps and air-bleedings.**
  Check if the drainage runs off securely during commissioning and ensure the space for inspection and maintenance.
- **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.
- **For installation work, be careful not to get injured with the heat exchanger, piping flare portion or screws etc.**
- **Be sure to insulate the refrigerant pipes so as not to condense the ambient air moisture on them.**
  Insufficient insulation can cause condensation, which can lead to moisture damage on the ceiling, floor, furniture and any other valuables.
- **When perform the air-conditioner operation (cooling or drying 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.**
- **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.

- **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 (e.g. organic fertilizer).
  - Locations with calcium chloride (e.g. snow melting agent).
  - 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.
  - Locations where something located above the unit could fall.

  It can cause remarkable decrease in performance, corrosion and damage of components, malfunction and fire.
- **Do not install the indoor unit in the locations listed below (Be sure to install the indoor unit according to the installation manual for each model because each indoor unit has each limitation).**
  - Locations with any obstacles which can prevent inlet and outlet air of the 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 1m).
  - Locations where drainage cannot run off safely.

  It can affect performance of function and etc.
- **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 use the indoor unit at the place where water splashes may occur such as in laundries.**
  Since the indoor unit is not waterproof, it can cause electric shocks and fire.
- **Do not install nor use the system close to the equipment that generates electromagnetic fields or high frequency harmonics.**
  Equipment such as inverters, standby generators, medical high frequency equipments and telecommunication equipments can affect the system, and cause malfunctions and breakdowns. The system can also affect medical equipment and telecommunication equipment, and obstruct its function or cause jamming.
- **Do not place any variables which will be damaged by getting wet under the indoor unit.**
  When the relative humidity is higher than 80% or drainage pipe is clogged, condensation or drainage water can drop and it can cause the damage of valuables.
- **Do not install the remote control at the direct sunlight.**
  It can cause malfunction or deformation of the remote control.
- **Do not use the unit for special purposes such as storing foods, cooling precision instruments and preservation of animals, plants or art.**
  It can cause the damage of the items.
- **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 any buttons with wet hands.**
  It can cause electric shocks.
- **Do not wash the inside of the air-conditioner.**
  Water leakage and permanent damage may result.
  Electrical hazard exists.

Check before installation work

- Model name and power source
- Refrigerant piping length
- Piping, wiring and miscellaneous small parts

Standard accessories (installation kit) Accessories for indoor unit		Q'ty
①	Wireless remote control	1
②	Remote control holder	1
③	Remote control signal receiver	1
④	Installation frame (for remote control signal receiver)	1
⑤	Wood screws (for remote control holder ø3.5 X 16mm)	2
⑥	Battery [R03 (AAA, Micro) 1.5V]	2
⑦	Joint (for drain hose)	1
⑧	Clamp (for drain hose) (big:1, small:1)	2
⑨	Washer (for suspension bolt M10)	8
⑩	Flat head machine screw (for remote control signal receiver M3.5x10)	2
⑪	Plate (display)	1
⑫	Pipe cover (big:1, small:1)	2
⑬	Band	4

Locally procured parts		Q'ty
Ⓐ	Sealing plate	1
Ⓑ	Sleeve	1
Ⓒ	Inclination plate	1
Ⓓ	Putty	1
Ⓔ	Drain hose (VP25)	1
Ⓕ	Suspension bolts (M10)	4
Ⓖ	Nuts (M10)	8
Ⓗ	Spring lock washers (M10)	4

Option parts (Separately sold parts)	Q'ty
Bottom air inlet kit (25, 35 models : UT-BAT1EF / 50, 60 models : UT-BAT2EF)	1

Necessary tools for the installation work	
1	Plus headed driver
2	Knife
3	Saw
4	Tape measure
5	Hammer
6	Spanner wrench
7	Torque wrench [14.0~62.0N·m (1.4~6.2kgf·m)]
8	Hole core drill (65mm in diameter)
9	Wrench key (Hexagon) [4mm]
10	Flaring tool set (Designed specifically for R32 or R410A)
11	Gas leak detector (Designed specifically for R32 or R410A)
12	Gauge for projection adjustment (Used when flare is made by using conventional flare tool)
13	Pipe bender

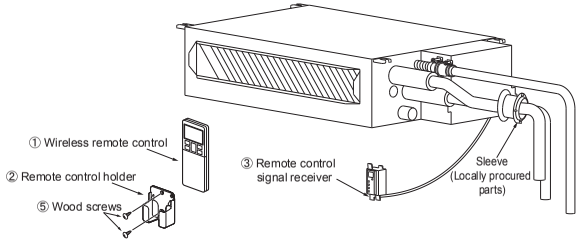
SELECTION OF INSTALLATION LOCATION

(Install at location that meets the following conditions, after getting approval from the customer)

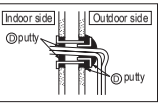
Indoor unit

- ○ Where there is no obstructions to the air flow and where the cooled and heated air can be evenly distributed.
- ○ A firm location that may sustain the weight of the unit, and do not cause the unit or the ceiling to vibrate.
- ○ A place where there will be enough space for servicing. (Where space mentioned below can be secured)
- ○ Where wiring and the piping work will be easy to conduct.
- ○ The place where receiving part is not exposed to the direct rays of the sun or the strong rays of the street lighting.
- ○ A place where it can be easily drained.
- ○ A place separated at least 1m away from the television or the radio. (To prevent interference to images and sounds.)
- ○ Places where this unit is not affected by the high frequency equipment or electric equipment.
- ○ Avoid installing this unit in place where there is much oil mist.
- ○ Places where there is no electric equipment or household under the installing unit.
- ○ Where the suction inlet of the unit is located far from the air inlet on the ceiling, the entire inside of ceiling acts as an air suction duct so that the capacity is reduced at the startup.
- ○ 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.
- ○ The product is able to be used with small external static pressure. Excessive static pressure can cause the trouble of insufficient performance due to less air flow. It is recommended to use the products with a few meters straight duct connected to either air intake or air blowout port only at maximum. (As for the permitted external static pressure, please confirm the Technical manual.)



⚠ CAUTION
Completely seal the hole in the wall with putty. If not sealed properly, furniture and other fixtures may be damaged by water leakage or condensation.

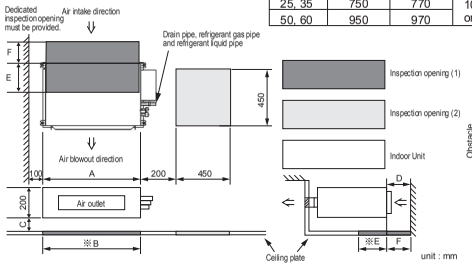


Wireless remote control

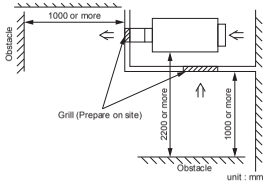
- ○ A place where the air-conditioner can be received the signal surely during operating the wireless remote control.
- ○ Places where there is no affected by the TV and radio etc.
- ○ Do not place where exposed to direct sunlight or near heat devices such as a stove.

Space for installation and service

Model	A	B	C	D	E	F
25, 35	750	770	100(80) or more	150(50) or more	270 or more	150(0) or more
50, 60	950	970				



The minimum dimensions when used Bottom air inlet kit (Option parts) are shown in parentheses.



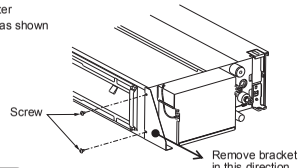
※Dimensions of the opening on the ceiling after removing inspection opening (1)

Inspection opening for services

Service	Inspection opening (1)	Inspection opening (2)
Clamping of the flare of required and gas refrigerant pipe	Not Use	Use
Drain pipe connection	Not Use	Use
Installation and removal of blower	Use	Not Use
Control box		
Connecting wire (between indoor and outdoor)	Not Use	Use
Unit display section (Remote control signal receiver)	Not Use	Use
Replace drain pump	Not Use	Use
Replace heat exch sensor	Not Use	Use
Replace air filter	Use	Not Use

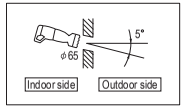
INSTALLATION OF INDOOR UNIT

- ○ Remove bracket from the unit after unpacking according to process as shown below.
  (1) Loosen 2 screws.
  (2) Remove bracket.
  (3) Tighten the screws.

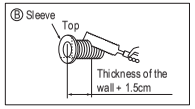


Drilling of hole and fixture of sleeve (Locally procured parts)

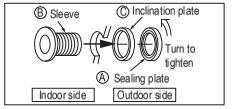
When drilling the wall that contains a metal lath, wire lath or metal plate, be sure to use pipe hole sleeve sold separately.

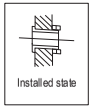


Drill a hole with whole core drill.



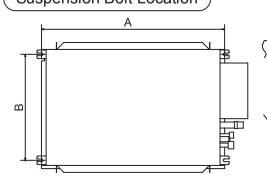
In case of rear piping draw out, cut off the lower and the right side portions of the sleeve collar.





* Sleeve is for use in refrigerant piping work. Please install another pipe separately for drain piping work.

Suspension Bolt Location

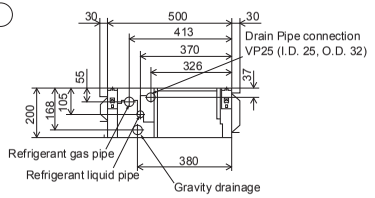


- ○ Adhere to the measurements given below for the length of the suspension bolts.

Model	A	B
25, 35	790	457
50, 60	990	457

Pipe locations

All models

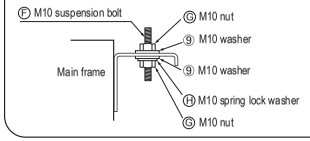


INSTALLATION OF INDOOR UNIT

Installing the main unit

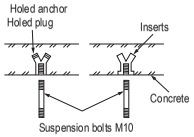
○ Attach the washers and nuts to the suspension bolts.

○ Attach the hanging tool to the above nuts, and tighten the nuts.

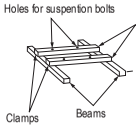


Securing the suspension bolts

If steel embedded ceiling



If wooden ceiling

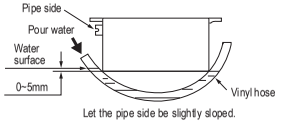


○ Secure the suspension bolts firmly following the illustrations and other instructions.

Adjustment for horizontality

○ Either use a level vial, or adjust the level according to the method below.

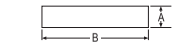
• Adjust so the bottom side of the unit will be leveled with the water surface as illustrated below.



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

Air inlet and outlet size

○ Size of air inlet and outlet of the plate.



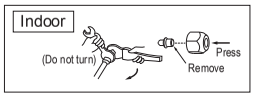
unit : mm

Model	A		B
	Inlet	Outlet	
25, 35	160	99	660
50, 60			860

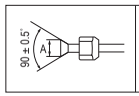
CONNECTION OF REFRIGERANT PIPINGS

Preparation

Keep the openings of the pipes covered with tapes etc. to prevent dust, sand, etc. from entering them.



○ Remove the flared nuts. (on both liquid and gas sides)



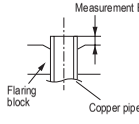
Dimension A	
Liquid side	ϕ6.35 : 9.1 (mm)
Gas side	ϕ9.52 : 13.2 (mm)
	ϕ12.7 : 16.6 (mm)

○ Install the removed flared nuts to the pipes to be connected, then flared the pipes.

⚠CAUTION

Do not apply refrigerating machine oil to the flared surface.

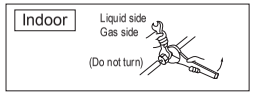
• Flaring work



Copper pipe diameter	Measurement B (mm)		
	Clutch type flare tool for R32 or R410A	Conventional (R22) flare tool	
		Clutch type	Wing nut type
ϕ6.35	0.0 - 0.5	1.0 - 1.5	1.5 - 2.0
ϕ9.52	0.0 - 0.5	1.0 - 1.5	1.5 - 2.0
ϕ12.7	0.0 - 0.5	1.0 - 1.5	2.0 - 2.5

Use a flare tool designed for R32, R410A or a conventional flare tool.
Note that measurement B (protrusion from the flaring block) will vary depending on the type of a flare tool in use.
If a conventional flare tool is used, use a copper pipe gauge or a similar instrument to check protrusion so that you can keep measurement B to a correct value.

Connection



○ Connect the pipes on both liquid and gas sides.

○ Tighten the nuts to the following torque.
Liquid side (ϕ6.35) : 14.0 - 18.0 N·m (1.4 - 1.8 kgf·m)
Gas side (ϕ9.52) : 34.0 - 42.0 N·m (3.4 - 4.2 kgf·m)
(ϕ12.7) : 49.0 - 61.0 N·m (4.9 - 6.1 kgf·m)

⚠CAUTION

Do not apply excess torque to the flared nuts. Otherwise, the flared nuts may crack.

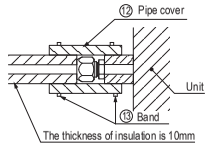
○ Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached bands.

• Make sure to insulate both gas pipes and liquid pipes completely.
※Incomplete insulation may cause dew condensation or water dropping.

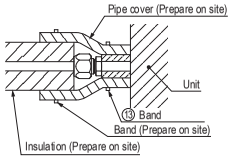
• Use heat-resistant (120 °C or more) insulations on the gas side pipes.

• In case of using at high humidity condition, reinforce insulation of refrigerant pipes. Surface of insulation may cause dew condition or water dropping, if insulations are not reinfoced.

<The case of using thickness of insulation is 10mm>



<The case of using reinfoced insulation>



DRAIN PIPE

○ 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.

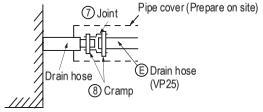
○ Insulate the pipe properly to avoid condensation drop.

○ 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.

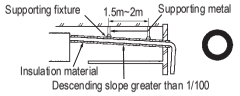
Work procedure

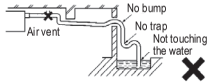
(1) Insert the joint to the drain hose on the indoor unit and fix it securely with the clamp (small).
• Do not apply adhesives on this end.

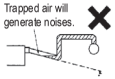
(2) Connect the drain pipe (VP25) to the joint and fix it seaurely with the clamp (big).



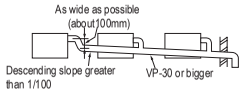
(3) Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway.
• Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the pipe as close place to the unit as possible when connecting the drain pipe.
• Do not set up air vent.







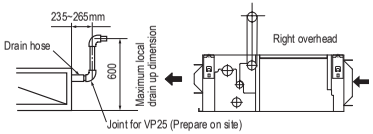
• When sharing a drain pipe for more than one unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP-30 or bigger size for main drain pipe.



(4) Insulate the drain pipe.
• Be sure to insulate the joint and the drain pipe installed indoor otherwise it may cause dew condensation and water leakage.

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.



Drain test

○ Conduct a drainage test after completion of the electrical work and piping work.

○ During the trial, make sure that drain flows properly through the piping and that no water leaks from connections.

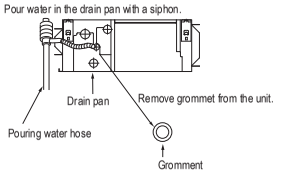
○ In case of a new building, conduct the test before it is furnished with the ceiling.

○ Be sure to conduct this test even when the unit is installed in the heating season.

Procedures of drain test

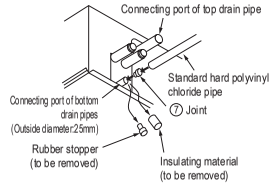
(1) Supply about 1000 cc of water to the unit through the air outlet by using a feed water pump.

(2) Check the drain while cooling operation.



Outline of bottom drain piping work

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

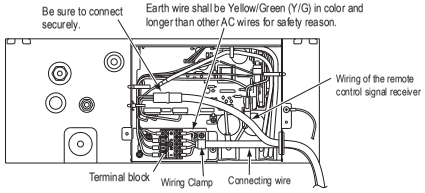


ELECTRICAL WIRING WORK

Preparation of indoor unit ○ In case of faulty wiring connection, indoor unit does not operate. Then, run lamp turns on and timer lamp blinks.

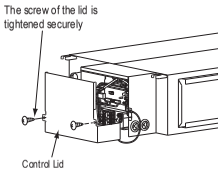
Mounting of connecting wires

(1) Remove the control lid.
(2) Remove the wiring clamp.
(3) Connect the connecting wire to the terminal block.
  1) Connect the connection wire securely. If the wire is not affixed completely, contact will be poor, and it is dangerous as the terminal block may heat up and catch fire.
  2) Take care not to confuse the terminal numbers for indoor and outdoor connections.
(4) Fix the connecting wire by wiring clamp.
(5) Connect the connector of the remote control singnal receiver to the relay wiring.
(6) Attach the control lid.

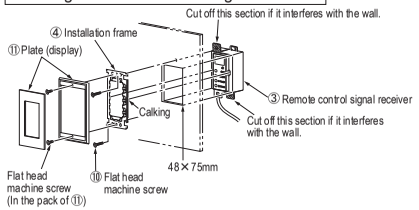


Use cables for interconnection wiring to avoid loosening of the wires.
CENELEC code for cables Required field cables.

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 (mm²)



Securing the remote control signal receiver

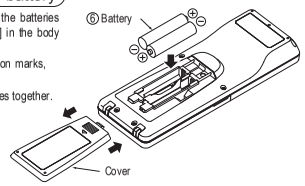


(1) Open a through-hole on the wall to install the reception face for the remote control signal receiver ③.
(2) Insert the remote control signal receiver ③ in the installation frame ④, and fix the calking section.
(3) Fix the installation frame ④ on the wall using the flat head machine screws ⑩.
(4) Fix the plate (display) ⑪ on the installation frame ④ using the flat head machine screws packed together with the plate (display) ⑪.

INSTALLATION OF WIRELESS REMOTE CONTROL

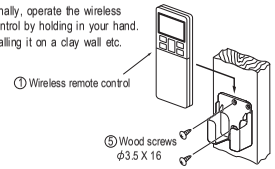
Mounting method of battery

○Pull out the cover and mount the batteries [R03 (AAA, Micro),× 2 pieces] in the body regularly.
(Fit the poles with the indication marks, ⊕ & ⊖ without fail)
○Do not use new and old batteries together.



Fixing to pillar or wall

○Conventionally, operate the wireless remote control by holding in your hand.
○Avoid installing it on a clay wall etc.

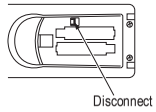


INSTALLING TWO AIR-CONDITIONERS IN THE SAME ROOM

When two air-conditioners are installed in the same room, use this setting when the two air-conditioners are not operated with one remote control. Set the remote control and indoor unit.

Setting the remote control

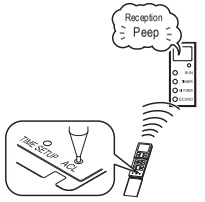
(1) Pull out the cover and take out batteries.
(2) Disconnect the switching line next to the battery with wire cutters.



(3) Insert batteries. Close the cover.

Setting an indoor unit

(1) Turn off the power source, and turn it on after 1 minute.
(2) Point the remote control that was set according to the procedure described on the left side at the unit display section and send a signal by pressing the ACL switch on the remote control.
Since the signal is sent in about 6 seconds after the ACL switch is pressed, point the remote control at the unit display section for some time.
(3) Check that the reception buzzer sound "Peep" is emitted from the indoor unit.
At completion of the setting, the indoor unit emits a buzzer sound "Peep". (If no reception tone is emitted, start the setting from the beginning again.)

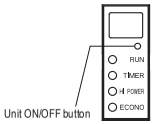


HOW TO RELOCATE OR DISPOSE OF THE UNIT

○ In order to protect the environment, be sure to pump down (recovery of refrigerant).
○ Pump down is the method of recovering refrigerant from the indoor unit to the outdoor unit when the pipes are removed from the unit.

<How to pump down>
(1) Connect charge hose to check joint of outdoor unit.
(2) Liquid side : Close the liquid valve with hexagon wrench key.
Gas side : Fully open the gas valve.
Carry out cooling operation. (If indoor temperature is low, operate forced cooling operation.)
(3) After low pressure gauge become 0.01MPa, stop cooling operation and close the gas valve.

• Forced cooling operation
Turn off power source. Turn on power source again after a while. Then, press the ON/OFF button continuously for at least 5 seconds. (The operation will start.)



TERMINAL CONNECTION FOR AN INTERFACE

(1) Remove the control lid. (Remove the screw.)
(2) There is a terminal (respectively marked with CNS) for the indoor control board.
In connecting an interface, connect to the respective terminal securely with the connection harness supplied with an optional "Interface connection kit SC-BIKN-E and SC-BIKN2-E" and fasten the connection harness onto the indoor control box with the clamp supplied with the kit.
For more details, please refer to the user's manual of your "Interface connection kit SC-BIKN-E and SC-BIKN2-E".

INSTALLATION TEST CHECK POINTS

Check the following points again after completion of the installation, and before turning on the power. Conduct a test run again and ensure that the unit operates properly. Explain to the customer how to use the unit and how to take care of the unit following the installation manual.

After installation

☐ Power cables and connecting wires are securely fixed to the terminal block. (Both indoor and outdoor)
☐ The power source voltage is correct as the rating.
☐ The drain hose is fixed securely.
☐ Service valve is fully open.
☐ No gas leaks from the joints of the service valve.
☐ The pipe joints for indoor and outdoor pipes have been insulated.
☐ The screw of the control lid is tightened securely.

Test run

☐ Air-conditioning operation is normal.
☐ No abnormal noise.
☐ Water drains smoothly.
☐ Protective functions are not working.
☐ The remote control is normal.
☐ Operation of the unit has been explained to the customer. (Three-minutes restart preventive timer)
When the air-conditioner is restarted or when changing the operation, the unit will not start operating for approximately 3 minutes. This is to protect the unit and it is not a malfunction.

(2) 4-way ceiling cassette type(FDTC)
Models FDTC25VH1, 35VH1

PJF012D509 B

This manual is for the installation of the indoor unit.
For wired remote control installation, refer to page 65. For wireless kit installation, refer to page 83.
For electrical wiring work (Outdoor unit) and refrigerant pipe work installation for outdoor unit, refer to page 59. For motion sensor kit installation, refer to page 91. 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.
  In case of R32, the refrigerant could be ignited because of its flammability.
- **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 R32 or 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 option 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 control at the direct sunlight.**
  It could cause breakdown or deformation of the remote control.
- **Do not install the indoor unit at the place listed below.**
  · Places where flammable gas could leak.
  · Places where carbon fiber, metal powder or any powder is floated.
  · Place where the substances which affect the air conditioner are generated such as 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 install the motion sensor mounting panel at following places. It could cause detection error, incapacity of detection, or characteristic degradation.
  • Place where vibration is applied to it for a long period of time.
  • Place where static electricity or electromagnetic wave generates.
  • Place where it is exposed to high temperature or humidity for a long period of time.
  • Dusty place or where the lens face could be fouled or damaged.
- **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.
- **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 source specification
○Pipes/Wires/Small parts ○Accessory items

When moving the indoor unit, hold only the hanging hardware (4 places) only, with care not to apply forces to any other parts of the unit (particularly the refrigerant pipe, drain pipe, and resin parts).

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 height position adjustment and hanging support	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.
- In case of the panel having the motion sensor, the installation height must be no higher than 4 m. It could reduce the sensitivity of motion sensor, disabling the detection.
- 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 air flow 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 control and the air-conditioner might not work properly.)

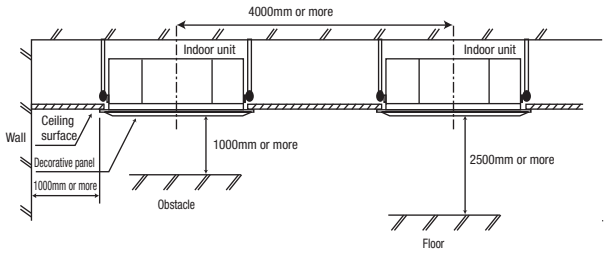
②Check if the place where the air-conditioner is installed can hold the weight of the unit. If it is not able to hold, reinforce the structure with boards and beams strong enough to hold it. If the strength is not enough, it could cause injury due to unit falling.

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 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 air flow.
●Install the indoor unit at a height of more than 2.5m above the floor.



Where there are pipe joints on the way of embedded piping, provide adequate openings for inspection of the joints.

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 air flow direction port by port independently. Refer to tne user's manual for details.

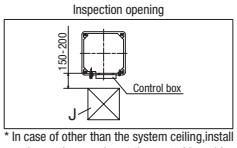
③Preparation before installation

●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.

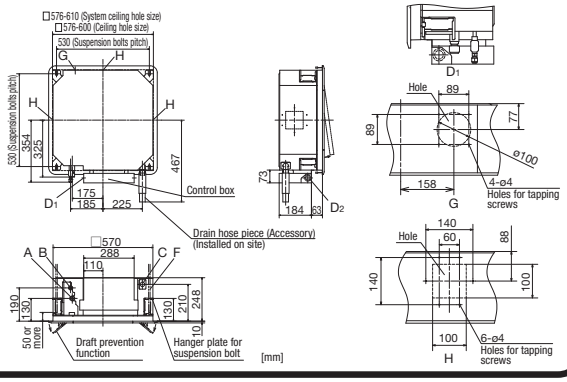
Ceiling opening, Suspension bolts pitch, Pipe position

Symbol	Content
A	Gas piping
B	Liquid piping
C	Drain piping
D_1	Power source connection
D_2	Remote control code and signal wiring connection
F	Suspension bolts
G	Outside air opening for ducting
H	Air outlet opening for ducting
J	Inspection opening

Inspection opening



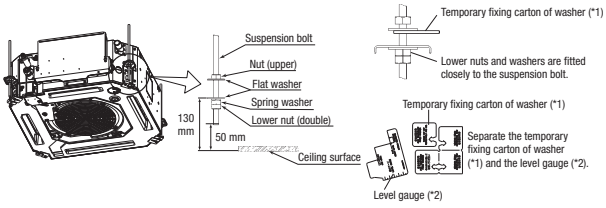
* In case of other than the system ceiling,install an inspection opening at the control box side.



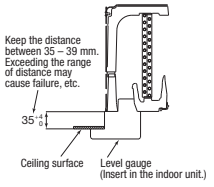
④Installation of indoor unit

Work procedure

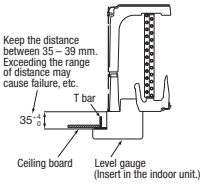
1. This unit is designed to install on a system ceiling.
If necessary, remove T bars temporarily before installing the unit.
When it is installed on a ceiling other than the system ceiling, install an inspection port at the control box side.
2. Determine the position of suspension bolts (530 mm × 530 mm).
3. Use 4 suspension bolts, and fix them such that each bolt can withstand a pull-out load of 500 N.
4. Set the suspension bolt length to about 50 mm from the ceiling.
5. Temporarily locate the lower nuts of the suspension bolts (4 places) at a position approximately 130 mm from the ceiling.
6. Temporarily locate the upper nuts of the suspension bolts (4 places) at positions sufficiently distance from the lower nuts so that they do not interfere with the suspension of the indoor unit and with its height adjustment.
7. Set the upper nuts of the suspension bolts and upper washers (4 places) at positions sufficiently distance from the lower nuts. Then, push and insert the temporary fixing carton of washers (*1) onto suspension bolts. Make sure that the upper washers do not slide down.
8. Suspend the indoor unit.
9. After suspending the indoor unit, mount the level gauge (*2) to the air outlet of the indoor unit, and adjust the suspension height of the indoor unit. Loosen the upper nuts (4 places), and adjust the suspension height using the lower nuts (4 places). Confirm there is no slack between the lower nuts and flat washers of the indoor unit hanger plate (4 places).
10. Remove the temporary fixing carton of washers (from all 4 places).
11. Make sure that the indoor unit is installed horizontally. Confirm the levelness of the indoor unit using a level gauge or transparent hose filled with water.
(Keep the height difference at both ends of the indoor unit within 3 mm.)
12. Tighten the upper nuts of the suspension bolts (4 places).



<In case of other than the system ceiling>



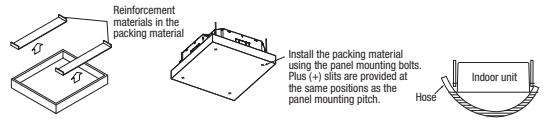
<In case of the system ceiling:>



④Installation of indoor unit (continued)

Protection of the indoor unit

● If it is not possible to install the panel for a while or if attaching the ceiling board after installing the indoor unit, protect the indoor unit by using upper carton.



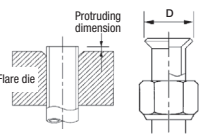
Caution

● Do not adjust the unit height by adjusting the upper nuts. Doing so will cause unexpected stress on the indoor unit and cause the unit to become deformed, prevent the panel from being installed, and be generated fan interference noise.
● Make sure that the indoor unit is installed horizontally and set the appropriate gap between the underside of the unit and the ceiling plane. Improper installation may cause air leakage, dew condensation, water leakage and noise.
● Make sure there is no gap between the panel and the ceiling surface, and between the panel and the indoor unit. Any gap may cause air and/or water to leak, or condensation to form.

⑤Refrigerant pipe

Caution

●Be sure to use new pipes for the refrigerant pipes. Use the flare nut attached to the product.
Regarding whether existing pipes can be reused or not, and the washing method, refer to the instruction manual of the outdoor unit, catalogue or technical data.
1) In case of reuse: Do not use old flare nut, but use the nut attached to the unit.
2) In case of reuse: Flare the end of pipe replaced partially for R32 or R410A.
⚠WARNING : When flared joints are reused indoors, the flare part shall be re-fabricated. (only for R32)

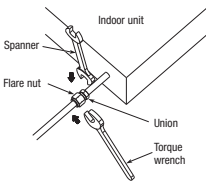


Pipe diameter d mm	Min. pipe wall thickness mm	Protruding dimension for flare, mm		Flare O.D. D mm	Flare nut tightening torque N·m
		Rigid (Clutch type)			
		For R32 For R410A	Conventional tool		
6.35	0.8	0 – 0.5	0.7 – 1.3	8.9 – 9.1	14 – 18
9.52	0.8			12.8 – 13.2	34 – 42
12.7	0.8			16.2 – 16.6	49 – 61
15.88	1			19.3 – 19.7	68 – 82
19.05	1.2			23.6 – 24.0	100 – 120

●Use phosphorus deoxidized copper alloy seamless pipe (C1220T) 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 the designated refrigerant.
Using other refrigerant except the designated refrigerant, 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 R32 or R410A 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 radius of pipe must be 4D or larger. Once a pipe is bent, do not readjust the bending. Do not twist a pipe or collapse to 2/3D or smaller.
● Make sure to use flare nuts assembled on the unions. Usage of other flare nuts could cause refrigerant leakage.
※Do a flare connection as follows:
●Make sure to hold the nut on indoor unit pipe side using double spanner method as indicated when fastening / loosening flare nuts in order to prevent unintentional twisting of the copper pipe.
● 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 above.

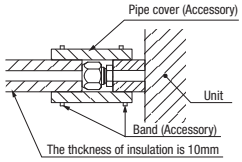


3. Cover the flare connection part of the indoor unit with attached insulation material after a gas leakage inspection, and tighten both ends with attached straps.
● Make sure to insulate both gas pipes and liquid pipes completely.
※ Incomplete insulation may cause dew condensation or water dropping.
● Use heat-resistant (120 °C or more) insulations on the gas side pipes.
● In case of using at high humidity condition, reinforce insulation of refrigerant pipes. Surface of insulation may cause dew condition or water dropping, if insulations are not reinfoced.
4. Refrigerant is charged in the outdoor unit.
As for the additional refrigerant charge for the indoor unit and piping, refer to the installation manual attached to the outdoor unit.

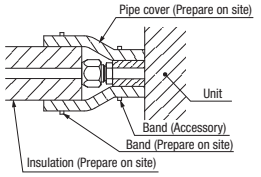
⑤Refrigerant pipe (continued)

Caution:
Refrigerating machine oil should not be applied to the threads of union or external surface of flare. It is because, even if the same tightening torque is applied, the oil is likely to decrease the slide friction force on the threads and increase, in turn, the axial component force so that it could crack the flare by the stress corrosion.
Refrigerating machine oil may be applied to the internal surface of flare only.

<The case of using thicness of insulation is 10mm>



<The case of using reinfoced insulation>



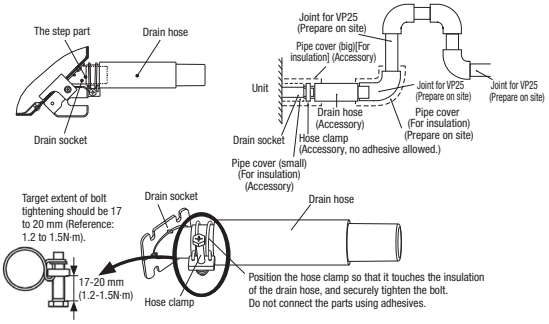
⑥Drain pipe

Caution

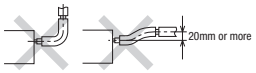
● Install the drain pipe according to the installation manual in order to drain properly.
Imperfection in draining may cause flood indoors and wetting the household goods,etc.
● Do not put the drain pipe directly into the ditch where toxic gas such as sulfur, the other harmful and inflammable gas is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

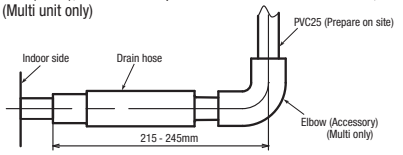
1. Make sure that the drain hose (the soft PVC side) is inserted into the end of the step part of the drain socket.
Fix the hose clamp so that its bolt is located on the outside of the indoor unit, and the bolt are fastened in a vertical orientation.
●Do not apply adhesives on this end.
2. Position the hose clamp so that it touches the insulation of the drain hose, and then tighten the bolt.
3. Turn the bolt several times until it is securely tightened, but do not tighten it excessively.



