Optional Parts

≪ Model Name (Starting from MAC) ≫

■ Optional Parts for indoor unit

■ Optional Parts for outdoor unit

OPTIONAL
PARTS

≪ Model Name (Starting from P) ≫

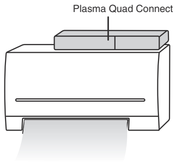
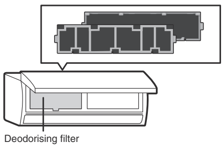
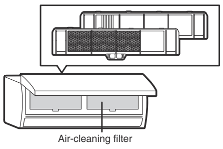
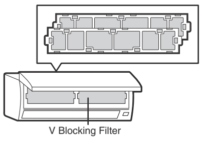
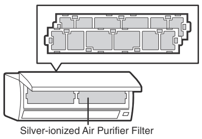
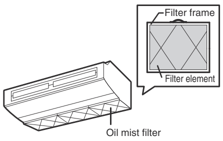
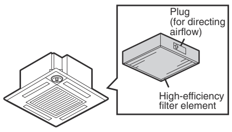
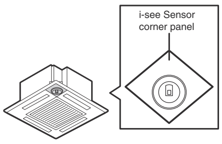
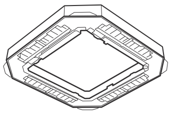
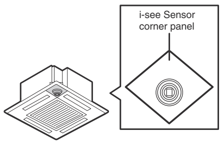
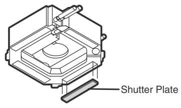
■ Optional Parts for indoor unit

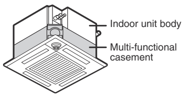
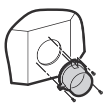
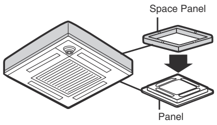
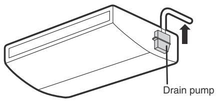
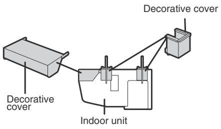
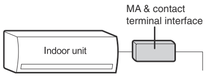
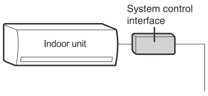
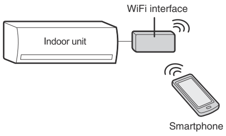
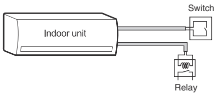
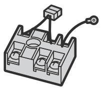
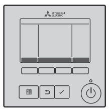
■ Optional Parts for outdoor unit

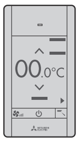
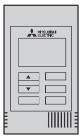
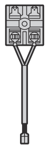
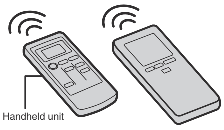
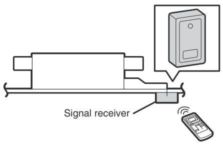
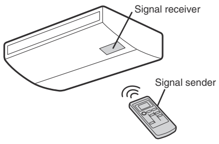
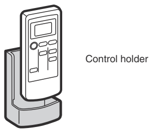
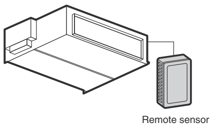
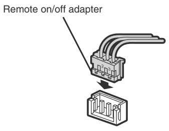
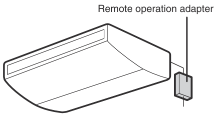
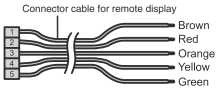
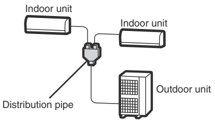
≪ Model Name (Starting from MS**) ≫

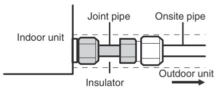
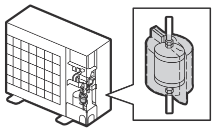
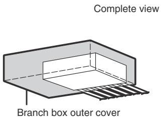
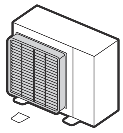
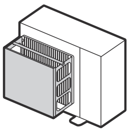
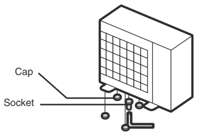
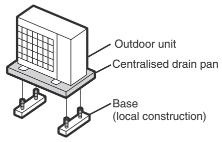
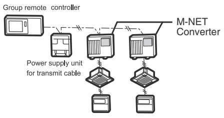
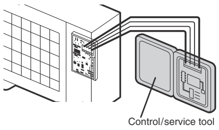
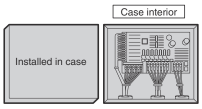
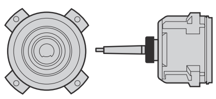
■ Optional Parts for indoor unit

Major Optional Parts

Part Name	Description
Plasma Quad Connect High performance air purifying device that effectively removes various kinds of air pollutants and is even installable on the existing indoor unit.	
Deodorising Filter Captures small foul-smelling substances in the air.	
Air-cleaning Filter Removes fine dust particles from the air by means of static electricity.	
V Blocking Filter Inhibits 99% of adhered virus, and other harmful substances, such as bacteria, mold and allergen.	
Silver-ionized Air Purifier Filter Captures the bacteria, pollen and other allergens in the air and neutralises them.	
Oil Mist Filter Element Filter element (12 pieces) that blocks the oil mist for ceiling-suspended models used in professional kitchens.	
High-efficiency Filter Element Element for high-efficiency filter. Removes fine dust particles from the air.	 Plug (for directing airflow) High-efficiency filter element *For 4-way cassette units (PLA)
3D i-see Sensor Corner Panel for SLZ Corner panel holding the 3D i-see Sensor.	
3D Total Flow for PLA Casement equipped with horizontal louver.	
3D i-see Sensor Corner Panel for PLA Corner panel holding the 3D i-see Sensor.	
Shutter Plate Plate for blocking an air outlet of the 4-way cassette (PLA) indoor unit.	

Part Name	Description
Multi-functional Casement Casement for fresh-air intake and attaching the high-efficiency filter element (optional).	
Fresh-air Intake Duct Flange Flange attachment for adding a duct to take in fresh air from outside.	 *For 4-way cassette units (PLA)
Space Panel Decorative cover for the installation when the ceiling height is low.	
Drain Pump Pumps drain water to a point higher than that where the unit is installed.	 *for ceiling-suspended units
Decorative Cover To be attached to the upper section of ceiling-suspended models for professional kitchen use. Helps prevent dust accumulation.	
MA Interface Interface for connecting with the PAR-41MAA remote controller and PAC-YT52CRA.	
System Control Interface Interface to connect with M-NET controllers.	
Wi-Fi Interface Interface enabling users to control air conditioners and check operating status via devices such as personal computers, tablets and smartphones.	
Connector Cable This product is an adaptor which inputs the incoming signals from an open/close switch to the air conditioner.	
Power Supply Terminal Kit Terminal bed to change the power supply from outdoor power supply to separate indoor/outdoor power supplies.	
Wired Remote Controller Advanced deluxe remote controller with full-dot liquid-crystal display and backlight. Equipped with convenient functions like night-setback.	

Part Name	Description
MA Touch Remote Controller Remote controller with the full color touch display. Smartphone/Tublet App is available for setting, customize and control.	
Simple Wired Remote Controller Remote controller with liquid-crystal display, and backlight function for operation in dark location.	
Remote Controller Terminal Block Kit for PKA The terminal block is used as a relay to wire an indoor unit and to two remote controllers or to wire a remote controller and multiple indoor units in order to perform group control.	
Wireless Remote Controller Signal Sender Handheld unit for sending operation signals to the indoor unit.	
Wireless Remote Controller Signal Receiver Receives operation signals from the wireless remote controller handheld unit.	
Wireless Remote Controller Kit (Sender & Receiver) Remote controller handheld unit (signal sender) and receiver (signal receiver) for ceiling-suspended units.	
Control Holder Holder for storing the remote controller.	
Remote Sensor Sensor to detect the room temperature at remote positions.	
Remote On/Off Adapter Connector for receiving signals from the local system to control the on/off function.	
Remote Operation Adapter Adapter to display the operation status and control on/off function from a distance.	
Connector Cable for Remote Display Connector used to display the operation status and control on/off function from a distance.	 Connector cable for remote display 1 2 3 4 5 Brown Red Orange Yellow Green
Distribution Pipe Branch pipe for P Series simultaneous multi-system use, or to connect two branch boxes for PUMY.	 Indoor unit Indoor unit Outdoor unit Distribution pipe *P Series with 2 indoor units

Part Name	Description
Joint Pipe Part for connecting refrigerant pipes of different diametres.	 Joint pipe Onsite pipe Indoor unit Outdoor unit Insulator
Liquid Refrigerant Dryer Removes water and minute particles from refrigerant pipes.	
Branch Box Outer Cover Casement for branch boxes.	
Air Discharge Guide Changes the direction of air being exhausted from the outdoor unit.	
Air Protection Guide Protects the outdoor unit from the wind.	
Drain Socket A set of caps to cover unnecessary holes at the bottom of the outdoor unit, and a socket to guide drain water to the local drain pipe.	
Centralised Drain Pan Catches drain water generated by the outdoor unit.	 Outdoor unit Centralised drain pan Base (local construction)
M-NET Converter Used to connect P Series A-control models to M-NET controllers.	 Group remote controller M-NET Converter Power supply unit for transmit cable
Control/Service Tool Monitoring tool to display operation and self-diagnosis data.	
Step Interface Interface for adjusting the capacity of inverter-equipped outdoor units.	
High-static Fan Motor Static pressure enhanced up to +30pa.	

Optional Parts List <Indoor>

Option			Filter										Soft dry Cloth	System Control Interface	MA Interface	Wi-Fi Interface	Connector Cable	
			Silver-ionized Air Purifier Filter			V Blocking Filter				Deodorizing Filter		Plasma Quad Connect						
Indoor Unit			MAC-2360FT-E	MAC-2370FT-E	MAC-2380FT-E	MAC-2450FT-E	MAC-2460FT-E	MAC-2470FT-E	MAC-2490FT-E	MAC-3000FT-E	MAC-3010FT-E	MAC-100FT-E	MAC-1001CL-E	MAC-334IF-E	MAC-497IF-E	MAC-587IF-E	MAC-1702RA-E	MAC-1710RA-E
M-series	Wall-mounted	MSZ-RW25VG							●		●			●	●		●	●
		MSZ-RW35VG							●		●			●	●		●	●
		MSZ-RW50VG							●		●			●	●		●	●
		MSZ-LN18VG2(W)(V)(R)(B)							●		●		●	●	●		●	●
		MSZ-LN25VG2(W)(V)(R)(B)							●		●		●	●	●		●	●
		MSZ-LN35VG2(W)(V)(R)(B)							●		●		●	●	●		●	●
		MSZ-LN50VG2(W)(V)(R)(B)							●		●		●	●	●		●	●
		MSZ-LN60VG2(W)(V)(R)(B)							●		●		●	●	●		●	●
		MSZ-FT25VG						●				●		●	●	●*1	●	●
		MSZ-FT35VG						●				●		●	●	●*1	●	●
		MSZ-FT50VG						●				●		●	●	●*1	●	●
		MSZ-AY15VGK(P)						●*2				●*3		●	●	●*1	●	●
		MSZ-AY20VGK(P)						●*2				●*3		●	●	●*1	●	●
		MSZ-AY25VGK(P)						●*2				●*3		●	●	●*1	●	●
		MSZ-AY35VGK(P)						●*2				●*3		●	●	●*1	●	●
		MSZ-AY42VGK(P)						●*2				●*3		●	●	●*1	●	●
		MSZ-AY50VGK(P)						●*2				●*3		●	●	●*1	●	●
		MSZ-AP60VG					●					●		●	●	●*1	●	●
		MSZ-AP71VG					●					●		●	●	●*1	●	●
		MSZ-EF18VG(W)(B)(S)						●				●	●	●	●	●*1	●	●
		MSZ-EF22VG(W)(B)(S)						●				●	●	●	●	●*1	●	●
		MSZ-EF25VG(W)(B)(S)						●				●	●	●	●	●*1	●	●
		MSZ-EF35VG(W)(B)(S)						●				●	●	●	●	●*1	●	●
		MSZ-EF42VG(W)(B)(S)						●				●	●	●	●	●*1	●	●
		MSZ-EF50VG(W)(B)(S)						●				●	●	●	●	●*1	●	●
		MSZ-BT20VG						●				●		●	●	●*1	●	●
		MSZ-BT25VG						●				●		●	●	●*1	●	●
		MSZ-BT35VG						●				●		●	●	●*1	●	●
		MSZ-BT50VG						●				●		●	●	●*1	●	●
		MSZ-HR25VF						●				●		●	●	●*1	●	●
		MSZ-HR35VF						●				●		●	●	●*1	●	●
		MSZ-HR42VF						●				●		●	●	●*1	●	●
		MSZ-HR50VF						●				●		●	●	●*1	●	●
		MSZ-HR60VF						●				●		●	●	●*1	●	●
		MSZ-HR71VF						●				●		●	●	●*1	●	●
		MSZ-DW25VF						●				●		●	●	●*1	●	●
		MSZ-DW35VF						●				●		●	●	●*1	●	●
		MSZ-DW50VF						●				●		●	●	●*1	●	●
		MSY-TP35VF						●				●		●	●	●*1	●	●
		MSY-TP50VF						●				●		●	●	●*1	●	●
	Floor-Standing	MFZ-KT25VG		●				●						●	●	●*1	●	●
		MFZ-KT35VG		●				●						●	●	●*1	●	●
		MFZ-KT50VG		●				●						●	●	●*1	●	●
		MFZ-KT60VG		●				●						●	●	●*1	●	●
		MFZ-KW25VG		●				●						●	●	●*1	●	●
		MFZ-KW35VG		●				●						●	●	●*1	●	●
		MFZ-KW50VG		●				●						●	●	●*1	●	●
		MFZ-KW60VG		●				●						●	●	●*1	●	●
	1-way Cassette	MLZ-KP25VG		●				●						●	●	●*1	●	●
		MLZ-KP35VG		●				●						●	●	●*1	●	●
		MLZ-KP50VG		●				●						●	●	●*1	●	●
		MLZ-KY20VG		●				●						●	●	●*1	●	●

*1 Outside attachment only.
*2 Equipped as standard for VGK model
*3 Plasma quad plus is equipped as standard for VGKP model

Indoor Unit		Option	Wired Remote Controller			Wireless Remote Controller	Controller Holder		
			PAR-41MAA	PAR-CT01MAA	PAC-YT52CRA	MAC-SL100M-E	MAC-286RH-E	MAC-1200RC-E	MAC-1300RC-E
M-series	Wall-mounted	MSZ-RW25VG	●*1	●*2	●*1				●
		MSZ-RW35VG	●*1	●*2	●*1				●
		MSZ-RW50VG	●*1	●*2	●*1				●
		MSZ-LN18VG2(W)(V)(R)(B)	●*1	●*2	●*1		●*4		●*3
		MSZ-LN25VG2(W)(V)(R)(B)	●*1	●*2	●*1		●*4		●*3
		MSZ-LN35VG2(W)(V)(R)(B)	●*1	●*2	●*1		●*4		●*3
		MSZ-LN50VG2(W)(V)(R)(B)	●*1	●*2	●*1		●*4		●*3
		MSZ-LN60VG2(W)(V)(R)(B)	●*1	●*2	●*1		●*4		●*3
		MSZ-FT25VG	●*1	●*2	●*1				●
		MSZ-FT35VG	●*1	●*2	●*1				●
		MSZ-FT50VG	●*1	●*2	●*1				●
		MSZ-AY15VGK(P)	●*1	●*2	●*1				●
		MSZ-AY20VGK(P)	●*1	●*2	●*1				●
		MSZ-AY25VGK(P)	●*1	●*2	●*1				●
		MSZ-AY35VGK(P)	●*1	●*2	●*1				●
		MSZ-AY42VGK(P)	●*1	●*2	●*1				●
		MSZ-AY50VGK(P)	●*1	●*2	●*1				●
		MSZ-AP60VG	●*1	●*2	●*1				●
		MSZ-AP71VG	●*1	●*2	●*1				●
		MSZ-EF18VG(W)(B)(S)	●*1	●*2	●*1				●
		MSZ-EF22VG(W)(B)(S)	●*1	●*2	●*1				●
		MSZ-EF25VG(W)(B)(S)	●*1	●*2	●*1				●
		MSZ-EF35VG(W)(B)(S)	●*1	●*2	●*1				●
		MSZ-EF42VG(W)(B)(S)	●*1	●*2	●*1				●
		MSZ-EF50VG(W)(B)(S)	●*1	●*2	●*1				●
		MSZ-BT20VG	●*1	●*2	●*1				
		MSZ-BT25VG	●*1	●*2	●*1				
		MSZ-BT35VG	●*1	●*2	●*1				
		MSZ-BT50VG	●*1	●*2	●*1				
		MSZ-HR25VF	●*1	●*2	●*1			●	
		MSZ-HR35VF	●*1	●*2	●*1			●	
		MSZ-HR42VF	●*1	●*2	●*1			●	
		MSZ-HR50VF	●*1	●*2	●*1			●	
		MSZ-HR60VF	●*1	●*2	●*1			●	
		MSZ-HR71VF	●*1	●*2	●*1			●	
		MSZ-DW25VF	●*1	●*2	●*1			●	
		MSZ-DW35VF	●*1	●*2	●*1			●	
		MSZ-DW50VF	●*1	●*2	●*1			●	
		MSY-TP35VF	●*1	●*2	●*1	●			
		MSY-TP50VF	●*1	●*2	●*1	●			
	Floor-Standing	MFZ-KT25VG	●*1	●*2	●*1				●
		MFZ-KT35VG	●*1	●*2	●*1				●
		MFZ-KT50VG	●*1	●*2	●*1				●
		MFZ-KT60VG	●*1	●*2	●*1				●
		MFZ-KW25VG	●*1	●*2	●*1				●
		MFZ-KW35VG	●*1	●*2	●*1				●
		MFZ-KW50VG	●*1	●*2	●*1				●
		MFZ-KW60VG	●*1	●*2	●*1				●
	1-way Cassette	MLZ-KP25VG	●*1	●*2	●*1				●
		MLZ-KP35VG	●*1	●*2	●*1				●
		MLZ-KP50VG	●*1	●*2	●*1				●
		MLZ-KY20VG	●*1	●*2	●*1				●

*1 Either MAC-334IF-E or MAC-497IF-E is required. Up to two wired remote controllers can be connected at the same time.
*2 Either MAC-334IF-E or MAC-497IF-E is required. Only one wired remote controller can be connected.
*3 Available only for LN18/25/35/50/60VG2W.
*4 Available only for LN18/25/35/50/60VG2B/R/V.

		Option	Filter																	
			Oil Mist Filter Element	Long Life Filter	High-efficiency Filter Element				V Blocking Filter							Filter Box				
Indoor Unit			PAC-SG38KF-E	PAC-KE85LAF	*5 PAC-SH59KF-E	*6 PAC-SH88KF-E	*7 PAC-SH89KF-E	*8 PAC-SH90KF-E	*1 PAC-SK53KF-E	PAC-SK54KF-E	*2 PAC-SK55KF-E	*3 PAC-SK56KF-E	*4 PAC-SK57KF-E	MAC-2470FT-E	MAC-1416FT-E	PAC-KE92TB-E	PAC-KE93TB-E	PAC-KE94TB-E	PAC-KE95TB-E	PAC-KE250TB-F
S series	4-way cassette	SLZ-M15FA2								●										
		SLZ-M25FA2								●										
		SLZ-M35FA2								●										
		SLZ-M50FA2								●										
		SLZ-M60FA2								●										
	Ceiling - concealed	SEZ-M25DA(L)2																		
		SEZ-M35DA(L)2																		
		SEZ-M50DA(L)2																		
		SEZ-M60DA(L)2																		
		SEZ-M71DA(L)2																		
	Concealed floor standing	SFZ-M25VA																		
		SFZ-M35VA																		
		SFZ-M50VA																		
		SFZ-M60VA																		
		SFZ-M71VA																		
P series	4-way cassette	PLA-ZM35EA2			●				●											
		PLA-ZM50EA2			●				●											
		PLA-ZM60EA2			●				●											
		PLA-ZM71EA2			●				●											
		PLA-ZM100EA2			●				●											
		PLA-ZM125EA2			●				●											
		PLA-ZM140EA2			●				●											
		PLA-M35EA2			●				●											
		PLA-M50EA2			●				●											
		PLA-M60EA2			●				●											
		PLA-M71EA2			●				●											
		PLA-M100EA2			●				●											
		PLA-M125EA2			●				●											
		PLA-M140EA2			●				●											
		PLA-SM71EA2			●				●											
		PLA-SM100EA2			●				●											
		PLA-SM125EA2			●				●											
		PLA-SM140EA2			●				●											
	Ceiling - concealed	PEAD-M35JA(L)2														●				
		PEAD-M50JA(L)2														●				
		PEAD-M60JA(L)2															●			
		PEAD-M71JA(L)2															●			
		PEAD-M100JA(L)2																●		
		PEAD-M125JA(L)2																●		
		PEAD-M140JA(L)2																	●	
		PEAD-SM35JA(L)														●				
		PEAD-SM50JA(L)														●				
		PEAD-SM60JA(L)															●			
		PEAD-SM71JA(L)2															●			
		PEAD-SM100JA(L)2																●		
		PEAD-SM125JA(L)2																●		
		PEAD-SM140JA(L)2																	●	
		PEA-M200LA2		●																●
		PEA-M250LA2		●																●
	Wall - mounted	PKA-M35LA(L)2												●						
		PKA-M50LA(L)2												●						
		PKA-M60KA(L)2													●					
		PKA-M71KA(L)2													●					
		PKA-M100KA(L)2													●					
	Ceiling - suspended	PCA-M35KA2				●					●									
		PCA-M50KA2				●					●									
		PCA-M60KA2					●					●								
		PCA-M71KA2					●					●								
		PCA-M100KA2						●					●							
		PCA-M125KA2						●					●							
		PCA-M140KA2						●					●							
		PCA-M71HA2	●																	
	Floor - standing	PSA-M71KA																		
		PSA-M100KA																		
		PSA-M125KA																		
		PSA-M140KA																		

*1 V Blocking Filter(PAC-SK53KF-E) cannot be used with High-efficiency filter element(PAC-SH59KF-E).
*2 V Blocking Filter(PAC-SK55KF-E) cannot be used with High-efficiency filter element(PAC-SH88KF-E).
*3 V Blocking Filter(PAC-SK56KF-E) cannot be used with High-efficiency filter element(PAC-SH89KF-E).
*4 V Blocking Filter(PAC-SK57KF-E) cannot be used with High-efficiency filter element(PAC-SH90KF-E).
*5 High-efficiency filter element(PAC-SH59KF-E) cannot be used with 3D Total Flow unit(PLP-U160ELR-E), Plasma Quad Connect(PAC-SK51FT-E), Insulation kit (PAC-SK36HK-E) and V Blocking Filter(PAC-SK53KF-E).
*6 High-efficiency filter element(PAC-SH88KF-E) cannot be used with V Blocking Filter(PAC-SH88KF-E).
*7 High-efficiency filter element(PAC-SH89KF-E) cannot be used with V Blocking Filter(PAC-SH89KF-E).
*8 High-efficiency filter element(PAC-SH90KF-E) cannot be used with V Blocking Filter(PAC-SH90KF-E).

		Option	Plasma Quad Connect												3D i-see Sensor Corner Panel		3D Total Flow unit	Shutter Plate	Insulation kit	Multi-functional Casement
			Plasma Quad Connect					Attachment for Ducted			Box for Ducted									
Indoor Unit			MAC-100FT-E	PAC-SK51FT-E *2	SLP-FAP	SLP-FALP	SLP-FALMP2	PAC-HA11PAR	PAC-HA31PAR	PAC-HA31PAU	PAC-KE92PTB-E	PAC-KE93PTB-E	PAC-KE94PTB-E	PAC-KE95PTB-E	PAC-SF1ME-E	PAC-SE1ME-E	PLP-U160ELR-E *1	PAC-SJ37SP-E *4	PAC-SK36HK-E *3	PAC-SJ41TM-E *5
S series	4-way cassette	SLZ-M15FA2			●	●	●								●					
		SLZ-M25FA2			●	●	●								●					
		SLZ-M35FA2			●	●	●								●					
		SLZ-M50FA2			●	●	●								●					
		SLZ-M60FA2			●	●	●								●					
	Ceiling - concealed	SEZ-M25DA(L)2	●					●												
		SEZ-M35DA(L)2	●					●												
		SEZ-M50DA(L)2	●					●												
		SEZ-M60DA(L)2	●					●												
		SEZ-M71DA(L)2	●					●												
	Concealed floor standing	SFZ-M25VA																		
		SFZ-M35VA																		
		SFZ-M50VA																		
		SFZ-M60VA																		
		SFZ-M71VA																		
P series	4-way cassette	PLA-ZM35EA2		●												●	●	●	●	●
		PLA-ZM50EA2		●												●	●	●	●	●
		PLA-ZM60EA2		●												●	●	●	●	●
		PLA-ZM71EA2		●												●	●	●	●	●
		PLA-ZM100EA2		●												●	●	●	●	●
		PLA-ZM125EA2		●												●	●	●	●	●
		PLA-ZM140EA2		●												●	●	●	●	●
		PLA-M35EA2		●												●	●	●	●	●
		PLA-M50EA2		●												●	●	●	●	●
		PLA-M60EA2		●												●	●	●	●	●
		PLA-M71EA2		●												●	●	●	●	●
		PLA-M100EA2		●												●	●	●	●	●
		PLA-M125EA2		●												●	●	●	●	●
		PLA-M140EA2		●												●	●	●	●	●
		PLA-SM71EA2		●												●	●	●	●	●
		PLA-SM100EA2		●												●	●	●	●	●
		PLA-SM125EA2		●												●	●	●	●	●
		PLA-SM140EA2		●												●	●	●	●	●
	Ceiling - concealed	PEAD-M35JA(L)2	●						●	●	●									
		PEAD-M50JA(L)2	●						●	●	●									
		PEAD-M60JA(L)2	●						●	●		●								
		PEAD-M71JA(L)2	●						●	●		●								
		PEAD-M100JA(L)2	●						●	●			●							
		PEAD-M125JA(L)2	●						●	●			●							
		PEAD-M140JA(L)2	●						●	●				●						
		PEAD-SM35JA(L)	●						●	●	●									
		PEAD-SM50JA(L)	●						●	●	●									
		PEAD-SM60JA(L)	●						●	●		●								
		PEAD-SM71JA(L)2	●						●	●		●								
		PEAD-SM100JA(L)2	●						●	●			●							
		PEAD-SM125JA(L)2	●						●	●			●							
		PEAD-SM140JA(L)2	●						●	●				●						
		PEA-M200LA2																		
		PEA-M250LA2																		
	Wall - mounted	PKA-M35LA(L)2	●																	
		PKA-M50LA(L)2	●																	
		PKA-M60KA(L)2	●																	
		PKA-M71KA(L)2	●																	
		PKA-M100KA(L)2	●																	
	Ceiling - suspended	PCA-M35KA2																		
		PCA-M50KA2																		
		PCA-M60KA2																		
		PCA-M71KA2																		
		PCA-M100KA2																		
		PCA-M125KA2																		
		PCA-M140KA2																		
		PCA-M71HA2																		
	Floor - standing	PSA-M71KA																		
		PSA-M100KA																		
		PSA-M125KA																		
		PSA-M140KA																		

*1 3D Total Flow unit(PLP-U160ELR-E) cannot be used with Plasma Quad Connect(PAC-SK51FT-E), Insulation kit(PAC-SK36HK-E), Shutter Plate(PAC-SJ37SP-E), Multi functional casement(PAC-SJ41TM-E) and High-efficiency filter element(PAC-SH59KF-E)

*2 Plasma Quad Connect(PAC-SK51FT-E) cannot be used with PLP-U160ELR-E(3D Total Flow unit), Insulation kit (PAC-SK36HK-E), Auto elevation panel(PLP-6EAJ, PLP-6EAJE), Multi functional casement(PAC-SJ41TM-E) and High-efficiency filter element(PAC-SH59KF-E).

*3 Insulation kit(PAC-SK36HK-E) cannot be used with 3D Total Flow unit(PLP-U160ELR-E), Plasma Quad Connect(PAC-SK51FT-E), Auto elevation panel(PLP-6EAJ, PLP-6EAJE), Shutter Plate(PAC-SJ37SP-E), Multi functional casement(PAC-SJ41TM-E) and High-efficiency filter element(PAC-SH59KF-E)

*4 Shutter Plate(PAC-SJ37SP-E) cannot be used with 3D Total Flow unit(PLP-U160ELR-E) and Insulation kit(PAC-SK36HK-E).

*5 Multi functional casement(PAC-SJ41TM-E) cannot be used with 3D Total Flow unit(PLP-U160ELR-E), Plasma Quad Connect(PAC-SK51FT-E) and Insulation kit(PAC-SK36HK-E).

Indoor Unit		Option	Fresh-air Intake Duct Flange		Space Panel	Drain Pump							Decorative Cover	System Control Interface	Wi-Fi Interface	Power Supply Terminal Kit				
			PAC-SH65OF-E	PAC-SF28OF-E	PAC-SJ65AS-E	PAC-SK19DM-E	PAC-SK01DM-E	PAC-SJ92DM-E	PAC-SJ93DM-E	PAC-SJ94DM-E	PAC-KE07DM-E	PAC-KE06DM-FI	PAC-SF81KC-E	MAC-334IF-E	MAC-587IF-E	PAC-SK38HR-E	PAC-SG94HR-E	PAC-SG96HR-E	PAC-SG97HR-E	PAC-SJ39HR-E
S series	4-way cassette	SLZ-M15FA2												●	●					
		SLZ-M25FA2												●	●					
		SLZ-M35FA2												●	●					
		SLZ-M50FA2												●	●					
		SLZ-M60FA2												●	●					
	Ceiling - concealed	SEZ-M25DA(L)2									●			●	●					
		SEZ-M35DA(L)2									●			●	●					
		SEZ-M50DA(L)2									●			●	●					
		SEZ-M60DA(L)2									●			●	●					
		SEZ-M71DA(L)2									●			●	●					
	Concealed floor standing	SFZ-M25VA												●	●					
		SFZ-M35VA												●	●					
		SFZ-M50VA												●	●					
		SFZ-M60VA												●	●					
		SFZ-M71VA												●	●					
P series	4-way cassette	PLA-ZM35EA2	●		●									●*1	●					●
		PLA-ZM50EA2	●		●									●*1	●					●
		PLA-ZM60EA2	●		●									●*1	●					●
		PLA-ZM71EA2	●		●									●*1	●					●
		PLA-ZM100EA2	●		●									●*1	●					●
		PLA-ZM125EA2	●		●									●*1	●					●
		PLA-ZM140EA2	●		●									●*1	●					●
		PLA-M35EA2	●		●									●*1	●					●
		PLA-M50EA2	●		●									●*1	●					●
		PLA-M60EA2	●		●									●*1	●					●
		PLA-M71EA2	●		●									●*1	●					●
		PLA-M100EA2	●		●									●*1	●					●
		PLA-M125EA2	●		●									●*1	●					●
		PLA-M140EA2	●		●									●*1	●					●
		PLA-SM71EA2	●		●									●*1	●					●
		PLA-SM100EA2	●		●									●*1	●					●
		PLA-SM125EA2	●		●									●*1	●					●
		PLA-SM140EA2	●		●									●*1	●					●
	Ceiling - concealed	PEAD-M35JA(L)2												●*1	●				●	
		PEAD-M50JA(L)2												●*1	●				●	
		PEAD-M60JA(L)2												●*1	●				●	
		PEAD-M71JA(L)2												●*1	●				●	
		PEAD-M100JA(L)2												●*1	●				●	
		PEAD-M125JA(L)2												●*1	●				●	
		PEAD-M140JA(L)2												●*1	●				●	
		PEAD-SM35JA(L)												●*1	●				●	
		PEAD-SM50JA(L)												●*1	●				●	
		PEAD-SM60JA(L)												●*1	●				●	
		PEAD-SM71JA(L)2												●*1	●				●	
		PEAD-SM100JA(L)2												●*1	●				●	
		PEAD-SM125JA(L)2												●*1	●				●	
		PEAD-SM140JA(L)2												●*1	●				●	
		PEA-M200LA2										●		●*1	●					
		PEA-M250LA2										●		●*1	●					
	Wall - mounted	PKA-M35LA(L)2					●							●*1	●	●				
		PKA-M50LA(L)2					●							●*1	●	●				
		PKA-M60KA(L)2				●								●*1	●		●			
		PKA-M71KA(L)2				●								●*1	●		●			
		PKA-M100KA(L)2				●								●*1	●		●			
	Ceiling - suspended	PCA-M35KA2						●						●*1	●			●		
		PCA-M50KA2						●						●*1	●			●		
		PCA-M60KA2								●				●*1	●			●		
		PCA-M71KA2							●					●*1	●			●		
		PCA-M100KA2							●						●			●		
		PCA-M125KA2							●						●			●		
		PCA-M140KA2							●						●			●		
		PCA-M71HA2		●									●		●				●	
	Floor - standing	PSA-M71KA													●			●		
		PSA-M100KA													●			●		
		PSA-M125KA													●			●		
		PSA-M140KA													●			●		

*1 P Series indoor units can be used in combination with SUZ or MXZ outdoor units.

		Option	Wired Remote Controller				Wireless Remote Controller						Remote Sensor	Remote On/Off Adapter	Remote Operation Adapter	Connector Cable for Remote Display
			Controller			Terminal Block kit for PKA	Signal Sender		Signal Receiver			Controller Kit (Sender & Receiver)				
Indoor Unit			PAR-41 MAA	PAR-CT01 MAA	PAC-YT52 CRA	PAC-SH29 TC-E	PAR-SL97 A-E	PAR-SL101 A-E	PAR-SA9 CA-E	PAR-SF9 FA	PAR-SE9 FA-E	PAR-SL94 B-E	PAC-SE41 TS-E	PAC-SE55 RA-E	PAC-SF40 RM-E	PAC-SA88 HA-E
S series	4-way cassette	SLZ-M15FA2	●	●	●		●	●*3		●			●	●	●*1	●
		SLZ-M25FA2	●	●	●		●	●*3		●			●	●	●*1	●
		SLZ-M35FA2	●	●	●		●	●*3		●			●	●	●*1	●
		SLZ-M50FA2	●	●	●		●	●*3		●			●	●	●*1	●
		SLZ-M60FA2	●	●	●		●	●*3		●			●	●	●*1	●
	Ceiling - concealed	SEZ-M25DA(L)2	DA2	DA2	DA2		●	●*3	●				●	●	●*1	●
		SEZ-M35DA(L)2	DA2	DA2	DA2		●	●*3	●				●	●	●*1	●
		SEZ-M50DA(L)2	DA2	DA2	DA2		●	●*3	●				●	●	●*1	●
		SEZ-M60DA(L)2	DA2	DA2	DA2		●	●*3	●				●	●	●*1	●
		SEZ-M71DA(L)2	DA2	DA2	DA2		●	●*3	●				●	●	●*1	●
	Concealed floor standing	SFZ-M25VA	●	●	●		●	●*3	●				●	●	●*1	●
		SFZ-M35VA	●	●	●		●	●*3	●				●	●	●*1	●
		SFZ-M50VA	●	●	●		●	●*3	●				●	●	●*1	●
		SFZ-M60VA	●	●	●		●	●*3	●				●	●	●*1	●
		SFZ-M71VA	●	●	●		●	●*3	●				●	●	●*1	●
P series	4-way cassette	PLA-ZM35EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-ZM50EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-ZM60EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-ZM71EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-ZM100EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-ZM125EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-ZM140EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-M35EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-M50EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-M60EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-M71EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-M100EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-M125EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-M140EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-SM71EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-SM100EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-SM125EA2	●	●	●		●	●*3			●		●	●	●*1	●
		PLA-SM140EA2	●	●	●		●	●*3			●		●	●	●*1	●
	Ceiling - concealed	PEAD-M35JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-M50JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-M60JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-M71JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-M100JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-M125JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-M140JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-SM35JA(L)	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-SM50JA(L)	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-SM60JA(L)	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-SM71JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-SM100JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-SM125JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEAD-SM140JA(L)2	●	●	●		●	●*3	●				●	●	●*1	●
		PEA-M200LA2	●	●	●		●	●*3	●				●	●	●*1	●
		PEA-M250LA2	●	●	●		●	●*3	●				●	●	●*1	●
	Wall - mounted	PKA-M35LA(L)2	●*2	●*2	●*2	●	●	●*3					●	●	●*1	●
		PKA-M50LA(L)2	●*2	●*2	●*2	●	●	●*3					●	●	●*1	●
		PKA-M60KA(L)2	●*2	●*2	●*2	●	●	●*3					●	●		●
		PKA-M71KA(L)2	●*2	●*2	●*2	●	●	●*3					●	●		●
		PKA-M100KA(L)2	●*2	●*2	●*2	●	●	●*3					●	●		●
	Ceiling - suspended	PCA-M35KA2	●	●	●		●	●*3	●			●	●	●	●*1	●
		PCA-M50KA2	●	●	●		●	●*3	●			●	●	●	●*1	●
		PCA-M60KA2	●	●	●		●	●*3	●			●	●	●	●*1	●
		PCA-M71KA2	●	●	●		●	●*3	●			●	●	●	●*1	●
		PCA-M100KA2	●	●	●		●	●*3	●			●	●	●	●*1	●
		PCA-M125KA2	●	●	●		●	●*3	●			●	●	●	●*1	●
		PCA-M140KA2	●	●	●		●	●*3	●			●	●	●	●*1	●
		PCA-M71HA2	●	●	●		●	●*3	●				●	●	●*1	●
	Floor - standing	PSA-M71KA						●*3	●				●	●	●*1	●
		PSA-M100KA						●*3	●				●	●	●*1	●
		PSA-M125KA						●*3	●				●	●	●*1	●
		PSA-M140KA						●*3	●				●	●	●*1	●

*1 Unable to use with wireless remote controller.
*2 PAC-SH29TC-E is required for wireless model.
*2 Group control cannot be used.

Optional Parts List <Outdoor>

Outdoor Unit / Option			Air Outlet Guide					Freeze-prevention Heater (for Drain Pan)	
			MAC-890SG-E	MAC-881SG	MAC-882SG	MAC-886SG-E	MAC-883SG	MAC-643BH-E	MAC-646BH-E
M series	RW Series	MUZ-RW25VGHZ			●				
		MUZ-RW35VGHZ			●				
		MUZ-RW50VGHZ	●						
	LN series	MUZ-LN25VG2		●					
		MUZ-LN25VGHZ2		●					
		MUZ-LN35VG2		●					
		MUZ-LN35VGHZ2		●					
		MUZ-LN50VG2			●				
		MUZ-LN50VGHZ2	●						
		MUZ-LN60VG2	●						
	FT series	MUZ-FT25VGHZ		●					
		MUZ-FT35VGHZ			●				
		MUZ-FT50VGHZ			●				
	AY, AP series	MUZ-AY15VG					●		
		MUZ-AY20VG		●					
		MUZ-AY25VG		●					
		MUZ-AY25VGH		●					
		MUZ-AY35VG		●					
		MUZ-AY35VGH		●					
		MUZ-AY42VG		●					
		MUZ-AY42VGH		●					
		MUZ-AY50VG			●				
		MUZ-AY50VGH			●				
		MUZ-AP60VG			●				
		MUZ-AP71VG2	●						
	EF series	MUZ-EF25VG		●					
		MUZ-EF25VGH		●					
		MUZ-EF35VG		●					
		MUZ-EF35VGH		●					
		MUZ-EF42VG		●				●	
		MUZ-EF50VG			●				●
	BT series	MUZ-BT20VG					●		
		MUZ-BT25VG					●		
		MUZ-BT35VG					●		
		MUZ-BT50VG		●					
	HR series	MUZ-HR25VF					●		
		MUZ-HR35VF					●		
		MUZ-HR42VF		●					
		MUZ-HR50VF		●					
		MUZ-HR60VF			●				
		MUZ-HR71VF			●				
	DW series	MUZ-DW25VF					●		
		MUZ-DW35VF					●		
		MUZ-DW50VF		●					
	TP series	MUY-TP35VF							
		MUY-TP50VF							
	Compact floor	MUFZ-KW25VGHZ		●					
		MUFZ-KW35VGHZ		●					
		MUFZ-KW50VGHZ				●			
		MUFZ-KW60VGHZ				●			

Outdoor Unit		Option	Distribution Pipe								Branch Pipe/Header (Joint)					Joint Pipe			
			For Twin (50:50)				For Triple (33:33:33)		For Quadruple (25:25:25:25)		In case of using 2-branch boxes		Branch Pipe	Header		Unit ø6.35 --> Pipe ø9.52	Unit ø9.52 --> Pipe ø12.7		Unit ø15.88 --> Pipe ø19.05
											Flare	Brazing							
			MSDD-50TR-E	MSDD-50TR2-E	MSDD-50WR-E	MSDD-50WR2-E	MSDT-111R-E	MSDT-111R3-E	MSDF-1111R-E	MSDF-1111R2-E	MSDD-50AR-E	MSDD-50BR-E	CMY-Y62-G-E	CMY-Y64-G-E	CMY-Y68-G-E	PAC-SJ87RJ-E	PAC-SG73RJ-E	PAC-SJ88RJ-E	PAC-SG75RJ-E
S SERIES (R32)		SUZ-M25VA																	
		SUZ-M35VA																	
		SUZ-M50VA																	
		SUZ-M60VA																	
		SUZ-M71VA																	
P SERIES	Power Inverter (R32)	PUZ-ZM35VKA2														●			
		PUZ-ZM50VKA2														●		●	
		PUZ-ZM60VHA2														●		●	
		PUZ-ZM71VHA2		●														●	
		PUZ-ZM100VKA2		●				●										●	
		PUZ-ZM100YKA2		●				●										●	
		PUZ-ZM125VKA2		●				●		●								●	
		PUZ-ZM125YKA2		●				●		●								●	
		PUZ-ZM140VKA2		●				●		●								●	
		PUZ-ZM140YKA2		●				●		●								●	
		PUZ-ZM200YKA2				●		●		●								●	
		PUZ-ZM250YKA2				●		●		●									
	Standard Inverter (R32)	PUZ-M100VKA2		●															
		PUZ-M125VKA2		●															
		PUZ-M140VKA2		●				●											
		PUZ-M100YKA2		●															
		PUZ-M125YKA2		●															
		PUZ-M140YKA2		●				●											
		PUZ-M200YKA2				●		●		●									
		PUZ-M250YKA2				●		●		●									
MXZ SERIES (R32)		MXZ-2F33VF4																	
		MXZ-2F42VF4																	
		MXZ-2F53VF(H)4																	
		MXZ-2F53VFHZ2																	
		MXZ-3F54VF4																	
		MXZ-3F68VF4																	
		MXZ-4F72VF4																	
		MXZ-4F80VF4																	
		MXZ-4F83VF2																	
		MXZ-4F83VFHZ2																	
		MXZ-5F102VF2																	
		MXZ-6F120VF2																	
		MXZ-2HA40VF2																	
		MXZ-2HA50VF2																	
		MXZ-3HA50VF2																	
PXZ series		PXZ-4F75VG																	
		PXZ-5F85VG																	

Outdoor Unit			Joint Pipe					Liquid Refrigerant Dryer			Air Outlet Guide							
		Option	Unit ø9.52 --> Pipe ø15.88	Unit ø6.35 --> Pipe ø9.52	Unit ø9.52 --> Pipe ø12.7	Unit ø12.7 --> Pipe ø9.52	Unit ø12.7 --> Pipe ø15.88	For pipe ø6.35	For pipe ø9.52	For pipe ø12.7								
			Flare															
			PAC-SG76RJ-E	PAC-493PI	MAC-A454JP-E	MAC-A455JP-E	MAC-A456JP-E	PAC-SG81DR-E	PAC-SG82DR-E	PAC-SG85DR-E	MAC-881SG	MAC-882SG	MAC-856SG	MAC-886SG-E	PAC-SJ07SG-E	PAC-SG59SG-E	PAC-SH96SG-E	PAC-SK22SG-E
S SERIES (R32)		SUZ-M25VA									●							
		SUZ-M35VA				●					●							
		SUZ-M50VA										●						
		SUZ-M60VA												●				
		SUZ-M71VA												●				
P SERIES	Power Inverter (R32)	PUZ-ZM35VKA2						●							●			
		PUZ-ZM50VKA2						●							●			
		PUZ-ZM60VHA2							●							●		
		PUZ-ZM71VHA2							●							●		
		PUZ-ZM100VKA2							●								●	
		PUZ-ZM100YKA2							●								●	
		PUZ-ZM125VKA2							●								●	
		PUZ-ZM125YKA2							●								●	
		PUZ-ZM140VKA2							●								●	
		PUZ-ZM140YKA2							●								●	
		PUZ-ZM200YKA2							●								●	
		PUZ-ZM250YKA2								●							●	
	Standard Inverter (R32)	PUZ-M100VKA2							●								●	
		PUZ-M125VKA2							●								●	
		PUZ-M140VKA2							●								●	
		PUZ-M100YKA2							●								●	
		PUZ-M125YKA2							●								●	
		PUZ-M140YKA2							●								●	
		PUZ-M200YKA2							●								●	
		PUZ-M250YKA2								●							●	
MXZ SERIES (R32)		MXZ-2F33VF4									●							
		MXZ-2F42VF4									●							
		MXZ-2F53VF(H)4			●						●							
		MXZ-2F53VFHZ2			●												●	
		MXZ-3F54VF4			●								●					
		MXZ-3F68VF4	●	●	●								●					
		MXZ-4F72VF4	●	●	●	●	●						●					
		MXZ-4F80VF4	●	●	●	●	●						●					
		MXZ-4F83VF2	●	●	●	●	●										●	
		MXZ-4F83VFHZ2	●	●	●	●	●										●	
		MXZ-5F102VF2	●	●	●	●	●										●	
		MXZ-6F120VF2	●	●	●	●	●										●	
		MXZ-2HA40VF2									●							
		MXZ-2HA50VF2									●							
		MXZ-3HA50VF2											●					
PXZ series		PXZ-4F75VG	●	●	●	●	●						●					
		PXZ-5F85VG	●	●	●	●	●										●	

Outdoor Unit		Option	Air Protection Guide				Drain Socket				Freeze-prevention Heater (for Drain Pan)						Centralized Drain Pan			
			PAC-SJ06AG-E	PAC-SH63AG-E	PAC-SH95AG-E	PAC-SK21AG-E	PAC-SJ08DS-E	PAC-SG60DS-E	PAC-SG61DS-E	PAC-SK27DS-E	MAC-643BH-E	MAC-644BH-E	PAC-645BH-E	PAC-646BH-E	PAC-SJ10BH-E	PAC-SJ20BH-E	PAC-SG63DP-E	PAC-SG64DP-E	PAC-SH97DP-E	PAC-SJ83DP-E
S SERIES (R32)		SUZ-M25VA																		
		SUZ-M35VA																		
		SUZ-M50VA																		
		SUZ-M60VA																		
		SUZ-M71VA																		
P SERIES	Power Inverter (R32)	PUZ-ZM35VKA2	●				●										●			
		PUZ-ZM50VKA2	●				●										●			
		PUZ-ZM60VHA2		●					●									●		
		PUZ-ZM71VHA2		●					●									●		
		PUZ-ZM100VKA2			●				●										●	
		PUZ-ZM100YKA2			●				●										●	
		PUZ-ZM125VKA2			●				●										●	
		PUZ-ZM125YKA2			●				●										●	
		PUZ-ZM140VKA2			●				●										●	
		PUZ-ZM140YKA2			●				●										●	
		PUZ-ZM200YKA2			●				●										●	
		PUZ-ZM250YKA2			●				●										●	
	Standard Inverter (R32)	PUZ-M100VKA2			●				●										●	
		PUZ-M125VKA2			●				●										●	
		PUZ-M140VKA2			●				●										●	
		PUZ-M100YKA2			●				●										●	
		PUZ-M125YKA2			●				●										●	
		PUZ-M140YKA2			●				●										●	
		PUZ-M200YKA2			●				●										●	
		PUZ-M250YKA2			●				●										●	
MXZ SERIES (R32)		MXZ-2F33VF4									●									
		MXZ-2F42VF4									●									
		MXZ-2F53VF(H)4									●									
		MXZ-2F53VFHZ2																		
		MXZ-3F54VF4												●						
		MXZ-3F68VF4												●						
		MXZ-4F72VF4												●						
		MXZ-4F80VF4												●						
		MXZ-4F83VF2						●					●							
		MXZ-4F83VFHZ2																		
		MXZ-5F102VF2						●					●							
		MXZ-6F120VF2						●					●							
		MXZ-2HA40VF2																		
		MXZ-2HA50VF2																		
		MXZ-3HA50VF2																		
PXZ series		PXZ-4F75VG												●						
		PXZ-5F85VG						●					●							

Option			M-NET Converter			Control/ Service Tool	Step Interface 1 PC board w/ attachment kit	Insulation for Accumulator		Connection Kit	High Static Fan Motor	Muffler	Connector for Drain Hose Heater	Signal Adaptor
Outdoor Unit			PAC-SK15MA-E	PAC-SJ96MA-E	PAC-SJ95MA-E	PAC-SK52ST	PAC-(S)IF013B-E	MAC-892INS-E	MAC-893INS-E	PAC-LV11M-J	PAC-SJ71FM-E	MAC-001MF-E	MAC-062RA-E	PAC-SC36NA-E
S SERIES (R32)		SUZ-M25VA												
		SUZ-M35VA												
		SUZ-M50VA												
		SUZ-M60VA												
		SUZ-M71VA												
P SERIES	Power Inverter (R32)	PUZ-ZM35VKA2	●	●		●	●							●
		PUZ-ZM50VKA2	●	●		●	●							●
		PUZ-ZM60VHA2			●	●	●							●
		PUZ-ZM71VHA2			●	●	●							●
		PUZ-ZM100VKA2			●	●	●							●
		PUZ-ZM100YKA2			●	●	●							●
		PUZ-ZM125VKA2			●	●	●							●
		PUZ-ZM125YKA2			●	●	●							●
		PUZ-ZM140VKA2			●	●	●							●
		PUZ-ZM140YKA2			●	●	●							●
		PUZ-ZM200YKA2			●	●	●							●
		PUZ-ZM250YKA2			●	●	●							●
	Standard Inverter (R32)	PUZ-M100VKA2			●	●								●
		PUZ-M125VKA2			●	●								●
		PUZ-M140VKA2			●	●								●
		PUZ-M100YKA2			●	●								●
		PUZ-M125YKA2			●	●								●
		PUZ-M140YKA2			●	●								●
		PUZ-M200YKA2			●	●	●							●
		PUZ-M250YKA2			●	●	●							●
MXZ SERIES (R32)		MXZ-2F33VF4												
		MXZ-2F42VF4												
		MXZ-2F53VF(H)4												
		MXZ-2F53VFHZ2												
		MXZ-3F54VF4												
		MXZ-3F68VF4												
		MXZ-4F72VF4												
		MXZ-4F80VF4												
		MXZ-4F83VF2												
		MXZ-4F83VFHZ2												
		MXZ-5F102VF2												
		MXZ-6F120VF2												
		MXZ-2HA40VF2												
		MXZ-2HA50VF2												
		MXZ-3HA50VF2												
PXZ series		PXZ-4F75VG										●	●	
		PXZ-5F85VG										●	●	

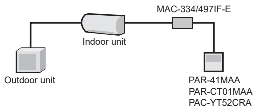
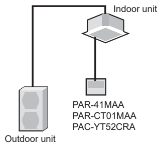
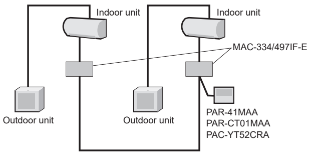
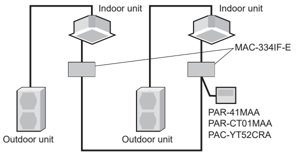
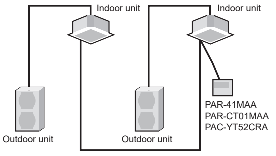
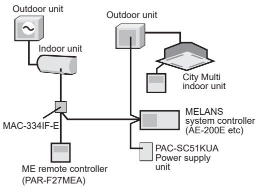
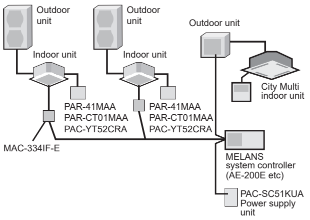
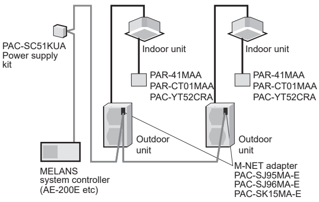
Optional Parts List <Branch Box>

	Branch Box Outer Cover	Reactor Box	Different Diameter Joint							
			ø9.52-->ø12.7	ø12.7-->ø9.52	ø12.7-->ø15.88	ø6.35-->ø9.52	ø9.52-->ø15.88	ø15.88-->ø19.05	ø15.88-->ø22.2	ø15.88-->ø25.4
	PAC-AK350CVR-E	PAC-RB01BC	MAC-A454JP-E	MAC-A455JP-E	MAC-A456JP-E	PAC-493PI	PAC-SG76RJ-E	PAC-SG75RJ-E	PAC-SG71RJ-E	PAC-SG77RJ-E
PAC-MK34BC (Flare)	●	●	●	●	●	●	●	●	●	●
PAC-MK54BC (Flare)	●	●	●	●	●	●	●	●	●	●

System controller

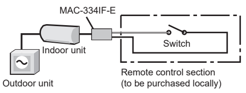
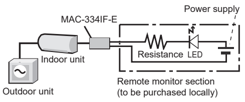
Versatile system controls can be realised using optional parts, relay circuits, control panels, etc.

MAJOR SYSTEM CONTROL

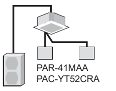
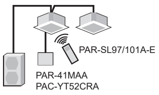
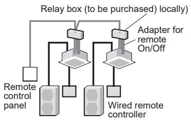
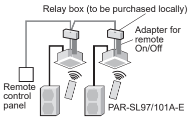
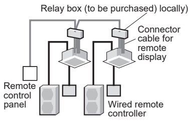
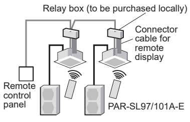
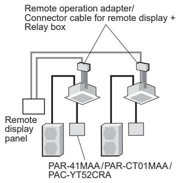
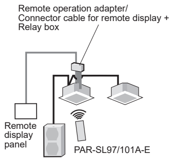
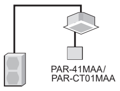
	System Examples		
Indoor Unit	M Series Indoor Unit	S Series & P Series Indoor Unit	S Series & P Series
Outdoor Unit	M Series and MXZ Series Outdoor	S Series and MXZ Series Outdoor	P Series Outdoor
PAR-41MAA Control PAC-YT52CRA Control PAR-CT01MAA Control	 MAC-334/497IF-E Indoor unit Outdoor unit PAR-41MAA PAR-CT01MAA PAC-YT52CRA	 Indoor unit Outdoor unit PAR-41MAA PAR-CT01MAA PAC-YT52CRA	
Details	• Wired remote controller can be connected to indoor unit	Standard equipment (for indoor units compatible with wired remote controllers)	
Major Optional Parts Required	• MAC-334/497IF-E (Interface) • PAR-41MAA (Wired remote controller) • PAR-CT01MAA (Wired remote controller) • PAC-YT52CRA (Wired remote controller)	• PAR-41MAA (Wired remote controller) • PAR-CT01MAA (Wired remote controller) • PAC-YT52CRA (Wired remote controller)	
Group Control System Group Control	 Indoor unit Indoor unit MAC-334/497IF-E Outdoor unit Outdoor unit PAR-41MAA PAR-CT01MAA PAC-YT52CRA	 Indoor unit Indoor unit MAC-334IF-E Outdoor unit Outdoor unit PAR-41MAA PAR-CT01MAA PAC-YT52CRA	 Indoor unit Indoor unit Outdoor unit Outdoor unit PAR-41MAA PAR-CT01MAA PAC-YT52CRA
Details	• One remote controller can control plural air conditioners with the same settings simultaneously. • One remote controller can control up to 16 refrigerant systems. (When connected to a MXZ unit, MAC-334/497IF-E is counted as one system.) • Up to two remote controller can be connected. • PAR-SL101A cannot be used when connected through the MAC-334/497IF-E or when group control is used.		
Major Optional Parts Required	• MAC-334/497IF-E (Interface) • PAR-41MAA (Wired remote controller) • PAR-CT01MAA (Wired remote controller) • PAC-YT52CRA (Wired remote controller)		• PAR-41MAA (Wired remote controller) • PAR-CT01MAA (Wired remote controller) • PAC-YT52CRA (Wired remote controller)
M-NET connection M-NET Connections	 Outdoor unit Outdoor unit Indoor unit City Multi indoor unit MELANS system controller (AE-200E etc) MAC-334IF-E PAC-SC51KUA Power supply unit ME remote controller (PAR-F27MEA)	 Outdoor unit Outdoor unit Outdoor unit Indoor unit Indoor unit City Multi indoor unit PAR-41MAA PAR-CT01MAA PAC-YT52CRA PAR-41MAA PAR-CT01MAA PAC-YT52CRA MAC-334IF-E MELANS system controller (AE-200E etc) PAC-SC51KUA Power supply unit	 PAC-SC51KUA Power supply kit Indoor unit Indoor unit PAR-41MAA PAR-CT01MAA PAC-YT52CRA PAR-41MAA PAR-CT01MAA PAC-YT52CRA Outdoor unit Outdoor unit MELANS system controller (AE-200E etc) M-NET adapter PAC-SJ95MA-E PAC-SJ96MA-E PAC-SK15MA-E
Details	• Group of air conditioners can be controlled by MELANS system controller (M-NET).		
Major Optional Parts Required	• MAC-334IF-E (M-NET Interface) • MELANS System controller • PAC-SC51KUA (power supply unit)		• PAC-SJ95MA-E or PAC-SJ96MA-E (M-NET converter) • MELANS System controller • PAC-SC51KUA (power supply unit)

OTHERS

For M Series Indoor Units (New A-control Models Only)

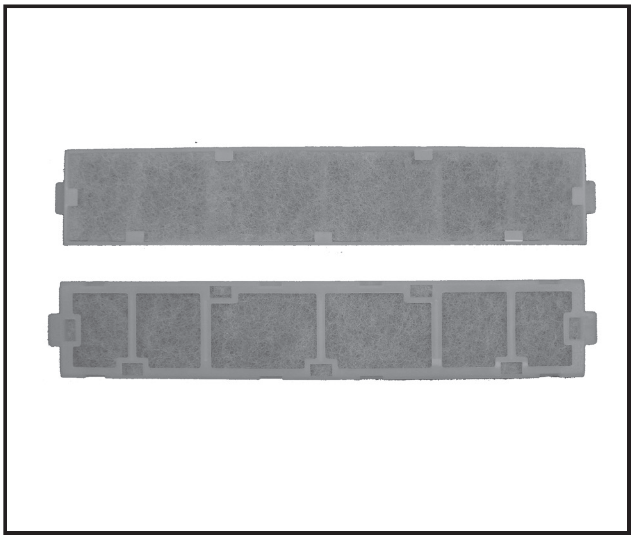
	System Examples	Connection Details	Control Details	Major Optional Parts Required
1 Remote On/Off Operation • Air conditioner can be started/ stopped remotely. (1 and 2 can be used in combination)	 MAC-334IF-E Indoor unit Switch Outdoor unit Remote control section (to be purchased locally)	Connect the interface to the air conditioner. Then connect the locally purchased remote controller to the terminal in the interface.	On/Off operation is possible from a remote location.	• MAC-334IF-E (Interface) • Parts for circuit such as relay box, lead wire, etc. (to be purchased locally)
2 Remote Display of Operation Status • The On/Off status of air conditioners can be confirmed remotely. (1 and 2 can be used in combination)	 Power supply MAC-334IF-E Indoor unit Resistance LED Outdoor unit Remote monitor section (to be purchased locally)	Connect the interface to the air conditioner. Then connect the locally purchased remote controller to the terminal in the interface.	The operation status (On/Off) or error signals can be monitored from a remote location.	• MAC-334IF-E (Interface) • Parts for circuit to be purchased locally (DC power source needed) • External power source (12V DC) is required when using MAC-334IF-E.

For P Series and S Series Indoor Units

	System Examples		Details	Major Optional Parts Required
	Wired remote controller	Wireless remote controller		
A 2-remote Controller Control With two remote controllers, control can be performed locally and remotely from two locations.	 * Set "Main" and "Sub" remote controllers. (Example of 1 : 1 system)	 * When using wired and wireless remote controllers (Example of Simultaneous Twin)	• Up to two remote controllers can be connected to one group. • Both wired and wireless remote controllers can be used in combination.	• Wired Remote Controller PAR-41MAA PAC-YT52CRA (for PKA, PAC-SH29TC-E is required) • Wireless Remote Controller PAR-SL97A-E / PAR-SL101A-E (only for SLZ) • Wireless Remote Controller Kit for PCA PAR-SL94B-E
B Operation Control by Level Signal Air conditioner can be started/ stopped remotely. In addition, On/Off operation by local remote controller can be prohibited/permitted.	 Relay box (to be purchased) locally) Adapter for remote On/Off Remote control panel Wired remote controller (Example of 1 : 1 system x 2)	 Relay box (to be purchased locally) Adapter for remote On/Off Remote control panel PAR-SL97/101A-E (Example of 1 : 1 system x 2)	• Operation other than On/Off (e.g., adjustment of temperature, fan speed, and airflow) can be performed even when remote controller operation is prohibited. • Timer control is possible with an external timer.	• Adapter for remote On/Off PAC-SE55RA-E • Relay box (to be purchased locally) • Remote control panel (to be purchased locally)
C Operation Control by Pulse Signal	 Relay box (to be purchased) locally) Connector cable for remote display Remote control panel Wired remote controller (Example of 1 : 1 system x 2)	 Relay box (to be purchased locally) Connector cable for remote display Remote control panel PAR-SL97/101A-E (Example of 1 : 1 system x 2)	• The pulse signal can be turned On/Off. • Operation/emergency signal can be received at a remote location.	• Connector cable for remote display PAC-SA88HA-E / PAC-725AD (10 pcs. x PAC-SA88HA-E) • Relay box (to be purchased locally) • Remote control panel (to be purchased locally)
D Remote Display of Operating Status Operating status can be displayed at a remote location.	 Remote operation adapter/ Connector cable for remote display + Relay box Remote display panel PAR-41MAA / PAR-CT01MAA / PAC-YT52CRA (Example of 1 : 1 system)	 Remote operation adapter/ Connector cable for remote display + Relay box Remote display panel PAR-SL97/101A-E (Example of Simultaneous Twin)	• Operation/emergency signal can be received at a remote location (when channeled through the PAC-SF40RM-E → no-voltage signal, when channeled through the PAC-SA88HA-E → DC 12V signal).	• Remote display panel (to be purchased locally) • Connector cable for remote display PAC-SA88HA-E / PAC-725AD (10 pcs. x PAC-SA88HA-E) • Relay box (to be purchased locally) • Remote operation adapter PAC-SF40RM-E *Unable to use with wireless remote controller
E Timer Operation Allows On/Off operation with timer *For control by an external timer, refer to B Operation Control by Level Signal.	 (Example of 1 : 1 system)		• Weekly Timer: On/Off and up to 8 pattern temperatures can be set for each calendar day. (Initial setting) • On/Off Timer: On/Off can be set once each within 72 hr in intervals of 5-minute units. • Auto-off Timer: Operation will be switched off after a certain time elapse. Set time can be changed from 30 min. to 4 hr. at 10 min. intervals. *Simple Timer and Auto-off Timer cannot be used at the same time.	Standard functions of PAR-41MAA / PAR-CT01MAA

Silver-ionized Air Purifier Filter **MAC-2370FT-E**

Photo



Descriptions

This air cleaning filter catches dead mites and their droppings, pollen and other allergens on the filter filament, then decomposes them with artificial enzymes.
(Artificial enzyme catalyst on the filament catches the allergens and helps the chemical reaction with oxygen and severs the S-S* bonds. *S= Sulfur atoms)

Applicable Models

- MFZ-KT25VG
- MFZ-KT35VG
- MFZ-KT50VG
- MFZ-KT60VG
- MFZ-KW25VG
- MFZ-KW35VG
- MFZ-KW50VG
- MFZ-KW60VG
- MLZ-KP25VG
- MLZ-KP35VG
- MLZ-KP50VG
- MLZ-KY20VG

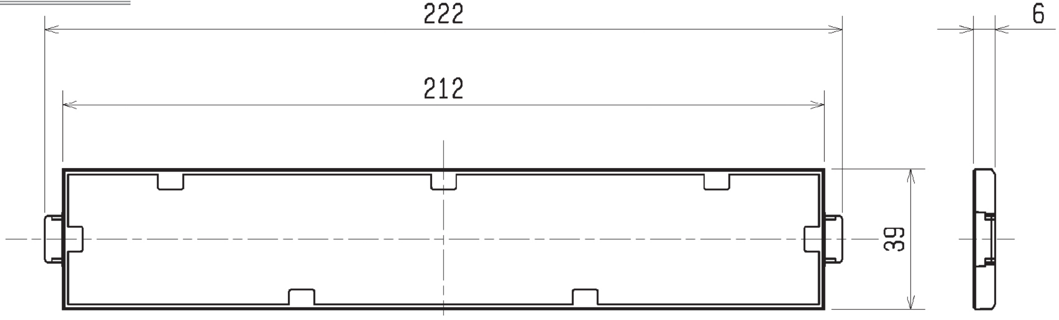
* Silver-ionized Air Purifier filter for R32 models has been shifted to V blocking filter.

Specifications

Material	Filter: Polyester, rayon, acrylic resin Frame: Polypropylene
Color (Filter)	Blue

Dimensions

Unit : mm



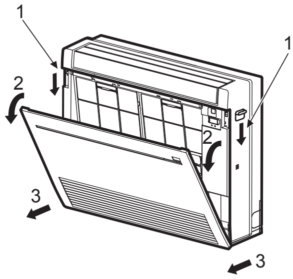
How to Use / How to Install

Replacement of the air cleaning filter

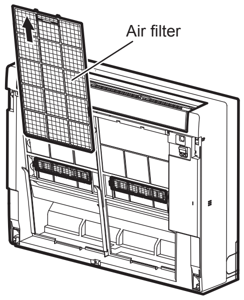
<MFZ Type>

(1) Remove the front panel.

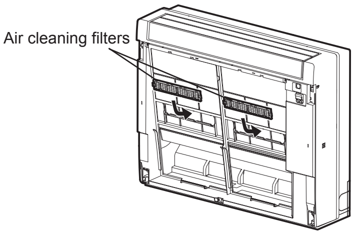
1. Push down the tab on the both sides of the unit to open the front panel.
2. Pull the front panel toward you to remove it.
3. Open the front panel completely and remove it.



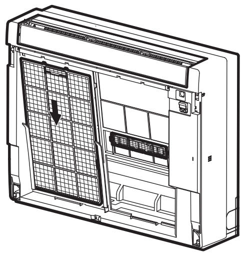
(2) Remove the air filter.



(3) Replace the air cleaning filter.
Fix the filter with the tabs securely.



(4) Install the air filter.



(5) Securely close the front panel.
Install the front panel by the removal procedure in reverse. Refer to (1) 1-3.

Every 3 months:

- Remove dirt by a vacuum cleaner.

When dirt cannot be removed by vacuum cleaning:

- Soak the filter and its frame in lukewarm water before rinsing it.
- After washing, dry it well in shade. Install all tabs of the air filter.

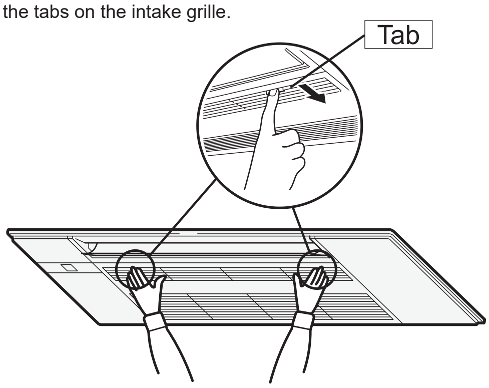
Every year:

- Replace it with a new air cleaning filter for best performance.

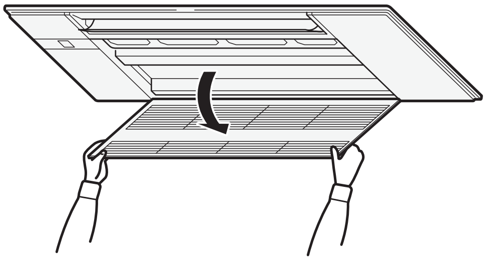
Replacement of the air cleaning filter

<MLZ Type>

1. Press the tabs on the intake grille.

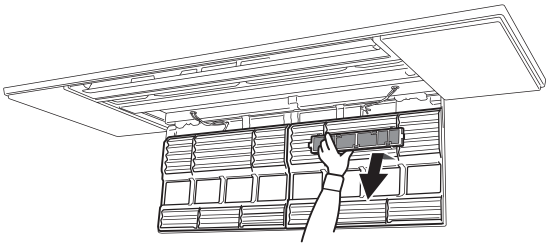


2. Open the intake grille while holding it.



3. Remove the air cleaning filter.

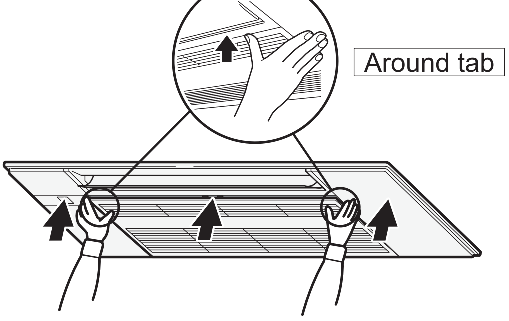
4. Install a new air cleaning filter.



5. Close the intake grille.

- Make sure that the safety strings do not hang out of the intake grille.

6. Press around the each tab of the intake grille until a “click” is heard and press the center.



OPTIONAL PARTS
INDOOR UNIT

V Blocking Filter

MAC-2460FT-E

Photo

Descriptions

V Blocking Filter with antiviral effect inhibits 99% of adhered virus, and other harmful substances, such as bacteria, mold and allergen.
Two-layered filter with non-woven fabric and electrostatic filter can effectively capture and remove small particles from the air in your room.