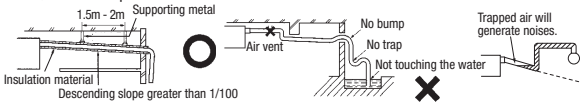
4. Prepare a joint for connecting VP25 pipe, adhere and connect the joint to the drain hose (the rigid PVC side), and adhere and connect VP25 pipe (prepare on site).
※As for drain pipe, apply VP25 made of rigid PVC which is on the market.
● Make sure that the adhesive will not get into the supplied drain 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.



● As for drain pipe, apply VP25 (OD32).
If apply PVC25 (OD25), connect the expanded connector to the drain hose, with adhesive. (Multi unit only)

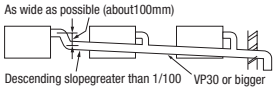


5. Make sure to make descending slope of greater than 1/100 and do not make up-down bend and/or trap in the midway.
● Pay attention not to give stress on the pipe on the indoor unit side, and support and fix the pipe as close place to the unit as possible when connecting the drain pipe.
● Do nt set up air vent.



⑥Drain pipe (continued)

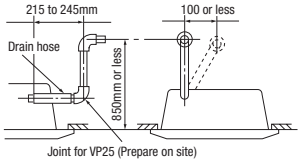
● When sharing a drain pipe for more than 1 unit, lay the main pipe 100mm below the drain outlet of the unit. In addition, select VP30 or bigger size for main drain pipe.



6. 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

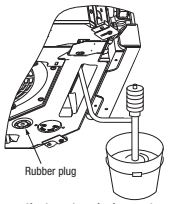
● The position for drain pipe outlet can be raised up to 850mm above the ceiling. Use elbows for installation to avoid obstacles inside ceiling. If the horizontal drain pipe is too long before vertical pipe, the backflow of water will increase when the unit is stopped, and it may cause overflow of water from the drain pan on the indoor unit. In order to avoid overflow, keep the horizontal pipe length and offset of the pipe within the limit shown in the figure below.



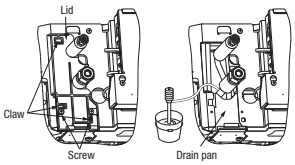
Drain test

● After installing the drain pipe, make sure that drain system works correctly and that no water leaks from the joint and drain pan. Check whether the motor sound of the drain pump is normal.
● Conduct a drain test when installing, even during the heating season.
● In the case of new buildings, be sure to complete the test before fixing the ceiling.
1. Pour about 1,000 cc of test water into the drain pan of the indoor unit. Exercise care not to allow electrical equipment such as the drain pump and other components to become wet while filling water.
Pour test water through the pipe lid using a feed water pump or a similar device, or through the refrigerant pipe joint.

● In case of pouring water from the air outlet



● In case of pouring water from the pipe lid
(1) Remove screws at 2 places.
(2) Release the claws, and remove the lid.



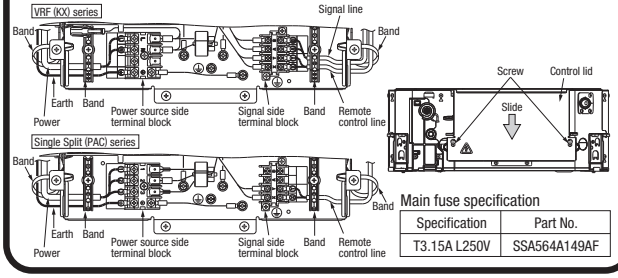
2. Make sure that water drains out completely and that no water leaks from any joints of the drain pipe during the test.
Test to confirm that the water drains out correctly while listening to the drain pump motor operating sound.
At the drain socket (transparent), it is possible to check whether the water drains out correctly.
3. Unplug the rubber plug on the indoor unit so that the remaining water drains from the drain pan after the draining test.
After checking the water drainage, fix the rubber plug correctly. Installation work for the drain pipe must be performed for the entire drain pipe up to the indoor unit.
If the pipe lid has been removed in order to pour water, mount the pipe lid again.

Drain pump operation

● In case electrical wiring work completed
Drain pump can be operated by the wired remote control.
For the operation method, refer to Operation for drain pump in the installation manual for wiring work.
● In case electrical wiring work not completed
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 source (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. Loosen screws (2 pcs.) on the control box of the unit.
2. Remove the control lid by sliding it in the arrow direction in the figure.
3. Introduce the wiring in the control box, and connect it securely to the terminal block.
4. Fix the wiring with bands as shown below.
5. Install the control lid, with care not to pinch the wiring, and fix the lid with screws (2 pcs.).



Main fuse specification

Specification	Part No.
T3.15A L250V	SSA564A149AF

⑧Panel installation

● Install the panel on the indoor unit after electrical wiring work.
● Refer to the attached manual for panel installation for details.

⑨Check list after installation

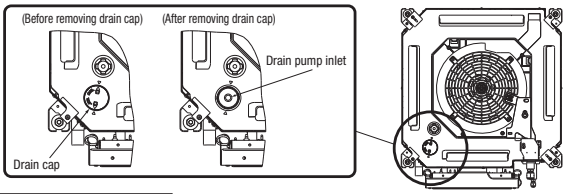
● Check the following items after all installation work completed.

Check if;	Expected trouble	Check
The indoor and outdoor units are fixed securely?	Falling, vibration, noise	
Inspection for leakage is done?	Insufficient capacity	
Insulation work is properly done?	Water leakage	
Water is drained properly?	Water leakage	
Power source 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 and cleanimg the inlet of the drain pump (Maintenance)

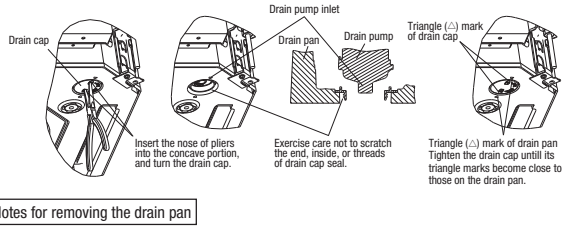
The method of checking the dirt of drain pan

1. Remove the panel according to the installation manual of the panel.
2. Check the dirt on the drain pan from the drain cap, and check the drain pump inlet. If the drain pan is very dirty, remove the drain pan and clean it.



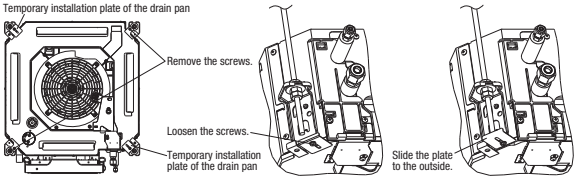
Cleaning of drain pump inlet

● It is possible to clean the drain pump inlet and surrounding area by removing the drain cap only; it is not necessary to remove the drain pan.
● Before removing the drain cap, remove the rubber plug and drain water from the drain pan.
1. Insert the nose of the pliers into the concave portions (2 places) of the drain cap, and rotate the pliers about 1 turn in the CCW direction. The drain cap is removed.
2. When cleaning the drain pump inlet, use a soft plastic tool. If a metallic tool is used, the drain cap mounting portion may be scratched and water may leak.
3. Before mounting the drain cap, rinse it and **remove any foreign material from the inside of the cap.** If the drain cap is installed with foreign material inside it, it may cause water to leak.
4. Insert the nose of the pliers into the concave portions of the drain cap and rotate the pliers to install the drain cap. Rotate the drain cap about 1 turn in the CW direction until it stops rotating. If the drain cap is not rotated for 1 or more turns, the cap will not have been installed correctly. Remove the drain cap, and then install it again correctly.
5. After tightening the drain cap, make sure the triangle (△) mark of the drain cap comes close to the triangle mark on the drain pan. If these triangle marks are not close to each other, tighten the drain cap further.
6. Refix the rubber plug securely. If the cover is not refixed correctly, it may cause condensation to form and/or water to leak.



Notes for removing the drain pan

● Before removing the drain pan, drain water from the drain pan. Remove the rubber plug and drain water.
● The drain pan is installed by the temporary installation plate. Remove the 2 drain pan fixing screws, and loosen the 2 screws of the temporary installation plate.
Slide the temporary installation plate to the outside of the drain pan. And then,it is possible to remove the drain pan.
● When reinstalling the drain pan, slide the temporary installation plate to the inside and temporarily fix the drain pan. Then, tighten the 2 drain pan fixing screws and the 2 screws of the temporary installation plate. Also, refix the rubber plug securely.



• Panel installation

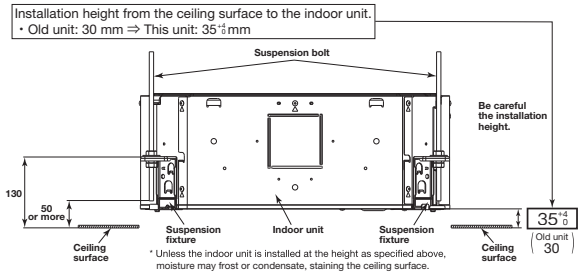
PJF012D503 B

Read this manual together with the indoor unit's installation manual.

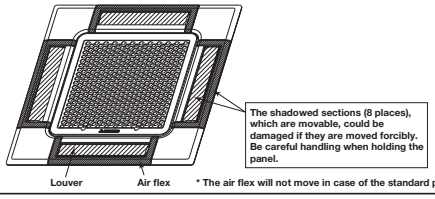
* Caution before use

①Be careful the installation height when installing the indoor unit.
Also note that the installation height of this indoor unit is different from that of current (old) unit.

Installation height from the ceiling surface to the indoor unit.
・Old unit: 30 mm ⇒ This unit: 35 $^{+4}_{0}$ mm



②Do not attempt to move forcibly the louver and the air flex.



⚠ 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 source is turned off when electric wiring work. Otherwise, electric shock, malfunction and improper running may occur.**

Function

The draft prevention panel has the draft prevention mechanism. If the draft prevention panel is installed and the draft prevention function is set, the draft prevention function will be operated and reduce the draft feeling. (Refer to ⑪ Panel setting for details.)
・Standard panel : without the draft prevention mechanism
・Draft prevention panel : with the draft prevention mechanism

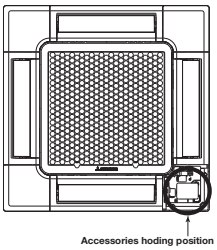
① Before installation

・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
Grille hook		1 piece	For avoiding the grille from falling
Screw		4 pieces	For fixing the corner panel

Note: Accessories are laid in the position removing the corner lid.

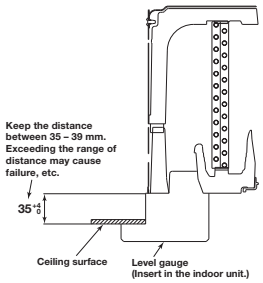


② Checking the indoor unit installation height

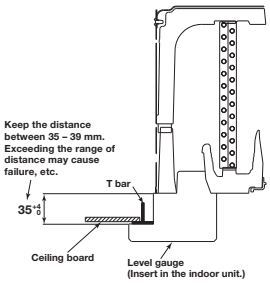
・Read this manual together with the air-conditioner installation manual carefully.
・Check if the opening size for the indoor unit is correct with the level gauge supplied in the indoor unit.
・Check if the gap between the plane and the indoor unit is correct by inserting the level gauge into the air outlet port of the indoor unit. (See below drawing)
・Adjust the installation elevation if necessary.
・Remove the level gauge before installing the panel.

Caution
If there is a height difference beyond the design limit between the installation level of the indoor unit and the panel, the panel may be subject to excessive stress during installation and it may cause distortion and damage.

<In case of other than the system ceiling>

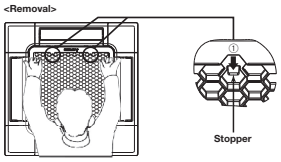


<In case of the system ceiling>



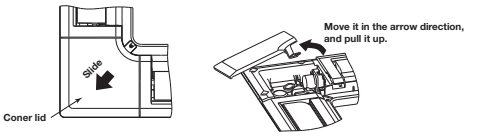
③ Removing the inlet grille

1. While placing a finger behind the stopper (2 places) and pressing it in the direction of arrow ①, pull the grille downward to open the grille.
2. Release the hooks of the inlet grille from the panel while it is in the open position.



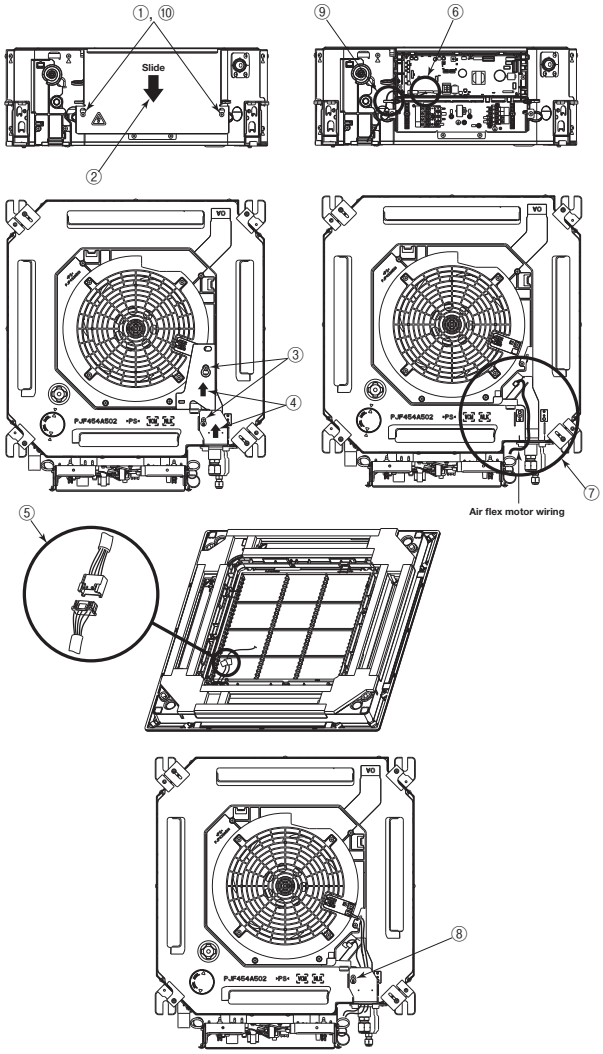
④ Removing the corner lid

・Pull the corner lid toward the direction indicated by the arrow and remove it. (Same way for all 4 corner lids)



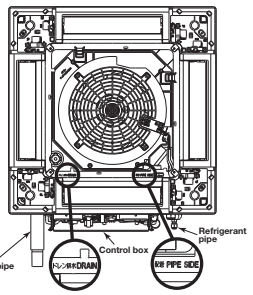
⑤ Before installing the panel <Only Draft prevention panel>

① Loosen screws (2 pcs.) on the control lid of the unit.
② Slide the control lid in the arrow direction in the figure, and remove it.
③ Loosen screws on the wiring cover (2 places).
④ Slide the wiring cover (2 places) in the arrow direction in the figure, and remove it.
⑤ Disconnect the relay connector of the air flex motor wiring attached to the panel.
⑥ Connect the air flex motor wiring to CNJ2 (20 P, gray) on PCB in the control box of the unit.
⑦ Pass the air flex motor wiring as shown in the figure.
⑧ Install the wiring cover (1 place) with care not to pinch wiring, and fix it with a screw.
⑨ Fix the air flex motor wiring with a band as shown in the figure.
⑩ Install the control lid with care not to pinch wiring, and fix with screws (2 places,).



⑥ Orientation of the panel installation

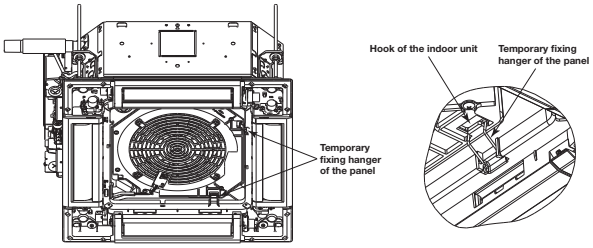
Take note that there is an orientation to install the panel.
- Install the panel with the orientation shown on the right.
- Align the “PIPE SIDE” mark (on the panel) with the refrigerant pipes on the indoor unit.
- Align the “DRAIN” mark (on the panel) with the drain pipe on the indoor unit.



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 motor wiring.

⑦ Installing the panel

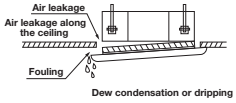
1. Temporary hanging
   - Lift up the hanger (2 places) on the panel for temporary support.
   - Hang the panel on the hook on the indoor unit.



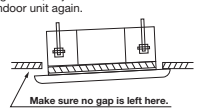
2. Fix the panel on the indoor unit
   - Fasten the panel on the indoor unit with the 4 bolts supplied with the panel.

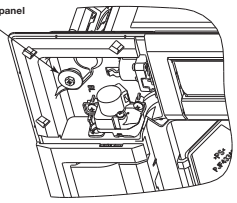
Caution
Be careful not to pinch the motion sensor wiring.

Caution
- Improperly tightened fixing bolts cause the problems listed below, so make sure that bolts are securely tightened.



- If there is a gap between the ceiling and the panel even after the fixing bolts are tightened, adjust the installation level of the indoor unit again.





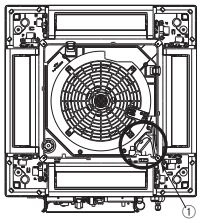
Caution
Do not give any stress on the panel when adjusting the height of the indoor unit to avoid unexpected distortion. It may cause the distortion of panel or failing to close the inlet grille, and the parts of the draft prevention mechanism.

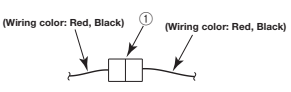
⑧ Electrical wiring

The wiring work varies depending on the panel type. Select the wiring work appropriate for the panel type.

<For the standard panel>
① Connect the connector of the louver motor wiring (Wiring color: Red, Black) at the panel side to the connector CnJ3 (20 P, White) of the louver motor wiring (Wiring color: Red, Black) at the unit side.

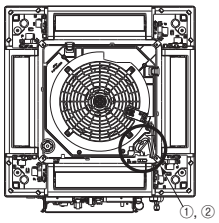
For the Standard panel

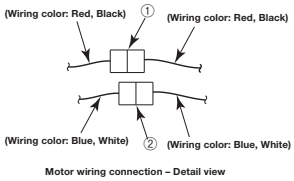




<For the draft prevention panel>
① Connect the connector of the louver motor wiring (Wiring color: Red, Black) at the panel side to the connector CnJ3 (20 P, White) of the louver motor wiring (Wiring color: Red, Black) at the unit side.
② Connect the connector of the air flex motor wiring (Wiring color: Blue, White) at the panel side to the connector CnJ4 (20 P, White) of the air flex motor wiring (Wiring color: Blue, White) at the unit side.

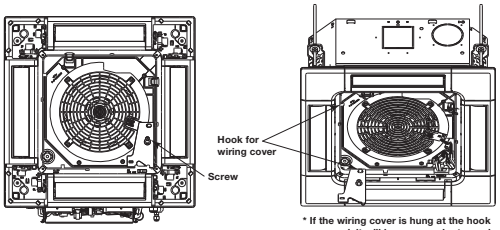
For the Draft prevention panel





Motor wiring connection – Detail view

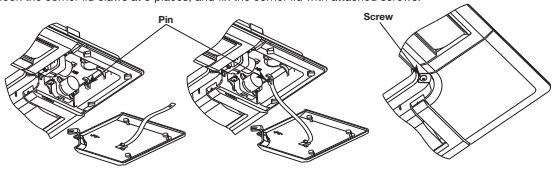
Install the wiring cover with care not to pinch wiring, and fix it with screws.



*** If the wiring cover is hung at the hook on panel, it will become easier to work.**

⑨ Installing a corner lid

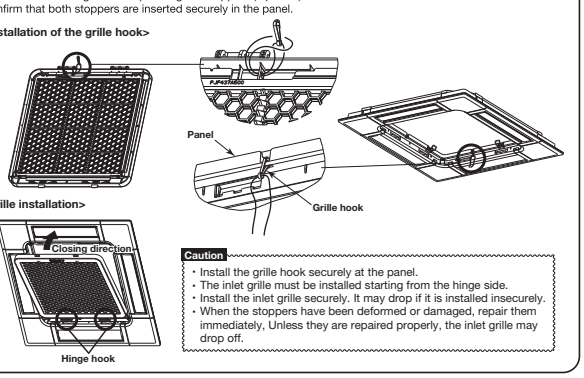
1. To avoid unexpected falling of the corner lid, put the strap onto the corner lid's pin with turning the strap up.
2. Then hang the strap of a corner lid onto the panel's pin.
3. Hook the corner lid claws at 3 places, and fix the corner lid with attached screws.



⑩ Installing the inlet grille

The panel and the inlet grille have no directional limitation to install. (Hinges of the inlet grille can be hooked at any side.)
Install the inlet grille in the reverse order of the steps described at ③ Removing the inlet grille .
① Attach the fall grille hook to the panel.
② Insert the hinges of inlet grille in the insert holes on the panel.
Close then the inlet grille while pressing the stoppers (2 places).
Confirm that both stoppers are inserted securely in the panel.

<① Installation of the grille hook>



<② Grille installation>

Caution
- Install the grille hook securely at the panel.
- The inlet grille must be installed starting from the hinge side.
- Install the inlet grille securely. It may drop if it is installed insecurely.
- When the stoppers have been deformed or damaged, repair them immediately, Unless they are repaired properly, the inlet grille may drop off.

⑪ Panel setting

<Louver swing range setting (Individual louver control setting)>

It is possible to change the swing range of the louver by the wired remote control. Once the upper and lower limit positions are set, the louver will swing within the set range.It is also possible to set the different range to each louver.

<Draft prevention setting>

The draft prevention function will not be operated if the draft prevention panel is installed and its wirings are only connected. To operate the draft prevention function, enable the draft prevention setting by using the wired or wireless remote control.

Note: It is not possible to set by the following remote control models or older.
Wired:RC-EX3, RC-E5, RCH-E3
Wireless: RCN-E1R

Once you have enabled the settings in this mode, the draft prevention function is operated when the air-conditioner is started, and the parts of the draft prevention mechanism are always open when the air-conditioner is operating. When the air-conditioner is stopped, they are closed. It is possible to enabled or disabled the draft prevention function for each air outlet.

For the setting details, refer to the user's manual supplied with the remote control.

FRESH AIR INTAKE (Location for installation) FOR FDTC

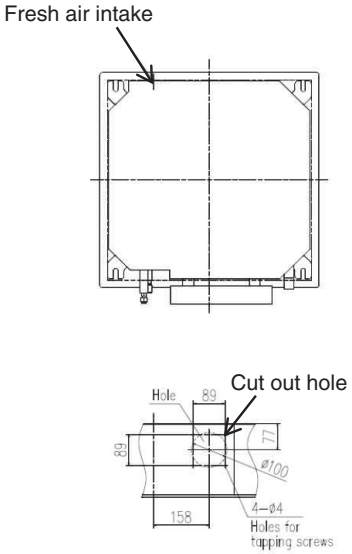
At the time of installation use the duct hole (cut out) located at the positions shown in follwing diagram, as and when required.

(1)Temperature conditions for OA spacer(1)

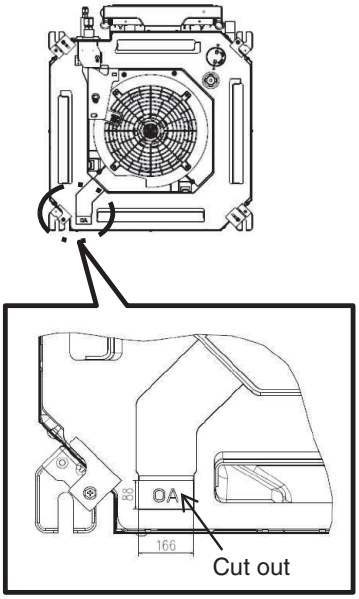
- Adjust the temperature conditions of mixed air with outdoor air and indoor air within the usage range of suction air temperature for the air-conditioner.
- The usage temperature conditions of intake outdoor air and indoor air around the ducts are shown in the following table.
- If the temperature conditions of intake outdoor air do not satisfy, process the outdoor air before intaking.

Operation mode	Usage temperature conditions	
	Intake outdoor air	Indoor air around the ducts
Heating	5˚C DB or higher	18.5˚C WB or lower and 60% RH or lower
Cooling	29˚C DB or lower and 80% RH or lower	20˚C DB or higher

Note(1) : For the OA spacer, refer to page 106.



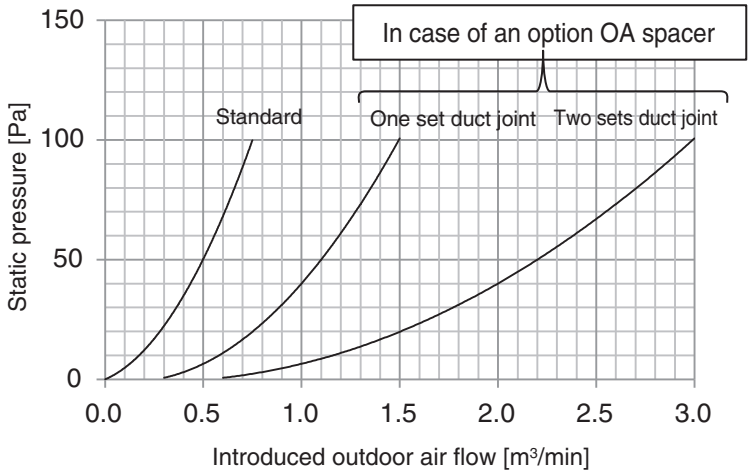
Detail drawing of fresh air intake



Detail of cut out

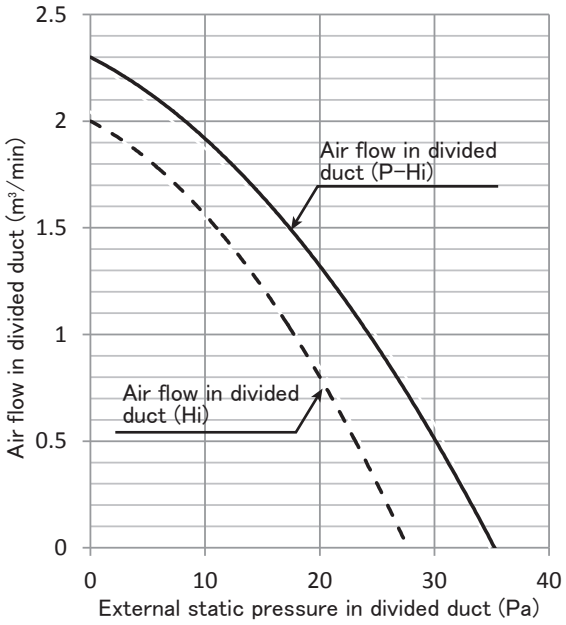
■Fresh air intake amount & static pressure characteristics

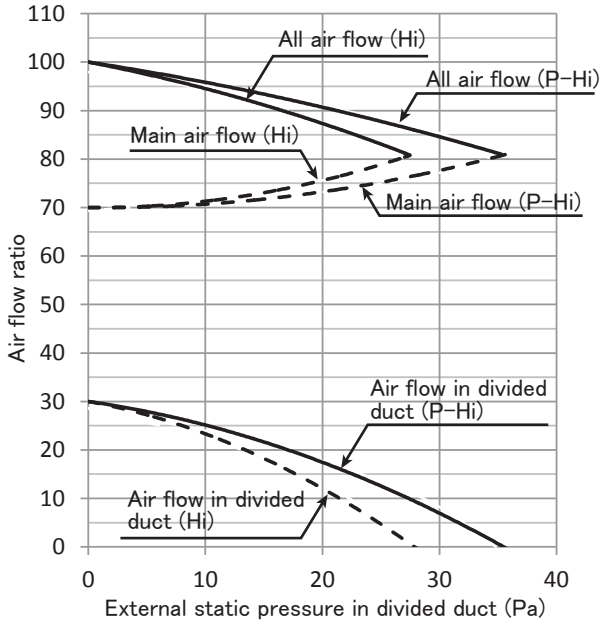
All models



CHARACTERISTICS OF AIR FLOW IN DIVIDED DUCT FOR FDTC

Models FDTC25VH1, 35VH1





■Divided duct connection method

1. Open some one during 3 knockout holes, and please connect a divided duct.
   It isn't possible to use more than one hole at the same time.
2. Please make the wind shielding a blowout vent on the side where a divided duct was connected.
3. The shorage of the external static pressure by pressure loss for a connected divided duct and blowout unit is made up by a booster fan.
   Example : When 1.5m³/min of ventilation by divided duct is needed in model FDTC25VH1
   (In case of connection duct ϕ 125 x 5m)
   ①Duct resistance : Pressure loss by a flexible duct =35Pa (7Pa/m x 5m)
   ②Blowout unit : Pressure loss by a blowout unit =10Pa
   ③External static pressure when being 1.5m³/min =11Pa (See upper table.)
   ⇒Correspondence by a booster fan =①+②-③ =34Pa

8.2 Installation of outdoor unit

Models SRC25ZS-W1, 35ZS-W1

MITSUBISHI HEAVY INDUSTRIES

RWC012A068F△

INSTALLATION MANUAL FOR OUTDOOR UNIT

Model SRC20,25,35,50ZS-W SRC20,25,35ZS-WA
R32 REFRIGERANT USED

• This installation manual deals with an outdoor unit installation only. For an indoor unit installation, refer to page 47.

SAFETY PRECAUTIONS

- Before installation, read the "SAFETY PRECAUTIONS" carefully and 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 Indicates a potentially hazardous situation which, if not avoided, can result in serious consequences such as death or severe injury.

⚠ CAUTION Indicates a potentially hazardous situation which, if not avoided, can result in personal injury or property damage.

Both mention the important items to protect your health and safety. Therefore, strictly follow them by any means.

- Be sure to confirm no operation problem on the equipment after completing the installation. If unusual noise can be heard during the test run, consult the dealer.
- Be sure to explain the operating methods as well as the maintenance methods of this equipment to the user according to the user's manual.
- Be sure to keep the installation manual together with user's manual at a place where it is easily accessible to the user any time. Moreover, ask the user to hand the manuals to a new user, whenever required.

⚠ WARNING

- **Be sure to use only for residential purpose.**
  If this unit is installed in inferior environment such as machine shop, vehicle (like ship), warehouse, etc., it can malfunction.
- **Installation must be carried out by the qualified installer completely in accordance with the installation manual.**
  Installation by non qualified person or incorrect installation can cause serious troubles such as water leak, electric shock, fire and personal injury.
- **Be sure to wear protective goggles and gloves while performing installation work.**
  Improper safety measures can result in personal injury.
- **Use the original accessories and the specified components for the installation.**
  Using parts other than those prescribed may cause water leak, electric shock, fire and personal injury.
- **Do not install the unit near the location where leakage of fiammable gases can occur.**
  If leaked gases accumulate around the unit, it can cause fire resulting in property damage and personal injury.
- **When installing the unit in small rooms, make sure that refrigerant density does not exceed the limit (Reference: ISO5149) in the event of leakage.**
  If refrigerant density exceeds the limit, consult the dealer and install the ventilation system.
  Otherwise lack of oxygen can occur resulting in serious accident.
- **Install the unit in a location where unit will remain stable, horizontal and free of any vibration transmission.**
  Unsuitable installation location can cause the unit to fall resulting in material damage 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 shock.
- **This unit is designed specifically for R32.**
  Using any other refrigerant can cause unit failure and personal injury.
- **Do not vent R32 into atmosphere.**
  R32 is a fiuorinated greenhouse gas with a Global Warming Potential (GWP) = 675.
- **Make sure that no air enters the refrigerant circuit when the unit is installed and removed.**
  If air enters the refrigerant circuit, the pressure in the refrigerant circuit will become too high, which can cause burst and personal injury.
- **Be sure to use the prescribed pipes, fiare nuts and tools for R32 or R410A.**
  Using existing parts (for R22 or R407C) can cause refrigerant circuit burst resulting in unit failure and personal injury.
- **Be sure to connect both liquid and gas connecting pipes properly before operating the compressor.**
  Do not open the liquid and gas service valves before completing piping work, and evacuation.
  If the compressor is operated when connecting pipes are not connected and service valves are open, air can be sucked into the refrigerant circuit which can cause anomalous high pressure resulting in burst or personal injury.
- **Be sure to tighten the fiare nuts to specified torque using the torque wrench.**
  Tightening fiare nuts with excess torque can cause burst and refrigerant leakage after a long period.
- **During pump down work, be sure to stop the compressor before closing service and removing connecting pipes.**
  If the connecting pipes are removed when the compressor is in operation and service valves are open, air can be sucked into the refrigerant circuit which can cause anomalous high pressure resulting in burst or personal injury.
- **In the event of refrigerant leakage during installation, be sure to ventilate the working area properly.**
  If the refrigerant comes into contact with naked flames, poisonous gases will be produced.
- **Electrical work must be carried out by the qualified electrician, strictly in accordance with national or regional electricity regulations.**
  Incorrect installation can cause electric shock, fire or personal injury.
- **Make sure that earth leakage breaker and circuit breaker of appropriate capacities are installed.**
  Circuit breaker should be able to disconnect all poles under over current. Absence of appropriate breakers can cause electric shock, personal injury or property damage.
- **Be sure to switch off the power source in the event of installation, maintenance or service.**
  If the power source is not switched off, there is a risk of electric shock, unit failure or personal injury.
- **Be sure to tighten the cables securely in terminal block and relieve the cables properly to prevent overloading the terminal blocks.**
  Loose connections or cable mountings can cause anomalous heat production or fire.
- **Do not process, splice or modify the power cable, or share the socket with other power plugs.**
  Improper power cable or power plug can cause fire or electric shock due to poor connection, insufficient insulation or over-current.
- **Do not perform any change in protective device or its setup condition yourself.**
  Changing protective device specifications can cause electric shock, fire or burst.
- **Be sure to clamp the cables properly so that they do not touch any internal component of the unit.**
  If cables touch any internal component, it can cause overheating and fire.
- **Be sure to install service cover properly.**
  Improper installation can cause electric shock or fire due to intrusion of dust or water.
- **Be sure to use the prescribed power and connecting cables for electrical work.**
  Using improper cables can cause electric leak or fire.
- **This appliance must be connected to main power source by means of a circuit breaker or switch with a contact separation of at least 3 mm.**
  Improper electrical work can cause unit failure or personal injury.
- **Be sure to connect the power source cable with power source properly.**
  Improper connection can cause intrusion of dust or water resulting in electric shock or fire.

⚠ CAUTION

- **Take care when carrying the unit by hand.**
  If the unit weight is more than 20 kg, it must be carried by two or more persons.
  Do not carry the unit by the plastic straps. Always use the carry handle.
- **Do not install the outdoor unit in a location where insects and small animals can inhabit.**
  Insects and small animals can enter the electrical parts and cause damage resulting in fire or personal injury. Instruct the user to keep the surroundings clean.
- **If the outdoor unit is installed at height, make sure that there is enough space for installation, maintenance and service.**
  Insuf cient space can result in personal injury due to falling from the height.
- **Do not install the unit near the location where neighbours are bothered by noise or air generating from the unit.**
  It can affect surrounding environment and cause a claim.
- **Do not install in the locations where unit is directly exposed to corrosive gases (like sulphide gas, chloride gas), sea breeze or salty atmosphere.**
  It can cause corrosion of heat exchanger and damage to plastic parts.
- **Do not install the unit close to the equipments that generate electromagnetic waves and/or high-harmonic waves.**
  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 unit in the locations where:**
  - There are heat sources nearby.
  - Unit is directly exposed to rain or sunlight.
  - There is any obstacle which can prevent smooth air circulation from inlet and outlet side of the unit.
  - Unit is directly exposed to oil mist and steam such as kitchen.
  - Chemical substances like ammonia (organic fertilizer), calcium chloride (snow melting agent) and acid (sulfurous acid etc.), which can harm the unit, will generate or accumulate.
  - Drain water can not be discharged properly.
  - TV set or radio receiver is placed within 1 m.
  - Height above sea level is more than 1000 m.

  It can cause performance degradation, corrosion and damage of components, unit malfunction and re.
- **Dispose of all packing materials properly.**
  Packing materials contain nails and wood which can cause personal injury.
  Keep the polybag away from children to avoid the risk of suffocation.
- **Do not put anything on the outdoor unit.**
  Object may fall causing property damage or personal injury.
- **Do not touch the aluminum fin of the outdoor unit.**
  Aluminium fin temperature is high during heating operation. Touching fin can cause burn.
- **Do not touch any refrigerant pipe with your hands when the system is in operation.**
  During operation the refrigerant pipes become extremely hot or extremely cold depending on the operating condition. Touching pipes can cause personal injury like burn (hot/cold).
- **Install isolator or disconnect switch on the power source wiring in accordance with the local codes and regulations.**
  The isolator should be locked in OFF state in accordance with EN60204-1.

1. ACCESSORIES AND TOOLS

Standard accessories (Supplied with outdoor unit)		Q'ty
(1)	Drain grommet	1
(2)	Drain elbow	1

*Not included for SRC20, 25, or 35ZS-WA.

Locally procured parts	
(a)	Anchor bolt(M10-M12) × 4 pcs
(b)	Putty
(c)	Electrical tape
(d)	Connecting pipe
(e)	Connecting cable
(f)	Power cable
(g)	Clamp and screw (for nishing work)

Tools for installation work		
Plus headed driver	Spanner wrench	Vacuum pump*
Knife	Torque wrench [14.0-62.0 N•m(1.4-6.2 kgf•m)]	Gauge manifold *
Saw	Wrench key (Hexagon) [4 mm]	Charge hose *
Tape measure	Flaring tool set *	Vacuum pump adapter* (Anti-reverse fiow type)
Pipe cutter	Flare adjustment gauge	Gas leak detector *

*Designed specifically for R32 or R410A

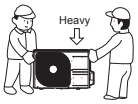
2. OUTDOOR UNIT INSTALLATION

Note as a unit designed for R32

- Do not use any refrigerant other than R32. R32 will rise to pressure about 1.6 times higher than that of a conventional refrigerant. A cylinder containing R32 has a light blue indication mark on the top.
- 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 R32. 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

- Always carry or move the unit with two or more persons.
- The right hand side of the unit as viewed from the front (outlet side) is heavier.
  A person carrying the right hand side must take care of this fact. A person carrying the left hand side must hold the handle provided on the front panel of the unit with his right hand and the corner column section of the unit with his left hand.



⚠ CAUTION

When a unit is hauled, take care of its gravity center position which is shifted towards right hand side.
If the unit is not hauled properly, it can go off balance and fall resulting in serious injury.

2. Selecting the installation location

Select the suitable installation location where:

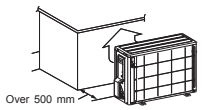
- Unit will be stable, horizontal and free of any vibration transmission.
- There is no obstacle which can prevent smooth air circulation from inlet and outlet side of the unit.
- There is enough space for service and maintenance of unit.
- Neighbours are not bothered by noise or air generating from the unit.
- Outlet air of the unit does not blow directly to animals or plants.
- Drain water can be discharged properly.
- There is no risk of flammable gas leakage.
- There are no other heat sources nearby.
- Unit is not directly exposed to rain or sunlight.
- Unit is not directly exposed to oil mist and steam.
- Chemical substances like ammonia (organic fertilizer), calcium chloride (snow melting agent) and acid (sulfurous acid etc.), which can harm the unit, will not generate or accumulate.
- Unit is not directly exposed to corrosive gases (like sulphide gas, chloride gas), sea breeze or salty atmosphere.
- No TV set or radio receiver is placed within 1 m.
- Unit is not affected by electromagnetic waves and/or high-harmonic waves generated by other equipments.
- Strong wind does not blow against the unit outlet.
- Heavy snowfalls do not occur (If installed, provide proper protection to avoid snow accumulation).

NOTE

If the unit is installed in the area where there is a possibility of strong wind or snow accumulation, the following measures are required.

(1) Location of strong wind

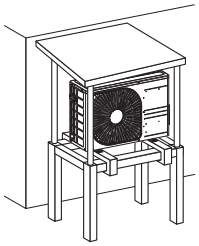
- Place the unit with its outlet side facing the wall.



- Place the unit such that the direction of air from the outlet gets perpendicular to the wind direction.

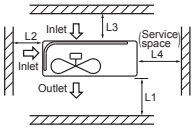
(2) Location of snow accumulation

- Install the unit on the base so that the bottom is higher than snow cover surface.
- Install the unit under eaves or provide the roof on site.



3. Installation space

- There must be 1 m or larger space between the unit and the wall in at least 1 of the 4 sides. Walls surrounding the unit from 4 sides is not acceptable. The wall height on the outlet side should be 1200 mm or less. Refer to the following figure and table for details.



	Installation space (mm)
L1	280 or more
L2	100 or more
L3	80 or more
L4	250 or more

NOTE

When more than one unit are installed side by side, provide a 250 mm or wider interval between them as a service space.

⚠ CAUTION

When more than one unit are installed in parallel directions, provide sufficient inlet space so that short-circuiting may not occur.

4. Drain piping work (If necessary)

Carry out drain piping work by using a drain elbow and a drain grommet supplied separately as accessories if condensed water needs to be drained out.
(1) Install drain elbow and drain grommet.
(2) Seal around the drain elbow and drain grommet with putty or adequate caulking material.

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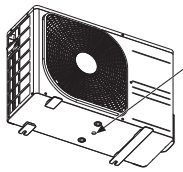
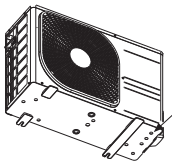


Do not put a grommet on this hole.
This is a supplementary drain hole to discharge drain water, when a large amount of it is gathered.

⚠ CAUTION

Do not use drain elbow and drain grommet if there is a possibility to have several consecutive days of sub zero temperature. (There is a risk of drain water freezing inside and blocking the drain.)

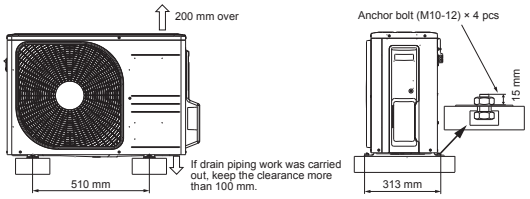
<SRC20/25/35ZS-WA>



Do not block the drain holes when installing the outdoor unit.

5. Installation

- Install the unit on a fiat level base.
- While installing the unit, keep space and fix the unit's legs with 4 anchor bolts as shown in the figure below. The protrusion of an anchor bolt from the foundation surface must be kept within 15 mm.



⚠ CAUTION

- Install the unit properly so that it does not fall over during earthquake, strong wind, etc.
- Make sure that unit is installed on a fiat level base. Installing unit on uneven base may result in unit malfunction.

3. PREPARATION FOR WORK

1. Removing service cover

Remove the screw. Slide service cover downwards and remove it.

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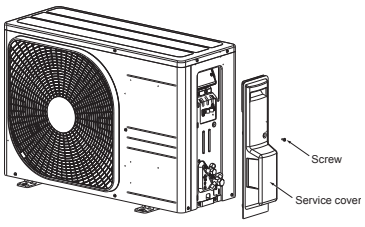

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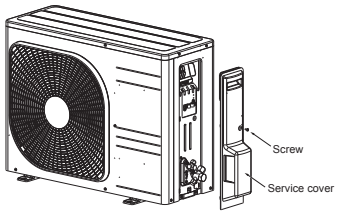
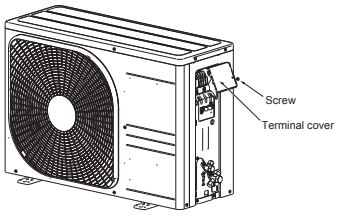


2. Removing terminal cover

Remove the screw and take out terminal cover.
(For SRC50, terminal cover is attached to service cover.
Therefore, there is no need to remove terminal cover separately.)

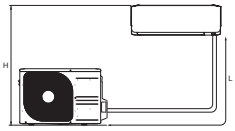


4. CONNECTING PIPING WORK

1. Restrictions on unit installation

Abide by the following restrictions on unit installation.
Improper installation can cause compressor failure or performance degradation.

	Dimensional restrictions	
	Model SRC20/25/35	Model SRC50
Connecting pipe length(L)	20 m or less	25 m or less
Elevation difference between indoor and outdoor units(H)*	10 m or less	15 m or less



* Outdoor unit installation position can be higher as well as lower than the indoor unit installation position.

2. Preparation of connecting pipe

2.1 Selecting connecting pipe

Select connecting pipe according to the following table.

	Model SRC20/25/35	Model SRC50
Gas pipe	ø9.52	ø12.7
Liquid pipe	ø6.35	ø6.35

- Pipe wall thickness must be greater than or equal to 0.8 mm.
- Pipe material must be O-type (Phosphorus deoxidized seamless copper pipe ICS 23.040.15, ICS 77.150.30).

NOTE

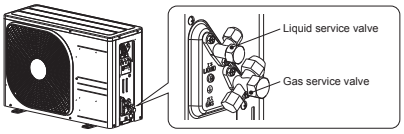
If it is required to reuse the existing connecting pipe system, refer to 5. UTILIZATION OF EXISTING PIPE.

2.2 Cutting connecting pipe

(1) Cut the connecting pipe to the required length with pipe cutter.
(2) Hold the pipe downward and remove the burrs. Make sure that no foreign material enters the pipe.
(3) Cover the connecting pipe ends with the tape.

3. Piping work

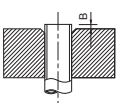
Check that both liquid and gas service valves are fully closed.
Carry out the piping work with service valves fully closed.



3.1 Flaring pipe

(1) Take out flare nuts from the service valves of outdoor unit and engage them onto connecting pipes.
(2) Flare the pipes according to table and figure shown below.
Flare dimensions for R32 are different from those for conventional refrigerant.
Although it is recommended to use the flaring tools designed specifically for R32 or R410A, conventional flaring tools can also be used by adjusting the dimension B with a flare adjustment gauge.

Copper pipe outer diameter	A
ø6.35	9.1
ø9.52	13.2
ø12.7	16.6

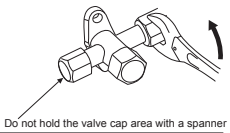


Copper pipe outer diameter	B [Rigid (clutch) type]	
	R32 or R410A	Conventional
ø6.35	0-0.5	1.0-1.5
ø9.52		
ø12.7		

3.2 Connecting pipes

(1) Connect pipes on both liquid and gas sides.
(2) Tighten nuts to specified torque shown in the table below.

Service valve size (mm)	Tightening torque (N·m)
ø6.35 (1/4")	14-18
ø9.52 (3/8")	34-42
ø12.7 (1/2")	49-61



Do not hold the valve cap area with a spanner

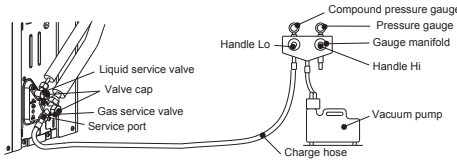
⚠ CAUTION

- Do not apply refrigerating machine oil to the flared surface. It can cause refrigerant leakage.
- Do not apply excess torque to the flared nuts. The flared nuts may crack resulting in refrigerant leakage.

4. Evacuation

(1) Connect vacuum pump to gauge manifold. Connect charge hose of gauge manifold to service port of outdoor unit.
(2) Run the vacuum pump for at least one hour after the vacuum gauge shows -0.1 MPa (–76 cm Hg).
(3) Confirm that the vacuum gauge indicator does not rise even if the system is left for 15 minutes or more.
Vacuum gauge indicator will rise if the system has moisture left inside or has a leakage point.
Check the system for the leakage point. If leakage point is found, repair it and return to (1) again.
(4) Close the Handle Lo and stop the vacuum pump.
Keep this state for a few minutes to make sure that the compound pressure gauge pointer does not swing back.
(5) Remove valve caps from liquid service valve and gas service valve.
(6) Turn the liquid service valve's rod 90 degree counterclockwise with a hexagonal wrench key to open valve.
Close it after 5 seconds, and check for gas leakage.
Using soapy water, check for gas leakage from indoor unit's flare and outdoor unit's flare and valve rods.
Wipe off all the water after completing the check.
(7) Disconnect charging hose from gas service valve's service port and fully open liquid and gas service valves. (Do not attempt to turn valve rod beyond its stop.)
(8) Tighten service valve caps and service port cap to the specified torque shown in the table below.

Service valve size (mm)	Service valve cap tightening torque (N·m)	Service port cap tightening torque (N·m)
ø6.35 (1/4")	20-30	10-12
ø9.52 (3/8")		
ø12.7 (1/2")	25-35	



⚠ CAUTION

To prevent vacuum pump oil from entering into the refrigerant system, use a counterflow prevention adapter.

5. Additional refrigerant charge

Additional refrigerant charge is required only when connecting pipe length exceeds 15 m.

5.1 Calculating additional refrigerant charge

Additional refrigerant charge can be calculated using the formula given below.
Additional refrigerant charge (g) = { Connecting pipe length (m) – Factory charged length 15 (m) } x 20 (g/m)

NOTE

- If additional refrigerant charge calculation result is negative, there is no need to remove the refrigerant.
- If refrigerant recharge is required for the unit with connecting pipe length 15 m or shorter, charge the factory charged amount as shown in the table below.
- The maximum refrigerant charge amount is designed as shown in the table below.

	Model SRC20/25	Model SRC35	Model SRC50
The factory refrigerant charge amount(kg)	0.62	0.78	1.05
The maximum refrigerant charge amount(kg)	0.72	0.88	1.25

5.2 Charging refrigerant

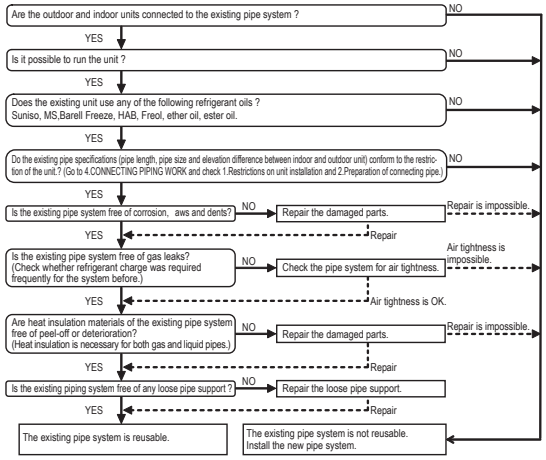
(1) Charge the R32 refrigerant in liquid phase from service port with both liquid and gas service valves shut. Since R32 refrigerant must be charged in the liquid phase, make sure that refrigerant is discharged from the cylinder in the liquid phase all the time.
(2) When it is difficult to charge a required refrigerant amount, fully open both liquid and gas service valves and charge refrigerant, while running the unit in the cooling mode. When refrigerant is charged with the unit being run, complete the charge operation within 30 minutes.
(3) Write the additional refrigerant charge calculated from the connecting pipe length on the label attached on the service cover.

⚠ CAUTION

- Running the unit with an insufficient quantity of refrigerant for a long time can cause unit malfunction.
- Do not charge more than the maximum refrigerant amount. It can cause unit malfunction.

5. UTILIZATION OF EXISTING PIPE

(1) Check whether an existing pipe system is reusable or not by using the following flow chart.



NOTE

- Consult with our distributor in the area, if you need to recover refrigerant and charge it again.

(2) Clean the existing pipe system according to the procedure given below.
(a) Carry out forced cooling operation of existing unit for 30 minutes.
For 'Forced cooling operation' refer to the indoor unit installation manual.
(b) Stop the indoor fan and carry out forced cooling operation for 3 minutes (Liquid return).
(c) Close the liquid service valve of the outdoor unit and carry out pump down operation (Refer to 6. PUMP DOWN).
(d) Blow with nitrogen gas. If discolored refrigeration oil or any foreign matter is discharged by the blow, wash the pipe system or install a new pipe system.
(3) Remove the flare nuts from the existing pipe system. Go back to 4.CONNECTING PIPING WORK and proceed to step 2.2 Cutting connecting pipe.

⚠ CAUTION

- Do not use the old flare nuts (of existing unit). Make sure that the flare nuts supplied with the (new) outdoor unit are used.
- If the flared / compression connection to the indoor unit is located inside the house / room then this pipework can't be reused.

* If the existing piping is specified as liquid pipe ø9.52 or gas pipe ø12.7, refer to the following. (SRC50 only)

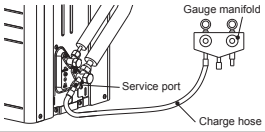
<Table of pipe size restrictions>

Additional charge amount per meter of pipe		0.054 kg/m
Pipe size	Liquid pipe	ø9.52
	Gas pipe	ø12.7
Maximum one-way pipe length		10
Length covered without additional charge		5

Additional charge amount (kg) = {Main pipe length (m) - Length covered without additional charge shown in the table (m)} X Additional charge amount per meter of pipe shown in the table (kg/m)

6. PUMP DOWN

(1) Connect charge hose of gauge manifold to service port of outdoor unit.
(2) Close the liquid service valve with hexagonal wrench key.
(3) Fully open the gas service valve with hexagonal wrench key.
(4) Carry out forced cooling operation (For forced cooling service procedure, refer to indoor unit installation manual).
(5) When the low pressure gauge becomes 0.01 MPa, close the gas service valve and stop forced cooling operation.



7. ELECTRICAL WIRING WORK

⚠ WARNING

- Make sure that all the electrical work is carried out in accordance with the national or regional electrical standards.
- Make sure that the earth leakage breaker and circuit breaker of appropriate capacities are installed (Refer to the table given below).
- Do not turn on the power until the electrical work is completed.
- Do not use a condensive capacitor for power factor improvement under any circumstances. (It does not improve power factor. Moreover, it can cause an abnormal overheat accident).

Breaker specifications

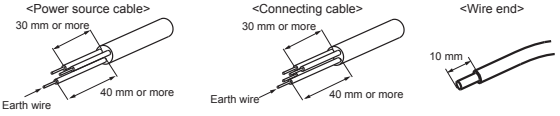
Model	Phase	Earth leakage breaker	Circuit breaker
SRC20/25/35	Single phase	Leakage current: 30 mA, 0.1sec or less	Over current: 16 A
SRC50			Over current: 20 A

Main fuse specification

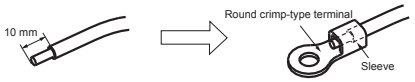
Model	Specification	Parts No.	Code on LABEL,WIRING
SRC20/25/35	250 V 15 A	SSA564A136	F7
SRC50	250 V 20 A	SSA564A136A	F4

1. Preparing cable

(1) Selecting cable
Select the power source cable and connecting cable in accordance with the specifications mentioned below.
(a) Power source cable
3 cores* 2.5 mm^2 or more, conformed with 60245 IEC57
When selecting the power source cable length, make sure that voltage drop is less than 2 %.
If the wire length gets longer, increase the wire diameter.
(b) Connecting cable
4 cores* 1.5 mm^2, conformed with 60245 IEC57
* 1 Earth wire is included (Yellow/Green).
(2) Arrange each wire length as shown below.
Make sure that each wire is stripped 10 mm from the end.



(3) Attach round crimp-type terminal to each wire as shown in the below.
Select the size of round crimp-type terminal after considering the specifications of terminal block and wire diameter.



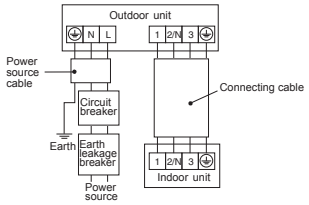
⚠ CAUTION

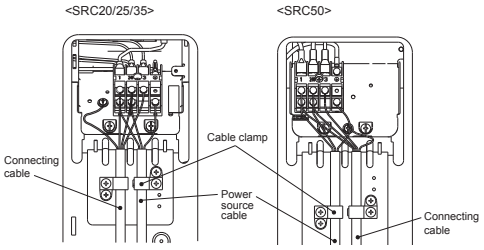
Power source cable and connecting cable must conform to the specifications mentioned in the manual.
Using cables with wrong specifications may result in unit malfunction.

2. Connecting cable

(1) Remove the service cover.
(2) Connect the cables according to the instructions and figures given below.
(a) Connect the earth wire of power source cable.
An earth wire must be connected before connecting the other wires of power source cable.
Keep the earth wire longer than the remaining two wires of power source cable.
(b) Connect the remaining two wires (N and L) of power source cable.
(c) Connect the wires of connecting cable. Make sure that for each wire, outdoor and indoor side terminal numbers match.
(3) Fasten the cables properly with cable clamps so that no external force may work on terminal connections.
Moreover, make sure that cables do 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.

<Circuit diagram>

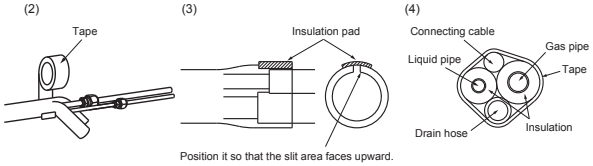




8. FINISHING WORK

1. Heating and condensation prevention

(1) Dress the connecting pipes (both liquid and gas pipes) with insulation to prevent it from heating and dew condensation.
Use the heat insulating material which can withstand 120 °C or higher temperature. Make sure that insulation is wrapped tightly around the pipes and no gap is left between them.
(2) Wrap the refrigerant pipings of indoor unit with indoor unit heat insulation using tape.
(3) Cover the flare-connected joints (indoor side) with the indoor unit heat insulation and wrap it with an insulation pad (standard accessory provided with indoor unit).
(4) Wrap the connecting pipes, connecting cable and drain hose with the tape.



NOTE

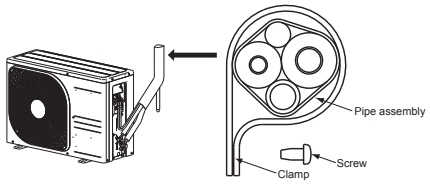
Locations where relative humidity exceeds 70 %, both liquid and gas pipes need to be dressed with 20 mm or thicker heat insulation materials.

⚠ CAUTION

- Improper insulation can cause condensate (water) formation during cooling operation. Condensate can leak or drip causing damage to household property.
- Poor heat insulating capacity can cause pipe outer surface to reach high temperature during heating operation. It can cause cable deterioration and personal injury.

2. Finishing work

(1) Make sure that the exterior portion of connecting pipes, connecting cable and drain hose is wrapped properly with tape. Shape the connecting pipes to match with the contours of the pipe assembly route.
(2) Fix the pipe assembly with the wall using clamps and screws. Pipe assembly should be anchored every 1.5 m or less to isolate the vibration.
(3) Install the service cover securely. Water may enter the unit if service cover is not installed properly, resulting in unit malfunction and failure.



⚠ CAUTION

Make sure that the connecting pipes do not touch the components within the unit. If pipes touch the internal components, it may generate abnormal sounds and/or vibrations.

9. INSTALLATION TEST CHECK POINTS

After finishing the installation work, check the following points again before turning on the power.
Conduct test run (Refer to indoor unit installation manual) and ensure that the unit operates properly.

Power source voltage complies with the rated voltage of air-conditioner.		No gas leaks from the joints of the service valves.	
Earth leakage breaker and circuit breaker are installed.		Indoor and outdoor side pipe joints have been insulated.	
Power cable and connecting cable are securely fixed to the terminal block.		Drain hose (if installed) is fixed properly.	
Both liquid and gas service valves are fully open.		Screw of the service cover is tightened properly.	

8.3 Safety precautions in handling air-conditioners with flammable refrigerants

WALL TYPE AIR-CONDITIONER
R32 REFRIGERANT USED

RSA012A061B D

	This equipment uses flammable refrigerants. If the refrigerant is leaked, together with an external ignition source, there is a possibility of ignition.		There is information included in the user's manual and/or installation manual.
	The user's manual should be read carefully.		A service personnel should be handing this equipment with reference to the installation manual.

- This safety precaution sheet is for R32 refrigerant. If you want to know the type of refrigerant in the unit, check the label attached to the outdoor unit.
- 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.

⚠ WARNING

- Strict compliance of the domestic laws must be observed when disposing the appliance.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater.
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odour.
- The indoor unit shall be stored in a room that has a minimum area of 4.0 m^2.

⚠ CAUTION

1. General
- That the installation of pipe-work shall be kept to a minimum.
- That pipe-work shall be protected from physical damage.
- That compliance with national gas regulations shall be observed.
- That mechanical connections shall be accessible for maintenance purposes.
- Keep any required ventilation openings clear of obstruction.
- Servicing shall be performed only as recommended by the manufacturer.

2. Unventilated areas
- The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.

3. Qualification of workers
- The staff in servicing operations must hold the national qualification or other relevant qualifications.

4. Information on servicing

4.1 Checks to the area
- Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised.
- For repair to the refrigerating system, 4.3 to 4.7 shall be completed prior to conducting work on the system.

4.2 Work procedure
- Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

4.3 General work area
- All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out.
- Work in confined spaces shall be avoided.
- The area around the workspace shall be sectioned off.
- Ensure that the conditions within the area have been made safe by control of flammable material.

4.4 Checking for presence of refrigerant
- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres.
- Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

4.5 Presence of fire extinguisher
- If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO_2 fire extinguisher adjacent to the charging area.

4.6 No ignition sources
- No person carrying out work in relation to a refrigeration system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion.
- All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space.
- Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks.
- "No Smoking" signs shall be displayed.

4.7 Ventilated area
- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work.
- A degree of ventilation shall continue during the period that the work is carried out.
- The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

4.8 Checks to the refrigeration equipment
- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification.
- At all times the manufacturer's maintenance and service guidelines shall be followed.
- If in doubt consult the manufacturer's technical department for assistance.
- The following checks shall be applied to installations using flammable refrigerants:
  – the charge size is in accordance with the room size within which the refrigerant containing parts are installed;
  – the ventilation machinery and outlets are operating adequately and are not obstructed;
  – if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
  – marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
  – refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

4.9 Checks to electrical devices
- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures.
- If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with.
- If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used.
- This shall be reported to the owner of the equipment so all parties are advised.
- Initial safety checks shall include:
  – that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
  – that no live electrical components and wiring are exposed while charging, recovering or purging the system;
  – that there is continuity of earth bonding.

5. Repairs to sealed components
- During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc.
- If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.
- Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected.
  This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
- Ensure that the apparatus is mounted securely.
- Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres.
- Replacement parts shall be in accordance with the manufacturer's specifications.

NOTE
The use of silicon sealant can inhibit the effectiveness of some types of leak detection equipment.
Intrinsically safe components do not have to be isolated prior to working on them.

⚠ CAUTION

6. Repair to intrinsically safe components

- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
- Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere.
- The test apparatus shall be at the correct rating.
- Replace components only with parts specified by the manufacturer.
- Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

7. Cabling

- Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

8. Detection of flammable refrigerants

- Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks.
- A halide torch (or any other detector using a naked flame) shall not be used.

9. Leak detection methods

- Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.)
- Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.
- Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.
- Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.
- If a leak is suspected, all naked flames shall be removed/extinguished.
- If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.
- For appliances containing flammable refrigerants, oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

10. Removal and evacuation

- When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, for flammable refrigerants it is important that best practice is followed since flammability is a consideration.
- The following procedure shall be adhered to:
  – remove refrigerant;
  – purge the circuit with inert gas;
  – evacuate;
  – purge again with inert gas;
  – open the circuit by cutting or brazing.
- The refrigerant charge shall be recovered into the correct recovery cylinders.
- For appliances containing flammable refrigerants, the system shall be “flushed” with OFN to render the unit safe.
  This process may need to be repeated several times.
- Compressed air or oxygen shall not be used for purging refrigerant systems.
- For appliances containing flammable refrigerants, flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system.
- When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
  This operation is absolutely vital if brazing operations on the pipe-work are to take place.
- Ensure that the outlet for the vacuum pump is not close to any ignition sources and that ventilation is available.

11. Charging procedures

- In addition to conventional charging procedures, the following requirements shall be followed.
  – Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
  – Cylinders shall be kept upright.
  – Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
  – Label the system when charging is complete (if not already).
  – Extreme care shall be taken not to overfill the refrigeration system.
- Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas.
- The system shall be leak-tested on completion of charging but prior to commissioning.
- A follow up leak test shall be carried out prior to leaving the site.

12. Decommissioning

- Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail.
- It is recommended good practice that all refrigerants are recovered safely.
- Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant.
- It is essential that electrical power is available before the task is commenced.

a) Become familiar with the equipment and its operation.
b) Isolate system electrically.
c) Before attempting the procedure ensure that:
  – mechanical handling equipment is available, if required, for handling refrigerant cylinders;
  – all personal protective equipment is available and being used correctly;
  – the recovery process is supervised at all times by a competent person;
  – recovery equipment and cylinders conform to the appropriate standards.
d) Pump down refrigerant system, if possible.
e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
f) Make sure that cylinder is situated on the scales before recovery takes place.
g) Start the recovery machine and operate in accordance with manufacturer’s instructions.
h) Do not overfill cylinders. (No more than 80 % volume liquid charge).
i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

13. Labelling

- Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed.
- For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

14. Recovery

- When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.
- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.
- Ensure that the correct number of cylinders for holding the total system charge are available.
- All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant).
- Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order.
- Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants including, when applicable, flammable refrigerants.
- In addition, a set of calibrated weighing scales shall be available and in good working order.
- Hoses shall be complete with leak-free disconnect couplings and in good condition.
- Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release.
  Consult manufacturer if in doubt.
- The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.
- If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.
- The evacuation process shall be carried out prior to returning the compressor to the suppliers.
- Only electric heating to the compressor body shall be employed to accelerate this process.
- When oil is drained from a system, it shall be carried out safely.

15. Other safety precautions

- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts.
- Flammable refrigerant used, refrigerant tubing protected or enclosed to avoid mechanical damage (IEC/EN 60335-2-40/A1).
- Tubing protected to extent that it will not be handled or used for carrying during moving of product (IEC/EN 60335-2-40/A1).
- Flammable refrigerant used, low temperature solder alloys, such as lead/tin alloys, not acceptable for pipe connections (IEC/EN 60335-2-40/A1).
- When there is flare connection, it must be installed outdoor.

9. OPTION PARTS

9.1 Wired remote control

(1) Model RC-EX3A

1. Safety precautions

●Please read this manual carefully before starting installation work to install the unit properly.
Every one of the followings is important information to be observed strictly.

⚠WARNING	Failure to follow these instructions properly may result in serious consequences such as death, severe injury, etc.
⚠CAUTION	Failure to follow these instructions properly may cause injury or property damage.

It could have serious consequences depending on the circumstances.

●The following pictograms are used in the text.

	Never do.		Always follow the instructions given.

●Keep this manual at a safe place where you can consult with whenever necessary. Show this manual to installers when moving or repairing the unit. When the ownership of the unit is transferred, this manual should be given to a new owner.

⚠WARNING

Consult your dealer or a professional contractor to install the unit.
Improper installation made on your own may cause electric shocks, fire or dropping of the unit.

Installation work should be performed properly according to this installation manual.
Improper installation work may result in electric shocks, fire or break-down.

Be sure to use accessories and specified parts for installation work.
Use of unspecified parts may result in drop, fire or electric shocks.

Install the unit properly to a place with sufficient strength to hold the weight.
If the place is not strong enough, the unit may drop and cause injury.

Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.
Power source with insufficient and improper work can cause electric shock and fire.