Applicable Models

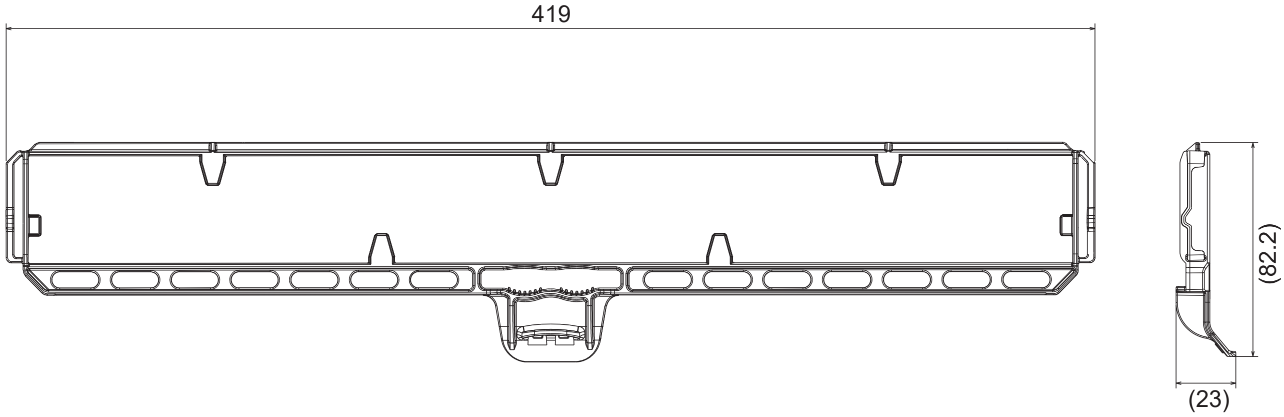
- MSZ-AP60VG
- MSZ-AP71VG

Specifications

Color	Frame: White, Filter: Green
Material	Frame: PP, Filter: Polyester, rayon
Weight	40 g

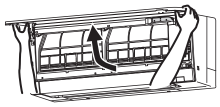
Dimensions

Unit : mm

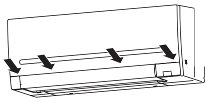


How to Use / How to Install

Replacement of the air cleaning filter



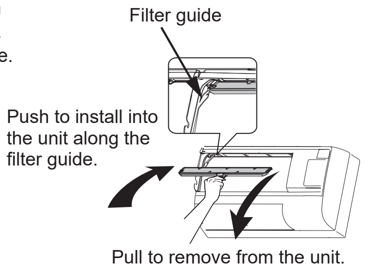
1. Lift the front panel until a “click” is heard.
2. (1) Remove the air filter.
   (2) Remove the air cleaning filter.
   (3) Install a new air cleaning filter.
   (4) Install the air filter.
3. Close the front panel securely and press the positions indicated by the arrows.



Every 3 months:
- Remove dirt by a vacuum cleaner.

When dirt cannot be removed by vacuum cleaning:
- Soak the filter and its frame in lukewarm water before rinsing it.
- After washing, dry it well in shade.

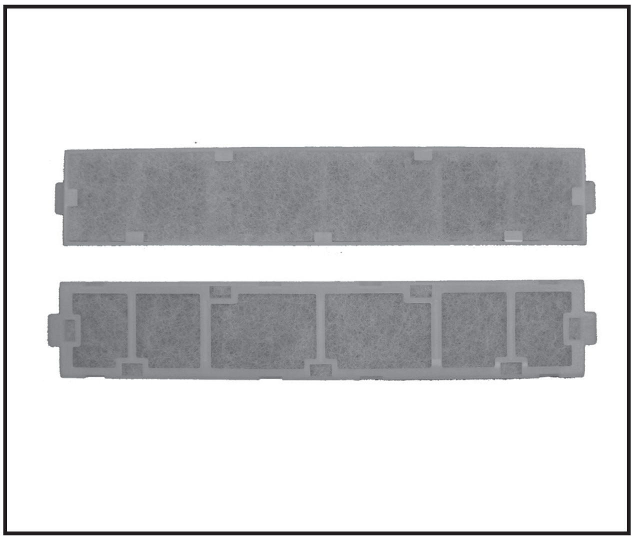
Every year:
- Replace it with a new air cleaning filter for best performance.


Filter guide
Push to install into the unit along the filter guide.
Pull to remove from the unit.

V Blocking Filter

MAC-2470FT-E

Photo



Descriptions

V Blocking Filter with antiviral effect inhibits 99% of adhered virus, and other harmful substances, such as bacteria, mold and allergen.
Two-layered filter with non-woven fabric and electrostatic filter can effectively capture and remove small particles from the air in your room.

Applicable Models

- MSZ-FT25VG
- MSZ-FT35VG
- MSZ-FT50VG
- MSZ-AY15VGK
- MSZ-AY20VGK
- MSZ-AY25VGK
- MSZ-AY35VGK
- MSZ-AY42VGK
- MSZ-AY50VGK
- MSZ-EF18VGW
- MSZ-EF18VGB
- MSZ-EF18VGS
- MSZ-EF22VGW
- MSZ-EF22VGB
- MSZ-EF22VGS
- MSZ-EF25VGW
- MSZ-EF25VGB
- MSZ-EF25VGS
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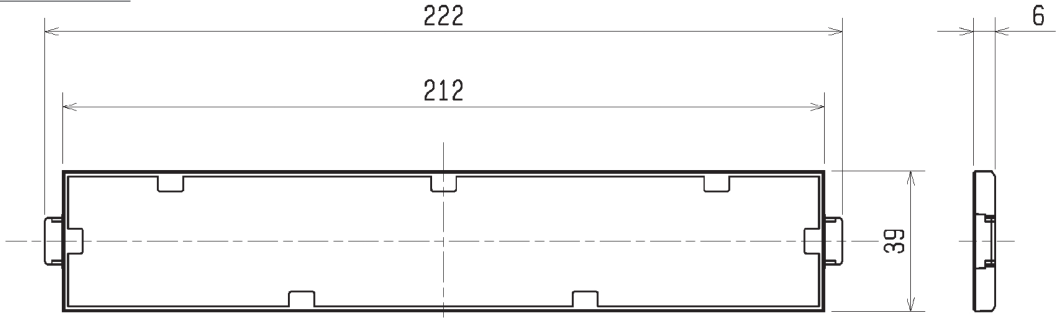
- MSZ-EF50VGB
- MSZ-EF50VGS
- MSZ-BT20VG
- MSZ-BT25VG
- MSZ-BT35VG
- MSZ-BT50VG
- MSZ-HR25VF
- MSZ-HR35VF
- MSZ-HR42VF
- MSZ-HR50VF
- MSZ-HR60VF
- MSZ-HR71VF
- MSZ-DW25VF
- MSZ-DW35VF
- MSZ-DW50VF
- MSY-TP35VF
- MSY-TP50VF
- MFZ-KT25VG
- MFZ-KT35VG
- MFZ-KT50VG
- MFZ-KT60VG
- MFZ-KW25VG
- MFZ-KW35VG
- MFZ-KW50VG
- MFZ-KW60VG
- MLZ-KP25VG
- MLZ-KP35VG
- MLZ-KP50VG
- MLZ-KY20VG
- PKA-M35LA2
- PKA-M35LAL2
- PKA-M50LA2
- PKA-M50LAL2

Specifications

Material	Filter: Polyester, rayon, acrylic resin Frame: Polypropylene
Color (Filter)	Green

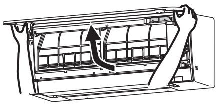
Dimensions

Unit : mm

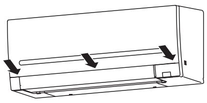


How to Use / How to Install

Replacement of the air cleaning filter <MSZ Type>



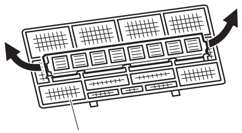
1. Lift the front panel until a “click” is heard.
2. (1) Remove the air filter.
   (2) Remove the air cleaning filter.
   (3) Install a new air cleaning filter.
   (4) Install the air filter.
3. Close the front panel securely and press the positions indicated by the arrows.



Every 3 months:
- Remove dirt by a vacuum cleaner.

When dirt cannot be removed by vacuum cleaning:
- Soak the filter and its frame in lukewarm water before rinsing it.
- After washing, dry it well in shade. Install all tabs of the air filter.

Every year:
- Replace it with a new air cleaning filter for best performance.



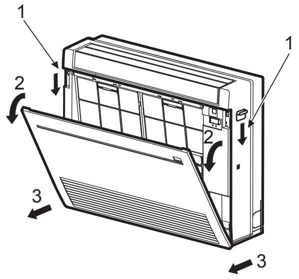
Pull to remove from the air filter

Replacement of the air cleaning filter

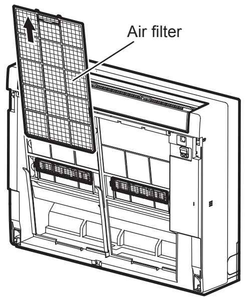
<MFZ Type>

(1) Remove the front panel.

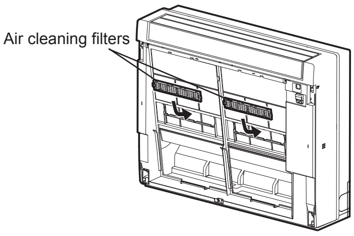
1. Push down the tab on the both sides of the unit to open the front panel.
2. Pull the front panel toward you to remove it.
3. Open the front panel completely and remove it.



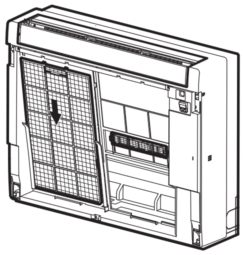
(2) Remove the air filter.



(3) Replace the air cleaning filter.
Fix the filter with the tabs securely.



(4) Install the air filter.



(5) Securely close the front panel.
Install the front panel by the removal procedure in reverse. Refer to (1) 1-3.

Every 3 months:

- Remove dirt by a vacuum cleaner.

When dirt cannot be removed by vacuum cleaning:

- Soak the filter and its frame in lukewarm water before rinsing it.
- After washing, dry it well in shade. Install all tabs of the air filter.

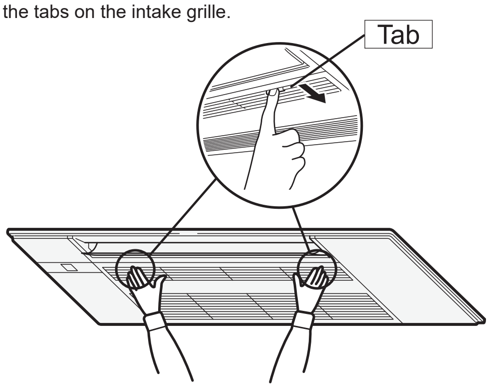
Every year:

- Replace it with a new air cleaning filter for best performance.

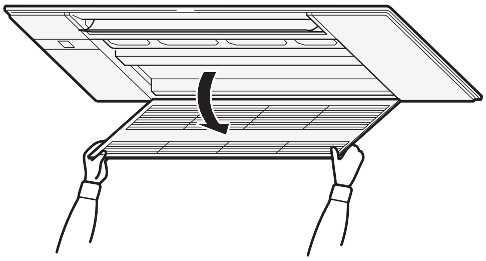
Replacement of the air cleaning filter

<MLZ Type>

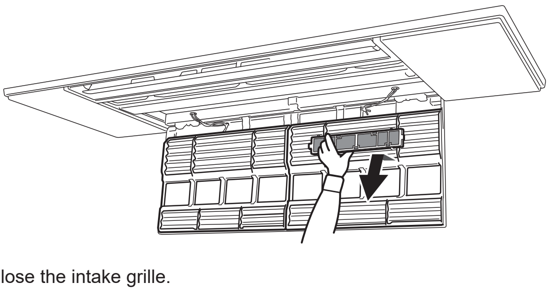
1. Press the tabs on the intake grille.



2. Open the intake grille while holding it.

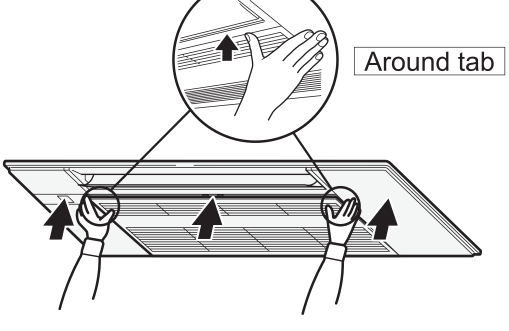


3. Remove the air cleaning filter.
4. Install a new air cleaning filter.



5. Close the intake grille.
- Make sure that the safety strings do not hang out of the intake grille.

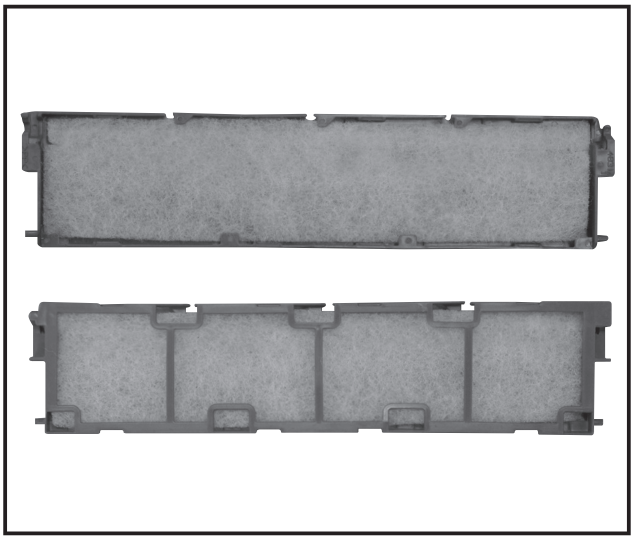
6. Press around the each tab of the intake grille until a “click” is heard and press the center.



V Blocking Filter

MAC-2490FT-E

Photo



Descriptions

V Blocking Filter with antiviral effect inhibits 99% of adhered virus, and other harmful substances, such as bacteria, mold and allergen.
Two-layered filter with non-woven fabric and electrostatic filter can effectively capture and remove small particles from the air in your room.

Applicable Models

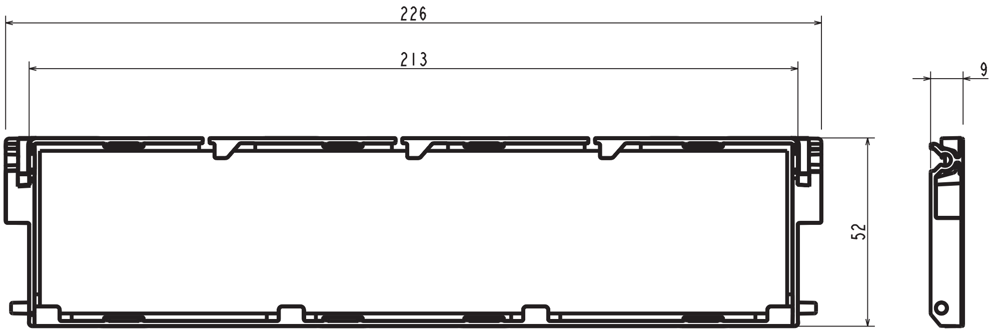
- MSZ-RW25VG
- MSZ-RW35VG
- MSZ-RW50VG
- MSZ-LN18VG2W
- MSZ-LN18VG2V
- MSZ-LN18VG2R
- MSZ-LN18VG2B
- MSZ-LN25VG2W
- MSZ-LN25VG2V
- MSZ-LN25VG2R
- MSZ-LN25VG2B
- MSZ-LN35VG2W
- MSZ-LN35VG2V
- MSZ-LN35VG2R
- MSZ-LN35VG2B
- MSZ-LN50VG2W
- MSZ-LN50VG2V
- MSZ-LN50VG2R
- MSZ-LN50VG2B
- MSZ-LN60VG2W
- MSZ-LN60VG2V
- MSZ-LN60VG2R
- MSZ-LN60VG2B

Specifications

Material	Filter: Polyester, rayon, acrylic resin Frame: Polypropylene
Color (Filter)	Green

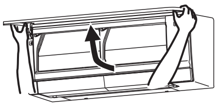
Dimensions

Unit : mm

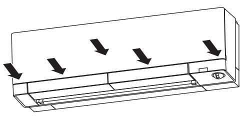


How to Use / How to Install

Replacement of the air cleaning filter



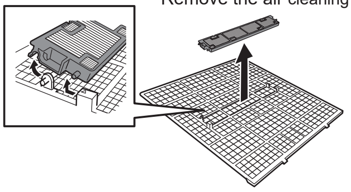
1. Lift the front panel until a “click” is heard.
2. (1) Remove the air filter.
   (2) Remove the air cleaning filter.
   (3) Install a new air cleaning filter.
   (4) Install the air filter.
3. Close the front panel securely and press the positions indicated by the arrows.



Every 3 months:
- Remove dirt by a vacuum cleaner.

When dirt cannot be removed by vacuum cleaning:
- Soak the filter and its frame in lukewarm water before rinsing it.
- After washing, dry it well in shade. Install all tabs of the air filter.

Every year:
- Replace it with a new air cleaning filter for best performance.

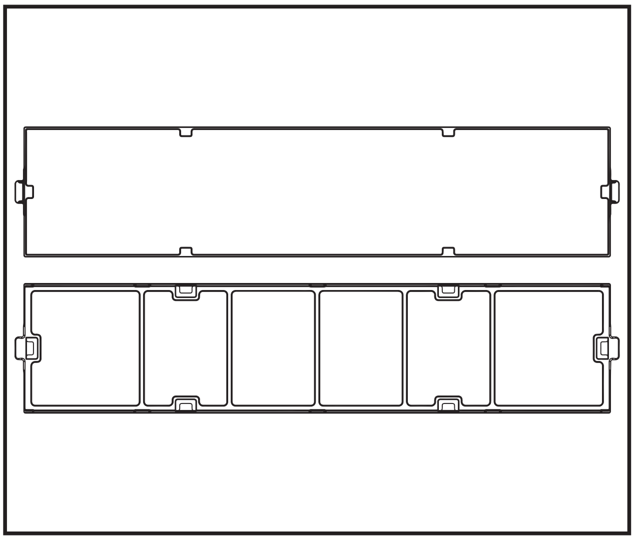


Remove the air cleaning filter.

V Blocking Filter

MAC-1416FT-E

Figure



Descriptions

V Blocking Filter with antiviral effect inhibits 99% of adhered virus, and other harmful substances, such as bacteria, mold and allergen.
Two-layered filter with non-woven fabric and electrostatic filter can effectively capture and remove small particles from the air in your room.

Applicable Models

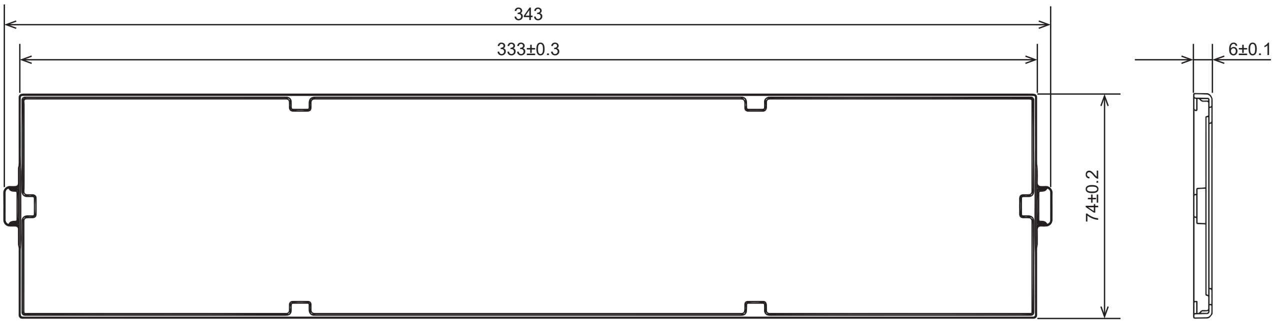
- PKA-M60KA(L)2
- PKA-M71KA(L)2
- PKA-M100KA(L)2

Specifications

Color	Frame: White, Filter: Green
Material	Frame: PP, Filter: Polyester, rayon

Dimensions

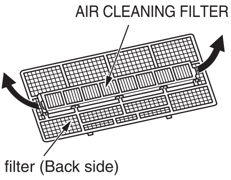
Unit : mm



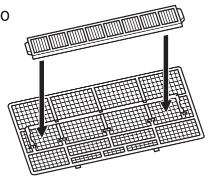
How to Use / How to Install

Replacement of the AIR CLEANING FILTER

1. Open the front panel.
2. Remove the air filter.
3. Remove the AIR CLEANING FILTER from the back side of the air filter by pulling up the tabs on both sides of the AIR CLEANING FILTER with your fingers.



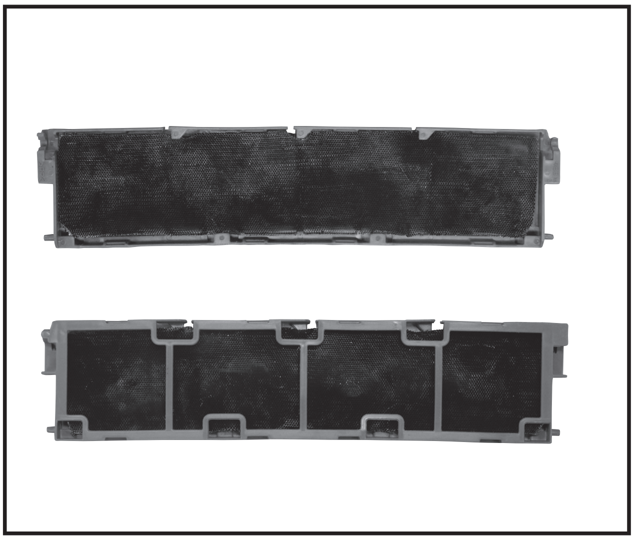
4. Attach a new AIR CLEANING FILTER to the back side of the air filter. Make sure all 10 tabs are securely fastened.
5. Install the air filter to the unit.
6. Close the front panel.



Deodorising Filter

MAC-3010FT-E

Photo



Descriptions

The catalyst coating on the honeycomb-structured frame captures small foul-smelling substances in the air, then breaks down the source of the odors with the power of the ozone generated in a plasma electrode unit.

Applicable Models

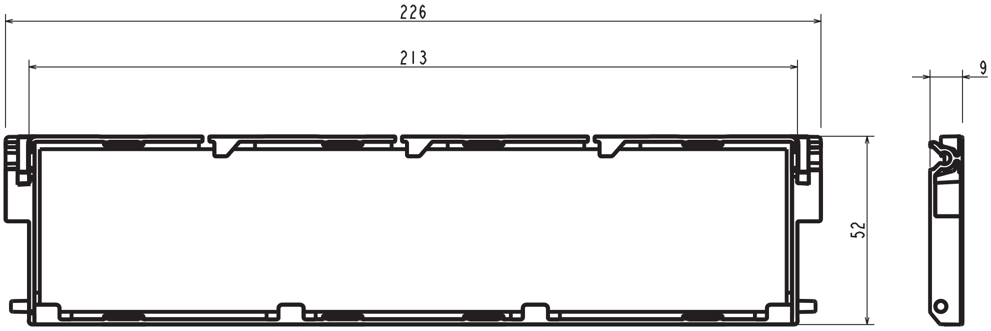
- MSZ-RW25VG
- MSZ-RW35VG
- MSZ-RW50VG
- MSZ-LN18VG2W
- MSZ-LN18VG2V
- MSZ-LN18VG2B
- MSZ-LN18VG2R
- MSZ-LN25VG2W
- MSZ-LN25VG2V
- MSZ-LN25VG2B
- MSZ-LN25VG2R
- MSZ-LN35VG2W
- MSZ-LN35VG2V
- MSZ-LN35VG2B
- MSZ-LN35VG2R
- MSZ-LN50VG2W
- MSZ-LN50VG2V
- MSZ-LN50VG2B
- MSZ-LN50VG2R
- MSZ-LN60VG2W
- MSZ-LN60VG2V
- MSZ-LN60VG2B
- MSZ-LN60VG2R

Specifications

Material	Filter: Aluminium Catalyst: MnO_2, SiO_2 Frame: Polypropylene
Color (Filter)	Black

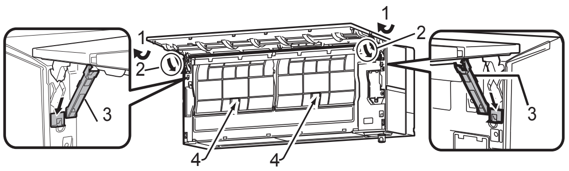
Dimensions

Unit : mm

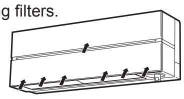


How to Use / How to Install

Replacement of the air cleaning filter



1. Open the front panel.
   Note: You cannot remove the front panel.
2. Rotate the stoppers as indicated by the arrows until they click.
3. Lower the front panel slowly and it will be held open with the stoppers.
4. Pinch the tabs on the filters; slightly push them up and pull down toward you to remove the air cleaning filters.
5. Install the new air cleaning filters.
6. Close the front panel securely and press the positions indicated by the arrows.

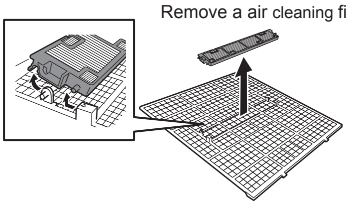


Every 3 months:

- Remove dirt by a vacuum cleaner, or soak the framed filter in lukewarm water (30 to 40°C) for about 15 minutes. Rinse well.
- After washing, dry it well in shade.
- Deodorizing feature recovers by cleaning the filter.

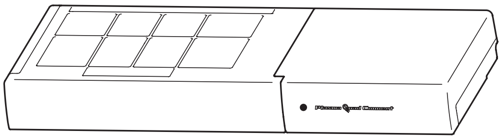
When dirt or smell cannot be removed by cleaning:

- Replace it with a new air cleaning filter.


Remove a air cleaning filter.

Plasma Quad Connect(with connecting cable) MAC-100FT-E

Figure



Descriptions

In the AIR PURIFYING operation, Plasma Quad Connect reduces airborne mold, viruses and allergens.

NOTE:

- Never touch the Plasma Quad Connect during operation. Although the Plasma Quad Connect is safety-conscious design, touching this device could be the cause of trouble as this device discharge high voltage electricity.
- A “hissing” sound may be heard during the Plasma Quad Connect operation. This sound is produced when plasma is being discharged. This is not a malfunction.

Specifications

Input voltage	Single phase 220 - 240V AC
Frequency	50/60Hz
Power consumption	4W
Size	56 × 499.5 × 168mm
Weight	1600g
Indoor unit connecting cable	Dedicated 5-wire cable

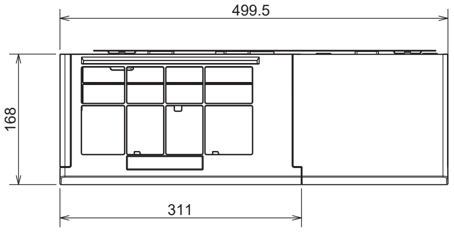
Applicable Models

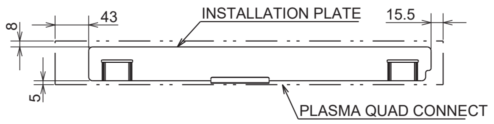
- MSZ-FT25VG
- MSZ-FT35VG
- MSZ-FT50VG
- MSZ-AY15VGKP
- MSZ-AY20VGKP
- MSZ-AY25VGKP
- MSZ-AY35VGKP
- MSZ-AY42VGKP
- MSZ-AY50VGKP
- MSZ-AP60VG
- MSZ-AP71VG
- MSZ-EF18VGW
- MSZ-EF18VGB
- MSZ-EF18VGS
- MSZ-EF22VGW
- MSZ-EF22VGB
- MSZ-EF22VGS
- MSZ-EF25VGW
- MSZ-EF25VGB
- MSZ-EF25VGS
- MSZ-EF35VGW
- MSZ-EF35VGB
- MSZ-EF35VGS
- MSZ-EF42VGW
- MSZ-EF42VGB
- MSZ-EF42VGS
- MSZ-EF50VGW
- MSZ-EF50VGB
- MSZ-EF50VGS
- MSZ-BT20VG
- MSZ-BT25VG
- MSZ-BT35VG
- MSZ-BT50VG
- MSZ-HR25VF
- MSZ-HR35VF
- MSZ-HR42VF
- MSZ-HR50VF
- MSZ-HR60VF
- MSZ-HR71VF
- MSZ-DW25VF
- MSZ-DW35VF
- MSZ-DW50VF
- MSY-TP35VF
- MSY-TP50VF
- SEZ-M25DA(L)2
- SEZ-M35DA(L)2
- SEZ-M50DA(L)2
- SEZ-M60DA(L)2
- SEZ-M71DA(L)2
- PEAD-M35JA(L)2
- PEAD-M50JA(L)2
- PEAD-M60JA(L)2
- PEAD-M71JA(L)2
- PEAD-M100JA(L)2
- PEAD-M125JA(L)2
- PEAD-M140JA(L)2
- PEAD-SM35JA(L)
- PEAD-SM50JA(L)
- PEAD-SM60JA(L)
- PEAD-SM71JA(L)2
- PEAD-SM100JA(L)2
- PEAD-SM125JA(L)2
- PEAD-SM140JA(L)2
- PKA-M35LA(L)2
- PKA-M50LA(L)2
- PKA-M60KA(L)2
- PKA-M71KA(L)2
- PKA-M100KA(L)2

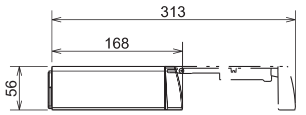
■ S-series ceiling-concealed models
■ P-series ceiling-concealed models (except for PEA series)
■ P-series wall-mounted models

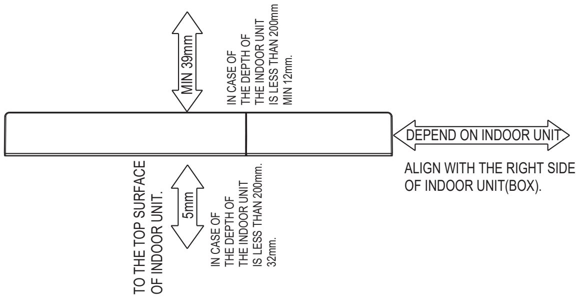
Dimensions

Unit : mm





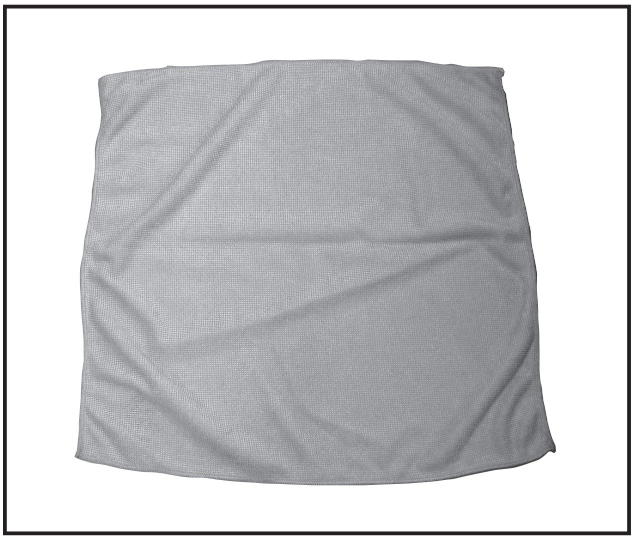



MIN 39mm
IN CASE OF THE DEPTH OF THE INDOOR UNIT IS LESS THAN 200mm MIN 12mm.
DEPEND ON INDOOR UNIT
ALIGN WITH THE RIGHT SIDE OF INDOOR UNIT(BOX).
TO THE TOP SURFACE OF INDOOR UNIT.
5mm
IN CASE OF THE DEPTH OF THE INDOOR UNIT IS LESS THAN 200mm. 32mm.

Soft dry cloth

MAC-1001CL-E

Photo



Descriptions

The SOFT DRY CLOTH must be used when wiping the surfaces of indoor units of the air conditioners as it offers gentle cleaning with minimum abrasion.
Wash the SOFT DRY CLOTH with water at temperatures of 60 °C or below.

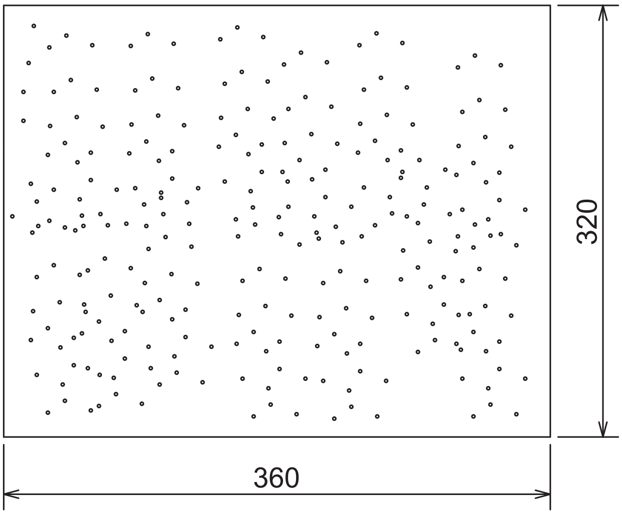
Applicable Models

- MSZ-LN18VG2W
- MSZ-LN18VG2V
- MSZ-LN18VG2B
- MSZ-LN18VG2R
- MSZ-LN25VG2W
- MSZ-LN25VG2V
- MSZ-LN25VG2B
- MSZ-LN25VG2R
- MSZ-LN35VG2W
- MSZ-LN35VG2V
- MSZ-LN35VG2B
- MSZ-LN35VG2R
- MSZ-LN50VG2W
- MSZ-LN50VG2V
- MSZ-LN50VG2B
- MSZ-LN50VG2R
- MSZ-LN60VG2W
- MSZ-LN60VG2V
- MSZ-LN60VG2B
- MSZ-LN60VG2R
- MSZ-EF18VGW
- MSZ-EF18VGB
- MSZ-EF18VGS
- MSZ-EF22VGW
- MSZ-EF22VGB
- MSZ-EF22VGS
- MSZ-EF25VGW
- MSZ-EF25VGB
- MSZ-EF25VGS
- MSZ-EF35VGW
- MSZ-EF35VGB
- MSZ-EF35VGS
- MSZ-EF42VGW
- MSZ-EF42VGB
- MSZ-EF42VGS
- MSZ-EF50VGW
- MSZ-EF50VGB
- MSZ-EF50VGS

* "MAC-1001CL-E" is provided with MSZ-EF18/22/25/35/42/50VE3B as a standard component.

Dimensions

Unit : mm



Specifications

Fiber Composition	87% PET, 13% Nylon
Thickness	0.75mm
Weight	218 gsm
Total Absorption (%) Effective Absorption (%) **Tensile and Elongation** Tensile Machine Direction Tensile Cross Direction	575 450 19Kgf 13Kgf
Elongation Machine Direction Elongation Cross Direction	85% 100%
Laundering	Launderable to 60 °C
Shrinkage after 20 MW	9% or less

SYSTEM CONTROL Interface **MAC-334IF-E**

Descriptions

Enables to control multiple air conditioners from a (remote) location by connecting the On/Off contact point. It can also control the operation of the relay with error signals by connecting the MA remote controller.

Applicable Models

- MSZ-RW25,35,50VG
- MSZ-LN18,25,35,50,60VG2W,V,R,B
- MSZ-FT25,35,50VG
- MSZ-AY15,20VGK(P)
- MSZ-AY25,35,42,50VGK(P)
- MSZ-AP60,71VG
- MSZ-EF18,22,25,35,42,50VGW,B,S
- MSZ-BT20,25,35,50VG
- MSZ-HR25,35,42,50,60,71VF
- MSZ-DW25,35,50VF
- MSY-TP35,50VF
- MFZ-KT25,35,50,60VG
- MFZ-KW25,35,50,60VG
- MLZ-KP25,35,50VG
- MLZ-KY20VG
- SLZ-M15,25,35,50,60FA2
- SEZ-M25,35,50,60,71DA(L)2
- SFZ-M25,35,50,60,71VA
- PLA-ZM35,50,60,71,100,125,140EA2
- PLA-M35,50,60,71,100,125,140EA2
- PLA-SM71,100,125,140EA2
- PEAD-M35,50,60,71,100,125,140JA(L)2
- PEAD-SM35,50,60JA(L)
- PEAD-SM71,100,125,140JA(L)2
- PEA-M200,250LA2
- PKA-M35,50LA(L)2
- PKA-M60,71,100KA(L)2
- PCA-M35,50,60,71KA2
- S-series models
- P-series models: In the case the outdoor unit is SUZ or MXZ, the indoor of P-series can be connected.

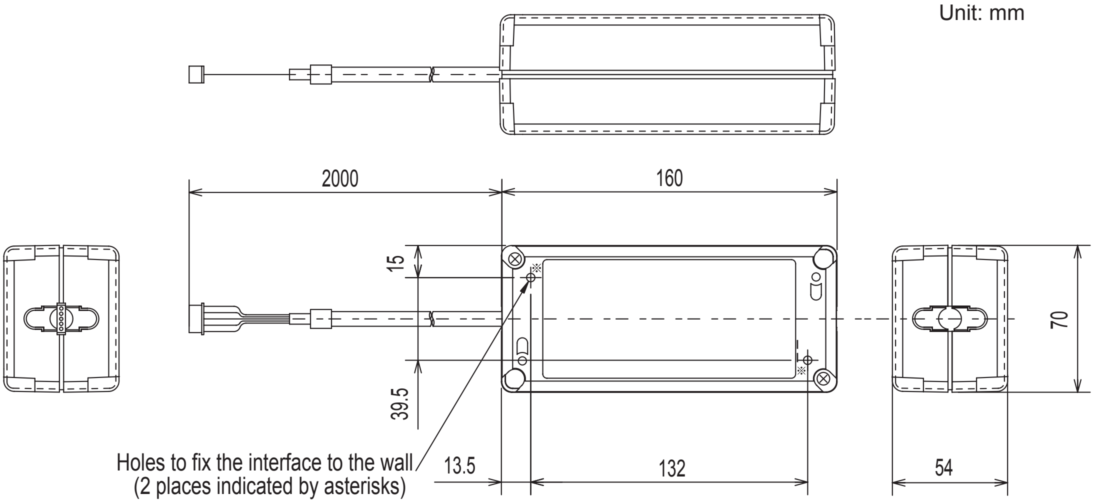
(For grouping SUZ/MXZ outdoor units with P or S series indoor units, interface is required)

Specifications

Power		12V DC (supplied from indoor unit)
Operating conditions		Indoor only (ambient temperature: 0 to 40°C, no condensation)
Connection of MA smooth remote controller / MA deluxe remote controller	Communication cable	2-wire (recommended: optional PAC remote controller cable PAC-YT81HC)
	Communication cable distance	Max. 10m
Indoor unit connecting cable		Dedicated 5-wire cable
Weight		360 g (including indoor unit connecting cable)

Dimensions

Unit: mm



Holes to fix the interface to the wall
(2 places indicated by asterisks)

How to Use / How to Install

1. Before Installation

1.1.How to Use the SYSTEM CONTROL Interface.

■Functions

Connecting with M-NET system (Fig. 2-1)
The room air conditioner can be managed centralized or individually by the system controller using M-NET communications control.

Used as wired remote controller (Fig. 2-2)
MA remote controller can be used as a wired remote controller.

Remote control (Fig. 2-3)
Contact signals enable inputting of ON/OFF, prohibiting/allowing operation, and heating/cooling.

Status indicator output (Fig. 2-4)
Signals of ON/OFF, error/normal, heater ON/OFF, and humidifier ON/OFF are output.

■Sample System Configuration

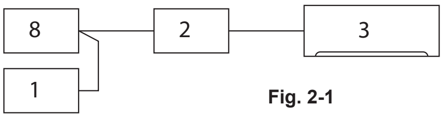


Fig. 2-1

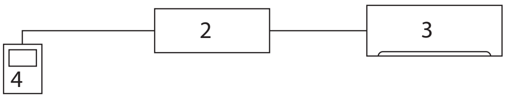


Fig. 2-2

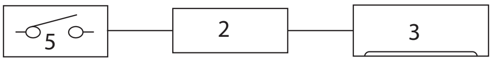


Fig. 2-3

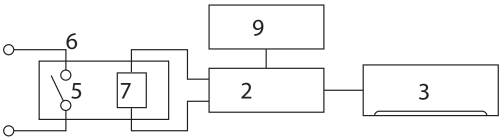
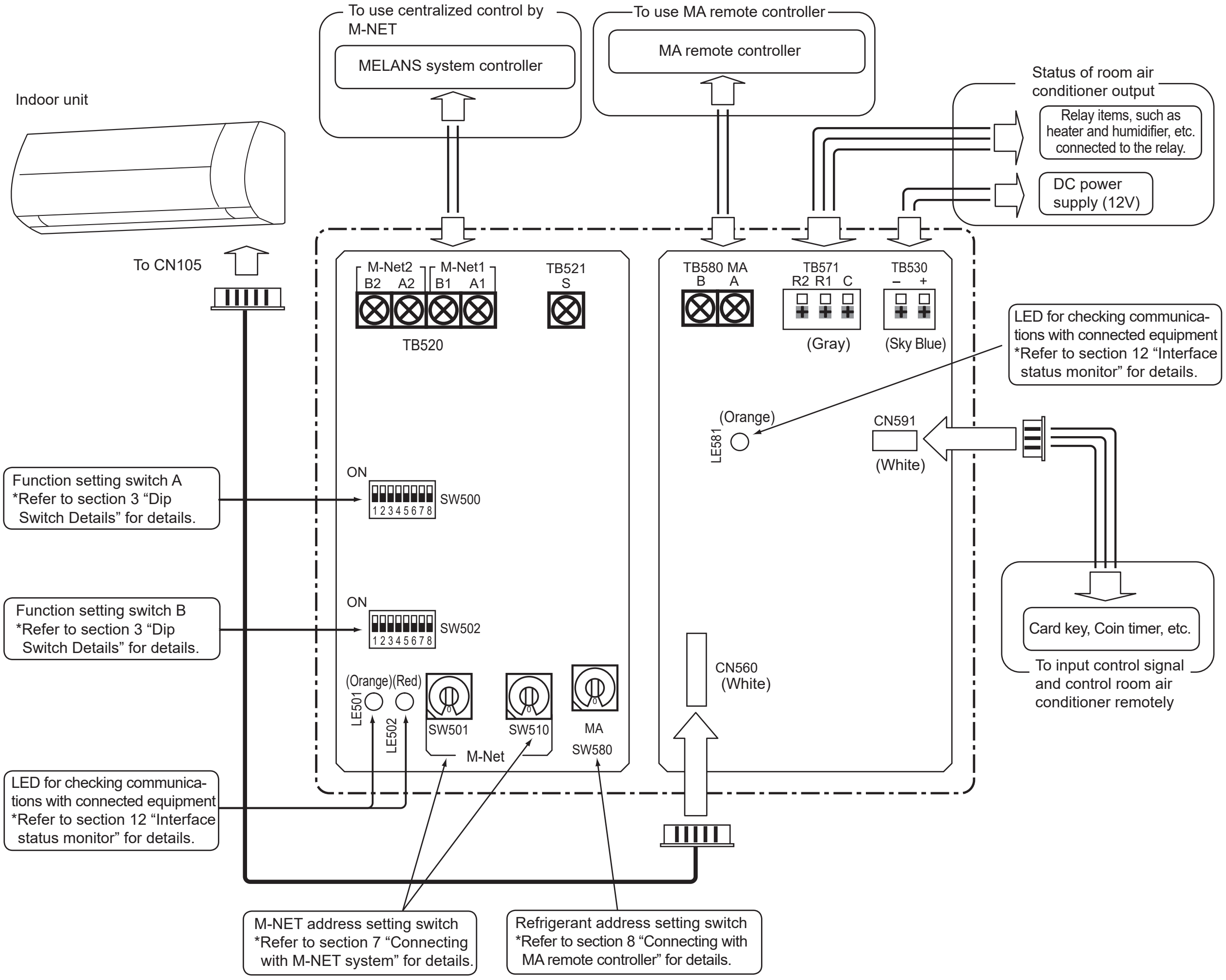


Fig. 2-4

1 System controller, etc
2 SYSTEM CONTROL Interface
3 Indoor Unit
4 MA remote controller
5 Contract point
6 Relay
7 Coil
8 Power supply unit for M-NET transmission line
9 External power supply for12V DC

2. Function and electric wiring of interface each part



LED for checking communications with connected equipment
*Refer to section 12 “Interface status monitor” for details.

Function setting switch A
*Refer to section 3 “Dip Switch Details” for details.

Function setting switch B
*Refer to section 3 “Dip Switch Details” for details.

LED for checking communications with connected equipment
*Refer to section 12 “Interface status monitor” for details.

M-NET address setting switch
*Refer to section 7 “Connecting with M-NET system” for details.

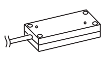
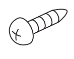
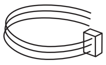
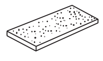
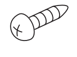
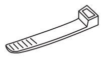
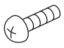
Refrigerant address setting switch
*Refer to section 8 “Connecting with MA remote controller” for details.

3. Dip Switch Details

Functions	SW No.	Functions	OFF (Factory setting)	ON
Function setting Switch A	SW500-1	Output setting	Switching output of heater ON/OFF (single operation)	
	SW500-2	Turn on/off with power	Not available	Available
	SW500-3	Room temperature detector	Indoor unit	MA remote controller
	SW500-4 SW500-5	Output setting	Switching output of ON/OFF, error/normal, heater ON/OFF, and humidifier ON/OFF	
	SW500-6	Input setting	Input of ON/OFF and prohibiting/allowing operation	Input of ON/OFF and heating/cooling
	SW500-7	Interface status display switching	LE501: Confirmation of communications with indoor unit LE502: Confirmation of communications with M-NET LE581: Confirmation of supplying power to MA remote controller	LE501: Confirmation of communications with MA remote controller LE502: Extinguished LE581: Confirmation of supplying power to MA remote controller
	SW500-8	Not in use	— (Set to OFF)	—
Function setting Switch B	SW502-1	Output switching	12 VDC output during operation or error, etc	12 VDC output during stop or operating normally, etc
	SW502-2	Input mode	Level contact	Pulse contact
	SW502-3	Setting of range of prohibited operations by contact point	M-NET system controller ON/OFF operation allowed	M-NET system controller ON/OFF operation prohibited
	SW502-4	Input switching: Input mode when level contact	Running or operating the machine is prohibited, etc by short circuiting the level contact	Running or operating machine is prohibited, etc by level contact opening
		Input switching: Input mode when pulse contact	ON/OFF is inverted by pressing pulse contact	ON or OFF no matter how many times pulse contact is pressed
	SW502-5	Behavior when operation by contact point is prohibited	State before prohibition of operation by contact point	Air conditioner running stop
	SW502-6	Behavior when prohibition of operation by contact point is canceled	State before canceling prohibition of operation by contact point	Running air conditioner
	SW502-7	Dual auto mode*	Available	Not available
	SW502-8	Setting when P series is mixed in the same group (only when running group operation using the MA remote controller)	No mixture	Mixed

* This function cannot be used regardless of the setting of SW502-7 when any of System controller, ME remote controller, or MA remote controller which are not compatible with Dual auto mode are connected to this interface unit.
This function cannot be used regardless of the setting of SW502-7 when the air conditioner which is not compatible with Dual auto mode is set in the same group.
When you connect MA remote controller to an indoor unit, Dual auto mode is not available. (Set SW502-7 ON.)
When you use this function, the operation mode cannot be set to automatic by the remote controller attached to the air conditioner.

4. Parts

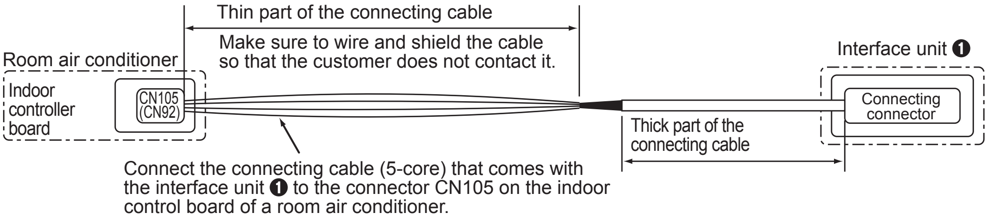
Accessory											
❶	Interface unit [with connecting cable (5-core)]		1	❺	Mounting cord clamps (medium)		4	❾	Fasteners (for joining the wires)		5
❷	Screws for mounting 3.5×12		2	❻	Mounting cord clamps (large)		3	❿	Lead wires (3-core)		1
❸	Cushioning material (with adhesive)		1	❼	Screws for mounting 3.5 × 12 ❹, ❺ and ❻ (Use when attaching the clamps to the interface unit)		4	⓫	Screws for mounting 4 × 10 ❺ (Use when fixing near the room air conditioner)		1
❹	Mounting cord clamps (small)		2	❽	Cable ties		9	⓬	Screws for mounting 4 x 16 ❺ (Use when joining room air conditioner parts)		1

Item to be Prepare at the Installation Site		
Ⓐ	M-NET communication cable	2-core shield cables CVVS/CPEVS,1.25 mm^2 [AWG 16] or more.* • When cross-wired by same terminal box, 1.25 mm^2 [AWG 16] is used. CPEVS: PE insulated PVC jacketed shielded communication cable CVVS: PVC insulated PVC jacketed shielded control cable PE: Polyethylene PVC: Polyvinyl chloride
Ⓑ	Remote control cable (for connecting the ME Remote Controller)	2-core shield cables CVVS/CPEVS* • When the distance from the interface unit ❶ is less than 10 m: 0.3 mm^2 [33 ft.: AWG 22] or more.* • When the distance from the interface unit ❶ is not less than 10 m: 1.25 mm^2 [33 ft.: AWG 16] or more.*
Ⓒ	Remote control cable (for connecting the MA Remote Controller)	2-core sheath cable 0.3 mm^2 to 1.25 mm^2* [AWG 22 to 16]*
Ⓓ	Signal cable (also used as extension cable)	Sheath cable 0.3 mm^2 [AWG 22] or more.* • When remote control: The extension cable of Lead wires ❿ • When status signal output: The cable for relay connection, or cable for DC power
Ⓔ	Related parts sold separately	Prepare the necessary number of parts sold separately as needed for your system.

* Please use cable with supplementary insulation.
Use wires which have insulation more than the MAX voltage.
MAX voltage is defined according to the law of the country where the interface is used.

5. Connecting the SYSTEM CONTROL Interface to a room air conditioner

- Connect the interface unit ❶ and the indoor control board of a room air conditioner using the connecting cable (5-core) that comes with the interface unit ❶.



Make sure to wire and shield the cable so that the customer does not contact it.

Connect the connecting cable (5-core) that comes with the interface unit ❶ to the connector CN105 on the indoor control board of a room air conditioner.

⚠ Warning

Securely fix the connecting cable in the designated place. Failure to do so may cause an electric shock, fire, or malfunction.

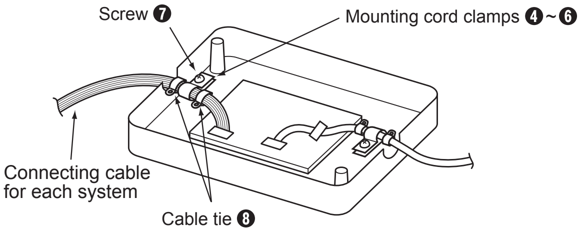
- The connecting cable (5-core) connected to a room air conditioner should be wired according to the room air conditioner installation manual.

Notes
- Extending or shortening the connecting cable (5-core) that comes out of the interface unit ❶ cause it to malfunction. Also, keep the connecting cable (5-core) as far as possible away from the electrical wires and ground wire. Do not bundle them together.
- To prevent the board from being damaged by static electricity, always remove static electricity before starting work.

6. Connecting the SYSTEM CONTROL Interface with each system

(For details on each system, see the relevant instruction manual.)

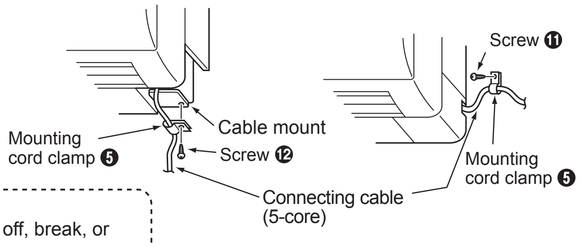
- Screw the mounting cord clamp ❹~❻ according to the thickness of the connecting cable used for each system. Fasten the cable tie ❽ as shown in the figure to prevent undesirable movement of the connecting cable.



Notes
- If the connecting cable is not securely mounted, the connector may come off, break, or malfunction.
- The dip switch (SW500, SW502) and the rotary switch (SW501, SW510, SW580) on the interface unit ❶ do not operate if they are not set correctly.

- The connecting cable (5-core) connected to a room air conditioner should be mounted at the room air conditioner or its vicinity.

If the screw for the cable mount of the room air conditioner cannot be used, replace with the screw for mounting ⓬.

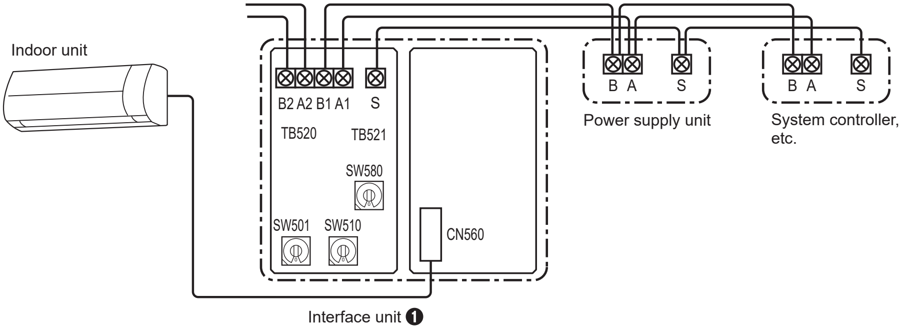


- Conduct the settings of the interface unit ❶ dip switch (SW500, SW502) and rotary switch (SW501, SW510, SW580) before turning on the power.

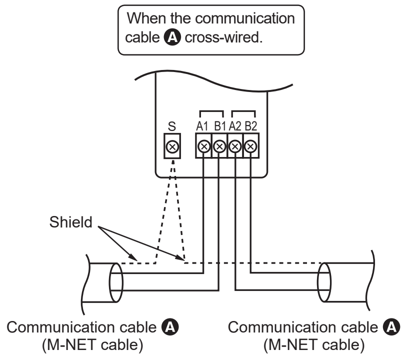
7. Connecting with M-NET system

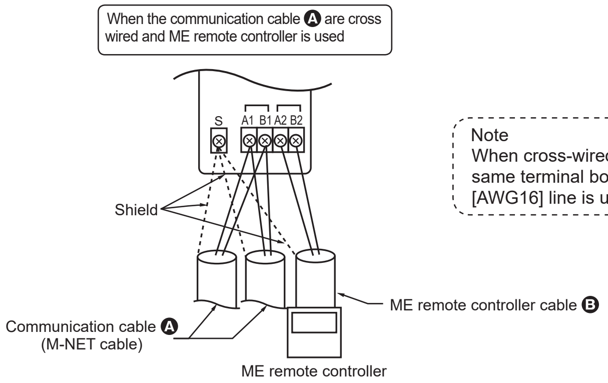
■ Connecting the SYSTEM CONTROL Interface to M-NET cable

The room air conditioner can be managed centralized or individually by the system controller using M-NET communications control.

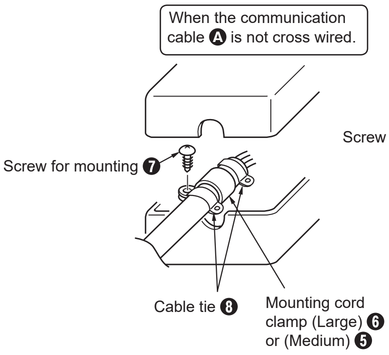


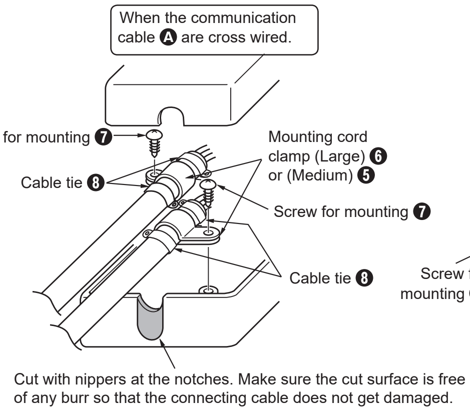
- To connect with the system controller and ME remote controller, connect the M-NET communication cable Ⓐ or ME remote control cable Ⓑ with TB520. (It is unpolarized.) Connect 2 core communication cable with A1/B1 or A2/B2. (There will be no problems with connecting to either one.)
- Cross the shield portion of each connecting cable using the S terminal only when cross wiring the communication cables Ⓐ.
- After wiring is complete, mount securely with any of mounting cord clamp ❹ to ❻, and fix with cable tie ❽ as shown in the figure.

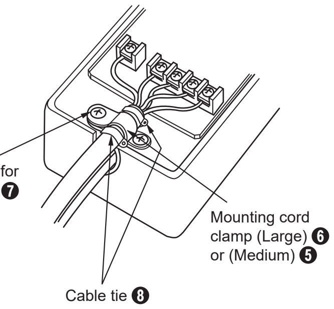

When the communication cable Ⓐ cross-wired.
S
A1 B1 A2 B2
Shield
Communication cable Ⓐ (M-NET cable)
Communication cable Ⓐ (M-NET cable)


When the communication cable Ⓐ are cross wired and ME remote controller is used
S
A1 B1 A2 B2
Shield
Communication cable Ⓐ (M-NET cable)
ME remote controller cable Ⓑ
ME remote controller

Note
When cross-wired by the same terminal box, a 1.25mm^2 [AWG16] line is used.


When the communication cable Ⓐ is not cross wired.
Screw for mounting ❼
Cable tie ❽
Mounting cord clamp (Large) ❻ or (Medium) ❺

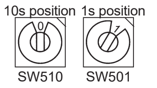

When the communication cable Ⓐ are cross wired.
Screw for mounting ❼
Cable tie ❽
Mounting cord clamp (Large) ❻ or (Medium) ❺
Screw for mounting ❼
Cable tie ❽
Cut with nippers at the notches. Make sure the cut surface is free of any burr so that the connecting cable does not get damaged.



* To prevent penetration by condensation, insects, etc., seal the opening well with putty.

Notes
- Electrical work should be performed in accordance with the Technical Standards Regarding Electrical Equipment and the Interior Wiring Standards.
- Connecting wires and remote control cables should be located as far away from other electrical wiring as possible. Placing them too closely together could cause a malfunction.
- To connect with the M-NET system and MA remote controller, connection is limited to only one unit of the MA remote controller.
- Do not put in the same group as City Multi or P series.
- Test run cannot be conducted from the ME remote controller or the system controller.

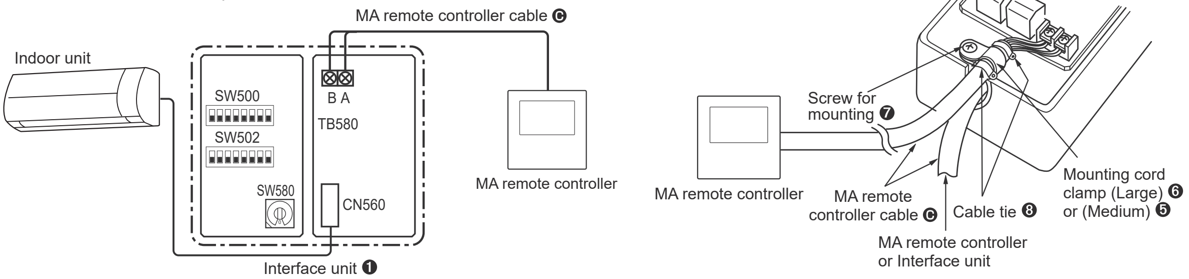
■ Setting when M-NET is connected

SW No.	Address	Comments
SW510 SW501	M-NET address 	SW510 sets the 10s position of the address and SW501 sets the 1s position of the address. (Address setting can be set from 01 ~ 50.) For example, to set a unit to the address 25, set SW510 to "2" and SW501 to "5." * The figure to the left is for address 1.
SW580	Refrigerant address 	When the MA remote controller is not used, set the refrigerant address (SW580) to "1."

8. Connecting with MA remote controller

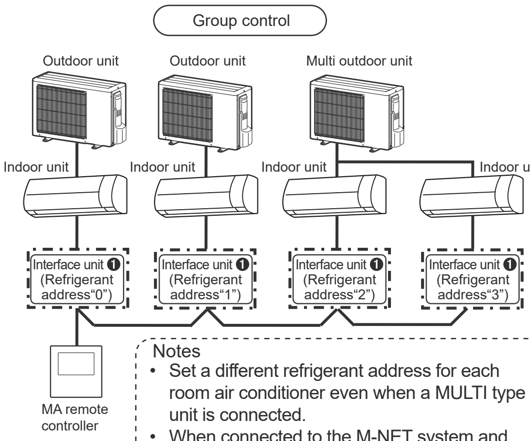
■ Connecting the SYSTEM CONTROL Interface to MA remote controller

A room air conditioner can be operated with the wired remote control.


MA remote controller cable Ⓒ
Indoor unit
SW500
SW502
SW580
B A
TB580
CN560
Interface unit ❶
MA remote controller
MA remote controller
Screw for mounting ❼
MA remote controller cable Ⓒ
Cable tie ❽
Mounting cord clamp (Large) ❻ or (Medium) ❺
MA remote controller or Interface unit

- ● To connect with the MA remote controller, connect the MA remote control cable Ⓒ with TB580. (It is unpolarized.)
- ● When more than one unit of room air conditioner is operated in a group, make a cross wire connection at TB580 with the MA remote control cable Ⓒ.
- ● The MA remote controller can carry out simultaneous control of up to 16 sets of room air conditioners.
- ● Up to two MA remote controllers can be connected in one group.
  However, up to one can be connected when using PAR-CT0✻MA.
- ● Wiring length from the interface at the refrigerant address “0” to the MA remote controller should be less than 10 m [33 ft.].
- ● To operate the room air conditioner in a group, make the total length of wiring for the MA remote controller less than 50 m [164 ft.].

Notes
- Be sure to set the “Auto Heating/Cooling Display Setting” of the MA remote controller OFF before use.
  * For details on the “Auto Heating/Cooling Display Setting”, refer to the MA remote controller instruction manual.
  * When the “Auto Heating/Cooling Display Setting” is ON, the remote controller display may differ from the actual operating status of the unit.
- A test run cannot be initiated using the test run switch on the MA remote controller.
- Group control with CITY MULTI is unable.
- When you use the PAR-CT0✻MA with M-NET system, follow the restrictions below.
  1. Be sure to set “Brightness setting” of PAR-CT0✻MA to “Low”.
  2. The wiring length from the interface at the refrigerant address “0” to the PAR-CT0✻MA should be less than 7 m [23 ft.].
  3. Some room air conditioners cannot be used.
     Make sure the room air conditioner can be used before installing it.
  4. Do not use the external output (CN104) of the indoor unit.
     * If the indoor unit does not have the external output (CN104), you cannot use the PAR-CT0✻MA with M-NET system.
- When you use the PAR-4✻MA with M-NET system, follow either one of the restrictions below.
  - Be sure to set “Brightness setting” of PAR-4✻MA to “Low”.
  - Do not use “Setting Signal Output” of this interface unit.


Group control
Outdoor unit
Outdoor unit
Multi outdoor unit
Indoor unit
Indoor unit
Indoor unit
Indoor unit
Interface unit ❶ (Refrigerant address“0”)
Interface unit ❶ (Refrigerant address“1”)
Interface unit ❶ (Refrigerant address“2”)
Interface unit ❶ (Refrigerant address“3”)
MA remote controller

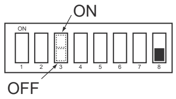
Notes
- Set a different refrigerant address for each room air conditioner even when a MULTI type unit is connected.
- When connected to the M-NET system and group control is executed using the MA remote controller, the group setting needs to be set on the M-NET system controller side.

■ Setting when MA remote controller is connected

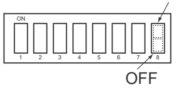
●Setup of an refrigerant address

SW No.	Refrigerant address	Comments
SW580	Address can be set from 0 to 15	• Set the refrigerant address of the unit that supplies electric power to the MA remote controller to “0.” • When carrying out group operation of two of more room air conditioners, set different refrigerant addresses within the group. *A to F of the rotary switch correspond to refrigerant addresses 10 to 15.

●Setup of Room temperature detector position

Functions	SW No.	Operating details
Room temperature detector position	SW500 	SW500-3: OFF • Temperature detected by suction temperature sensor of the unit is made to be room temperature. SW500-3: ON • Temperature detected by temperature sensor of the remote controller is made to be room temperature.

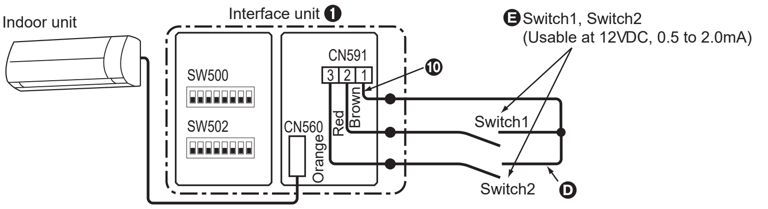
●Setting when P series is mixed in the same group (only when running group operation using the MA remote controller)

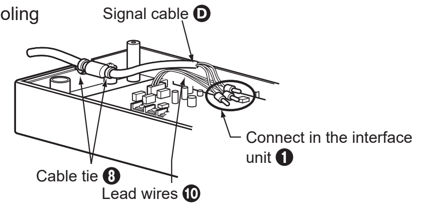
Functions	SW No.	Operating details
P series is mixed in the same group	SW502 	SW502-8: OFF • Set to OFF when P series is not mixed in the same group. SW502-8: ON • Set to ON when P series is mixed in the same group.

9. Remote Control

■ Connecting the SYSTEM CONTROL Interface

You can turn room air conditioner on/off, prohibit/allow manual operations, or input of heating/cooling with the ON/OFF switch.

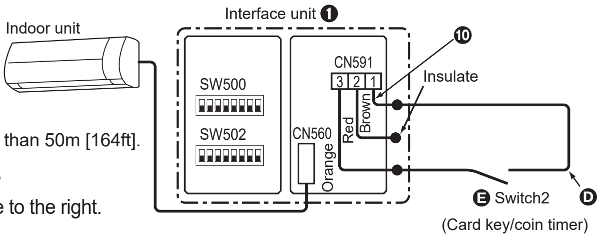




Card key coin timer connection

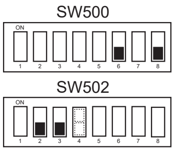
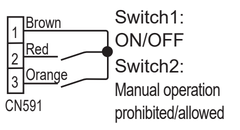
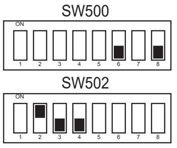
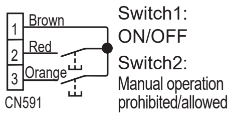
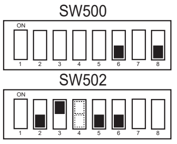
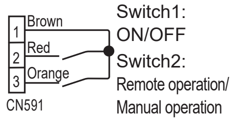
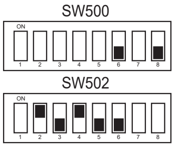
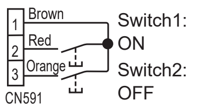
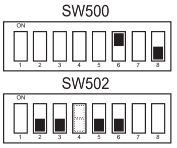
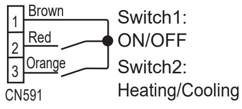
- ●Connect CN591 with Switch1 and Switch2 as shown in figure above.
- ●Connect the supplied lead wires (3-core) ⑩ to the connector CN591 on the interface unit.
- ●Connect the supplied lead wires (3-core) ⑩ to the connecting cable Ⓓ in the interface ❶ as shown in the figure on the right side.
- ●Wiring length from the interface to the Switch1 and Switch2 should be less than 50m [164ft].
- ●Procure and wire locally the remote control part including the switches.
- ●For each connection pattern, refer to “Setting when using remote control.”

*When using a Card key/Coin timer, make connections shown in the figure to the right.

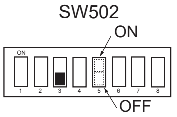
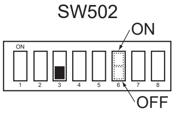


■ Setting when using remote control (Select one between No.1 through 5 and set.)

*Set No.1, No.6, and No.7 when using the card key/coin timer.

No.	Functions	SW No.	How to use	Operating details
1	ON/OFF Manual operation prohibited/allowed (Level Contact)		 Brown Red Orange 1 2 3 CN591 Switch1: ON/OFF Switch2: Manual operation prohibited/allowed	• Unit is turned on when Switch1 has a short-circuit, and off when open. (Regardless of the Switch1 operation condition, the latest operation is prioritized.) • When Switch2 has a short-circuit, manual operation is prohibited,* and when open, manual operation is allowed. • When SW502-4 is turned on, the opening and short-circuiting of Switch1 and Switch2 result in their operating in the opposite manner. *When manual operation is prohibited, ON/OFF operation of the wireless remote controller, the MA remote controller, and the ME remote controller is prohibited. (Operation from Switch1 and M-NET system controller is possible.)
2	ON/OFF Manual operation prohibited/allowed (Pulse Contact)		 Brown Red Orange 1 2 3 CN591 Switch1: ON/OFF Switch2: Manual operation prohibited/allowed	• Every time Switch1 is pressed, ON/OFF is switched over. (Regardless of the Switch1 operation condition, the latest operation is prioritized.) • Every time Switch2 is pressed, the manual operation prohibited*/the manual operation allowed is switched over. *When the manual operation is prohibited, ON/OFF operation of the wireless remote controller, the MA remote controller, and the ME remote controller is prohibited. (Operation from Switch1 and M-NET system controller is possible.)
3	ON/OFF Remote operation/ Manual operation (Level Contact)		 Brown Red Orange 1 2 3 CN591 Switch1: ON/OFF Switch2: Remote operation/ Manual operation	• Unit is turned on when Switch1 has a short-circuit, and off when open. • When Switch2 has a short-circuit, only Switch1 is enabled (remote operation)*, when open, only Switch1 is disabled (manual operation). • When SW502-4 is turned on, the opening and short-circuiting of Switch1 and Switch2 result in their operating in the opposite manner. *In remote operation, ON/OFF operation from the wireless remote controller, the MA remote controller, the ME remote controller, and the M-NET system controller cannot be used.
4	ON, OFF (Pulse Contact)		 Brown Red Orange 1 2 3 CN591 Switch1: ON Switch2: OFF	• Unit is turned on no matter how many times Switch1 is pressed. • Unit is turned off no matter how many times Switch2 is pressed. And regardless of the Switch1, Switch2 operation condition, the latest operation is prioritized. • ON/OFF operation from the wireless remote controller, the ME remote controller, the MA remote controller, and the M-NET system controller is enabled.
5	Heating/cooling input (Level Contact)		 Brown Red Orange 1 2 3 CN591 Switch1: ON/OFF Switch2: Heating/Cooling	• Unit is turned on when Switch1 has a short circuit, and off when open. • Heating runs when Switch2 has a short circuit, and cooling runs when open. • When SW502-4 is turned on, the opening and short-circuiting of Switch1 and Switch2 result in their operating in the opposite manner. * As for ON/OFF operation and heating/cooling operation from the wireless remote controller, MA remote controller, ME remote controller, system controller, Switch1, and Switch2, the latest operation is prioritized.