Shut OFF the main power source before starting electrical work.
Otherwise, it could result in electric shocks, break-down or malfunction.

Do not modify the unit.
It could cause electric shocks, fire, or break-down.

Be sure to turn OFF the power circuit breaker before repairing/ inspecting the unit.
Repairing/inspecting the unit with the power circuit breaker turned ON could cause electric shocks or injury.

⚠WARNING

Do not install the unit in appropriate environment or where inflammable gas could generate, flow in, accumulate or leak.

If the unit is used at places where air contains dense oil mist, steam, organic solvent vapor, corrosive gas (ammonium, sulfuric compound, acid, etc) or where acidic or alkaline solution, special spray, etc. are used, it could cause electric shocks, break-down, smoke or fire as a result of significant deterioration of its performance or corrosion.

Do not install the unit where water vapor is generated excessively or condensation occurs.

It could cause electric shocks, fire, or break-down.

Do not use the unit in a place where it gets wet, such as laundry room.

It could cause electric shocks, fire, or break-down.

Do not operate the unit with wet hands.

It could cause electric shocks.

Do not wash the unit with water.

It could cause electric shocks, fire, or break-down.

Use the specified cables for wiring, and connect them securely with care to protect electronic parts from external forces.

Improper connections or fixing could cause heat generation, fire, etc.

Seal the inlet hole for remote control cable with putty.

If dew, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.

If dew or water enters the unit, it may cause screen display anomalies.

When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.

It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.

The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.

Do not leave the remote control with its upper case removed.

If dew, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.

⚠CAUTION

Do not install the remote control at following places.

(1) It could cause break-down or deformation of remote control.
- Where it is exposed to direct sunlight
- Where the ambient temperature becomes 0 ˚C or below, or 40 ˚C or above
- Where the surface is not flat
- Where the strength of installation area is insufficient

(2) Moisture may be attached to internal parts of the remote control, resulting in a display failure.
- Place with high humidity where condensation occurs on the remote control
- Where the remote control gets wet

(3) Accurate room temperature may not be detected using the temperature sensor of the remote control.
- Where the average room temperature cannot be detected
- Place near the equipment to generate heat
- Place affected by outside air in opening/closing the door
- Place exposed to direct sunlight or wind from air-conditioner
- Where the difference between wall and room temperature is large

To connect to a personal computer via USB, use the dedicated software.
Do not connect other USB devices and the remote control at the same time.

It could cause malfunction or break-down of the remote control/personal computer.

2 . Accessories & Prepare on site

Following parts are provided.

Accessories	R/C main unit, wood screw (Φ3.5 x 16) 2 pcs, Quick reference

Following parts are arranged at site. Prepare them according to the respective installation procedures.

Item name	Q'ty	Remark
Switch box For 1 piece or 2 pieces (JIS C 8340 or equivalent)	1	These are not required when installing directly on a wall.
Thin wall steel pipe for electric appliance directly on a wall. (JIS C 8305 or equivalent)	As required	
Lock nut, bushing (JIS C 8330 or equivalent)	As required	
Lacing (JIS C 8425 or equivalent)	As required	Necessary to run R/C cable on the wall.
Putty	Suitably	For sealing gaps
Molly anchor	As required	
R/C cable (0.3 mm^2 x 2 pcs)	As required	See right table when longer than 100 m

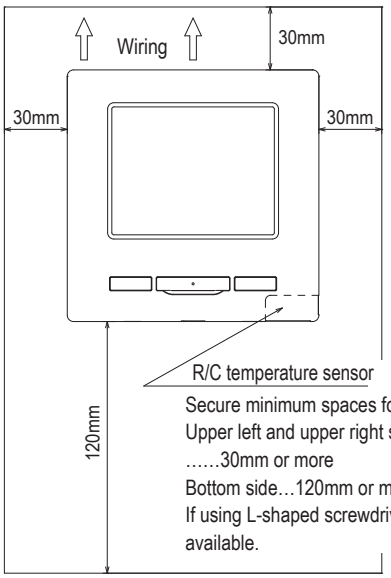
When the cable length is longer than 100 m, the max size for wires used in the R/C case is 0.5 mm^2 . Connect them to wires of larger size near the outside of R/C. When wires are connected, take measures to prevent water, etc. from entering inside.

≦ 200 m	0.5 mm^2 x 2 cores
≦ 300m	0.75 mm^2 x 2 cores
≦ 400m	1.25 mm^2 x 2 cores
≦ 600m	2.0 mm^2 x 2 cores

3 . Installation place

Secure the installation space shown in the figure.
For the installation method, “embedding wiring” or “exposing wiring” can be selected.
For the wiring direction, “Backward”, “Upper center” or “Upper left” can be selected.
Determine the installation place in consideration of the installation method and wiring direction.

Installation space

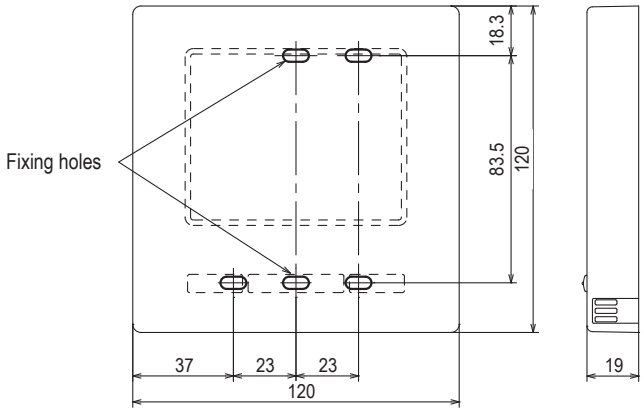


Secure minimum spaces for disassembling the case.
Upper left and upper right sides
……30mm or more
Bottom side…120mm or more
If using L-shaped screwdriver, 50mm or more is available.

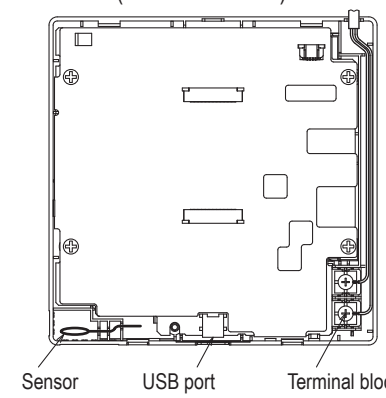
4 . Installation procedure

Perform installation and wiring work for the remote control according to the following procedure.

Dimensions (Viewed from front)

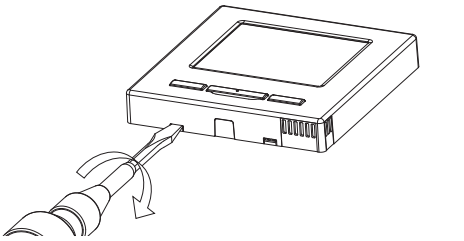


PCB side (Viewed from rear)



To disassemble the R/C case into the upper and lower pieces after assembling them once

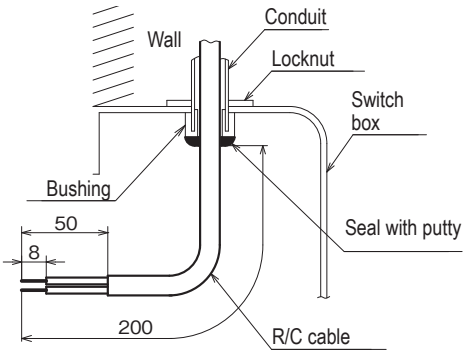
· Insert the tip of flat head screwdriver or the like in the recess at the lower part of R/C and twist it lightly to remove. It is recommended that the tip of the screwdriver be wrapped with tape to avoid damaging the case.
Take care to protect the removed upper case from moisture or dust.



In case of embedding wiring

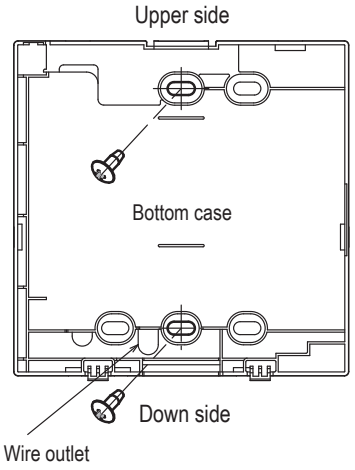
(When the wiring is retrieved “Backward”)

① Embed the switch box and the R/C wires beforehand.
Seal the inlet hole for the R/C wiring with putty

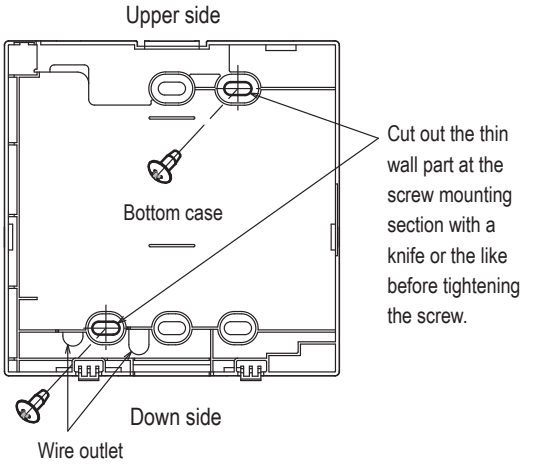


② When wires are passed through the bottom case, fix the bottom case at 2 places on the switch box.

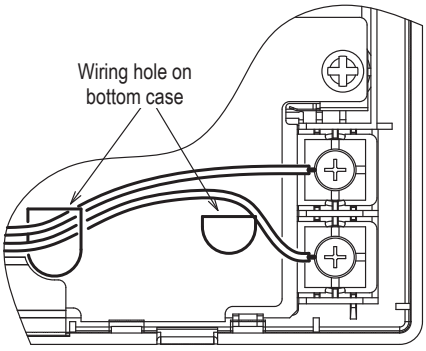
Switch box for 1 pcs



Switch box for 2 pcs

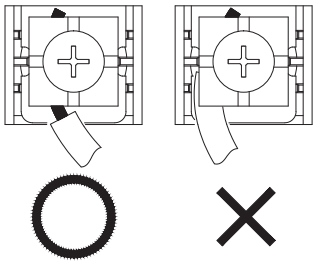


③ Connect wires from X and Y terminals of R/C to X and Y terminals of indoor unit. R/C wires (X, Y) have no polarity. Fix wires such that the wires will run around the terminal screws on the top case of R/C.
④ Install the upper case with care not to pinch wires of R/C.



Cautions for wire connection

Use wires of no larger than 0.5 mm² for wiring running through the remote control case. Take care not to pinch the sheath.
Tighten by hand (0.7 N·m or less) the wire connection. If the wire is connected using an electric driver, it may cause failure or deformation.

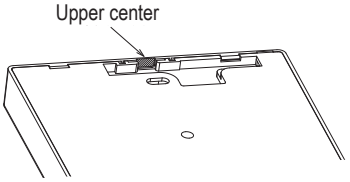


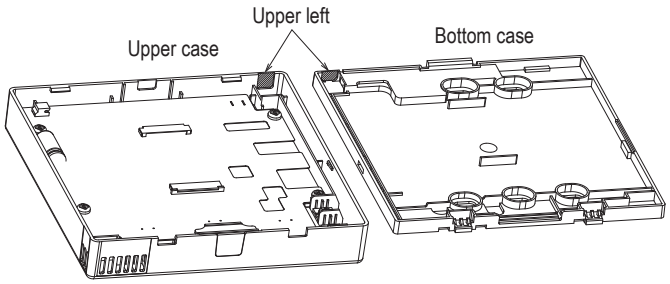
In case of exposing wiring

(When the wiring is taken out from the "upper center" or "upper left" of R/C)

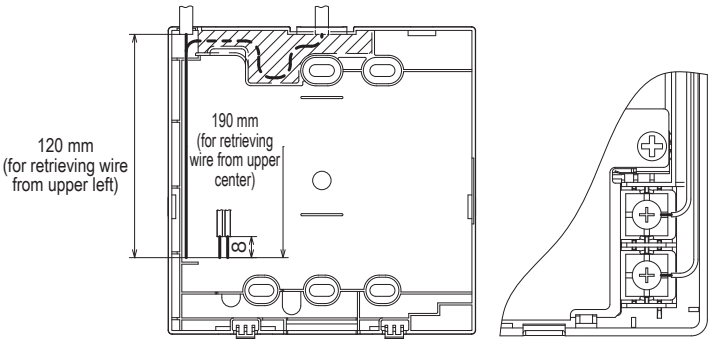
① Cut out the thin wall sections on the cases for the size of wire.

When taking the wiring out from the upper center, open a hole before separating the upper and bottom cases. This will reduce risk of damaging the PCB and facilitate subsequent work.
When taking the wiring out from the upper left, take care not to damage the PCB and not to leave any chips of cut thin wall inside.



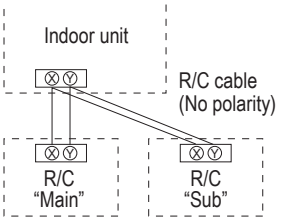


② Fix the bottom R/C case on a flat surface with two wood screws.
③ In case of the upper center, pass the wiring behind the bottom case. (Hatched section)
④ Connect wires from X and Y terminals of R/C to X and Y terminals of indoor unit. R/C wires (X, Y) have no polarity. Fix wires such that the wires will run around the terminal screws on the top case of R/C.
⑤ Install the top case with care not to pinch wires of R/C.
⑥ Seal the area cut in ① with putty.



5 . Main/Sub setting when more than one remote control are used

Up to two units of R/C can be used at the maximum for 1 indoor unit or 1 group.
One is main R/C and the other is sub R/C.
Operating range is different depending on the main or sub R/C.



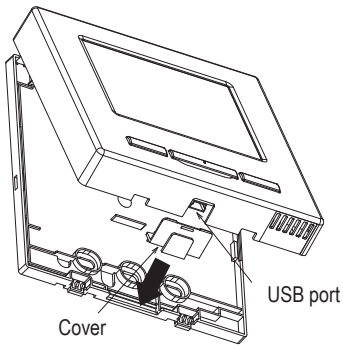
○: operable ×: not operable

R/C operations			Main	Sub
Run/Stop, Change set temp., Change flap direction, Auto swing, Change fan speed operations			○	○
High power operation, Energy-saving operation			○	○
Silent mode control			○	×
Useful functions	Individual flap control		○	×
	Anti draft setting		○	×
	Timer		○	○
	Favorite setting		○	○
	Weekly timer		○	×
	Home leave mode		○	×
	External ventilation		○	○
	Select the language		○	○
	Silent mode control		○	×
Energy-saving setting			○	×
Filter	Filter sign reset		○	○
User setting	Initial settings		○	○
	Administrator settings	Permission/ Prohibition setting	○	×
		Outdoor unit silent mode timer	○	×
		Setting temp. range	○	×
		Temp increment setting	○	×
		Set temp. display	○	○
		R/C display setting	○	○
		Change administrator password	○	○
		F1/F2 function setting	○	○

R/C operations				Main	Sub
Service setting	Installation settings	Installation date		○	×
		Company information		○	○
		Test run		○	×
		Static pressure adjustment		○	×
		Change auto-address		○	×
		Address setting of main IU		○	×
		IU back-up function		○	×
		Motion sensor setting		○	×
	R/C function settings	Main/Sub of R/C		○	○
		Return air temp.		○	×
		R/C sensor		○	×
		R/C sensor adjustment		○	×
		Operation mode		○	×
		ºC / ºF		○	×
		Fan speed		○	×
		External input		○	×
		Upper/lower flap control		○	×
		Left/right flap control		○	×
		Ventilation setting		○	×
		Auto-restart		○	×
		Auto temp. setting		○	×
		Auto fan speed		○	×
	IU settings			○	×
	Service & Maintenance	IU address		○	○
		Next service date		○	×
		Operation data		○	×
		Error display	Error history	○	○
			Display/erase anomaly data	○	×
			Reset periodical check	○	○
		Saving IU settings		○	×
		Special settings	Erase IU address	○	×
			CPU reset	○	○
			Restore of default setting	○	×
			Touch panel calibration	○	○
		Indoor unit capacity display		○	×

Advice: Connection to personal computer

It can be set from a personal computer via the USB port (mini-B).
Connect after removing the cover for USB port of upper case.
Replace the cover after use.
Special software is necessary for the connection.
For details, view the web site.

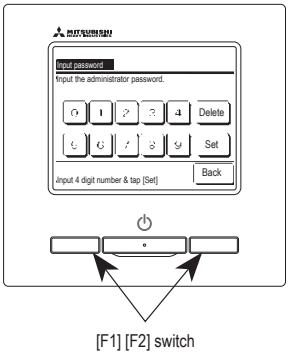


Advice: Initializing of password

Administrator password (for daily setting items) and
service password (for installation, test run and maintenance) are used.

○ The administrator password at factory default is "0000". This setting can be changed (Refer to User's Manual).
If the administrator password is forgotten, it can be initialized by holding down the [F1] and [F2] switches together for five seconds on the administrator password input screen.

○ Service password is "9999", which cannot be changed.
When the administrator password is input, the service password is also accepted.



Advice

When connecting two or more FDT/FDTC to one R/C, unify the panel type either to a panel with anti draft function or a standard panel.

(2) Model RC-E5

PJA012D730B

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 source is turned off when electric wiring work.
  Otherwise, electric shock, malfunction and improper running may occur.

⚠CAUTION

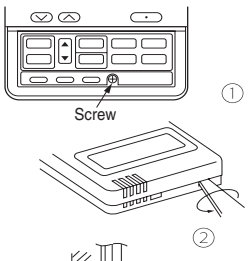
- Do not install the remote control at the following places in order to avoid malfunction.
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) Uneven surface
- Do not leave the remote control without the upper case.
  In case the upper cace needs to be detached, protect the remote control with a packaging box or bag in order to keep it away from water and dust.

Accessories	Remote control, wood screw (ø3.5×16) 2 pieces
Prepare on site	Remote control 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

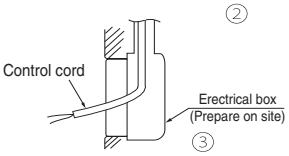
① Open the cover of remote control, and remove the screw under the buttons without fail.

② Remove the upper case of remote control.
Insert a flat-blade screwdriver into the dented part of the upper part of the remote control, and wrench slightly.

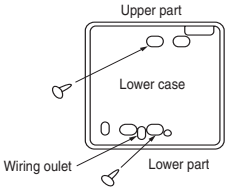


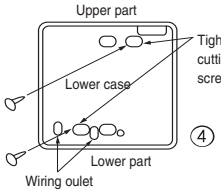
[In case of embedding cord]

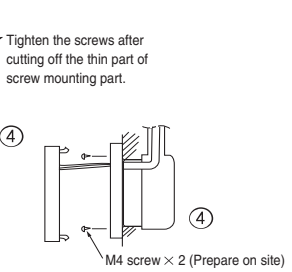
③ Embed the erectrical box and remote control cord beforehand.



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.

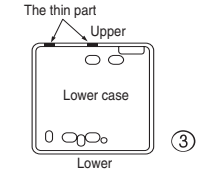






⑤ Connect the remote control cord to the terminal block.
Connect the terminal of remote control (X,Y) with the terminal of indoor unit (X,Y). (X and Y are no polarity)

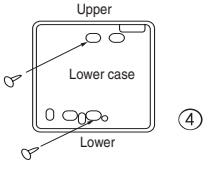
⑥ Install the upper case as before so as not to catch up the remote control cord, and tighten with the screws.



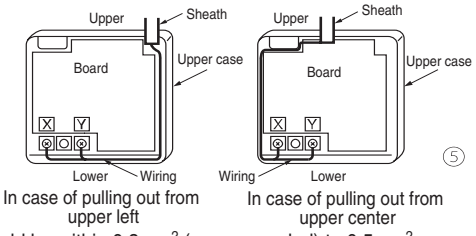
[In case of exposing cord]

③ You can pull out the remote control cord from left upper part or center upper part.
Cut off the upper thin part of remote control 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.

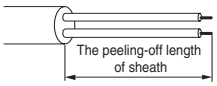


⑤ Connect the remote control cord to the terminal block.
Connect the terminal of remote control (X,Y) with the terminal of indoor unit (X,Y).
(X and Y are no polarity)
Wiring route is as shown in the right diagram depending on the pulling out direction.



The wiring inside the remote control case should be within 0.3mm^2 (recommended) to 0.5mm^2.
The sheath should be peeled off inside the remote control 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



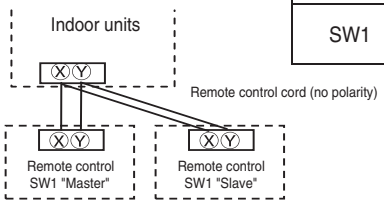
⑥ Install the upper case as before so as not to catch up the remote control cord, and tighten with the screws.
⑦ In case of exposing cord, fix the cord on the wall with cord clamp so as not to slack.

Installation and wiring of remote control

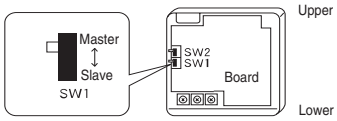
① Wiring of remote control should use 0.3mm^2 × 2 cores wires or cables. (on-site configuration)
② Maximum prolongation of remote control wiring is 600 m.
If the prolongation is over 100m, change to the size below.
But, wiring in the remote control case should be under 0.5mm^2 . Change the wire size 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 controls are used

A maximum of two remote controls can be connected to one indoor unit (or one group of indoor units.)



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



Set SW1 to "Slave" for the slave remote control. It was factory set to "Master" for shipment.
Note: The setting "Remote control sensor enabled" is only selectable with the master remote control in the position where you want to check room temperature.
The air-conditioner operation follows the last operation of the remote control 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 control until the communication between the remote control and indoor unit settled.
Master remote control : " WAIT M"
Slave remote control : " 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 control, not an error cord.

※ The left mark is only an example. Other marks may appear.

When remote control 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 control.

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 ⑫TEMP RANGE SET, remote control 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.

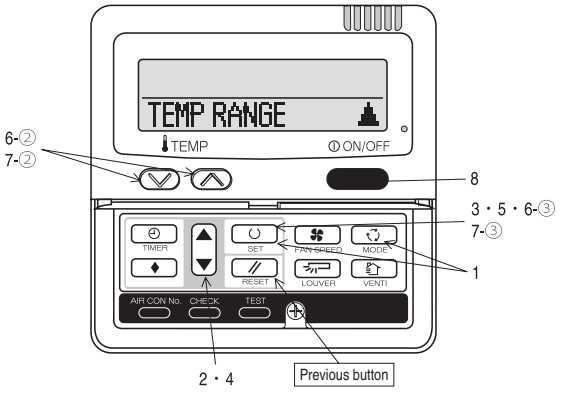
2. When ⑫TEMP RANGE SET, remote control function of function setting mode is "NO INDN CHANGE"
   【If upper limit value is set】
   During heating, even if the value exceeding the upper limit is set, upper limit value will be sent to the indoor unit. But, the indication is the same as the temperature set.

   【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

●The initial function setting for typical using is performed automatically by the indoor unit connected, when remote control and indoor unit are connected.
As long as they are used in a typical manner, there will be no need to change the initial settings.
If you would like to change the initial setting marked " ○ ", set your desired setting as for the selected item.
The procedure of functional setting is shown as the following diagram.

[Flow of function setting]

Start : Stop air-conditioner and press "(SET)" (SET) and "(MODE)" (MODE) buttons at the same time for over three seconds.
Finalize : Press "(SET)" (SET) button.
Reset : Press "(RESET)" (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

Record and keep the setting

Consult the technical data etc. for each control details

Stop air-conditioner and press (SET) + (MODE) buttons at the same time for over three seconds.

FUNCTION SET ▼

Note 1: The initial setting marked " ※ " is decided by connected indoor and outdoor unit, and is automatically defined as following table.

Function No.	Item	Default	Model
Remote control function02	AUTO RUN SET	AUTO RUN ON	"Auto-RUN" mode selectable indoor unit.
		AUTO RUN OFF	Indoor unit without "Auto-RUN" mode
Remote control function06	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
Remote control function07	LOUVER SW	VALID	Indoor unit with automatically swing louver
		INVALID	Indoor unit without automatically swing louver
Remote control function13	I/U FAN	HI-MID-LO	Indoor unit with three step of air flow setting
		HI-LO	Indoor unit with two step of air flow setting
		HI-MID	
		1 FAN SPEED	Indoor unit with only one of air flow setting
Remote control function15	MODEL TYPE	HEAT PUMP	Heat pump unit
		COOLING ONLY	Exclusive cooling unit

Note 3: As for plural indoor unit, set indoor functions to each master and slave indoor unit.
But only master indoor unit is received the setting change of indoor unit function "05 EXTERNAL INPUT" and "06 PERMISSION / PROHIBISHION".

FUNCTION ▼ (Remote control function)

Function / **setting**

01 ESP/CLEAN SET
- ESP VALID ○ — Validate setting of ESP:External Static Pressure
- ESP INVALID — Invalidate setting of ESP

02 AUTO RUN SET
- AUTO RUN ON ※
- AUTO RUN OFF ※ — Automatical operation is impossible

03 TEMP SW
- VALID ○
- 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 — 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.
- NO VENT LINK — In case of Single split series, by connecting ventilation device to CNT of the indoor printed circuit board (in case of VRF series, by connecting it to CND of the indoor printed circuit board), you can operate /stop the ventilation device independently by (VENT) button.

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 ※ — Air flow of fan becomes the three speed of ※ -※ ( ) -※ or※ -※ -※ ( ).
- HI-LO ※ — Air flow of fan becomes the two speed of ※ -※ ( ).
- HI-MID — Air flow of fan becomes the two speed of ※ -※ ( ).
- 1 FAN SPEED ※ — Air flow of fan is fixed at one speed.

14 POSITION — If you 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 signal into CnT of the indoor printed circuit board from external, the indoor unit will be operated independently according to the input from external.
- FOR ALL UNITS — If you input into CNT of the indoor printed circuit board from external, all units which connect to the same remote control are operated according to the input from external.

17 ROOM TEMP INDICATION SET
- INDICATION OFF ○
- INDICATION ON — In normal working indication, indoor unit temperature is indicated instead of air flow. (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.

(Indoor unit function) I/U FUNCTION ▲

Indoor unit No. are indicated only when plural indoor units are connected.

I/U000 ▲
I/U001 ≑
I/U002 ≑
I/U003 ≑
I/U004 ≑

To set other indoor unit, press AIR CON No. button, which allows you to go back to the indoor unit selection screen (for example: I/U 000 ▲).

Function / **setting**

02 FAN SPEED SET
- STANDARD ※
- HIGH SPEED 1 ※
- HIGH SPEED 2

03 FILTER SIGN SET
- INDICATION OFF
- TYPE 1 ○ — The filter sign is indicated after running for 180 hours.
- TYPE 2 — The filter sign is indicated after running for 600 hours.
- TYPE 3 — The filter sign is indicated after running for 1000 hours.
- TYPE 4 — The filter sign is indicated after running for 1000 hours, then the indoor unit will be stopped by compulsion after 24 hours.

04 POSITION — If you change the indoor function "04 POSITION", you must change the remote control function "14 POSITION " accordingly.
- 4POSITION STOP ○ — You can select the louver stop position in the four.
- FREE STOP — The louver can stop at any position.

05 EXTERNAL INPUT
- LEVEL INPUT ○
- PULSE INPUT

06 OPERATION PERMISSION/PROHIBITION
- INVALID ○
- VALID — Permission/prohibition control of operation will be valid.

07 EMERGENCY STOP
- INVALID ○
- VALID — With the VRF series, it is used to stop all indoor units connected with the same outdoor unit immediately. When stop signal is inputed from remote on-off terminal "CNT-6", all indoor units are stopped immediately.

08 ※ SP OFFSET
- OFFSET +3.0℃ — To be reset for producing +3.0˚C increase in temperature during heating.
- OFFSET +2.0℃ — To be reset for producing +2.0˚C increase in temperature during heating.
- OFFSET +1.0℃ — To be reset for producing +1.0˚C increase in temperature during heating.
- NO OFFSET ○

09 RETURN AIR TEMP
- OFFSET +2.0℃ — To be reset producing +2.0˚C increase in return air temperature of indoor unit.
- OFFSET +1.5℃ — To be reset producing +1.5˚C increase in return air temperature of indoor unit.
- OFFSET +1.0℃ — To be reset producing +1.0˚C increase in return air temperature of indoor unit.
- NO OFFSET ○
- OFFSET -1.0℃ — To be reset producing -1.0˚C increase in return air temperature of indoor unit.
- OFFSET -1.5℃ — To be reset producing -1.5˚C increase in return air temperature of indoor unit.
- OFFSET -2.0℃ — To be reset producing -2.0˚C increase in return air temperature of indoor unit.

10 ※ FAN CONTROL
- LOW FAN SPEED ○ — When heating thermostat is OFF, fan speed is low speed.
- SET FAN SPEED — When heating thermostat is OFF, fan speed is set speed.
- INTERMITTENCE — When heating thermostat is OFF, fan speed is operated intermittently.
- FAN OFF — When heating thermostat is OFF, the fan is stopped. When the remote thermistor is working, "FAN OFF" is set automatically. Do not set "FAN OFF" when the indoor unit's thermistor is working.

11 FROST PREVENTION TEMP — Change of indoor heat exchanger temperature to start frost prevention control.
- TEMP HIGH
- TEMP LOW ○

12 FROST PREVENTION CONTROL — Working only with the Single split series.
- FAN CONTROL ON ○ — To control frost prevention, the indoor fan tap is raised.
- FAN CONTROL OFF

13 DRAIN PUMP LINK
- ※ ○ — Drain pump is run during cooling and dry.
- ※ AND※ — Drain pump is run during cooling, dry and heating.
- ※ AND※ AND ≋ — Drain pump is run during cooling, dry, heating and fan.
- ※ AND ≋ — Drain pump is run during cooling, dry and fan.

14 ※ FAN REMAINING
- NO REMAINING ○ — After cooling is stopped is OFF, the fan does not perform extra operation.
- 0.5 HOUR — After cooling is stopped is OFF, the fan perform extra operation for half an hour.
- 1 HOUR — After cooling is stopped is OFF, the fan perform extra operation for an hour.
- 6 HOUR — After cooling is stopped is OFF, the fan perform extra operation for six hours.

15 ※ FAN REMAINING
- NO REMAINING ○ — After heating is stopped or heating thermostat is OFF, the fan does not perform extra operation.
- 0.5 HOUR — After heating is stopped or heating thermostat is OFF,the fan perform extra operation for half an hour.
- 2 HOUR — After heating is stopped or heating thermostat is OFF,the fan perform extra operation for two hours.
- 6 HOUR — After heating is stopped or heating thermostat is OFF, the fan perform extra operation for six hours.

16 ※ FAN INTERMITTENCE
- NO REMAINING ○ — During heating is stopped or heating thermostat is OFF, the fan perform intermittent operation for five minutes with low fan speed after twenty minutes' OFF.
- 2min ON / 5min OFF — During heating is stopped or heating thermostat is OFF, the fan perform intermittent operation for five minutes with low fan speed after five minutes' OFF.

17 PRESSURE CONTROL
- STANDARD ※
- TYPE1 ※ — Connected "OA Processing" type indoor unit, and is automatically defined.

Note2: 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	

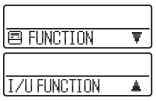
Initial function setting of some indoor unit is "HIGH SPEED".

ON/OFF button (finished)

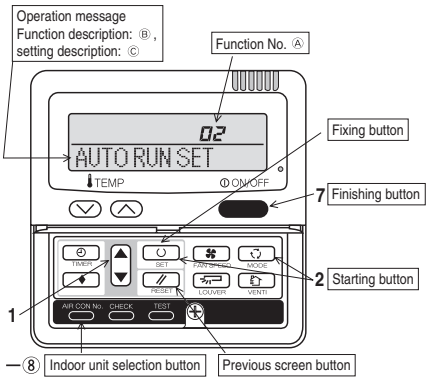
How to set function

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 control function) or "I/U FUNCTION ▲" (indoor unit function).**
4. **Press ▲ or ▼ button.**
   Selecct "FUNCTION ▼" (remote control function) or "I/U FUNCTION ▲" (indoor unit function).



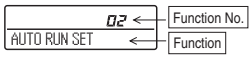
5. **Press ○ (SET) button.**



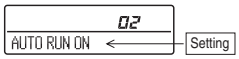
6. **【On the occasion of remote control function selection】**

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

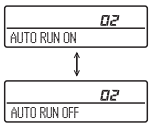
② Press ▲ or ▼ button.
"No. and function"are indicated by turns on the remote control function table, then you can select from them.
(For example)



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.

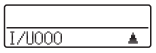
7. **Press ON/OFF button.**
   Setting is finished.

【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]

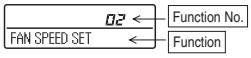
(1) If plural indoor units are connected to a remote control, the indication is "I/U 000" (blinking) ← The lowest number of the indoor unit connected is indicated.



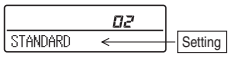
(2) Press ▲ or ▼ button.
Select the number of the indoor unit you are to set
If you select "ALL UNIT ▼", you can set the same setting with all unites.

(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 control, press the AIR CON 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 control and it is saved independently of power failure.

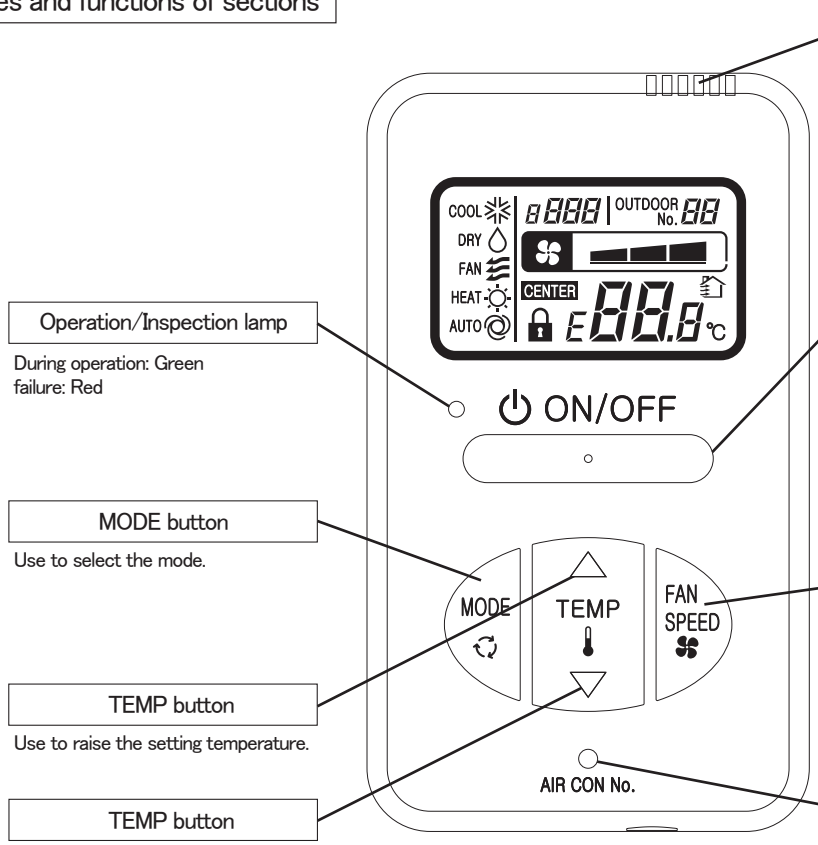
【How to check the current setting】

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.)

9.2 Simple wired remote control (RCH-E3)

PJZ000Z272

Names and functions of sections



Operation/Inspection lamp
During operation: Green
failure: Red

ON/OFF button
Button to start/stop the air−conditioner

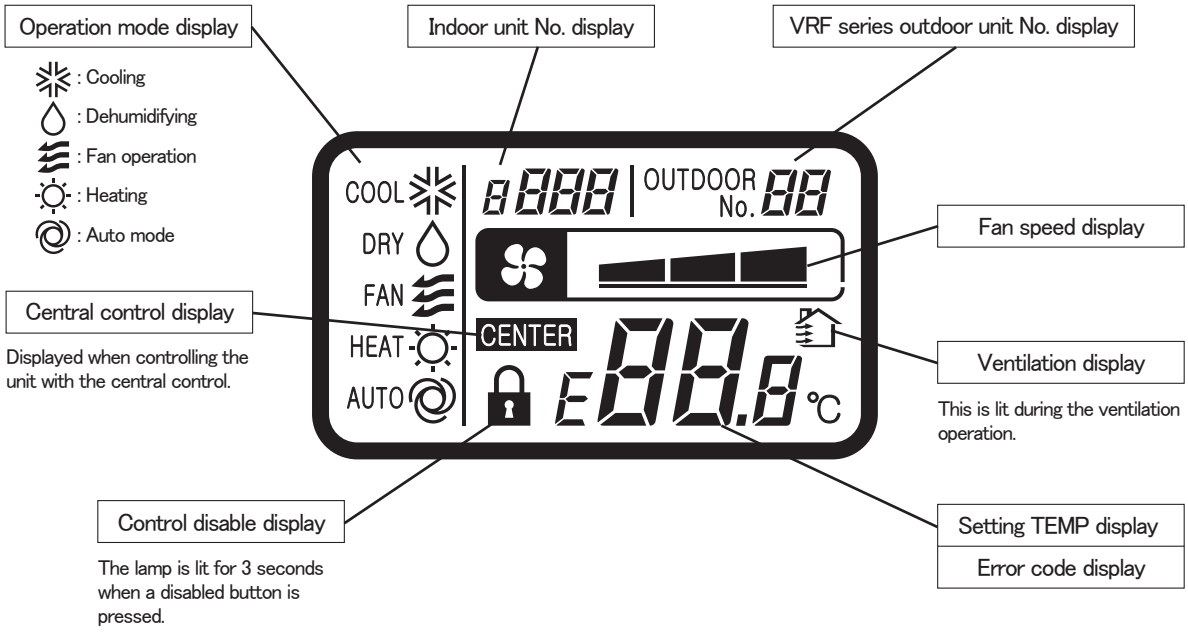
MODE button
Use to select the mode.

FAN SPEED button
Button to set the fan speed

TEMP button
Use to raise the setting temperature.

TEMP button
Use to lower the setting temperature.

AIR CON No. button
Indicates the No. of air−conditioner which is connected.

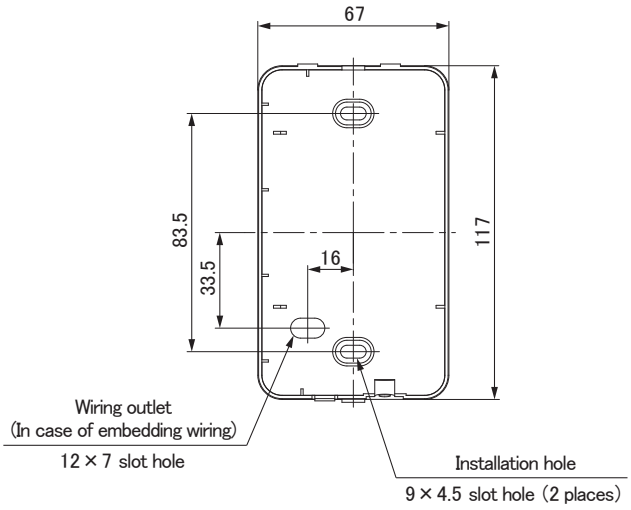


Installation of remote control

Do not install the remote control at the following places in order to avoid malfunction.

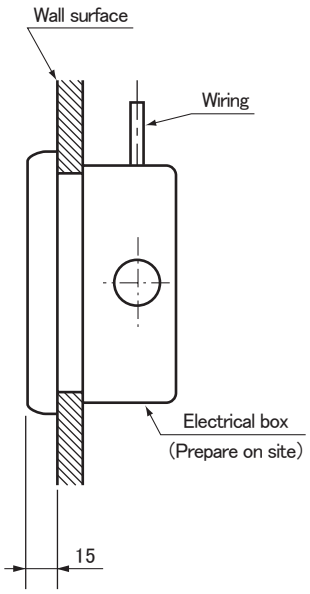
(1) Places exposed to direct sunlight
(2) Places near heat devices
(3) High humidity places
(4) Hot surface or cold surface enough to generate condensation
(5) Places exposed to oil mist or steam directly
(6) Uneven surface

Remote control installation dimensions

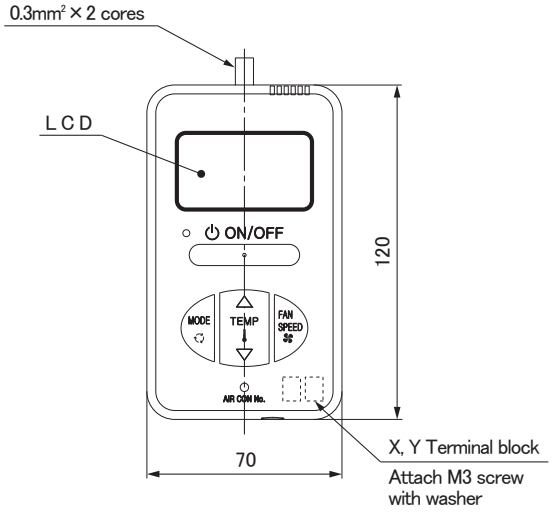


Note: Installation screw for remote control
M4 screw (2 pieces)

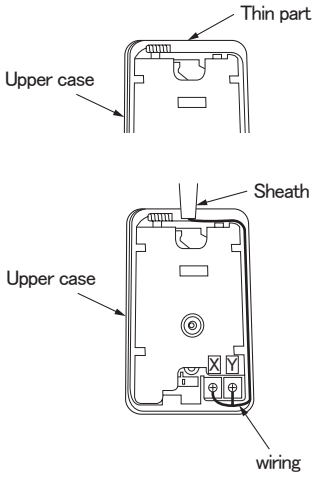
In case of embedding wiring



In case of exposing wiring

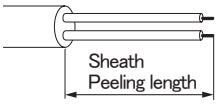


The remote control wiring can be extracted from the upper center.
After the thin part in the upper side of the remote control upper case is scraped with a nipper or knife, remove burr with a file.



The peeling length of each wiring is as follows:

X wiring : 160mm
Y wiring : 150mm



Wiring specifications

(1) Wiring of remote control should use 0.3mm² × 2 cores wires or cables. (on-site configuration)
(2) Maximum prolongation of remote control wiring is 600m.
If the prolongation is over 100m, change to the size below.
But, the wiring in the remote control 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 Control 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 source is turned off when electric wiring work.**
  Otherwise, electric shock, malfunction and improper running may occur.

⚠ CAUTION

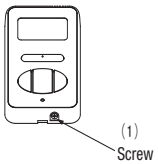
- **Do not install the remote control at the following places in order to avoid malfunction.**
  (1) Places exposed to direct sunlight
  (2) Places near heat devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places exposed to oil mist or steam directly
  (6) Uneven surface
- **Do not leave the remote control without the upper case.**
  In case the upper cace needs to be detached, protect the remote control with a packaging box or bag in order to keep it away from water and dust.

Accessories	Remote control, wood screw (ϕ3.5×16) 2 pieces
Prepare on site	Remote control cord (2 cores) (Refer to [2. Installation and wiring of remote control]) [In case of embedding cord] Electrical box, M4 screw (2 pieces) [In case of exposing cord] Cord clamp (if needed)

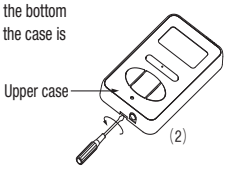
1. Installation procedure

In case of embedding cord

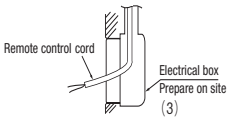
(1) Make certain to remove the screw on the bottom surface of the remote control.



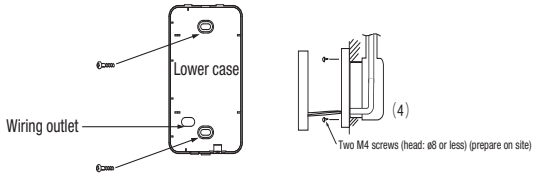
(2) Remove the upper case of the remote control.
Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed.



(3) Pre-bury the electrical box and remote control 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.

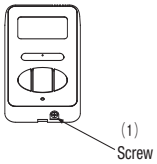


(5) Connect the remote control cord to the terminal block.
Connect the terminals (X and Y) of the remote control and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)

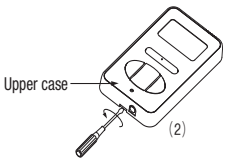
(6) Mount the upper case for restoring to its former state so as not to crimp the remote control cord, and secure with the removed screw.

In case of exposing cord

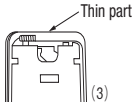
(1) Make certain to remove a screw on the bottom surface of the remote control.



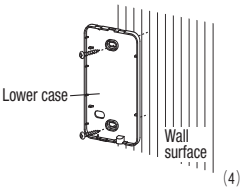
(2) Remove the upper case of the remote control.
Insert a flat-blade screwdriver to a concave portion of the bottom surface of the remote control and slightly twist it, and the case is removed.



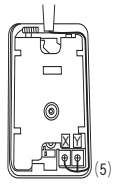
(3) The remote control cord can be extracted from the upper center.
After the thin part in the upper side of the remote control upper case is scraped with a nipper or knife, remove burr with a file.



(4) The lower case of the remote control is mounted to a flat wall with two accessory wood screws.

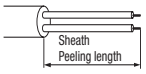


(5) Connect the remote control cord to the terminal block.
Connect the terminals (X and Y) of the remote control and the terminals (X and Y) of the indoor unit. (No polarity of X and Y)
The wiring route is as shown in the right.



The wiring in the remote control 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 control cord, and secure with the removed screw.

(7) In the case of exposing installation, secure the remote control cord to the wall surface with a cord clamp so as not to loosen the remote control cord.

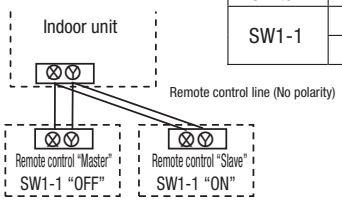
2. Installation and wiring of remote control

(1) Wiring of remote control should use 0.3mm^2 × 2 cores wires or cables. (on-site configuration)
(2) Maximum prolongation of remote control wiring is 600 m.
If the prolongation is over 100m, change to the size below.
But, the wiring in the remote control 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 control are used

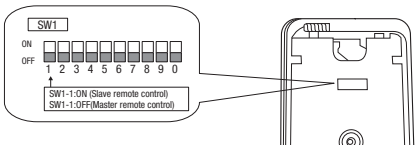
(1) Up to two remote controls can be connected to one unit (or one group) of indoor unit.

Switch	Setting	Function detail
SW1-1	ON	Slave remote control
	OFF	Master remote control



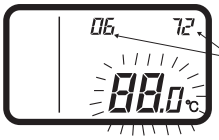
(2) Set the switch SW1-1 of the slave remote control is "Slave" (ON). The factory default is set as "Master" (OFF).

(Note) • The remote control thermistor enabled setting can be set only to the master remote control.
• Install the master remote control at the position to detect room temperature.
• The air-conditioner operation follows the last operation of the remote control 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 control until the communication between the remote control and the indoor unit is established.

(3) In the case of connecting one remote control with one unit (or one group) of indoor unit, make certain to set the master remote control (factory default).
If the slave remote control is set, a communication cannot be established.

(4) If a state where the communication between the remote control 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 control.

5. Confirmation method for return air temperature

Return air temperature can be confirmed by the remote control 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 are 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 control 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 control]

(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 are 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.

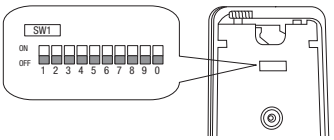
6. Function setting

Each function of the remote control and the indoor unit is automatically set to the initial setting, which is the standard use, on the occasion of connecting the remote control 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 control	
	OFF	Master remote control	○
SW1-2	ON	Remote control thermistor enabled	
	OFF	Remote control 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 control, 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 control 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 control thermistor at the time of cooling	01	Remote control thermistor: no offset	○	
			02	Remote control thermistor: +3.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at +3.0°C.
			03	Remote control thermistor: +2.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at +2.0°C.
			04	Remote control thermistor: +1.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at +1.0°C.
			05	Remote control thermistor: -1.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at -1.0°C.
			06	Remote control thermistor: -2.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offset temperature at -2.0°C.
			07	Remote control thermistor: -3.0 °C		At the time of cooling, in the case of remote control thermistor enabled, offsett temperature at -3.0°C.
	04	Remote control thermistor at the time of heating	01	Remote control thermistor: no offset	○	
			02	Remote control thermistor: +3.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at +3.0°C.
			03	Remote control thermistor: +2.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at +2.0°C.
			04	Remote control thermistor: +1.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at +1.0°C.
			05	Remote control thermistor: -1.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at -1.0°C.
			06	Remote control thermistor: -2.0 °C		At the time of heating, in the case of remote control thermistor enabled, offset temperature at -2.0°C.
			07	Remote control thermistor: -3.0 °C		At the time of heating, in the case of remote control 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 control 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 control 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 control 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 control 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

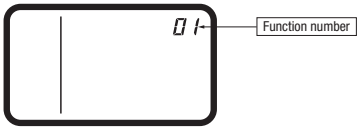
Fan speed setting	Indoor unit fan speed setting		
	❋ ■■■ - ❋ ■■ - ❋ ■	❋ ■■■ - ❋ ■	❋ ■■■ - ❋ ■■
Standard	Hi — Mid — Lo	Hi — Lo	Hi — Mid
High speed 1 ・ 2	UHi — Hi — Mid	UHi — Mid	UHi — Hi

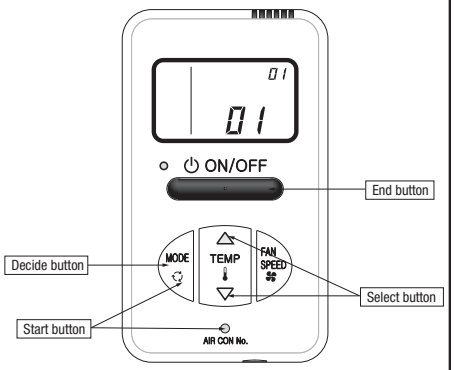
Initial setting of some indoor unit is "High speed".

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.

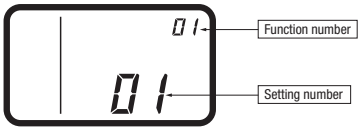




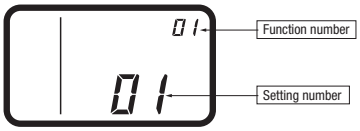
(2) **Press TEMP△ or TEMP▽ button.**
Select the function number.

(3) **Press MODE button.**
Decide the function number.

(4) **[In the case of selecting the remote control function (01-06)]**
① The current setting number of the selected function number blinks
(Example)
Function number: "01" (lighting)
Setting number: "01" (blinking)



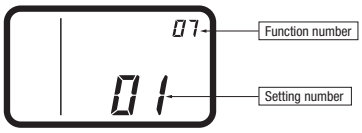
② **Press TEMP△ or TEMP▽ button.**
Select the setting number.
③ **Press MODE button.**
The setting is completed.
Light is on for approximately 3 to 20 seconds while data of the decided function No. and setting No. is transmitted.
(Example)
Function number: "01" (lighting for 3 to 20 seconds)
Setting 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).

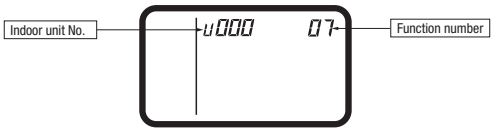
(5) **Press ON/OFF button.**
The setting is completed.

[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 are 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.

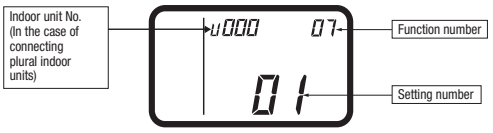
[Note]
a. In the case of connecting one remote control to plural indoor units, the display will be as follows:
Indoor unit No. display: "U 000" (blinking)
(Display the lowest number among the connected indoor units.)



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 are 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 control, 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.)

9.3 Wireless kit (FDTC only)

- **FDTC series (RCN-TC-5AW-E2)**

PJF012D506 A

Safety precautions

•Please read this manual carefully before starting installation work to install the unit properly.
All of the following are important information to be observed strictly.
⚠WARNING Failure to follow these instructions properly may result in serious consequences such as death, severe injury, etc.
⚠CAUTION Failure to follow these instructions properly may cause injury or property damage. It could have serious consequences depending on the circumstances.
•The following symbols are used in the text.

⃠	Never do.	❗	Always follow the instructions given.

•Keep this manual at a safe place where you can consult with whenever necessary. Show this manual to installers when moving or repairing the unit. When the ownership of the unit is transferred, this manual should be given to the new owner.

⚠WARNING

- **Consult your dealer or a professional contractor to install the unit.**
  Improper installation made on your own may cause electric shocks, fire or dropping of the unit.
- **Installation work should be performed properly according to this installation manual.**
  Improper installation work may result in electric shocks, fire or break-down.
- **Be sure to use accessories and specified parts for installation work.**
  Use of unspecified parts may result in drop, fire or electric shocks.
- **Install the unit properly to a place with sufficient strength to hold the weight.**
  If the place is not strong enough, the unit may drop and cause injury.
- **Be sure to have the electrical wiring work done by qualified electrical installer, and use exclusive circuit.**
  Power source with insufficient and improper work can cause electric shock and fire.
- **Shut OFF the main power source before starting electrical work.**
  Otherwise, it could result in electric shocks, break-down or malfunction.
- **Do not modify the unit.**
  It could cause electric shocks, fire, or break-down.
- **Be sure to turn OFF the power circuit breaker before repairing/inspecting the unit.**
  Repairing/inspecting the unit with the power circuit breaker turned ON could cause electric shocks or injury.
- **Do not install the unit in appropriate environment or where inflammable gas could generate, flow in, accumulate or leak.**
  If the unit is used at places where air contains dense oil mist, steam, organic solvent vapor, corrosive gas (ammonium, sulfuric compound, acid, etc) or where acidic or alkaline solution, special spray, etc. are used, it could cause electric shocks, break-down, smoke or fire as a result of significant deterioration of its performance or corrosion.
- **Do not install the unit where water vapor is generated excessively or condensation occurs.**
  It could cause electric shocks, fire, or break-down.
- **Do not use the unit in a place where it gets wet, such as laundry room.**
  It could cause electric shocks, fire, or break-down.
- **Do not operate the unit with wet hands.**
  It could cause electric shocks.

⚠WARNING

- **Do not wash the unit with water.**
  It could cause electric shocks, fire, or break-down.
- **Use the specified cables for wiring, and connect them securely with care to protect electronic parts from external forces.**
  Improper connections or fixing could cause heat generation, fire, etc.
- **When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress electric noises.**
  It could cause malfunction or break-down due to hazardous effects on the inverter, private power generator, high frequency medical equipment, radio communication equipment, etc.
  The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.
- **Do not leave the remote control with its PCB case removed.**
  If dew, water, insect, etc. enter through the hole, it could cause electric shocks, fire or break-down.

⚠CAUTION

- Do not install the wireless kit at the following places in order to avoid malfunction.
  It could cause break-down or deformation of remote control.
  (1) Places exposed to direct sunlight
  (2) Places near heat-generating 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 air flow of the AC unit
  (8) Places where the receiver is influenced by 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 control

① Accessories

Please make sure that you have all of the following accessories.

① Receiver		1
② PCB		1
③ PCB mounting support		2
④ Bracket (Sheet metal)		1

⑤ Bracket mounting screw		1
⑥ Wiring (For communication)		1
⑦ Wiring (For receiving)		1
⑧ Installation manual		1
⑨ Parts set		1

① Wireless remote control		1
② Remote control holder		1
③ Screw for holder		2
④ AAA dry cell battery (LR03)		2
⑤ User's manual		1

② Preparation before installation

Setting of PCB

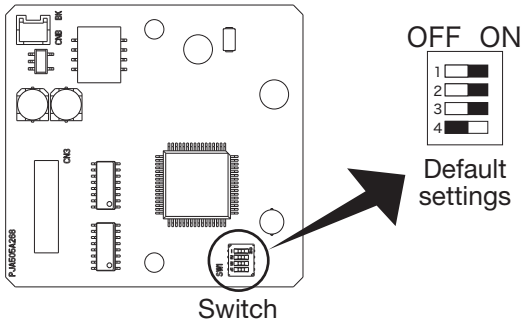
Accessory PCB has the following switches to set the functions. Default setting is shown with ☐ mark.

SW1	Prevents interference during multiple setting	☐ ON : Normal	OFF : Remote
SW2	Receiver master/slave setting	☐ ON : Master	OFF : Slave
SW3	Buzzer	☐ ON : Valid	OFF : Invalid
SW4	Auto restart	ON : Valid	☐ OFF : Invalid

② Preparation before installation (continued)

To change setting

1. Change the setting of switches on the accessory PCB.



Master/Slave setting when using multiple remote controls

Up to two receivers or wired remote controls can be installed on one indoor unit group. In such occasion, it is necessary to change the setting to slave on either one.
To change the setting on the receiver, refer to the instruction manual of the receiver.

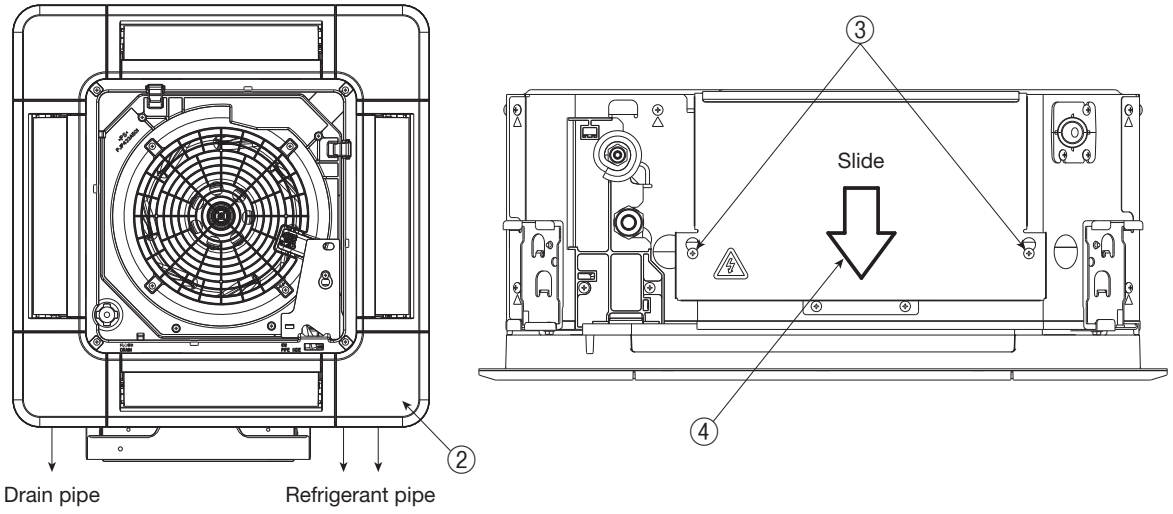
2. When SW1 is turned to OFF position, change the wireless remote control setting.
   For the method of changing the setting, refer to Setting to avoid mixed communication of ④ Wireless remote control.
   *For the receivable area of the signal, refer to ⑤ Receiver .

③ How to install the receiver

It is possible to install the receiver by replacing the corner lid on the panel.

Preparation before installation

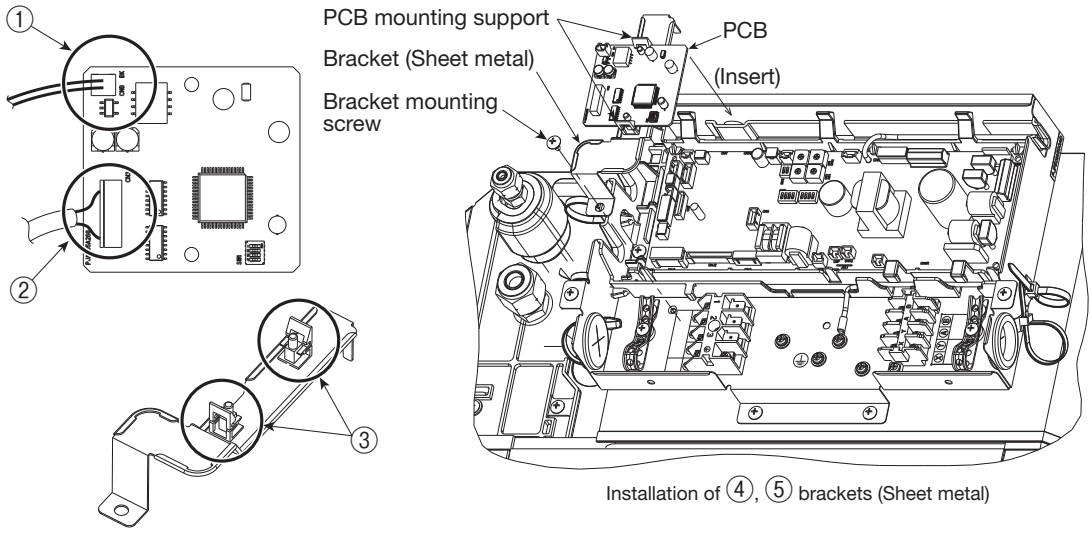
① Remove the inlet grille according to the installation manual of the panel.
② Remove the corner lid at the refrigerant pipe side.
③ Loosen screws (2 pcs) on the control box of the unit.
④ Slide the control lid in the arrow direction, and remove it.



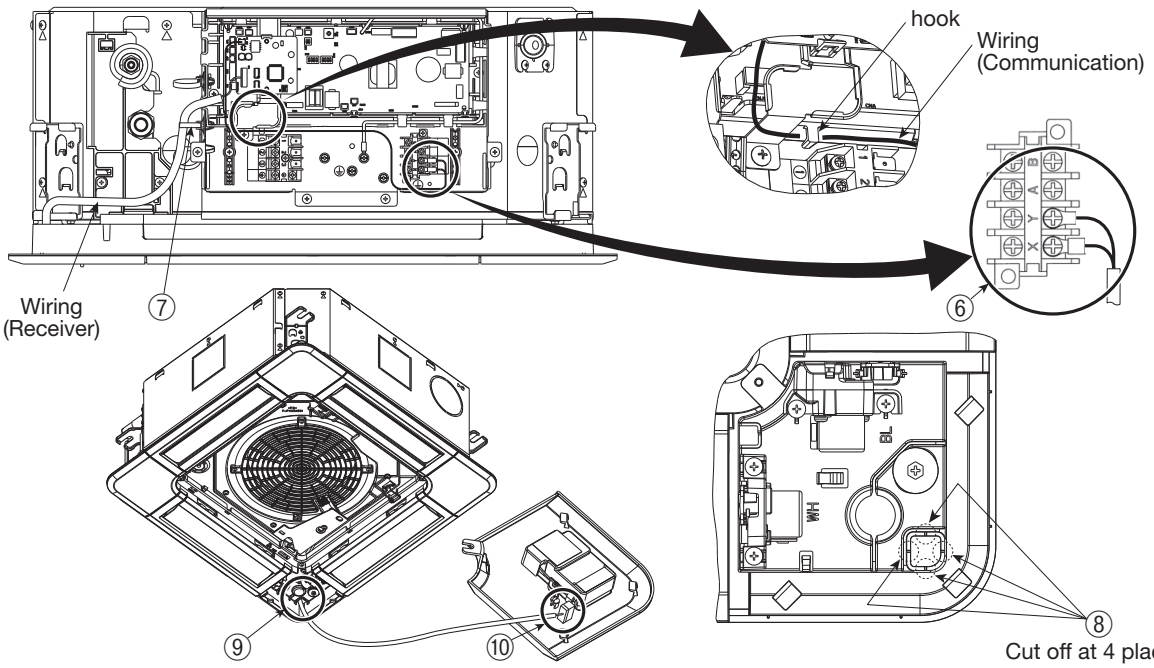
③ How to install the receiver(continued)

Installation of the receiver

① Connect the wire connector (Communication) to CNB on PCB.
② Connect the wire connector (Receiver) to CN3 on PCB.
③ Install the PCB mounting supports on the bracket (Sheet metal).
④ Install PCB on the PCB mounting supports.
⑤ Insert the bracket (Sheet metal) in one side of control box, and fix the other side with screws as shown in the figure.
⑥ Connect round terminals of wires (Communication) to the terminal block (X, Y) in the control box. The wires have no polarity.
⑦ Fix wires with bands as shown in the figure.
⑧ Cut off the half-blanks on the panel (at 4 places) as shown in the figure.
⑨ Pass the wiring (Communication) through the opening on the panel.
⑩ Connect connectors of the wiring (Communication) and the receiver.
⑪ Install the receiver on the panel according to the installation manual of the panel.
⑫ Install the control box lid with care not to pinch wires, and fix with screws (2 pcs).



Installation of ④, ⑤ brackets (Sheet metal)



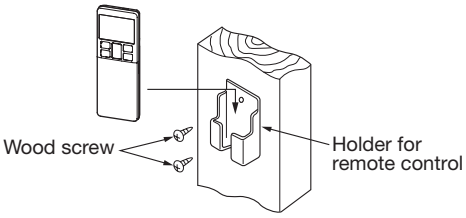
Cut off at 4 places.

④ Wireless remote control

Installation tips for the remote control holder

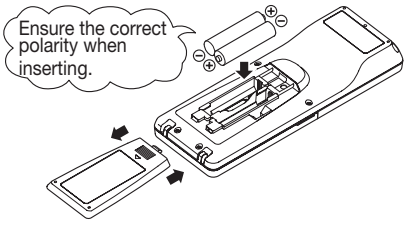
Fix the remote control holder using the screws supplied with this product.

* Precautions for installing the holder
• Adjust the position so that it is upright.
• Ensure that the screw heads are not protruding.
• Do not attach the holder on plaster wall.



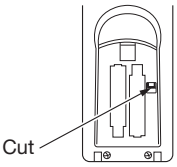
How to insert batteries

1. Detach the back lid.
2. Insert the batteries. (two AAA batteries)
3. Reattach the back lid.



Setting to avoid mixed communication

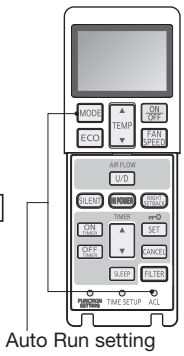
1. Detach the back lid, and remove the batteries.
2. Cut off the switching wire in the battery compartment using nippers.
3. Insert the batteries, and attach the back lid.



Changing the remote control setting

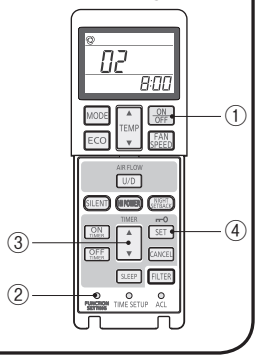
How to change the Auto Run setting
The Auto Run mode is not available on the building air-conditioning and gas heat pump series (excluding the cooling/heating free multi system).
When using the remote control to operate those models, set the remote control to disable the Auto Run mode.
To disable the Auto Run mode, press the ACL switch while holding down the MODE button, or insert batteries while holding down the MODE button.

* Note: Once the batteries are removed, the setting is reset to the factory default. When the batteries are removed, repeat the steps described above.