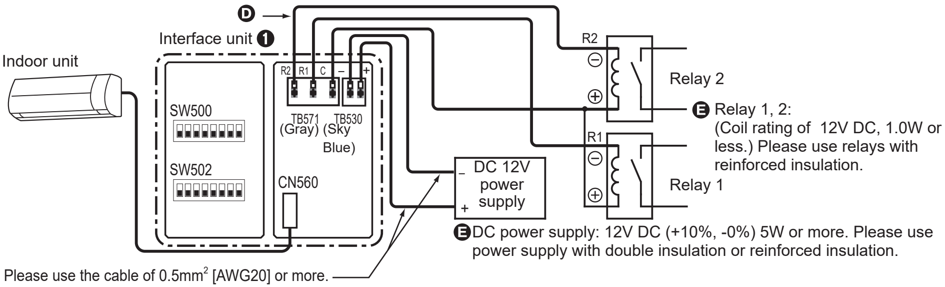
■ Setting operation (Valid only for No.1 and No.2. The following 2 functions can be used at the same time.)

No.	Functions	SW No.	How to use	Operating details
6	Behavior when operation is prohibited.		Operational status of room air conditioner when manual operation is prohibited can be set.	SW502-5: OFF • When manual operation is prohibited by Switch2, operational status is maintained as that before manual operation is prohibited. SW502-5: ON • When manual operation is prohibited by Switch2, the room air conditioner turns off.
7	Behavior when prohibition of operation is canceled.		Operational status of room air conditioner when prohibition of manual operation is canceled can be set.	SW502-6: OFF • When prohibition of manual operation is canceled by Switch2, operational status is maintained as that before cancelation. SW502-6: ON • When prohibition of manual operation is canceled by Switch2, the room air conditioner turns on.

10. Setting Signal Output

■ Connecting the SYSTEM CONTROL Interface

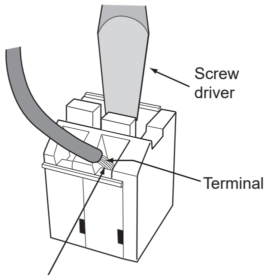
Each relay can be turned ON/OFF by synchronizing with the room air conditioner's ON/OFF, error/normal, Heater ON/Heater OFF, and Humidifier ON/Humidifier OFF.



Ⓔ Relay 1, 2:
(Coil rating of 12V DC, 1.0W or less.) Please use relays with reinforced insulation.

Ⓔ DC power supply: 12V DC (+10%, -0%) 5W or more. Please use power supply with double insulation or reinforced insulation.

Please use the cable of 0.5mm^2 [AWG20] or more.
The cable must fit into TB530 and meet DC12V power supply.

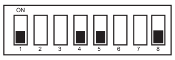
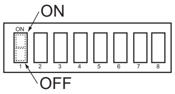
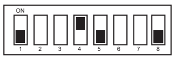
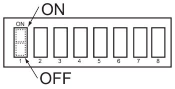
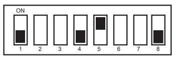
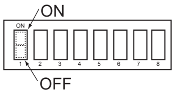
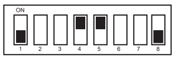
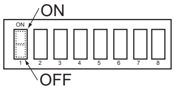
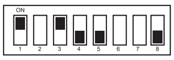
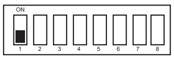


Do not insert more than one connecting cable into each terminal of TB571 and TB530.

Notes
- Connecting terminal TB530 for power supply is polarized, so confirm proper polarity of the terminals before connecting.
- Do not connect 12V DC from the DC power supply to TB571.
- Confirm polarity when using a diode built-in relay. C of TB571 is electropositive potential ⊕, and R1 and R2 are negative potential ⊖.

- For TB571 and TB530, insert wiring after inserting the flathead screwdriver into the terminal.
- Appropriate electric wire for TB571 and TB530 is as follows. Stranded wire: 0.3mm^2 to 1.25mm^2 [AWG22 to 16] Solid wire: ø0.4mm to ø1.2mm [ø1/64in. to ø3/64in.]
- Peeling dimension of the electric wire for TB571 and TB530 is 7mm to 10mm [9/32in. to 25/64in.].
- Wiring length from the interface to Relay 1 and Relay 2 should be less than 50m [164ft].

■ Setting when using Status Signal Output

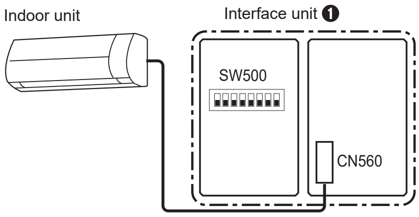
Functions	SW No.	Operating details
ON/OFF, Error/ Normal Output	SW500  SW502 	SW502-1: OFF • Relay 1 is on when room air conditioner is on, and off when room air conditioner is off. • Relay 2 is on when room air conditioner is in error, and off when room air conditioner is operating normally. SW502-1: ON • Relay 1 and 2 behavior are opposite of those above.
ON/OFF, Heater Control Output	SW500  SW502 	SW502-1: OFF • Relay 1 is on when room air conditioner is on, and off when room air conditioner is off. • When the air conditioner runs in the heating (automatic heating) mode and room temperature becomes the set temperature - 2.5 ºC (4.5 ºF) or lower, the Relay 2 (heater) turns on. When the air conditioner runs in a mode other than the heating (automatic heating) or it is OFF, or when room temperature becomes the set temperature or higher, the Relay 2 (heater) turns off. SW502-1: ON • Relay 1 and 2 behavior are opposite of those above.
ON/OFF, Humidifier Control Output	SW500  SW502 	SW502-1: OFF • Relay 1 is on when room air conditioner is on, and off when room air conditioner is off. • When the air conditioner runs in the heating (automatic heating) mode, Relay 2 (humidifier) turns on. When the air conditioner runs in a mode other than heating (automatic heating) or it is OFF, Relay 2 (humidifier) turns off. SW502-1: ON • Relay 1 and 2 behavior are opposite of those above.
Heater Control, Humidifier Control Output*	SW500  SW502 	SW502-1: OFF • When the air conditioner runs in the heating (automatic heating) mode and room temperature becomes the set temperature - 2.5 ºC (4.5 ºF) or lower, Relay 1 (heater) turns on. When the air conditioner runs in a mode other than the heating (automatic heating) or it is OFF, or when room temperature becomes the set temperature or higher, Relay 1 (heater) turns off. • When the air conditioner runs in the heating (automatic heating) mode, Relay 2 (humidifier) turns on. When the air conditioner runs in a mode other than heating (automatic heating) or OFF, Relay 2 (humidifier) turns off. SW502-1: ON • Relay 1 and 2 behavior are opposite of those above.
ON/OFF, Humidifier Control (single operation) Output	SW500  SW502 	Relay 1 is on when ON is set by System controller, ME remote controller or MA remote controller, and off when OFF is set by these controllers. When room temperature becomes the set temperature or lower in the heating (automatic heating) mode, the Relay 2 (heater) turns on. When a mode other than heating (automatic heating) or OFF is set by System controller, ME remote controller or MA remote controller, or when room temperature becomes higher than the set temperature + 1 ºC (2 ºF), the Relay 2 (heater) turns off. * This function is to run the heater instead of the air conditioner in the heating mode. The air conditioner stops in the heating mode. Do not use the remote controller attached to the air conditioner. If you use it, the operation may not reflect the setting. The position of detecting the room temperature is where MA remote controller is put, so make sure to connect it to the interface unit.

11. Turn on/off with power

The room air conditioner turns on when power is supplied.

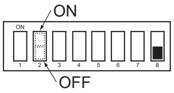
● When using for the first time, set to the operational status of your choice with the remote controller and leave the power off for 1 minute.

* When not used for a long period of time, you should set to the operational status of your choice again with the remote controller.



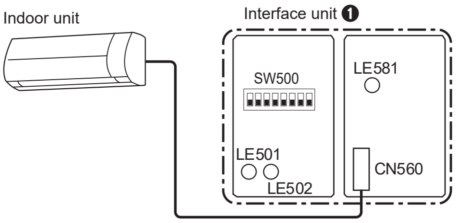
Notes
- ● The turn on/off with power function cannot be used when connected to multiple outdoor units.
- ● When starting two or more room air conditioners by using the turn on/off with power function, make the system so they do not recover simultaneously. (To avoid inrush current, start sequentially.)

Setting when using Turn on/off with power

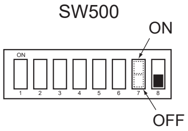
Functions	SW No.	Operating details
Turn on/off with power	SW500 	SW500-2: OFF • After the power is supplied, the room air conditioner resumes working in the previous running condition. When AUTO RESTART FUNCTION is not set to the room air conditioner, it remains off. SW500-2: ON • The room air conditioner turns on when power is supplied.

12. Interface status monitor

You can check the status of the interface unit by the LED lamp on the interface unit ❶ board.

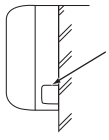


● Use the table below to check communications. If communications cannot be carried out normally, check that the relevant communications line is not disconnected from the connector or terminal box.

Functions	SW No.	Operating details
Interface status monitor	SW500 	SW500-7: OFF ● LE501 (Orange): When blinking at an interval of about 1 second, the Interface unit is communicating normally with the room air conditioner. When the lamp is off, the Interface unit is not communicating normally with the room air conditioner. ● LE502 (Red): When blinking at an interval of about 1 minute, the Interface unit is communicating normally with the M-NET controller. When the lamp is off, the Interface unit is not communicating normally with the M-NET controller. SW500-7: ON ● LE501 (Orange): When blinking at an interval of about 10 second, the Interface unit is communicating normally with the MA remote controller. When the lamp is off, the Interface unit is not communicating normally with the MA remote controller. ● LE502 (Red): Extinguished * LE581 (Orange) displays the following status irrespective whether SW500-7 is on or off. ● When lit, power is supplied to the MA remote controller from the Interface unit ❶. When extinguished, power is not supplied.

13. Mounting the SYSTEM CONTROL Interface Unit

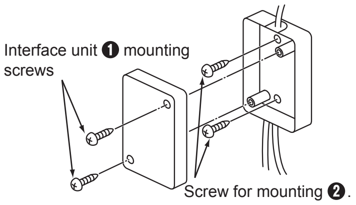
Notes
- The Interface unit ❶ should be placed in a location where the connecting cable (5-core) from the interface unit ❶ can reach an indoor unit.
- The device will not function properly the connecting cable is extended, so the connecting cable (5-core) should no be extended.
- Mount the interface unit ❶ securely to a pillar or wall using 2 or more screws ❷.

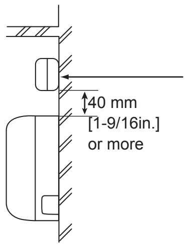


Attach the connecting cable (5-core) of the interface unit ❶ here. Store extra connecting cable (5-core) in the ductwork space behind the air conditioner.
If there is any slack in the connecting cable (5-core), use a fastener ❾ to keep it in place.

■ When Mounting Directly to a Wall

Mount the interface unit ❶ case to the wall using the mounting screws ❷.

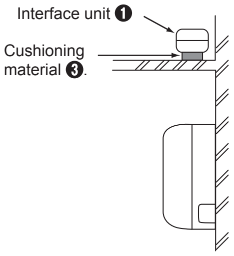




When the interface unit ❶ is mounted above an indoor unit, it should be positioned 40 mm [1-9/16in.] or more away from the unit to ensure that ceiling grills can be removed.

■ When mounting the interface unit inside a ceiling

When mounting the interface unit ❶ inside a ceiling or wall, install an access door to facilitate maintenance.



* When mounting the interface unit ❶ using a cushioning material ❸, be sure to mount it in a location where it will not fall.

14. Notes Regarding Use

The following control information should be thoroughly explained and provided to the users of this device. (Please provide these instructions to the user once the installation is complete.)

This Interface unit ❶ operates room air conditioners using the controls of a City-Multi or P series, but there are several limitations imposed as a result of the functional differences between room air conditioners and packaged air conditioners.

1. When operating the system using a System Controller, MA Remote Controller, or ME Remote Controller these operations will not appear on the display of the wireless remote controller.
2. When original dehumidification mode is set with the remote controller attached to the room air conditioner, “Dry” is displayed because there is no mode corresponding to dehumidification on the MA remote controller, ME remote controller, and the system controller.
3. Because the temperature range of the room air conditioners is broader than a System Controller, MA Remote Controller, or ME Remote Controller, when the room air conditioners is set to lower than 17°C (63ºF) or higher than 30°C (87ºF), the temperature display on the a System Controller, MA Remote Controller, or ME Remote Controller will show the minimum or maximum temperature that can be set. (For example, even if the room air conditioner is set to cool a room to 16°C (61ºF), the display on a System Controller, MA Remote controller, or ME Remote Controller may read “17°C” (63ºF)).
4. Timer operations should be set using only the remote controller that came with the room air conditioners or the a System Controller, MA Remote Controller, or ME Remote Controller. If both are used to set the timer to the same time, the timer will not function properly.
5. When “Manual operation prohibited” (ON/OFF, setting temperature, operation mode) is set with the system controller, the corresponding operation by the remote controller attached to the room air conditioner is not accepted, but allowed operation is reflected. A beep sounds during operation to confirm reception.
6. A part of functions including the operation of horizontal air blow direction cannot be used from the ME remote controller, the system controller, and the MA remote controller.
7. “Manual operation prohibited” (filter sign, air direction, fan speed, timer) cannot be set by system controller.

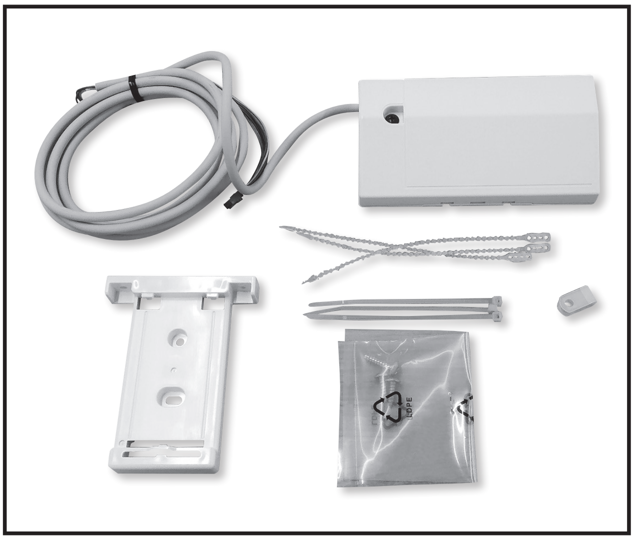
15. Specifications

Indoor unit side	Input voltage	12V ⎓
	Power consumption	1.8W
	Input current	0.15A
Power supply unit side	Input voltage	12V ⎓
	Power consumption	4.8W
	Input current	0.4A

MA Interface

MAC-497IF-E

Photo



Descriptions

Enable to connect the MA remote controller.

Applicable Models

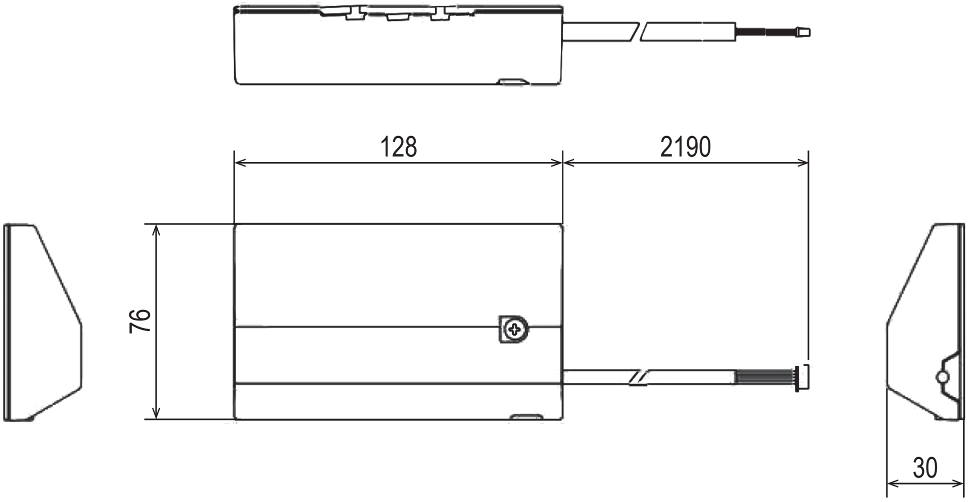
- MSZ-RW25,35,50VG
- MSZ-LN18,25,35,50,60VG2W,V,R,B
- MSZ-FT25,35,50VG
- MSZ-AY15,20VGK(P)
- MSZ-AY25,35,42,50VGK(P)
- MSZ-AP60,71VG
- MSZ-EF18,22,25,35,42,50VGW,B,S
- MSZ-BT20,25,35,50VG
- MSZ-HR25,35,42,50,60,71VF
- MSZ-DW25,35,50VF
- MSY-TP35,50VF
- MFZ-KT25,35,50,60VG
- MFZ-KW25,35,50,60VG
- MLZ-KP25,35,50VG
- MLZ-KY20VG

Specifications

Power		12V DC (supplied from indoor unit)
Operating conditions		Indoor only (ambient temperature: 0 to 40°C, no condensation)
Connection of MA smooth remote controller / MA deluxe remote controller	Communication cable	2-wire (recommended: optional PAC remote controller cable PAC-YT81HC)
	Communication cable distance	Max. 10m
Indoor unit connecting cable		Dedicated 5-wire cable
Weight		180g (including indoor unit connecting cable)

Dimensions

Unit : mm



How to Use / How to Install

1. Before Installation

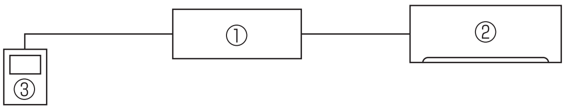
1.1. How to Use the MA Interface

■ **Functions**

Use as wired remote controller (Fig. 1-1)

You can use the MA remote controller as a wired remote controller.

■ **Sample System Configuration**

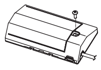
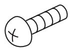
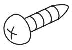
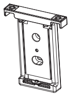
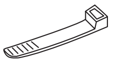


① MA Interface
② Indoor Unit
③ MA remote controller

Fig. 1-1

1.2. Parts

Before installing the unit, make sure that you have all the necessary parts.

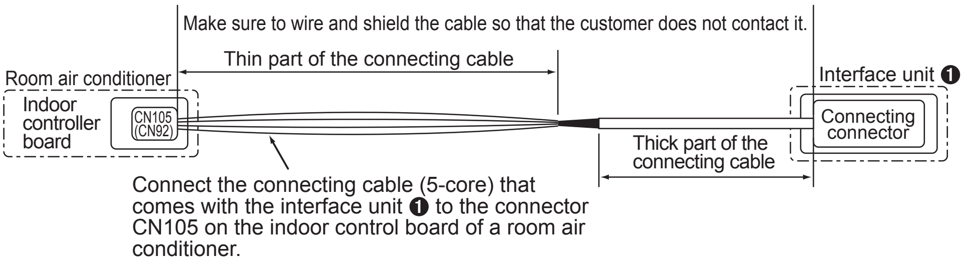
Accessory							
❶	Interface unit [with connecting cable (5-core) and screw]		1	❺	Fasteners (for joining the wires)		3
❷	Mounting cord clamps		1	❻	Screws for mounting 4 x 16 (Use them to fix the cord clamp ❷)		1
❸	Screws for mounting 3.5 × 12 (Use them to fix the interface holder ❼)		2	❼	Interface holder		1
❹	Cable ties		3				

Item to be Prepare at the Installation Site		
Ⓐ	Remote control cable (for connecting the MA Remote Controller)	2-core sheath cable 0.3 mm^2 to 1.25 mm^2* [AWG 22 to 16]*

* Please use cable with supplementary insulation.
Use wires which have insulation more than the max. voltage.
Max. voltage is defined according to the law of the country where the interface is used.

2. Connecting the MA Interface to Indoor Unit

- Connect the interface unit ❶ and the indoor control board of a room air conditioner using the connecting cable (5-core) that comes with the interface unit ❶.


Make sure to wire and shield the cable so that the customer does not contact it.
Thin part of the connecting cable
Room air conditioner
Indoor controller board
CN105 (CN92)
Interface unit ❶
Connecting connector
Thick part of the connecting cable
Connect the connecting cable (5-core) that comes with the interface unit ❶ to the connector CN105 on the indoor control board of a room air conditioner.

⚠ Warning

Securely fix the connecting cable in the designated place. Failure to do so may cause an electric shock, fire, or malfunction.

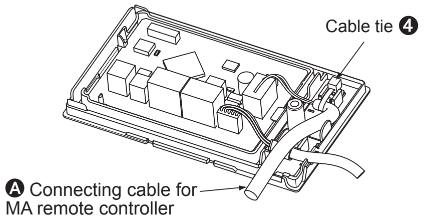
- The connecting cable (5-core) connected to a room air conditioner should be wired according to the room air conditioner installation manual.

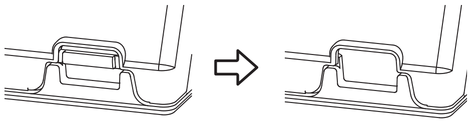
Notes
- Extending or shortening the connecting cable (5-core) that comes out of the interface unit ❶ cause it to malfunction. Also, keep the connecting cable (5-core) as far as possible away from the electrical wires and ground wire. Do not bundle them together.
- To prevent the board from being damaged by static electricity, always remove static electricity before starting work.

3. Connecting the MA Interface with each system

(For details on each system, see the relevant instruction manual.)

- Fasten the cable tie ❹ as shown in the figure to prevent undesirable movement of the connecting cable.

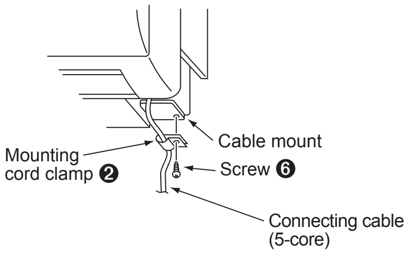




Note
When using a thick connecting cable or two connecting cables, you can broaden the hole on the interface unit using a nipper.
After broadening the hole, use a file to rub the edge on the hole to prevent the cables from being damaged.

- The connecting cable (5-core) connected to a room air conditioner should be mounted at the room air conditioner or its vicinity.

If the screw for the cable mount of the room air conditioner cannot be used, replace with the screw for mounting ❻.



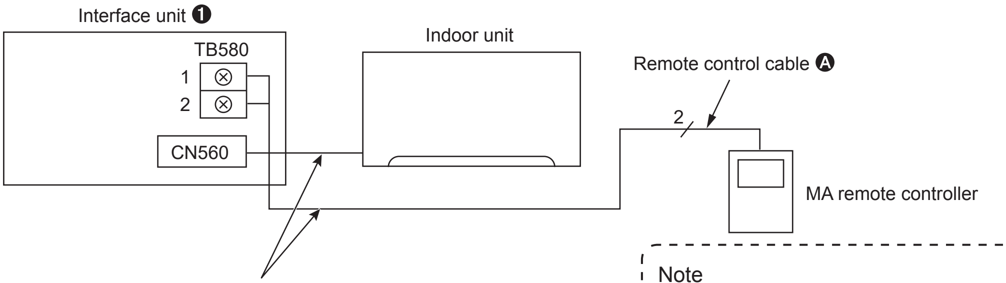
Notes
- If the connecting cable is not securely mounted, the connector may come off, break, or malfunction.
- The dip switch (SW500) and the rotary switch (SW580) on the interface unit ❶ do not operate if they are not set correctly.

- Conduct the settings of the interface unit ❶ dip switch (SW500) and rotary switch (SW580) before turning on the power.

3.1. Use as a Wired Remote Controller (Using the MA Remote Controller)

■ Connecting the SYSTEM CONTROL Interface to MA remote controller

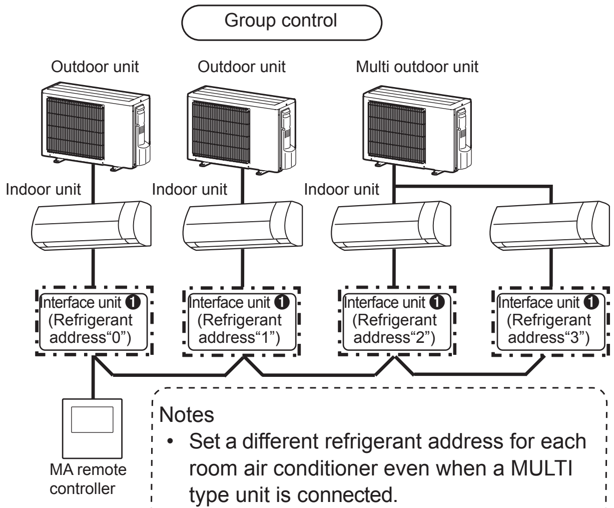
A room air conditioner can be operated with the wired remote control.



Note
For PAR-CT0∗MAA, only one MA remote controller can be connected to an interface unit. For the other models, up to two MA remote controllers can be connected simultaneously.

- To connect with the MA remote controller, connect the MA remote control cable Ⓐ with TB580. (It is unpolarized.)
- When more than one unit of room air conditioner is operated in a group, make a cross wire connection at TB580 with the MA remote control cable Ⓐ.
- The MA remote controller can carry out simultaneous control of up to 16 sets of room air conditioners.
- Up to two MA remote controllers can be connected in one group.
  However, up to one can be connected when using PAR-CT0∗MA.
- Wiring length from the interface at the refrigerant address “0” to the MA remote controller should be less than 10 m [33 ft.].
- To operate the room air conditioner in a group, make the total length of wiring for the MA remote controller less than 50 m [164 ft.].

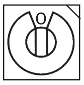
Notes
- Be sure to set the “Auto Heating/Cooling Display Setting” of the MA remote controller OFF before use.
  * For details on the “Auto Heating/Cooling Display Setting”, refer to the MA remote controller instruction manual.
  * When the “Auto Heating/Cooling Display Setting” is ON, the remote controller display may differ from the actual operating status of the unit.
- A test run cannot be initiated using the test run switch on the MA remote controller.
- Group control with CITY MULTI is unable.


Group control
Outdoor unit
Outdoor unit
Multi outdoor unit
Indoor unit
Indoor unit
Indoor unit
Interface unit ❶ (Refrigerant address“0”)
Interface unit ❶ (Refrigerant address“1”)
Interface unit ❶ (Refrigerant address“2”)
Interface unit ❶ (Refrigerant address“3”)
MA remote controller

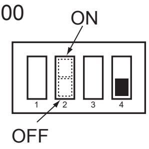
Notes
- Set a different refrigerant address for each room air conditioner even when a MULTI type unit is connected.
- When MAC-497IF-E and MAC-397IF-E are in one group, please set the refrigerant address "0" to MAC-497IF-E.

■ Setting when MA remote controller is connected

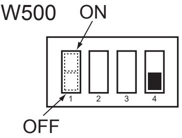
●Setup of an refrigerant address

SW No.	Refrigerant address	Comments
SW580	Address can be set from 0 to 15 	• Set the refrigerant address of the unit that supplies electric power to the MA remote controller to “0.” • When carrying out group operation of two of more room air conditioners, set different refrigerant addresses within the group. *A to F of the rotary switch correspond to refrigerant addresses 10 to 15.

●Setup of Room temperature detector position

Functions	SW No.	Operating details
Room temperature detector position	SW500 	SW500-2: OFF • Temperature detected by suction temperature sensor of the unit is made to be room temperature. SW500-2: ON • Temperature detected by temperature sensor of the remote controller is made to be room temperature.

●Setting when P series is mixed in the same group (only when running group operation using the MA remote controller)

Functions	SW No.	Operating details
P series is mixed in the same group	SW500 	SW500-1: OFF • Set to OFF when P series is not mixed in the same group. SW500-1: ON • Set to ON when P series is mixed in the same group.

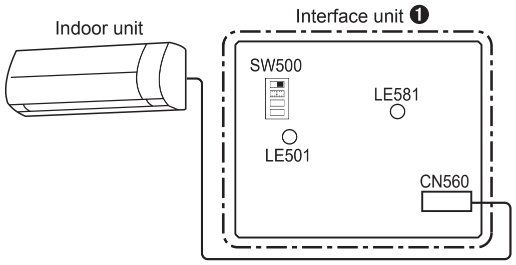
4. Dip Switch Details

■ SW500 - Function Setting

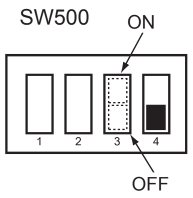
SW No.	Functions	OFF(Factory setting)	ON	Comments
SW500-1	Setting when P series is mixed in the same group (only when running group operation using the MA remote controller)	No mixture	Mixed	
SW500-2	Room temperature detector	Indoor unit	MA remote controller	
SW500-3	Interface status display switching	LE501: Confirmation of communications with indoor unit LE581: Confirmation of supplying power to MA remote controller	LE501: Confirmation of communications with MA remote controller LE581: Confirmation of supplying power to MA remote controller	
SW500-4	Not in use	— (Set to OFF)	—	

5. Test Run (Check Operations)

You can check the status of the interface unit by the LED lamp on the interface unit ❶ board.



- Use the table below to check communications. If communications cannot be carried out normally, check that the relevant communications line is not disconnected from the connector or terminal box.

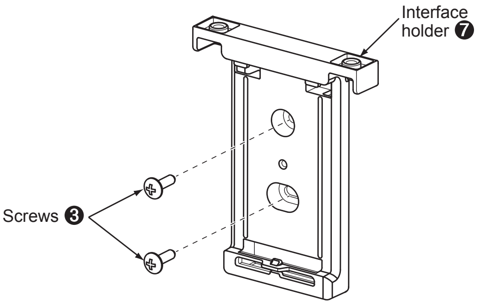
Functions	SW No.	Operating details
Interface status monitor		SW500-3: OFF ● LE501 (Orange): When blinking at an interval of about 1 second, the Interface unit is communicating normally with the room air conditioner. When the lamp is off, the Interface unit is not communicating normally with the room air conditioner. SW500-3: ON ● LE501 (Orange): When blinking at an interval of about 10 second, the Interface unit is communicating normally with the MA remote controller. When the lamp is off, the Interface unit is not communicating normally with the MA remote controller. * LE581 (Orange) displays the following status irrespective whether SW500-3 is on or off. ● When lit, power is supplied to the MA remote controller from the Interface unit ❶. When extinguished, power is not supplied.

6. Mounting the MA Interface Unit

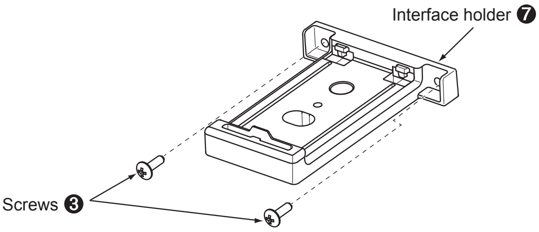
When the interface is mounted to the back-side dent of the indoor unit, it should not touch the piping and the drain hose of the indoor unit.
The Interface unit should be placed in a location where the connecting cable from the interface can reach an indoor unit.
Wiring for remote controller cable shall be apart (5 cm or more) from power source wiring so that it is not influenced by electric noise from power source wiring.
The device will not function properly if the connecting cable is extended, so the connecting cable should not be extended.
Mount the interface unit securely to a pillar or wall using 2 or more screws.

■ Using the interface holder ❼

1. Mount the Interface holder ❼ to a pillar or wall using 2 mounting screws ❸.

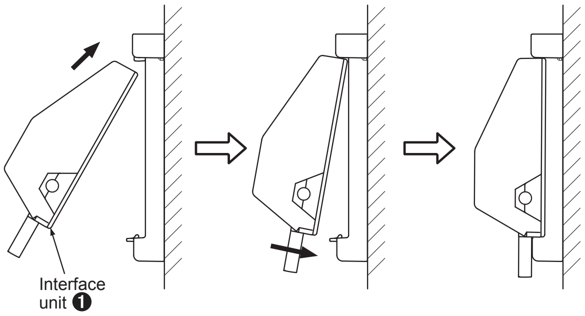


● You can mount the holder on the level.

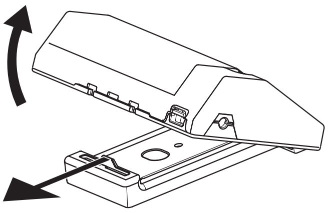


2. Insert the top of the interface unit ❶ into the top claws of the holder, then fix the unit in the holder by pushing it against the wall to click the bottom of the unit into the bottom claw of the holder.

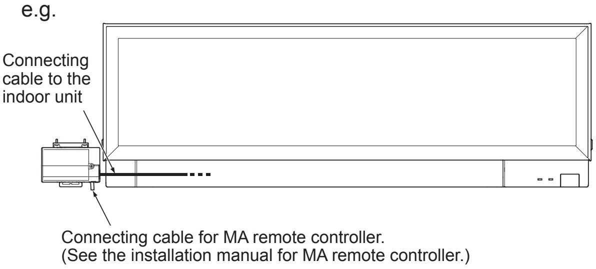
<Mounting the interface unit>



<Dismounting the interface unit>

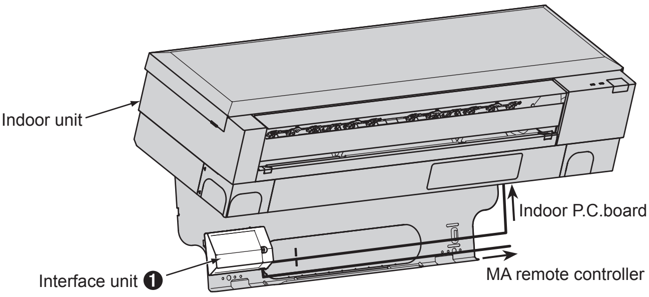


e.g.


Connecting cable to the indoor unit
Connecting cable for MA remote controller.
(See the installation manual for MA remote controller.)

Note
Mount the holder and interface unit beside the indoor unit so that a user cannot touch the connecting cable to the indoor unit.

■ Mounting the interface unit behind the indoor unit



Note
Mount the interface unit at the left side behind the indoor unit as shown in the figure above so that it does not come to contact with the piping and the drain hose of the indoor unit.
If the indoor unit is connected to the outdoor unit through the piping from the left side of the indoor unit, do not mount the interface unit behind the indoor unit.

7. Notes Regarding Use

The following control information should be thoroughly explained and provided to the users of this device. (Please provide these instructions to the user once the installation is complete.)

This Interface unit ❶ operates room air conditioners using the controls of a P series, but there are several limitations imposed as a result of the functional differences between room air conditioners and packaged air conditioners.

1. When operating the system using a MA Remote Controller these operations will not appear on the display of the wireless remote controller.
2. When original dehumidification mode is set with the remote controller attached to the room air conditioner, “Dry” is displayed because there is no mode corresponding to dehumidification on the MA remote controller.
3. Because the temperature range of the room air conditioners is broader than a MA Remote Controller when the room air conditioners is set to lower than 17 ºC (63 ºF) or higher than 30 ºC (87 ºF), the temperature display on the MA Remote Controller will show the minimum or maximum temperature that can be set. (For example, even if the room air conditioner is set to cool a room to 16 ºC (61 ºF), the display on a MA Remote controller may read “17 ºC (63 ºF)”).
4. Timer operations should be set using only the remote controller that came with the room air conditioners or the MA Remote Controller. If both are used to set the timer to the same time, the timer will not function properly.
5. A part of functions including the operation of horizontal air blow direction cannot be used from the MA remote controller.

8. Specifications

Input voltage	12 V ⎓
Power consumption	2 W
Input current	0.15 A

Wi-Fi Interface

MAC-587IF-E

Descriptions

This device, Wi-Fi interface, communicates the status information and controls the commands from the MELCloud by connected to indoor unit.

- Some indoor unit air conditioners are not compatible with the Wi-Fi interface. Make sure that the indoor is compatible with the Wi-Fi interface before attempting to install the Wi-Fi interface.

Applicable Models

- MSZ-FT25,35,50VG
- MSZ-AY15,20VGK(P)
- MSZ-AY25,35,42,50VGK(P)
- MSZ-AP60,71VG
- MSZ-EF18,22,25,35,42,50VGW,B,S
- MSZ-BT20,25,35,50VG
- MSZ-HR25,35,42,50,60,71VF
- MSZ-DW25,35,50VF
- MSY-TP35,50VF
- MFZ-KT25,35,50,60VG
- MFZ-KW25,35,50,60VG
- MLZ-KP25,35,50VG
- MLZ-KY20VG
- SLZ-M15,25,35,50,60FA2
- SEZ-M25,35,50,60,71DA(L)2
- SFZ-M25,35,50,60,71VA
- PLA-ZM35,50,60,71,100,125,140EA2
- PLA-M35,50,60,71,100,125,140EA2
- PLA-SM71,100,125,140EA2
- PEAD-M35,50,60,71,100,125,140JA(L)2
- PEAD-SM35,50,60JA(L)
- PEAD-SM71,100,125,140JA(L)2
- PEA-M200,250LA2
- PKA-M35,50LA(L)2
- PKA-M60,71,100KA(L)2
- PCA-M35,50,60,71,100,125,140,KA2
- PCA-M71HA2
- PSA-M71,100,125,140KA
- S-series models
- P-series models

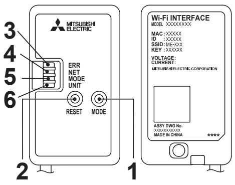
Specifications

Input Voltage	DC12.7 V (from indoor unit)
Power consumption	MAX 2 W
Size H×W×D (mm)	73.5×41.5×18.5
Weight (g)	95 (including cable)
Transmitter power level (MAX)	20 dBm @IEEE 802.11b
RF channel	1ch ~ 13ch (2412~2472 MHz)
Radio protocol	IEEE 802.11b/g/n (20)
Encryption	AES
Authentication	WPA2-PSK
Software Ver	XX.00
Length of cable (mm)	2,040

For Declaration of Conformity, please go to the website below.
http://www.mitsubishielectric.com/ldg/ibim/

Product Introduction

No.	Item	Description
1	MODE switch	It selects modes.
2	RESET switch	It resets the system and ALL settings.
3	ERR LED (Orange)	It shows the network error state.
4	NET LED (Green)	It shows the network state.
5	MODE LED (Orange)	It shows the Access point mode state.
6	UNIT LED (Green)	It shows the indoor unit state.

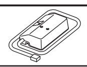
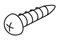
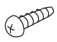
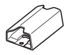


(1) MODE switch
- The MODE switch is used for selecting modes in configurations.

(2) RESET switch
- Hold down the RESET switch for 2 seconds to reboot the system.
- Hold down the RESET switch for 14 seconds to initialize the Wi-Fi interface to the factory default.

When the Wi-Fi interface is reset to the factory default, ALL the configuration information will be lost. Take great care in implementing this operation.

Parts

①	Interface unit (with connecting cable)		1	④	Mounting cord clamp		1
②	Fixing screw for ⑥ 3.5×16 mm		2	⑤	Fastener (for bundling the wires)		1
③	Fixing screw for ④ 4×16 mm		1	⑥	Holder		1
				⑦	Clip		1

How to Use / How to Install

1. Connecting the Wi-Fi interface

(For details on each system, see the relevant instruction manual.)

Turn off the breaker of the air conditioner or the ATW unit before connecting the cable to the indoor unit.
Run the cable inside the wall or above the ceiling when installing the Wi-Fi interface.
Refer to the installation manual of each model for connecting instructions and details.

(1) The connecting cable connected to a indoor unit (CN105) should be mounted at the indoor unit or its vicinity.

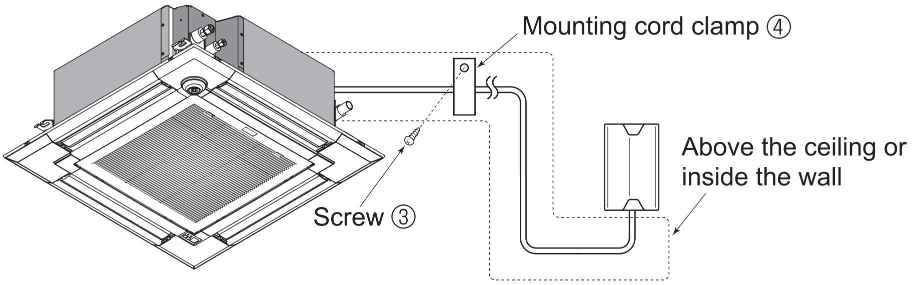
When mounting the Interface unit ① inside an indoor unit, refer to the installation manual of the indoor unit. Do not mount the Interface unit ① inside the indoor unit, if not mentioned.

<Air conditioner>

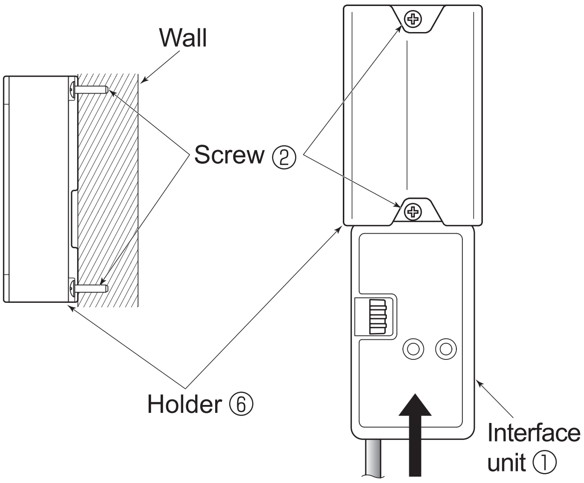
When mounting on the wall (Except when connecting to the wall mounted indoor unit)

The cable side of the interface unit ① should face downward.

- 4 way cassette indoor unit

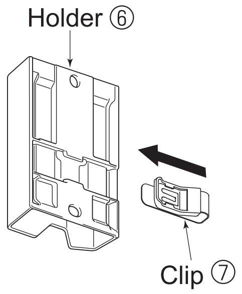


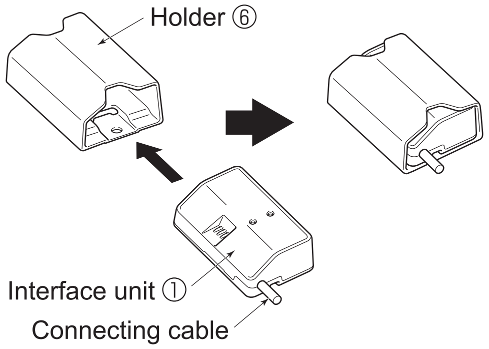
- Fix the holder ⑥ on the wall in the orientation shown in the figure below with the screw ②.
  Note: Tighten the upper and then the lower screw.
- Insert the interface unit ① into the holder ⑥ until it clicks.



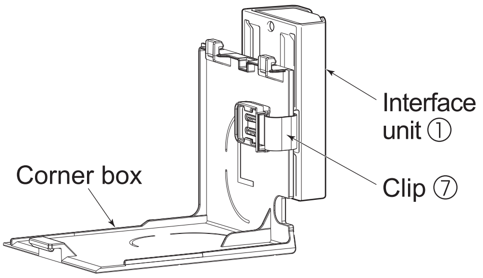
When mounting on the outer side of indoor unit (Wall mounted indoor unit)

- Insert the clip ⑦ into the holder ⑥ until it clicks.
- Insert the interface unit ① into the holder ⑥ until it clicks.



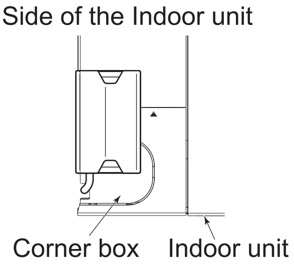


- Slip the clip ⑦ over the edge of corner box to fix the interface unit ①.
  Note: Mount the interface unit ① on the side of the indoor unit.

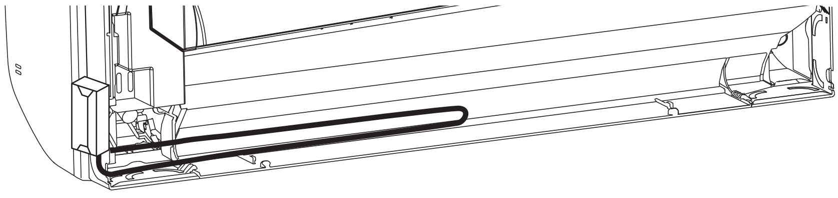


Example of mounting on the left side of indoor unit

Note: Interface unit ① can also be mounted on the right side of the indoor unit.



- To check the LED indication after setup, remove the interface unit ① from the holder ⑥.

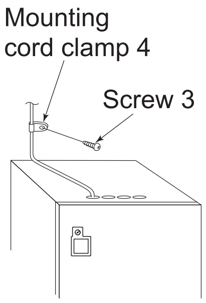


Run the connecting cable in the space on the back of the unit as shown in the above figure.
Tuck cabling away and secure it.
Note: Make sure that the connecting cable will not get caught on or between the installation plate and the wall, or between the indoor unit and the installation plate.
Failure to do so may cause damage to the connecting cable resulting in communication problems.
Make sure that the connecting cable will not come out from the indoor unit.

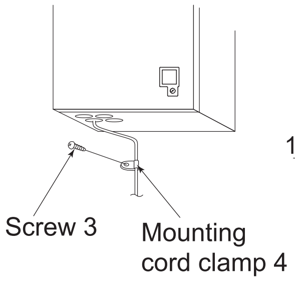
<ATW indoor unit>

(Unit: mm)

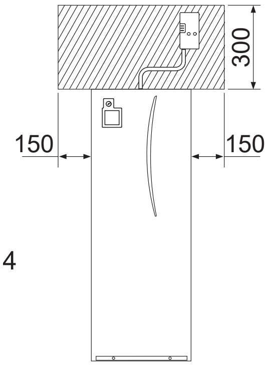
Cylinder unit



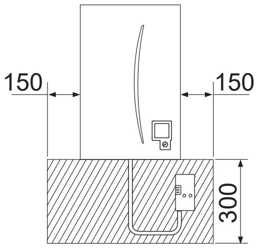
Hydrobox



Connecting to Cylinder unit



Connecting to Hydrobox



Mount in the same procedure for air conditioner. Please refer to “When mounting on the wall” on 1. Connecting the Wi-Fi interface (1) ,"Air conditioner".

(2) Turn on the breaker of the air conditioner or the ATW unit and check that the LED indication of the Wi-Fi interface enters the initial state shown on right.

Initial State

ERR	OFF
NET	OFF
MODE	OFF
UNIT	Flashing

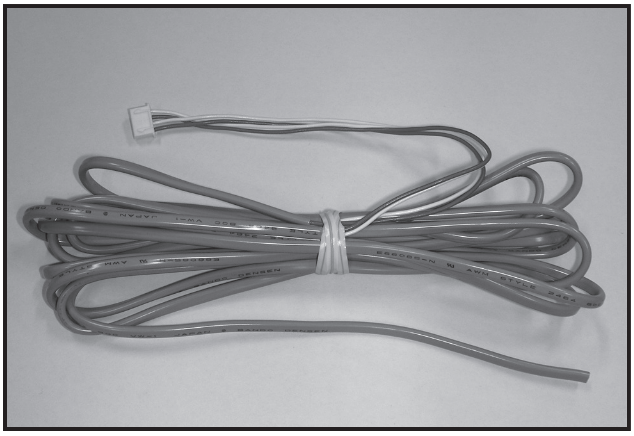
Setting up
Refer to SETUP QUICK REFERENCE GUIDE (Included in same package) and SETUP MANUAL to connect to a Router for setting up.
For SETUP MANUAL, please go to the website below.
http://www.mitsubishielectric.com/ldg/ibim/

For MELCloud User Manual, please go to the website below.
https://www.melcloud.com/Support

Connector Cable

MAC-1702/1710RA-E

Photo



Descriptions

This product is an adapter which inputs the incoming signals from an open/close switch to the air conditioner.

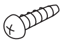
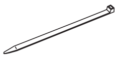
Applicable Models

- MSZ-RW25,35,50VG
- MSZ-LN18,25,35,50,60VG2W,V,B,R
- MSZ-FT25,35,50VG
- MSZ-AY15,20VGK(P)
- MSZ-AY25,35,42,50VGK(P)
- MSZ-AP60,71VG
- MSZ-EF18,22,25,35,42,50VGW,B,S
- MSZ-BT20,25,35,50VG
- MSZ-HR25,35,42,50,60,71VF
- MSZ-DW25,35,50VF
- MSY-TP35,50VF
- MFZ-KT25,35,50,60VG
- MFZ-KW25,35,50,60VG
- MLZ-KP25,35,50VG
- MLZ-KY20VG

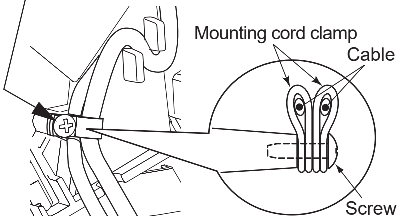
Specifications

Model name		MAC-1702RA-E	MAC-1710RA-E
Size	Length	2 m	10 m
	Diameter	4.48 mm x 3.09 mm	4.48 mm x 3.09 mm
Material	Cable core	Tinned annealed copper wire	Tinned annealed copper wire
	Insulation	Heat-resistant PVC	Heat-resistant PVC
	Sheath	Heat-resistant PVC	Heat-resistant PVC
Weight		72 g	360 g
Standards	Standards	UL2464	UL2464
	Name	2464 2CFB #23	2464 2CFB #23

Accessory

	Part name	Illustration	Q' ty
①	Mounting cord clamp ※		2
②	Screw for mounting 4×16		1
③	Fastener (for bundling the wires)		1

※ Use one mounting cord clamp per cable.

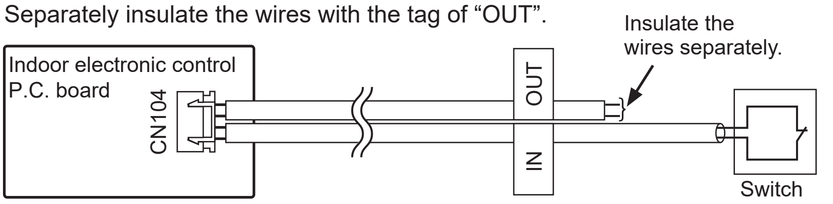


Fasten the clamps together with a screw.

How to Use / How to Install

Card key/Window connection with the open/close switch

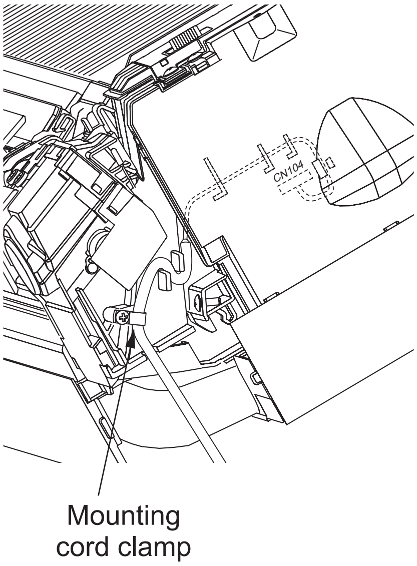
1. How to connect the open/close switch
   - Connect the connector to CN104 on the indoor electronic control P.C. board.
   - Connect the electrical wires with the tag of “IN” to the switch.
   - Separately insulate the wires with the tag of “OUT”.


Insulate the wires separately.
Indoor electronic control P.C. board
CN104
OUT
IN
Switch
Usable at DC 5V, 0.2mA or less

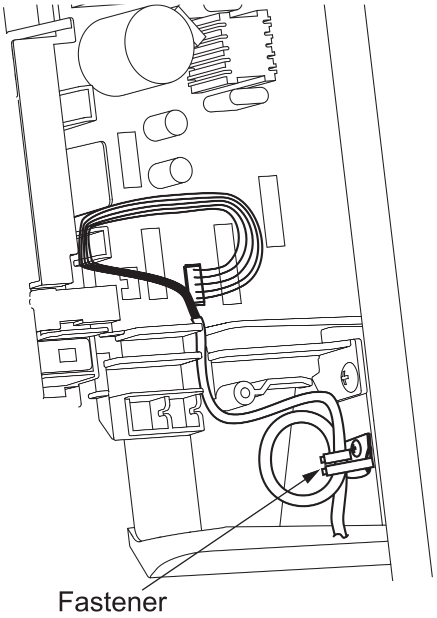
2. Operation details
   - Closing the switch stops operation of the air conditioner.
     A remote controller is enabled even the switch is close. To disable the remote controller, cut JR88 on the indoor electronic control P.C. board.
   - When the switch opens, the ON/OFF operation from the remote controller is enabled.

Connecting an connector cable to the air conditioner

Models for which the mounting cord clamp is used

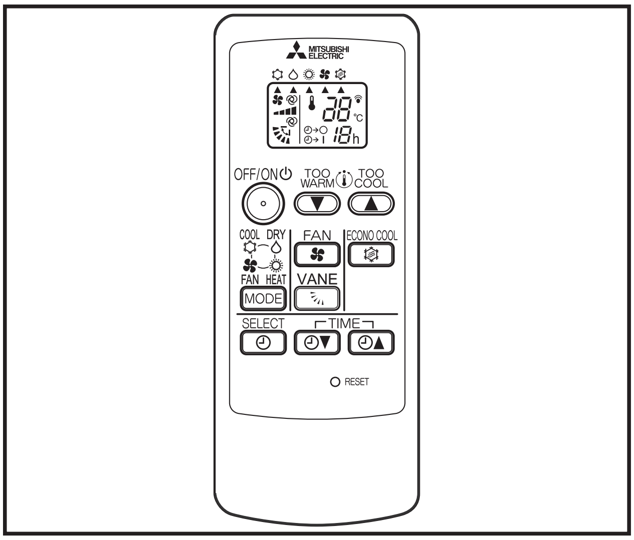


Models for which the fastener is used



Wireless Remote Controller MAC-SL100M-E

Figure



Descriptions

Wireless remote controller for M series.

Applicable Models

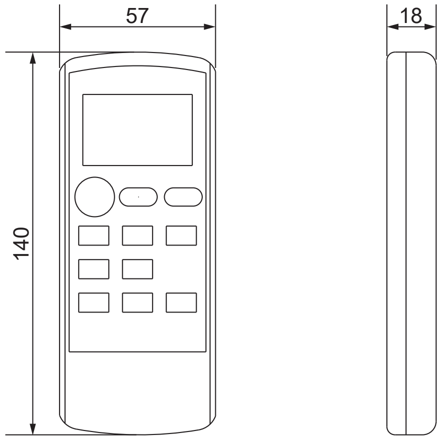
- MSY-TP35VF
- MSY-TP50VF

Specifications

Power	DC 3V (AAA battery 2pcs)
Usage environment	0 ~ 40°C

Dimensions

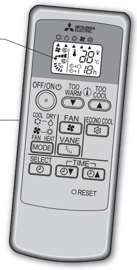
Unit : mm



How to Use / How to Install

PREPARATION BEFORE OPERATION

Remote controller

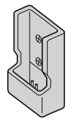


Operation display section

Signal transmitting section
Distance of signal : About 6 m
Beep(s) is (are) heard from the indoor unit when the signal is received.

Remote controller holder

- Install the remote controller holder in a place where the signal can be received by the indoor unit.

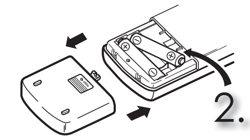


Note:

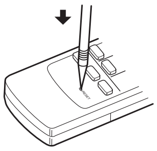
Selecting installation location:
- Where it is easy to operate and easily visible.
- Where children cannot touch it.
- Select a position about 1.2 m above the floor and check that signals from the remote controller are surely received by the indoor unit from that position (‘beep’ or ‘beep beep’ receiving tone sounds). After that, attach remote controller holder to a pillar or wall and install wireless remote controller.
- In rooms where inverter type fluorescent lamps are used, the signal from the wireless remote controller may not be received.

Before operation:
Insert the power supply plug into the power outlet and/or turn the breaker on.

Installing the remote controller batteries



1. Remove the back lid.
2. Insert the negative pole of AAA alkaline batteries first.
3. Install the back lid.

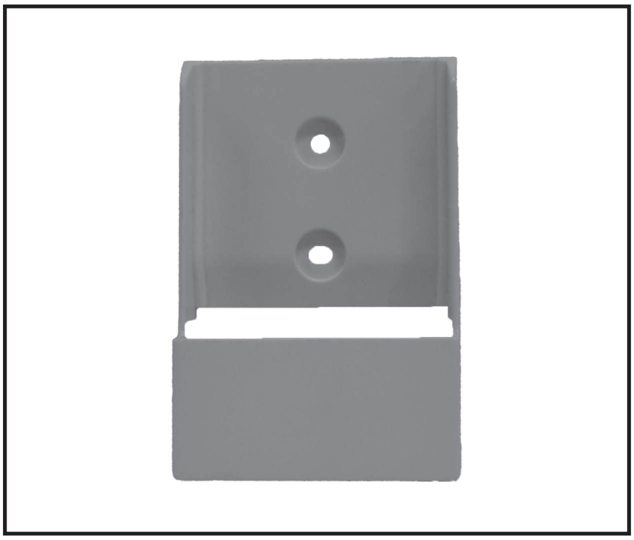


4. Press RESET.

Note:
- Make sure the polarity of the batteries is correct.
- Do not use manganese batteries and leaking batteries. The remote controller could malfunction.
- Do not use rechargeable batteries.
- Replace all batteries with new ones of the same type.
- Batteries can be used for approximately 1 year. However, batteries with ex-pired shelf lives last shorter.
- Press RESET gently using a thin instrument. If the RESET button is not pressed, the remote controller may not operate correctly.

Controller Holder for Wireless remote controller MAC-286RH-E

Photo



Descriptions

- The controller holder allows you to place the remote controller on the wall.
- It helps to prevent the remote controller, from being misplaced.

Applicable Models

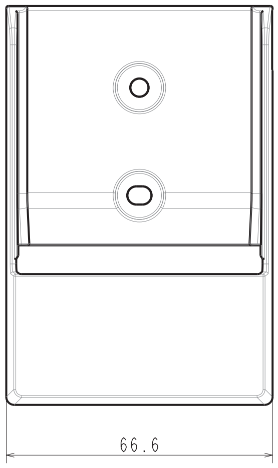
- ■ MSZ-LN18VG2W
- ■ MSZ-LN18VG2V/B/R
- ■ MSZ-LN25/35/50VG2W/V/B/R
- ■ MSZ-LN60VG2W/V/B/R

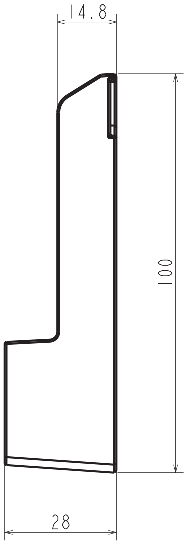
Specifications

Material	Polystyrene
Color	White

Dimensions

Unit : mm





How to Use / How to Install

Installation area

1) Installation area

- Area in which the remote controller is not exposed to direct sunshine.
- Area in which there is no nearby heating source.
- Area in which the remote controller is not exposed to cold (or hot) winds.
- Area in which the remote controller can be operated easily.
- Area in which the remote controller is beyond the reach of children.

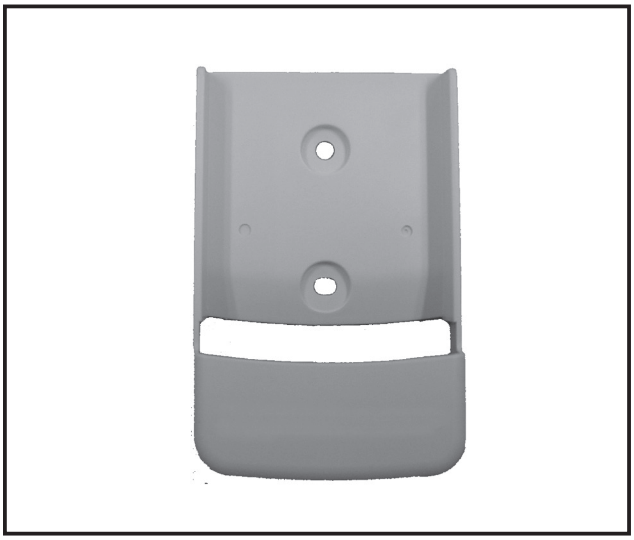
2) Installation method

① Attach the remote controller holder to the desired location using two tapping screws.
② Place the lower end of the controller into the holder.
Ⓐ Remote controller
Ⓑ Wall
Ⓒ Display panel
Ⓓ Receiver

- The signal can travel up to approximately 7 meters (in a straight line) within 45 degrees to both right and left of the center line of the receiver.

Controller Holder for Wireless remote controller **MAC-1200RC-E**

Photo



Descriptions

- The controller holder allows you to place the remote controller on the wall.
- It helps to prevent the remote controller, from being misplaced.

Applicable Models

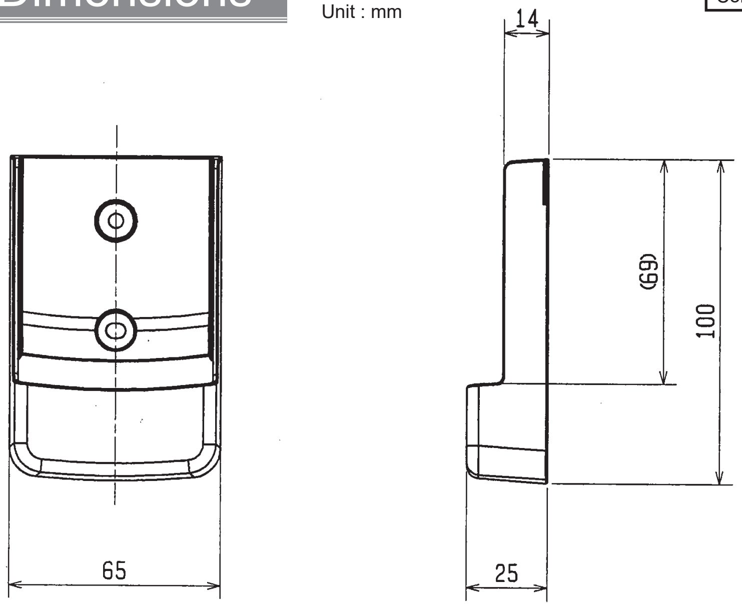
- ■ MSZ-HR25VF
- ■ MSZ-HR35VF
- ■ MSZ-HR42VF
- ■ MSZ-HR50VF
- ■ MSZ-HR60VF
- ■ MSZ-HR71VF
- ■ MSZ-DW25VF
- ■ MSZ-DW35VF
- ■ MSZ-DW50VF

Specifications

Material	Polystyrene
Color	White

Dimensions

Unit : mm



How to Use / How to Install

Installation area

1) Installation area

- Area in which the remote controller is not exposed to direct sunshine.
- Area in which there is no nearby heating source.
- Area in which the remote controller is not exposed to cold (or hot) winds.
- Area in which the remote controller can be operated easily.
- Area in which the remote controller is beyond the reach of children.

2) Installation method

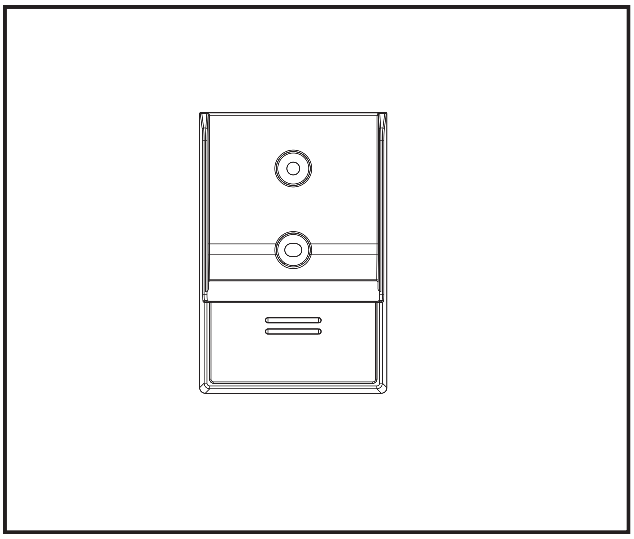
① Attach the remote controller holder to the desired location using two tapping screws.
② Place the lower end of the controller into the holder.

Ⓐ Remote controller
Ⓑ Wall
Ⓒ Display panel
Ⓓ Receiver

- The signal can travel up to approximately 7 meters (in a straight line) within 45 degrees to both right and left of the center line of the receiver.

Controller Holder for Wireless remote controller **MAC-1300RC-E**

Figure



Descriptions

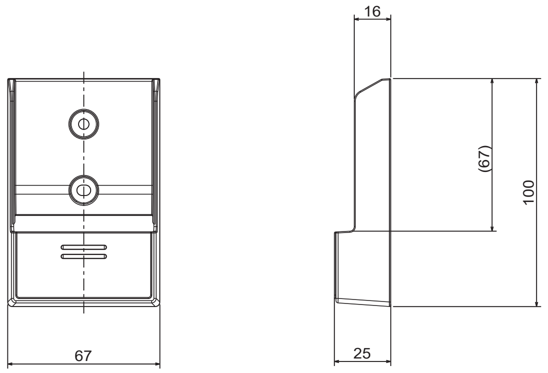
- The controller holder allows you to place the remote controller on the wall.
- It helps to prevent the remote controller, from being misplaced.

Applicable Models

- ■ MSZ-RW25VG
- ■ MSZ-RW35VG
- ■ MSZ-RW50VG
- ■ MSZ-LN18VG2W
- ■ MSZ-LN25VG2W
- ■ MSZ-LN35VG2W
- ■ MSZ-LN50VG2W
- ■ MSZ-LN60VG2W
- ■ MSZ-FT25VG
- ■ MSZ-FT35VG
- ■ MSZ-FT50VG
- ■ MSZ-AY15VGK(P)
- ■ MSZ-AY20VGK(P)
- ■ MSZ-AY25VGK(P)
- ■ MSZ-AY35VGK(P)
- ■ MSZ-AY42VGK(P)
- ■ MSZ-AY50VGK(P)
- ■ MSZ-AP60VG
- ■ MSZ-AP71VG
- ■ MSZ-EF18VGW,B,S
- ■ MSZ-EF22VGW,B,S
- ■ MSZ-EF25VGW,B,S
- ■ MSZ-EF35VGW,B,S
- ■ MSZ-EF42VGW,B,S
- ■ MSZ-EF50VGW,B,S
- ■ MFZ-KT25VG
- ■ MFZ-KT35VG
- ■ MFZ-KT50VG
- ■ MFZ-KT60VG
- ■ MFZ-KW25VG
- ■ MFZ-KW35VG
- ■ MFZ-KW50VG
- ■ MFZ-KW60VG
- ■ MLZ-KP25VG
- ■ MLZ-KP35VG
- ■ MLZ-KP50VG
- ■ MLZ-KY20VG

Dimensions

Unit : mm



Specifications

Material	Polystyrene
Color	White

How to Use / How to Install

Installation area

1) Installation area

- Area in which the remote controller is not exposed to direct sunshine.
- Area in which there is no nearby heating source.
- Area in which the remote controller is not exposed to cold (or hot) winds.
- Area in which the remote controller can be operated easily.
- Area in which the remote controller is beyond the reach of children.

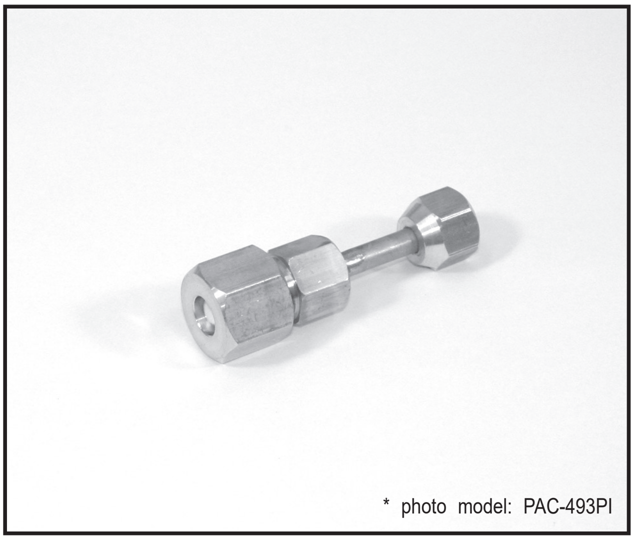
2) Installation method

① Attach the remote controller holder to the desired location using two tapping screws.
② Place the lower end of the controller into the holder.
- Ⓐ Remote controller
- Ⓑ Wall
- Ⓒ Display panel
- Ⓓ Receiver

- The signal can travel up to approximately 7 meters (in a straight line) within 45 degrees to both right and left of the center line of the receiver.

Joint Pipe Unit ϕ9.52 → Pipe ϕ12.7 **MAC-A454JP-E**

Photo


* photo model: PAC-493PI

Descriptions

A part to connect refrigerant pipes of the different diameter. (Unit ϕ9.52 → ϕ12.7)

Applicable Models

- ■ MXZ-2F53VF4
- ■ MXZ-2F53VFH4
- ■ MXZ-2F53VFHZ2
- ■ MXZ-3F54VF4
- ■ MXZ-3F68VF4
- ■ MXZ-4F72VF4
- ■ MXZ-4F80VF4
- ■ MXZ-4F83VF2
- ■ MXZ-4F83VFHZ2
- ■ MXZ-5F102VF2
- ■ MXZ-6F120VF2
- ■ PXZ-4F75VG
- ■ PXZ-5F85VG

<Branch Box>

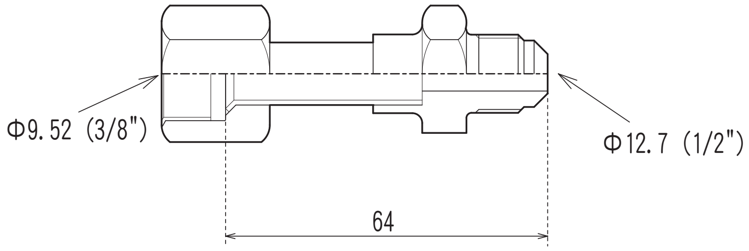
- ■ PAC-MK34BC (Flare)
- ■ PAC-MK54BC (Flare)

Specifications

Pipe diameter	Φ 9.52
Pipe material	C 1220T - OL

Dimensions

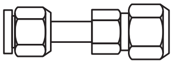
Unit: mm (inch)



How to Use / How to Install

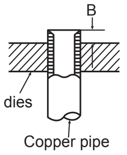
Make sure that you have all the following parts, in addition to this manual in this box:

Joint Pipe
PAC-SG76RJ-E (unit side:ø9.52 diameter, onsite pipe side:ø15.88 diameter)
PAC-493PI (unit side:ø6.32 diameter, onsite pipe side:ø9.52 diameter)
MAC-A454JP-E (unit side:ø9.52 diameter, onsite pipe side:ø12.7 diameter)
MAC-A455JP-E (unit side:ø12.7 diameter, onsite pipe side:ø9.52 diameter)
MAC-A456JP-E (unit side:ø12.7 diameter, onsite pipe side:ø15.88 diameter)

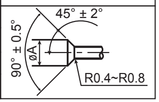
Unit side  Onsite piping side

Installation procedure
(carefully read the following before installing.)
This optional part is used to connect indoor/outdoor unit to onsite pipes of different diameters.
※When installing this optional part, be sure to read "Refrigerant pipe connection" in the installation manual attached to outdoor unit.