Indoor function settings

1. How to set indoor functions
   ① Press the ON/OFF button to stop the unit.
   ② Press the desired one of the buttons shown item **2.** while holding down the FUNCTION SETTING switch.
   ③ Use the selection buttons ▲ and ▼ to change the setting.
   ④ Press the SET button.
   The buzzer on the remote control signal receiver beeps twice, and the LED lamp flashes four times at two-second intervals.



④ Wireless remote control (continued)

2. Setting details
   The following functions can be set.

Button	Number indicator	Function setting
FAN SPEED	00	Fan speed setting : Standard
	01	Fan speed setting : Setting 1 *
	02	Fan speed setting : Setting 2 *
MODE	00	Room heating temperature adjustment : Disable
	01	Room heating temperature adjustment : +1°C
	02	Room heating temperature adjustment : +2°C
	03	Room heating temperature adjustment : +3°C
FILTER	00	Filter sign display : OFF
	01	Filter sign display : 180 hours
	02	Filter sign display : 600 hours
	03	Filter sign display : 1000 hours
	04	Filter sign display : Operation stop after 1000 hours have elapsed
U/P (Up/Down)	00	Anti draft setting : Disable
	01	Anti draft setting : Enable
SILENT	00	Infrared sensor setting (Motion sensor setting) : Disable
	01	Infrared sensor setting (Motion sensor setting) : Enable
HI POWER	00	Infrared sensor control (Motion sensor control) : Disable
	01	Infrared sensor control (Motion sensor control) : Power control only
	02	Infrared sensor control (Motion sensor control) : Auto OFF only
	03	Infrared sensor control (Motion sensor control) : Power control + Auto OFF
ON TIMER	00	Cooling fan residual-period running : Disable
	01	Cooling fan residual-period running : 0.5 hours
	02	Cooling fan residual-period running : 2 hours
	03	Cooling fan residual-period running : 6 hours
OFF TIMER	00	Heating fan residual-period running : Disable
	01	Heating fan residual-period running : 0.5 hours
	02	Heating fan residual-period running : 2 hours
	03	Heating fan residual-period running : 6 hours
NIGHT SETBACK	00	Remote control signal receiver LED : Brightness High
	01	Remote control signal receiver LED : Brightness Low
	02	Remote control signal receiver LED : OFF

* Refer to service manual.

⑤ Receiver

1 Control multiple indoor units with one remote control

Up to 16 indoor units can be connected.

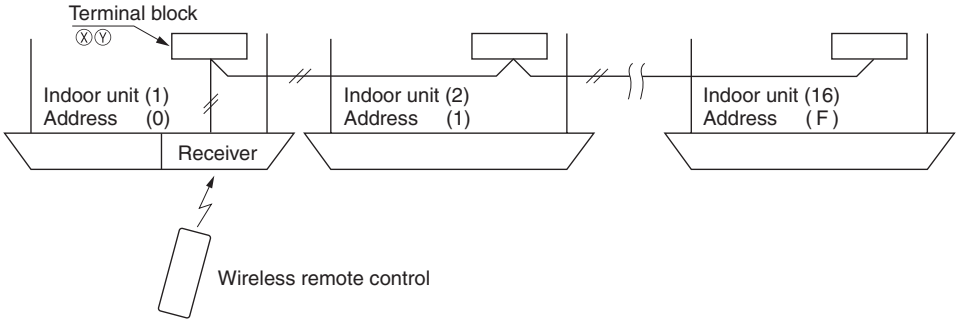
1. Connect the XY terminal with 2 cores wire. As for the size, refer to the note on the right.
2. For Packaged air-conditioner series, set the indoor unit address with SW2 on the indoor unit PCB from [1] to [F] so as not to duplicate.

Restrictions on the thickness and length of wire (Maximum length is 600m.)

Standard	Within	0.3 mm² × 100m
	Within	0.5 mm² × 200m
	Within	0.75mm² × 300m
	Within	1.25mm² × 400m
	Within	2.0 mm² × 600m

For the shop series

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.

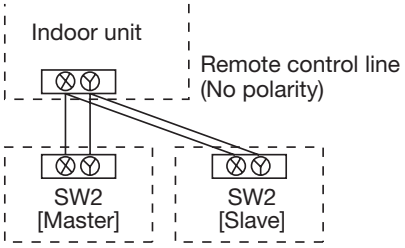


For the building air-conditioning and gas heat pump series

Set the indoor unit and outdoor unit numbers by manually specifying the addresses.
Use the rotary switches SW1 and SW2 provided on the indoor unit PCB (printed circuit board) to set the indoor unit numbers so that they are not duplicated.

Master/Slave setting when using multiple remote control

Up to two receivers can be installed in one indoor unit group.

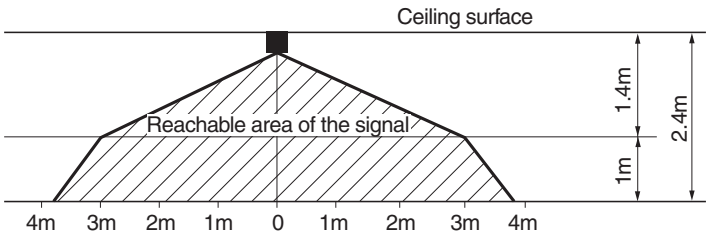


Switch	Setting	Function
SW2	ON	Master
	OFF	Slave

Wireless remote control's operable area

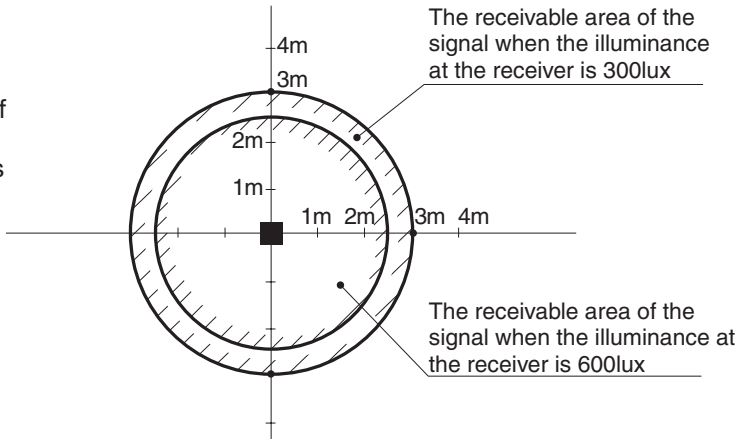
1. Standard reachable area of the signal

   [Condition] Illuminance at the receiver: 300lux
   (When no lighting is installed within 1m of the receiver in an ordinary office)



⑤ Receiver (continued)

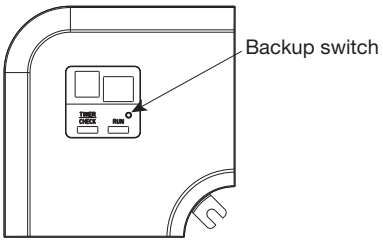
2. Correlation between illuminance at the receiver and reachable area of the signal in a plain view.
   The drawing in the right shows the correlation between the reachable area of the signal and illuminance at the receiver when the remote control is operated at 1m high under the condition of ceiling height of 2.4m.
   When the illuminance becomes double, the area is narrowed down to two thirds.



3. Installation tips when several receivers are installed close to one another.
   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)

Backup switch

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 (In case of cooling only, it is in the cooling 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 pressed.
- 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.

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 control or the operation of the backup switch 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 control, while the backup button is pressed.

9.4 Motion sensor kit (FDTC only)

(1) FDTC series (LB-TC-5W-E)

PJF012D504 A

⚠ WARNING

- Connect the wiring to the PCB in the control box on the indoor unit and fix the wiring securely so as not to apply unexpected stress on the PCB.
  Loose connection or fixing will cause abnormal heat generation or fire.
- Make sure the power source is turned off during electrical wiring work.
  Otherwise, electric shock, malfunction and abnomal operation may occur.

⚠ CAUTION

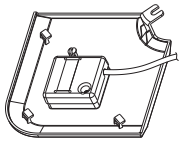
- Do not install the motion sensor kit at the following places in order to avoid malfunction.
  (1) Places exposed to direct sunlight
  (2) Places near heat-generating devices
  (3) High humidity places
  (4) Hot surface or cold surface enough to generate condensation
  (5) Places directly exposed to oil mist or steam
  (6) Places affected by the direct air flow of the indoor unit
  (7) Places where the motion sensor may be influenced by fluorescent lamp or sunlight
  (8) Places where the motion sensor may be affected by infrared rays of any other communication devices
  (9) Places where some object may obstruct the motion sensor
  (10) Places where there may be impact on the motion sensor
  (11) Places with strong radio wave or static electricity
  (12) Dusty place where the motion sensor lens may become tainted or be damaged
- Do not leave the motion sensor without the cover.
  In case the cover needs to be detached, protect the motion sensor with a packaging or bag in order to keep it away from water and dust.

Attention

- Instruct the customer how to operate the motion sensor kit correctly by 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

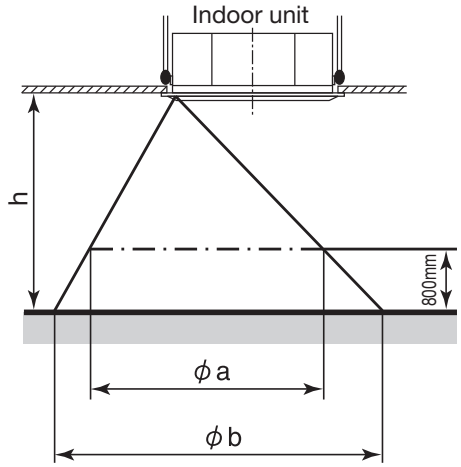
Please make sure that all components are in the package.

Motion sensor		1

② Installing the motion sensor

It is possible to install the motion sensor by replacing the corner lid on the panel.

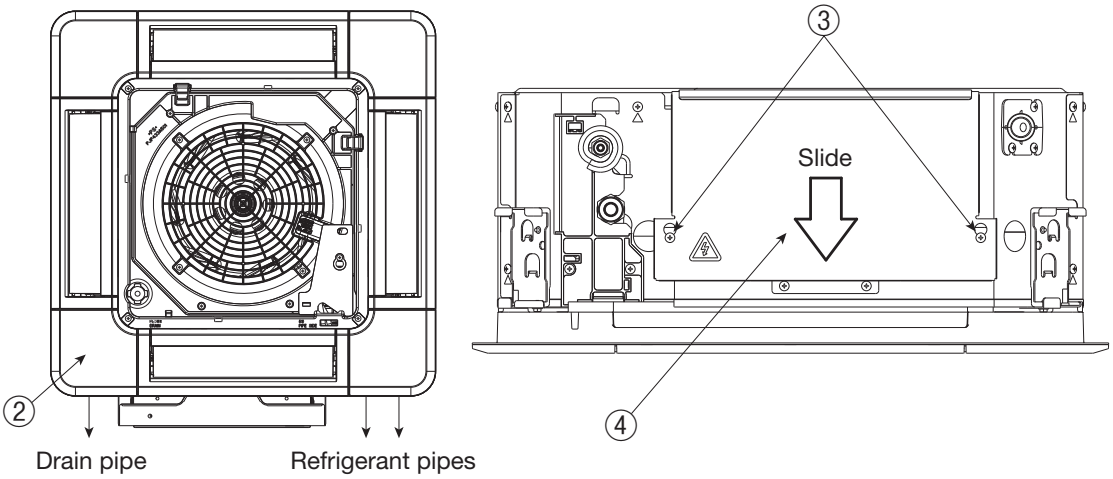
The detectable area



Height of the ceiling	h[m]	2.7	3.5	4.0
Detectable area①	ϕ a[m]	about 4.5	about 6.4	about 7.6
Detectable area②	ϕ b[m]	about 6.4	about 8.3	about 9.5

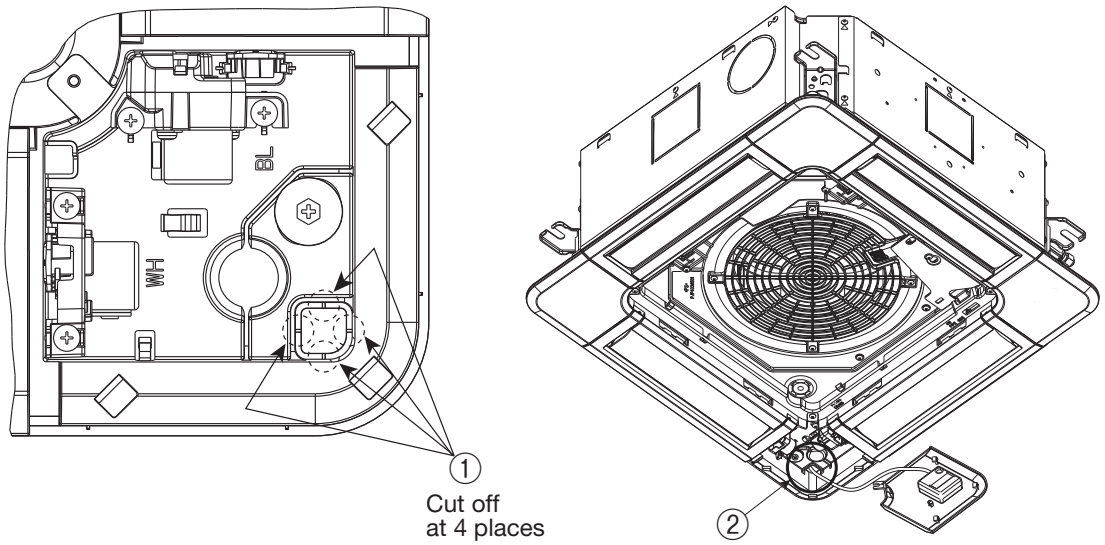
Preparation before installation

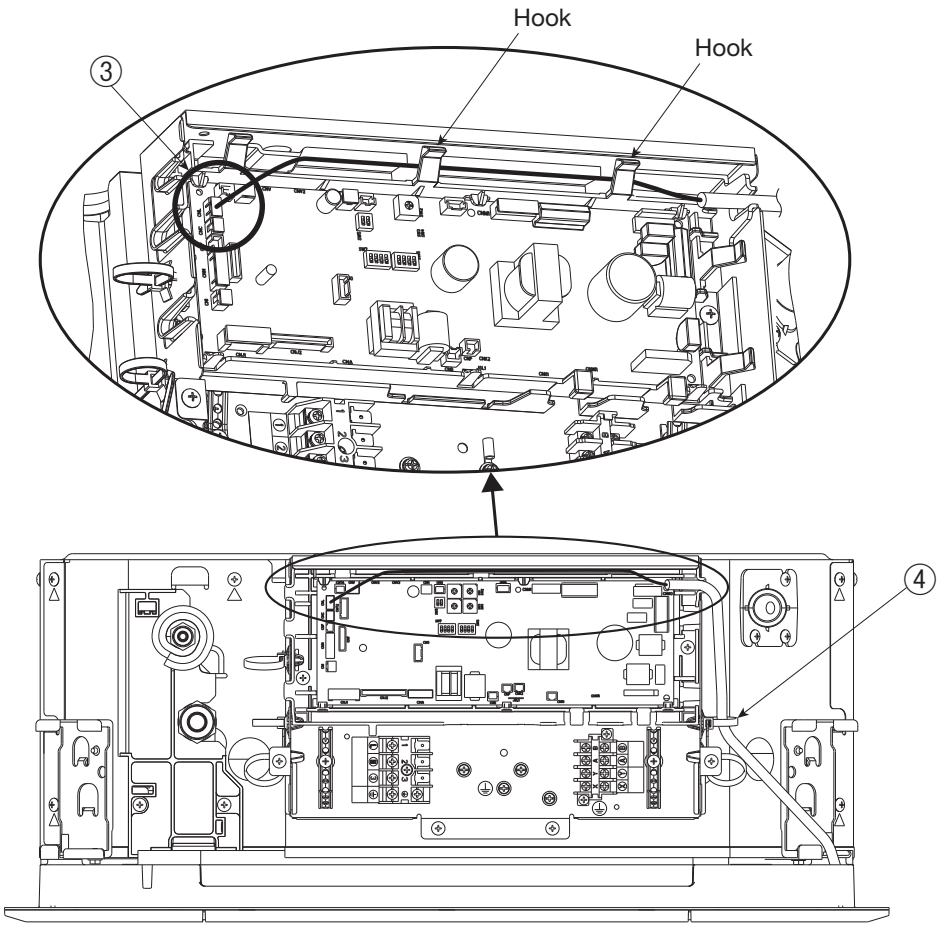
① Remove the inlet grille according to the installation manual of the panel.
② Remove the corner lid at the drain pipe side.
③ Loosen screws (2 pcs) on the control box of the unit. (It is not necessary to remove the screws.)
④ Slide the control lid in the arrow direction, and remove it.



Installation of the motion sensor

① Cut the half blanking (4 sections) of the panel as shown in the following figure.
② Pass the motion sensor wiring through the opening of the panel.
③ Connect the wiring connector to CNL (3P, black) on the PCB in the control box.
④ Fix the wiring with a band as shown below.
⑤ Install the motion sensor on the panel according to the installation manual of the panel.
⑥ Install the control lid with care not to pinch the wiring, and reinstall the control lid with screws (2 pcs.).





③ Setting the motion sensor

The motion sensor will not function if it is only installed.
Set the function of the motion sensor by the wired or wireless remote control.
Refer to the manual instruction of each remote control for the setting procedure.

Note: It is not possible to set by the following remote control models or older ones.
Wired:RC-EX1A, RC-E5, RCH-E3
Wireless: RCN-E1R

(2) User's manual

PJZ012A164

SAFETY PRECAUTIONS

⚠ WARNING

● **If a child, person with disease or other persons needed for assist uses this product, people around the person should take sufficient care.**
A halt of the air-conditioner due to abnormal situation or motion sensor's control may cause a feeling of sickness or accident.

ATTENTION

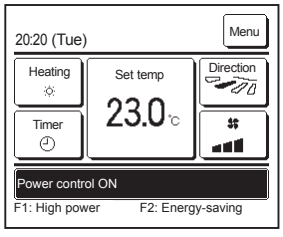
- The sensor may not detect a person near the border of detection range.
- Installation near an object with a different temperature from the surrounding may cause a false detection of human.
- Due to correction of temperature setting, some people may feel chilly.

This product uses infrared sensor to detect person's activity level to support control of air-conditioner.
Please set the control you like from the remote control.

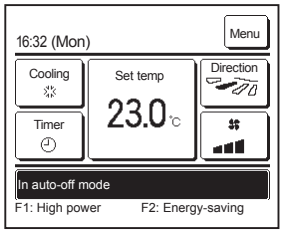
Indoor unit control	Detective situation	Description of control	Display of eco touch remote control
① Power control	Activity level is large	Lower the indoor temperature setting for comfort.	Power control ON
	Activity level is small	Raise the indoor temperature setting for energy-saving.	Power control ON
② Auto-off	No one is detected for 1 hour	Stop operation and stand by	In auto-off mode
	No one is detected for 12 hours	Stop operation	-
① + ②	Any combination of the above	Any of the above	Any of the above
All disabled (default setting)	-	Standard control	-

If the sensor is disconnected or defective, the control will be set as if it no detects (or less) activity level.

Refer to the next section for setting method.



- When power control is enabled
  The amount of human motion is detected by a motion sensor to adjust the Set temp.
  During power control, "Power control ON" will be displayed on the message display.



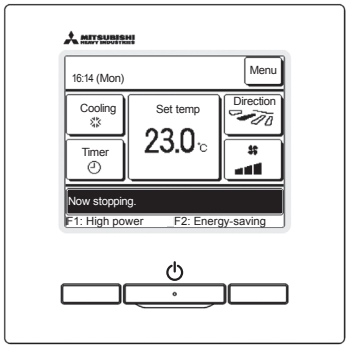
- When auto-off is enabled
  The unit will enter the "Operation wait" state when an hour has elapsed since the last time a human presence was detected and will be in "Complete stop" state after another 12 hours.

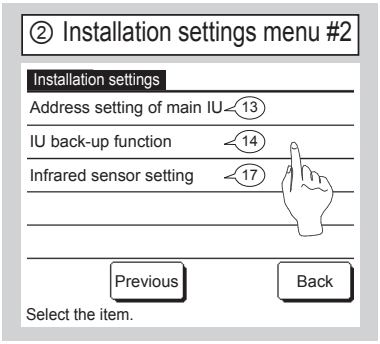
"Operation wait"...The unit stops but will resume operation when human presence is detected. When the unit is in "Complete stop", "In auto-off mode" will be displayed on the message display.

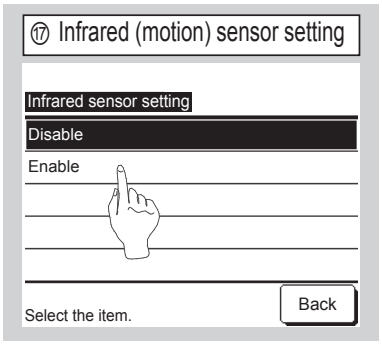
"Complete stop"...When auto-off is enabled, the unit stops. The unit will not resume operation even when human presence is detected.
The message "In auto-off mode" will disappear from the message display, and the operation lamp will turn off.

Control setting (from eco touch remote control)

● Refer to the installation manual for eco touch remote control to activate the infrared sensor (motion sensor).
TOP screen **Menu** ⇨ **Service setting** ⇨ **Installation settings** ⇨ **Service password**



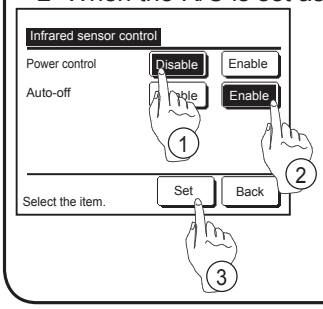




● Refer to the installation manual for eco touch remote control to set control mode.

■ Infrared sensor (motion sensor) control (for IUs with motion sensors)
Presence of humans and the amount of motion are detected by a motion sensor to perform various controls.

■ When the R/C is set as the sub R/C, the infrared sensor (motion sensor) control cannot be set.



Tap the **Menu** button on the TOP screen and select **Energy-saving setting** ⇨ **Infrared sensor control** or **Motion sensor control**.

The Infrared sensor control screen and contents of the current settings are displayed.

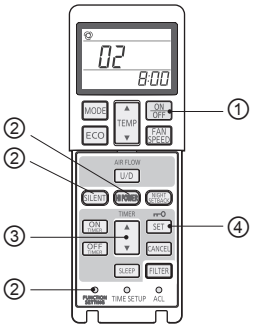
① Enable/disable power control.
② Enable/disable auto-off.
③ After you set each item, tap the **Set** button.
The display returns to the Energy-saving setting menu screen.

Control setting (from wireless remote control)

● Refer to the installation manual for wireless remote control to enable motion sensor in **Indoor function settings**

Indoor function settings

1. How to set indoor functions
① Press the ON/OFF button to stop the unit.
② Press the desired one of the buttons shown item **2.** while holding down the FUNCTION SETTING switch.
③ Use the selection buttons, ▲ and ▼, to change the setting.
④ Press the SET button.
The buzzer on the remote control signal receiver beeps twice, and the LED lamp flashes four times at two-second intervals.



2. Setting details

Button	Number indicator	Function setting
SILENT	00	Infrared sensor setting (Motion sensor setting) : Disable
	01	Infrared sensor setting (Motion sensor setting) : Enable
HI POWER	00	Infrared sensor control (Motion sensor control) : Disable
	01	Infrared sensor control (Motion sensor control) : Power control only
	02	Infrared sensor control (Motion sensor control) : Auto OFF only
	03	Infrared sensor control (Motion sensor control) : Power control and Auto OFF

9.5 Interface kit (SC-BIKN2-E)

※ When RC-EX3A is connected, please use SC-BIKN2-E by all means.

RKZ012A099

Accessories included in package

Be sure to check all the accessories included in package.

No.	Part name	Quantity
①	Indoor unit's connection cable (cable length: 1.8m)	1
②	Wood screws (for mounting the interface: ϕ4x 25)	2
③	Tapping screws (for the cable clump and the interface mounting bracket)	3
④	Interface mounting bracket	1
⑤	Cable clamp (for the indoor unit's connection cable)	1
⑥	CnT terminal connection cable (total cable length: 0.5m)	1

Safety precautions

Before use, please read these Safety precautions thoroughly before installation.

- All the cautionary items mentioned below are important safety related items to be taken into consideration, so be sure to observe them at all times.

⚠Warning	Incorrect installation could lead to serious consequences such as death, major injury or enviromental destruction.

- Symbols used in these precautions

❗	Always go along these instruction.

- After completed installation, carry out trial operation to confirm no anomaly, and ask the user to keep this installation manual in a good place for future reference.

⚠ Warnings

❗

- **Installation must be carried out by a qualified installer.**
  If you install it by yourself, it may cause an electric shock, fire and personal injury , as a result of a system malfunction.
- **Install it in full accordance with the installation manual.**
  Incorrect installation may cause an electric shock, fire and personal injury.
- **Electrical work must be carried out by a qualified electrician in accordance with the technical standard for electrical equipment, the indoor wiring standard and this installation manual.**
  Incorrect installation may cause an electric shock, fire and personal injury.
- **Use the specific cables for wiring. And connect all the cables to terminals or connectors securely and clamp them with cable clamps in order for external forces not to be transmitted to the terminals directly.**
  Incomplete connection may cause malfunction, and lead to heat generation and fire.
- **Use the original accessories and specified components for installation.**
  If the parts other than those prescribed by us are used, it may cause an electric shock, fire and sersonal injury.

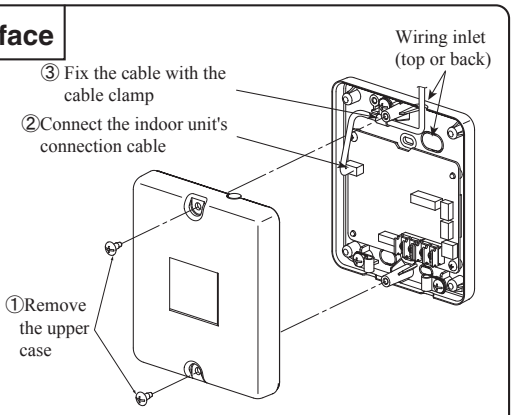
Connecting the indoor unit's connection cable to the interface

①Remove the upper case of the interface.
- Remove 2 screws from the interface casing before removal of upper casing.

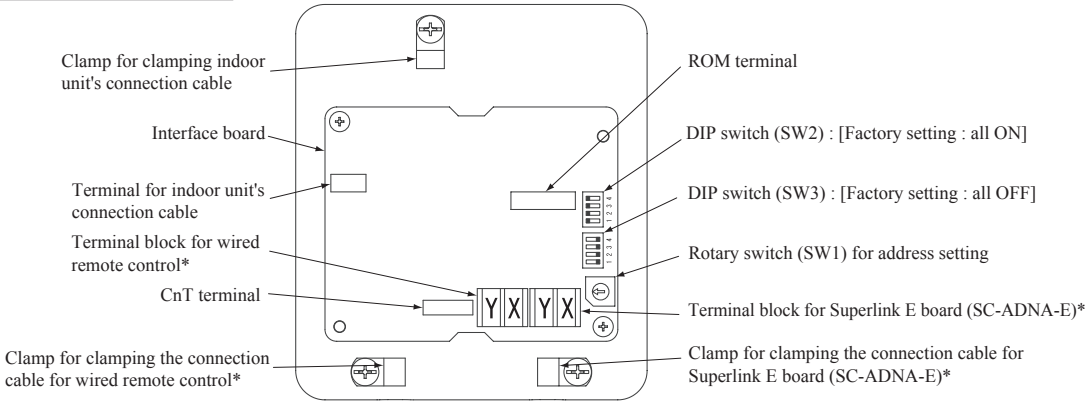
②Connect the indoor unit's connection cable to the interface.
- Connect the connector of the indoor unit connection cable to the connector on the interface's circuit board.

③Fix the indoor unit's connection cable with the cable clamp.
- Cable can be brought in from the top or from the back.
- Cut out the punch-outs for the connection cables running into the casing with cutter.

④Connect the indoor unit's connection cable to the indoor control PCB.
- Connect the indoor unit's connection cable to the indoor control PCB securely.
- Clamp the connection cable to the indoor control box securely with the cable clamp provided as an accessory.
- Regarding the cable connection to the indoor unit, refer to the installation manual for indoor unit.



Name of each part of the interface



*Either the connection cables of Superlink E board (SC-ADNA-E) or of wired remote control is connectable.

Switch	Setting	Function	Switch	Setting	Function
SW2-1	ON**	CnT level input	SW2-3	ON**	External input (CnT input)
	OFF	CnT pulse input		OFF	Operation permission/prohibition (CnT input)
SW2-2	ON**	Wired remote control : Enable	SW2-4	ON**	Annual cooling : Enable***
	OFF	Wired remote control : Disable		OFF	Annual cooling : Disable***

** Factory setting

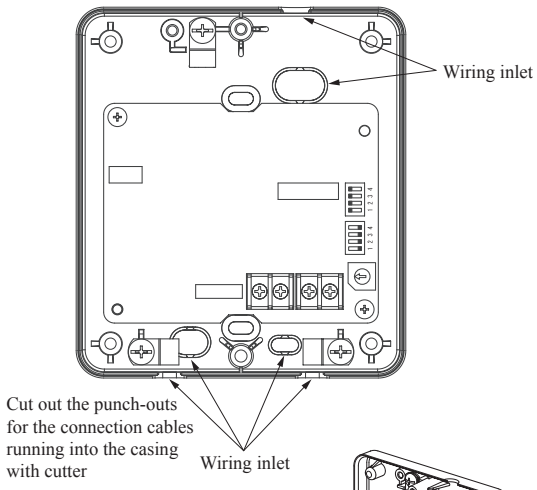
*** Indoor fan control at low outdoor air temperature in cooling

Installation of the interface

- Install the interface within the range of the connection cable length (approximately 1.3m) from the indoor unit.
- Be sure not to extend the connection cable on site. If the connection cable is extended, malfunction may occur.
- Fix the interface on the wall, pillar or the like.

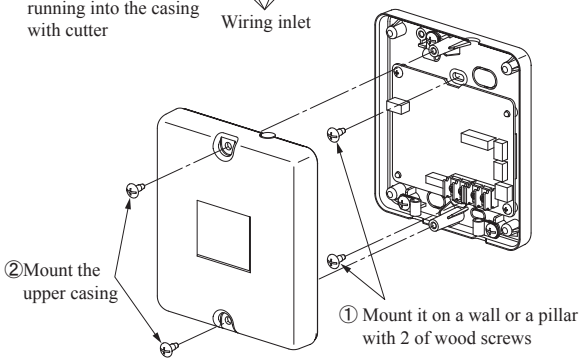
●Don't install the interface and wired remote control at the following places.

○Places exposed to direct sunlight
○Places near heating devices
○High humidity places
○Surfaces where are enough hot or cold to generate condensation
○Places exposed to oil mist or steam directly
○Uneven surface



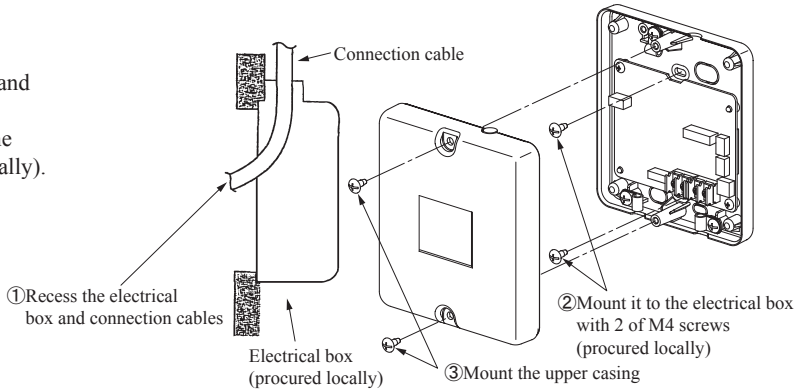
Mounting the interface directly on a wall

①Mount the lower casing of the interface on a flat surface with wood screws provided as standard accessory.
②Mount the upper casing.



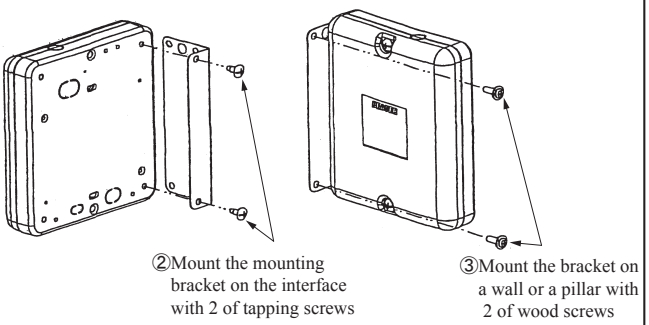
Recessing the interface in the wall

①Recess the electrical box (procured locally) and connection cables in the wall.
②Mount the lower casing of the interface to the electrical box with M4 screws (procured locally).
③Mount the upper casing.



Mounting the interface with the mounting bracket

①Mount the upper casing.
②Mount the mounting bracket to the interface with tapping screws provided as standard accessory.
③Mount the mounting bracket on wall or the like with wood screws provided as standard accessory.



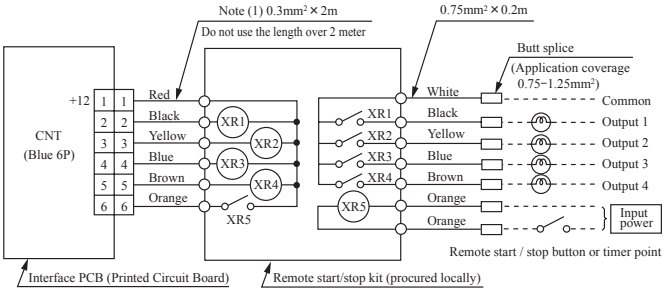
Installation check items

☐ Are the connection cables connected securely to the terminal blocks and connectors?
☐ Are the thickness and length of the connection cables conformed with the standard?

Functions of CnT connector

It is available to operate the air-conditioner and to monitor the operation status with the external control unit (remote display) by sending the input/output signal through CnT connector on the indoor control PCB.

①Connect a external remote control unit (procured locally) to CnT terminal.
②In case of the pulse input, switch OFF the DIP switch SW2-1 on the interface PCB.
③When setting operation permission/prohibition mode, switch OFF the DIP switch SW2-3 on the interface PCB.



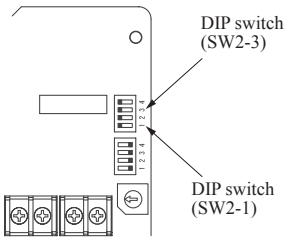
Input/ Output	Function	Output signal		Content
		Relay	ON/OFF	
Output 1	Operation output	XR_1	ON	During air-conditioner operation
Output 2	Heating output	XR_2	ON	During heating operation
Output 3	Compressor operation output	XR_3	ON	During compressor running
Output 4	Malfunction output	XR_4	ON	During anomalous stop

- XR_{1-4} are for the DC 12V relay
- XR_5 is a DC 12/24V or AC 220-240V relay
- CnT connector (local) maker, model

Connector	Molex	5264-06
Terminals	Molex	5263T

Input/ Output	Function	SW2-1		SW2-3				Air-conditioner	Operation by remote control
		Setting		Setting	Input signal		Content		
					Level/Pulse	XR_5			
Input	External control input	ON*	Level input	ON*	Level	OFF→ON	External input	ON	Allowed
						ON→OFF		OFF	
				OFF		OFF→ON	Operation permission	OFF	
						ON→OFF	Operation prohibition	OFF	Not allowed
		OFF	Pulse input	ON*	Pulse	OFF→ON	External input	OFF→ON	Allowed
								ON→OFF	
				OFF	Level	OFF→ON	Operation permission	ON	
						ON→OFF	Operation prohibition	OFF	Not allowed

* Factory setting

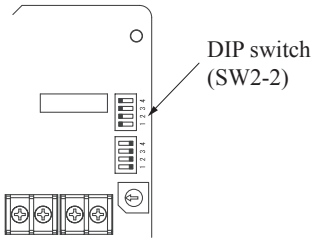


In case of the remote control (RC-EX3 or later model), the external outputs (1 – 4) and the external input can be changed using the function setting of remote control. For the setting method, refer to the installation manual.
Also refer to the technical manual to know how it is adapted to the function setting for the external outputs and input, at the indoor unit side.

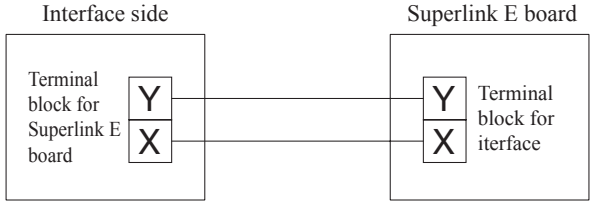
Connection of Superlink E board

Regarding the connection of Superlink E board, refer to the installation manual of Superlink E board.
For electrical work, power source for all of units in the Superlink system must be turned OFF.

①Switch ON the DIP switch SW2-2 (Factory setting: ON) on the interface PCB.
Caution: Wireless remote control attached to the indoor unit can be used in parallel, after connecting the wired remote control. However, some of functions other than the basic functions such as RUN/STOP, temperature setting, etc. may not work properly and may have a mismatch between the display and the actual behavior.



②Wiring connection between the interface and the Superlink E board.

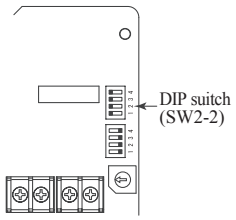


No.	Names of recommended signal wires
1	Shielded wire
2	Vinyl cabtyre round cord
3	Vinyl cabtyre round cable
4	Vinyl insulated wire vinyl sheathed cable for control

Within 200 m 0.5 mm² × 2 cores
Within 300 m 0.75 mm² × 2 cores
Within 400 m 1.25 mm² × 2 cores
Within 600 m 2.0 mm² × 2 cores

③Clamp the connection cables with cable clamps.

Connection of wired remote control



Regarding the connection of wired remote control, refer to the installation manual of wired remote control.

①Switch ON the DIP switch SW2-2 (Factory setting : ON) on the interface PCB.

Caution:Wireless remote control attached to the indoor unit can be used in parallel, after connecting the wired remote control. However, some of functions other than the basic functions such as RUN/STOP, temperature setting, etc. may not work properly and may have a mismatch between the display and the actual behavior.

②Wiring connection between the interface and the wired remote control.

Installation and wiring of wired remote control

Ⓐ Install the wired remote control with reference to the attached installation manual of wired remote control.

Ⓑ 0.3mm² x 2 cores cable should be used for the wiring of wired remote control.

Ⓒ Maximum length of wiring is 600m.

If the length of wiring exceeds 100m, change the size of cable as mentioned below.
100m-200m: 0.5mm² X 2 cores, 300m or less: 0.75mm² X 2 cores, 400m or less: 1.25mm² X 2 cores, 600m or less: 2.0mm² X 2 cores
However, cable size connecting to the terminal of wired remote control should not exceed 0.5mm². Accordingly if the size of connection cable exceeds 0.5mm², be sure to downsize it to 0.5mm² at the nearest section of the wired remote control and waterproof treatment should be done at the connecting section in order to avoid contact failure.

Ⓓ Don't use the multi-core cable to avoid malfunction.

Ⓔ Keep the wiring of wired remote control away from grounding (Don't touch it to any metal frame of building, etc.).

Ⓕ Connect the connection cables to the terminal blocks of the wired remote control and the interface securely (No polarity).

③Clamp the connection cables with cable clamps.

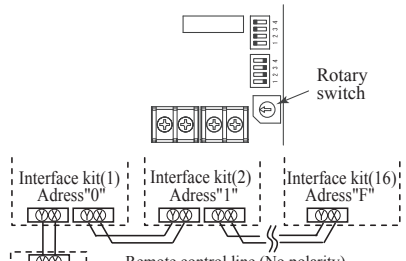
Control of multiple units by a single wired remote control

Multiple units (up to 16) can be controlled by a single wired remote control.
In this case, all units connected with a single wired remote control will operate under the same mode and same setting temperature.

①Connect all the interface with 2 cores cables of wired remote control line.

②Set the address of indoor unit for remote control communication from "0" to "F" with the rotary switch SW1 on the interface PCB.

③After turning the power ON, the address of indoor unit can be displayed by pressing AIR CON No. button on the wired remote control.
Make sure all indoor units connected are displayed in order by pressing ▲ or ▼ button.

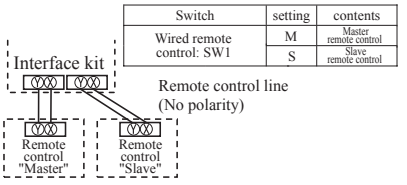


Master/Slave setting wired when 2 of wired remote control are used

Maximum two wired remote control can be connected to one indoor unit (or one group of indoor units)

①Set the DIP switch SW1 on the wired remote control to "Slave" for the slave remote control. (Factory setting : Master)

○ Caution : Remote control sensor of the slave remote control is invalid.



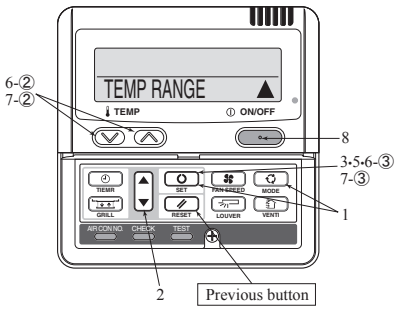
●When using the wireless remote control in parallel with the wired remote control;
Since temperature setting range of wired remote control is different from that of wireless remote control, please adjust the setting range of wired remote control to be the same setting range of wireless remote control by following procedure. (The set temperature may not be displayed correctly on the wireless remote control, unless change of temperature setting range is done.)
Changing procedure of temperature setting range is as follows.

How to set upper and lower limit of temperature setting range

1. Stop the air-conditioner, and press ○ (SET) and ◇ (MODE) button at the same time for 3 seconds or more.
   The indication changes to"FUNCTION SET▼"
2. Press ▼ button once, and change to the "TEMP RANGE▲" indication.
3. Press ○ (SET) button, and enter the temperature range setting mode.
4. Confirm that the "Upper limit ▼ " is shown on the display.
5. Press ○ (SET)button to fix.
6. ①Indication: "☝∨ ∧ SET UP"→"UPPER 28℃ ∨ ∧"
   ②Select the upper limit value 30℃ with temperature setting button △."UPPER30℃∨ " (blinking)
   ③Press ○ (SET) button to fix. "UPPER 30℃" (Displayed for two seconds)
   After the fixed upper limit value displayed for two seconds, the indication will return to"UPPER LIMIT▼".
7. Press ▼ button once, "LOWER LIMIT ▲ " is selected, press ○ (SET) button to fix.
   ①Indication: "☝∨ ∧ SET UP" → "LOWER 20℃∨ ∧"
   ②Select the lower limit value 18℃ with temperature setting button ▽."LOWER18℃∧ " (blinking)
   ③Press ○ (SET) button to fix. "LOWER 18℃" (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.

Temperature setting range

Mode	Temperature setting range
Cooling, Heating, Dry, Auto	18-30℃



- It is possible to quit in the middle by pressing ON/OFF button, but the change of setting is incompleted.
- During setting, if pressing ✎ (RESET) button, it returns to the previous screen.

9.6 Superlink E board (SC-ADNA-E)

PJZ012D029K

- Read and understand the instructions completely before starting installation.
- Refer to the instructions for both indoor and outdoor units.

Safety precautions

- Carefully read "Safety precautions" first. Follow the instructions for installation.
- Precautions are grouped into "Warning⚠" and "Caution⚠". The "Warning⚠" group includes items that may lead to serious injury or death if not observed. The items included in the "Caution⚠" group also may lead to serious results under certain conditions. Both groups are crucial for safety installation. Read and understand them carefully.
- After installation, conduct the test operation of the device to check for any abnormalities. Describe how to operate the device to the customer following the installation instruction manual. Instruct the customer to keep this installation instruction for future reference.

⚠Warning

- This device should be installed by the dealer where you purchase the device or a licensed professional shop. If the device is incorrectly installed by the customer, it may result in electric shock or fire.
- Install the device carefully following the installation instruction. If the device is incorrectly installed, it may result in electric shock or fire.
- Use the accessory parts and specified parts for installation. If any parts that do not match the specifications are used, it may result in electric shock or fire.
- A person with the electrical service certification should conduct the service based on the "Technical standards for electrical facilities", "Electrical Wiring Code", and the installation instruction. If the work is done incorrectly, it may result in electric shock or fire.
- Wiring should be securely connected using the specified types of wire. No external force on the wire should be applied to any terminals. If a secure connection is not achieved, it may result in electric shock or fire.

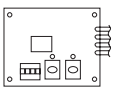
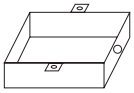
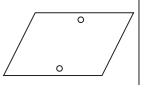
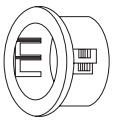
⚠Caution

- Provide ground connection.
  The ground line should never be connected to the gas supply piping, the water supply piping, the lightning conductor rod, nor the telephone ground.If the grounding is improper, it may result in electric shock.
- Do not install the device in the following locations.
  1.Where there is mist/spray of oil or steam such as kitchens.
  2.Where there is corrosive gases such as sulfurous acid gas.
  3.Where there is a device generating electromagnetic waves.
  These may interfere with the control system resulting in the device becoming uncontrollable.
  4.Where flammable volatile materials such as paint thinner and gasoline may exist or where they are handled. This may cause a fire.

1 Application

Indoor-to-outdoor three core communication specification type 3 (since October 2007)

2 Accessories

SL E board	Metal box	Metal cover	Screw for ground
			M4×ℓ8 2 pieces 
Pan head screws	Locking supports	Binding band	Grommet
ø4×ℓ8 2 pieces 	To secure the print board and the metal box Made of nylon 4 pieces 		

3 Function

Allowing the central control SL1N-E, SL2NA-E, and SL4-AE/BE to control and monitor the commercial air-conditioner unit.

4 Control switching

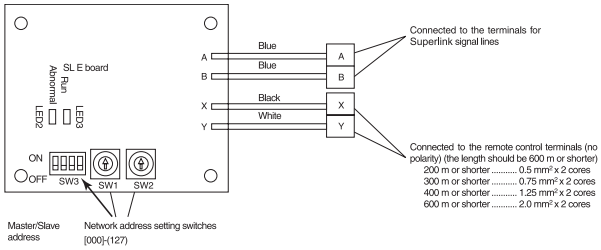
Settings can be changed by the DIP switch SW3 on the SL E board as in the following.

Switch	Symbol	Switch	Remarks
SW3	1	ON	Master
		OFF (default)	Slave
	2	ON	Fixed previous protocol
		OFF (default)	Automatic adjustment of Superlink protocol
	3	ON	Indicates the forced operation stop when abnormality has occurred.
		OFF (default)	Indicates the status of running/stop as it is, when abnormality has occurred.
	4	ON	The hundredth address activated "1"
		OFF (default)	The hundredth address activated "0"

5 Connection outline

Note for setting the address

- Set the address between 00 and 47 for the previous Superlink connection and between 000 and 127 for the new Superlink connection. (*1)
- Do not set the address overlapping with those of the other devices in the network. (The default is 000)



(*1) Whether the actual link is either the new Superlink or the previous Superlink depends on the models of the connected outdoor and indoor units. Consult the agent or the dealer.

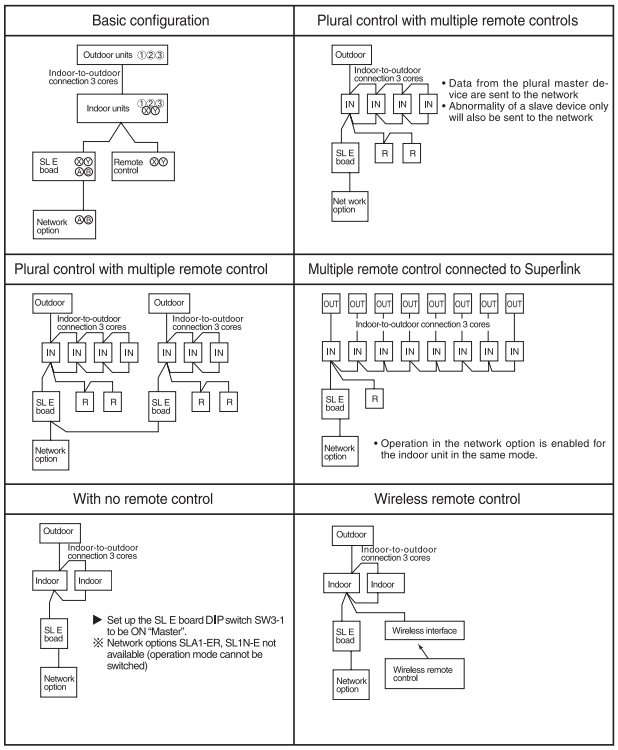
Signal line specification

Communication method	Previous Superlink	New Superlink
Line type	MVVS	MVVS
Line diameter	0.75 - 1.25mm²	0.75/1.25mm²
Signal line (total length)	up to 1000m	up to 1500/1000m (*2)
Signal line (maximum length)	up to 1000m	up to 1000m

(*2) Up to 1500m for 0.75mm², and up to 1000m for 1.25mm².
Do not use 2.0mm². It may cause an error.

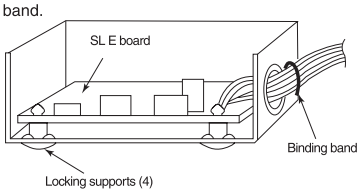
(*3) Connect grounding on both ends of the shielding wire.
For the grounding method, refer to the section "6 Installation".

(1) Set the Superlink network address with SW1 (tens place), SW2 (ones place), and SW3 (hundreds place).
(2) Set the SL E board SW3-1 to be ON (Master) when using this without any remote control (no wired remote controller nor wireless remote control).
(3) Set up the plural master/slave device using the DIP switches on the indoor unit board.
(4) Set up the remote control master/slave device using the slide switch on the remote control board.
(5) Set up "0" to "F" using the address rotary switch on the indoor unit board when controlling the indoor unit with the multiple remote control.

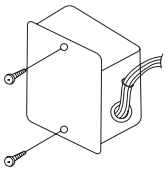


6 Installation

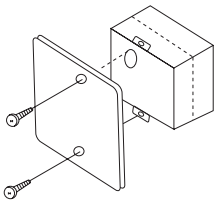
1. When using the metal box (mounted on the indoor unit / mounted on the back of the remote control):
   (1) Mount the SL E board in the metal box using the locking supports.
   (2) Wiring should go through the provided grommet since then through the wiring to the hole on the Metal box.
   Secure the grommet after inserting the grommet into the Metal box as shown in below figure, then tie the wiring at the outlet of the unit using a binding band.



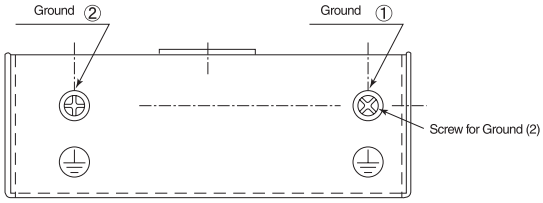
▲ When installed outside the indoor unit, put the metal cover on.



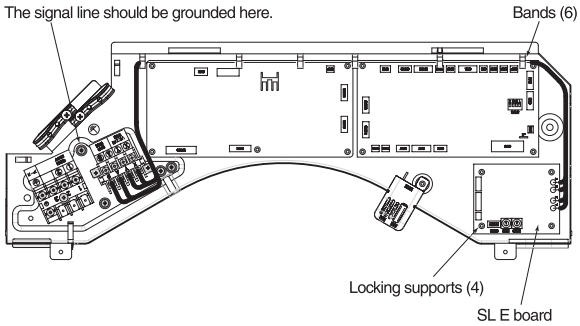
▲ When installed on the back of the remote control, mount it directly on the remote control bottom case.



Connect grounding. Connect grounding for the power line to Ground ①, and grounding for the signal line to Ground ② or to the Ground on the indoor unit control box.



2. When connecting to the indoor unit control box (ceiling-concealed type and FDT type only):
   (1) Mount the SL E board in the control box using the locking supports.
   (2) Remove 6 bands from the box and put the wiring through the bands to be secured.



Electrical shock hazard! make sure to turn the power off for servicing. Be cautious so that no abnormal force should be applied to the wiring. Do not let the SL E board hung by the wiring. Do not damage the board with a screwdriver.
The board is sensitive to static electricity. Release the static electricity of your body before servicing.
(You can do this by touching the control board which is grounded).

Location of installation

Install the device at the location where there are no electromagnetic waves nor where there is water and dust. The specified temperature range of the device is 0 to 40°C. Install the device at the location where the ambient temperature stays within the range. If it exceeds the specification, make sure to provide solution such as installing a cooling fan. When used outside of the range, it may cause abnormal operation.

7 Indicator display

Check the LED 3 (green) and LED 2 (red) on the SL E board for flashing.

SL E board LEDs		Inspection mode	Display on the integrated network control device
Red	Green		
Off	Flashing	Normal communication	
Off	Off	• Disconnection in the remote control communication line (X or Y) • Short-circuit in the remote control communication line (between X and Y) • Faulty indoor unit remote control power • Faulty remote control communication circuit • Faulty CPU on SL E board	No corresponding unit number
One flash	Flashing	• Disconnection in the Superlink signal line (A or B) • Short-circuit in the Superlink signal line (between A and B) • Faulty Superlink signal circuit	
Two flashes	Flashing	• Faulty address setting for the SL E board (Set up the address for previous SL E board : more than 48 new SL E board : more than 128)	
Three flashes	Flashing	• SL E board parent not set up when used without a remote control • Faulty remote control communication circuit	E1
Four flashes	Flashing	• Address overlapping for the SL E board and the Superlink network connected indoor unit	E2
Off	Flashing	• Number of connected devices exceeds the specification for the multiple indoor unit control	E10

9.7 Ceiling concealed type (SRR) option parts

(1) Bottom air inlet kit

This manual contains installation points for BOTTOM AIR INLET KIT manufactured by MHI.
Carry out the work following the instructions below.
Keep this manual properly with USER'S MANUAL provided with the indoor unit.

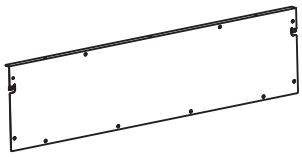
CAUTION

- After unpacking, carry out this work on the ground.
- Do not carry out the work during operation, or there is a danger of being entangled in the rotating parts and getting injured.
- Be sure to cut off the power and stop the unit before maintenance.

1) Applicable model of unit and type of BOTTOM AIR INLET KIT

BOTTOM AIR INLET KIT		UT-BAT1EF	UT-BAT2EF	UT-BAT3EF
Model	for FDUT	15,22,28,36	45,56	71
	for SRR	25,35	50,60	

2) Parts list of BOTTOM AIR INLET KIT

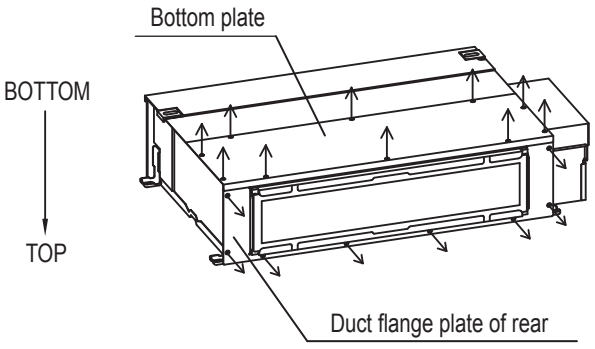
Rear panel	Fan guard	Parts set (Tapping screw)
 1 pc.	 1 pc.	4mm(diameter)×12mm(length) UT-BAT1EF 12 pcs. UT-BAT2EF 12 pcs. UT-BAT3EF 14 pcs.

3) Installation Points

(Figure shows the state that the unit is placed on a floor. Top and bottom are inverted after installing the unit.)

(i) Place the unit as shown below.

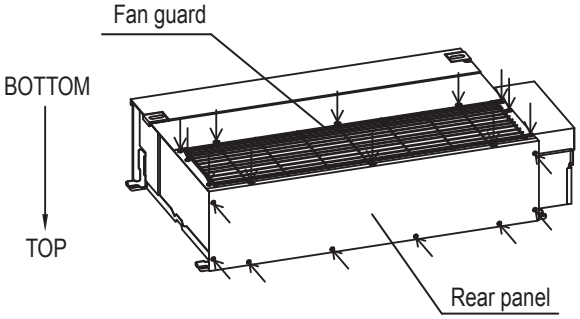
(ii) Remove the bottom plate and duct flange plate of rear from the unit. Keep the removed tapping screws to reuse later.



◆The number of tapping screws to be removed

Model		Bottom	Rear
FDUT	15,22,28,36	10 pcs.	8 pcs.
	45,56	10 pcs.	9 pcs.
	71	12 pcs.	8 pcs.
SRR	25,35	10 pcs.	8 pcs.
	50,60	10 pcs.	9 pcs.

(iii) Install rear panel by using removed tapping screws in process(2). Install fan guard by using tapping screws in parts set.



◆The number of tapping screws to be tightened

Model		Fan guard	Rear panel
FDUT	15,22,28,36	12 pcs.	8 pcs.
	45,56	12 pcs.	9 pcs.
	71	14 pcs.	8 pcs.
SRR	25,35	12 pcs.	8 pcs.
	50,60	12 pcs.	9 pcs.

(2) Remote sensor kit (SC-THB-E3)

Sensor for return air temperature detection is located in the air inlet of the indoor unit.
Use the remote sensor kit SC-THB-E3, and install it on the suitable wall so the temperature of the room can be accurately detected.
This remote sensor kit is to be used as an alternative to the pre-installed sensor of the indoor unit.

1) Accessory parts

No.	Part name	Q'ty	No.	Part name	Q'ty
①	Sensor box	1	④	Band	1
②	Cable (8m)	1	⑤	Screw (4×16)	2
③	Tape (Double -stick)	1			

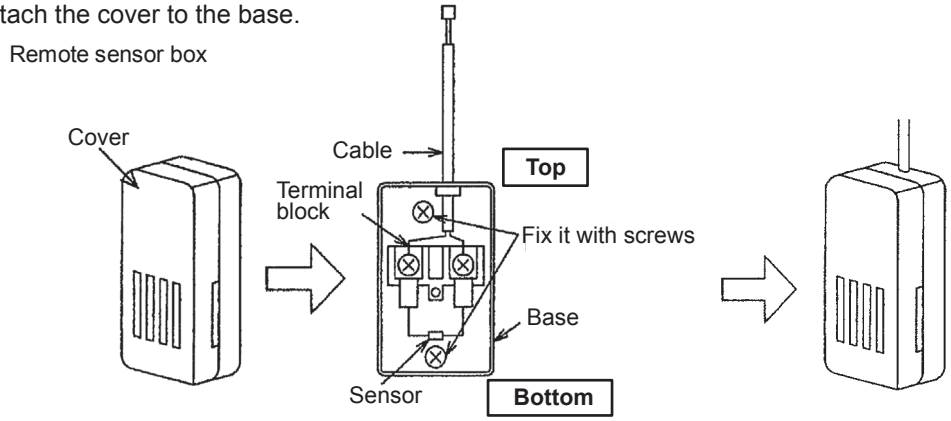
※Installation manual in the SC-THB-E3 is not it for SRR_ZM-S.

2) Selection of installation position

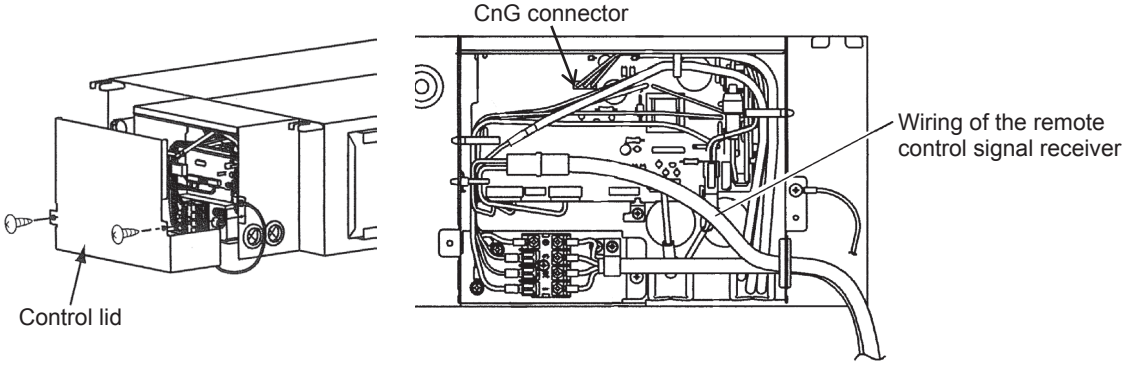
- The thermistor for detecting room temperature is located inside the remote sensor box.
- Do not install the remote sensor in places where.
  - Average room temperature can not be detected.
  - A heat source is located nearby.
  - The wall temperature is different from average room temperature.
  - Affected by the outdoor air when opening / closing the door, etc.
  - The discharge air from indoor unit blows directly.
  - Covered by curtains or other obstacles.
  - Exposed to the sun.
  - Exposed to water, humidity or dew.
- Mount the remote sensor vertically on the wall surface, etc.
- Run the sensor cable in a place where the power cable or electrical noise will not cause any abnormal operation.

3) Installation procedure

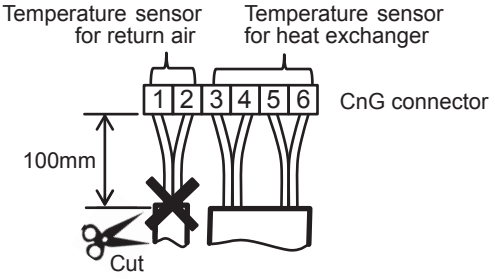
(a) Insert the tip of slotted screwdriver to the gap between the cover and base of the sensor box (①), and twist it to disassemble.
(b) Fix the base to the wall with screws (⑤).
(c) Connect the cable (②) to the terminal block in the base. (No polarity)
(d) Attach the cover to the base.



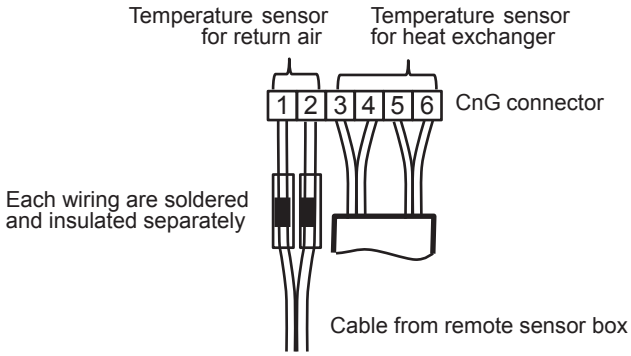
(e) Remove the control lid of the indoor unit. Take off CnG connector from PCB of the indoor unit .



(f) Cut wiring from 1 & 2 pins of CnG connector. (wiring length : about 100 mm from the connector)
If the pre-installed return air temperature sensor ASSY is not removed, the end of the sensor wiring should prevent a short circuit by insulating tape etc.



(g) Insert the cable from remote sensor box to the control box of the indoor unit through the grommet of the remote control signal receiver side.
(h) Adjust the length of the cable and cut it off. (Connector cable is not need.)
(i) Connect the cable from remote sensor box and the cut wiring (procedure (f)) of CnG connector. (No polarity)
Be sure to connect the wirings by solder separately. Then, wirings should prevent a short circuit separately by insulating tapes etc. In case of faulty wiring connection, it can cause electrical shock and fire.



(j) Put CnG connector back on the indoor unit PCB.
(k) Attach the control lid of the indoor unit.

9.8 OA spacer (FDTC only)

This manual describes the installation methods for OA spacer (TC-OAS-E2) and the duct joint (TC-OAD-E).
◎This OA spacer is designed for assembling on the indoor unit (FDTC Series), not for be using independently.

PJZ012D125 A

Application model	FDTC15-56KXZE1 FDTC25-60VH

◎Prepare the duct (size: ø75) and the booster fan at site.
◎For the installation of indoor unit, refer to the installation manual attached to the indoor 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.

⚠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.
- **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.
- **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.

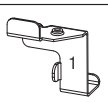
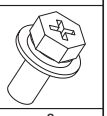
⚠CAUTION

- **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.

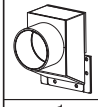
① Before installation

● Confirm the following parts are included:

OA spacer (TC-OAS-E2)

Spacer	Bracket 1	Bracket 2	Bracket 3	Bracket 4	Bolt
					
1	2	2	2	2	8

Duct joint (TC-OAD-E)

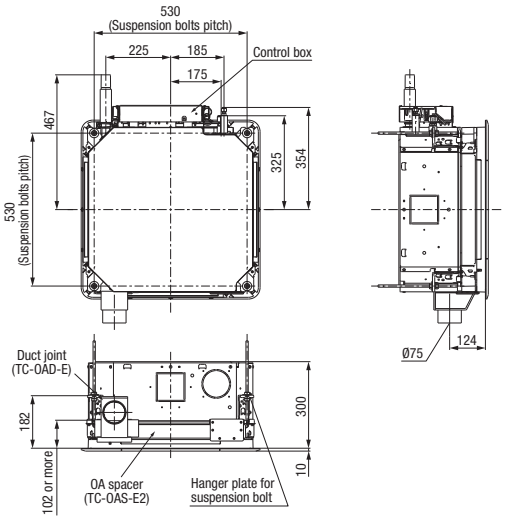
Duct Joint	Screw	Insulation 1 (120 × 54)	Insulation 2 (40 × 60)
			
1	6	1	2

② Prior study before installation (Usage limitation)

(1) Temperature conditions for OA spacer

- Adjust the temperature conditions of mixed air with outdoor air and indoor air within the usage range of suction air temperature for the air-conditioner.
- The usage temperature conditions of intake outdoor air and indoor air around the ducts are shown in the following table.
- If the temperature conditions of intake outdoor air do not meet, process the outdoor air before intaking.

Operation mode	Usage temperature conditions	
	Intake outdoor air	Indoor air around the ducts
In heating	5ºC DB or higher	18.5ºC WB or lower and 60% RH or lower
In cooling	29ºC DB or lower and 80% RH or lower	20ºC DB or higher



(2) Intake outdoor air volume

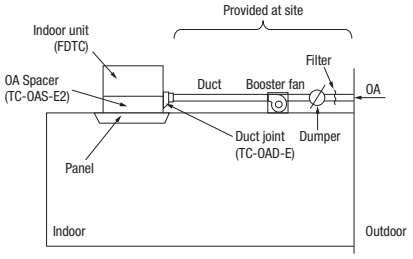
- Intake outdoor air volume is 3.0 m³/min at the maximum (when two sets of duct joints are used).
  Up to two sets of duct joint can be installed on OA spacer.
  In case one set of duct joint is installed: 1.5 m³/min max.
  In case two sets of duct joint is installed: 3.0 m³/min max.