1) Apply flare processing to onsite pipes to adapt to R410A, according to the table on the right.Use optional accessory flare nut at this time.
※Check the installation manual attached to the outdoor unit for advisability on whether or not onsite (existing) pipes can be used.

 B dies Copper pipe	Pipe diameter (mm)	B size (mm)	
		R410A flare tool	R22/R407C flare tool
		Clutch type	
	ø 6.35(1/4")	0 - 0.5	1.0 - 1.5
	ø 9.52(3/8")	0 - 0.5	1.0 - 1.5
	ø12.70(1/2")	0 - 0.5	1.0 - 1.5
	ø15.88(5/8")	0 - 0.5	1.0 - 1.5

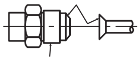
※When flare processing for refrigerant R410A is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

Outer diameter of copper pipe (mm)	Processing size of flare section (mm)	Flare shape
ø6.35	8.7 - 9.1	 45° ± 2° 90° ± 0.5° øA R0.4~R0.8
ø9.52	12.8 - 13.2	
ø12.70	16.2 - 16.6	
ø15.88	19.3 - 19.7	

2) Remove caps (both ends) for protection against mixing of foreign materials from optional part, and thinly apply refrigerat or oil (locally procured) on flare surface.

Refrigerator oil application point

Apply refrigerator oil to entire circumference of flare sheet surface.



※ Do not apply to thread section.
(If applied to threads, flare nut can easily be loosened.)

3) Securely tighten flare nut using torque wrench according to the table on the right.

〈Proper tightening torque using torque wrench〉

Outer diameter of copper pipe (mm)	Tightening torque N•m (kgf•cm)
ø6.35	14 - 18(140 - 180)
ø9.52	34 - 42(340 - 420)
ø12.70	49 - 61(490 - 610)
ø15.88	68 - 82(680 - 820)

4) After refrigerant pipe is connected, be sure to perform gas leakage inspection for onsite connection pipes (including this optional part) and indoor/outdoor unit.

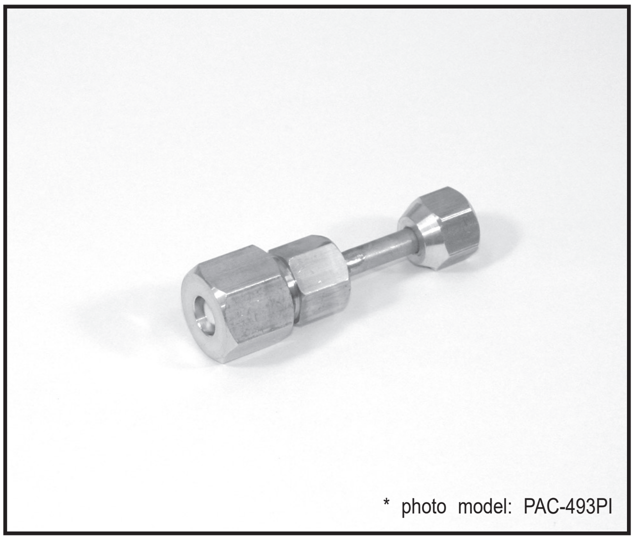
5) Heat insulation is necessary for this optional part: Wrap heat insulator (locally procured) around the onsite pipes and also the optional part (for dewdrop dripping prevention).

6) Perform test run according to the installation manual of the unit, making sure to also perform operation check.

Joint Pipe Unit ϕ12.7 → Pipe ϕ9.52

MAC-A455JP-E

Photo


* photo model: PAC-493PI

Descriptions

A part to connect the refrigerant pipes of the different diameter. (Unit ϕ12.7 → ϕ9.52)

Applicable Models

- SUZ-M35VA
- MXZ-4F72VF4
- MXZ-4F80VF4
- MXZ-4F83VF2
- MXZ-4F83VFHZ2
- MXZ-5F102VF2
- MXZ-6F120VF2
- PXZ-4F75VG
- PXZ-5F85VG

<Branch Box>

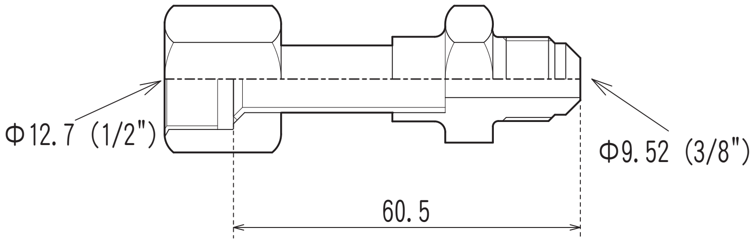
- PAC-MK34BC (Flare)
- PAC-MK54BC (Flare)

Specifications

Pipe diameter	Φ 12.7
Pipe material	C 1220T - OL

Dimensions

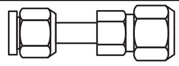
Unit: mm (inch)



How to Use / How to Install

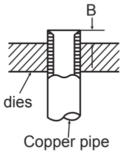
Make sure that you have all the following parts, in addition to this manual in this box:

Joint Pipe
PAC-SG76RJ-E (unit side:ø9.52 diameter, onsite pipe side:ø15.88 diameter)
PAC-493PI (unit side:ø6.32 diameter, onsite pipe side:ø9.52 diameter)
MAC-A454JP-E (unit side:ø9.52 diameter, onsite pipe side:ø12.7 diameter)
MAC-A455JP-E (unit side:ø12.7 diameter, onsite pipe side:ø9.52 diameter)
MAC-A456JP-E (unit side:ø12.7 diameter, onsite pipe side:ø15.88 diameter)

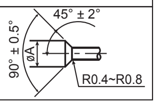
Unit side  Onsite piping side

Installation procedure
(carefully read the following before installing.)
This optional part is used to connect indoor/outdoor unit to onsite pipes of different diameters.
※When installing this optional part, be sure to read "Refrigerant pipe connection" in the installation manual attached to outdoor unit.

1) Apply flare processing to onsite pipes to adapt to R410A, according to the table on the right.Use optional accessory flare nut at this time.
※Check the installation manual attached to the outdoor unit for advisability on whether or not onsite (existing) pipes can be used.

	Pipe diameter (mm)	B size (mm)	
		R410A flare tool	R22/R407C flare tool
		Clutch type	
	ø 6.35(1/4")	0 - 0.5	1.0 - 1.5
	ø 9.52(3/8")	0 - 0.5	1.0 - 1.5
	ø12.70(1/2")	0 - 0.5	1.0 - 1.5
	ø15.88(5/8")	0 - 0.5	1.0 - 1.5

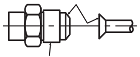
※When flare processing for refrigerant R410A is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

Outer diameter of copper pipe (mm)	Processing size of flare section (mm)	Flare shape
ø6.35	8.7 - 9.1	
ø9.52	12.8 - 13.2	
ø12.70	16.2 - 16.6	
ø15.88	19.3 - 19.7	

2) Remove caps (both ends) for protection against mixing of foreign materials from optional part, and thinly apply refrigerat or oil (locally procured) on flare surface.

Refrigerator oil application point

Apply refrigerator oil to entire circumference of flare sheet surface.



※ Do not apply to thread section.
(If applied to threads, flare nut can easily be loosened.)

3) Securely tighten flare nut using torque wrench according to the table on the right.

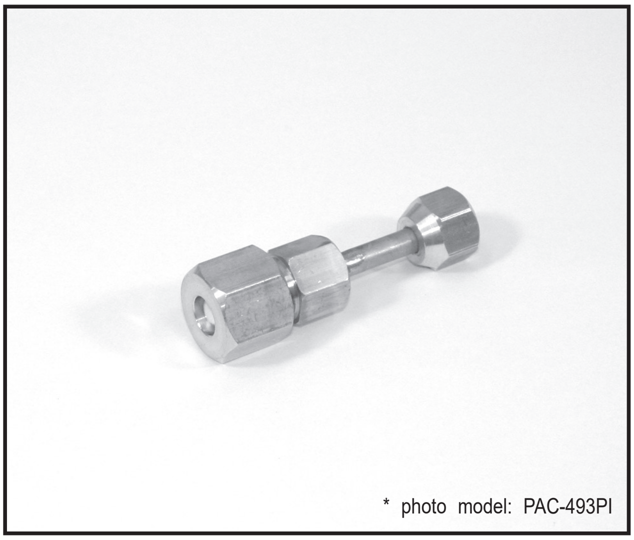
〈Proper tightening torque using torque wrench〉

Outer diameter of copper pipe (mm)	Tightening torque N•m (kgf•cm)
ø6.35	14 - 18(140 - 180)
ø9.52	34 - 42(340 - 420)
ø12.70	49 - 61(490 - 610)
ø15.88	68 - 82(680 - 820)

4) After refrigerant pipe is connected, be sure to perform gas leakage inspection for onsite connection pipes (including this optional part) and indoor/outdoor unit.
5) Heat insulation is necessary for this optional part: Wrap heat insulator (locally procured) around the onsite pipes and also the optional part (for dewdrop dripping prevention).
6) Perform test run according to the installation manual of the unit, making sure to also perform operation check.

Joint Pipe Unit ϕ12.7 → Pipe ϕ15.88 **MAC-A456JP-E**

Photo



* photo model: PAC-493PI

Descriptions

A part to connect refrigerant pipes of the different diameter. (Unit ϕ12.7 → ϕ15.88)

Applicable Models

- PXZ-4F75VG
- PXZ-5F85VG

<Branch Box>

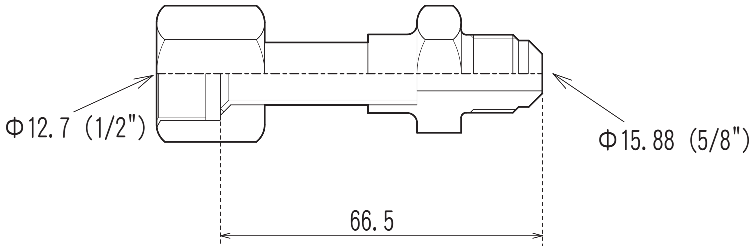
- PAC-MK34BC (Flare)
- PAC-MK54BC (Flare)
- MXZ-4F72VF4
- MXZ-4F80VF4
- MXZ-4F83VF2
- MXZ-4F83VFHZ2
- MXZ-5F102VF2
- MXZ-6F120VF2

Specifications

Pipe diameter	Φ 12.7
Pipe material	C 1220T - OL

Dimensions

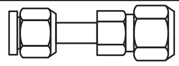
Unit: mm (inch)



How to Use / How to Install

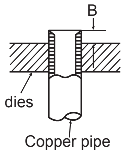
Make sure that you have all the following parts, in addition to this manual in this box:

Joint Pipe
PAC-SG76RJ-E (unit side:ø9.52 diameter, onsite pipe side:ø15.88 diameter)
PAC-493PI (unit side:ø6.32 diameter, onsite pipe side:ø9.52 diameter)
MAC-A454JP-E (unit side:ø9.52 diameter, onsite pipe side:ø12.7 diameter)
MAC-A455JP-E (unit side:ø12.7 diameter, onsite pipe side:ø9.52 diameter)
MAC-A456JP-E (unit side:ø12.7 diameter, onsite pipe side:ø15.88 diameter)

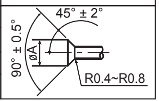
Unit side  Onsite piping side

Installation procedure
(carefully read the following before installing.)
This optional part is used to connect indoor/outdoor unit to onsite pipes of different diameters.
※When installing this optional part, be sure to read "Refrigerant pipe connection" in the installation manual attached to outdoor unit.

1)Apply flare processing to onsite pipes to adapt to R410A, according to the table on the right.Use optional accessory flare nut at this time.
※Check the installation manual attached to the outdoor unit for advisability on whether or not onsite (existing) pipes can be used.

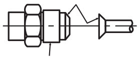
	Pipe diameter (mm)	B size (mm)	
		R410A flare tool	R22/R407C flare tool
		Clutch type	
 B dies Copper pipe	ø 6.35(1/4")	0 - 0.5	1.0 - 1.5
	ø 9.52(3/8")	0 - 0.5	1.0 - 1.5
	ø12.70(1/2")	0 - 0.5	1.0 - 1.5
	ø15.88(5/8")	0 - 0.5	1.0 - 1.5

※When flare processing for refrigerant R410A is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

Outer diameter of copper pipe (mm)	Processing size of flare section (mm)	Flare shape
ø6.35	8.7 - 9.1	 45° ± 2° 90° ± 0.5° øA R0.4~R0.8
ø9.52	12.8 - 13.2	
ø12.70	16.2 - 16.6	
ø15.88	19.3 - 19.7	

2) Remove caps (both ends) for protection against mixing of foreign materials from optional part, and thinly apply refrigerat or oil (locally procured) on flare surface.

Refrigerator oil application point
Apply refrigerator oil to entire circumference of flare sheet surface.



※ Do not apply to thread section.
(If applied to threads, flare nut can easily be loosened.)

3) Securely tighten flare nut using torque wrench according to the table on the right.

〈Proper tightening torque using torque wrench〉

Outer diameter of copper pipe (mm)	Tightening torque N•m (kgf•cm)
ø6.35	14 - 18(140 - 180)
ø9.52	34 - 42(340 - 420)
ø12.70	49 - 61(490 - 610)
ø15.88	68 - 82(680 - 820)

4) After refrigerant pipe is connected, be sure to perform gas leakage inspection for onsite connection pipes (including this optional part) and indoor/outdoor unit.

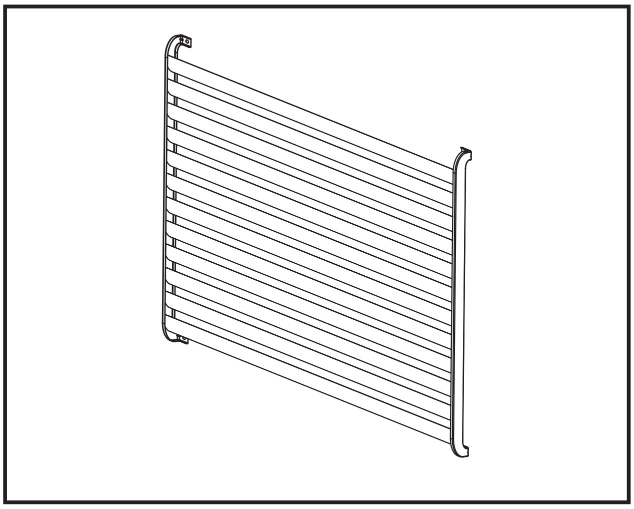
5) Heat insulation is necessary for this optional part: Wrap heat insulator (locally procured) around the onsite pipes and also the optional part (for dewdrop dripping prevention).

6) Perform test run according to the installation manual of the unit, making sure to also perform operation check.

Air Outlet Guide

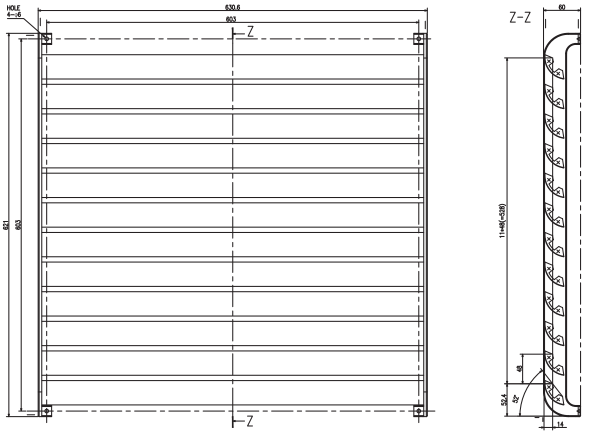
MAC-890SG-E

Figure



Dimensions

Unit: mm



Descriptions

The air outlet guide changes the direction of air from the outdoor unit and prevents short cycling.

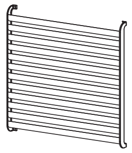
Applicable Models

- MUZ-RW50VGHZ
- MUZ-LN50VGHZ2
- MUZ-LN60VG2
- MUZ-AP71VG2

Specifications

Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Surface treatment	Polyester powder coating
	Material	Electro-galvanized steel sheet
Weight		2.45 kg

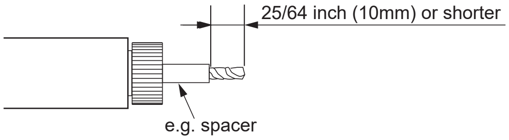
Components

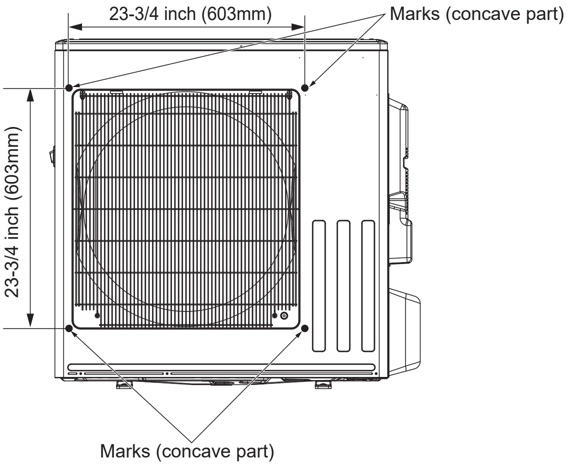
① Air outlet guide ×1	② Screw M5 x 10 × 4
	

How to Use / How to Install

1. Preparations

- Drill 4 holes through the marks on the front panel indicated in the right figure using a 5/32 inch (ø4.0mm) bit.
- Make sure that the drill bit is no more than 25/64 inch (10mm) long, as shown below. If it is too long, it may scratch the internal parts of the outdoor unit.

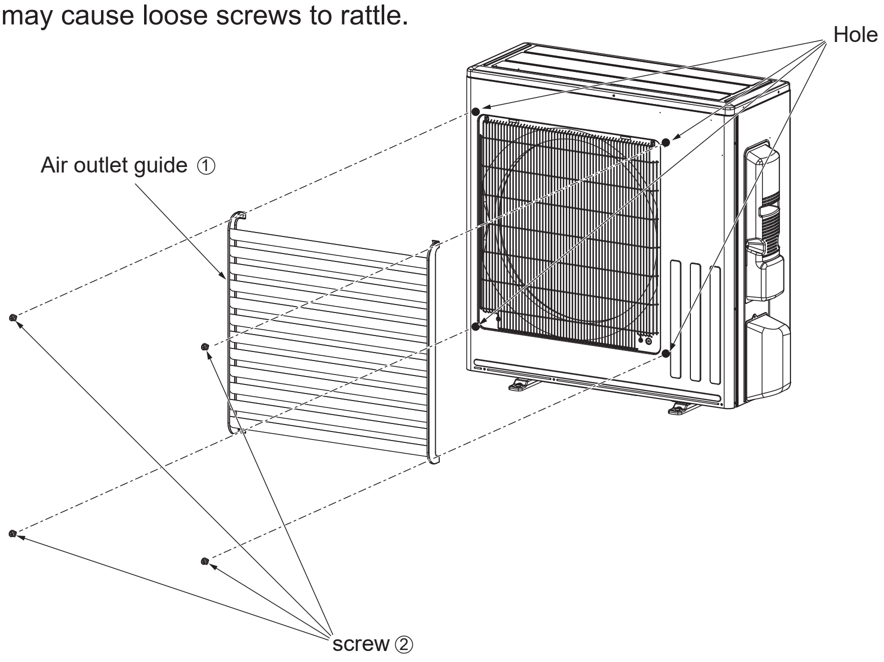


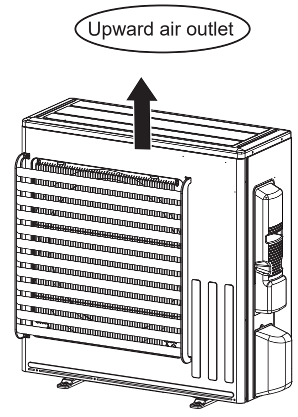


2. Attaching the air outlet guide

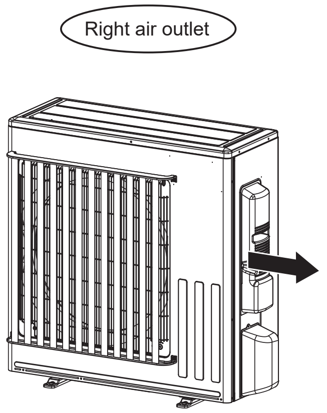
- Attach the air outlet guide 1 to the outdoor unit with M5x10 screws (4 screws) 2 .
  * Tightening torque: 2.5-2.7 N/m
- The air outlet guide 1 can be attached in the upward, right or left air outlet direction.

Note: Fully tighten the screws.
The vibration may cause loose screws to rattle.

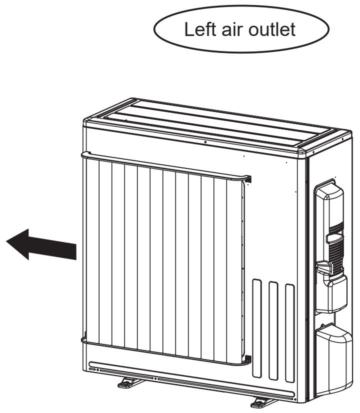




Air blows upward



Air blows right



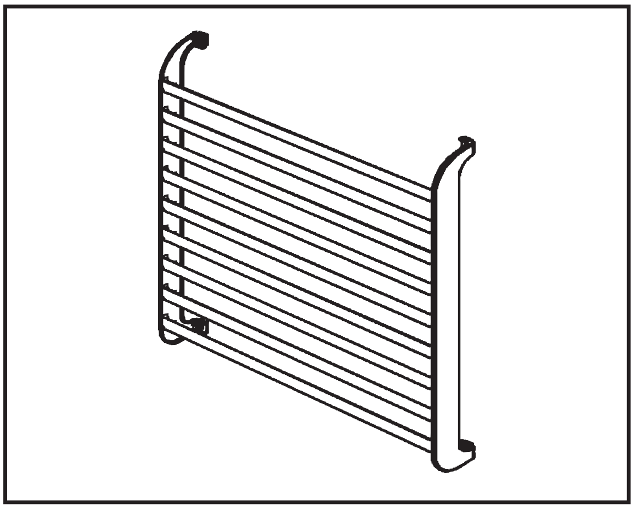
Air blows left

Note: Do not attach it in the downward direction.
This will cause short circuiting.

Air Outlet Guide

MAC-881SG

Figure



Descriptions

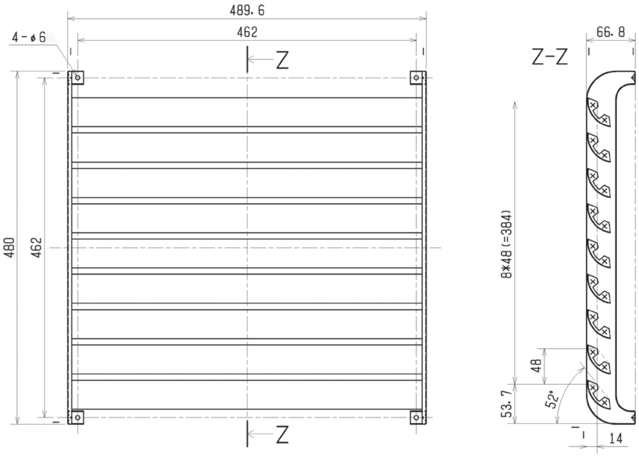
The air outlet guide changes the direction of air from the outdoor unit and prevents short cycling.

Applicable Models

- ■ MUZ-LN25VG2
- ■ MUZ-LN25VGHZ2
- ■ MUZ-LN35VG2
- ■ MUZ-LN35VGHZ2
- ■ MUZ-FT25VGHZ
- ■ MSZ-AY20VG
- ■ MUZ-AY25VG(H)
- ■ MUZ-AY35VG(H)
- ■ MUZ-AY42VG(H)
- ■ MUZ-EF25VG
- ■ MUZ-EF25VGH
- ■ MUZ-EF35VG
- ■ MUZ-EF35VGH
- ■ MUZ-EF42VG
- ■ MUZ-BT50VG
- ■ MUZ-HR42VF
- ■ MUZ-HR50VF
- ■ MUZ-DW50VF
- ■ MUFZ-KW25VGHZ
- ■ MUFZ-KW35VGHZ
- ■ SUZ-M25VA
- ■ SUZ-M35VA
- ■ MXZ-2F33VF4
- ■ MXZ-2F42VF4
- ■ MXZ-2F53VF4
- ■ MXZ-2F53VFH4
- ■ MXZ-2HA40VF2
- ■ MXZ-2HA50VF2

Dimensions

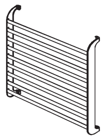
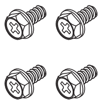
Unit: mm



Specifications

Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Surface treatment	Polyester powder coating
	Material	Electro-galvanized steel sheet
Weight		1.6 kg

Components

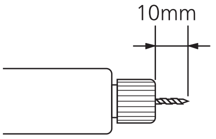
① Air outlet guide ×1	② Screw M5 x 10 × 4
	

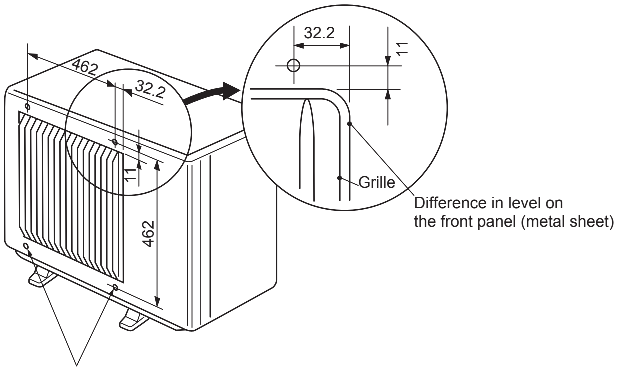
How to Use / How to Install

1. Preparations

For 800(W) x 550(H) x 285(D) outdoor units

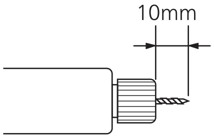
- Remove the front panel from the outdoor unit.
- Drill Ø4.0 mm screw holes in the front panel at the 4 locations shown below.
- The length of the drill bit should be about 10 mm as shown in the figure below. If the drill bit is too long, it may damage the parts inside the outdoor unit.

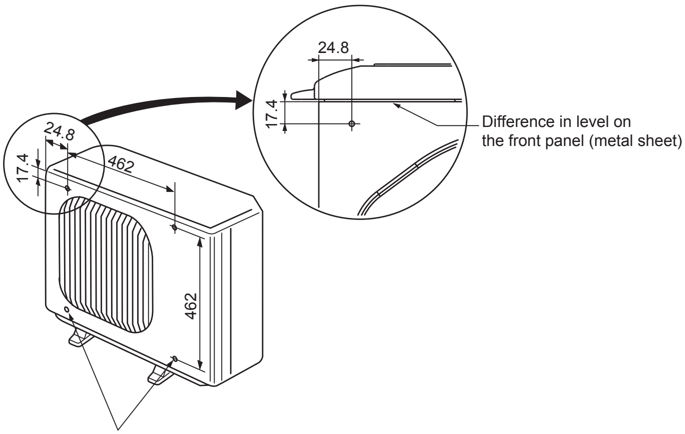




Drill the lower holes through the front panel and the base.

For 684(W) x 540(H) x 255(D) outdoor units
- Remove the front panel from the outdoor unit.
- Drill Ø4.0 mm screw holes in the front panel at the 4 locations shown below.
- The length of the drill bit should be about 10 mm as shown in the figure below. If the drill bit is too long, it may damage the parts inside the outdoor unit.



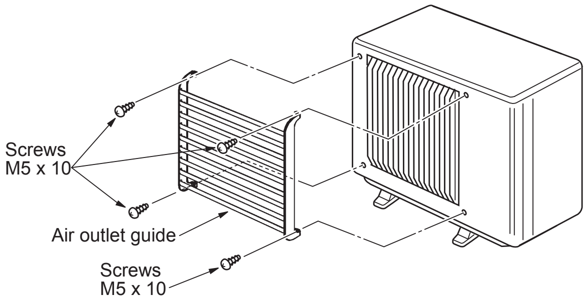


Drill the lower holes through the front panel and the base.

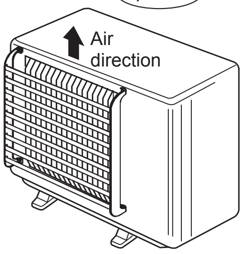
2. Attaching the air outlet guide

- Attach the air outlet guide to the outdoor unit with the 4 screws provided with the air outlet guide.
- The air outlet guide is allowed to be installed in any of the following directions so that air blows upwards, to the left, or to the right.
  * Do not install the air outlet guide in the downward direction, or it may cause short cycling.

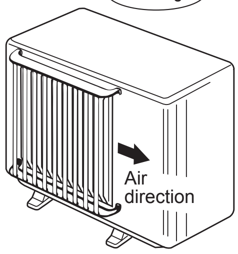
Note: Tighten the screws securely.
A chattering sound could be produced due to vibration if the screws are loose.



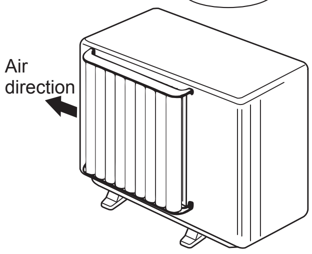
Upwards



To the right



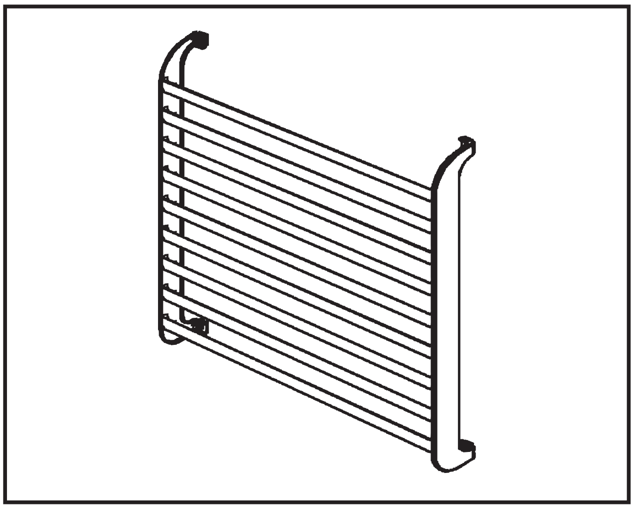
To the left



Air Outlet Guide

MAC-882SG

Figure



Descriptions

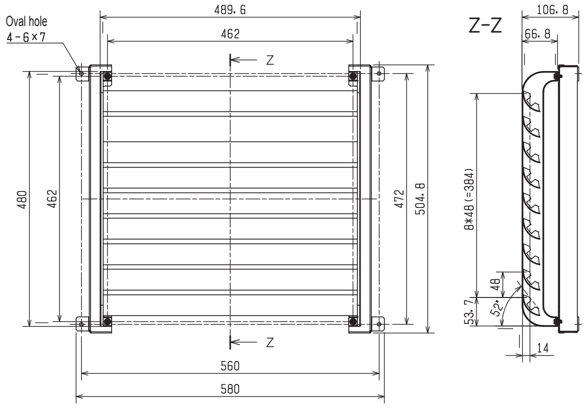
The air outlet guide changes the direction of air from the outdoor unit and prevents short cycling.

Applicable Models

- MUZ-RW25,35VGHZ
- MUZ-LN50VG2
- MUZ-FT35,50VGHZ
- MUZ-AY50VG(H)
- MUZ-AP60VG
- MUZ-EF50VG
- MUZ-HR60,71VF
- SUZ-M50VA

Dimensions

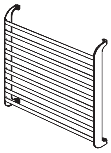
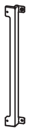
Unit: mm



Specifications

Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Surface treatment	Polyester powder coating
	Material	Electro-galvanized steel sheet
Weight		2.2 kg

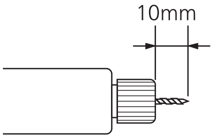
Components

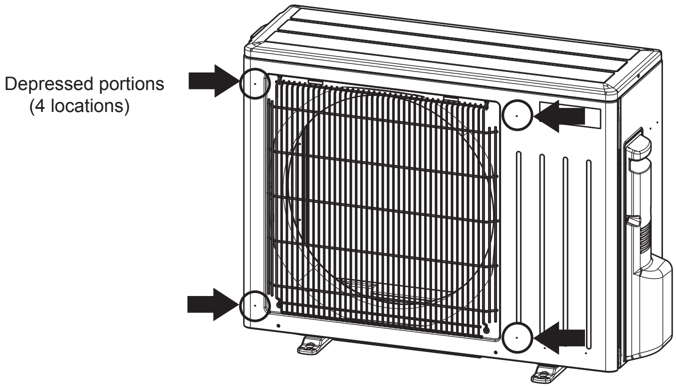
① Air outlet guide ×1	② Screw M5 x 10 x 8	③ Guide support ×2
		

How to Use / How to Install

1. Preparations

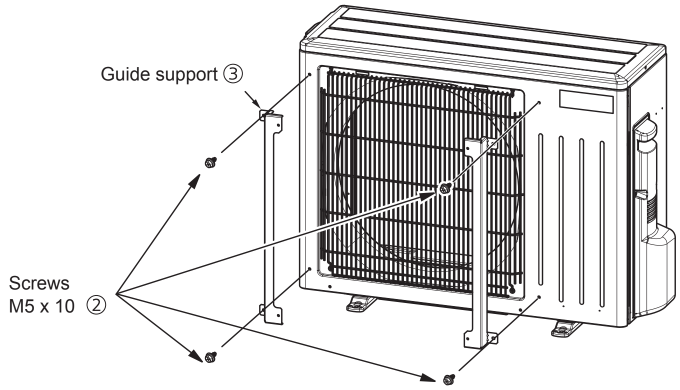
- Drill Ø4.0 mm screw holes in the front panel at the 4 locations (depressed portions) shown below.
- The length of the drill bit should be about 10 mm as shown in the figure below. If the drill bit is too long, it may damage the parts inside the outdoor unit.





2. Attaching the guide support

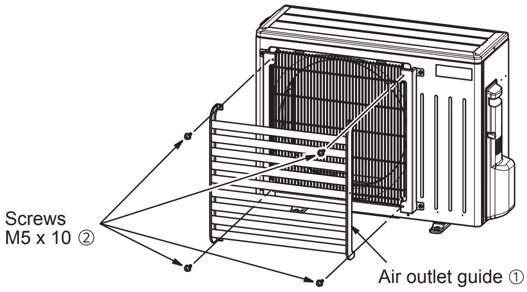
- Attach the guide support to the outdoor unit with the 4 screws (M5 x 10).
  *****Tightening torque: 2.5-2.7N·m



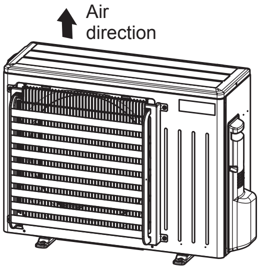
3. Attaching the air outlet guide

- Attach the air outlet guide to the outdoor unit with the 4 screws (M5 x 10).
  *****Tightening torque: 2.5-2.7N·m
- The air outlet guide is allowed to be installed in any of the following directions so that air blows upwards, to the right, or to the left.
  * Do not install the air outlet guide in the downward direction, or it may cause short cycling.

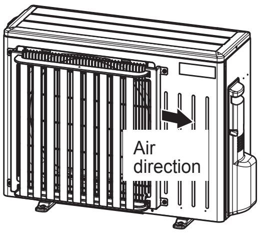
Note: Tighten the screws securely.
A chattering sound could be produced due to vibration if the screws are loose.



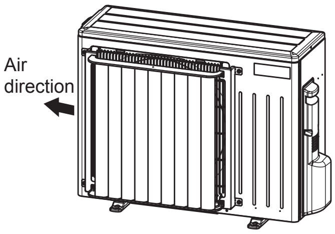
Upwards



To the right



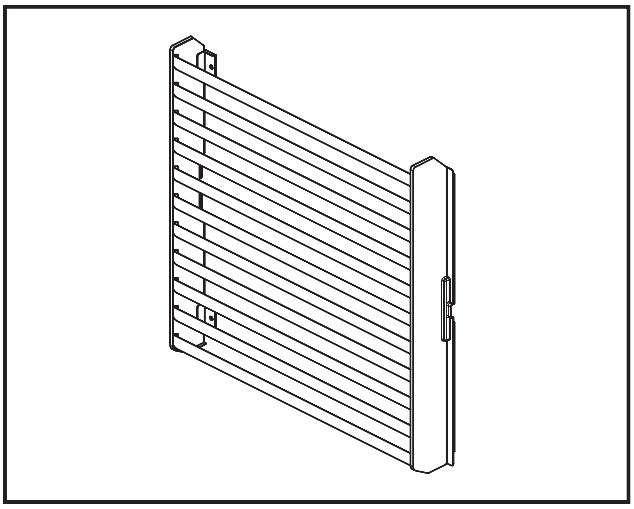
To the left



Air Outlet Guide

MAC-886SG-E

Figure



Descriptions

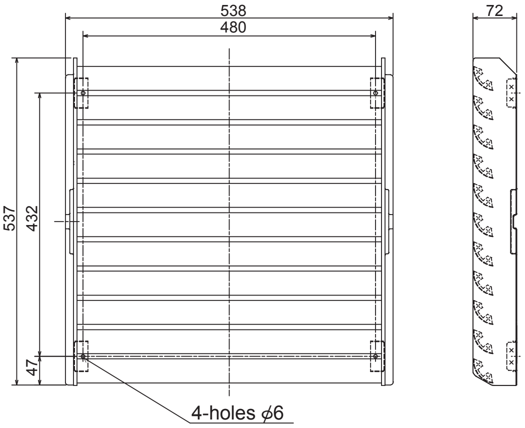
The air outlet guide changes the direction of air from the outdoor unit and prevents short cycling.

Applicable Models

- MUFZ-KW50VGHZ
- MUFZ-KW60VGHZ
- SUZ-M60VA
- SUZ-M71VA

Dimensions

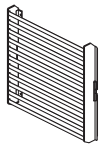
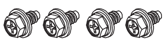
Unit: mm



Specifications

Exterior	Color (Munsell)	Ivory (3.0Y7.8/1.1)
	Material/Surface treatment	Alloy hot-dip zinc-coated carbon steel sheet / Acrylic resin coating
Air outlet direction		Upward

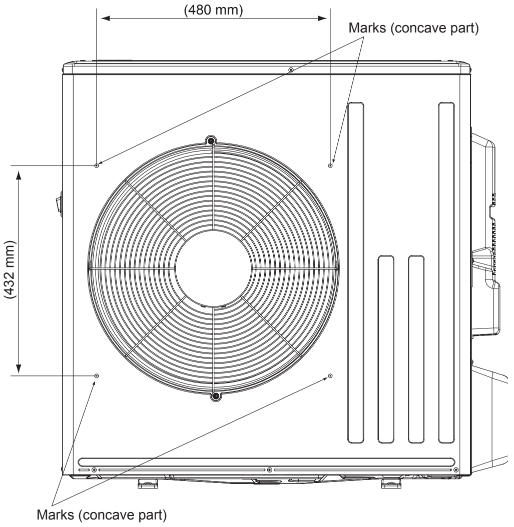
Components

① Air outlet guide ×1	② Screw ×4
	

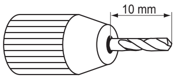
How to Use / How to Install

1. Preparations

(1) Make sure to switch off the power supply or turn off the breaker.
(2) Determine the position of the front panel. Drill 4 holes (ϕ 4.0 mm) into the front panel on the marks (concave part).



Note:
The drill bit should be about 10mm long as shown in the right picture. If the drill bit is too long, it may damage the heat exchanger, the electrical parts, etc. in the outdoor unit.

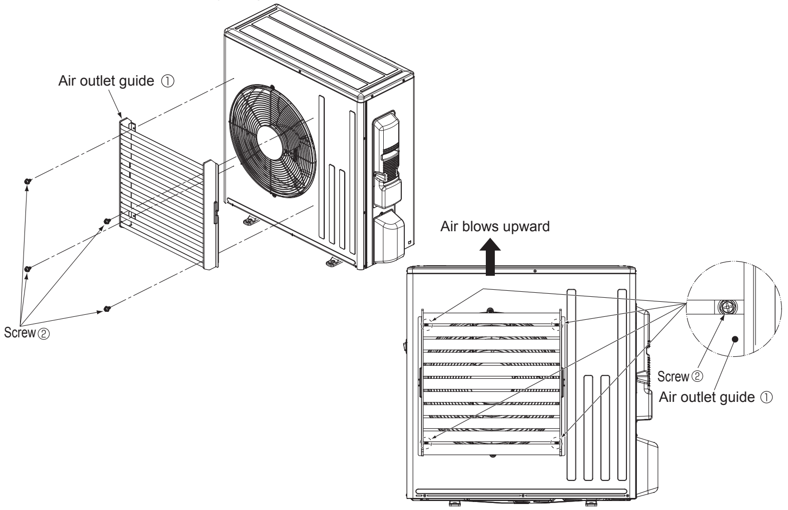


2. Attaching the air outlet guide

Fix the air outlet guide ① with 4 screws ② .

Note:

- Tighten the screws sufficiently. When the screws are not tight enough, vibrations occur and they may cause fluttering sound.
- Attach the air outlet guide so that air does NOT blow downward to prevent short cycling.

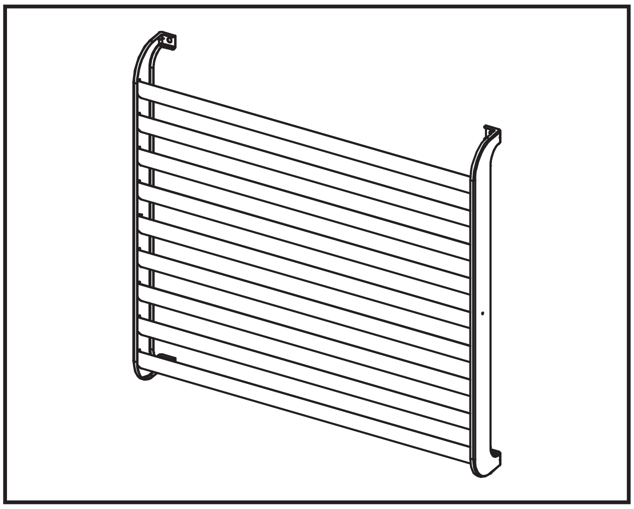


3. After installation

Refer to the installation manual provided with the unit to perform pipe connection and electric wiring.

Air Outlet Guide **MAC-883SG**

Figure



Descriptions

The air outlet guide changes the direction of air from the outdoor unit and prevents short cycling.

Applicable Models

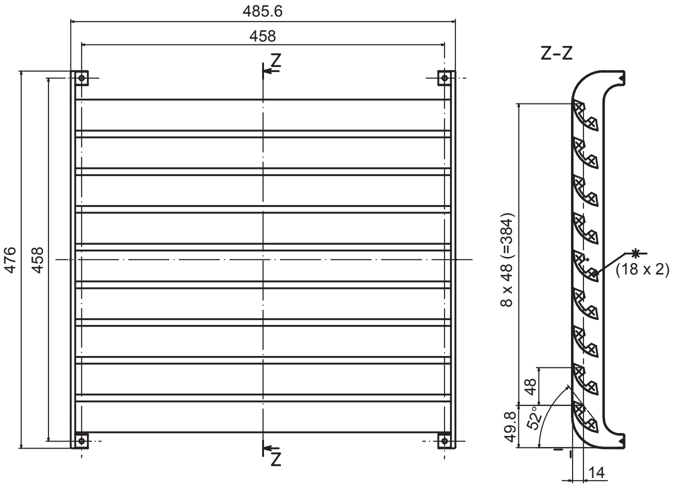
- MSZ-AY15VG
- MUZ-BT20,25,35VG
- MUZ-HR25VF
- MUZ-HR35VF
- MUZ-DW25VF
- MUZ-DW35VF

Specifications

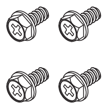
Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Surface treatment	Polyester powder coating
	Material	Electro-galvanized steel sheet
Weight		1.6 kg

Dimensions

Unit: mm



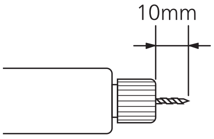
Components

① Air outlet guide ×1	② Screw M5 x 10 × 4
	

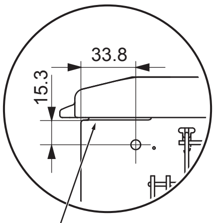
How to Use / How to Install

1. Preparations

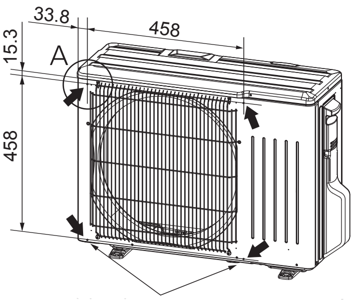
- Make a hole in the 4 concave parts indicated by ➡ using a drill with a diameter of 4.0 mm.
- The length of the drill bit should be about 10 mm as shown in the figure below. If the drill bit is too long, it may damage the parts inside the outdoor unit.



A Detail



Difference in level on the front panel (metal sheet)



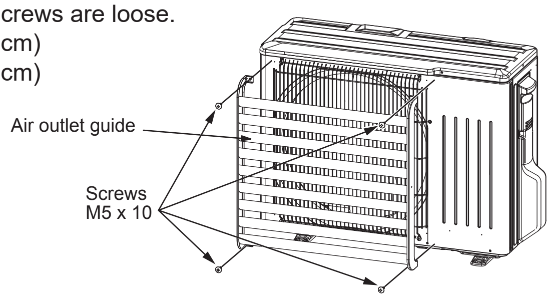
Drill the lower holes through the front paneland the base.

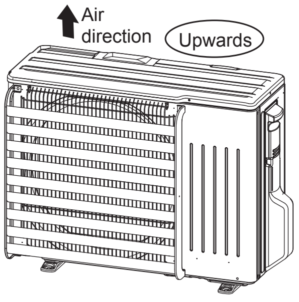
2. Attaching the air outlet guide

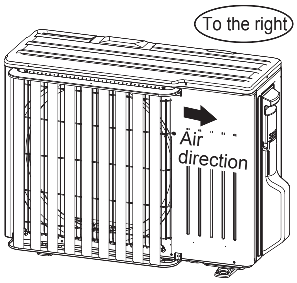
- Attach the air outlet guide to the outdoor unit with the 4 screws provided with the air outlet guide.
- The air outlet guide is allowed to be installed in any of the following directions so that air blows upwards, to the left, or to the right.

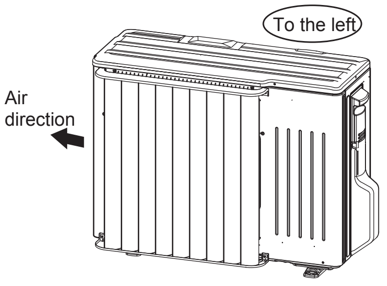
* Do not install the air outlet guide in the downward direction, or it may cause short cycling.

Note: Tighten the screws securely.
A chattering sound could be produced due to vibration if the screws are loose.
* Tightening torque 2 upper screws $1.47^{+0.196}_{-0.098}$ N•m (15^{+2}_{-1} kgf•cm)
2 lower screws $2.45^{+0.196}_{-0.098}$ N•m (25^{+2}_{-1} kgf•cm)





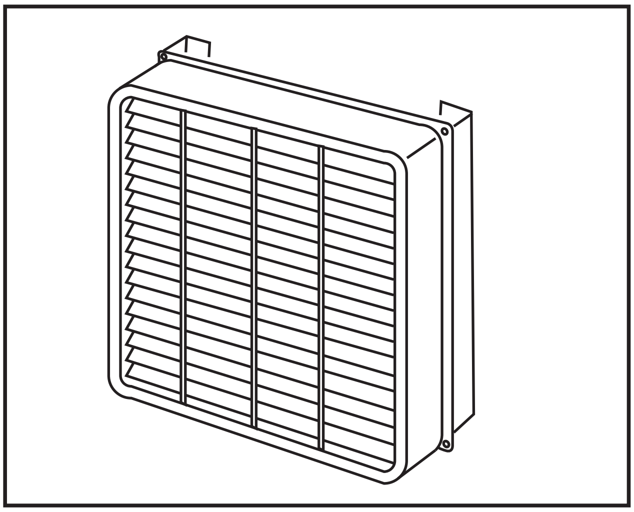




Air Outlet Guide

MAC-856SG

Figure



Descriptions

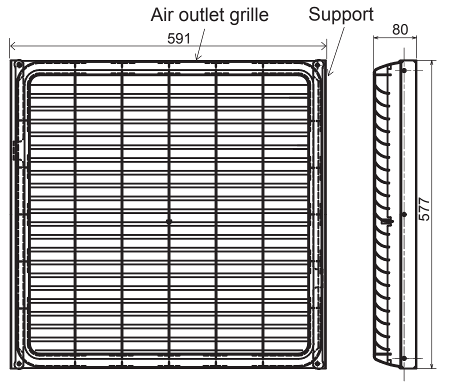
The air outlet guide changes the direction of air from the outdoor unit and prevents short cycling.

Applicable Models

- MXZ-3F54VF4
- MXZ-3F68VF4
- MXZ-4F72VF4
- MXZ-4F80VF4
- MXZ-3HA50VF2
- PXZ-4F75VG

Dimensions

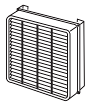
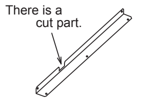
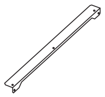
Unit: mm



Specifications

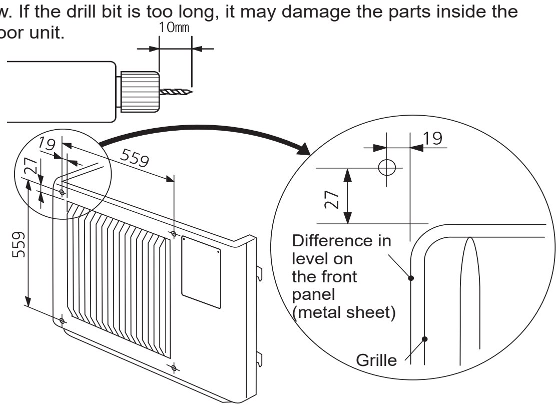
Exterior	Color (Munsell)	Ivory (3.0Y7.8/1.1)
	Material	Air outlet grille: PP resin
Air outlet direction		Changeable between up and down
Accessory name × Qty. <Material/Surface treatment>		Support A × 2 (Alloy hot-dip zinc-coated carbon steel sheet / Acrylic resin coating) Support B × 2 (Alloy hot-dip zinc-coated carbon steel sheet / Acrylic resin coating) Screw (5×10) × 14 (Iron/Zinc nickel alloy plated)

Components

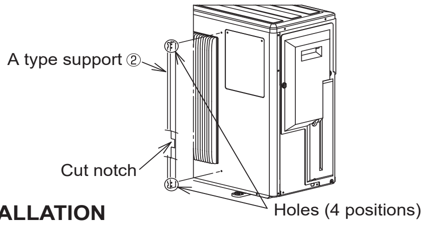
① Air outlet guide ×1	② Support A ×2	③ Support B ×2	④ Screw 5×10 ×14
	 There is a cut part.		

How to Use / How to Install

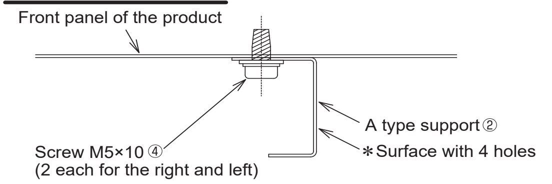
1) • Drill Ø4.0 mm screw holes in the front panel at the 4 locations shown below.
   • The length of the drill bit should be about 10 mm as shown in the figure below. If the drill bit is too long, it may damage the parts inside the outdoor unit.



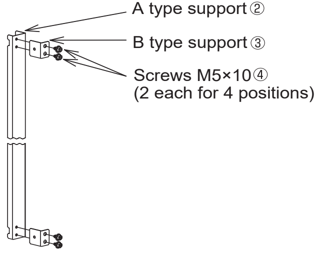
2) Fix A type supports② by tightening the screws M5×10④ (2 each for the right and left) into the holes drilled in step 1).



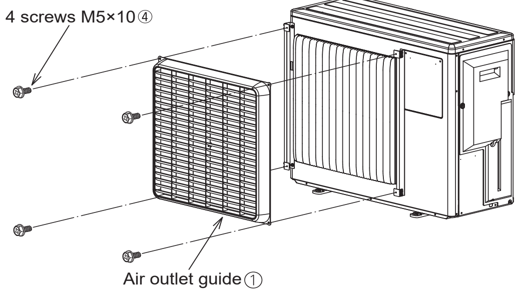
Plan view of the product



3) Fix B type supports③ to A type support② with the 8 screws M5×10④ (2 each for 4 positions).



4) Fix air outlet guide① to B type supports③ with 4 screws M5×10④. The air direction can be selected from upwards, to the left, and to the right.

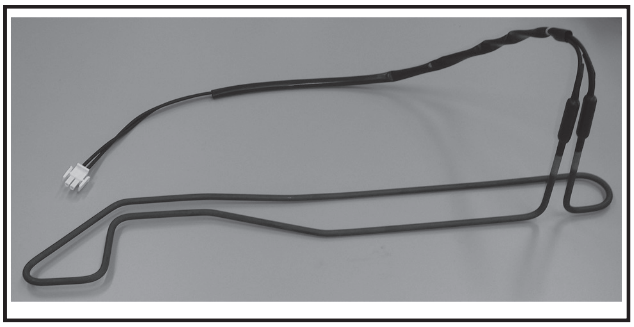


AFTER INSTALLATION

NOTE: Make sure that A type supports, B type supports, and air outlet guide are fixed with screws securely.

Freeze-prevention heater (for drain pan) MAC-643BH-E

Photo



Descriptions

It is freeze-prevention heater for the outdoor unit of the air conditioner.

Applicable Models

- MUZ-EF42VG
- MXZ-2F33VF4
- MXZ-2F42VF4
- MXZ-2F53VF4
- MXZ-2F53VFH4

Specifications

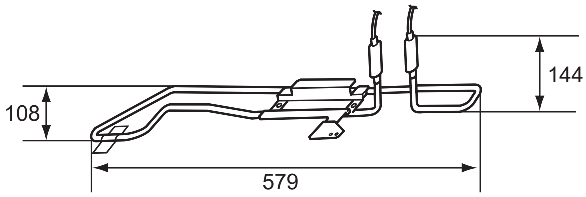
Rated voltage	230 V 50 Hz
Power consumption	130 W

Components

①	Defrost heater	1	⑤	Self drilling screw	2
②	Aluminum tape	1	⑥	Insulation	1
③	Heater support	1	⑦	Wiring diagram	1
④	Cable tie	1	⑧	Spec label	1

Dimensions

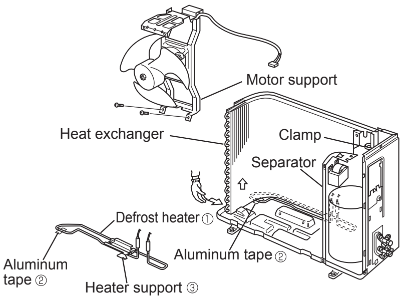
Unit: mm

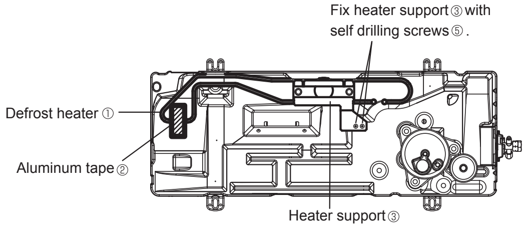


How to Use / How to Install

1. INSTALLING THE HEATER

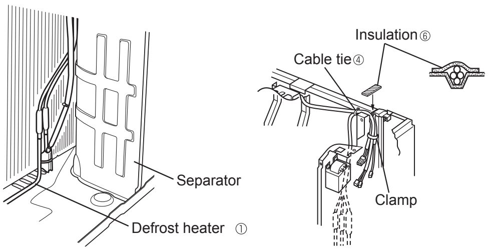
(1) Hold the left lower side of the heat exchanger, and slightly lift up the heat exchanger.
(2) Insert the defrost heater ① under the heat exchanger, and align it with the groove on the base.
After positioning the defrost heater ①, secure it to the base with the aluminum tape ②.
In order to fix the defrost heater to the base, fix the heater support ③ to the base with 2 self drilling screws ⑤.
(3) Put the heat exchanger back in place, and install the motor support and the propeller fan.
(Refer to the figure below for details.)





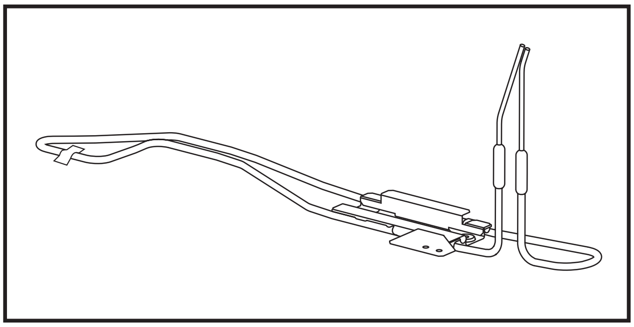
2. FIXING THE WIRES

(1) Place the lead wires of the defrost heater ①, fan motor, and ambient temp. thermistor as shown in the figure below. Secure them with the cable tie ④.
＊If the lead wires slacken, there is a possibility that they touch the propeller fan.
Be sure to secure the wires with the cable tie ④ and a clamp for safety.
Cut off the surplus of the cable tie ④.
(2) Apply the insulation ⑥ on the place indicated in the figure below.
Secure all the wires tightly with the clamp.
(3) Install the elect assy on the fixed place.
Connect the lead wires from the defrost heater ① to CN 722 on the inverter P.C. board.



Freeze-prevention heater (for drain pan) **MAC-646BH-E**

Figure



Descriptions

It is freeze-prevention heater for the outdoor unit of the air conditioner.

Applicable Models

- MUZ-EF50VG

Specifications

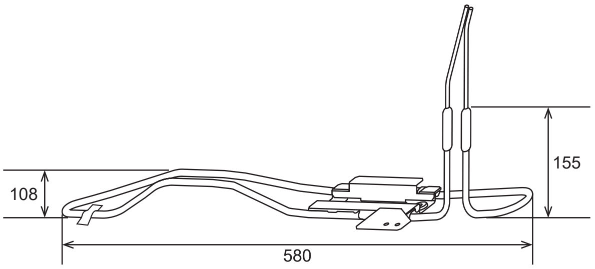
Rated voltage	230 V
Electric Power	130 W

Components

①	Defrost heater	1	⑤	Cable clamp	1
②	Aluminum tape	1	⑥	Insulation	1
③	Heater support	1	⑦	Wiring diagram	1
④	Self drilling screw	2	⑧	Spec label	1

Dimensions

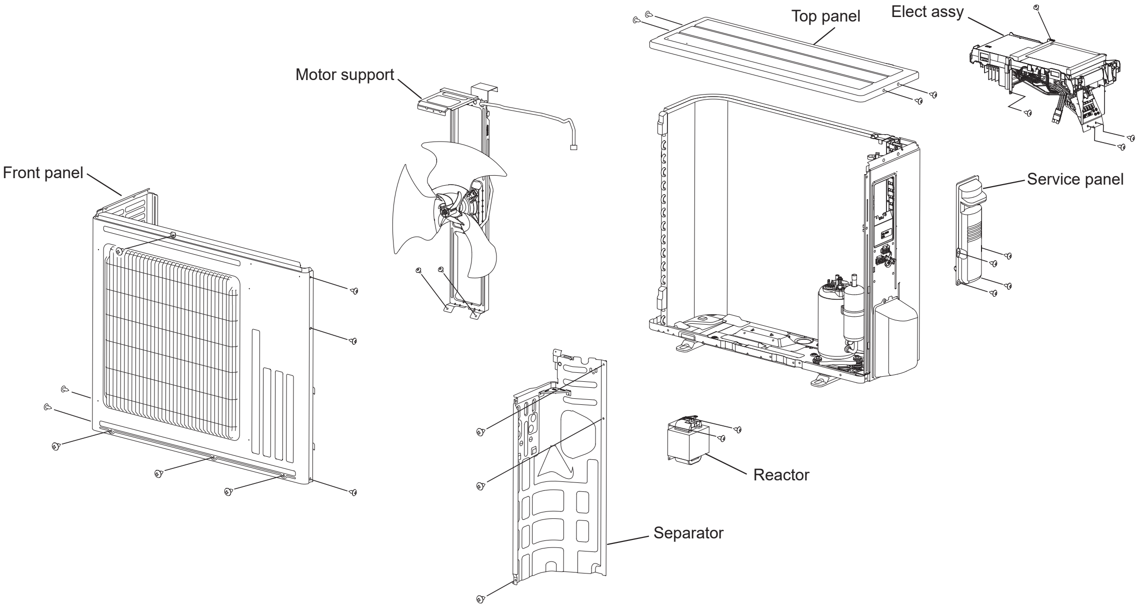
Unit: mm



How to Use / How to Install

1. PREPARING FOR INSTALLATION

(1) Make sure to switch off the power supply or turn off the breaker.
(2) Remove the top panel, front panel, service panel, motor support, and elect assy.
(3) Remove the separator and the reactor.

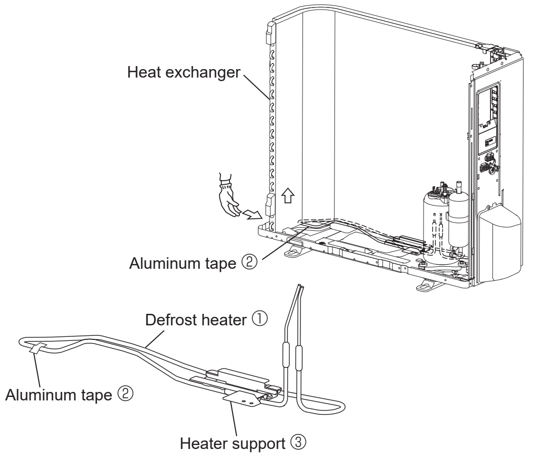


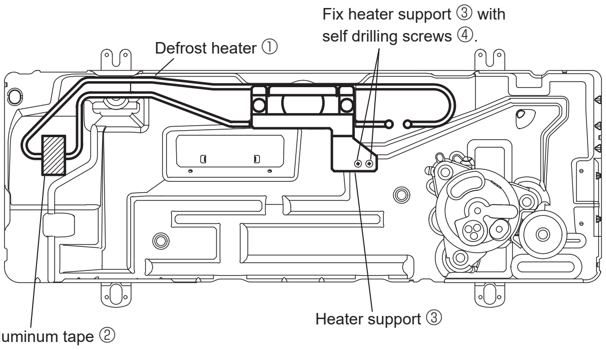
2. INSTALLING THE HEATER

(1) Hold the left lower side of the heat exchanger, and slightly lift up the heat exchanger.

(2) Insert the defrost heater ① under the heat exchanger, and align it with the groove on the base.
After positioning the defrost heater ①, secure it to the base with the aluminum tape ②.
In order to fix the defrost heater ① to the base, fix the heater support ③ to the base with 2 self drilling screws ④.

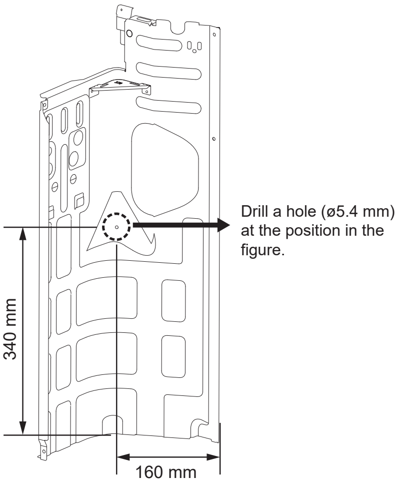
(3) Put the heat exchanger back in place (refer to the figure below).

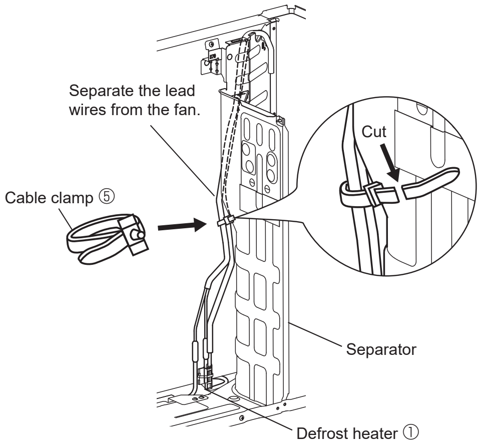


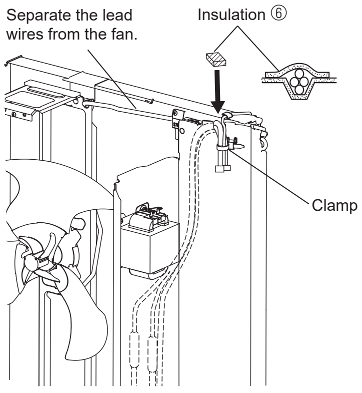


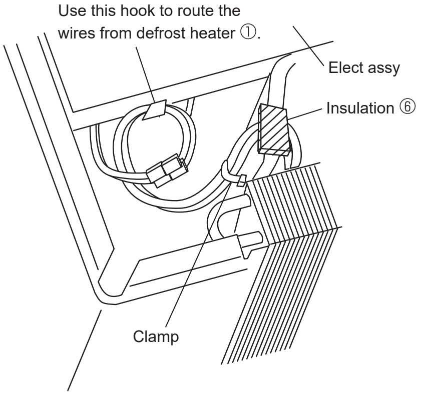
3. FIXING THE WIRES

(1) Make a hole on the separator at the point shown in the figure on the right.
(2) Make a ring with the cable clamp ⑤ and attach it to the separator with its edge coming to the front side.
(3) Install the reactor, and then, install the separator to the original place.
(4) Put the lead wires of the defrost heater ① through the ring of the cable clamp ⑤ on the separator to fix them.
Cut off the surplus part of the cable clamp ⑤.
(5) Run the lead wires of the defrost heater ① from the rear of the separator.
(6) Install the motor support to the original place.
(7) Place the lead wires of the defrost heater ①, fan motor, and ambient temp. thermistor as shown in the figure below.
Note: If the lead wires slacken, there is a possibility that they touch the propeller fan.
(8) Secure all the wires tightly with the clamp.
Apply the insulation ⑥ on the place indicated in the figure below.
(9) Install the elect assy on the fixed place.
Connect the lead wires from the defrost heater ① to CN 722 on the inverter P.C. board.
Then, hang the lead wires of defrost heater ① on the hook at the rear of the elect assy.



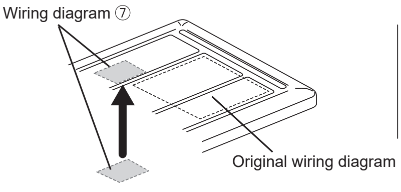


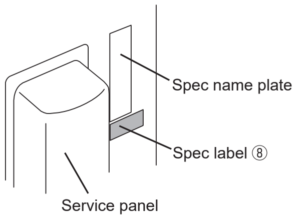




4. AFTER INSTALLATION

(1) Attach the wiring diagram ⑦ to the inner side of the top panel.
(2) Attach the spec label ⑧ under the spec name plate.
(3) Reinstall the front panel, top panel, and service panel.
(4) Turn on the breaker, and perform test run to confirm that it works properly.
Note: Do not install either drain socket which is provided with the outdoor unit or purchased separately.
Inside of the drain hose and/or drain socket may freeze if the drain socket is installed.

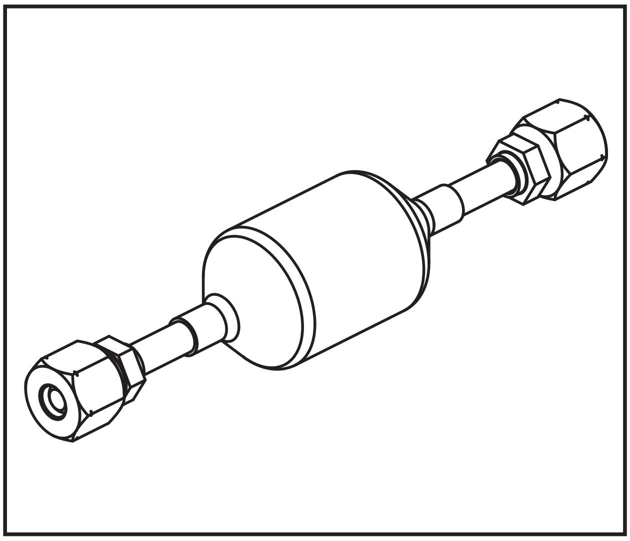




Muffler

MAC-001MF-E

Figure



Descriptions

This product is the muffler of the heat pump outdoor unit.

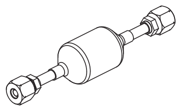
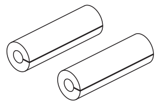
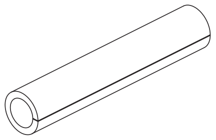
Applicable Models

- ■ PXZ-4F75VG
- ■ PXZ-5F85VG

Specifications

Diameter	ø43.2
Material	C1220T-3/4H

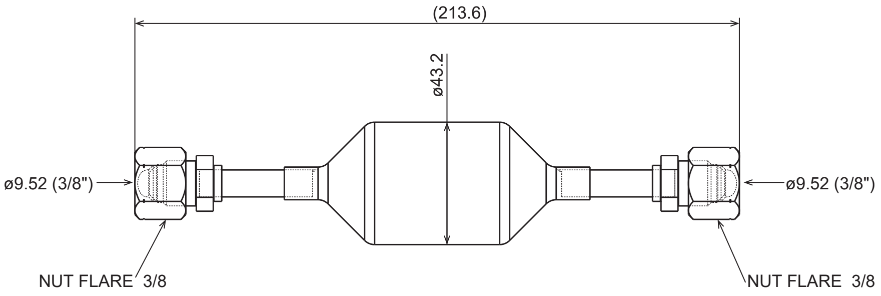
Contents

① Muffler Model name ×1	② Pipe cover ×2	③ Pipe cover ×1
		

■ Parts to be provided at your site

④	Piping tape	1

Dimensions



How to Use / How to Install

Installation

Connection pipe condition

Connection side	Indoor	Outdoor
Connection Gas pipe size	ø9.52	ø9.52

1. Connect the muffler ① to the gas piping within 3 meters from the piping connection port of the outdoor unit outside.
2. The muffler can be connected in any orientation.

Flaring work

3. Cut the copper pipe correctly with a pipe cutter. (Fig. 1, 2)
4. Completely remove all burrs from the cut cross section of pipe. (Fig. 3)
   - Point the copper pipe downward while removing burrs to prevent them from dropping in the pipe.
5. Remove flare nuts (A) and port cap attached to the muffler ①, then put the flare nuts on the pipe with the burrs completely removed. (Not possible to put them on after flaring work.)
6. Perform the flare work (Fig. 4 and 5).
   Firmly hold the copper pipe according to the dimensions shown in the table.
   Select X mm from the table according to the tool selected.
7. Check the following.
   - Check the flare work based on Fig.6.
   - If the flare work is not proper, cut off the flared section and do flaring work again.