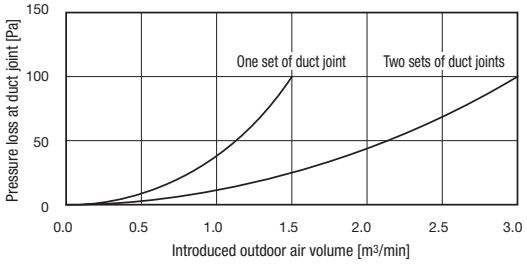
(3) Selection of booster fan

- Select the booster fan based on the duct resistance plus the pressure loss at the duct joint. (See the figure)

(4) Other conditions

- Determine the capacity of air conditioner based on the calculation of air-conditioning load including the heat load of intake outdoor air.
- Install the filter for the intake outdoor air and the reverse flow prevention dumper during the duct work at site.
- Insulate the duct and duct joint in order to prevent dewing.
- Interlock the operation of booster fan with ON/OFF operation of the indoor unit. (See Section 7.)



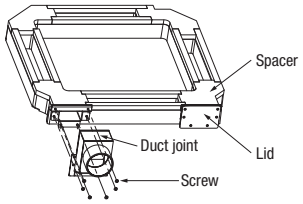


③ Installation of duct joint (TC-OAD-E) onto OA spacer

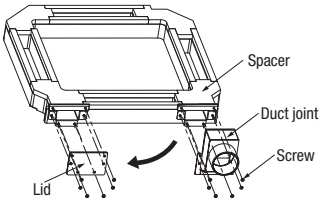
・There are two places where the duct joint can be installed.

When installing one duct joint

Install OA spacer at either one of two installation places on the duct joint.

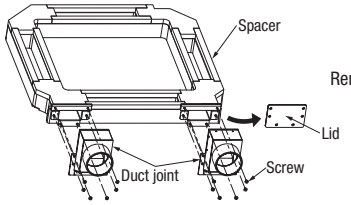


To install the duct joint, screw it in as shown at left.



When installing the duct joint at the lid side, remove the lid and reinstall it at the other end before installing the duct joint.

When installing two duct joints



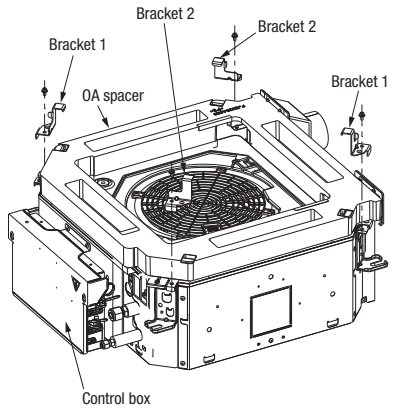
Remove the lid and then install two pieces of duct joint.

④ Installation of OA spacer on the indoor unit

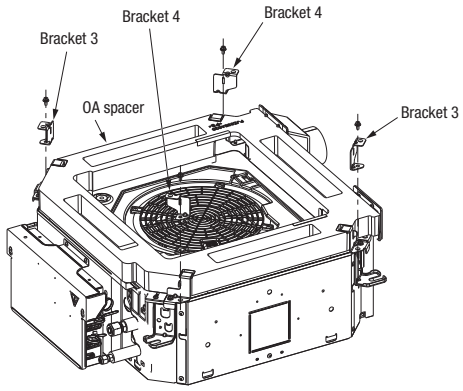
OA spacer can be installed regardless whether the indoor unit has already been hanged or not.
(It is recommended to install before hanging the unit for convenience of installation.)

1-1. When installing OA spacer before hanging the indoor unit

① Placing OA spacer on the indoor unit, fix the brackets 1 and 2 (2 pieces each) with bolts.
Install OA spacer in the appropriate position that the duct joint side of OA spacer becomes opposite to the control box of indoor unit (FDTC).

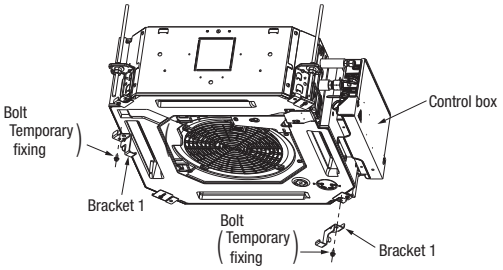


② Fix the brackets 3 and 4 (2 pieces each) with bolts.

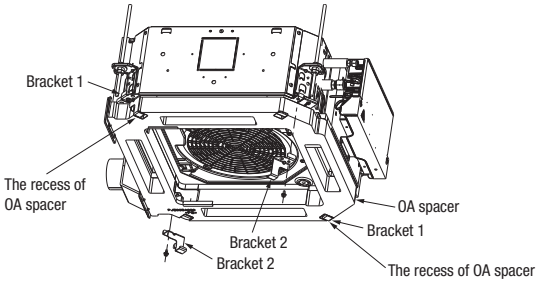


1-2. When installing OA spacer after hanging the indoor unit

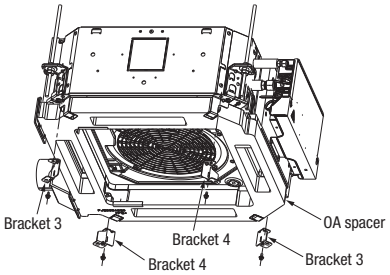
① After hanging the indoor unit (*), fix the bracket 1 (2 pieces) temporarily with bolt by 2 turns as shown in the figure.
* For the height (position) of hanging the indoor unit, refer to Section 5.



② Install OA spacer.
i. Install it in the way that the recess of OA spacer will fit on the bracket 1 fixed temporarily at the step ①.
ii. Tighten the bolt of bracket 1.
iii. Fix the bracket 2 with bolt. (Tighten up)

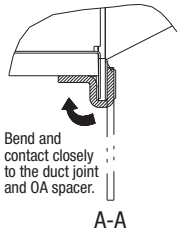


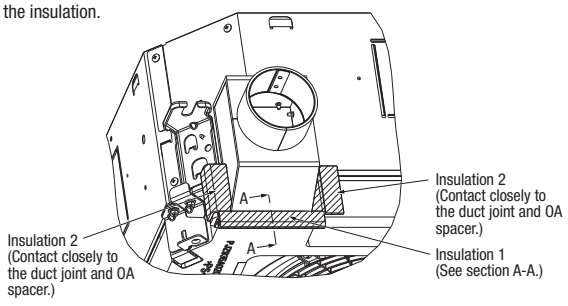
③ Fix the brackets 3 and 4 (2 pieces each) with bolts.



2. Applying insulation

Applying the insulation attached to duct joint set (TC-OAD-E)
① Applying the insulation 1 as shown in the figure.
② Applying the insulation 2 as shown in the figure.
* Be sure to cover the entire surface of sheet metal of the duct joint with the insulation.

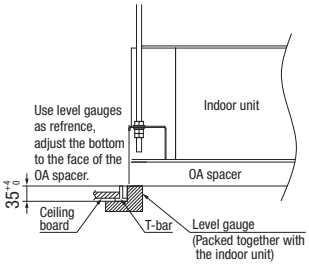


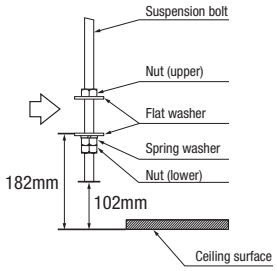


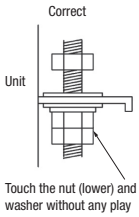
⑤ Installation of indoor unit

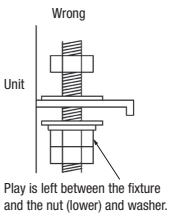
Work procedure

1. This units is designed for 2 × 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 × 2 grid ceiling, provide an inspection port on the control box side.
2. Arrange the suspension bolt at the right position (530mm530mm).
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 102mm above the ceiling plane. Temporarily put the four lower nuts 182mm 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 (Packed together with the indoor unit.) 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. Conrm there is no backlash between the hanger plate for suspension bolt and the lower nut and washer.
   * Use the level gauge only when OA spacer has been installed before hanging (④ 1-1 only).

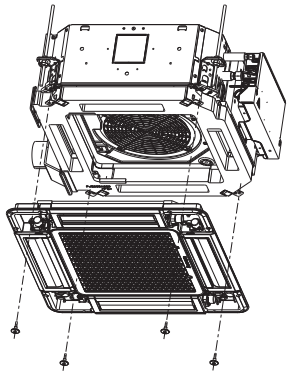








⑥ Installation of panel

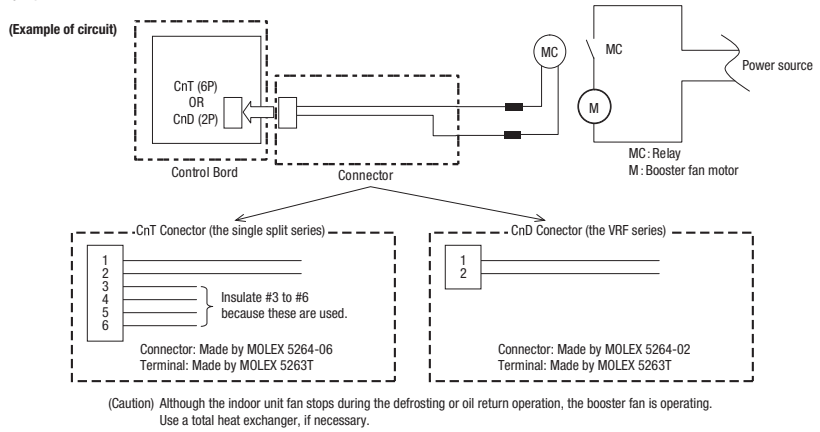


Tighten the panels to the brackets 3 and 4 with bolts.
For further details, refer to the installation manual of panel.

(Caution) Connect the connector of lover motor within the control box.

⑦ Interlocking with the indoor unit fan

◎Connect the single split series and the VRF series to CnT on the indoor PCB and to CnD on the indoor PCB respectively. If a ventilation device is connected been geared with the motion of indoor device (ON: DC12V output, OFF: 0V output), the ventilation device is operated/stopped.
◎Set it at "VENT LINK" by selecting "No. 11 VENT LINK SET" from the functional setting by remote control. For details, refer to the "ELECTRIC WIRNG WORK INSTRUCTION" of indoor unit.



(Caution) Although the indoor unit fan stops during the defrosting or oil return operation, the booster fan is operating.
Use a total heat exchanger, if necessary.

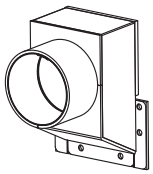
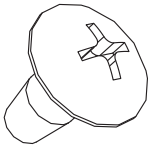
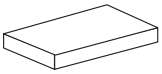
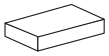
9.9 Duct joint (FDTC only)

PJZ012D073 A

● This product is used by assembling on the spacer (TC-OAS-E2)

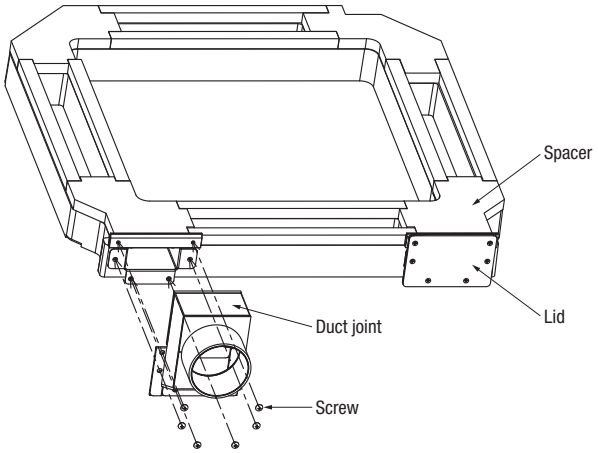
1.Before installation

• Confirm the following parts are included:

Duct joint	Screw	Insulation 1 (120 × 54)	Insulation 2 (40 × 60)
			
1	6	1	2

2.Regarding the use of this product

• Fix the product on the spacer (TC-OAS-E2) as shown below.
• For the installation method, refer to the installation manual of the spacer.



10. TECHNICAL INFORMATION

(1) Ceiling concealed type (SRR)

Model SRR25ZS-W

Information to identify the model(s) to which the information relates to:	
Indoor unit model name	**SRR25ZS-W**
Outdoor unit model name	**SRC25ZS-W1**

If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.

Function(indicate if present)	
cooling	**Yes**
heating	**Yes**

Average(mandatory)	**Yes**
Warmer(if designated)	**Yes**
Colder(if designated)	**No**

Item	symbol	value	unit
Design load			
cooling	Pdesignc	**2.50**	kW
heating / Average	Pdesignh	**2.50**	kW
heating / Warmer	Pdesignh	**3.20**	kW
heating / Colder	Pdesignh	**-**	kW

Item	symbol	value	class
Seasonal efficiency and energy efficiency class			
cooling	SEER	**6.60**	A++
heating / Average	SCOP/A	**4.10**	A+
heating / Warmer	SCOP/W	**5.20**	A+++
heating / Colder	SCOP/C	**-**	-

Declared capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	Pdh	**2.50**	kW
heating / Warmer (2°C)	Pdh	**3.20**	kW
heating / Colder (-22°C)	Pdh	**-**	kW

Back up heating capacity at outdoor temperature Tdesignh			unit
heating / Average (-10°C)	elbu	**-**	kW
heating / Warmer (2°C)	elbu	**-**	kW
heating / Colder (-22°C)	elbu	**-**	kW

Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	**2.50**	kW
Tj=30°C	Pdc	**1.90**	kW
Tj=25°C	Pdc	**1.20**	kW
Tj=20°C	Pdc	**1.10**	kW

Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	EERd	**4.03**	-
Tj=30°C	EERd	**5.90**	-
Tj=25°C	EERd	**8.60**	-
Tj=20°C	EERd	**10.90**	-

Declared capacity for heating / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	**2.20**	kW
Tj=2°C	Pdh	**1.30**	kW
Tj=7°C	Pdh	**1.00**	kW
Tj=12°C	Pdh	**1.20**	kW
Tj=bivalent temperature	Pdh	**2.50**	kW
Tj=operating limit	Pdh	**2.50**	kW

Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	COPd	**2.60**	-
Tj=2°C	COPd	**4.13**	-
Tj=7°C	COPd	**5.35**	-
Tj=12°C	COPd	**6.60**	-
Tj=bivalent temperature	COPd	**2.60**	-
Tj=operating limit	COPd	**2.60**	-

Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	**3.20**	kW
Tj=7°C	Pdh	**2.10**	kW
Tj=12°C	Pdh	**1.20**	kW
Tj=bivalent temperature	Pdh	**3.20**	kW
Tj=operating limit	Pdh	**3.20**	kW

Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	COPd	**2.95**	-
Tj=7°C	COPd	**4.87**	-
Tj=12°C	COPd	**6.60**	-
Tj=bivalent temperature	COPd	**2.95**	-
Tj=operating limit	COPd	**2.95**	-

Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	**-**	kW
Tj=2°C	Pdh	**-**	kW
Tj=7°C	Pdh	**-**	kW
Tj=12°C	Pdh	**-**	kW
Tj=bivalent temperature	Pdh	**-**	kW
Tj=operating limit	Pdh	**-**	kW
Tj=-15°C	Pdh	**-**	kW

Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	COPd	**-**	-
Tj=2°C	COPd	**-**	-
Tj=7°C	COPd	**-**	-
Tj=12°C	COPd	**-**	-
Tj=bivalent temperature	COPd	**-**	-
Tj=operating limit	COPd	**-**	-
Tj=-15°C	COPd	**-**	-

Bivalent temperature			
heating / Average	Tbiv	**-10**	°C
heating / Warmer	Tbiv	**2**	°C
heating / Colder	Tbiv	**-**	°C

Operating limit temperature			
heating / Average	Tol	**-15**	°C
heating / Warmer	Tol	**-15**	°C
heating / Colder	Tol	**-**	°C

Cycling interval capacity			
for cooling	Pcycc	**-**	kW
for heating	Pcych	**-**	kW

Cycling interval efficiency			
for cooling	EERcyc	**-**	-
for heating	COPcyc	**-**	-

Degradation coefficient			
cooling	Cdc	**0.25**	-

Degradation coefficient			
heating	Cdh	**0.25**	-

Electric power input in power modes other than 'active mode'			
off mode	Poff	**5**	W
standby mode	Psb	**5**	W
thermostat-off mode	Pto(cooling)	**17**	W
	Pto(heating)	**20**	W
crankcase heater mode	Pck	**0**	W

Annual electricity consumption			
cooling	Qce	**133**	kWh/a
heating / Average	Qhe	**853**	kWh/a
heating / Warmer	Qhe	**862**	kWh/a
heating / colder	Qhe	**-**	kWh/a

Capacity control(indicate one of three options)	
fixed	**No**
staged	**No**
variable	**Yes**

Other items			
Sound power level(indoor)	Lwa	**56**	dB(A)
Sound power level(outdoor)	Lwa	**58**	dB(A)
Global warming potential	GWP	**675**	$kgCO_2eq.$
Rated air flow(indoor)	-	**570**	m^3/h
Rated air flow(outdoor)	-	**1644**	m^3/h

Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom

RWA000Z282

Model SRR35ZS-W

Information to identify the model(s) to which the information relates to:	
Indoor unit model name	**SRR35ZS-W**
Outdoor unit model name	**SRC35ZS-W1**

If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.

Function(indicate if present)	
cooling	**Yes**
heating	**Yes**

Average(mandatory)	**Yes**
Warmer(if designated)	**Yes**
Colder(if designated)	**No**

Item	symbol	value	unit
Design load			
cooling	Pdesignc	**3.50**	kW
heating / Average	Pdesignh	**3.10**	kW
heating / Warmer	Pdesignh	**4.10**	kW
heating / Colder	Pdesignh	**-**	kW

Item	symbol	value	class
Seasonal efficiency and energy efficiency class			
cooling	SEER	**6.80**	A++
heating / Average	SCOP/A	**4.50**	A+
heating / Warmer	SCOP/W	**5.50**	A+++
heating / Colder	SCOP/C	**-**	-

Declared capacity at outdoor temperature Tdesignh			unit
heating / Average (-10°C)	Pdh	**3.10**	kW
heating / Warmer (2°C)	Pdh	**4.10**	kW
heating / Colder (-22°C)	Pdh	**-**	kW

Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10°C)	elbu	**-**	kW
heating / Warmer (2°C)	elbu	**-**	kW
heating / Colder (-22°C)	elbu	**-**	kW

Declared capacity for cooling, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	Pdc	**3.50**	kW
Tj=30°C	Pdc	**2.60**	kW
Tj=25°C	Pdc	**1.70**	kW
Tj=20°C	Pdc	**1.10**	kW

Declared energy efficiency ratio, at indoor temperature 27(19)°C and outdoor temperature Tj			
Tj=35°C	EERd	**3.76**	-
Tj=30°C	EERd	**5.51**	-
Tj=25°C	EERd	**8.60**	-
Tj=20°C	EERd	**11.80**	-

Declared capacity for heating / Average season, at indoor temperature 20°Cand outdoor temperature Tj			
Tj=-7°C	Pdh	**2.80**	kW
Tj=2°C	Pdh	**1.60**	kW
Tj=7°C	Pdh	**1.10**	kW
Tj=12°C	Pdh	**1.20**	kW
Tj=bivalent temperature	Pdh	**3.10**	kW
Tj=operating limit	Pdh	**3.10**	kW

Declared coefficient of performance / Average season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	COPd	**2.88**	-
Tj=2°C	COPd	**4.60**	-
Tj=7°C	COPd	**5.50**	-
Tj=12°C	COPd	**6.85**	-
Tj=bivalent temperature	COPd	**2.69**	-
Tj=operating limit	COPd	**2.69**	-

Declared capacity for heating / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	Pdh	**4.10**	kW
Tj=7°C	Pdh	**2.60**	kW
Tj=12°C	Pdh	**1.20**	kW
Tj=bivalent temperature	Pdh	**4.10**	kW
Tj=operating limit	Pdh	**4.10**	kW

Declared coefficient of performance / Warmer season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=2°C	COPd	**3.05**	-
Tj=7°C	COPd	**4.90**	-
Tj=12°C	COPd	**6.85**	-
Tj=bivalent temperature	COPd	**3.05**	-
Tj=operating limit	COPd	**3.05**	-

Declared capacity for heating / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	Pdh	**-**	kW
Tj=2°C	Pdh	**-**	kW
Tj=7°C	Pdh	**-**	kW
Tj=12°C	Pdh	**-**	kW
Tj=bivalent temperature	Pdh	**-**	kW
Tj=operating limit	Pdh	**-**	kW
Tj=-15°C	Pdh	**-**	kW

Declared coefficient of performance / Colder season, at indoor temperature 20°C and outdoor temperature Tj			
Tj=-7°C	COPd	**-**	-
Tj=2°C	COPd	**-**	-
Tj=7°C	COPd	**-**	-
Tj=12°C	COPd	**-**	-
Tj=bivalent temperature	COPd	**-**	-
Tj=operating limit	COPd	**-**	-
Tj=-15°C	COPd	**-**	-

Bivalent temperature			
heating / Average	Tbiv	**-10**	°C
heating / Warmer	Tbiv	**2**	°C
heating / Colder	Tbiv	**-**	°C

Operating limit temperature			
heating / Average	Tol	**-15**	°C
heating / Warmer	Tol	**-15**	°C
heating / Colder	Tol	**-**	°C

Cycling interval capacity			
for cooling	Pcycc	**-**	kW
for heating	Pcych	**-**	kW

Cycling interval efficiency			
for cooling	EERcyc	**-**	-
for heating	COPcyc	**-**	-

Degradation coefficient			
cooling	Cdc	**0.25**	-

Degradation coefficient			
heating	Cdh	**0.25**	-

Electric power input in power modes other than 'active mode'			
off mode	Poff	**5**	W
standby mode	Psb	**5**	W
thermostat-off mode	Pto(cooling)	**18**	W
	Pto(heating)	**20**	W
crankcase heater mode	Pck	**0**	W

Annual electricity consumption			
cooling	Qce	**181**	kWh/a
heating / Average	Qhe	**966**	kWh/a
heating / Warmer	Qhe	**1045**	kWh/a
heating / colder	Qhe	**-**	kWh/a

Capacity control(indicate one of three options)	
fixed	**No**
staged	**No**
variable	**Yes**

Other items			
Sound power level(indoor)	Lwa	**57**	dB(A)
Sound power level(outdoor)	Lwa	**62**	dB(A)
Global warming potential	GWP	**675**	$kgCO_2eq.$
Rated air flow(indoor)	-	**600**	m^3/h
Rated air flow(outdoor)	-	**1890**	m^3/h

Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom

RWA000Z281

(2) 4-way ceiling cassette type (FDTC)
Model FDTC25VH1

Information to identify the model(s) to which the information relates to:	
Indoor unit model name	**FDTC25VH1**
Outdoor unit model name	**SRC25ZS-W1**

If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.

Function(indicate if present)	
cooling	**Yes**
heating	**Yes**

Average(mandatory)	**Yes**
Warmer(if designated)	**Yes**
Colder(if designated)	**No**

Item	symbol	value	unit
Design load			
cooling	Pdesignc	**2.50**	kW
heating / Average	Pdesignh	**2.40**	kW
heating / Warmer	Pdesignh	**3.00**	kW
heating / Colder	Pdesignh	**-**	kW

Item	symbol	value	class
Seasonal efficiency and energy efficiency class			
cooling	SEER	**6.80**	A++
heating / Average	SCOP/A	**4.00**	A+
heating / Warmer	SCOP/W	**5.10**	A+++
heating / Colder	SCOP/C	**-**	-

Declared capacity at outdoor temperature Tdesignh			unit
heating / Average (-10℃)	Pdh	**2.40**	kW
heating / Warmer (2℃)	Pdh	**3.00**	kW
heating / Colder (-22℃)	Pdh	**-**	kW

Back up heating capacity at outdoor temperature Tdesignh			
heating / Average (-10℃)	elbu	**-**	kW
heating / Warmer (2℃)	elbu	**-**	kW
heating / Colder (-22℃)	elbu	**-**	kW

Declared capacity for cooling, at indoor temperature 27(19)℃ and outdoor temperature Tj			
Tj=35℃	Pdc	**2.50**	kW
Tj=30℃	Pdc	**1.90**	kW
Tj=25℃	Pdc	**1.20**	kW
Tj=20℃	Pdc	**1.10**	kW

Declared energy efficiency ratio, at indoor temperature 27(19)℃ and outdoor temperature Tj			
Tj=35℃	EERd	**4.10**	-
Tj=30℃	EERd	**5.90**	-
Tj=25℃	EERd	**9.20**	-
Tj=20℃	EERd	**13.10**	-

Declared capacity for heating / Average season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	Pdh	**2.20**	kW
Tj=2℃	Pdh	**1.20**	kW
Tj=7℃	Pdh	**0.90**	kW
Tj=12℃	Pdh	**1.10**	kW
Tj=bivalent temperature	Pdh	**2.40**	kW
Tj=operating limit	Pdh	**2.40**	kW

Declared coefficient of performance / Average season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	COPd	**2.56**	-
Tj=2℃	COPd	**3.94**	-
Tj=7℃	COPd	**5.25**	-
Tj=12℃	COPd	**6.48**	-
Tj=bivalent temperature	COPd	**2.44**	-
Tj=operating limit	COPd	**2.44**	-

Declared capacity for heating / Warmer season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=2℃	Pdh	**3.00**	kW
Tj=7℃	Pdh	**2.00**	kW
Tj=12℃	Pdh	**1.10**	kW
Tj=bivalent temperature	Pdh	**3.00**	kW
Tj=operating limit	Pdh	**3.00**	kW

Declared coefficient of performance / Warmer season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=2℃	COPd	**2.76**	-
Tj=7℃	COPd	**4.78**	-
Tj=12℃	COPd	**6.48**	-
Tj=bivalent temperature	COPd	**2.76**	-
Tj=operating limit	COPd	**2.76**	-

Declared capacity for heating / Colder season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	Pdh	**-**	kW
Tj=2℃	Pdh	**-**	kW
Tj=7℃	Pdh	**-**	kW
Tj=12℃	Pdh	**-**	kW
Tj=bivalent temperature	Pdh	**-**	kW
Tj=operating limit	Pdh	**-**	kW
Tj=-15℃	Pdh	**-**	kW

Declared coefficient of performance / Colder season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	COPd	**-**	-
Tj=2℃	COPd	**-**	-
Tj=7℃	COPd	**-**	-
Tj=12℃	COPd	**-**	-
Tj=bivalent temperature	COPd	**-**	-
Tj=operating limit	COPd	**-**	-
Tj=-15℃	COPd	**-**	-

Bivalent temperature			
heating / Average	Tbiv	**-10**	℃
heating / Warmer	Tbiv	**2**	℃
heating / Colder	Tbiv	**-**	℃

Operating limit temperature			
heating / Average	Tol	**-15**	℃
heating / Warmer	Tol	**-15**	℃
heating / Colder	Tol	**-**	℃

Cycling interval capacity			
for cooling	Pcycc	**-**	kW
for heating	Pcych	**-**	kW

Cycling interval efficiency			
for cooling	EERcyc	**-**	-
for heating	COPcyc	**-**	-

Degradation coefficient			
cooling	Cdc	**0.25**	-

Degradation coefficient			
heating	Cdh	**0.25**	-

Electric power input in power modes other than 'active mode'			
off mode	Poff	**7**	W
standby mode	Psb	**7**	W
thermostat-off mode	Pto(cooling)	**14**	W
	Pto(heating)	**18**	W
crankcase heater mode	Pck	**0**	W

Annual electricity consumption			
cooling	Qce	**129**	kWh/a
heating / Average	Qhe	**840**	kWh/a
heating / Warmer	Qhe	**823**	kWh/a
heating / colder	Qhe	**-**	kWh/a

Capacity control(indicate one of three options)	
fixed	**No**
staged	**No**
variable	**Yes**

Other items			
Sound power level(indoor)	Lwa	**51**	dB(A)
Sound power level(outdoor)	Lwa	**58**	dB(A)
Global warming potential	GWP	**675**	kgCO_2eq.
Rated air flow(indoor)	-	**510**	m^3/h
Rated air flow(outdoor)	-	**1644**	m^3/h

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RWA000Z281

Model FDTC35VH1

Information to identify the model(s) to which the information relates to:	
Indoor unit model name	**FDTC35VH1**
Outdoor unit model name	**SRC35ZS-W1**

If function includes heating: Indicate the heating season the information relates to. Indicated values should relate to one heating season at a time. Include at least the heating season 'Average'.

Function(indicate if present)	
cooling	**Yes**
heating	**Yes**

Average(mandatory)	**Yes**
Warmer(if designated)	**Yes**
Colder(if designated)	**No**

Item	symbol	value	unit
Design load			
cooling	Pdesignc	**3.50**	kW
heating / Average	Pdesignh	**2.90**	kW
heating / Warmer	Pdesignh	**3.70**	kW
heating / Colder	Pdesignh	**-**	kW

Item	symbol	value	class
Seasonal efficiency and energy efficiency class			
cooling	SEER	**7.10**	A++
heating / Average	SCOP/A	**4.60**	A++
heating / Warmer	SCOP/W	**5.50**	A+++
heating / Colder	SCOP/C	**-**	-

Declared capacity at outdoor temperature Tdesignh			
heating / Average (-10℃)	Pdh	**2.90**	kW
heating / Warmer (2℃)	Pdh	**3.70**	kW
heating / Colder (-22℃)	Pdh	**-**	kW

Back up heating capacity at outdoor temperature Tdesignh			unit
heating / Average (-10℃)	elbu	**0**	kW
heating / Warmer (2℃)	elbu	**0**	kW
heating / Colder (-22℃)	elbu	**-**	kW

Declared capacity for cooling, at indoor temperature 27(19)℃ and outdoor temperature Tj			
Tj=35℃	Pdc	**3.50**	kW
Tj=30℃	Pdc	**2.60**	kW
Tj=25℃	Pdc	**1.70**	kW
Tj=20℃	Pdc	**1.10**	kW

Declared energy efficiency ratio, at indoor temperature 27(19)℃ and outdoor temperature Tj			
Tj=35℃	EERd	**3.85**	-
Tj=30℃	EERd	**5.65**	-
Tj=25℃	EERd	**9.10**	-
Tj=20℃	EERd	**14.20**	-

Declared capacity for heating / Average season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	Pdh	**2.50**	kW
Tj=2℃	Pdh	**1.50**	kW
Tj=7℃	Pdh	**1.00**	kW
Tj=12℃	Pdh	**1.20**	kW
Tj=bivalent temperature	Pdh	**2.90**	kW
Tj=operating limit	Pdh	**2.90**	kW

Declared coefficient of performance / Average season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	COPd	**2.71**	-
Tj=2℃	COPd	**4.78**	-
Tj=7℃	COPd	**5.85**	-
Tj=12℃	COPd	**6.97**	-
Tj=bivalent temperature	COPd	**2.51**	-
Tj=operating limit	COPd	**2.51**	-

Declared capacity for heating / Warmer season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=2℃	Pdh	**3.70**	kW
Tj=7℃	Pdh	**2.40**	kW
Tj=12℃	Pdh	**1.20**	kW
Tj=bivalent temperature	Pdh	**3.70**	kW
Tj=operating limit	Pdh	**3.70**	kW

Declared coefficient of performance / Warmer season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=2℃	COPd	**2.82**	-
Tj=7℃	COPd	**5.05**	-
Tj=12℃	COPd	**6.97**	-
Tj=bivalent temperature	COPd	**2.82**	-
Tj=operating limit	COPd	**2.82**	-

Declared capacity for heating / Colder season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	Pdh	**-**	kW
Tj=2℃	Pdh	**-**	kW
Tj=7℃	Pdh	**-**	kW
Tj=12℃	Pdh	**-**	kW
Tj=bivalent temperature	Pdh	**-**	kW
Tj=operating limit	Pdh	**-**	kW
Tj=-15℃	Pdh	**-**	kW

Declared coefficient of performance / Colder season, at indoor temperature 20℃ and outdoor temperature Tj			
Tj=-7℃	COPd	**-**	-
Tj=2℃	COPd	**-**	-
Tj=7℃	COPd	**-**	-
Tj=12℃	COPd	**-**	-
Tj=bivalent temperature	COPd	**-**	-
Tj=operating limit	COPd	**-**	-
Tj=-15℃	COPd	**-**	-

Bivalent temperature			
heating / Average	Tbiv	**-10**	°C
heating / Warmer	Tbiv	**2**	**℃**
heating / Colder	Tbiv	**-**	**℃**

Operating limit temperature			
heating / Average	Tol	**-15**	**℃**
heating / Warmer	Tol	**-15**	°C
heating / Colder	Tol	**-**	°C

Cycling interval capacity			
for cooling	Pcycc	**-**	kW
for heating	Pcych	**-**	kW

Cycling interval efficiency			
for cooling	EERcyc	**-**	-
for heating	COPcyc	**-**	-

Degradation coefficient			
cooling	Cdc	**0.25**	-

Degradation coefficient			
heating	Cdh	**0.25**	-

Electric power input in power modes other than 'active mode'			
off mode	Poff	**7**	W
standby mode	Psb	**7**	W
thermostat-off mode	Pto(cooling)	**14**	W
	Pto(heating)	**18**	W
crankcase heater mode	Pck	**0**	W

Annual electricity consumption			
cooling	Qce	**173**	kWh/a
heating / Average	Qhe	**883**	kWh/a
heating / Warmer	Qhe	**942**	kWh/a
heating / colder	Qhe	**-**	kWh/a

Capacity control(indicate one of three options)	
fixed	**No**
staged	**No**
variable	**Yes**

Other items			
Sound power level(indoor)	Lwa	**52**	dB(A)
Sound power level(outdoor)	Lwa	**62**	dB(A)
Global warming potential	GWP	**675**	$kgCO_2eq.$
Rated air flow(indoor)	-	**540**	m^3/h
Rated air flow(outdoor)	-	**1890**	m^3/h

Contact details for obtaining more information	Name and address of the manufacturer or of its authorised representative. Mitsubishi Heavy Industries Air-Conditioning Europe, Ltd. 5 The Square, Stockley Park, Uxbridge, Middlesex, UB11 1ET, United Kingdom

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