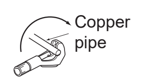


Fig. 1

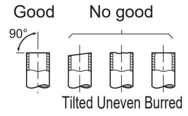


Fig. 2

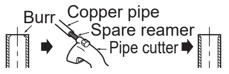


Fig. 3

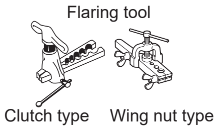


Fig. 4

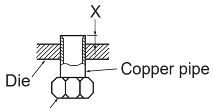


Fig. 5

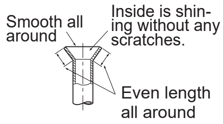
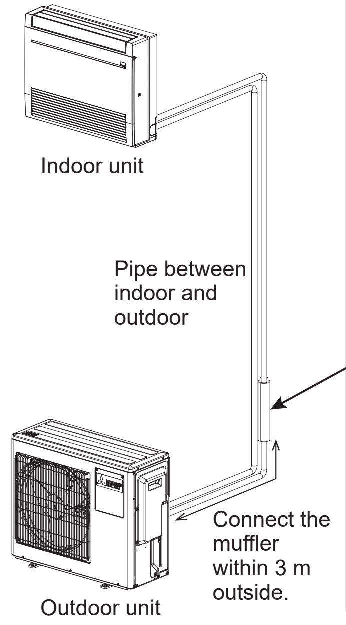


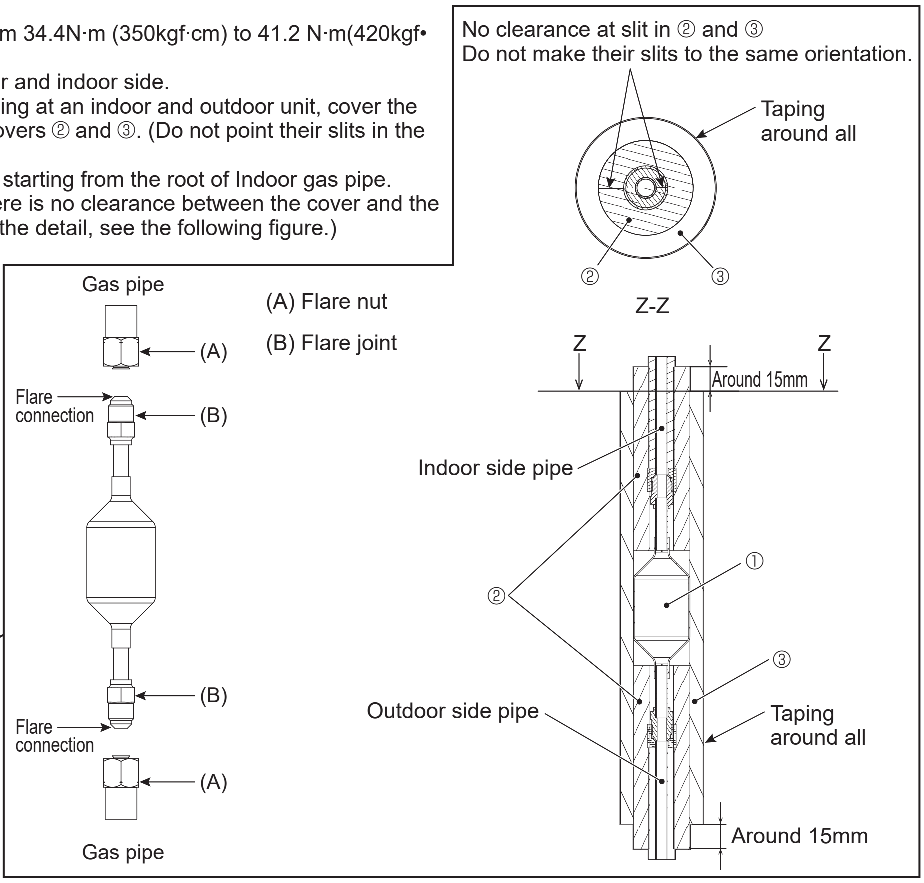
Fig. 6

Pipe diameter (mm)	Nut (mm)	X (mm)			Tightening torque	
		Clutch type tool for R32, R410A	Clutch type tool for R22	Wing nut type tool for R22	N·m	kgf·cm
Ø9.52 (3/8")	22	0 to 0.5	1.0 to 1.5	1.5 to 2.0	34.4 to 41.2	350 to 420

Pipe connection

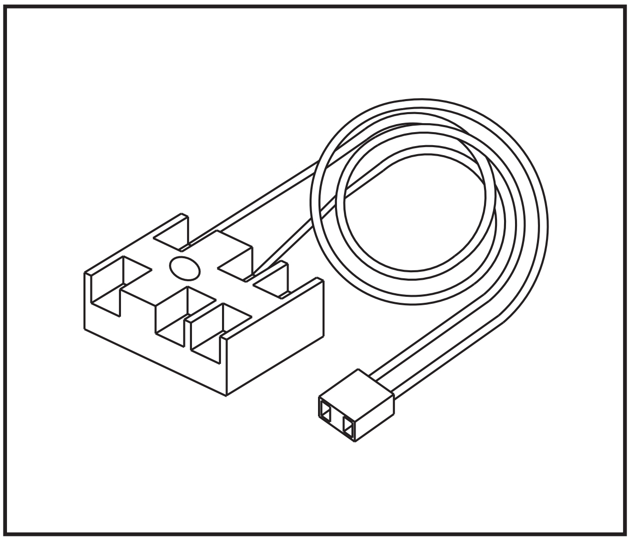
8. Align the center of the pipe with that of the pipe at the muffler, then tighten the flare nuts by 3 to 4 turns by hand.
9. Tighten the flare nuts in the range of from 34.4N·m (350kgf·cm) to 41.2 N·m(420kgf•cm).
10. Perform the procedure 3 to 4 for outdoor and indoor side.
11. After connecting the muffler with the piping at an indoor and outdoor unit, cover the muffler and piping joints with the pipe covers ② and ③. (Do not point their slits in the same orientation.)
12. Using the piping tape ④, apply the tape starting from the root of Indoor gas pipe. Tape the pipe cover securely so that there is no clearance between the cover and the parts (muffler etc.) and at the slits. (For the detail, see the following figure.)


Indoor unit
Pipe between indoor and outdoor
Connect the muffler within 3 m outside.
Outdoor unit



Connector for drain hose heater **MAC-062RA-E**

Figure



Descriptions

This product is the connector for the drain hose heater of the heat pump outdoor unit.

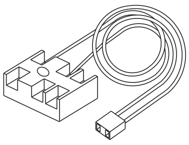
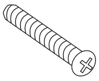
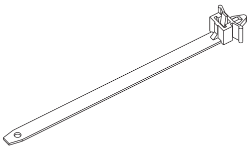
Applicable Models

- ■ PXZ-4F75VG
- ■ PXZ-5F85VG

Specifications

Rated voltage	AC 230 V
Max. current	1 A

Contents

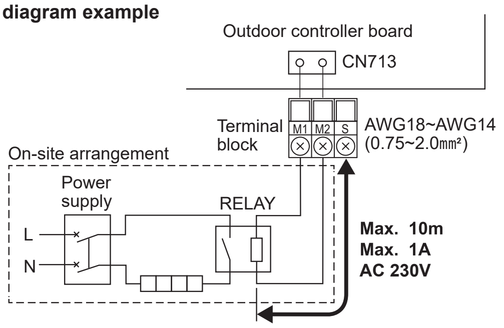
① Terminal block assy ×1	② Screw ×1	③ Cable strap ×1
		

OPTIONAL PARTS
OUTDOOR UNIT

How to Use / How to Install

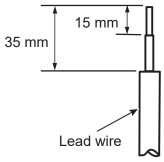
Installation

Circuit diagram example



- ● **Drain hose heater RELAY connection only**
- ● **Max. current 1A**

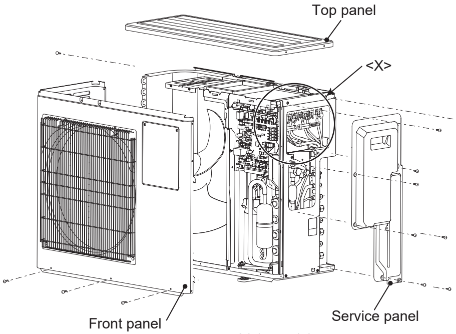
Notice about terminal treatment of cable and wire



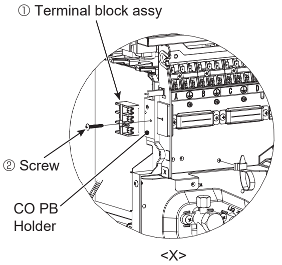
- Be sure to attach each screw to its correspondent terminal when securing the cord and/or the wire to the terminal block.
- Make earth wire a little longer than others. (More than 35 mm)
- For future servicing, give extra length to the connecting wires.

In case of PXZ UNIT size H710xW840xD330

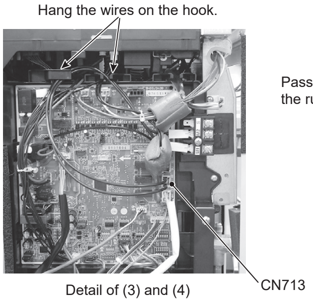
1) Remove the service panel, top panel and front panel.
2) Attach the terminal block ① to CO PB Holder with the screw ②.
3) Connect the lead wire ① of connector side to CN713 port on the outdoor controller board.
4) Connect cables (locally procured) for a drain hose heater RELAY to the terminal block ① so that no part of its core is appeared, and no external force is reached to the connecting section of the terminal block.
5) Firmly tighten the terminal screws to prevent the wires from loosening.
   After tightening, pull the wires lightly to confirm that they do not move.
6) Fix the lead wire with the cable clamp and cable strap ③. Do not fix the wire at fixed point of screw in the cable clamp. Run the cables or wires so as not to deform the service panel. Otherwise, rainwater may enter the outdoor unit.
7) Assemble the service panel, top panel, and front panel securely.



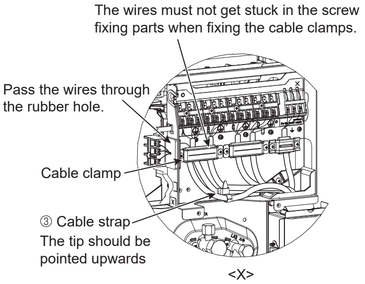
Detail of (1) and (7)



Detail of (2)



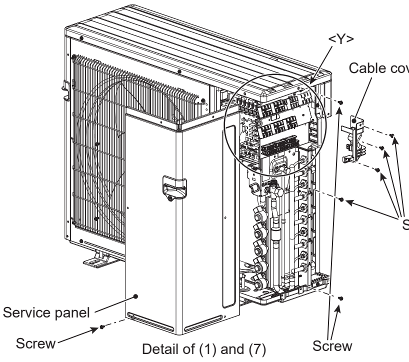
Detail of (3) and (4)


The wires must not get stuck in the screw fixing parts when fixing the cable clamps.
Pass the wires through the rubber hole.
Cable clamp
③ Cable strap
The tip should be pointed upwards
<X>

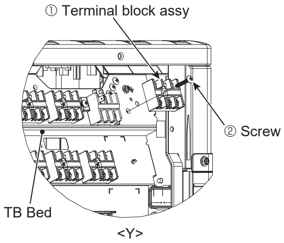
Detail of (5) and (6)

In case of PXZ UNIT size H796xW950xD330

1) Remove the service panel and cable cover.
2) Attach the terminal block ① to TB Bed with the screw ②.
3) Connect the lead wire ① of connector side to CN713 port on the outdoor controller board.
4) Pass the cables (locally procured) for a drain hose heater RELAY to the terminal block ① through the grommet, and connect them so that no part of its core is appeared, and no external force is reached to the connecting section of the terminal block.
5) Firmly tighten the terminal screws to prevent the wires from loosening.
   After tightening, pull the wires lightly to confirm that they do not move.
6) Fix the lead wire with the cable clamp. Do not fix the wire at fixed point of screw in the cable clamp. Run the cables or wires so as not to deform the service panel. Otherwise, rainwater may enter the outdoor unit.
7) Assemble the cable cover, service panel, top panel, and front panel securely.



Detail of (1) and (7)



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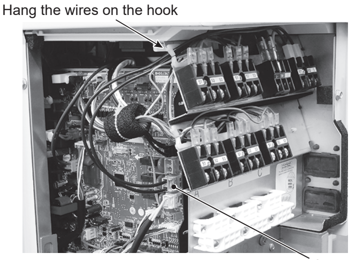
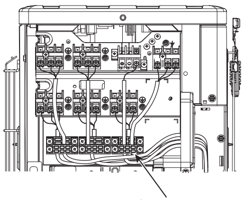


Detail of (3) and (4)

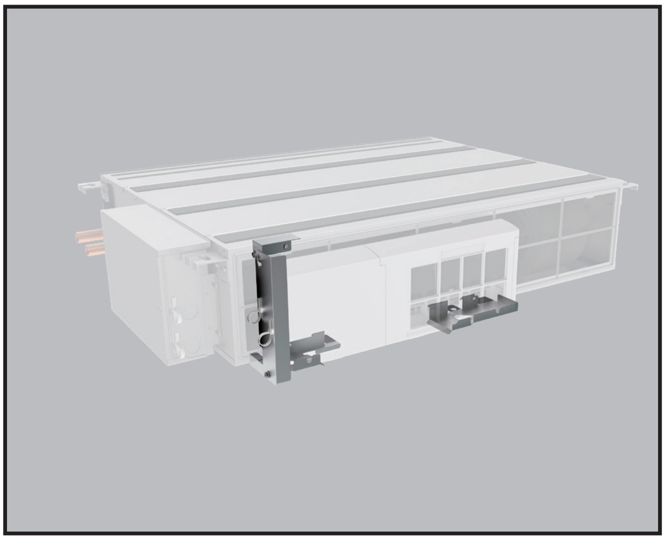


Detail of (5) and (6)

OPTIONAL PARTS
OUTDOOR UNIT

Attachment for Ducted PAC-HA11,31PAR/HA31PAU

Photo



Descriptions

An attachment that connects Plasma Quad Connect to indoor unit.

※ Plasma Quad Connect should be used together with PQ attachment or PQ box.

Applicable Models

PAC-HA11PAR

- SEZ-M25DA(L)2
- SEZ-M35DA(L)2
- SEZ-M50DA(L)2
- SEZ-M60DA(L)2
- SEZ-M71DA(L)2

PAC-HA31PAR

- PEAD-M35JA2
- PEAD-M50JA2
- PEAD-M60JA2
- PEAD-M71JA2
- PEAD-M100JA2
- PEAD-M125JA2
- PEAD-M140JA2
- PEAD-M35JAL2
- PEAD-M50JAL2
- PEAD-M60JAL2
- PEAD-M71JAL2
- PEAD-M100JAL2
- PEAD-M125JAL2
- PEAD-M140JAL2
- PEAD-SM35JA
- PEAD-SM50JA
- PEAD-SM60JA
- PEAD-SM71JA2
- PEAD-SM100JA2
- PEAD-SM125JA2
- PEAD-SM140JA2
- PEAD-SM35JAL
- PEAD-SM50JAL
- PEAD-SM60JAL
- PEAD-SM71JAL2
- PEAD-SM100JAL2
- PEAD-SM125JAL2
- PEAD-SM140JAL2

PAC-HA31PAU

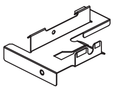
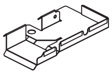
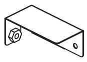
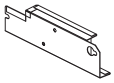
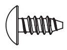
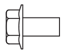
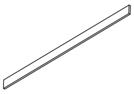
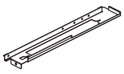
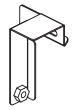
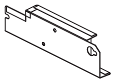
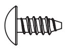
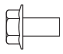
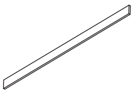
- PEAD-M35JA2
- PEAD-M50JA2
- PEAD-M60JA2
- PEAD-M71JA2
- PEAD-M100JA2
- PEAD-M125JA2
- PEAD-M140JA2
- PEAD-M35JAL2
- PEAD-M50JAL2
- PEAD-M60JAL2
- PEAD-M71JAL2
- PEAD-M100JAL2
- PEAD-M125JAL2
- PEAD-M140JAL2
- PEAD-SM35JA
- PEAD-SM50JA
- PEAD-SM60JA
- PEAD-SM71JA2
- PEAD-SM100JA2
- PEAD-SM125JA2
- PEAD-SM140JA2
- PEAD-SM35JAL
- PEAD-SM50JAL
- PEAD-SM60JAL
- PEAD-SM71JAL2
- PEAD-SM100JAL2
- PEAD-SM125JAL2
- PEAD-SM140JAL2

How to Use / How to Install

■ PAC-HA11,31PAR

1 Confirming the Supplied Parts

Check that the packet includes the following parts in addition to this Installation Manual.

ITEM	① PLATE 1	② PLATE 2	③ PLATE 3	④ PLATE 4	⑤ Screw (4×10)	⑥ Screw (5×10)	⑦ RUBBER PLATE
Quantity	1	1	1	1	3	2	2
Shape PAC-HA11PAR							
Quantity	1	-	1	1	3	2	2
Shape PAC-HA31PAR							

2 Installing the PQ attachment and PLASMA QUAD CONNECT

This Installation Manual covers the installation instructions for units with a depth of 700 mm.
For units with a depth of 450 mm, see their manual. (Figures without indication of model names show PAC-HA11PAR.)

1.Remove the COVER_F, and then remove Filter 1 from the cover of thePLASMA QUAD CONNECT. (Fig. 3-1)
Discard Filter 1, for it is not needed for mounting the PLASMA QUAD CONNECT in the way described here.
(In the case of MAC-100FT-E)Remove the device and Filter 2, and attach a RUBBER PLATE (⑦) in the area shown in Fig. 3-2. (The other plate is a spare.)
Re-place the device and Filter 2 in their original positions, and close the cover.

* Attach the RUBBER PLATE (⑦) to keep the PLASMA QUAD CONNECT from making noise when the indoor unit to which it is attached vibrates.

* For connecting the internal wiring of the PLASMA QUAD CONNECT, see steps (5) through (9) in the manual for the PLASMA QUAD CONNECT.

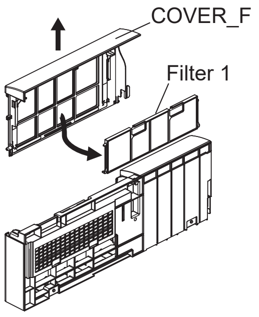


Fig. 3-1

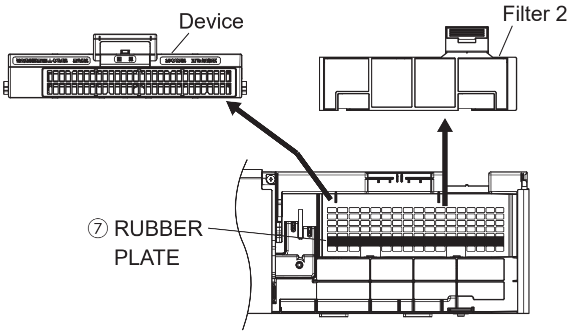


Fig. 3-2

2. Remove the filter from the indoor unit. (Fig. 3-3)

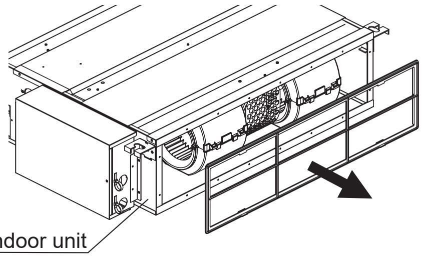


Fig. 3-3

3. Mount PLATE 1 (①), PLATE 2 (②), and PLATE 3 (③) to the indoor unit, using three screws (⑤).
* Screw-down position
① PLATE 1: Hole in the front of the bottom plate
② PLATE 2: The fifth hole from the front of the bottom plate (PAC-HA11PAR)
③ PLATE 3: Hole in the front of the top plate
Re-place the filter to the original position. (Fig. 3-4) (Fig. 3-5) (Fig. 3-6)

4. Temporarily fasten the screws (⑥) to PLATE 1 (①) and PLATE 3 (③). (Fig. 3-7)

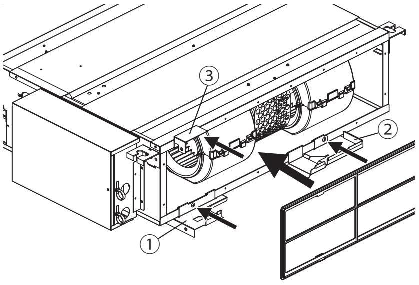


Fig. 3-4 (PAC-HA11PAR)

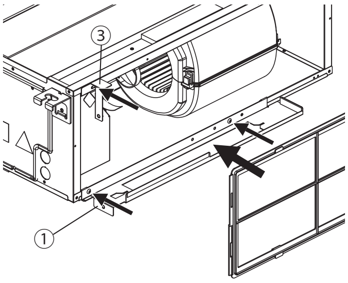
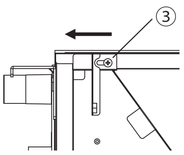


Fig. 3-5 (PAC-HA31PAR)



When mounting PLATE 3 (③), slide it in the direction of the arrow as far as it will go.

Fig. 3-6 (PAC-HA31PAR)

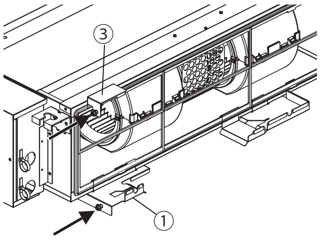


Fig. 3-7

5. Slide the PLASMA QUAD CONNECT in the direction of the arrow until it is securely in place. (Fig. 3-8)
Make sure to place the PLASMA QUAD CONNECT in the orientation shown in the figure below.

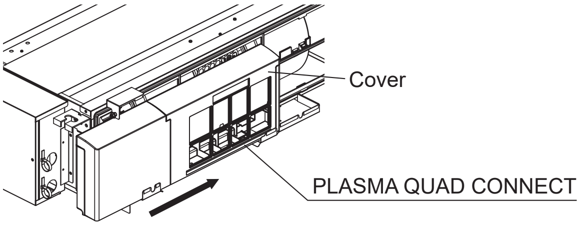


Fig. 3-8

6. Mount PLATE 4 (④) to the indoor unit, and tighten the two screws that were temporarily fastened in Step 4. (Fig. 3-9)

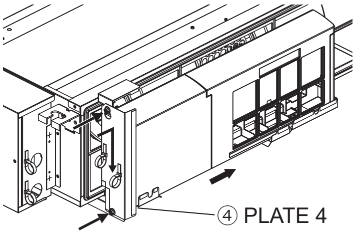
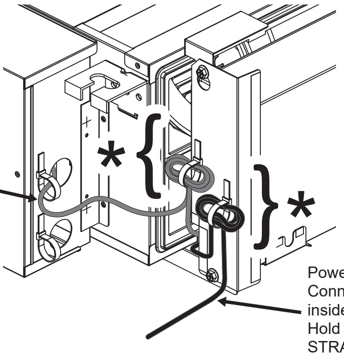


Fig. 3-9

7. Connect cables. (Fig. 3-10)
   The maintenance of the PLASMA QUAD CONNECT requires extra 550 mm or longer of the cable.
   Hold the excess cable with the CABLE STRAP marked with * in the figure (including the power supply cable installed on site).
   * When using another interface, hold the cables at the same locations as the cables supplied with the PLASMA QUAD CONNECT.



Cable supplied with the PLASMA QUAD CONNECT
Connect the cable to CN105 inside the control box of the indoor unit.
Hold the excess cable with the CABLE STRAP marked with * in the figure.
Length of the cable held with the CABLE STRAP marked with *: 550 mm or longer

Power supply cable (installed on site)
Connect the cable to the terminal block inside the PLASMA QUAD CONNECT.
Hold the excess cable with the CABLE STRAP marked with * in the figure.
Length of the cable held with the CABLE STRAP marked with *: 550 mm or longer

Fig. 3-10

8. Set the external static pressure.
   Attaching the PLASMA QUAD CONNECT increases the pressure loss. In a certain capacity range where the airflow may not reach the rated airflow level with the factory default external static pressure setting, adjust the external static pressure setting as necessary. For the adjustment procedure, see the Installation Manual for the indoor unit.

3 Maintenance

Turn off the power supply before starting the maintenance work.
Do not pinch the cables during the maintenance work.
Before servicing the indoor unit (suction side), remove the PLASMA QUAD CONNECT.
Before servicing the PLASMA QUAD CONNECT, slide off the COVER_F in the direction of the arrow.
When there is no sufficient maintenance space above the unit to remove the COVER_F, remove the PLASMA QUAD CONNECT to remove the COVER_F.

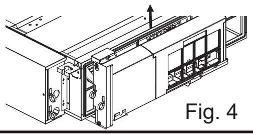


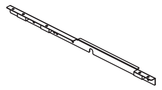
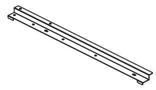
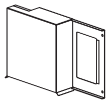
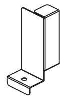
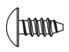
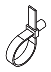
Fig. 4

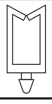
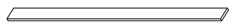
For details on the maintenance of the PLASMA QUAD CONNECT, see the manual for the PLASMA QUAD CONNECT.

■ PAC-HA31PAU

1 Confirming the Supplied Parts

Check that the packet includes the following parts in addition to this Installation Manual.

ITEM	① PLATE 1	② PLATE 2	③ PLATE 3	④ PLATE 4	⑤ Screw (4×10)	⑥ CABLE STRAP
Quantity	1	1	1	1	9	1
Shape PAC-HA31PAU						

ITEM	⑦ WIRE SADDLE	⑧ RUBBER PLATE
Quantity	1	2
Shape PAC-HA31PAU		

2 Installing the PQ attachment and PLASMA QUAD CONNECT

1. Remove the COVER_F, and then remove Filter 1 from the cover of the PLASMA QUAD CONNECT. (Fig. 3-1-1)
   Discard Filter 1, for it is not needed for mounting the PLASMA QUAD CONNECT in the way described here. (In the case of MAC-100FT-E)
   Remove the device and Filter 2, and attach a RUBBER PLATE (⑧) in the area shown in Fig. 3-1-2. (The other plate is a spare.)
   Re-place the device and Filter 2 in their original positions, and close the cover.

* Attach the RUBBER PLATE (⑧) to keep the PLASMA QUAD CONNECT from making noise when the indoor unit to which it is attached vibrates.

* For connecting the internal wiring of the PLASMA QUAD CONNECT, see steps (5) through (9) in the manual for the PLASMA QUAD CONNECT.

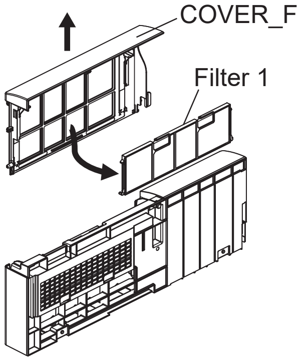


Fig. 3-1-1

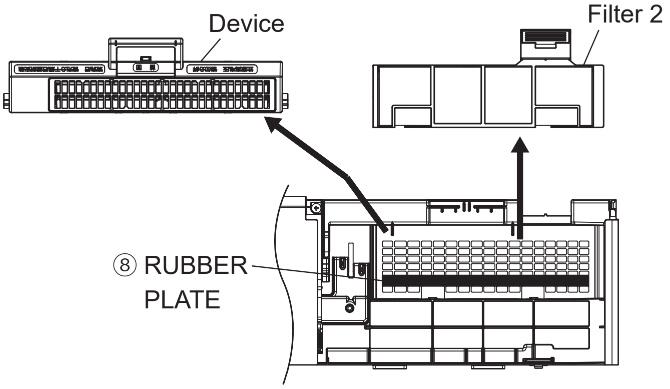


Fig. 3-1-2

2. Remove the filter from the indoor unit. (Fig. 3-2)

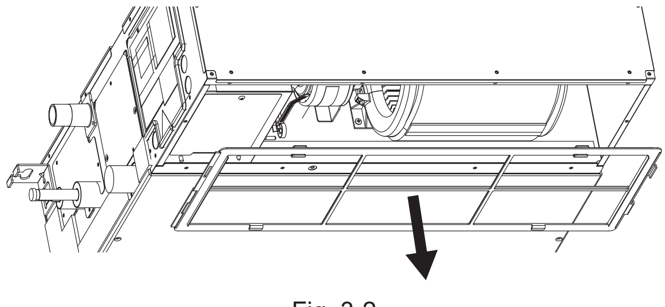


Fig. 3-2

3. Mount PLATE 1 (①) and PLATE 2 (②) to the indoor unit, using four screws.
   Attach CABLE STRAP (⑥) and WIRE SADDLE (⑦) to PLATE 1 (①).
   Re-place the filter to the original position. (Fig. 3-3)

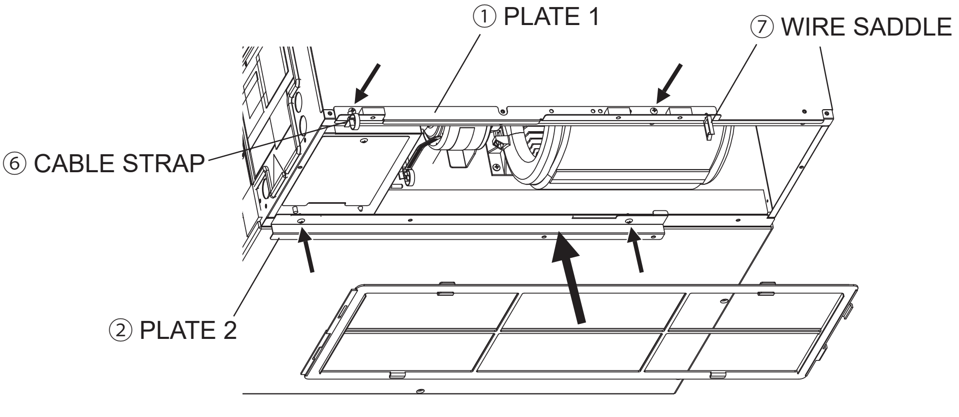


Fig. 3-3

4. Mount PLATE 3 (③) to the indoor unit, using four screws. Insert the PLASMA QUAD CONNECT all the way in the direction of the arrow. (Fig. 3-4)

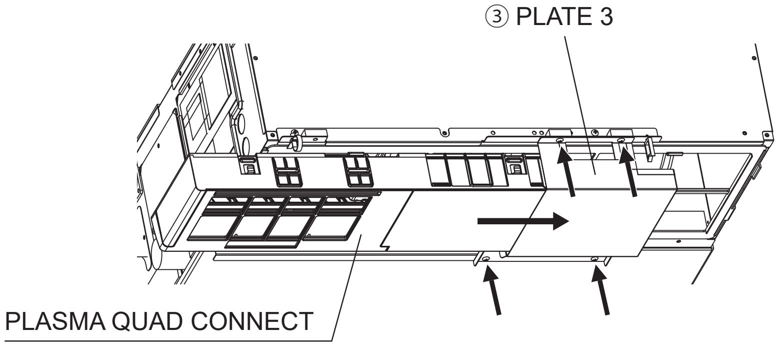


Fig. 3-4

5. Mount PLATE 4 (④) to the indoor unit, using one screw. (Fig. 3-5)
   Make sure to place the PLASMA QUAD CONNECT in the orientation shown in the figure below.

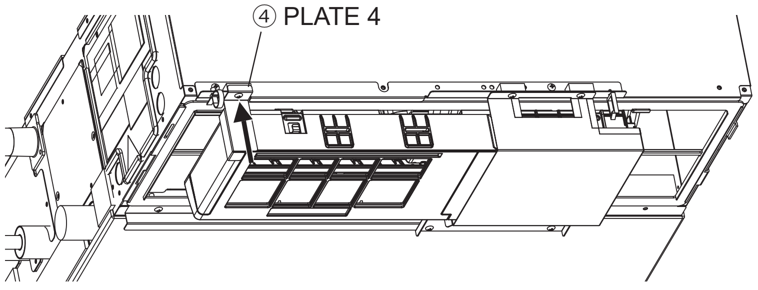


Fig. 3-5

6. Connect cables. (Fig. 3-6)
   Hold the cables with CABLE STRAP (⑥) and WIRE SADDLE (⑦).
   * When using another interface, hold the cables at the same locations as the cables supplied with the PLASMA QUAD CONNECT.

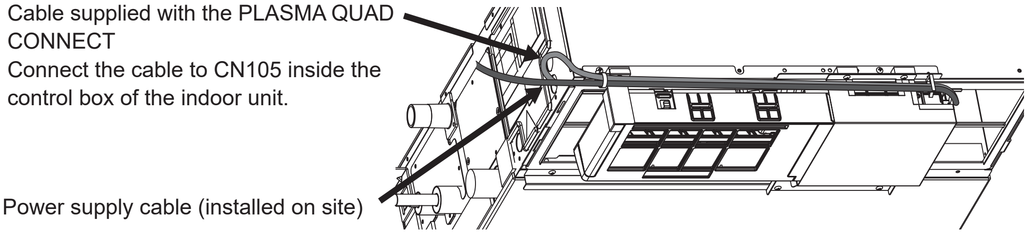

Cable supplied with the PLASMA QUAD CONNECT
Connect the cable to CN105 inside the control box of the indoor unit.
Power supply cable (installed on site)

Fig. 3-6

7. Set the external static pressure.
   Attaching the PLASMA QUAD CONNECT increases the pressure loss. Adjust the external static pressure setting as necessary. For the adjustment procedure, see the Installation Manual for the indoor unit.

3 Maintenance

Turn off the power supply before starting the maintenance work.
Do not pinch the cables during the maintenance work.
Before servicing the indoor unit (suction side), remove the PLASMA QUAD CONNECT.
Before servicing the PLASMA QUAD CONNECT, slide off the COVER_F in the direction of the arrow. (Fig. 4)

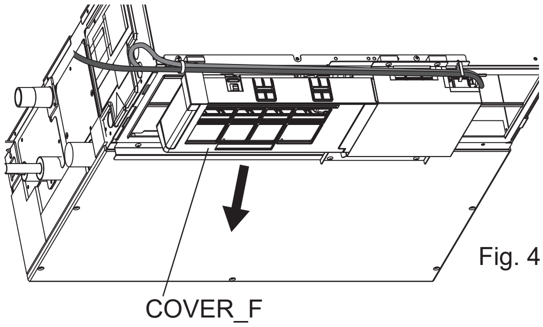


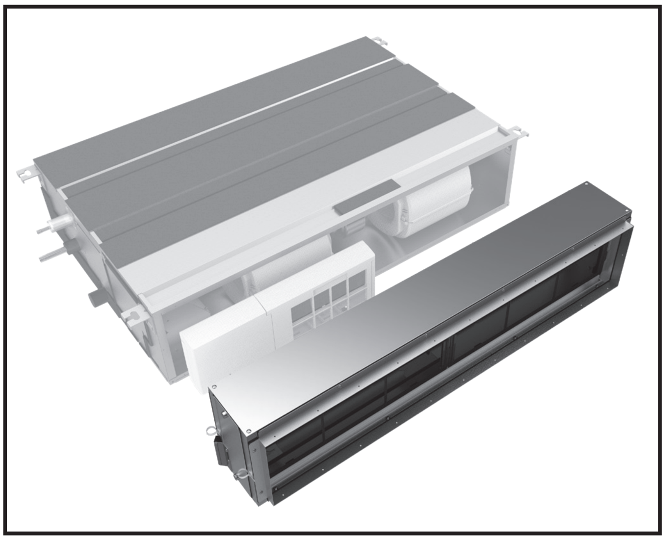
Fig. 4

For details on the maintenance of the PLASMA QUAD CONNECT, see the manual for the PLASMA QUAD CONNECT.

Box for Ducted

PAC-KE92,93,94,95PTB-E

Photo



Descriptions

A filter box that connects Plasma Quad Connect to indoor unit.

※ Plasma Quad Connect should be used together with PQ attachment or PQ box.

Applicable Models

PAC-KE92PTB-E

- PEAD-M35JA2
- PEAD-M50JA2
- PEAD-M35JAL2
- PEAD-M50JAL2
- PEAD-SM35JA
- PEAD-SM50JA
- PEAD-SM35JAL
- PEAD-SM50JAL

PAC-KE93PTB-E

- PEAD-M60JA2
- PEAD-M71JA2
- PEAD-M60JAL2
- PEAD-M71JAL2
- PEAD-SM60JA
- PEAD-SM71JA2
- PEAD-SM60JAL
- PEAD-SM71JAL2

PAC-KE94PTB-E

- PEAD-M100JA2
- PEAD-M125JA2
- PEAD-M100JAL2
- PEAD-M125JAL2
- PEAD-SM100JA2
- PEAD-SM125JA2
- PEAD-SM100JAL2
- PEAD-SM125JAL2

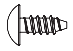
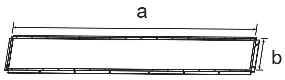
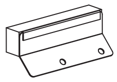
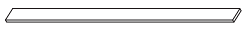
PAC-KE95PTB-E

- PEAD-M140JA2
- PEAD-M140JAL2
- PEAD-SM140JA2
- PEAD-SM140JAL2

How to Use / How to Install

1 Confirming the Supplied Parts

Check that the packet includes the following parts in addition to this Installation Manual.

PARTS	SHAPE		Q'ty	Model name
① SCREW (4×10)			26	PAC-KE92•93PTB-E
			32	PAC-KE94•95PTB-E
② CABLE STRAP			2	PAC-KE92•93•94•95PTB-E
③ SUCTION FLANGE		a × b	-	-
		857 × 208	1	PAC-KE92PTB-E
		1057 × 208	1	PAC-KE93PTB-E
		1357 × 208	1	PAC-KE94PTB-E
		1557 × 208	1	PAC-KE95PTB-E
④ WIRING COVER			1	PAC-KE92•93•94•95PTB-E
⑤ RUBBER PLATE			2	PAC-KE92•93•94•95PTB-E

2 Installing the PQ attachment and PLASMA QUAD CONNECT

Remove the COVER_F, and then remove Filter 1 from the cover of the PLASMA QUAD CONNECT. (Fig. 4-1)
Discard Filter 1, for it is not needed for mounting the PLASMA QUAD CONNECT in the way described here. (In the case of MAC-100FT-E)
Remove the device and Filter 2, and attach a RUBBER PLATE (⑤) in the area shown in Fig. 4-2. (The other plate is a spare.)
Re-place the device and Filter 2 in their original positions, and close the cover.

* Attach the RUBBER PLATE (⑤) to keep the PLASMA QUAD CONNECT from making noise when the indoor unit to which it is attached vibrates.
* For connecting the internal wiring of the PLASMA QUAD CONNECT, see steps (5) through (9) in the manual for the PLASMA QUAD CONNECT.

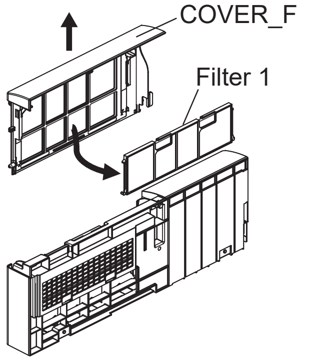


Fig. 4-1

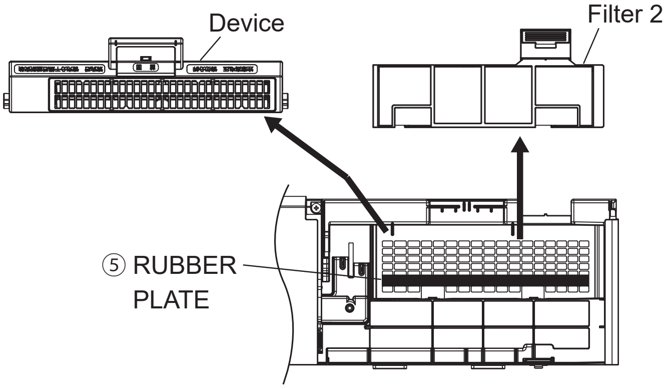


Fig. 4-2

Remove the side panel from the filter box. (Fig. 4-3)

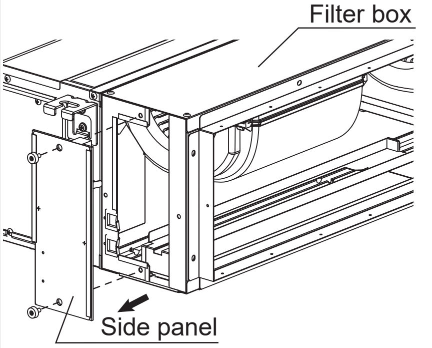


Fig. 4-3

3. Mount the PLASMA QUAD CONNECT on the rails.
   Hook the tabs on the PLASMA QUAD CONNECT onto the notches in the rails. (Fig. 4-4)

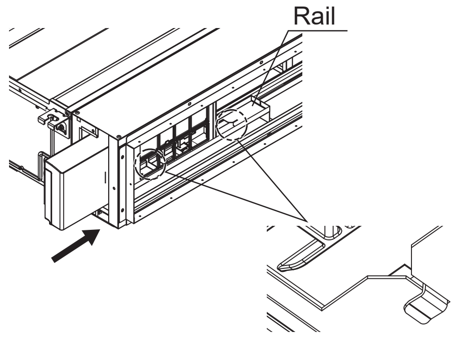


Fig. 4-4

4.Insert the filter that was removed in step 3-1 above along the top and bottom rails.(Fig. 4-5)
When using the PAC-KE93, 94, or 95PTB-E, join the two filters before inserting them. (Fig. 4-6)

> If the two filters are inserted without them being joined together, it will render the one in the back difficult to remove.

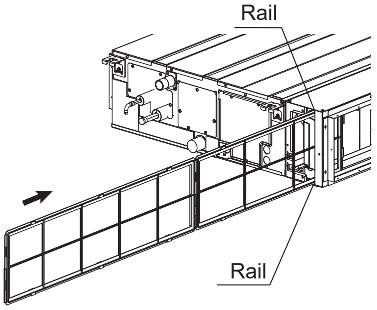


Fig. 4-5

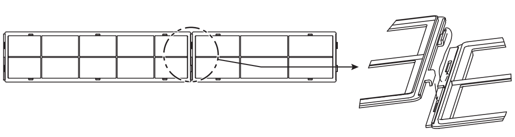
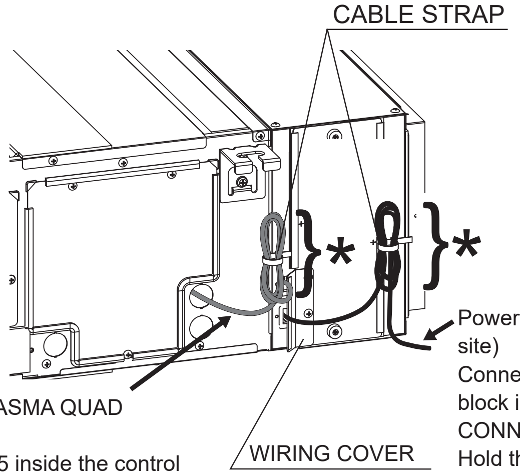


Fig. 4-6

⚠ CAUTION

Never place your hand inside the filter box during maintenance. If the filter
tabs become caught when the filter is removed for maintenance, use a long
stick or similar item to remove the remaining filter.

5.Connect cables. (Fig. 4-7)
Attach the WIRING COVER with the supplied screws, and attach the CABLE STRAP.
The maintenance of the PLASMA QUAD CONNECT requires extra 550 mm or longer of the cable.
Hold the excess cable with the CABLE STRAP marked with * in the figure (including the power supply cable installed on site).
* When using another interface, hold the cables at the same locations as the cables supplied with the PLASMA QUAD CONNECT.



Cable supplied with the PLASMA QUAD CONNECT
Connect the cable to CN105 inside the control box of the indoor unit.
Hold the excess cable with the CABLE STRAP marked with * in the figure.
Length of the cable held with the CABLE STRAP marked with *: 550 mm or longer

Power supply cable (installed on site)
Connect the cable to the terminal block inside the PLASMA QUAD CONNECT.
Hold the excess cable with the CABLE STRAP marked with * in the figure.
Length of the cable held with the CABLE STRAP marked with *: 550 mm or longer

Fig. 4-7

6. Set the external static pressure.
   Attaching the PLASMA QUAD CONNECT increases the pressure loss. Adjust the external static pressure setting as necessary. For the adjustment procedure, see the Installation Manual for the indoor unit.

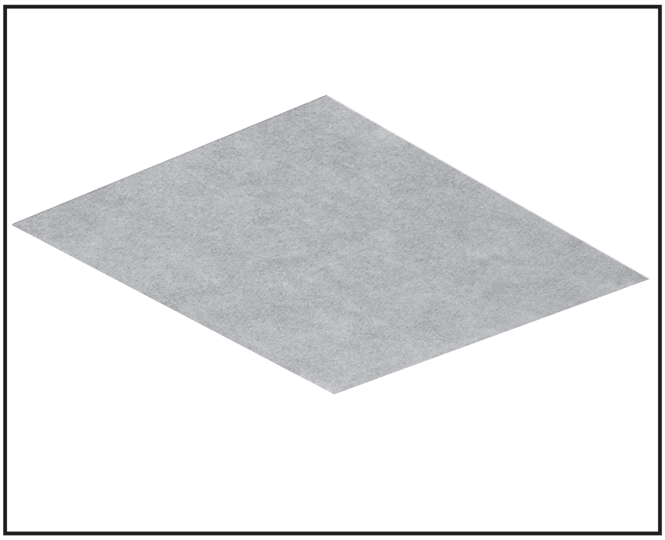
3 Maintenance

Turn off the power supply before starting the maintenance work.
Do not pinch the cables during the maintenance work.
Before servicing the indoor unit (suction side), remove the PLASMA QUAD CONNECT.
To service the PLASMA QUAD CONNECT, remove the PLASMA QUAD CONNECT using the reverse order of installation.
For details on the maintenance of the PLASMA QUAD CONNECT, see the manual for the PLASMA QUAD CONNECT.

V Blocking Filter

PAC-SK53,54,55,56,57KF-E

Photo



Descriptions

V Blocking Filter with antiviral effect inhibits 99% of adhered virus, and other harmful substances, such as bacteria, mold and allergen.
Two-layered filter with non-woven fabric and electrostatic filter can effectively capture and remove small particles from the air in your room.

Applicable Models

PAC-SK53KF-E

- PLA-ZM35EA type
- PLA-ZM50EA type
- PLA-ZM60EA type
- PLA-ZM71EA type
- PLA-ZM100EA type
- PLA-ZM125EA type
- PLA-ZM140EA type
- PLA-M71EA type
- PLA-M100EA type
- PLA-M125EA type
- PLA-M140EA type
- PLA-SM35EA type
- PLA-SM50EA type
- PLA-SM60EA type
- PLA-SM71EA2 type
- PLA-SM100EA2 type
- PLA-SM125EA2 type
- PLA-SM140EA2 type

PAC-SK54KF-E

- SLZ-M15FA type
- SLZ-M25FA type
- SLZ-M35FA type
- SLZ-M50FA type
- SLZ-M60FA type

PAC-SK55KF-E

- PCA-M35KA type
- PCA-M50KA type

PAC-SK56KF-E

- PCA-M60KA type
- PCA-M71KA type

PAC-SK57KF-E

- PCA-M100KA type
- PCA-M125KA type
- PCA-M140KA type

Specifications

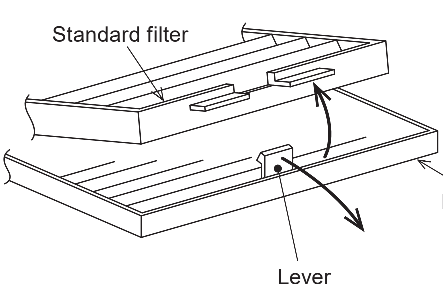
Model	PAC-SK57KF-E	PAC-SK56KF-E	PAC-SK55KF-E	PAC-SK54KF-E	PAC-SK53KF-E
Filter size (mm × mm)	753 × 207	A: 433 × 207 B: 753 × 207	433 × 207	308 × 308	507 × 507
Quantity	2	A × 1, B × 1	1	1	1
Filter Material	Polyester,Rayon				
Color (Filter)	Light green				
Applicable Models	PCA-M100 KA type PCA-M125 KA type PCA-M140 KA type	PCA-M60 KA type PCA-M71 KA type	PCA-M35KA type PCA-M50KA type	SLZ-M**FA series	PLA-ZM**EA series PLA-M**EA series PLA-SM**EA series

How to Use / How to Install

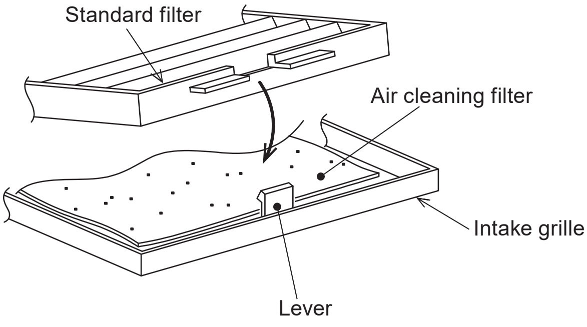
1 Installing the filter

(1) Open the intake grille.
Refer to the installation manuals of 1-way/4-way ceiling-cassette type panels and the ceiling suspended indoor units for details.

(2) Remove the standard filter [Figure 1] and install the Air cleaning filter by aligning its corners with the inside corners of the intake grille [Figure 2]. Then attach the standard filter to fix the Air cleaning filter.
- There is no front or back on the Air cleaning filter.
- Do not layer two or more pieces of Air cleaning filter. Droplets or dripping may result.
- Do not change the number of air outlet to 2 when using the Air cleaning filter.
- It cannot be used with a high efficiency filter.
- It may be discolored depending on the usage environment.



[Figure 1]



[Figure 2]

2 Selecting function

(1) Increasing the air volume (It is necessary when the Air cleaning filter is installed.)
Be sure to make a setting for increasing the air volume as the installation of the Air cleaning filter causes the decrease in air volume, resulting in performance decline and dripping.

■ For Mr. Slim
Set the Setting no. of Mode no. 10 of Function table from 1 to 2 with the remote controller by referring to the installation manual of the indoor unit.
- For SLZ*FA series, set the Setting no. of Mode no.8 of Function table from 2 to 3.

<Example>
Function table

Mode	Settings	Mode no.	Setting no.	Initial setting
Installed options (high efficiency filter)	Not supported	10	1	○
	Supported		2	

3 Cleaning

Every 3 months:
- Remove dirt by a vacuum cleaner.

When dirt cannot be removed by vacuum cleaning:
- Soak the filter in lukewarm water before rinsing it.
- After washing, dry it well in shade.

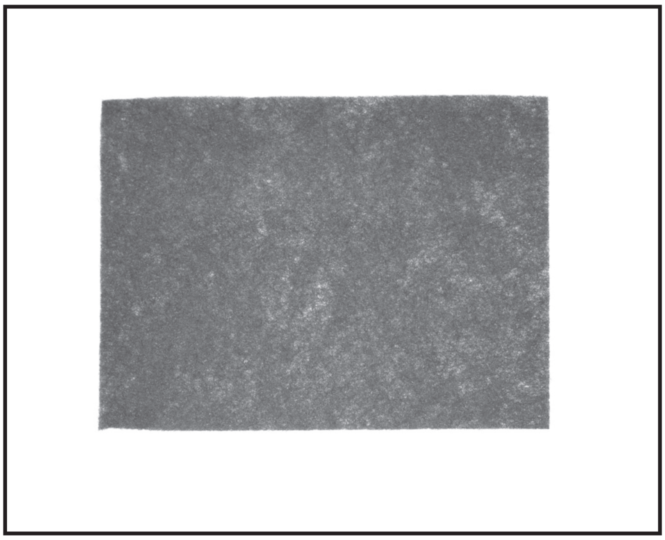
Every year:
- Replace it with a new Air cleaning filter for best performance.

This information is based on **REGULATION (EU) No 528/2012** for Europe countries

Model name	Treated Article (Parts name)	Active Substances (CAS No.)	Property	Instruction for Use (Safe handling information)
PAC-SK53KF-E PAC-SK54KF-E PAC-SK55KF-E PAC-SK56KF-E PAC-SK57KF-E	FILTER	Dimethyloctadecyl [3- (trimethoxysilyl) propyl] ammonium chloride (27668-52-6)	Antivirus Antibacterial Antimold	• Use this product in line with the instruction manual indications and for the intended purpose only. • Do not put into mouth. Keep away from children.

Oil Mist Filter Element (12 pieces) **PAC-SG38KF-E**

Photo



Descriptions

Filter Element (12 Pieces) for ceiling suspended models for professional kitchen use.

Applicable Models

- ■ PCA-M71HA type

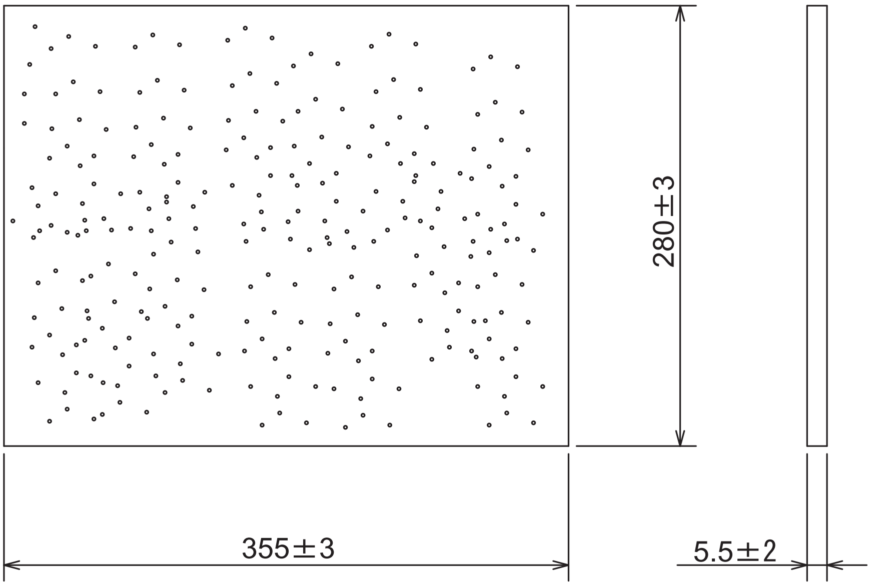
Specifications

Material	Modacrylic fiber / Polyester
Color	Black
Temperature	60 ℃ or less
Reproduction	Disposable (Reproduction not possible)
Packing	12 elements per bag

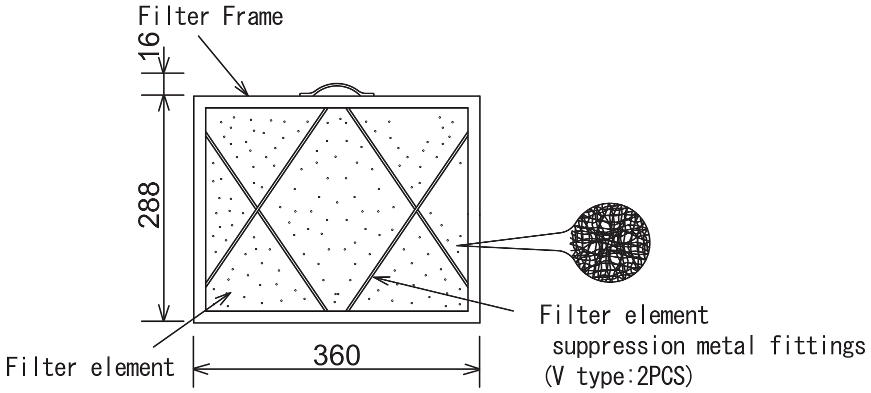
Note: Only the filter element must be replaced
(the filter frame provided on the main body must be used)

Dimensions

Unit : mm



State of installation to filter frame

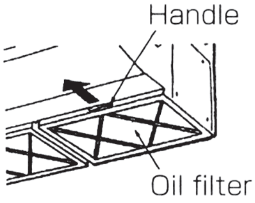


How to Use / How to Install

Cleaning the oil filter

1) Removing the oil filter

①Remove the filter by sliding it in the direction of an arrow.



M71 → 3pieces

2) Replacing the filter element

①Remove the oil filter by sliding it in the direction of an arrow.

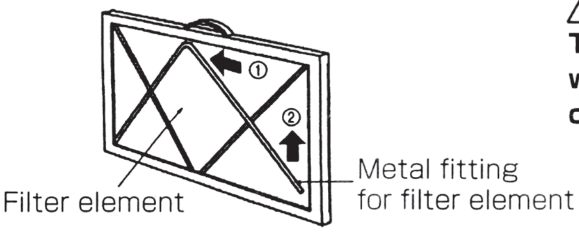
②Remove the two metal fittings for filter element according to the following procedure. Bend the metal fittings towards ① side(inside) and then slide them in the direction of ② to remove.

③Replace the filter element (disposable).

Note:
Install the filter element within the frame securely.

④Install the metal fittings for filter element in their original positions.

⑤Turn the side of oil filter that the metal fittings are installed downward and install the filter in the unit.



3) Cleaning the frame of the oil filter

Tools to be prepared

- Protective goods such as a rubber glove
- Scrubbing brush or brush

Note:
Avoid using a metal scrubbing brush or brush since the aluminum materials could be damaged.

- Household neutral detergent or alkalescent detergent(for washing dishes or clothes)

Note:
If alkaline detergent is used for cleaning, the part made of aluminum could discolor.

Make sure the filter element is removed when cleaning the oil filter.

①If the filter is not so dirty.(If the filter is cleaned once a week(once per 100 operating hours).)
Wash the filter with water and above-mentioned detergent using a scrubbing brush or brush, etc. (It is more effective to wash the filter with lukewarm water.)

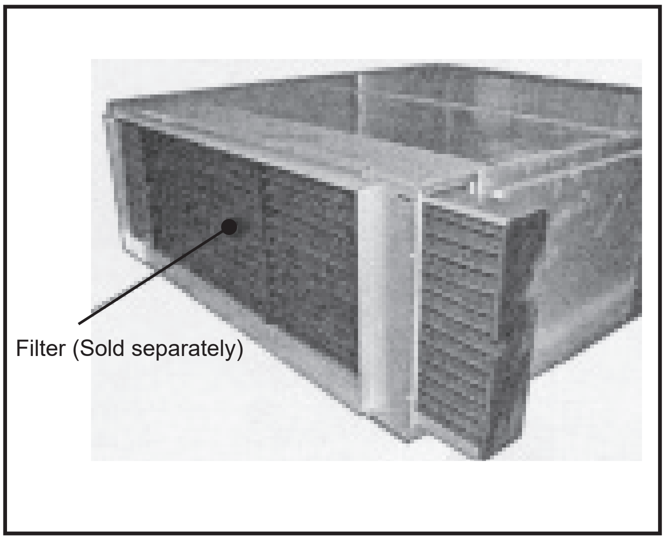
②If the filter is extremely dirty.
Put the previously-mentioned detergent (its strength should be about 1/10 of undi-luted solution)into hot water whose temperature is 50℃ or less, and soak the filter for 1 hour or more before washing.

⚠Warning:
To prevent your hand from burning, start washing the filter after the hot water gets cold.

Long life Filter

PAC-KE85LAF

Photo



Descriptions

Long life filter is part that remove dust in air.
The filter box for the respective type is required for installation.

Applicable Models

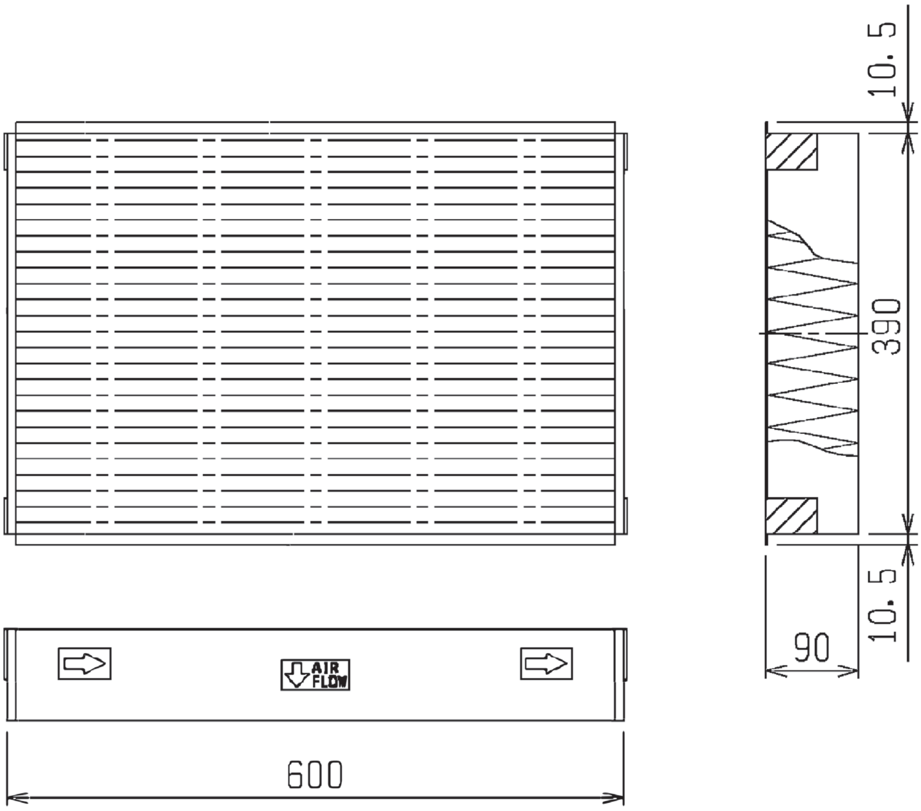
- PEA-M200LA2
- PEA-M250LA2

Specifications

Filter size (mm × mm)	600 × 390
Quantity	2
Filter Material	Synthetic fiber unwoven cloth fllter
Color (Filter)	Black

Dimensions

Unit : mm



OPTIONAL PARTS

INDOOR UNIT

How to Use / How to Install

1 Mounting procedure

Filter box PAC-KE63, 80, 140, 250TB-F

- **Procedure for mounting the filter from the side**

(1) Remove the two screws for the cover on the filter box. (Fig. 1)

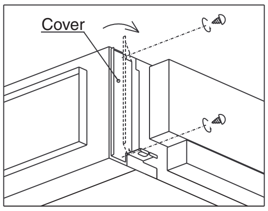


Fig.1

(2) When using filter box PAC-KE63, 80, 140TB-F (using filter : high-efficiency filter), change the position (up/down) of the retainer plate. (Fig. 2)
(Not necessary if using the long-life filter or filter box PAC-KE250TB-F.)

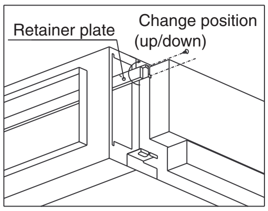
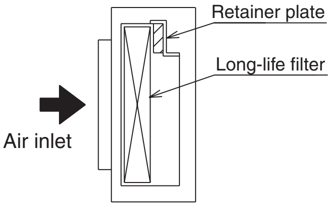
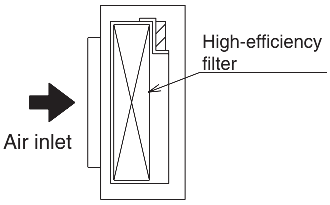


Fig.2

Mount by inserting the rear side into the side panel of the filter box and securing in the front with two screws.



When using long-life filter
(insulation on inside) <as shipped>



When using high-efficiency filter
(insulation on outside)

(3) Insert the filter through the opening in the filter box. After the filter has been insertsd, close the cover (removed in stop(1)) and tighten the screws. (Fig. 3)

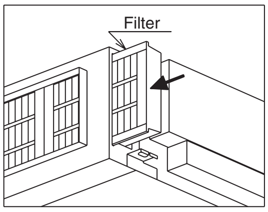
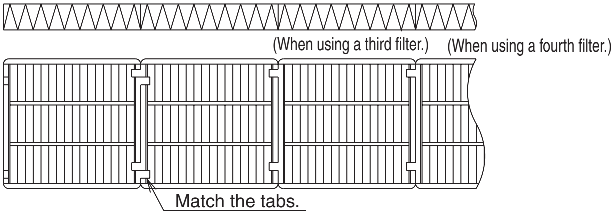


Fig.3

When using a long-life filter other than the PAC-KE85LAF.



The PAC-KE85LAF and high-efficiency filters are joined by hook-and-loop fastening tape. Be sure to check the position and proper adhesion of this tape when inserting the filter.

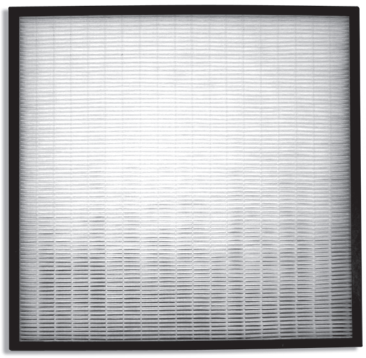
⚠ CAUTION

Never place your hand inside the filter box during maintenance. If the filter tabs become caught when the filter is removed for maintenance, use a long stick or similar item to remove the remaining filter.

High-efficiency Filter Element

PAC-SH59KF-E

Photo



Descriptions

High Efficiency Filter is part that remove dust in air.
Multi-functional casement is required for installation.
PAC-SJ41TM-E (E type)

Applicable Models

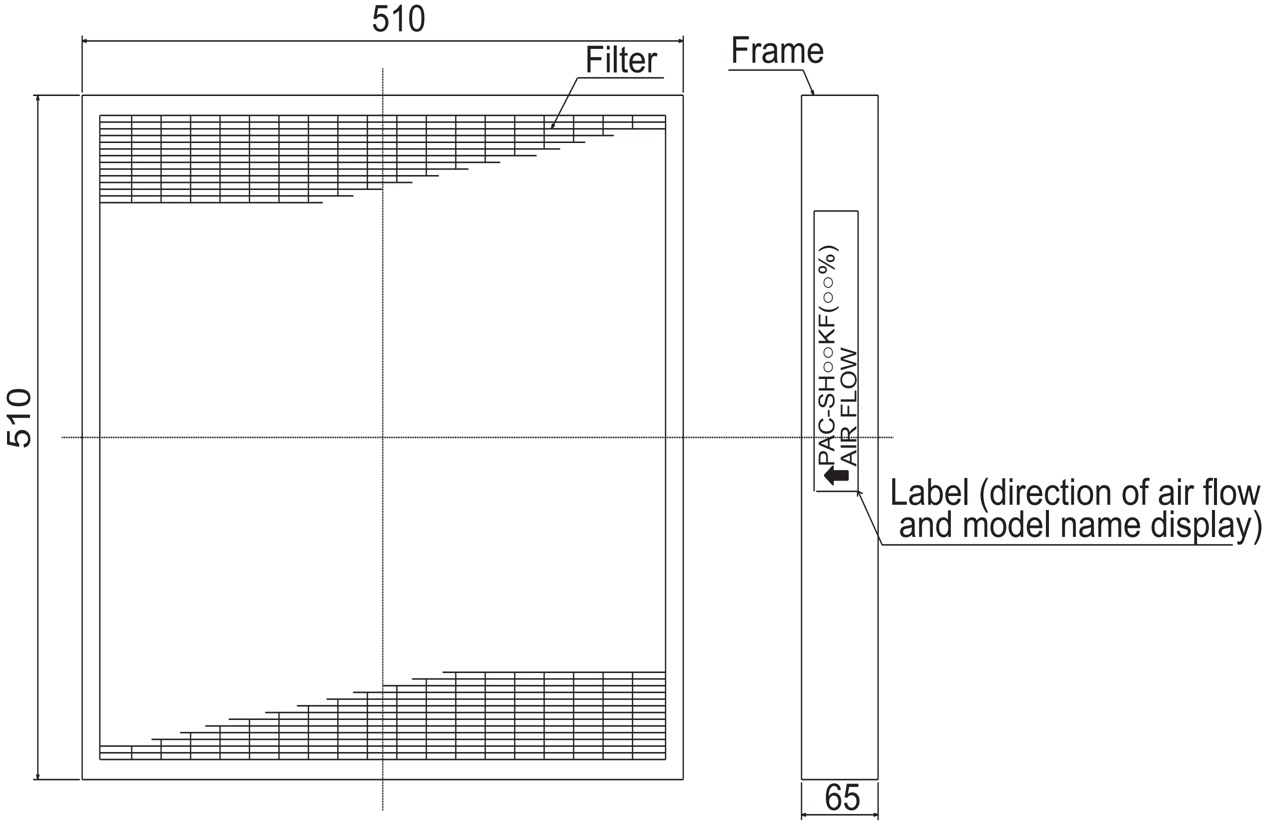
- PLA-ZM·EA series
- PLA-M·EA series
- PLA-SM·EA series

Specifications

Dust collection efficiency	Colorimetric method 65% (JIS 11 class)
Filter element ,aterial	Electrrostatic polyolefin fiber
Life	Approx. 2,500 hours (at dust density 0.15 mg/m^3) *Reproduction not possible
Parts composition	This element x 1

Dimensions

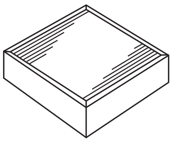
Unit : mm



How to Use / How to Install

1 Parts check.

(The unit is provided with this manual and following parts in the box.)

Part #, Name	High-efficiency filter element
Q'ty	1
Figure	

NOTICE

(1) In case that the High-efficiency filter element is installed, it should be installed on the Multi-functional casement which is option.
Be sure to purchase the Multi-functional casement.

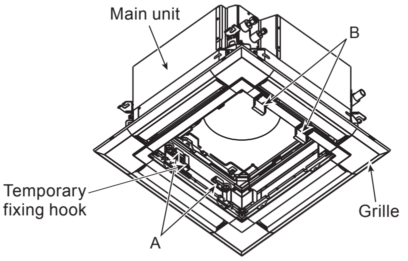
2 Installation of High-efficiency filter element (same procedure for replacement)

- ●Remove the intake grille of the grille in advance. (See the "installation instructions of grille" for details.)
- ●Loosen the 4 screws (B type)/8 screws (E type) of the 2 plates (B type)/4 plates (E type) for installation of the High-efficiency filter element of the Multi-functional casement as shown below. Then, slide them outward.
- ●Set the High-efficiency filter element in the Multi-functional casement, slide the plates inward, and then tighten the 4 screws (B type)/8 screws (E type) securely.

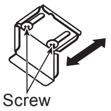
Note:
1. When the main unit is used with "2 ways" air outlet, the High-efficiency filter element is not available.
2. When the High-efficiency filter element is installed, the operation noise can be larger.
3. When attaching the High-efficiency filter element, check the direction of air flow, referring to the stamp on the side.

E type

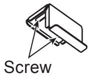
Mr.Slim: PLA-EA
City Multi: PLFY-VEM



Bracket for installation of the High-efficiency filter element “B”



Bracket for installation of the High-efficiency filter element “A”



3 Air flow volume setting when High-efficiency filter element is installed

Note:
1. When the High-efficiency filter element is attached for the first time, the setting for increase in airflow rate must be performed.
2. This setting is necessary only when the element is newly attached: No setting is required when the filter is replaced.

⚠CAUTION	Set up for increasing air flow volume.
	●If the set up is not done correctly, the air flow volume will decrease and it can lower the performance and cause dew drop.

1) If the main unit to be combined is a slim air conditioner (combination with PLA):
   - ●Setting must be performed from the remote control: See the pages of "Function Selection" in the installation manual provided with the remote control. (Set optional assembly to "Yes".)

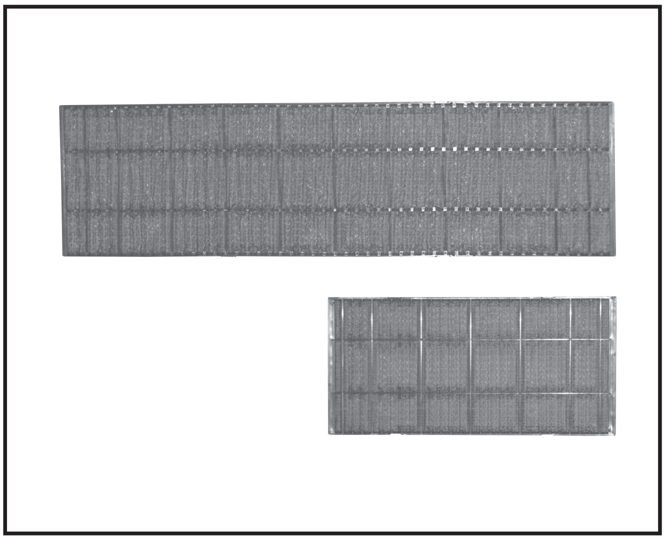
4 Replacement Period

- ●The High-efficiency filter element is single-use (not recyclable).
- ●The reference for operation time is 2,500 hours (depending on the environment in which the air-conditioner is installed).

⚠CAUTION	Do not wash with water.
	●Washing with water will degrade the performance and could cause the element to become unusable.

High-efficiency Filter Element PAC-SH88,89,90KF-E

Photo



Descriptions

- •High Efficiency Filter is part that remove dust in air.
- •Dust collection efficiency: 70% (Weighing method)
- •It is the best for the air-conditioning of the stove where a lot of going of the person in and out exists.

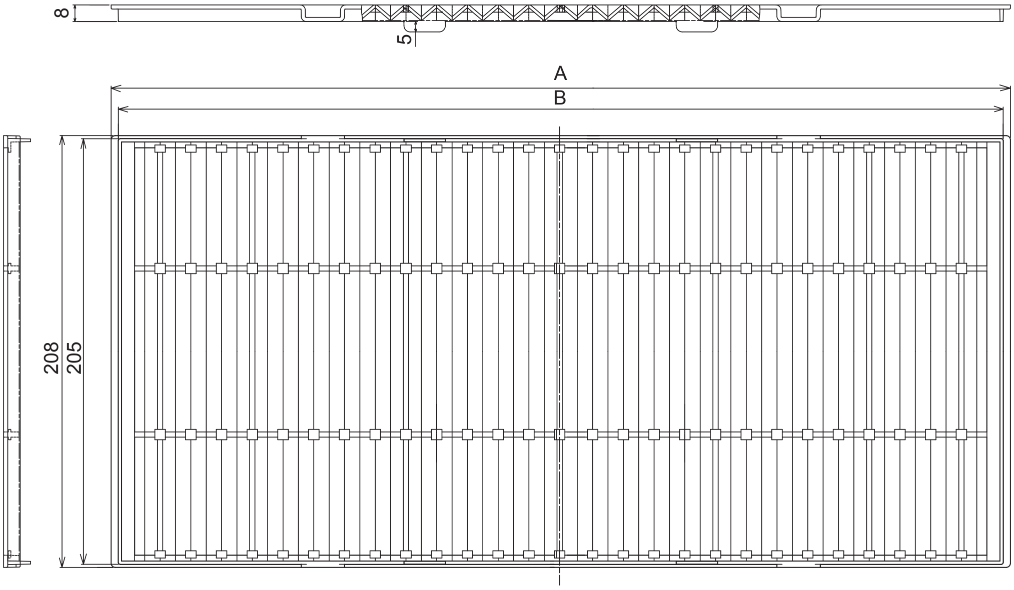
Applicable Models and Specifications

Model		PAC-SH88KF-E	PAC-SH89KF-E	PAC-SH90KF-E
Dust collection efficiency		70% (weighing method)		
Filter material		PP fiber (antibacterial + mildew-proof), honeycomb weave (Identification: gray yarn woven)		
Maintenance		Approx. 2,500 hours (varies with operating conditions)		
Parts composition	Filter(large)	–	1	2
	Filter(small)	2	1	–
Applicable models (type)		PCA-M35,50KA type	PCA-M60,71KA type	PCA-M100,125,140KA type

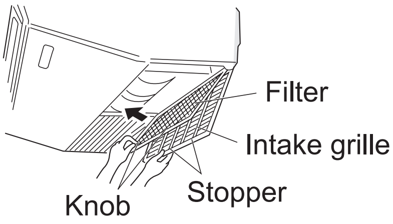
Dimensions

Unit : mm

	A	B
Small	432	425
Large	752	745



How to Use / How to Install

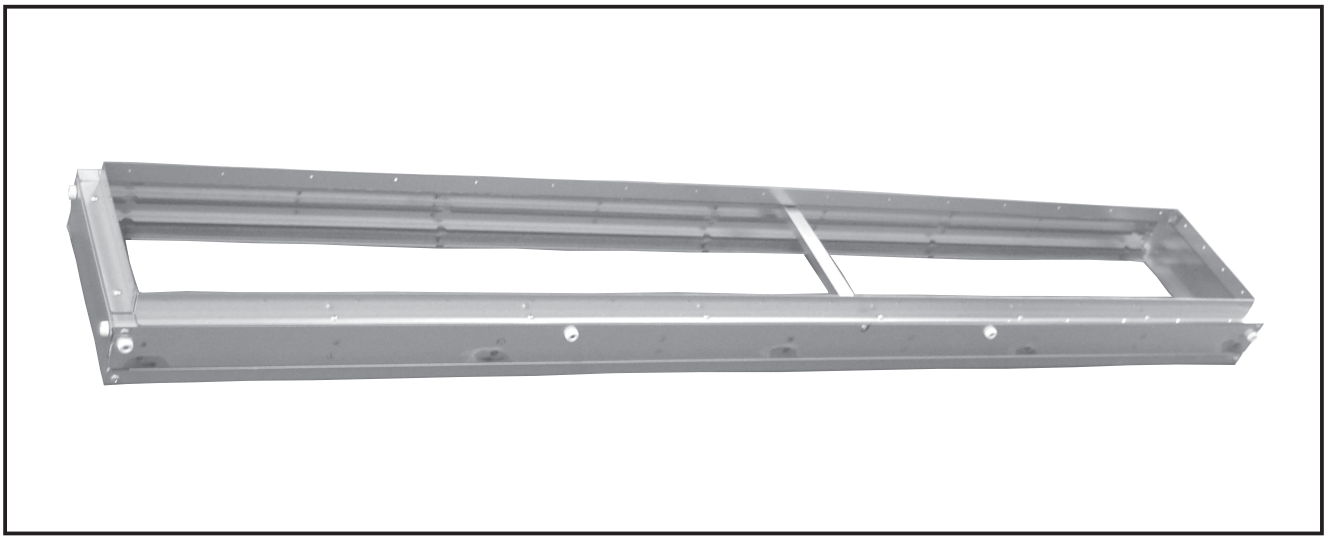


1 Open the intake grille.
2 Hold the knob on the filter then pull the filter up in the direction of an arrow. To replace the high efficiency filter, be sure to insert the filter far enough until it fits into the stopper.

Filter box

PAC-KE92,93,94,95TB-E

Photo



Applicable Models

Model	PAC-KE92TB-E	PAC-KE93TB-E	PAC-KE94TB-E	PAC-KE95TB-E
Applicable models	PEAD-M35,50JA(L) type PEAD-SM35,50JA(L) type	PEAD-M60,71JA(L) type PEAD-SM60,71JA(L) type	PEAD-M100,125JA(L) type PEAD-SM100,125JA(L) type	PEAD-M140JA(L) type PEAD-SM140JA(L) type

How to Use / How to Install

1 Confirming the Supplied Parts

1. Model names and applicable models

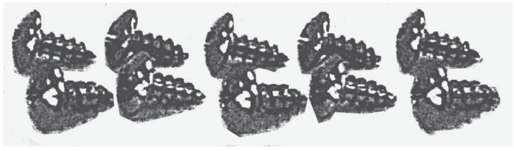
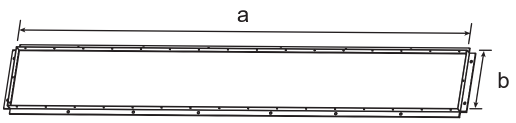
Model name	Applicable types	Applicable filter	
		Size	Q'ty
PAC-KE92TB-E	PEAD-M35,50JA(L) PEAD-SM35,50JA(L)	900×240	1
PAC-KE93TB-E	PEAD-M60,71JA(L) PEAD-SM60,71JA(L)	550×240	2
PAC-KE94TB-E	PEAD-M100,125JA(L) PEAD-SM100,125JA(L)	700×240	2

PAC-KE95TB-E	PEAD-M140JA(L)
	PEAD-SM140JA(L)
		700×240
		+
			1

		900×240	1

2. Provided parts

Check that the packet includes the following parts in addition to this installation manual.

PARTS	SHAPE		Q'ty	Model name
① SCREW(4 × 10)			24	PAC-KE92,93TB-E
			30	PAC-KE94,95TB-E
② SUCTION FLANGE		a × b	-	-
		857×208	1	PAC-KE92TB-E
		1057×208	1	PAC-KE93TB-E
		1357×208	1	PAC-KE94TB-E
		1557×208	1	PAC-KE95TB-E

2 Attach the filter box

Attach the filter box before installalling the indoor unit.

1. Remove the filter on the indoor unit. (Fig. 2-1)

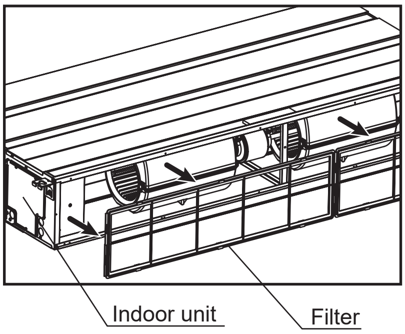


Fig.2-1

2. Install the filter box on the indoor unit with the supplied screws. (Fig. 2-2)

PAC-KE92,93TB-E ············10 pcs.
PAC-KE94,95TB-E ············12 pcs.

Note) Failure to firmly tightened the screws will cause air leakage. Make sure the screws are firmly tightened.

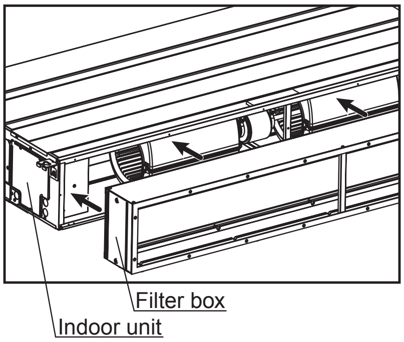


Fig.2-2

3. Install the supplied suction flange on the filter box with the supplied screws. (Fig. 2-3)

PAC-KE92,93TB-E ············12 pcs.
PAC-KE94,95TB-E ············16 pcs.

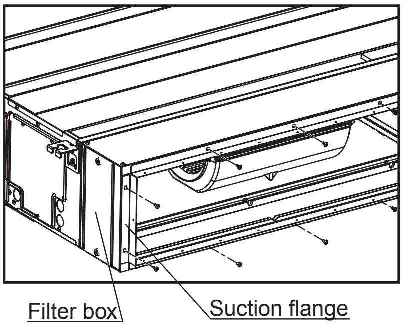


Fig.2-3

3 Installing the filter

1. Installation that allows for maintenance from the side

(1) Remove the side panel from the filter box. (Fig. 3-1-1)

(2) Insert the filter that was removed in step 2-1 above along the top and bottom rails. (Fig. 3-1-2)
When using the PAC-KE93, 94, or 95TB model, join the two filters before inserting them. (Fig. 3-1-3)

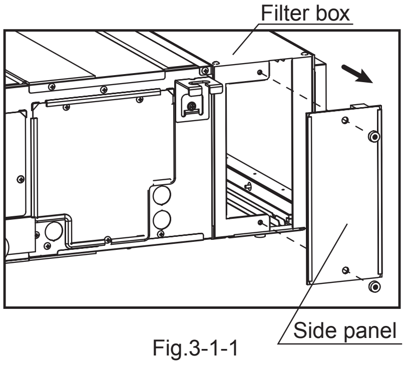


Fig.3-1-1

If the two filters are inserted without them being joined together, it will render the one in the back difficult to remove.

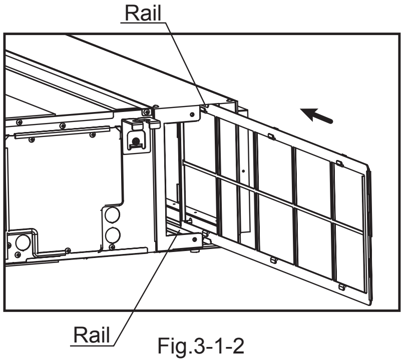


Fig.3-1-2

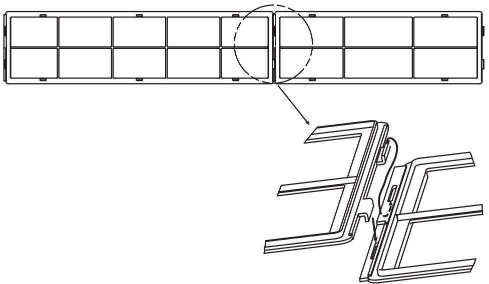


Fig.3-1-3

⚠ CAUTION

Never place your hand inside the filter box during maintenance. If the filter tabs become caught when the filter is removed for maintenance, use a long stick or similar item to remove the remaining filter.

2. Installation that allows for maintenance from the bottom

(1) Remove the under panel from the filter box. (Fig. 3-2-1)

(2) Insert the filter that was removed in step 3-1 above through the bottom of the filter box. (Fig. 3-2-2)

(3) Insert the filter between the insulators on the top plate of the filter box until the filter is completely inside the filter box, and place the filter on the under frame of the filter box. (Fig. 3-2-3)

(4) Install the under panel.

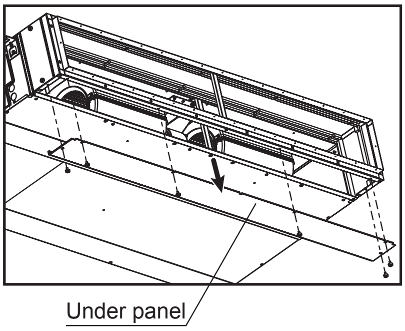


Fig.3-2-1

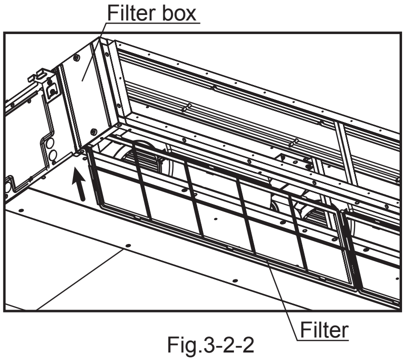


Fig.3-2-2

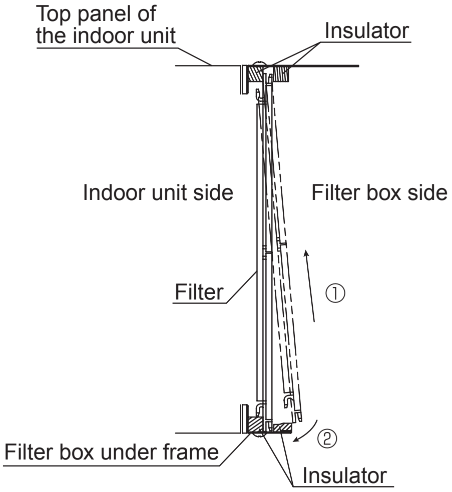


Fig.3-2-3

Final Check

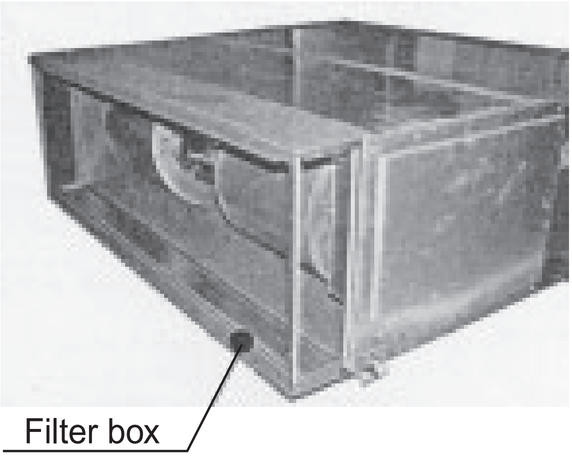
The last step of the procedure is to make sure that nothing has been overlooked during the procedure. In addition, once the filter box has been mounted and the above procedure has been completed, carefully check for air leakage at the connections of the indoor unit.

For more detailed information, please consult your dealer.

Filter Box

PAC-KE250TB-F

Photo



Descriptions

A filter box that connects long life filter to indoor unit.

※ The filter box for the respective type is required for installation.

Applicable Models

- ■ PEA-M200LA2
- ■ PEA-M250LA2

How to Use / How to Install

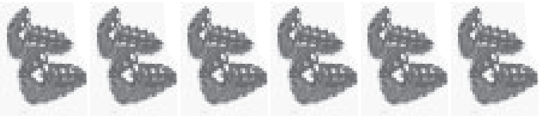
1 Confirming the Supplied Parts

1. Model names and applicable models

Model name	Applicable filter			
	Filter	Model name	Size	Q'ty
PAC-KE250TB-F	Long life filter	PAC-KE85LAF	411×600	2

2. Provided parts

Check that the packet includes the following parts in addition to this installation manual.

PARTS	SHAPE	Q'ty
① SCREW(4×10)		12

2 Attach the filter box

Attech the filter box before installalling the indoor unit.

1. Remove the fixing screws (12 screws) and then remove the flange from the indoor unit. (Refer to Photo 3-1)
   Note) These screws will be reused. Keep them in a safe place.
2. Open the cover on the side of the filter box.
3. Use the screws provided to mount the filter box. (Refer to Photo 3-2)

   Note) Failure to firmly tightened the screws will cause air leakage. Make sure the screws are firmly tightened.
4. Attach the intake flange removed is Step 1. to the filter box. (Refer to Photo 3-3)
5. After the filter (sold separately) has been inserted, close the cover. (Refer to Photo 3-4)

⚠ CAUTION

Never place your hand inside the filter box during maintenance. If the filter tabs become caught when the filter is removed for maintenance, use a long stick or similar item to remove the remaining filter.

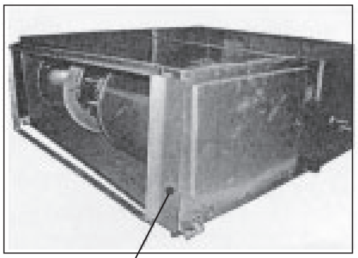


Photo. 3-1

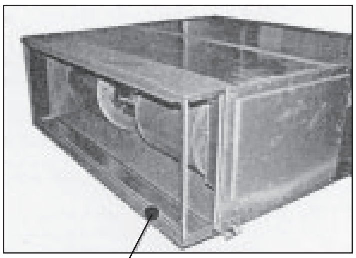


Photo. 3-2

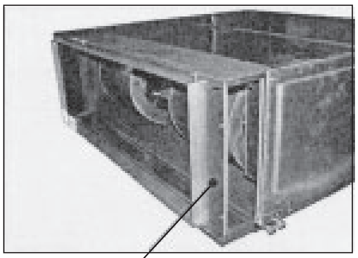


Photo. 3-3

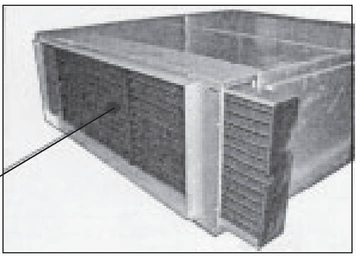
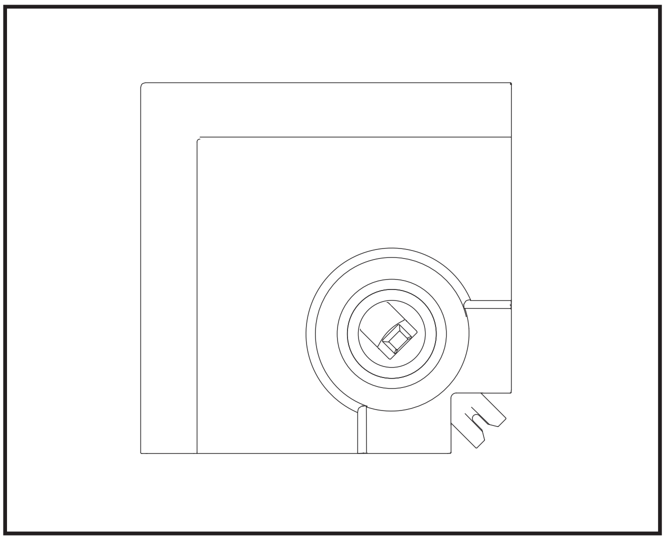


Photo. 3-4

3 Final Check

The last step of the procedure is to make sure that nothing has been overlooked during the procedure. In addition, once the filter box has been mounted and the above procedure has been completed, carefully check for air leakage at the connections of the indoor unit.

Figure



Descriptions

- A total of eight sensors rotate a full 360° in 3- minute intervals. In addition to ditecting body temperature, our original algorithm also detects the number of occupants in the room and their positions.
- Install the i-see Sensor corner panel to the corner of the decorative panel.

Applicable Models

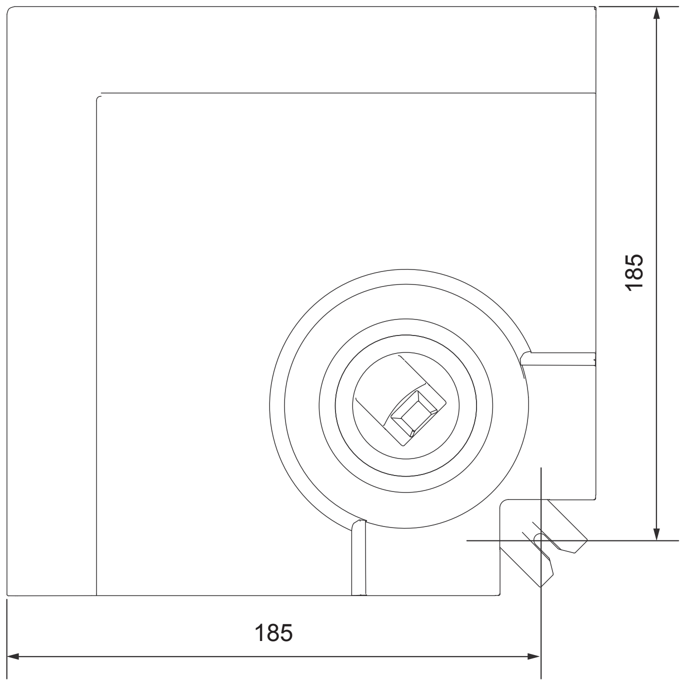
■ PLA-ZM·EA series
■ PLA-M·EA series
■ PLA-SM·EA series

Specifications

Adapter wiring	Connect the 9-core cord with connector to the indoor controller board of the indoor unit.
Exterior	ABS resin (Munsell No.1.0Y9.2/0.2)

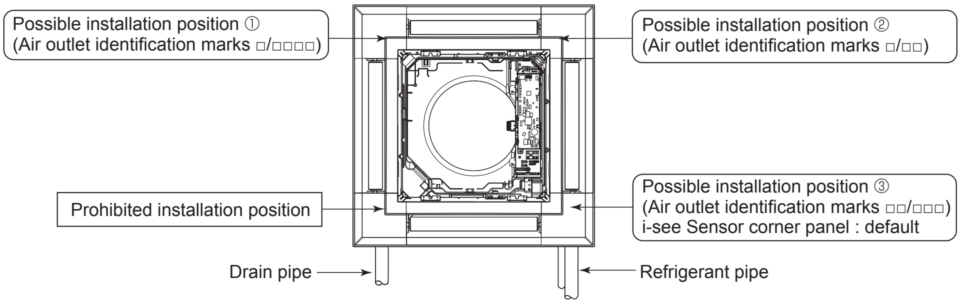
Dimensions

Unit : mm



How to Use / How to Install

- **The i-see Sensor corner panel can be installed on any of the following positions among 1 to 3:**


Possible installation position ①
(Air outlet identification marks □/□□□□)
Possible installation position ②
(Air outlet identification marks □/□□)
Prohibited installation position
Possible installation position ③
(Air outlet identification marks □□/□□□)
i-see Sensor corner panel : default
Drain pipe
Refrigerant pipe

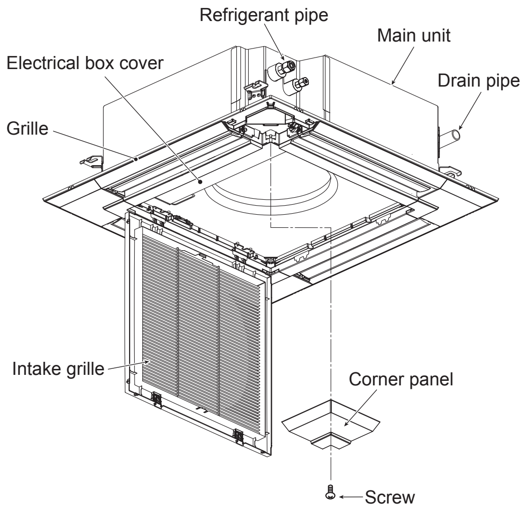
1 Preparation for installing i-see Sensor corner panel

Make sure to turn off the main power before work.

1. Open the intake grille and remove the corner panel. The corner panel is at where refrigerant pipes are (where local wires are drawn into).
   The following explains procedures for the case of the possible installation position ③. When the position ① or ② is selected, remove the corresponding corner panel.

   Note:
   - ● Discard only the removed corner panel.
   - ● Reuse the screw of the removed corner panel to install the i-see Sensor corner panel.
   - ● When installing the i-see Sensor corner panel during grille installation, complete the wiring work of grille before proceeding to the following procedure.

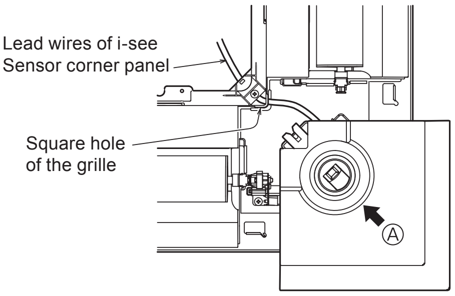
2. Loosen the 2 screws on the electrical box cover, and remove the cover by sliding; however, in this installation, the cover can hang temporarily.



2 Installing i-see Sensor corner panel

2-1 Installation procedure for possible installation position ③

1. Pull the lead wires of i-see Sensor corner panel from the square hole of the grille where the removed corner panel was.

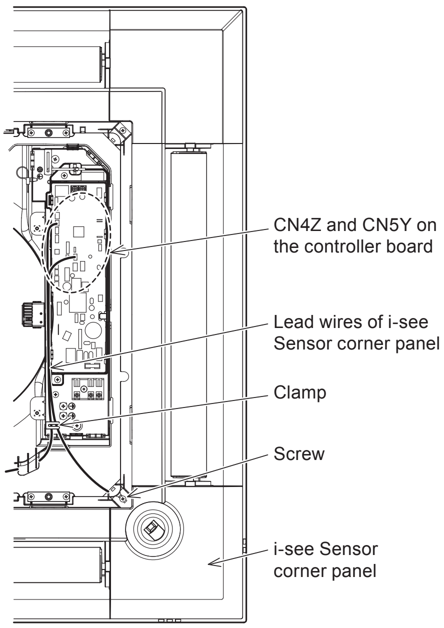

Lead wires of i-see Sensor corner panel
Square hole of the grille
Ⓐ

2. Route the lead wire connector (white, 4 poles and white, 5 poles) of the i-see Sensor corner panel from the side of the electrical box on the main unit, and connect to the connector CN4Z and CN5Y on the controller board.

3. Use the clamp inside the electrical box to hold the lead wires for the i-see Sensor corner panel into the electrical box without slack.

4. Slide the i-see Sensor corner panel towards the arrow A as shown in the figure above, and fix it with the screw.
   (Reuse the screw of the corner panel removed in the previous procedure.)

5. After the installation of the i-see Sensor corner panel is complete, re-install the electrical box cover and the intake grille as they were.


CN4Z and CN5Y on the controller board
Lead wires of i-see Sensor corner panel
Clamp
Screw
i-see Sensor corner panel

2-2 Installation procedure for possible installation position ①

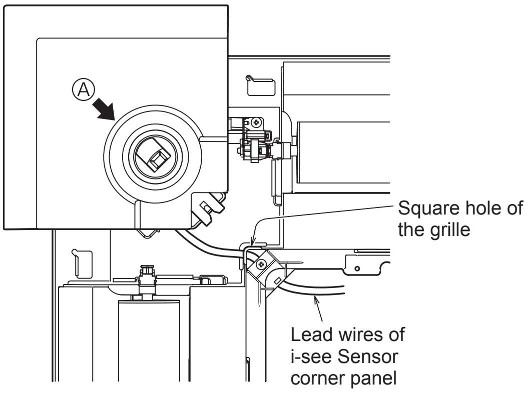
1. Pass the lead wire of i-see Sensor corner panel through the square hole of the grille located in the corner.

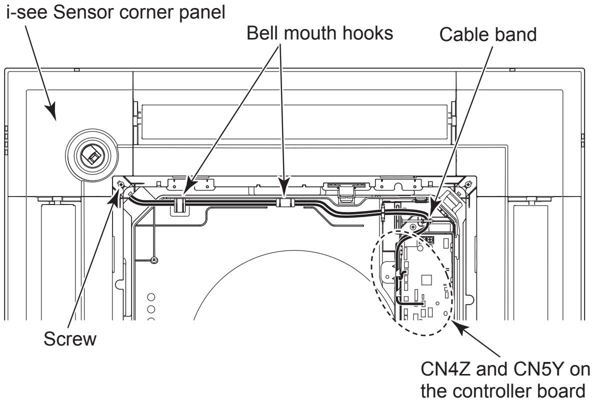
2. Route the lead wire connectors (white, 4 poles and white, 5 poles) of the i-see Sensor corner panel from the side of the electrical box on the main unit, and connect to the connectors CN4Z and CN5Y on the controller board.

3. Route the lead wires for the i-see Sensor corner panel through the bell mouth hooks on the main unit and fix the excess portions of the lead wires in the electrical box using the cable band, making sure that there is no slack in the lead wires.

4. Slide the i-see Sensor corner panel towards the arrow A as shown in the figure above, and fix it with the screw. (Reuse the screw of the corner panel removed in the previous procedure.)

5. After the installation of the i-see Sensor corner panel is complete, re-install the electrical box cover and the intake grille as they were.


Ⓐ
Square hole of the grille
Lead wires of i-see Sensor corner panel


i-see Sensor corner panel
Bell mouth hooks
Cable band
Screw
CN4Z and CN5Y on the controller board

2-3 Installation procedure for possible installation position ②

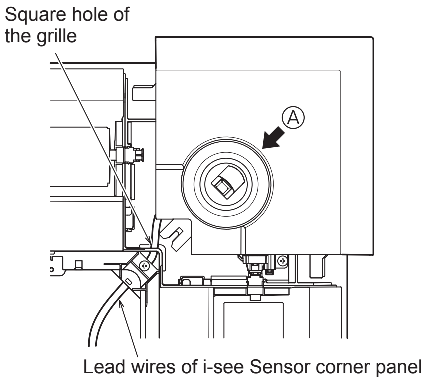
1. Pass the lead wire of i-see Sensor corner panel through the square hole of the grille located in the corner.

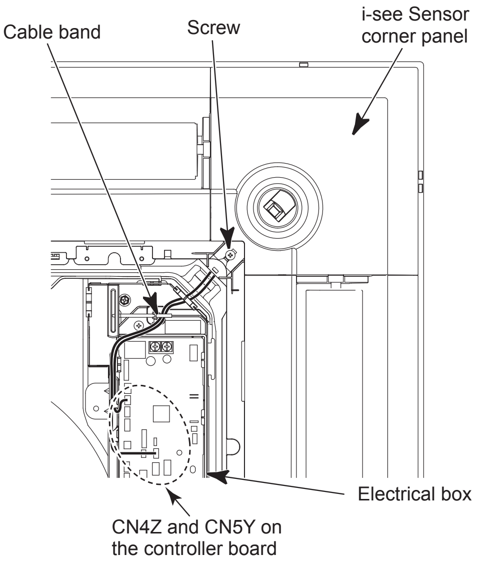
2. Route the lead wire connectors (white, 4 poles and white, 5 poles) of the i-see Sensor corner panel from the side of the electrical box on the main unit, and connect to the connectors CN4Z and CN5Y on the controller board.

3. Fix the excess portions of the lead wires for the i-see Sensor corner panel in the electrical box using the cable band, making sure that there is no slack in the lead wires.

4. Slide the i-see Sensor corner panel towards the arrow A as shown in the figure above, and fix it with the screw. (Reuse the screw of the corner panel removed in the previous procedure.)

5. After the installation of the i-see Sensor corner panel is complete, re-install the electrical box cover and the intake grille as they were.


Square hole of the grille
Ⓐ
Lead wires of i-see Sensor corner panel


Cable band
Screw
i-see Sensor corner panel
Electrical box
CN4Z and CN5Y on the controller board

- Make sure to perform a function selection to set the position or the ceiling height of the i-see Sensor using the remote controller or DIP switches.

1) When used in combination with PLA-EA

Configuration will be done on the remote controller. For the function selection procedure and operation method, refer to “5. Service Menu” in the installation manual of the remote controller.

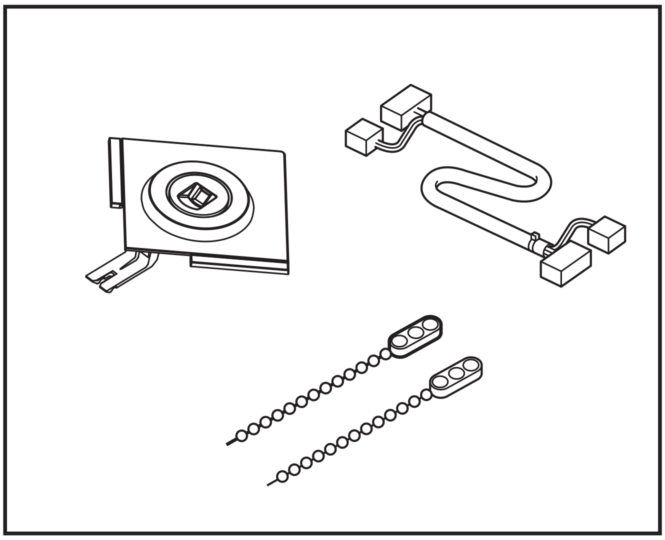
Select and configure units 01–04 or all units.

a) To configure the indoor unit of an independent system, select and configure unit 01.
b) To configure two, three, or four indoor units individually, select and configure each unit 01–04.
c) To configure two, three, or four indoor units simultaneously, select and configure all units.

Mode	Setting	Mode number	Setting number	Initial setting	Check*	Remarks
3D i-see Sensor positioning	Position ①	12	1			Corner with the air outlet identification marks □/□□□□
	Position ②		2			Corner with the air outlet identification marks □/□□
	Position ③		3	○		Corner with the air outlet identification marks □□/□□□
3D i-see Sensor ceiling height setting (when installing the 3D i-see Sensor panel)	Low ceiling	26	1			Ceiling height: less than 2.7 m
	Standard		2	○		Ceiling height: 2.7 – 3.5 m
	High ceiling		3			Ceiling height: 3.5 – 4.5 m

3D i-see Sensor Control Panel **PAC-SF1ME-E**

Figure



Descriptions

- Both floor and inlet temperatures are measured to provide a comfort sensation fully in a room covering from the ceiling to the floor surfaces.
- The i-see Sensor detects persons in the room and performs various control functions according to the remote controller settings.
- Install the i-see Sensor corner panel to the corner of the decorative panel.

Applicable Models

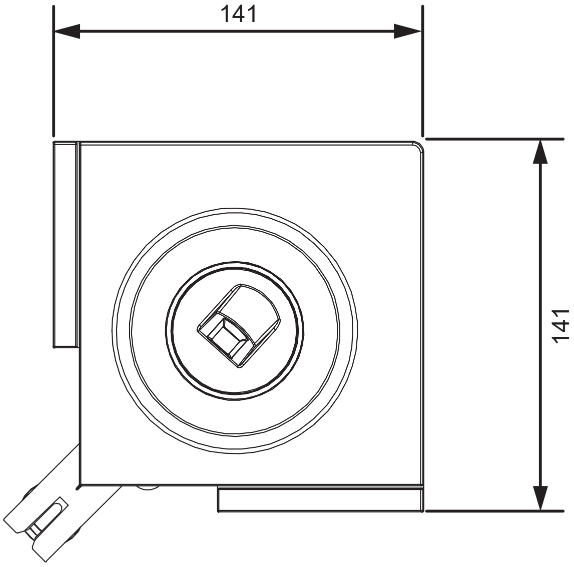
■ SLZ-M·FA series

Specifications

Adapter wiring	Connect the 9-core cord with connector to the indoor controller board of the indoor unit.
Exterior	ABS resin (Munsell No.1.0Y9.2/0.2)
i-see Sensor operation	The i-see Sensor rotates for approximately one minute once every three minutes.

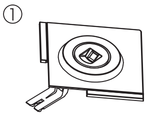
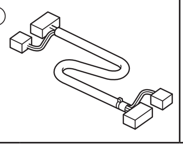
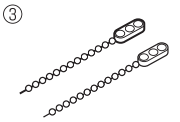
Dimensions

Unit : mm

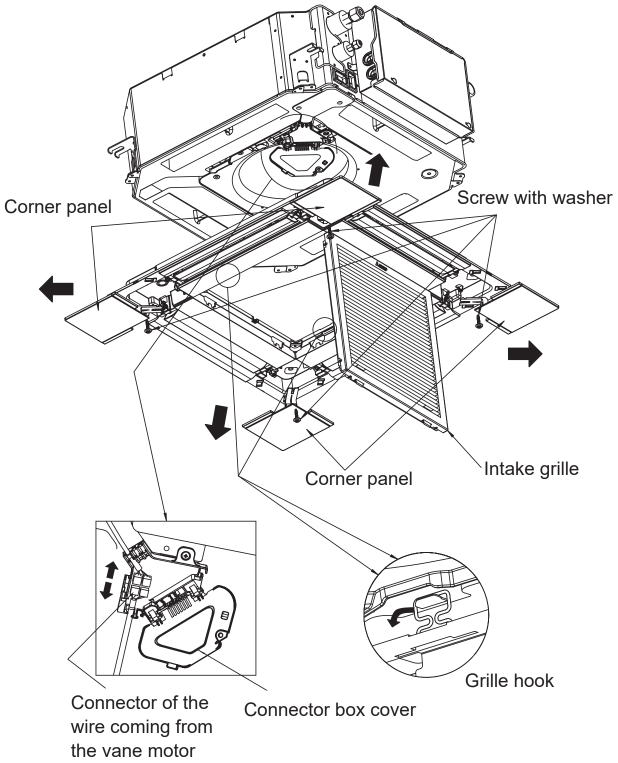


How to Use / How to Install

1. Accessories
   Make sure that all the following accessories besides this installation manual are contained in the package.

Model		Accessory name	Q'ty
PAC-SF1ME-E	①	i-see Sensor	1
	②	Junction wire	1
	③	Fastener	2
① 	② 	③ 	

2. Preparation for mounting i-see Sensor (The junction wire ② needs to be connected to the indoor unit.)
   Note 1: Turn off main power supply to the indoor unit before installation.
   Note 2: See the installation manual of the indoor unit in addition to this manual.



- Remove the grille from the indoor unit as described in the following procedure.
  1) Open the intake grille, loosen the screws for the corner panels, and remove the corner panels.
  2) Remove the screw for the connector box cover, and open the connector box cover. Disconnect the connector of the wire coming from the vane motor.
  3) Remove the 4 screws fastened on the corners of the grille.
  4) Disengage the 2 hooks of the grille from the indoor unit, and remove the grille.

- Perform the electrical work of the junction wire ② by referring to [Electricalwork] in the installation manual of the indoor unit.

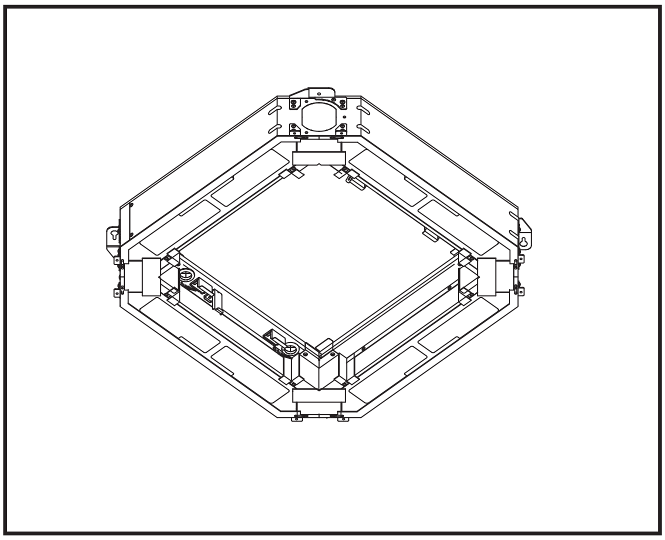
3. Mounting i-see Sensor
   - Mount the i-see Sensor ① on either corner of the grille, which is marked with "○" or "□" by referring to [Installing the grille] in the installation manual of the indoor unit.
     Note 1: "○" stamp : default i-see Sensor position.
     Note 2: Discard the corner panel removed from the position indicated with "○" or "□".
     Note 3: To change the position of the i-see Sensor from the position indicated with "○" to that indicated with "□", change the function setting (SLZ) or the switch (SW3-4) setting (PLFY).
   - After mounting the i-see Sensor ①, close the connector box cover. Replace the 3 corner panels, the intake grille, in the reverse order of the removal described above.

4. Check
   - Make sure that there is no gap either between the body of indoor unit and the grille or between the ceiling surface and the grille. The gap may cause dew formation.
   - Make sure that the wires are connected properly.
   - For i-see Sensor corner panel, check the rotating movement.
     If the i-see Sensor does not rotate, see the procedure in [installing the grille] in the installation manual of the indoor unit again.

3D Total Flow unit

PLP-U160ELR-E

Figure



Descriptions

3D Total Flow is an innovative function. Our original 3D i-see sensor detects the temperature of the floor, and then the newly installed 3D Total Flow unit automatically controls the airflow in the left/right directions in a smart manner.

*3D Total Flow unit(PLP-U160ELR-E) cannot be used with Plasma Quad Connect(PAC-SK51FT-E), Insulation kit(PAC-SK36HK-E), Shutter Plate(PAC-SJ37SP-E), Multi functional casement(PAC-SJ41TM-E) and High-efficiency filter element(PAC-SH59KF-E)

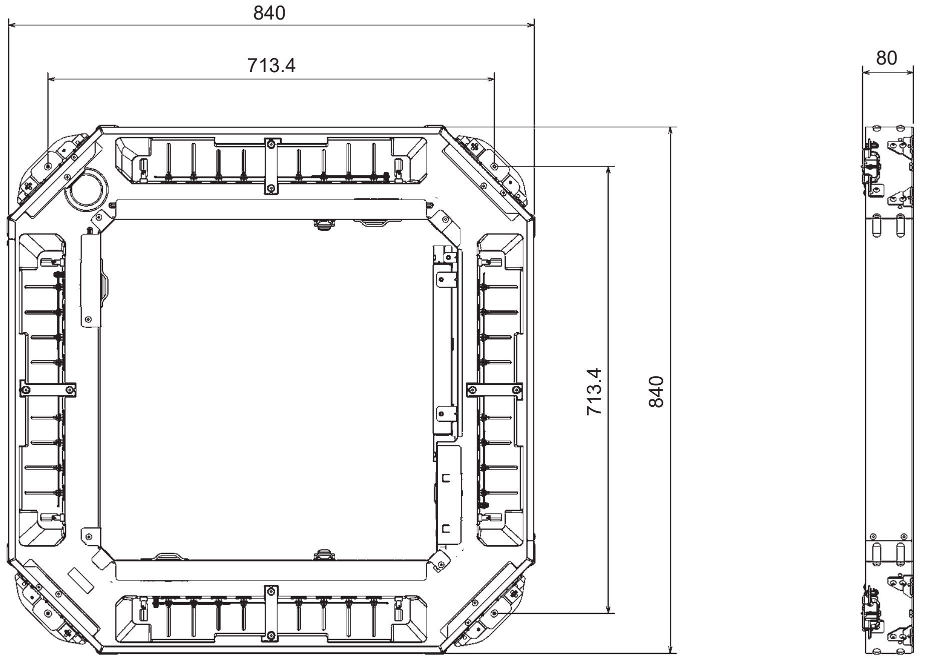
Applicable Models

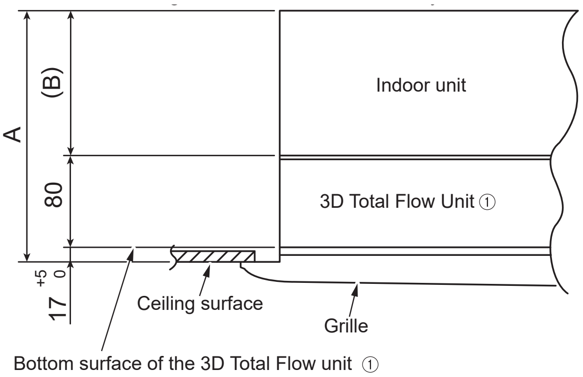
- PLA-ZM·EA2 series
- PLA-M·EA2 series
- PLA-SM·EA2 series

Dimensions

Unit : mm

See from the panel side





Request:
Set up an access opening for the joint of piping.
- Set up an access opening so that inspections for inside the ceiling and on the joint portions of concealed pipes can be performed.

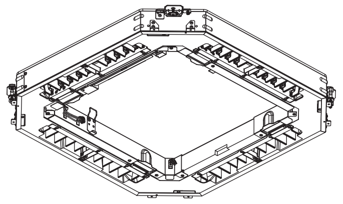
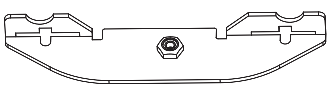
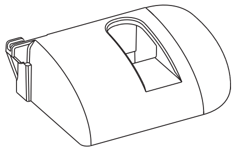
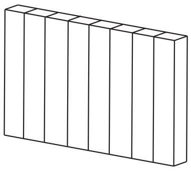
Indoor unit	A	(B)
Small models	338	241
Large models	378	281

Note: The gap between the top surface of the indoor unit and the ceiling slab must be 7 mm or more.

How to Use / How to Install

1. Checking parts

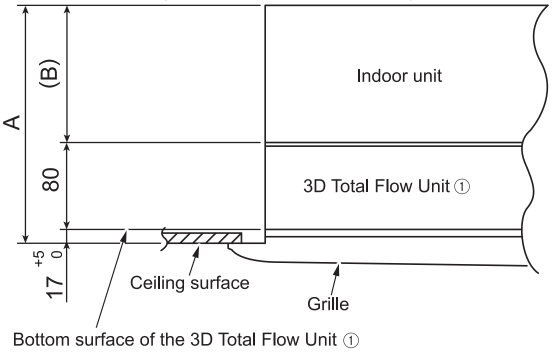
• Make sure that you have all the following parts in addition to this manual in the box.

Part name	① 3D Total Flow Unit	② Screw	③ Mounting bracket for the grille
Quantity	1	8 M5×12	4
Figure			
Part name	④ Rectifier piece	⑤ Screw	⑥ Corner panel insulator
Quantity	1	1 ST4×10	1
Figure			 Note: One sheet consists of 8 insulators.

2. Installing the indoor unit

Perform the wiring work on site (for power supply, inside and outside connecting wires, and remote controller wires) before installing the 3D Total Flow Unit.
The wiring work cannot be performed after installing the 3D Total Flow Unit.

- Refer to the installation manual of the indoor unit for installation.
  Be sure to confirm the following items when installing the unit.
  1. The size of the ceiling opening is within the range of 860×860 to 910×910.
  2. The following dimensions are necessary for installation.



Request:
Set up an access opening for the joint of piping.
• Set up an access opening so that inspections for inside the ceiling and on the joint portions of concealed pipes can be performed.

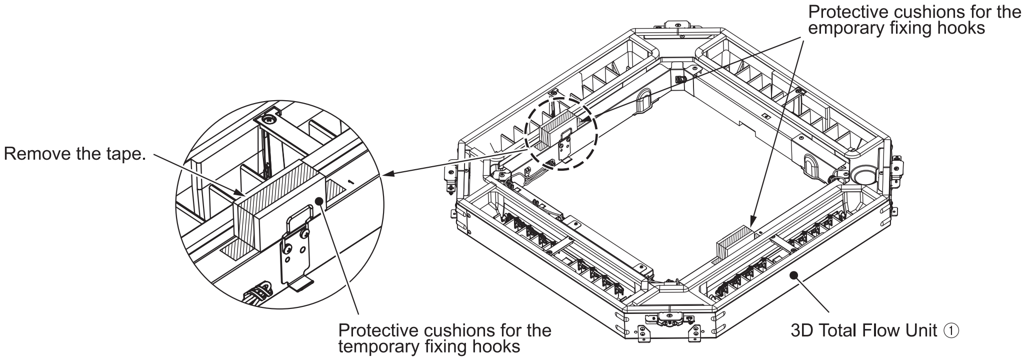
Indoor unit	A	(B)
Small models	338	241
Large models	378	281

Note: The gap between the top surface of the indoor unit and the ceiling slab must be 7 mm or more.

3. Preparation before installing the 3D Total Flow Unit and the grille

(1) 3D Total Flow Unit

Remove the tape, then remove the protective cushions for the temporary fixing hooks.
(The removed protective cushions will not be used.)


Protective cushions for the emporary fixing hooks
Remove the tape.
Protective cushions for the temporary fixing hooks
3D Total Flow Unit ①

(2) Grille

<Removing the intake grille and the corner panels>

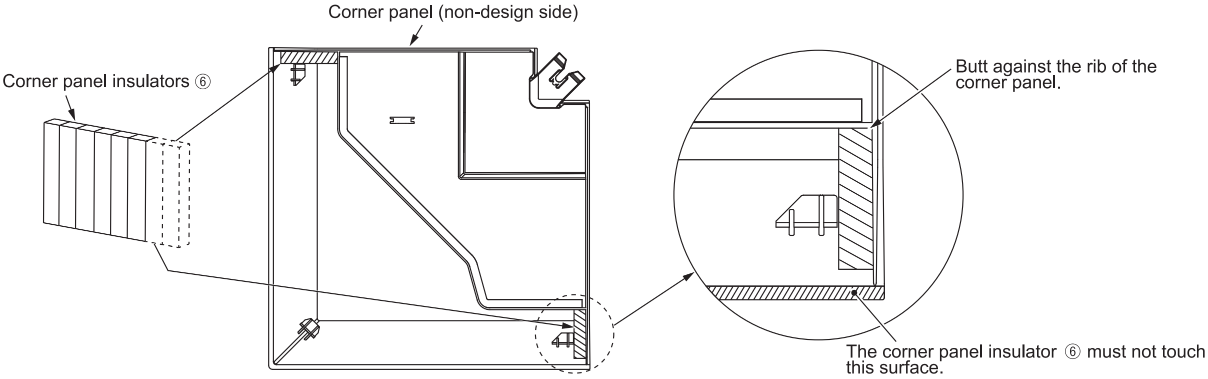
Refer to the installation manual of the grille.

<Attaching corner panel insulators>

Attach the corner panel insulators ⑥ to the 4 corner panels on the grille according to the figure below.

- Attach 2 of the corner panel insulators ⑥ to each corner panel.
- Attach the insulators to the signal receiver corner panel and the i-see Sensor corner panel as well as the standard corner panels.

Note: Skip this procedure when the corner panel insulators ⑥ have already been attached.

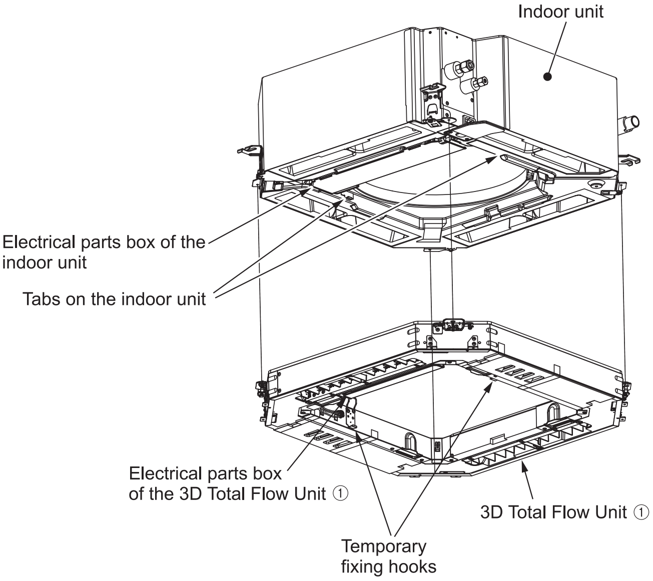

Corner panel (non-design side)
Corner panel insulators ⑥
Butt against the rib of the corner panel.
The corner panel insulator ⑥ must not touch this surface.

4. Installing the 3D Total Flow Unit

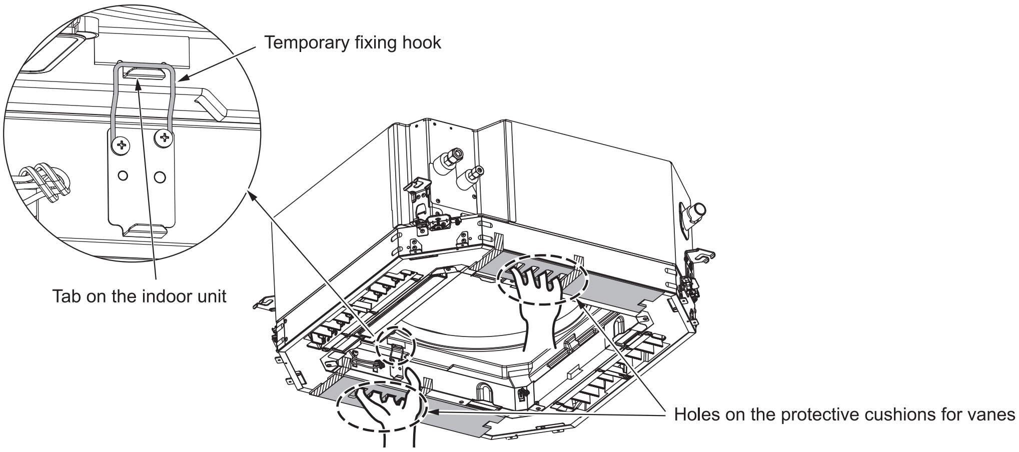
(1) Fixing the 3D Total Flow Unit temporarily

Set the electrical parts boxes of the indoor unit and the 3D Total Flow Unit ① at the same position, then attach the temporary fixing hooks on the 3D Total Flow Unit ① to the tabs on the indoor unit to fix them temporarily.

- Put your fingers in the holes on the protective cushions on the 3D Total Flow Unit ① to lift it up. Do not apply force on the inside vanes at that time. Doing so may cause damage.
- The lead wire of the 3D Total Flow Unit ① must not be tucked in the indoor unit and the 3D Total Flow Unit ①.
- Do not apply excessive force on the 3D Total Flow Unit ① when fixing it temporarily. Doing so may cause an accident or damage.


Indoor unit
Electrical parts box of the indoor unit
Tabs on the indoor unit
Electrical parts box of the 3D Total Flow Unit ①
3D Total Flow Unit ①
Temporary fixing hooks

<Temporary fixation of the 3D Total Flow Unit ①>

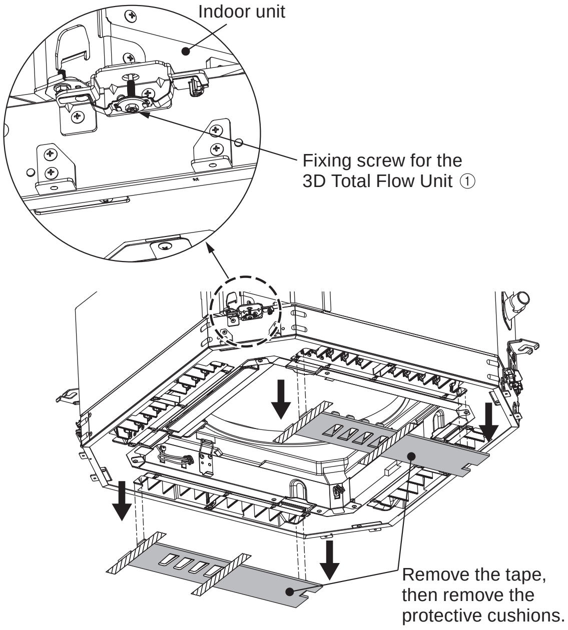


4. Installing the 3D Total Flow Unit (continued from the previous page)

(2) Fixing the 3D Total Flow Unit

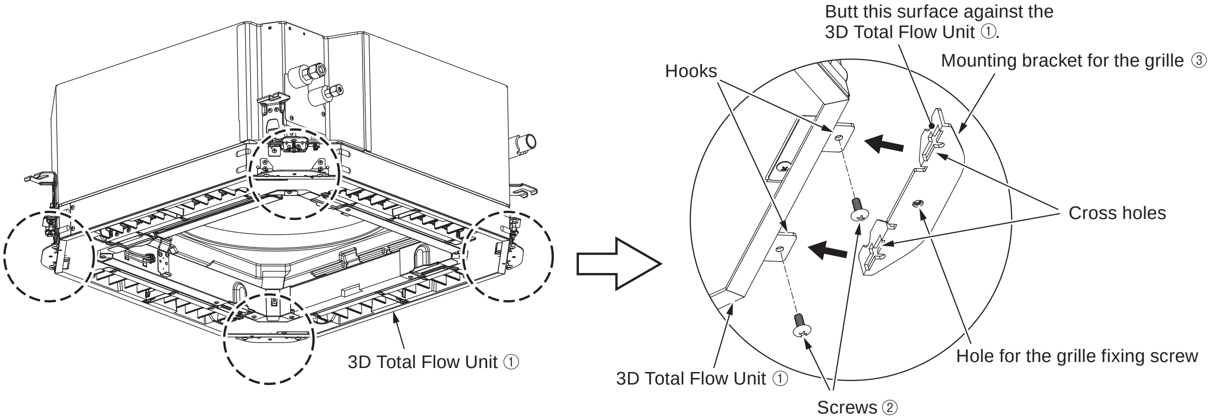
Fix the 3D Total Flow Unit ① to the indoor unit by tightening the screws mounted in each corner of it.
After fixing the 3D Total Flow Unit ①, remove the 2 protective cushions for the vanes of the 3D Total Flow Unit ①.
(The removed protective cushions will not be used.)

Request:
Tighten the screws with a torque of 2.8 to 3.6 N.m.
Never use an impact driver.
- Otherwise, breakage of parts may result.


Indoor unit
Fixing screw for the 3D Total Flow Unit ①
Remove the tape, then remove the protective cushions.

(3) Attaching the mounting bracket for the grille

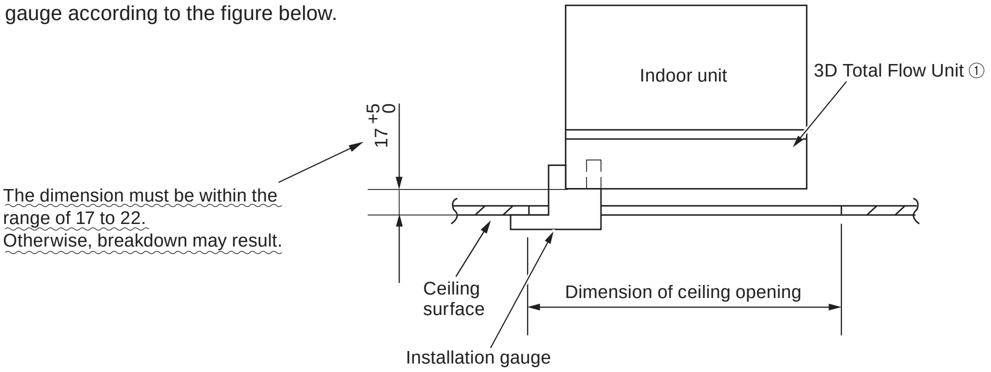
Insert the hook on each corner of the 3D Total Flow Unit ① into the 4 cross holes of the mounting bracket for the grill ③, and fix them with 8 screws of ②.
(Refer to the figure below)


Butt this surface against the 3D Total Flow Unit ①.
Mounting bracket for the grille ③
Hooks
Cross holes
Hole for the grille fixing screw
3D Total Flow Unit ①
3D Total Flow Unit ①
Screws ②

Request:
Tighten the screws with a torque of 1.2 to 1.8 N.m. Never use an impact driver.
- Otherwise, breakage of parts may result.

(4) Adjusting the installation height

Adjust the height of the 3D Total Flow Unit ① with the indoor unit from the ceiling surface again with the supplied installation gauge according to the figure below.

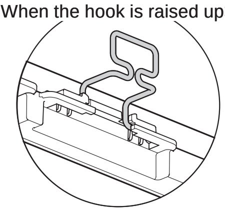

Indoor unit
3D Total Flow Unit ①
17 +5 0
The dimension must be within the range of 17 to 22.
Otherwise, breakdown may result.
Ceiling surface
Dimension of ceiling opening
Installation gauge

5. Attaching the grille

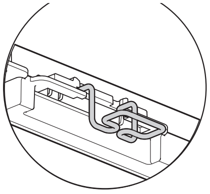
(1) Preparation for fixing the grille temporarily

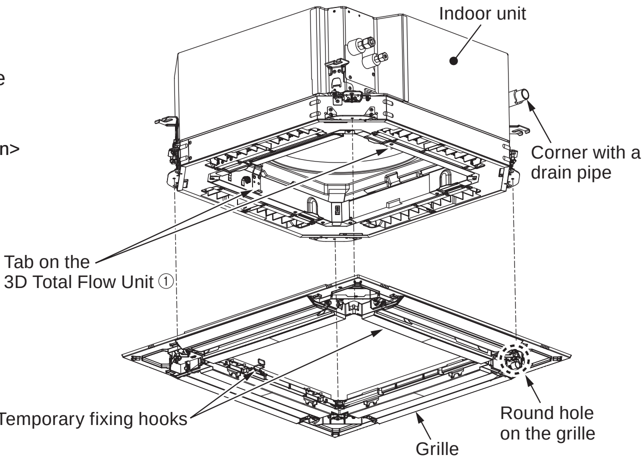
Make sure that the 2 temporary fixing hooks for the grille are raised up.

<When the hook is raised up>



<When the hook is laid down>



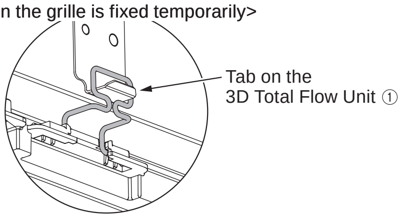


(2) Fixing the grille temporarily

Set the corners with a drain pipe of the indoor unit and a round hole of the grille at the same position, then fix them temporarily by attaching the tab on the 3D Total Flow Unit ① to the temporary fixing hook.

- Do not let the lead wires of the grille and the 3D Total Flow Unit ① get caught between them.
- Do not apply excessive force on the grille when fixing it temporarily.
  Doing so may cause an accident or damage.

<When the grille is fixed temporarily>



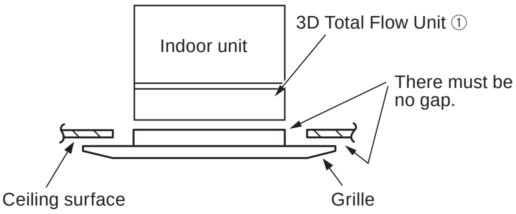
(3) Fixing the grille

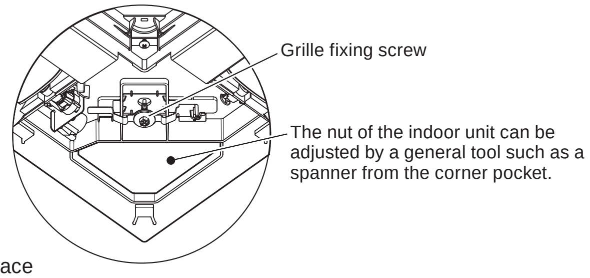
Fix the grille to the 3D Total Flow Unit ① by tightening the screws mounted in each corner of it.

- There must be no gap between the 3D Total Flow Unit ① and the grille, or the grille and the ceiling surface.

Request:
Tighten the screws with a torque of 2.8 to 3.6 N.m. Never use an impact driver.

- Otherwise, breakage of parts may result.

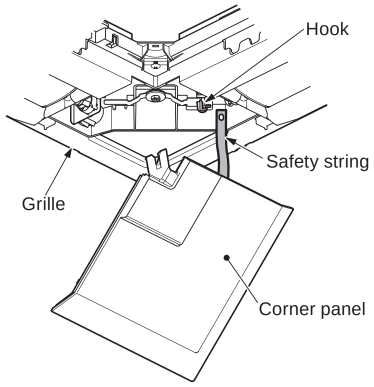



Grille fixing screw
The nut of the indoor unit can be adjusted by a general tool such as a spanner from the corner pocket.

- When there is a gap between the grille and the ceiling surface
  Adjust the height of the indoor unit with the grille mounted to clear the gap.

(4) Fixing the corner panel

For the installation of the corner panel, refer to the installation manual of the grille.
When the corner panel has a safety string, attach it to the hook on the grille securely.
• Otherwise, the corner panel may fall down during operation.



6. Connecting wires

(1) Removing the electrical parts cover in the indoor unit

1. To open the electrical parts cover, loosen the 2 screws fixing the cover and the electrical parts box, then slide the cover in the longitudinal direction.

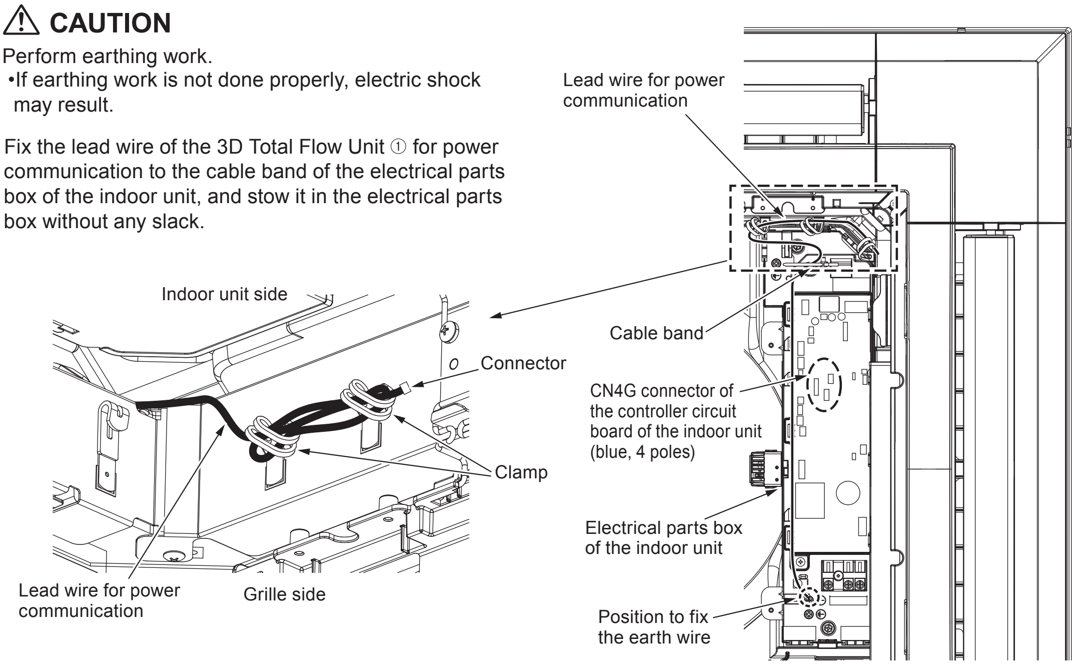
(2) Connecting the lead wire of the 3D Total Flow Unit ① for power communication

1. Remove the lead wire of the 3D Total Flow Unit ① for power communication from the clamps, and connect it to CN4G connector (blue, 4 poles) of the controller circuit board of the indoor unit securely.
   - Press the clamps of the 3D Total Flow Unit ① against the unit.
     Protruding clamps interrupt opening/closing the electrical parts cover of the indoor unit.
2. Fix the earth wire for the 3D Total Flow Unit ① in the electrical parts box of the indoor unit with supplied screws with a torque of 1.6 ± 0.1 N.m.

⚠ CAUTION

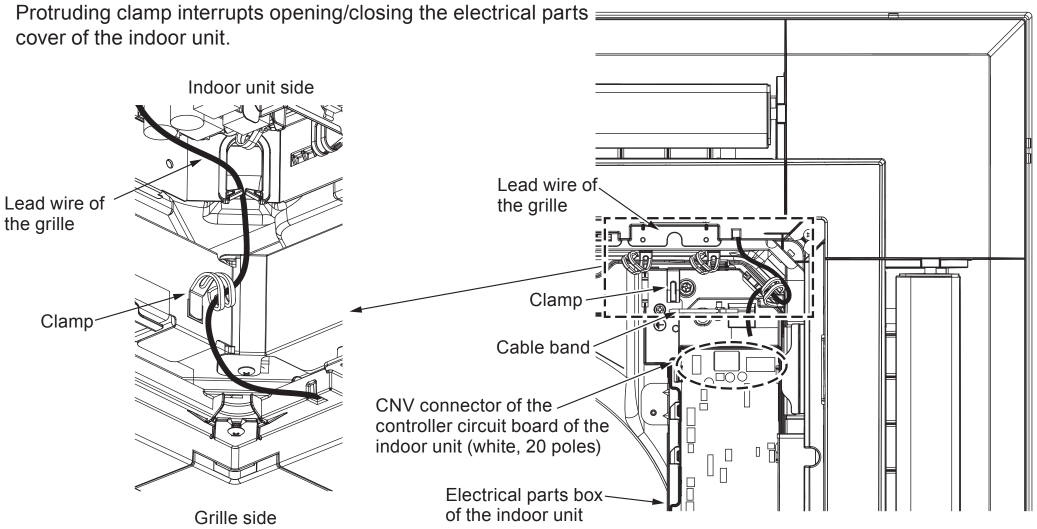
Perform earthing work.
•If earthing work is not done properly, electric shock may result.

3. Fix the lead wire of the 3D Total Flow Unit ① for power communication to the cable band of the electrical parts box of the indoor unit, and stow it in the electrical parts box without any slack.


Lead wire for power communication
Indoor unit side
Cable band
Connector
CN4G connector of the controller circuit board of the indoor unit (blue, 4 poles)
Clamp
Electrical parts box of the indoor unit
Lead wire for power communication
Grille side
Position to fix the earth wire

(3) Connecting the lead wire of the grille vane motor

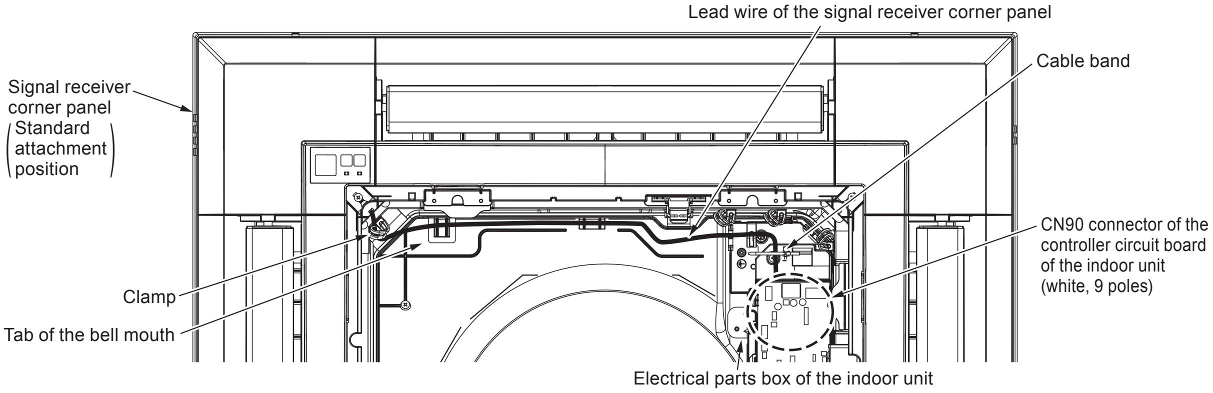
1. Connect the lead wire of the grille vane motor to CNV connector (white, 20 poles) of the controller circuit board of the indoor unit securely.
2. Fix the lead wire for the grille vane motor to the clamp of the 3D Total Flow Unit ① and the cable band and the clamp in the electrical parts box of the indoor unit, and stow it in the electrical parts box without any slack.
   - Press the clamp of the 3D Total Flow Unit ① against the unit. Protruding clamp interrupts opening/closing the electrical parts cover of the indoor unit.


Indoor unit side
Lead wire of the grille
Clamp
Grille side
Lead wire of the grille
Clamp
Cable band
CNV connector of the controller circuit board of the indoor unit (white, 20 poles)
Electrical parts box of the indoor unit

6. Connecting wires (Continued from the previous page)

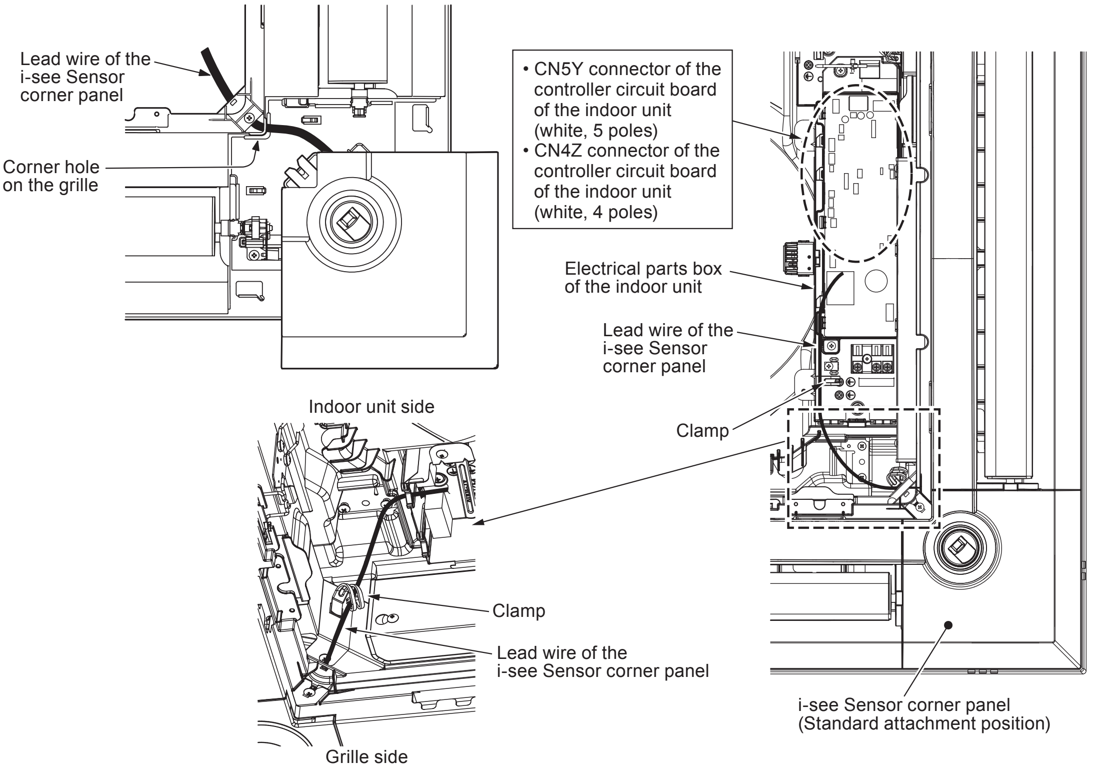
(4) Connecting the lead wire of the signal receiver corner panel (When attaching the signal receiver corner panel to the standard attachment position)

1. Connect the lead wire of the signal receiver corner panel to CN90 connector (white, 9 poles) of the controller circuit board of the indoor unit securely.
2. Fix the lead wire of the signal receiver corner panel to the clamp of the 3D Total Flow Unit ①, then fix it to the tab of the bell mouth and the cable band in the electrical parts box of the indoor unit, and stow it in the electrical parts box without any slack.


Lead wire of the signal receiver corner panel
Cable band
Signal receiver corner panel (Standard attachment position)
CN90 connector of the controller circuit board of the indoor unit (white, 9 poles)
Clamp
Tab of the bell mouth
Electrical parts box of the indoor unit

(5) Connecting the lead wire of the i-see Sensor corner panel (When attaching the i-see Sensor corner panel to the standard attachment position)

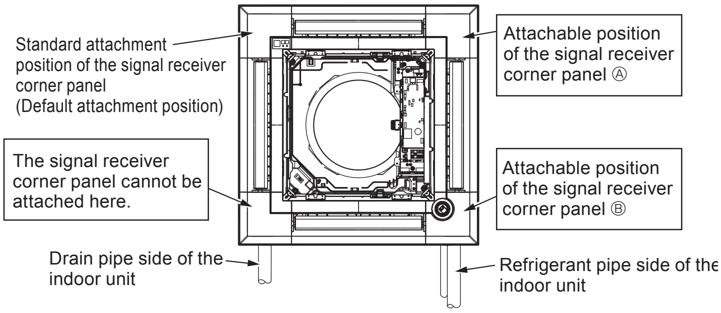
1. Run the lead wire of the i-see Sensor corner panel through the corner hole on the grille.
2. Connect the lead wire of the i-see Sensor corner panel to CN4Z connector (white, 4 poles) and CN5Y connector (white, 5 poles) of the controller circuit board of the indoor unit securely.
3. Fix the lead wire of the i-see Sensor corner panel to the clamp of the 3D Total Flow Unit ① and the clamp in the electrical parts box of the indoor unit, and stow it in the electrical parts box without any slack.
   - Press the clamp of the 3D Total Flow Unit ① against the unit. Protruding clamps interrupt opening/closing the electrical parts cover of the indoor unit.
4. Fix the i-see Sensor corner panel to the grille with supplied screws for it.


Lead wire of the i-see Sensor corner panel
Corner hole on the grille
• CN5Y connector of the controller circuit board of the indoor unit (white, 5 poles)
• CN4Z connector of the controller circuit board of the indoor unit (white, 4 poles)
Electrical parts box of the indoor unit
Lead wire of the i-see Sensor corner panel
Clamp
Indoor unit side
Clamp
Lead wire of the i-see Sensor corner panel
Grille side
i-see Sensor corner panel (Standard attachment position)

6. Connecting wires (Continued from the previous page)

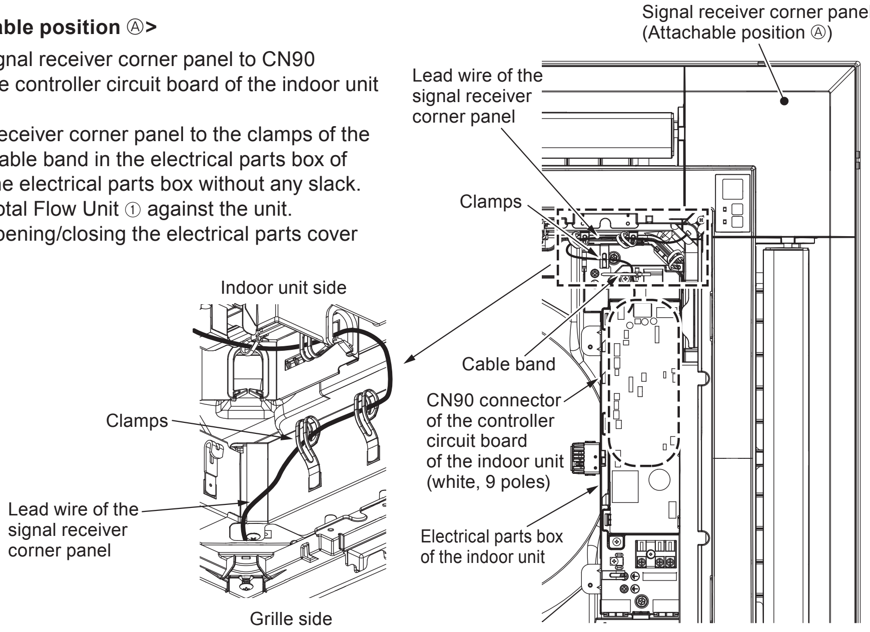
(6) Connecting the lead wire of the signal receiver corner panel (When attaching the signal receiver corner panel at other than the standard attachment position)

The signal receiver corner panel can be attached at the following 2 positions besides the standard attachment position.


Standard attachment position of the signal receiver corner panel
(Default attachment position)
Attachable position of the signal receiver corner panel Ⓐ
The signal receiver corner panel cannot be attached here.
Attachable position of the signal receiver corner panel Ⓑ
Drain pipe side of the indoor unit
Refrigerant pipe side of the indoor unit

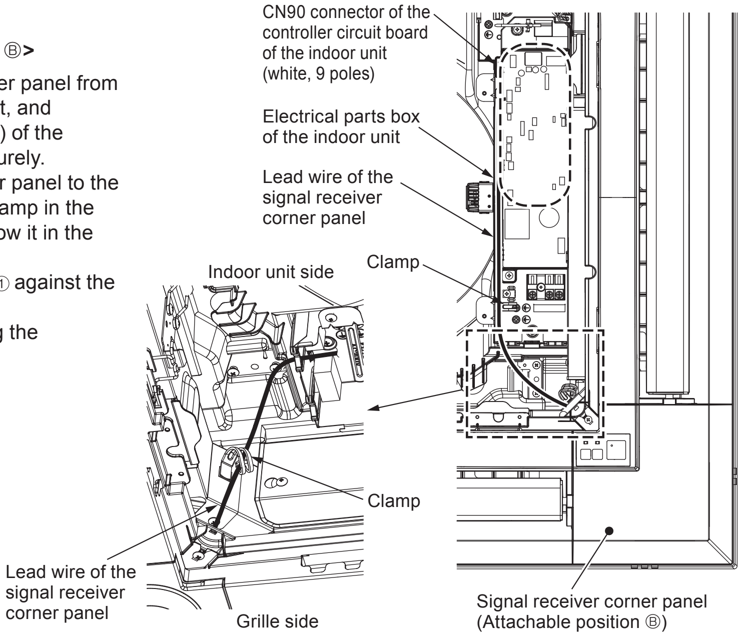
<When attaching to the attachable position Ⓐ>

1. Connect the lead wire of the signal receiver corner panel to CN90 connector (white, 9 poles) of the controller circuit board of the indoor unit securely.
2. Fix the lead wire of the signal receiver corner panel to the clamps of the 3D Total Flow Unit ① and the cable band in the electrical parts box of the indoor unit, and stow it in the electrical parts box without any slack.
   - Press the clamps of the 3D Total Flow Unit ① against the unit. Protruding clamps interrupt opening/closing the electrical parts cover of the indoor unit.


Signal receiver corner panel (Attachable position Ⓐ)
Lead wire of the signal receiver corner panel
Clamps
Cable band
CN90 connector of the controller circuit board of the indoor unit (white, 9 poles)
Electrical parts box of the indoor unit
Indoor unit side
Clamps
Lead wire of the signal receiver corner panel
Grille side

<When attaching to the attachable position Ⓑ>

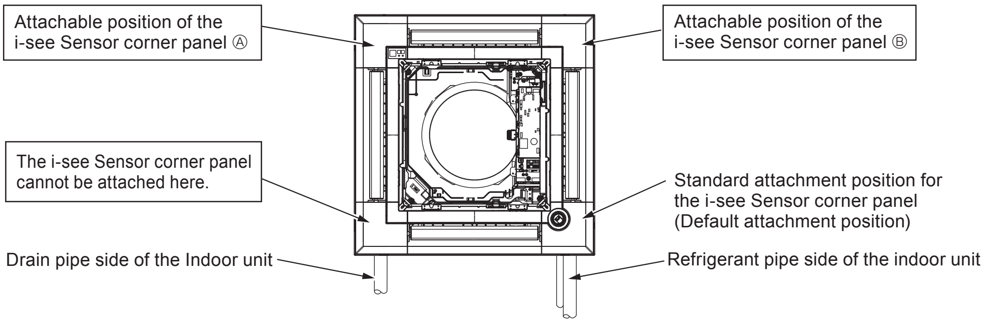
1. Run the lead wire of the signal receiver corner panel from the electrical parts box side of the indoor unit, and connect it to CN90 connector (white, 9 poles) of the controller circuit board of the indoor unit securely.
2. Fix the lead wire of the signal receiver corner panel to the clamp of the 3D Total Flow Unit ① and the clamp in the electrical parts box of the indoor unit, and stow it in the electrical parts box without any slack.
   - Press the clamp of the 3D Total Flow Unit ① against the unit. Protruding clamps interrupt opening/closing the electrical parts cover of the indoor unit.


CN90 connector of the controller circuit board of the indoor unit (white, 9 poles)
Electrical parts box of the indoor unit
Lead wire of the signal receiver corner panel
Indoor unit side
Clamp
Clamp
Lead wire of the signal receiver corner panel
Grille side
Signal receiver corner panel (Attachable position Ⓑ)

6. Connecting wires (Continued from the previous page)

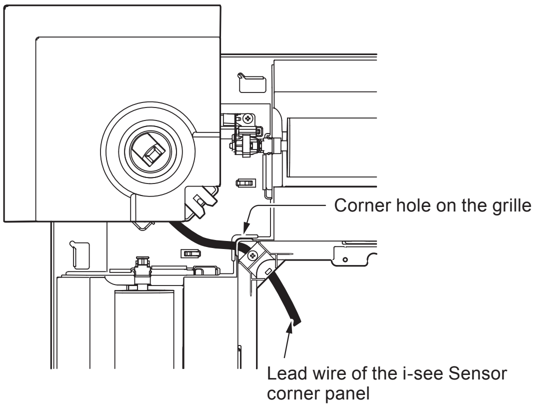
(7) Connecting the lead wire of the i-see Sensor corner panel (When attaching the i-see Sensor corner panel at other than the standard attachment position)

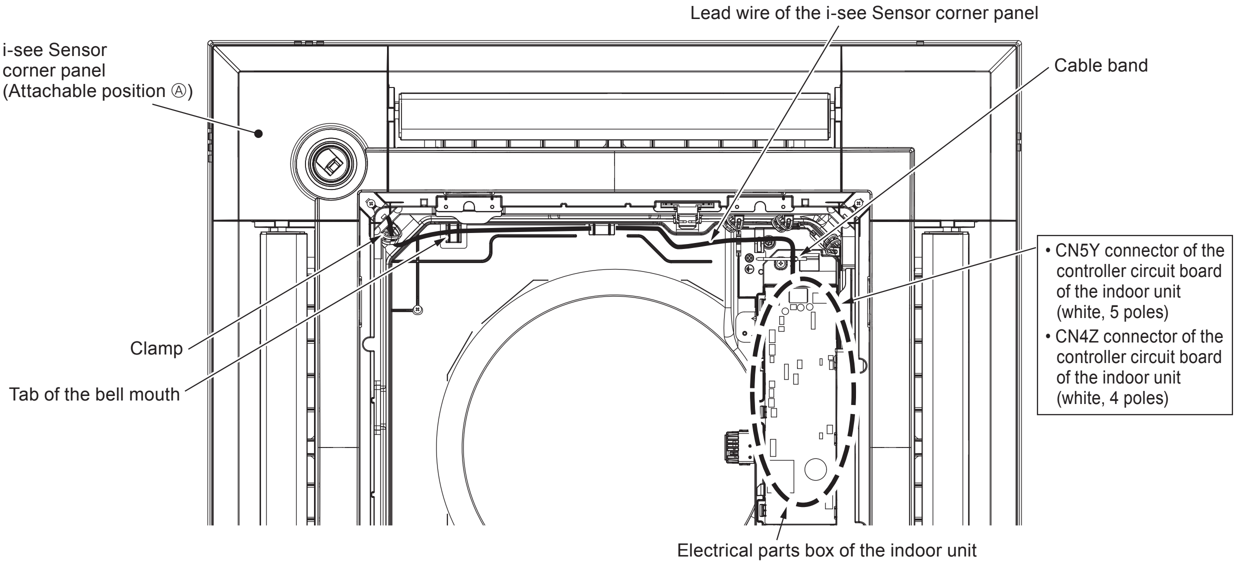
The i-see Sensor corner panel can be attached at the following 2 positions besides the standard attachment position.


Attachable position of the i-see Sensor corner panel Ⓐ
Attachable position of the i-see Sensor corner panel Ⓑ
The i-see Sensor corner panel cannot be attached here.
Standard attachment position for the i-see Sensor corner panel (Default attachment position)
Drain pipe side of the Indoor unit
Refrigerant pipe side of the indoor unit

<When attaching to the attachable position Ⓐ>

1. Run the lead wire of the i-see Sensor corner panel through the corner hole on the grille.
2. Connect the lead wire of the i-see Sensor corner panel to CN4Z connector (white, 4 poles) and CN5Y connector (white, 5 poles) of the controller circuit board of the indoor unit securely.
3. Fix the lead wire of the i-see Sensor corner panel to the clamp of the 3D Total Flow Unit ①, then fix it to the tab of the bell mouth and the cable band in the electrical parts box of the indoor unit, and stow it in the electrical parts box without any slack.
4. Fix the i-see Sensor corner panel to the grille with supplied screws for it.

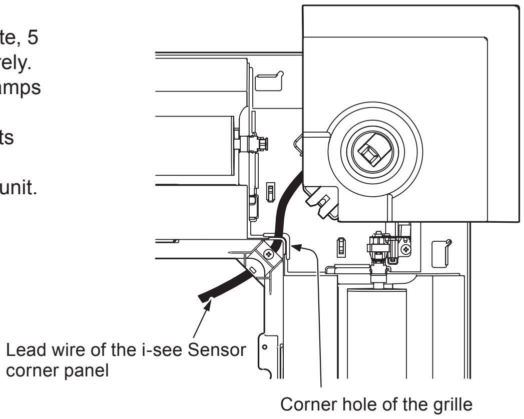

Corner hole on the grille
Lead wire of the i-see Sensor corner panel

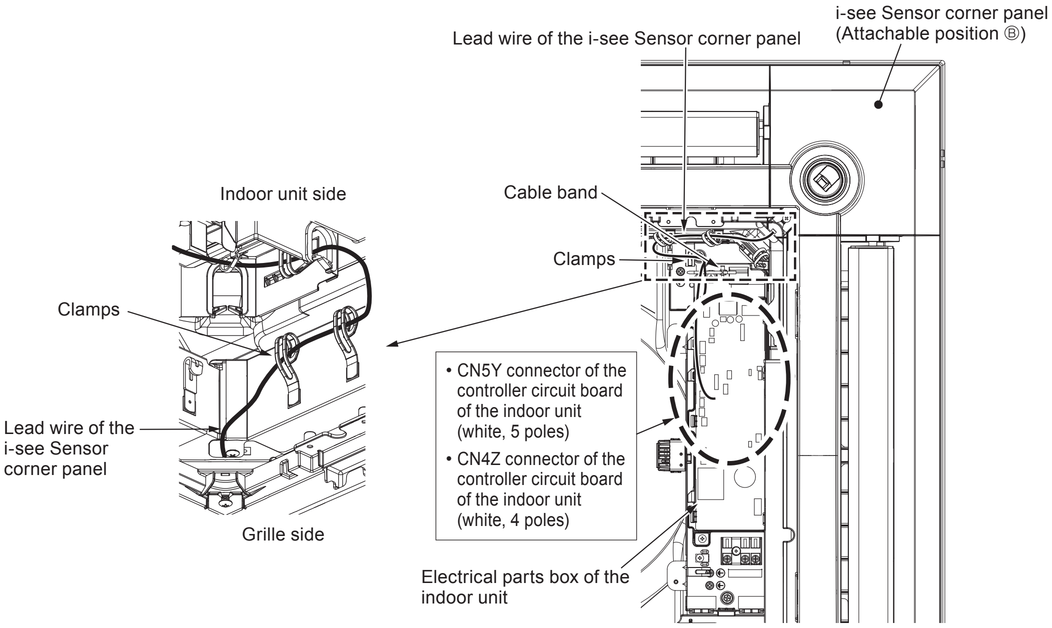

Lead wire of the i-see Sensor corner panel
i-see Sensor corner panel (Attachable position Ⓐ)
Cable band
• CN5Y connector of the controller circuit board of the indoor unit (white, 5 poles)
• CN4Z connector of the controller circuit board of the indoor unit (white, 4 poles)
Clamp
Tab of the bell mouth
Electrical parts box of the indoor unit

6. Connecting wires (Continued from the previous page)

<When attaching to the attachable position Ⓑ>

1. Run the lead wire of the i-see Sensor corner panel through the corner hole on the grille.
2. Connect the lead wire of the i-see Sensor corner panel to CN4Z connector (white, 4 poles) and CN5Y connector (white, 5 poles) of the controller circuit board of the indoor unit securely.
3. Fix the lead wire of the i-see Sensor corner panel to the clamps of the 3D Total Flow Unit ① and the clamps in the electrical parts box of the indoor unit, and stow it in the electrical parts box without any slack.
   - Press the clamps of the 3D Total Flow Unit ① against the unit. Protruding clamps interrupt opening/closing the electrical parts cover of the indoor unit.
4. Fix the i-see Sensor corner panel to the grille with supplied screws for it.


Lead wire of the i-see Sensor corner panel
Corner hole of the grille

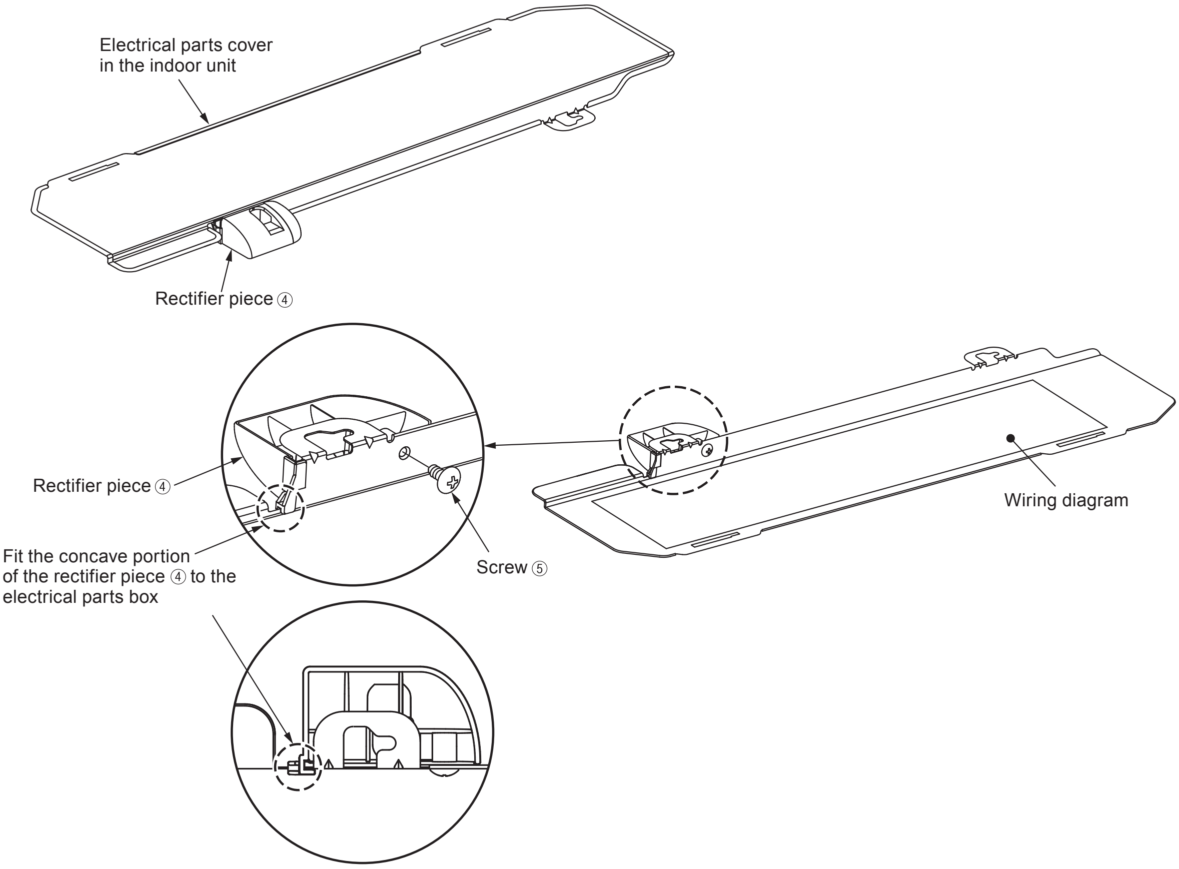

Lead wire of the i-see Sensor corner panel
i-see Sensor corner panel (Attachable position Ⓑ)
Indoor unit side
Cable band
Clamps
Clamps
Lead wire of the i-see Sensor corner panel
Grille side
• CN5Y connector of the controller circuit board of the indoor unit (white, 5 poles)
• CN4Z connector of the controller circuit board of the indoor unit (white, 4 poles)
Electrical parts box of the indoor unit

When attaching the i-see Sensor corner panel at other than the standard attachment position
Read the installation manual because the setting needs to be changed.

6. Connecting wires (Continued from the previous page)

(8) Attaching the electrical parts cover in the indoor unit

1. Attach the rectifier piece ④ with the screw ⑤ before attaching the electrical parts cover of the indoor unit.
2. Attach the electrical parts cover in the opposite procedure of (1) Removing the electrical parts cover in the indoor unit, 6. Connecting wires.



Request:

Tighten the screw with a torque of 0.8 to 1.1 N.m. Never use an impact driver.
- Otherwise, breakage of parts may result.

Attach the rectifier piece ④ properly.
- Operating noise may be bigger if the rectifier piece is not attached correctly.

6. Connecting wires (Continued from the previous page)

(9) Connecting the lead wire for the automatic filter elevation panel (Only when also installing the automatic filter elevation panel)

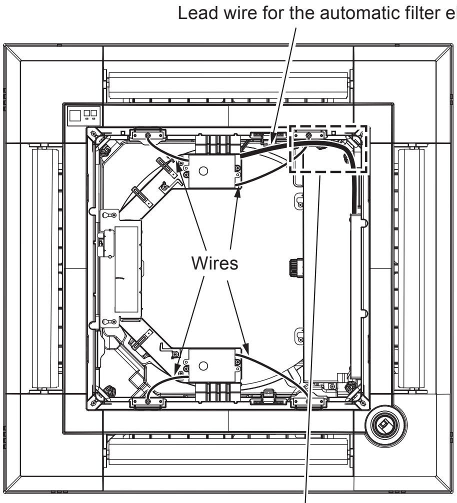
When also installing the automatic filter elevation panel, do not let the lead wire touch the wire of the elevation machine motor box when running the wires.
Do not let the wire of the elevation machine motor box get caught in the electrical parts cover.
Otherwise the wire may snap.

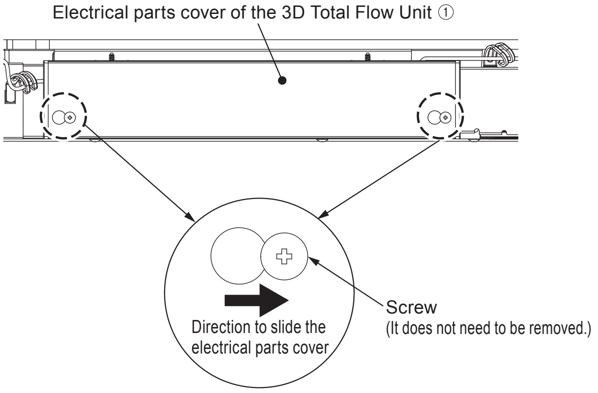
1. To open the electrical parts cover, loosen the 2 screws fixing the cover and the electrical parts box of the 3D Total Flow Unit ①, then slide the cover.
2. Connect the lead wire for the automatic filter elevation panel to CN4G connector (blue, 4 poles) of the controller circuit board of the 3D Total Flow Unit ① securely.
3. Fix the earth wire for the automatic filter elevation panel in the electrical parts box of the 3D Total Flow Unit ① with supplied screws for it.
   Tighten the screws with a torque of 1.6 ± 0.1 N.m.

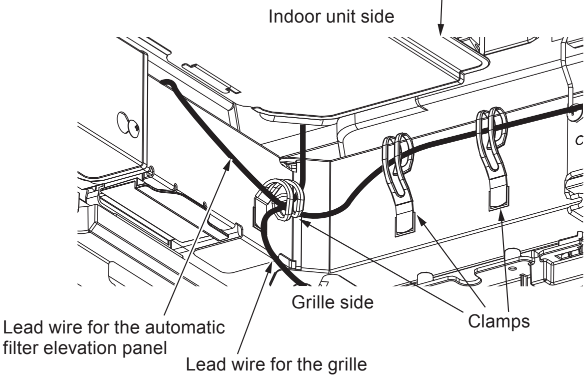
⚠ CAUTION

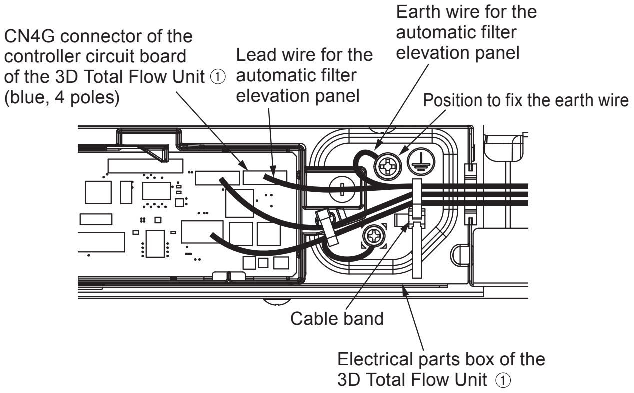
Perform earthing work.
- If earthing work is not done properly, electric shock may result.

4. Fix the earth wire for the automatic filter elevation panel to the clamps of the 3D Total Flow Unit ① and the cable band in the electrical parts box, and stow it in the electrical parts box without any slack.
   - Press the clamps of the 3D Total Flow Unit ① against the unit.
     Protruding clamps interrupt opening/closing the electrical parts cover of the indoor unit.
5. Attach the electrical parts cover of the 3D Total Flow Unit ① in the opposite procedure of removing.




Electrical parts cover of the 3D Total Flow Unit ①
Direction to slide the electrical parts cover
Screw
(It does not need to be removed.)




CN4G connector of the controller circuit board of the 3D Total Flow Unit ① (blue, 4 poles)
Lead wire for the automatic filter elevation panel
Earth wire for the automatic filter elevation panel
Position to fix the earth wire
Cable band
Electrical parts box of the 3D Total Flow Unit ①

7. Attaching the intake grille

Refer to the installation manual of the indoor unit.

8. Checking

<Common subject matter>

Make sure that there is no gap between the indoor unit and the 3D Total Flow Unit ①, or the grille and the ceiling surface.
- Gap can cause dripping or droplet on the surface.

Make sure that the wires are connected properly.
- If they are not connected properly, the horizontal vane, the vertical vanes, or the elevation grille may not work, or dripping or droplet on the surface may occur.

Make sure that the corner panel insulators ⑥ are attached to all the corner panels.
- If they are not attached, dripping or droplets on the surface may result.

<When installing the i-see Sensor corner panel>

Make sure that the i-see Sensor rotates properly.
- If the i-see Sensor does not rotate, go back and check the procedure in 6. Connecting wires.

<When installing the automatic filter elevation panel>

Make sure that descending distance of the intake grille is as desired, and the intake grille moves up/down smoothly.
When changing the descending distance, be sure to check the operation again.

After checking all the items above, transfer all the manuals, including this manual and the manuals for the indoor unit and optional parts to the customer.
Be sure to explain how to clean the filter and how to move up/down the intake grille with a remote controller.

Request:

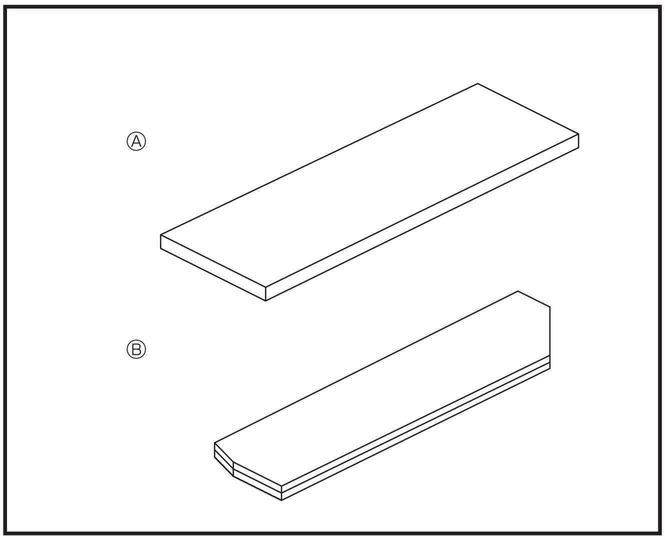
Do not operate the unit without a filter.
- Doing so may cause clogging of oil and dust in the unit, resulting in breakage.

Do not operate the unit for a long time except for a test run.
- If operating the unit for a long time on site under construction, dust and odor may attach to the unit.

Air Outlet Shutter Plate

PAC-SJ37SP-E

Figure



Descriptions

Part to block the air outlet of a cassette-type indoor unit.

Applicable Models

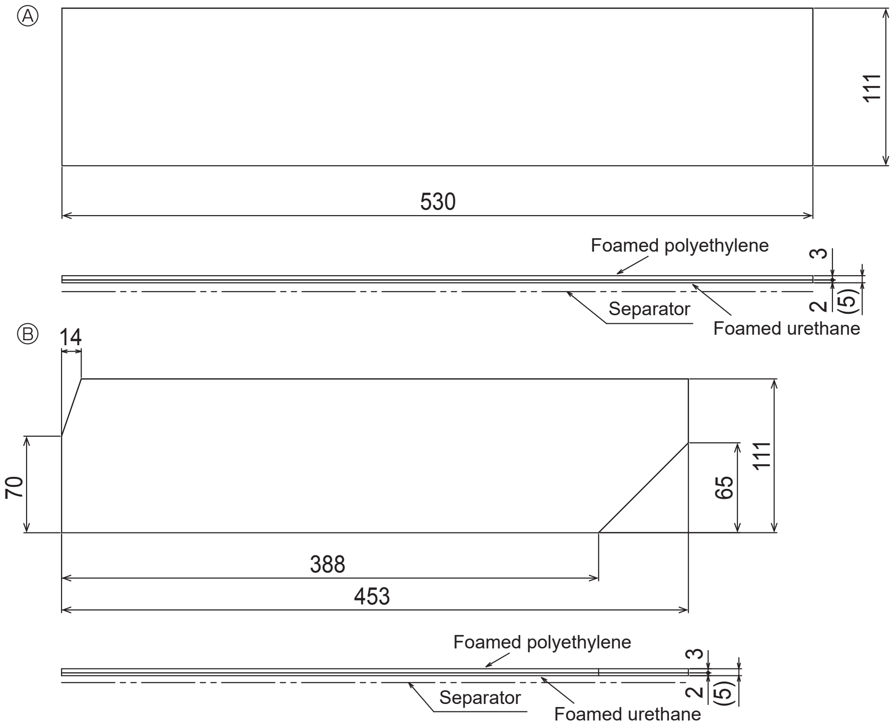
- ■ PLA-ZM·EA series
- ■ PLA-M·EA series
- ■ PLA-SM·EA series

Specifications

<table>
<tr><td>Air outlet pattern</td><td><table><tr><td></td><td>Number of shutter plates</td></tr><tr><td>4 directions → 3 directions</td><td>1</td></tr><tr><td>4 directions → 2 directions</td><td>2</td></tr></table>(Change to 1 direction is not possible.)
Note 1: Selecting “2 directions” requires cleaning of the filter approximately once. (Filter clogging may cause cooling/heating performance to drop.)
Note 2: Selecting “3 directions” or “2 directions” may increase operating sound.
Note 3: “2 directions” should not be selected when operating in high-temperature/high-humidity environment. (Dew formation or dewdrop may result.)
Note 4: When set to “2 ways”, the unit cannot be used with the optional high efficiency filter element.
Note 5: When this air outlet shutter plate is installed, a draft reduction setting is not available.</td></tr>
<tr><td>Material</td><td>Foamed polyethylene + Foamed urethane</td></tr>
<tr><td>Color</td><td>Black</td></tr>
<tr><td>Installation method</td><td>Glued to the air outlet of the indoor unit.</td></tr>
</table>

Dimensions

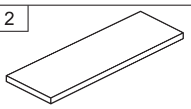
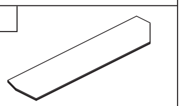
Unit : mm



How to Use / How to Install

Checking for provided parts

Make sure that the parts shown on the right are in this bag, along with the instruction sheet.

Part #, Name	① Shutter plate	② Shutter plate
Q'ty	2	1
Figure		

Air-outlet shutter plate Installation Manual

1. Locate the Shutter Plate installation position

- This is a part which is used to convert the number of air-outlet from "4 ways" to "3 ways" or "2 ways".
  Note: Convert to "1 way" is not available.
- Select the outlet direction and decide the outlet to be closed.
  Notes:
  1. When the number of outlet is selected to "2 ways", be sure to explain to the customer that the filter should be cleaned once a month. (Otherwise, the filter will be clogged, and the performance of the cooling and heating can be lower.)
  2. When the number of outlet is selected to "3 ways" or "2 ways", the operation noise can be larger.
  3. Never to select "2 ways" in the environment of high temperature and high humidity. (It can cause dew drops.)

2. Installation of shutter plate (Fig.1)

- Install the shutter plate to the indoor unit so that it can fit the air-outlet concave portion.
  Notes:
  1. Install one piece of Shutter plate ① per one air-outlet.
  2. The installation should be done before the grille is installed.
  3. The shutter plate must be installed not to cause wrinkle or gap. (It can cause dew drops.)
  4. When attaching the shutter plate to the blow outlet (marked ★) between the refrigerant piping and the drain pump, attach the shutter plate ②.

3. Function setting

- When the number of air-outlet is changed, it is necessary to make function selection.
  For the setting method, refer to the installation manual of the main unit.

4. Setting of the auto vane (Fig.2)

- It is possible to fix the auto vane of the grille to the fully closed position, which is applied to the air-outlet installed on the shutter plate.
  Once the auto vane is fixed, the operation of a remote controller and all of automatic control will not be available.
  Note that the fixed vane angle differs from the one which is displayed on the remote controller.

Fig.1

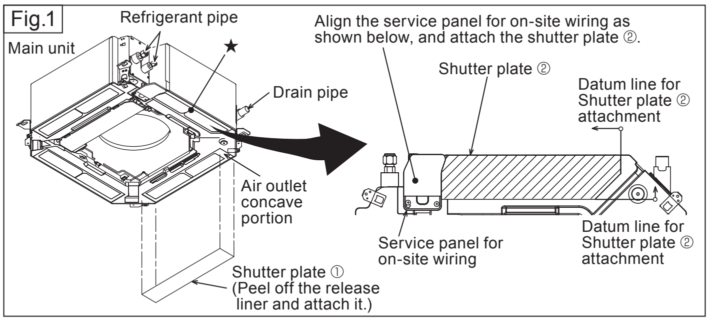
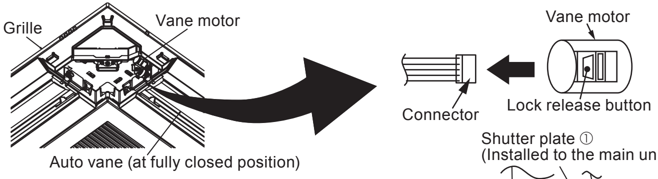

Refrigerant pipe
Main unit
★
Drain pipe
Air outlet concave portion
Shutter plate ① (Peel off the release liner and attach it.)
Align the service panel for on-site wiring as shown below, and attach the shutter plate ②.
Shutter plate ②
Datum line for Shutter plate ② attachment
Service panel for on-site wiring
Datum line for Shutter plate ② attachment

Fig.2

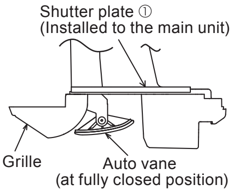
1) Turn OFF the main power (earth leakage breaker).

⚠Warning	Turn OFF the main power. ●The fan of the unit will run, which can cause accident or electric shock.

2) Disconnect the vane motor connector from the grille of which the shutter plate ② is attached to its air outlet. (To disconnect, press the lock release button while pulling the connector toward the arrow as shown below.) Insulate the disconnected connector with plastic tape.



3) Slowly move the auto vane of which the shutter plate is attached to its air outlet, and fully close.


Shutter plate ① (Installed to the main unit)
Grille
Auto vane (at fully closed position)

⚠Caution	Do not fully close the auto vane if no shutter plate I attached to its air outlet. ●Otherwise, dew formation or dew drop, or a unit malfunction may result.

Insulation kit

PAC-SK36HK-E

Descriptions

This insulation kit is required to set 14℃ cooling operation.

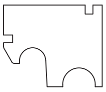
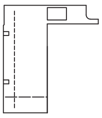
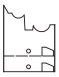
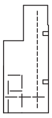
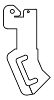
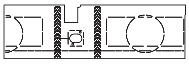
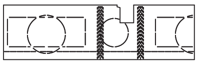
Applicable Models

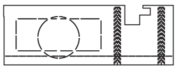
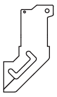
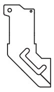
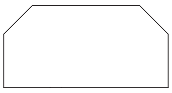
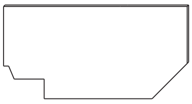
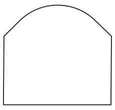
- ■ PLA-ZM・EA2 series
- ■ PLA-M・EA2 series
- ■ PLA-SM・EA2 series

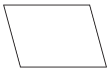
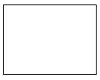
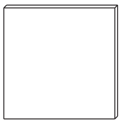
How to Use / How to Install

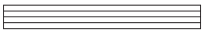
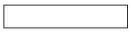
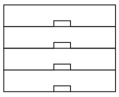
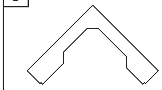
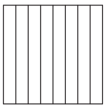
1. Checking parts

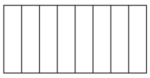
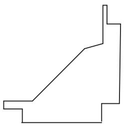
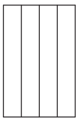
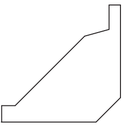
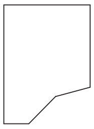
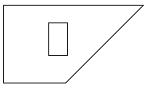
・This manual and the following parts are included in Insulation Kit.
(The figures show the shapes of the parts as viewed from above.)

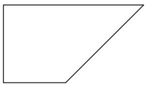
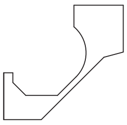
P.No. Name	①Refrigerant piping area insulator	②Refrigerant piping area insulator	③Refrigerant piping area insulator	④Refrigerant piping area insulator	⑤Hanging bracket insulator (for refrigerant piping area)	⑥Indoor unit side panel insulator	⑦Indoor unit side panel insulator
Qty	1	1	1	1	1	1	1
Shape							

P.No. Name	⑧Indoor unit side panel insulator	⑨Hanging bracket insulator (for unit side panel)	⑩Hanging bracket insulator (for unit side panel)	⑪Indoor unit top panel insulator	⑫Indoor unit top panel insulator	⑬Drain pipe insulator
Qty	1	2	1	1	1	1
Shape						

P.No. Name	⑭Insulator for entry for remote controller cable	⑮Insulator for entry for power cable	⑯Spare Size: t5×300×300
Qty	1	1	1
Shape			

P.No. Name	⑰Grille insulator Size: t5×523×13	⑱Grille insulator Size: t15×145×15	⑲Grille insulator	⑳Grille insulator Size: t2×188×8	㉑Grille insulator	㉒Grille insulator Size: t2×40×5
Qty	4	1	4	4	3	8
Shape						

P.No. Name	㉓Corner panel insulator Size: t6×35×7	㉔Corner panel insulator	㉕Corner panel insulator Size: t2×134×8	㉖Corner panel insulator	㉗Corner panel insulator	㉘Corner panel insulator
Qty	8	4	4	4	4	4
Shape						

P.No. Name	㉙Corner panel insulator	㉚Corner panel insulator
Qty	1	1
Shape		

*Insulation Kit includes two bags: one contains parts ①-⑯ and the other contains parts ⑰-㉚.

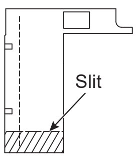
Remarks

- Attach the insulators correctly as shown in this installation manual. Incomplete attachment could cause moisture to adhere or drip.
- The insulators have adhesive on them. When attaching the insulators, remove the protective sheets.
  Once the insulators are attached, they cannot be removed. Check the attachment positions carefully before attachment.
- Attach the insulators securely so that they do not peel off. Make sure that there are no gaps and that the insulators are not torn.

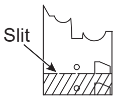
2. Preparations for attaching insulations

- To attach to a small type indoor unit, cut off insulators ②-④ and ⑥-⑧ into the appropriate size.
  * The shaded portions of insulators shown below should be cut off. The cut-off portions have slits: Use a tool such as scissors to cut. (The cut-off portions can be discarded.)

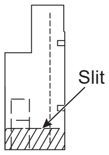
Refrigerant piping area insulator ②



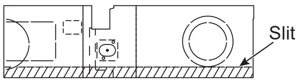
Refrigerant piping area insulator ③



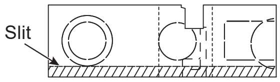
Refrigerant piping area insulator ④



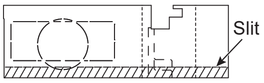
Indoor unit side panel insulator ⑥



Indoor unit side panel insulator ⑦



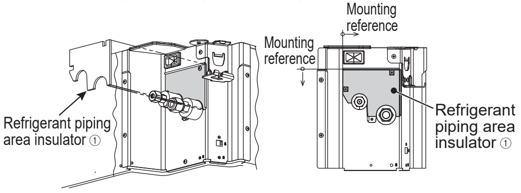
Indoor unit side panel insulator ⑧



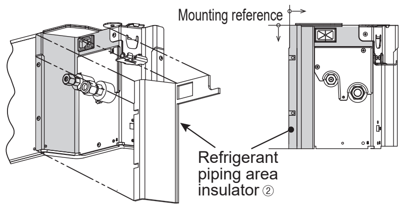
3. Attaching to refrigerant piping area

- Attach the insulators ①-⑤ to the refrigerant piping area.
  * Attach the insulators in the numerical order of ①-⑤ to fit the shapes.
  * Before attaching the insulators, check the shapes and the positions to apply them.
  * If it is difficult to attach the insulators, cut them off into the appropriate size.
  * Attach the insulators without any gaps between them.
  * If any gap or break occurs during attachment, cut off the spare ⑯ appropriately and attach it.

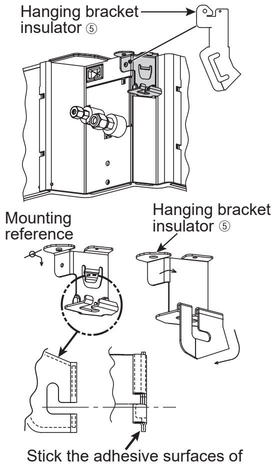
Attaching the refrigerant piping area insulator ①


Mounting reference
Mounting reference
Refrigerant piping area insulator ①
Refrigerant piping area insulator ①

Attaching the refrigerant piping area insulator ②

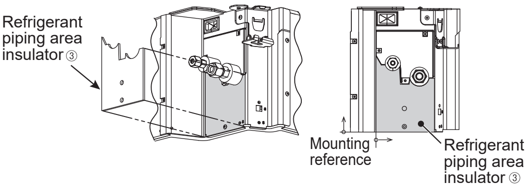


Attaching the hanging bracket insulator ⑤



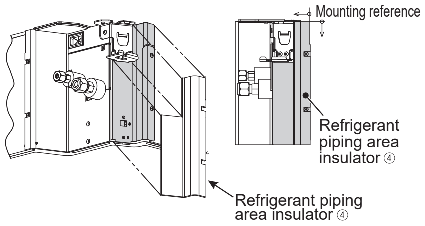
Stick the adhesive surfaces of the insulator together.

Attaching the refrigerant piping area insulator ③


Refrigerant piping area insulator ③
Mounting reference
Refrigerant piping area insulator ③

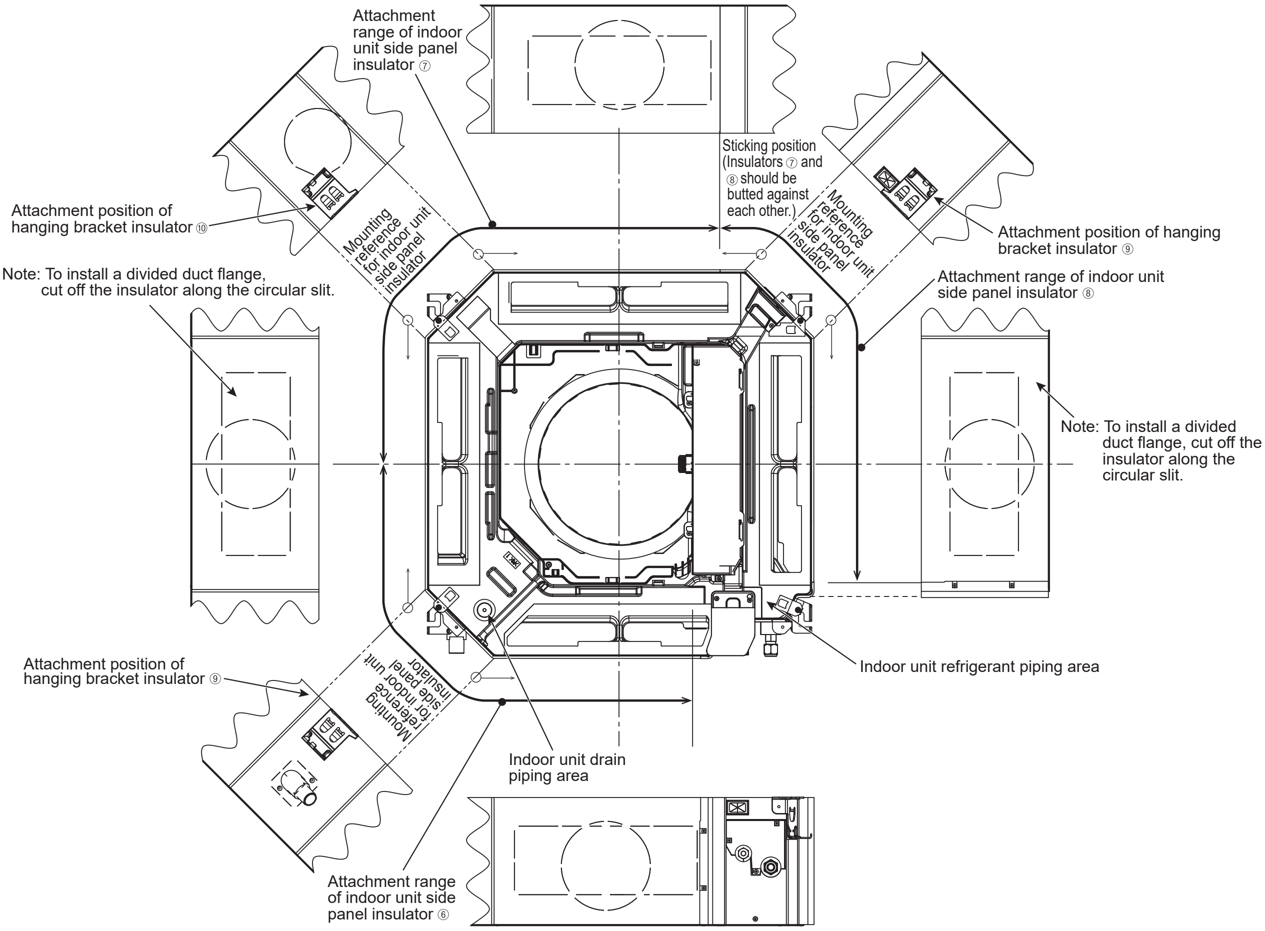
Butt against the refrigerant piping area insulator ②.

Attaching the refrigerant piping area insulator ④

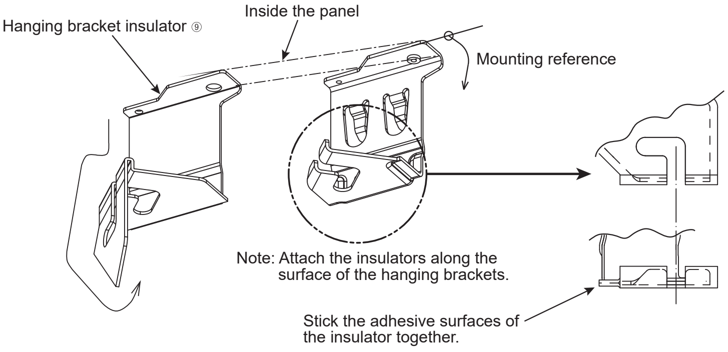

Mounting reference
Refrigerant piping area insulator ④
Refrigerant piping area insulator ④

4. Attaching to sides of indoor unit

- Attach the insulators ⑥-⑧ to the sides of indoor unit.
  - * Attach the insulators in the numerical order of ⑥-⑧ to fit the shapes.
  - * Before attaching the insulators, check the shapes and the positions to apply them.
  - * If it is difficult to attach the insulators, cut them off into the appropriate size.
  - * Attach the insulators without any gaps between them.
  - * If any gap or break occurs during attachment, cut off the spare ⑯ appropriately and attach it.
  - * When installing a duct flange for fresh air intake or a divided duct flange, cut off the insulator at the attachment position along the slit, and attach it by referring to the appropriate installation manual. (After attachment, provide sufficient heat insulation.)

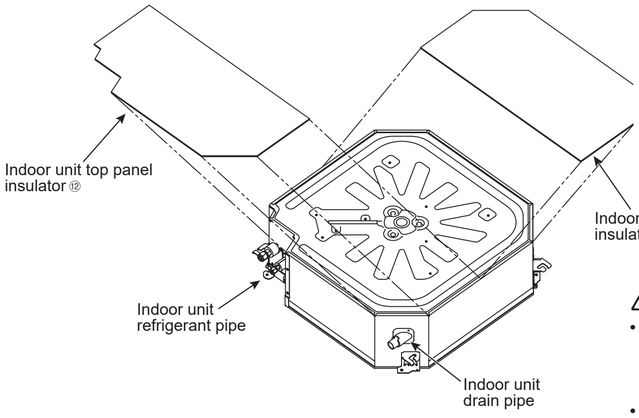

Attachment range of indoor unit side panel insulator ⑦
Sticking position (Insulators ⑦ and ⑧ should be butted against each other.)
Attachment position of hanging bracket insulator ⑩
Mounting reference for indoor unit side panel insulator
Mounting reference for indoor unit side panel insulator
Attachment position of hanging bracket insulator ⑨
Note: To install a divided duct flange, cut off the insulator along the circular slit.
Attachment range of indoor unit side panel insulator ⑧
Note: To install a divided duct flange, cut off the insulator along the circular slit.
Attachment position of hanging bracket insulator ⑨
Mounting reference for indoor unit side panel insulator
Indoor unit refrigerant piping area
Indoor unit drain piping area
Attachment range of indoor unit side panel insulator ⑥

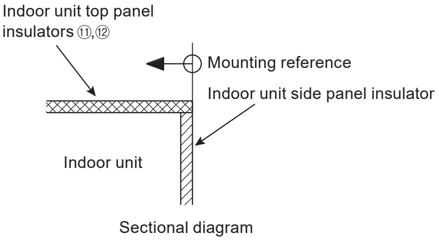
- Attach the insulators ⑨ and ⑩ to the hanging brackets on the sides of indoor unit.
  - * Before attaching the insulators, check the shapes and the positions to apply them.
  - * Use the same procedure to attach the hanging bracket insulators ⑨ (at two points) and hanging the bracket insulator ⑩ (at one point).
  - * If it is difficult to attach the insulators, cut them off into the appropriate size.
  - * If any gap or break occurs during attachment, cut off the spare ⑯ appropriately and attach it.


Hanging bracket insulator ⑨
Inside the panel
Mounting reference
Note: Attach the insulators along the surface of the hanging brackets.
Stick the adhesive surfaces of the insulator together.

5. Attaching to top panel of indoor unit

- Attach the insulators ⑪ and ⑫ to the top panel of the indoor unit.
  * Align the edges of the insulators and the top panel.
  * Before attaching the insulators, check the shapes and the positions to apply them.
  * Attach the insulators without any gaps between them.
  * If any gap or break occurs during attachment, cut off the spare ⑯ appropriately and attach it.
  * Make sure that there is no accumulation of excess air.


Indoor unit top panel insulator ⑫
Indoor unit top panel insulator ⑪
Indoor unit refrigerant pipe
Indoor unit drain pipe

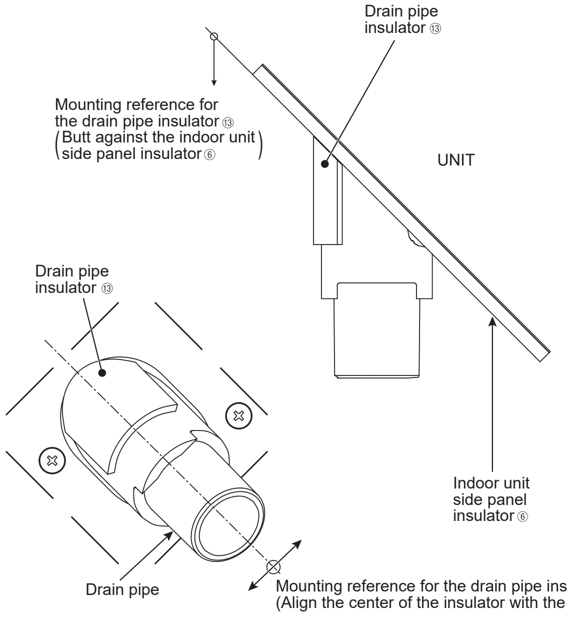

Indoor unit top panel insulators ⑪,⑫
Mounting reference
Indoor unit side panel insulator
Indoor unit
Sectional diagram

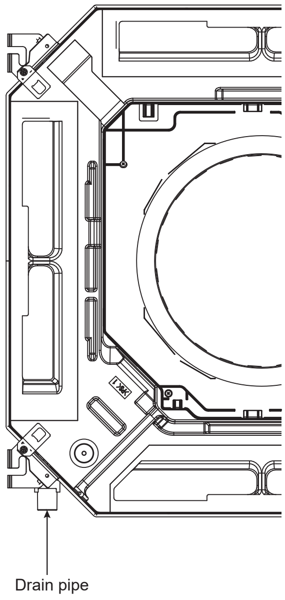
⚠ CAUTION

- When attaching insulators ⑪ and ⑫, do not press too hard on the plastic parts (black) shown in the left figure. If pressed with force, the part could touch the fan inside the indoor unit, which could cause abnormal sound or a fault.
- The screw tips protrude from the top panel of indoor unit: Take great care when proceeding with this work.

6. Attaching to drain pipe

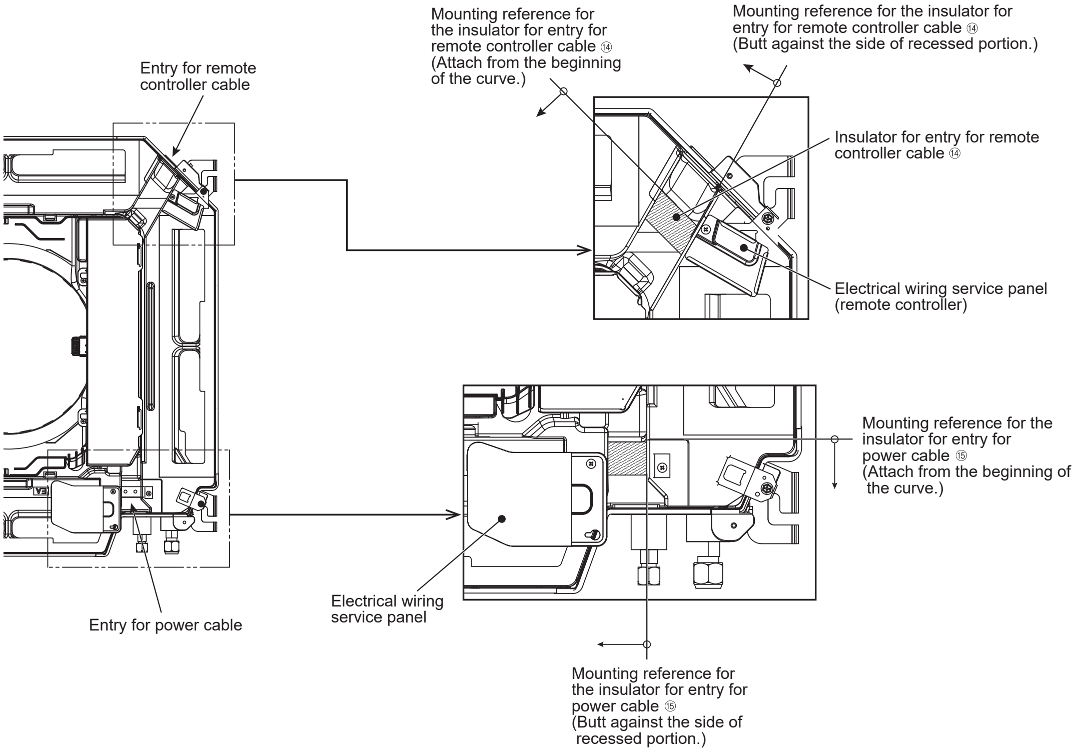
- Attach the insulator ⑬ to the drain pipe of the indoor unit .
  * Attach the insulator along the surface of the drain pipe.
  * Before attaching the insulator, check the shape and the positions to apply it.


Drain pipe insulator ⑬
Mounting reference for the drain pipe insulator ⑬ (Butt against the indoor unit side panel insulator ⑥)
UNIT
Drain pipe insulator ⑬
Indoor unit side panel insulator ⑥
Drain pipe
Mounting reference for the drain pipe insulator ⑬ (Align the center of the insulator with the vertical center of the drain pipe.)



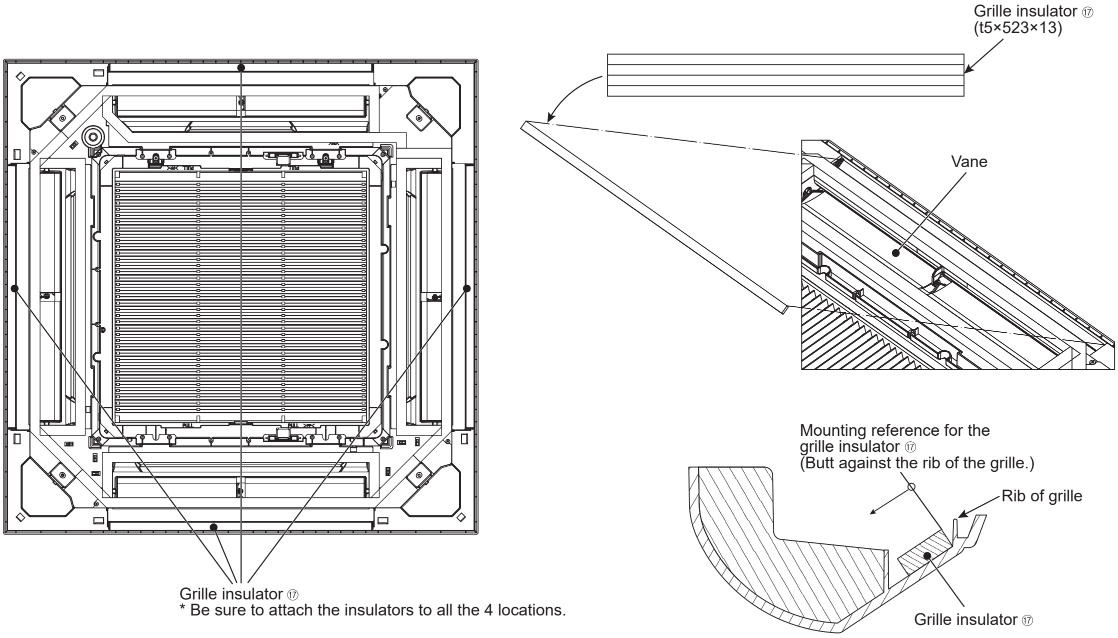
7. Attaching to entries for remote controller cable and power cable

- Attach the insulators ⑭ and ⑮ in the recessed portions for wiring of the indoor unit.
  - * Fit the insulators in the recessed portions.
  - * Before attaching the insulators, check the shapes and the positions to apply them.
  - * For removal of the electrical wiring service panel (remote controller) and electrical wiring service panel, refer to the installation manual that comes with the indoor unit.
  - * For electrical work, refer to the installation manual that comes with the indoor unit.


Mounting reference for the insulator for entry for remote controller cable ⑭ (Attach from the beginning of the curve.)
Mounting reference for the insulator for entry for remote controller cable ⑭ (Butt against the side of recessed portion.)
Entry for remote controller cable
Insulator for entry for remote controller cable ⑭
Electrical wiring service panel (remote controller)
Mounting reference for the insulator for entry for power cable ⑮ (Attach from the beginning of the curve.)
Electrical wiring service panel
Entry for power cable
Mounting reference for the insulator for entry for power cable ⑮ (Butt against the side of recessed portion.)

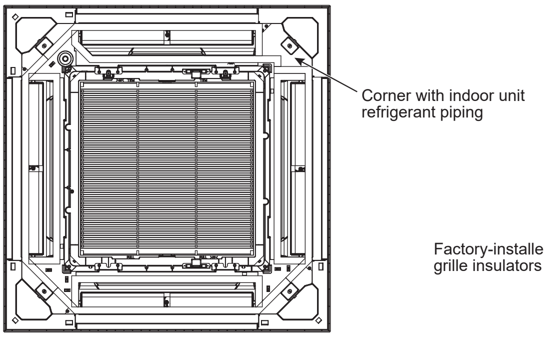
8. Attaching to grille

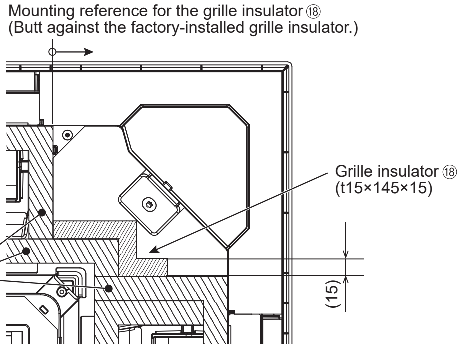
(1) Attach the insulators ⑰ on the back (non-design side) of grille.
  - * Before attaching the insulators, check the shapes and the positions to apply them.
  - * Do not apply excessive force on movable parts, such as vanes, during work. Doing so may cause an accident or damage.


Grille insulator ⑰ (t5×523×13)
Vane
Mounting reference for the grille insulator ⑰ (Butt against the rib of the grille.)
Rib of grille
Grille insulator ⑰
Grille insulator ⑰
* Be sure to attach the insulators to all the 4 locations.

(2) Attach the insulator ⑱ near the corner with indoor unit refrigerant piping on the back (non-design side) of grille.

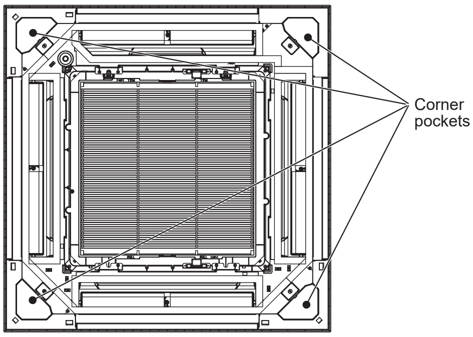
- * Before attaching the insulator, check the shape and the position to apply it.
- * Attach the insulator to the factory-installed grille insulators. Avoid deformation of the grille insulators when attaching it.
- * Do not apply excessive force on movable parts, such as vanes, during work. Doing so may cause an accident or damage.

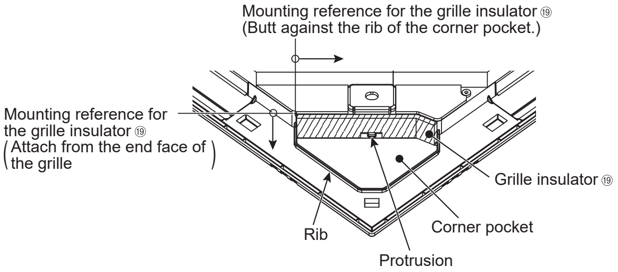



Mounting reference for the grille insulator ⑱
(Butt against the factory-installed grille insulator.)
Grille insulator ⑱
(t15×145×15)
Factory-installed
grille insulators
(15)

(3) Attach the insulators ⑲ and ⑳ to the inside of the corner pockets.

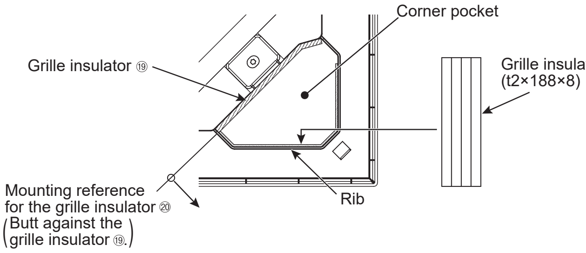
- * Before attaching the insulators, check the shapes and the positions to apply them.
- * Remove the corner panels before work.
  For removal, refer to the installation manual that comes with the indoor unit.
- * Attach the insulators to all the 4 corner pockets.
- * Do not apply excessive force on movable parts, such as vanes, during work. Doing so may cause an accident or damage.

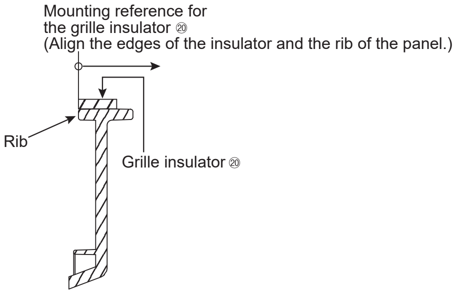



Mounting reference for the grille insulator ⑲
(Butt against the rib of the corner pocket.)
Mounting reference for
the grille insulator ⑲
(Attach from the end face of
the grille)
Grille insulator ⑲
Corner pocket
Rib
Protrusion

⚠ CAUTION

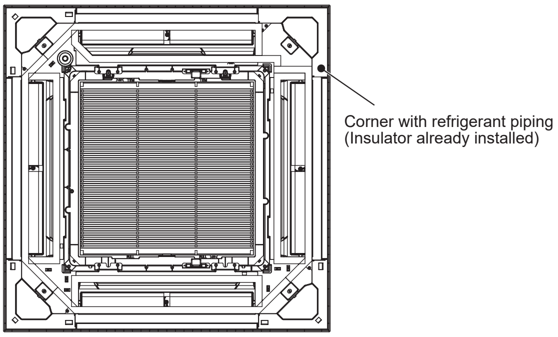
- Do not cover the protrusion in the corner pocket when attaching the grille insulator ⑲.
  The corner panel cannot be installed if the protrusion is covered.

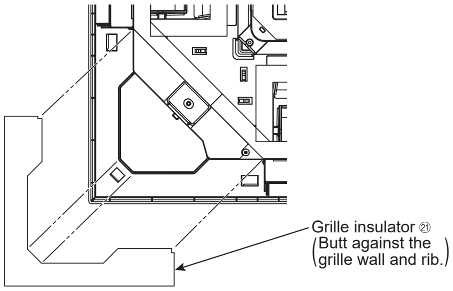




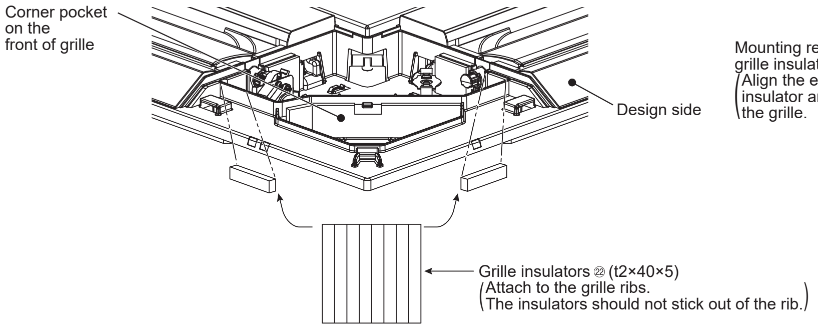
(4) Attach the insulators ㉑ on the back (non-design side) of grille.

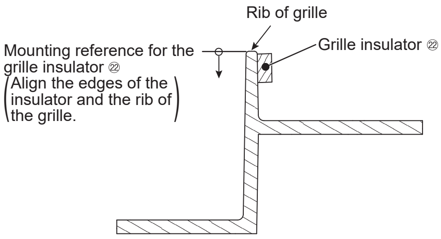
- * Attach the insulators to 3 corners. (An insulator has been installed to the corner with refrigerant piping at the factory.)
- * Before attaching the insulators, check the shapes and the positions to apply them.
- * Do not apply excessive force on movable parts, such as vanes, during work. Doing so may cause an accident or damage.





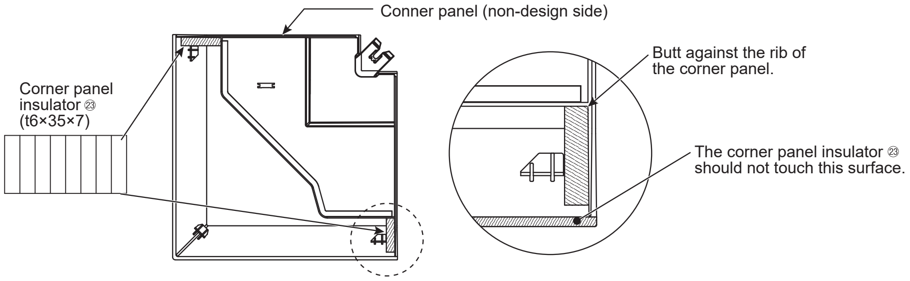
(5) Attach the insulators ㉒ on the front (design side) of grille.
- * Attach 2 insulators to each of the 4 corner areas.
- * Before attaching the insulators, check the shapes and the positions to apply them.
- * Do not apply excessive force on movable parts, such as vanes, during work. Doing so may cause an accident or damage.


Corner pocket on the front of grille
Design side
Grille insulators ㉒ (t2×40×5)
(Attach to the grille ribs. The insulators should not stick out of the rib.)

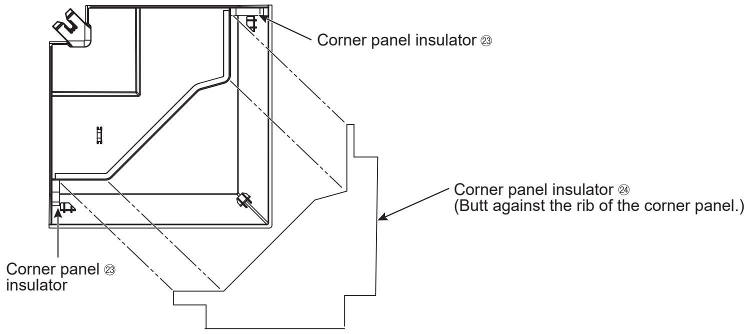

Rib of grille
Grille insulator ㉒
Mounting reference for the grille insulator ㉒
(Align the edges of the insulator and the rib of the grille.)

9. Attaching to corner panels

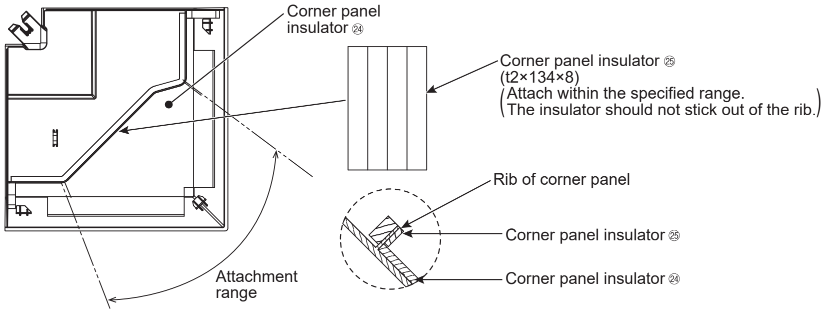
(1) Attach the insulators ㉓ to the corner panel of the grile.
- * Before attaching the insulators, check the shapes and the positions to apply them.
- * Attach the insulators to the signal receiver corner panel and the i-see Sensor corner panel as well as the standard corner panels.
- * Do not apply excessive force on the movable part of i-see Sensor or the signal receiver. Doing so may cause an accident or damage.


Conner panel (non-design side)
Corner panel insulator ㉓ (t6×35×7)
Butt against the rib of the corner panel.
The corner panel insulator ㉓ should not touch this surface.

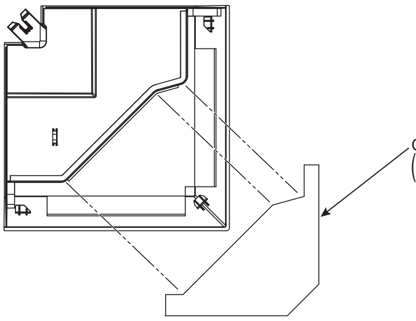
(2) Attach the insulators ㉔ to the corner panels of the grille.
- * Before attaching the insulators, check the shapes and the positions to apply them.
- * Attach the insulators to the signal receiver corner panel and the i-see Sensor corner panel as well as the standard corner panels.
- * Do not apply excessive force on the movable part of i-see Sensor or the signal receiver. Doing so may cause an accident or damage.



(3) Attach the insulators ㉕ to the corner panels of the grille.
- * Before attaching the insulators, check the shapes and the positions to apply them.
- * Attach the insulators to the signal receiver corner panel and the i-see Sensor corner panel as well as the standard corner panels.
- * Do not apply excessive force on the movable part of i-see Sensor or the signal receiver. Doing so may cause an accident or damage.

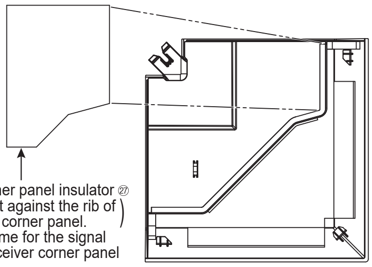

Corner panel insulator ㉔
Corner panel insulator ㉕ (t2×134×8)
(Attach within the specified range. The insulator should not stick out of the rib.)
Rib of corner panel
Corner panel insulator ㉕
Corner panel insulator ㉔
Attachment range

(4) Attach the insulators ㉖ to the corner panels of the grille.
* Before attaching the insulators, check the shapes and the positions to apply them.
* Attach the insulators to the signal receiver corner panel and the i-see Sensor corner panel as well as the standard corner panels.
* Do not apply excessive force on the movable part of i-see Sensor or the signal receiver. Doing so may cause an accident or damage.



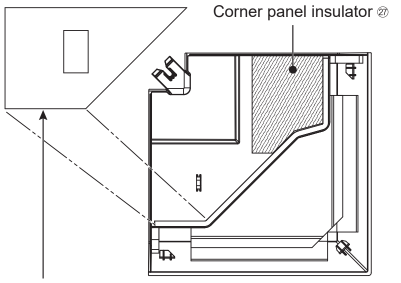
Corner panel insulator ㉖
(Butt against the rib of the corner panel and attach to the corner panel insulator ㉔)

(5) Attach the insulators ㉗ and the insulator(s) ㉘ or ㉙ to the standard corner panels and the signal receiver corner panel.
* Before attaching the insulators, check the shapes and the positions to apply them.
* Attach the insulators ㉗ to both the standard and the signal receiver corner panels.
* Attach the insulators ㉘ only to the standard corner panels.
* Attach the insulator ㉙ only to the signal receiver corner panel.
* Do not apply excessive force on the signal receiver. Doing so may cause an accident or damage.



Corner panel insulator ㉗
(Butt against the rib of the corner panel.)
* Same for the signal receiver corner panel

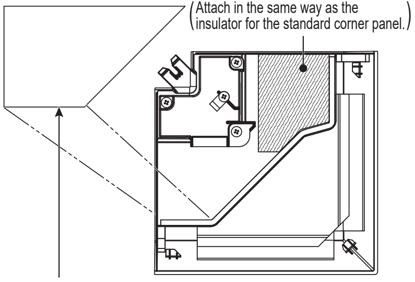
<Attaching the standard corner panel>



Corner panel insulator ㉗

Corner panel insulator ㉘
(Butt against the rib of the corner panel.)
* Remove the safety string as needed before attaching the insulator.
* Make sure to reinstall it if the safety string is removed. Failure to do so may cause a fall.

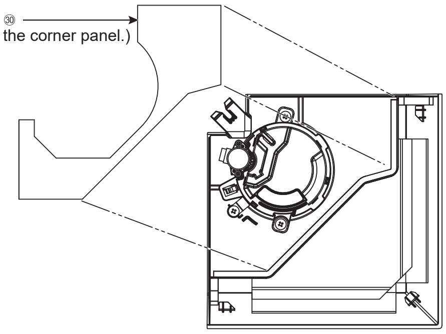
<Attaching the signal receiver corner panel>



Corner panel insulator ㉗
(Attach in the same way as the insulator for the standard corner panel.)

Corner panel insulator ㉙
(Butt against the rib of the corner panel.)

(6) Attach the insulator ㉚ to the i-see Sensor corner panel of the grille.
* Before attaching the insulator, check the shape and the position to apply it.
* Do not apply excessive force on the i-see Sensor. Doing so may cause an accident or damage.



Corner panel insulator ㉚
(Butt against the rib of the corner panel.)

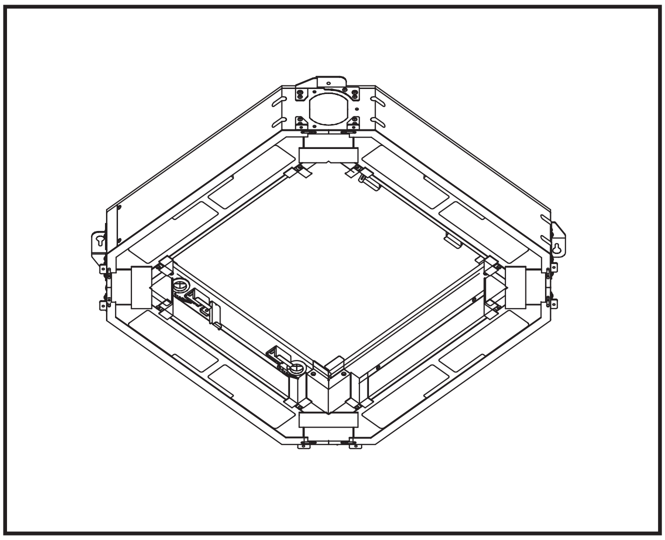
10. Setting remote controller

- To enable the setting of 14°C in the cooling operation, refer to the operation manual and instruction book for the indoor unit.

Multi-functional Casement

PAC-SJ41TM-E

Figure



Descriptions

A part required installation of a high-efficiency filter element.
Can also be used for introducing fresh air from outdoor.

Applicable Models

- ■ PLA-ZM·EA series
- ■ PLA-M·EA series
- ■ PLA-SM·EA series

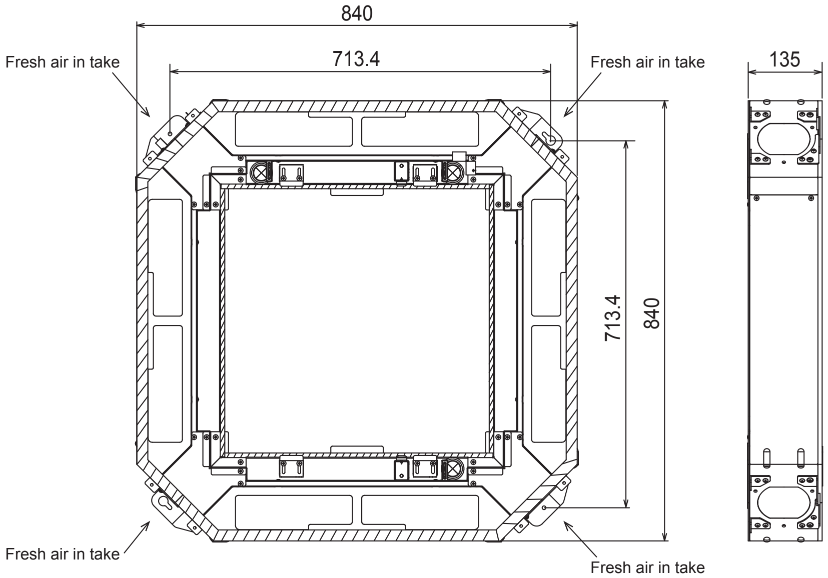
Specifications

Connected duct diameter (mm)		
Fresh air intake	Number of intakes	Any 2 corners or less (among four corners)
	Input volume	20% or less of indoor units air volume
High-performance filter element(Optional parts)		Colorimetric method (65%)

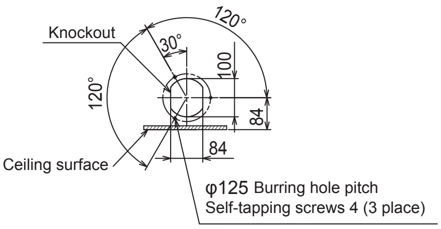
Dimensions

Unit : mm

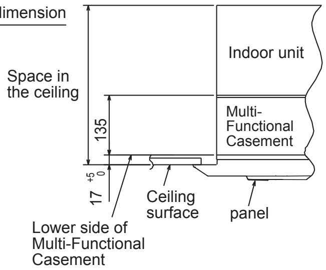
See from the panel side



Detail drawing of fresh air in take
(4 corner same shape)



Installation dimension


Indoor unit
Space in the ceiling
Multi-Functional Casement
135
17 +5 0
Ceiling surface
panel
Lower side of Multi-Functional Casement

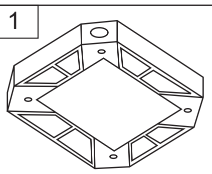
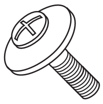
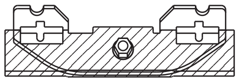
*Note that the space between ceiling surface of the unit and ceiling slab, etc. must 7 mm or more

How to Use / How to Install

1 Parts check

(The unit is provided with this manual and following parts in the box.)

MULTI-FUNCTIONAL CASEMENT

Part No., Name	① Multi-functional casement	② Screw with washer (black)	③ Screw	④ Grille securing bracket
Q'ty	1	4 M5×0.8×25	8 M5×0.8×12	4 With insulator
Figure				

NOTICE

(1) When taking in fresh air from outside, use the PAC-SH65OF-E duct flange (optional).
In addition, procure following items at local site: duct fan, duct, and dust collecting filter.
Intake-air volume should be 20% or less of indoor unit air volume.
Note: It is available of fresh-air intake even when the High-efficiency filter element is installed.

(2) Follow the procedure in this installation manual of the Multi-functional casement ①.
Otherwise, it is possible that installation of refrigerant pipes, drain pipe, and electrical wiring will not be available.

2 Installation of Main unit

- Follow the procedure in the installation manual which is attached to the main unit.

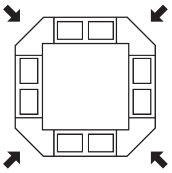
3 Installation of Multi-functional casement

Preparation before installation

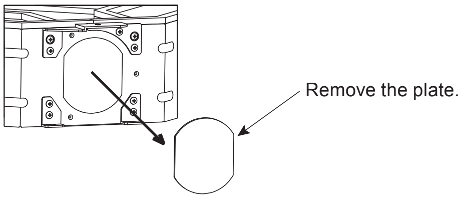
- An optional part Shutter plate to change the number of air outlet is to be installed on the main unit of the indoor unit; thus install the shutter plate before installing the Multi-functional casement ①.

- The Multi-functional casement ① has 4 knockout on each side so that the fresh air can be taken from any of four sides. Select any one or two sides in advance and make knockout holes on the Multi-functional casement ①.

—— Knockout hole position for fresh-air intake. ——



—— Making knockout holes ——



- Be sure to use the PAC-SH65OF-E (optional) for duct flange.

3 Installation of Multi-functional casement

Electrical work of main unit

- Be sure to do the wiring (indoor/outdoor unit connection cable, remote controller cable, etc.) before installing the Multi-functional casement ①:
  Note: Wiring after installing the Multi-functional casement ① will be difficult.

Temporary installation

Note: Be sure to use two persons for this work.

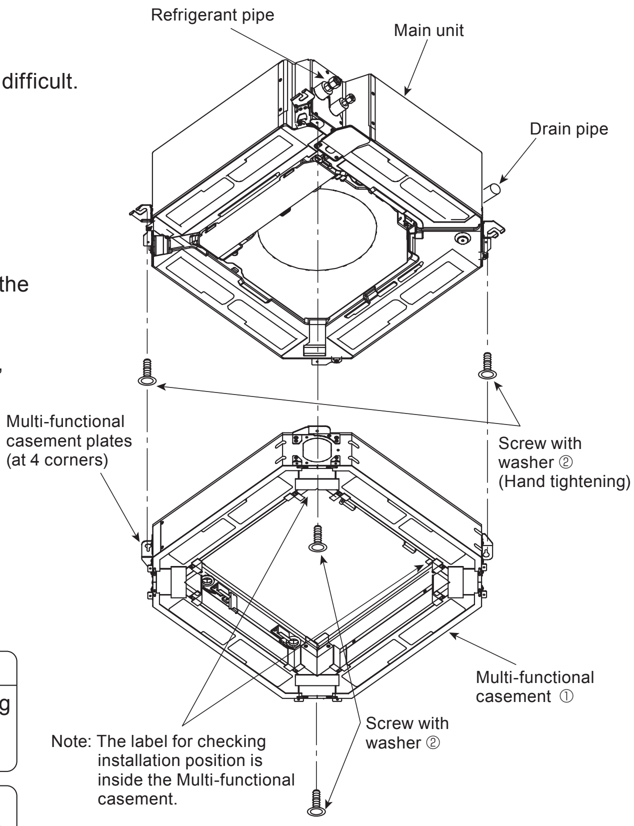
- Fix the 2 screw with washer (black) ② to each position.
  (drain pipe corner position and to its opposite corner).
- Align the direction of the Multi-functional casement ① according to the label for checking the installation position attached inside the Multi-functional casement ①.
  Note: If installed in improper direction, parts damage, wind leakage, or dew drop may result.
- Hook the hole of the Multi-functional casement ① to the screw with washer (black) ② and hand tight.

Fixing

- Temporarily secure the 2 screws with washers ②, and also the other 2 screws with washers ②, and then tighten these screws with washers ② after making sure that the position of Multi-functional casement ① is correct.

⚠Caution	Temporarily secure the 4 screws with washers.
	●Tightening the screws without temporarily securing them could damage the screws with washers, or cause air leakage.

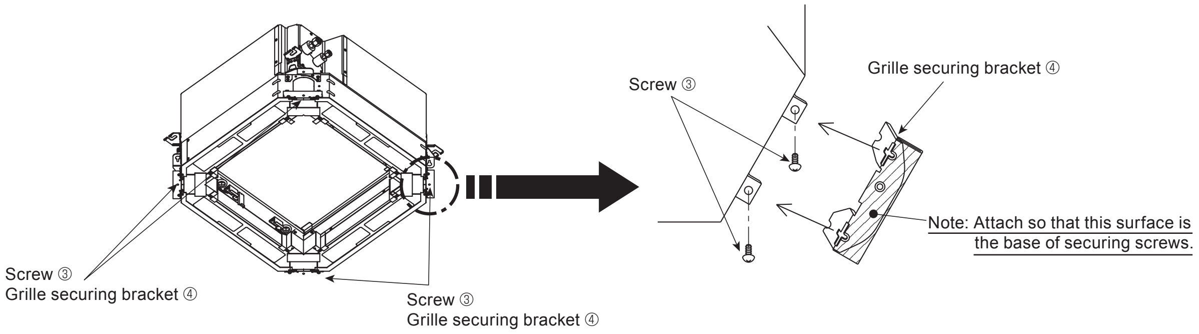
⚠Caution	When tightening the screw with washer ②, tighten it at a torque of 2.8 to 3.6 N•m (2.1 to 2.6 ft•lbs) or less. Never use an impact screwdriver.
	●It may result in parts damage.


Refrigerant pipe
Main unit
Drain pipe
Multi-functional casement plates (at 4 corners)
Screw with washer ② (Hand tightening)
Multi-functional casement ①
Screw with washer ②

Note: The label for checking installation position is inside the Multi-functional casement.

Attaching bracket for securing grille

- Use 8 screws ③ to secure the 4 Grille securing brackets ④ to each corner of Multi-functional casement ①.
  (See the figure below.)

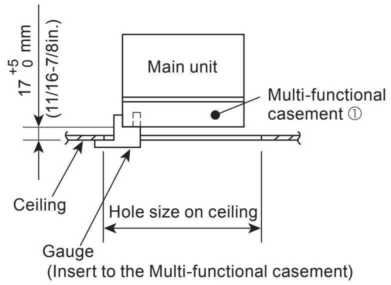

Screw ③
Grille securing bracket ④
Screw ③
Grille securing bracket ④
Screw ③
Grille securing bracket ④

Note: Attach so that this surface is the base of securing screws.

Height adjustment

Note: It is recommended to make this adjustment before installation of duct when fresh air intake.

- Readjust the height of the Multi-functional casement ① with the gauge which is attached to the grille as show right.


17 +5 0 mm
(11/16-7/8in.)
Main unit
Multi-functional casement ①
Ceiling
Hole size on ceiling
Gauge
(Insert to the Multi-functional casement)

The gap must be in a range from 17mm(11/16in.) to 22mm(7/8in.).
If out of range, it can cause malfunction.

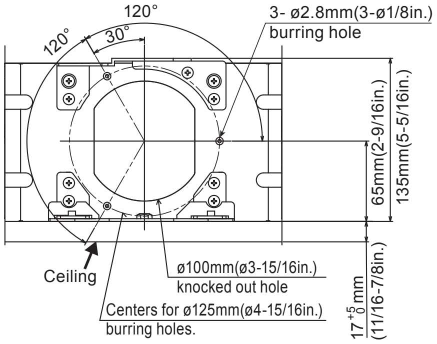
4 Installation of duct (in case of fresh air intake)

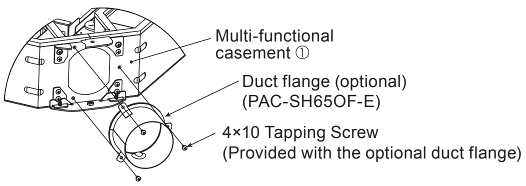
Installation of duct flange

- Install the optional duct flange referring to the installation manual provided with it.

⚠**Caution**	Linkage of duct fan and air conditioner.
	● In case that a duct fan is used, be sure to make it linked with the air conditioner when outside air is taken. Do not run the duct fan only. It can cause dew drop.

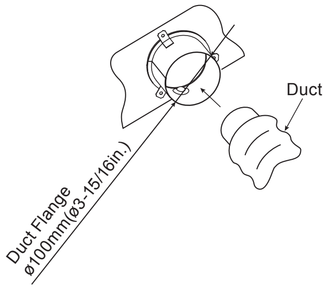
—— Details of air inlet (Example) ——





Installation of duct (should be prepared locally)

- Prepare a duct of which inner diameter fits into the outer diameter of the duct flange.
- In case that the environment above the ceiling is high temperature and high humidity, wrap the duct in a heat insulator to avoid causing dew drop on the wall.
- A duct must be procured at local site for dust collecting filter since the dust contained in the outside air taken into the indoor unit is not removed without such filter.

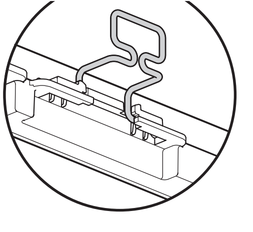


5 Installation of grille

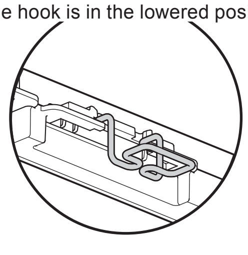
Preparation for temporarily hanging the grille

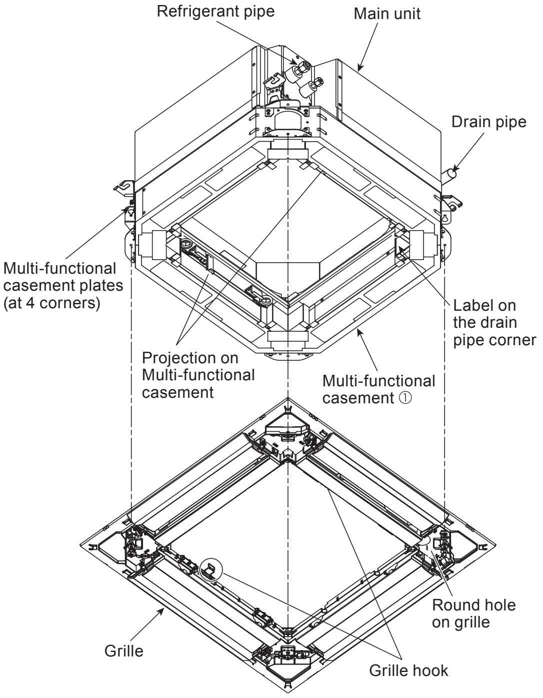
- Check that the 2 temporary hanging hooks on the grille are in the raised position.

<Grille hook is in the raised position>



<Grille hook is in the lowered position>



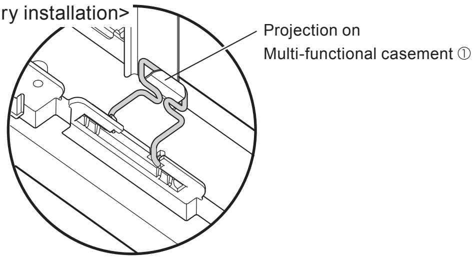


Temporary installation of the grille

- Align the label attached on the drain pipe corner of the Multi-functional casement to the corner with the round hole of the grille, and temporarily install the grille by latching the grille hooks onto the projections on the Multi-functional casement ①.

Notes:
1. Make sure electrical wires are not caught between the Multi-functional casement and the grille.
2. Never force pressure on the grille during the temporary installation. It may result in accident and damage.

<A grille in temporary installation>



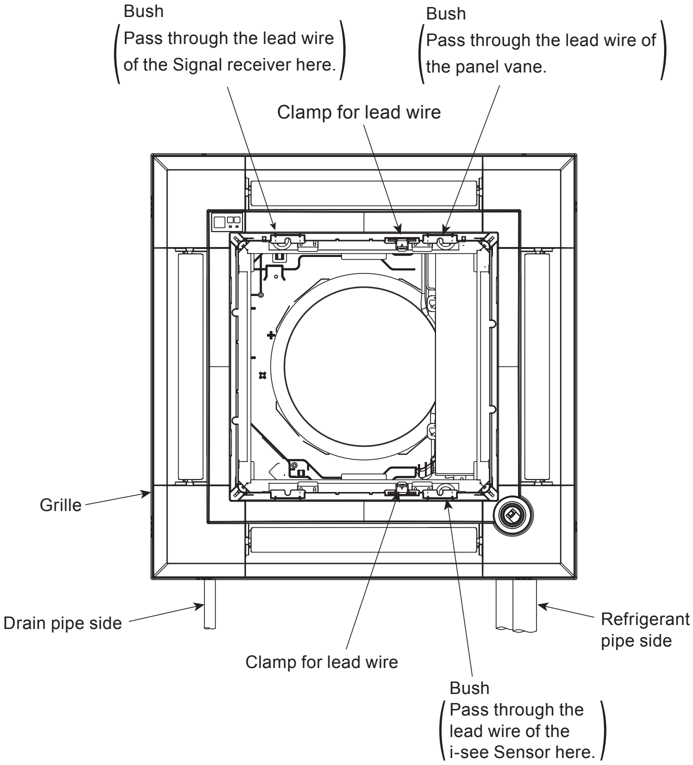
5 Installation of grille

Fixing the grille

- Refer to the installation manual of the main unit for the installation.

Electrical work

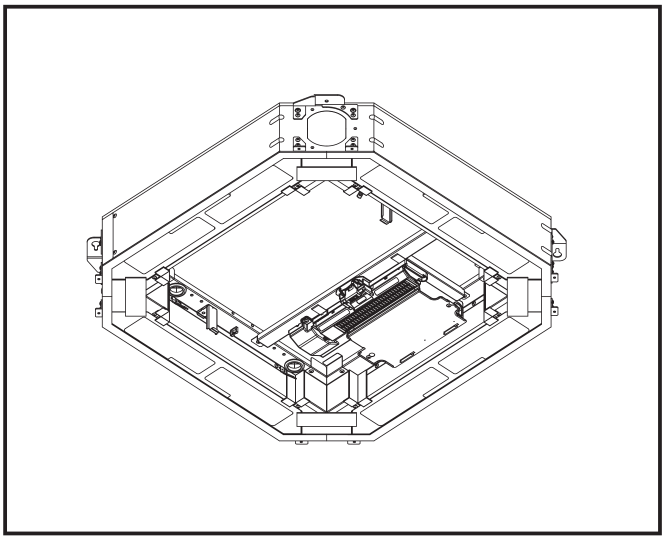
- For lead wires of the grille the Signal receiver, and the i-see Sensor make sure that they passed through the bush on the Multi-functional casement, as shown in the right figure, and connect to the main unit.


Bush
(Pass through the lead wire of the Signal receiver here.)
Bush
(Pass through the lead wire of the panel vane.)
Clamp for lead wire
Grille
Drain pipe side
Refrigerant pipe side
Clamp for lead wire
Bush
(Pass through the lead wire of the i-see Sensor here.)

Plasma Quad Connect

PAC-SK51FT-E

Figure



Descriptions

A Part to purify the inhaled air.
It can also be used for introducing fresh air from outdoor.

Applicable Models

- PLA-ZM·EA series
- PLA-M·EA series
- PLA-SM·EA series

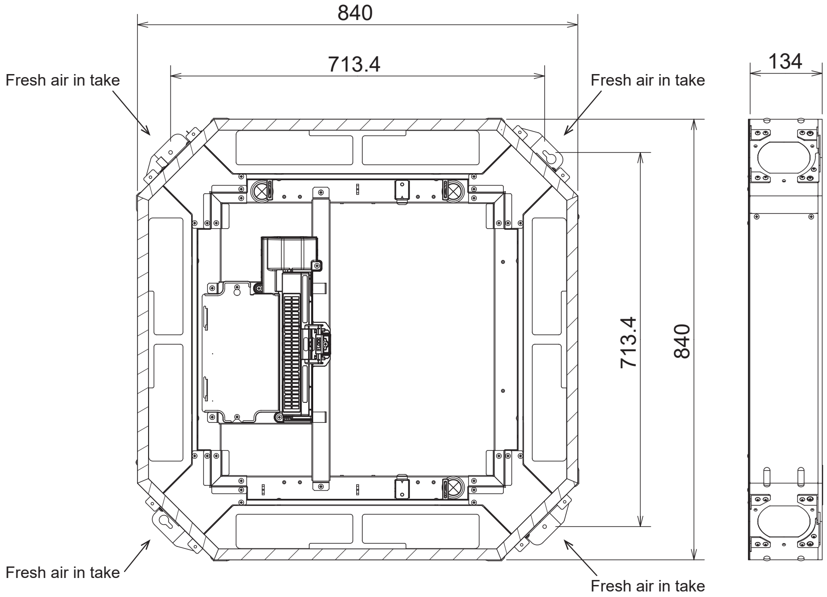
Specifications

Connected duct diameter (mm)		
Fresh air intake	Number of intakes	Any 2 corners or less (among four corners)
	Input volume	20% or less of indoor units air volume
Air purifying equipment		Plasma element

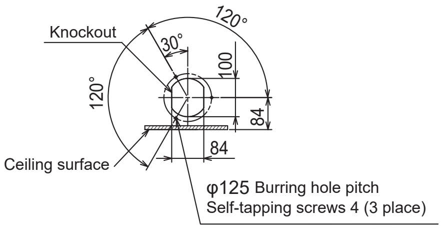
Dimensions

Unit : mm

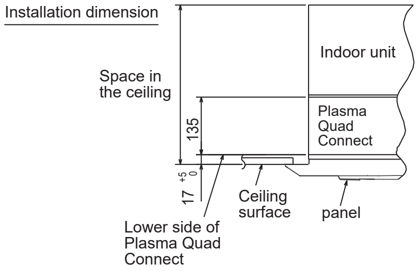
See from the panel side



Detail drawing of fresh air in take
(4 corner same shape)



Installation dimension

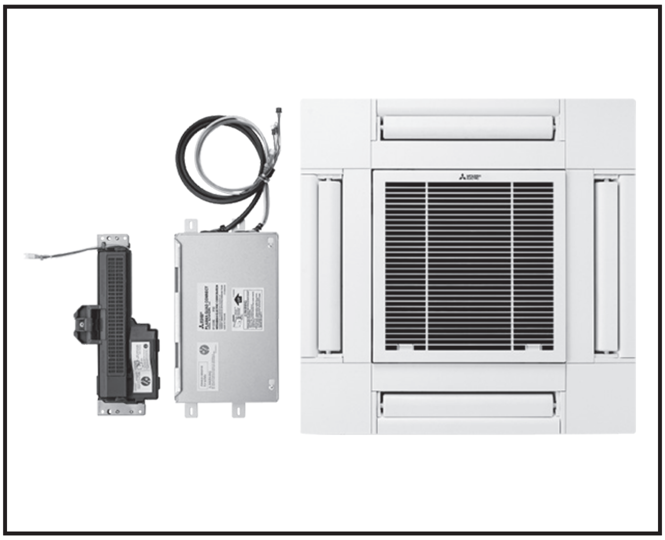


*Note that the space between ceiling surface of the unit and ceiling slab, etc. must 7 mm or more

Plasma Quad Connect

SLP-2FAP,2FALP,2FALMP2

Photo



Descriptions

A Panel with part to purify the inhaled air.

Applicable Models

- SLZ Series

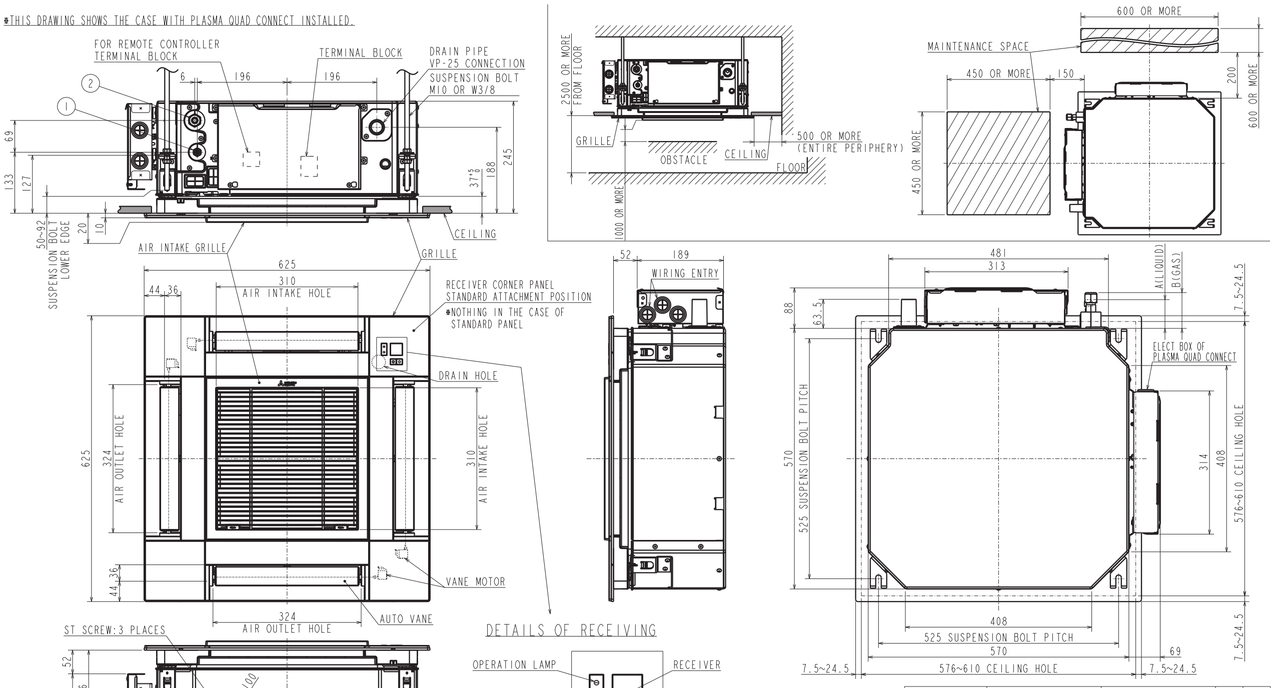
Specifications

Power consumption (W)	4
Size H × W × D (mm)	625 x 625 x 20 (379 x 188 x 69) *2
Weight (kg)	3.0 (1.4) *2

*1 Power source depends on indoor unit.
*2 This figure ( ) indicates Plasma Quad Connect Electrical Box.
*3 This optional part can't be use with V Blocking Filter(PAC-SK54KF-E).
*4 This optional part use CN105 connector of indoor unit. Other interface have to use CN105 of this optional part. (Please refer to I.M.)

Dimensions

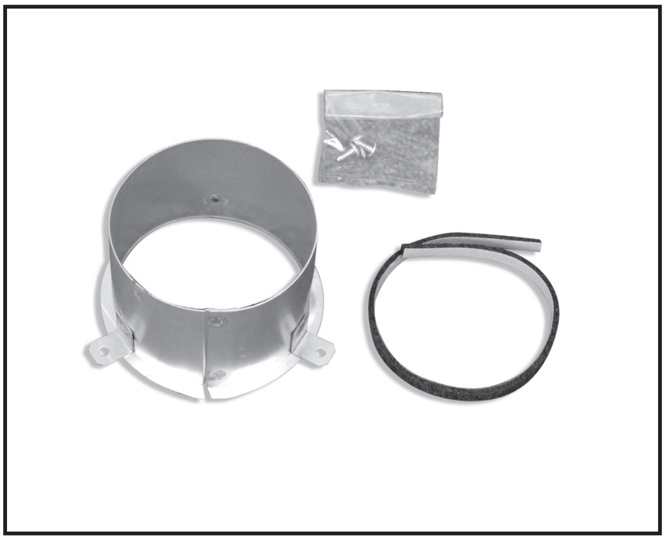
Unit : mm



MODELS	① REFRIGERENT PIPE(LIQUID)	② REFRIGERENT PIPE(GAS)	A	B
SLZ-KF25/35VA SLZ-KF25/35VA2 SLZ-M15/25/35FA	Ø6.35mm FLARED CONNECTION 1/4F	Ø9.52mm FLARED CONNECTION 3/8F	63mm	72mm
SLZ-KF50VA SLZ-KF50VA2 SLZ-M50FA	Ø6.35mm FLARED CONNECTION 1/4F	Ø12.7mm FLARED CONNECTION 1/2F	63mm	78mm
SLZ-KF60VA SLZ-KF60VA2 SLZ-M60FA	Ø6.35mm FLARED CONNECTION 1/4F	Ø15.88mm FLARED CONNECTION 5/8F	63mm	78mm

Duct Flange for Fresh Air Intake **PAC-SH65OF-E**

Photo



Descriptions

Part to attach a duct to take in fresh air from outdoors.

Applicable Models

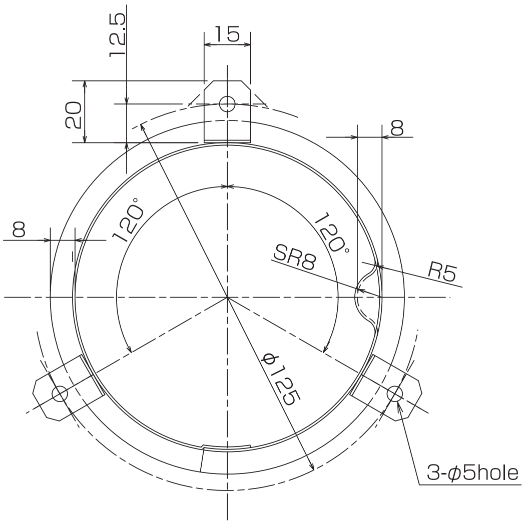
- ■ PLA-ZM·EA series
- ■ PLA-M·EA series
- ■ PLA-SM·EA series

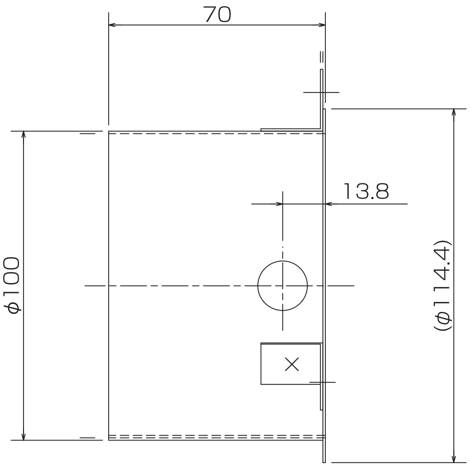
Specifications

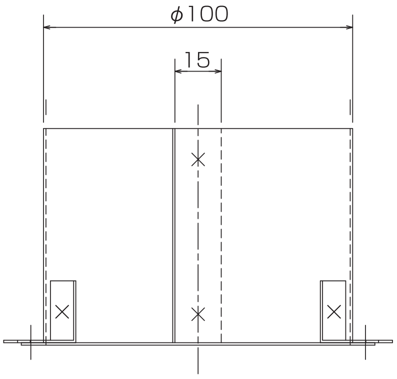
Connection duct diameter (mm)	ø100
Material	Hot-dip zinc-coated carbon steel sheet (t0.8)
Accessory	Insulator, Fixing screw (ST4x10)x3

Dimensions

Unit : mm



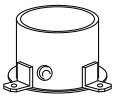
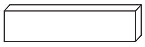
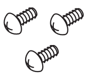




How to Use / How to Install

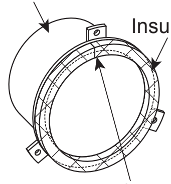
1. Checking Parts

(This box contains the installation manual and the following parts)

Part	①Duct flange	②Insulator	③Screws(M4×10)
Qty	1	1	3
Shape			

2. Attaching Duct Flange for External Air Input

1) Punch an opening for the duct flange.
   <When attaching to main unit>
   - Cut the slit of the ø100 cut-out hole to which the duct flange is to be attached.
   <When attaching to Multi-functional casement>
   - Remove the ø100 knockout hole to which the duct flange is to be attached.
2) Paste insulator ② on the duct flange ① (see the figure on the right).
3) Use 3 screws ③ to attach duct flange ① (see the figure below).



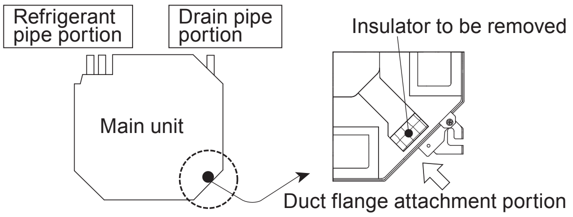
Paste insulator ② so that there is no gap at joints.

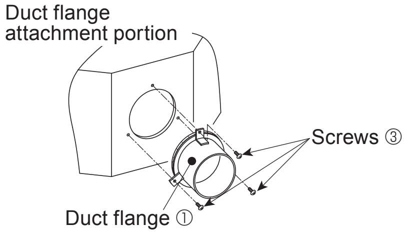
Note:

1. When attaching to the main unit, **be sure to remove the insulator** that is pasted on the location of main unit (shown in the figure below).
2. When attaching to Multi-functional casement, be sure to **set the concave portion of duct flange ① toward the grille attachment surface when attaching it**. (If the duct flange is attached to a location other than the specified one, the grille cannot be attached.)
3. When external air is input directly through the main unit, intake-air volume should be 5% or less of indoor unit air volume.
4. When external air is input through the Multi-functional casement, intake-air volume should be 20% or less of indoor unit air volume.
5. To input the external air, the duct fan and dust collecting filter to prevent drawing in dust and other particles are necessary.
   For details, see “Fresh air intake volume & static pressure characteristics” in the P series DATA BOOK.
6. When external air is input into the main unit, the operation noise can be larger.

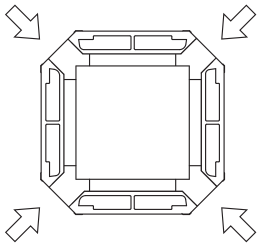
When attaching to main unit

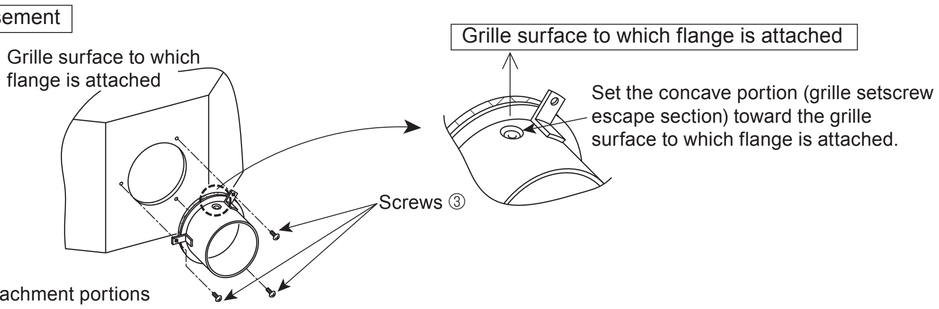
- For the E type 4-way cassette〔PLA-ZM・EA,PLA-M・EA,PLA-SM・EA〕





When attaching to Multi-functional casement

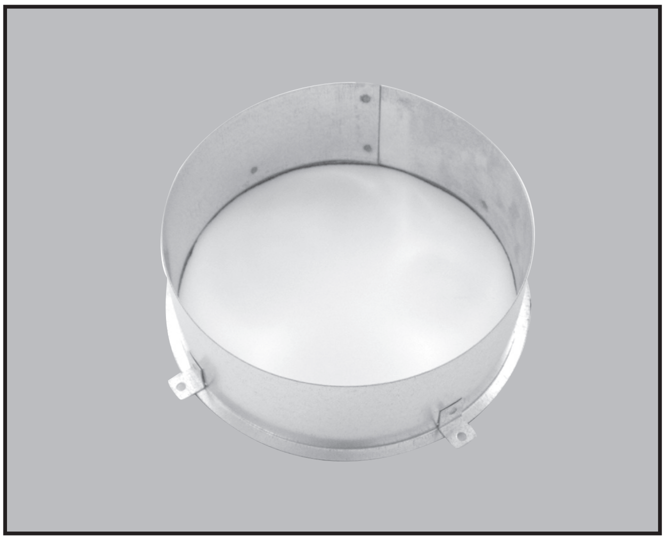



Grille surface to which flange is attached
Screws ③
Grille surface to which flange is attached

Set the concave portion (grille setscrew escape section) toward the grille surface to which flange is attached.

Duct Flange for Fresh Air Intake **PAC-SF28OF-E**

Photo



Descriptions

Part to attach a duct to take in fresh air from outdoors.

Applicable Models

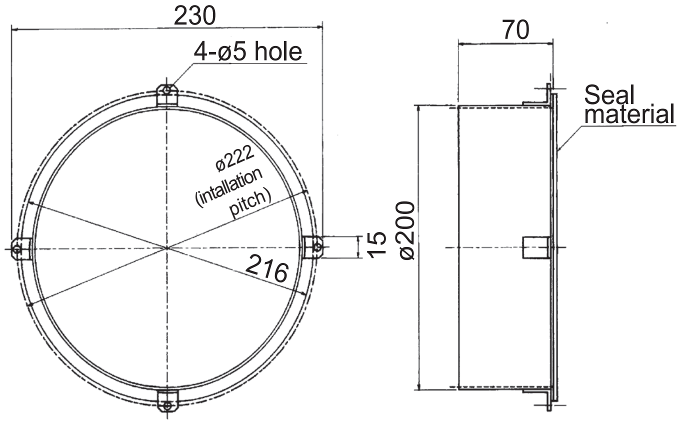
- ■ PCA-M71HA type

Specifications

Connecting duct diameter (mm)	200
Material	Hot-dip zinc-coated carbon steel sheet (t0.8)
Accessory	Fixing screw (ST4x10) x 4

Dimensions

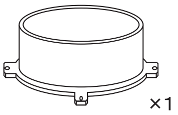
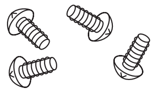
Unit : mm



How to Use / How to Install

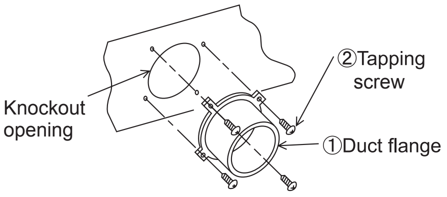
1. Checking Provided Parts

※ Make sure that you have all the following parts before installation:

①Duct flange	②Tapping screws (4x10)
 ×1	 ×4

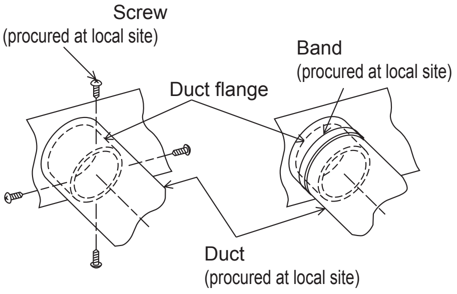
2. Duct Flange Installation Procedure

1. Punch out the knockout opening for installing duct on indoor unit.
2. Use the provided tapping screws ② to secure duct flange ①.



3. Duct Installation Procedure

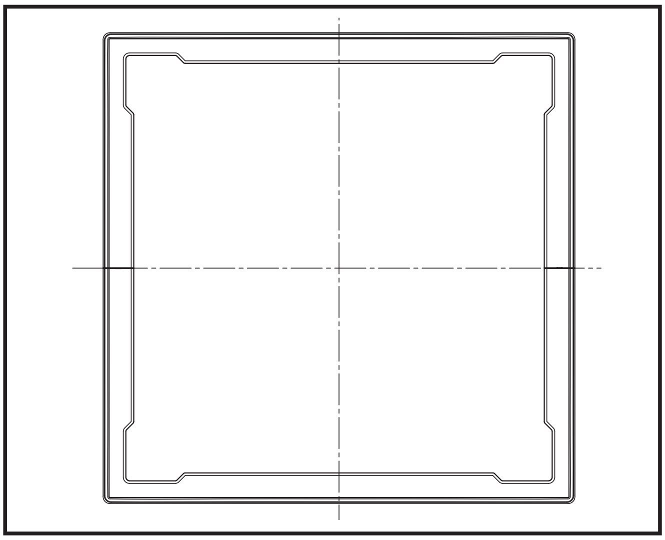
1. Securely fix the duct (with inner diameter 200 mm) procured at local site to the duct flange, using screws or band.



Space panel

PAC-SJ65AS-E

Figure



Descriptions

Enables to install cassete-type indoor units even if the ceiling height is low.
A part to the panel 40 mm lower than the ceiling surface.

Applicable Models

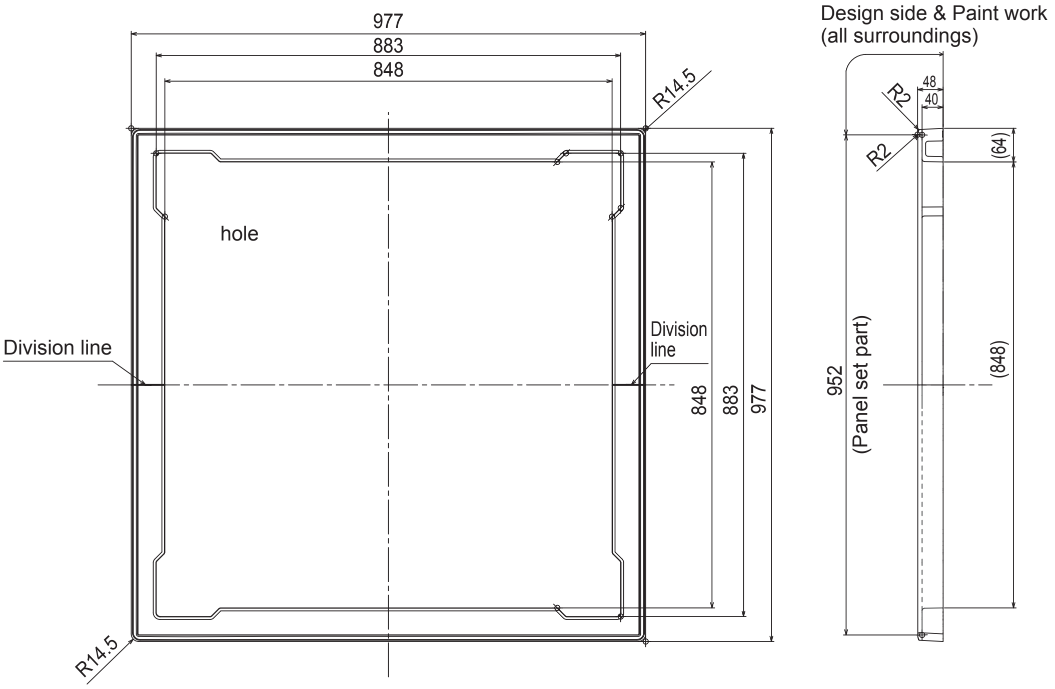
- ■ PLA-ZM·EA series
- ■ PLA-M·EA series
- ■ PLA-SM·EA series

Specifications

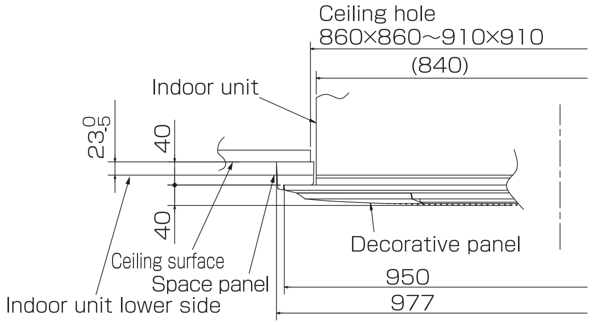
Exterior	Color	Munsell No.1.0Y9.2/0.2
	Surface treatment	Coating
	Material	Styrofoam

Dimensions

Unit : mm



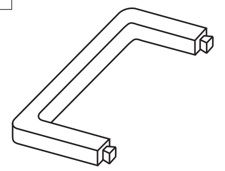
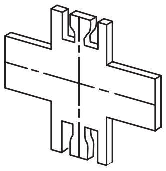
Installation dimension



How to Use / How to Install

1. Checking packed parts

Make sure that you have all the following parts, in addition to this manual in this box:

Part No. /Part name	① Space panel		② Gauge for installation	
Quantity	2		1	(Split this into four pieces)
Shape				

2. Installing space panel

- ● Install before installing decorative panel.
- ● This space panel is to be installed on decorative panel before installing on unit body.
  (If decorative panel has already been installed, remove it.)

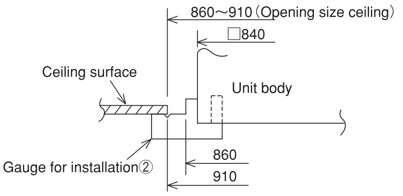
Preparation for installation

(1) Checking size of opening in ceiling

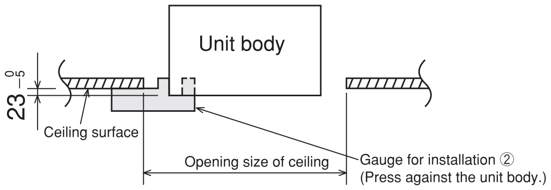
● Make sure that opening in ceiling is within the range shown below:
860×860～910×910

(2) Positioning of ceiling surface and unit body

● Divide the provided gauge for installation ② into four parts, and insert it into the unit or outlet of Multi-functional casement.
Place the unit in the center of opening in ceiling, referring to the figure below.



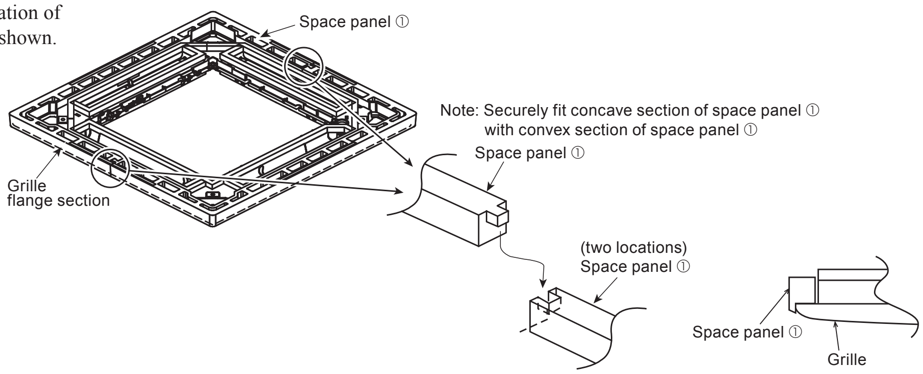
● Using provided gauge for installation ②, position the ceiling surface and unit body.
If position of ceiling surface and unit body does not match, it may result in leak of draft, drip of dewdrops and incorrect operation of horizontal vane of decorative panel, etc.



Setting the decorative panel and space panel

● Place the space panel ① (two locations), matching the flange section of decorative panel, and assemble space panel ① on the decorative panel and then set them.
※ Be sure to assemble space panel ① on the decorative panel:
If assembled incorrectly, space panel ① may break.

※ As an example, the in illustration of the E type 4-way cassette is shown.


Space panel ①
Note: Securely fit concave section of space panel ① with convex section of space panel ①
Space panel ①
Grille flange section
(two locations) Space panel ①
Space panel ①
Grille

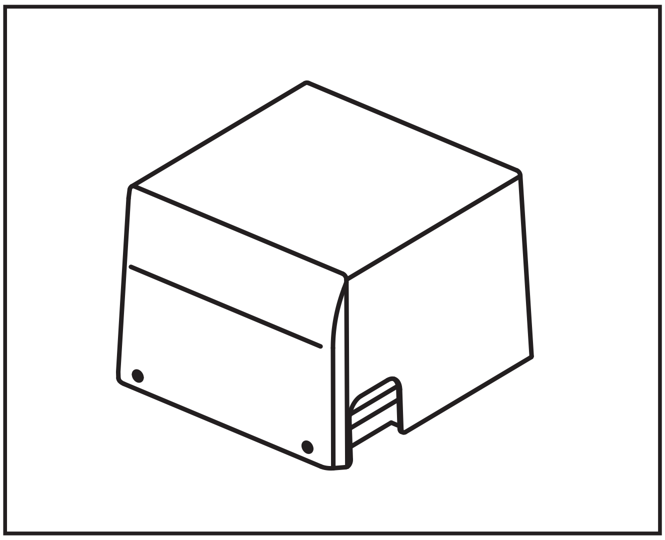
Installing on the unit body

● The procedures are the same as those for decorative panel.
Install the assembled set, referring to the installation manual for decorative panel.

Drain Pump

PAC-SK19DM-E

Figure



Descriptions

Raises drain generated during unit’s operation to secure the appropriate angle of the drain pipe.

Applicable Models

- PKA-M60KA(L)2
- PKA-M71KA(L)2
- PKA-M100KA(L)2

Specifications

Rated voltage	220V-240V 50Hz/60Hz
Power consumption	3.9W
Operating current	0.05A
Discharge lift	Max. 555 mm from drain pump's top surface
Discharge rate	24 ℓ /h or more
Extwernal dimensions (mm)	295 (H) × 288 (W) × 210 (D)
Exterior	Cover : PS resin (Munsell 1.0Y 9.2/0.2)
Driving motor	DC motor(Class E insulation)
Drain piping	Connected to drain outlet. PVC pipe VP-20 (O.D. 26) can be used.

Dimensions

Unit : mm

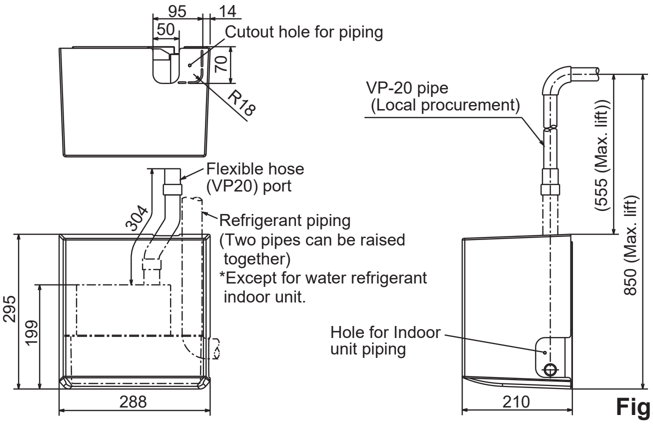


Fig.1

Dimension of Mounting plate

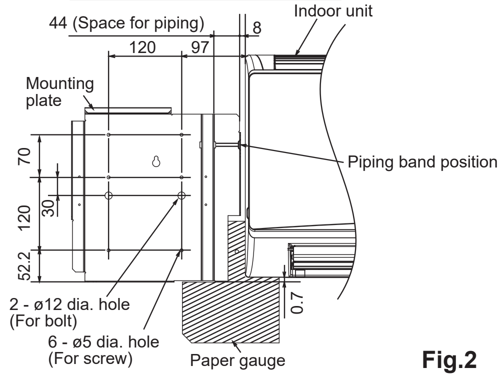


Fig.2

Required space for installation of Drain Pump

	A	B	C	D	E	F *	G
PK-K type	1170	365	300	100.5	250	108	4

* In case that there is a rim at the corner of ceiling, consider the dimension of the rim before installation.

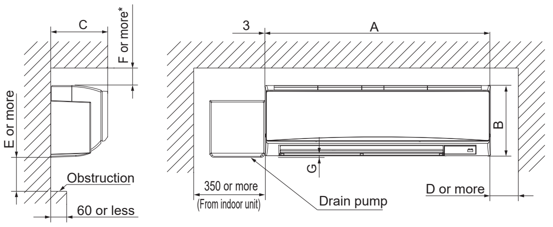
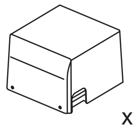
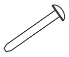
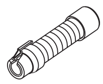
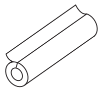
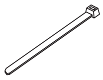
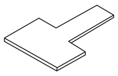


Fig.3

Accessories

(Make sure of the following items attached with the Drain Pump before installation.)

(A) Drain Pump	(B) Screw	(C) Screw	(D) Drain hose	(E) Flexible hose cover	(F) Band	(G) Paper gauge
 x 1	 (4 x 35) x 6	(4 x 16) x 1	 x 1	 x 1	 x 2	 x 1

* The items (B) – (F) are packed between main body and exterior cover of the Drain Pump.
Take them out after the exterior cover removed.

How to Use / How to Install

1. Before installation of the Drain Pump (* Position the indoor unit first.)

1-1 Set up of the Drain Pump

- Remove the exterior cover and the mounting plate which is fixed on the back of the Drain Pump.
  * Take out the accessories.
- When installing the refrigerant piping vertically, run the band (F) attached through the square hole on the mounting plate, and cut the cutout hole on the top of the exterior cover with a nipper.

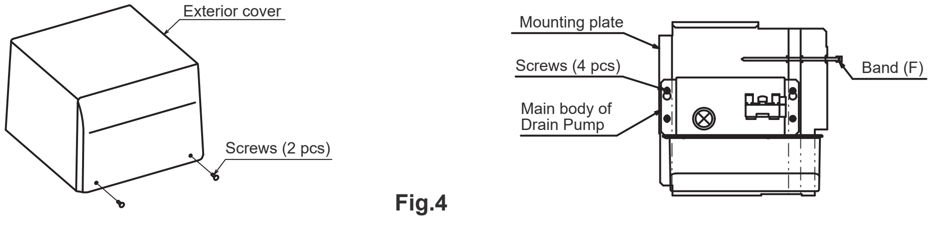


Fig.4

* The removed screws will be used later. Keep them not to lose.

1-2 Set up and installation of the indoor unit (* See the item of piping connection set up in the installation manual of the indoor unit.)

(1) Make the cutout hole for left side piping on the left side panel of the indoor unit.

(2) Pull out the drain cap from the left drain outlet.
- Hold the convex section at the end and pull the drain cap.

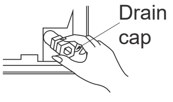


Fig.5-1

(3) Remove the drain hose from the indoor unit.
- Hold the end of the drain hose (a) (marked by the arrow) and pull the drain hose out (b).

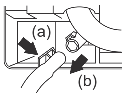


Fig.5-2

(4) Insert the drain cap into the right drain outlet.
- Insert a screwdriver or similar tool into the hole at the end of the cap and insert the cap fully into the outlet.

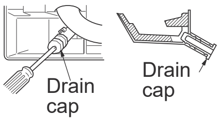


Fig.5-3

(5) Insert the accessory drain hose (D) into the left drain outlet.
- Insert the hose up to the base of the drain pipe connection opening.
  * Make sure that the hook on the drain hose is securely caught on the projection in the opening in the drain pan.

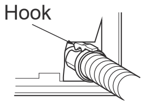


Fig.5-4

(6) Install the indoor unit.

⚠ CAUTION	**The indoor indoor unit must be installed horizontally.** Otherwise, the water can leak and it will make the wall dirty.

2. Installation of the Drain Pump

2-1 Fixing of the mounting plate

- The installation place should be carefully considered about whether it is proper for installation. If it is not strong enough to hole the unit, make it stronger by using board or beam before installation.

(1) Decide the installation position of the mounting plate by using the paper gauge (G).
  (* The left end of the indoor unit should be marked in advance.)
  1) Fix the paper gauge (G) on the wall with the screw (C) (4 × 16) attached with putting it to the left end of the indoor unit for positioning of the Drain Pump as shown in the drawing.
  2) Position the mounting plate with pushing it against the paper gauge (G).

(2) Fix the mounting plate with the screws (B) (4 × 35) attached.
  Fix the mounting plate using the 5 dia. holes.
  (6 locations pointed by arrows in the drawing.)
  In case that the mounting plate is fixed by fixing bolts (through bolts, bolt anchors, or nut anchors), get M10 or W3/8 screws locally and put them into two ø 12 holes of the mounting plate to fix it.

(3) When the mounting plates is installed, remove the paper gauge (G).

(4) Check that the mounting plate is level and positioned correctly with the indoor unit as shown in Fig.2.

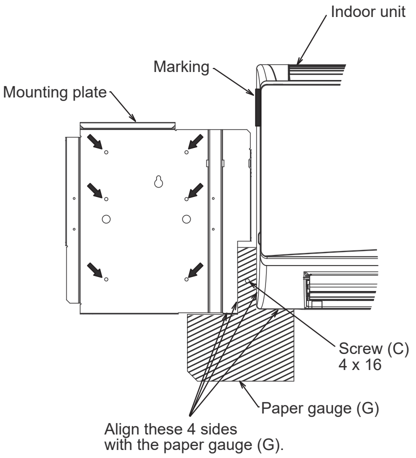


Fig.6

2-2 Installation of the Drain Pump

- Fix the Drain Pump on the mounting plate.

(1) Install the screws to the 2 upper holes (indicated by the arrows shown in Fig. 7) of the mounting plate by hand tightening them about halfway, and then hook the Drain Pump on the screws.
(2) Level the Drain Pump by using a spirit level.
Then tighten the 4 screws securely to fix the Drain Pump.

⚠CAUTION	**The Drain Pump must be installed horizontally.**
	Otherwise, the water leaks and it makes wall dirty.

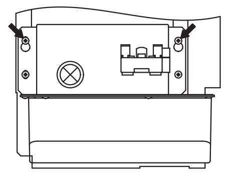


Fig.7

3. Installation of refrigerant piping

(* See the item of refrigerant piping connection in the Installation of the indoor unit.
* It cannot be implemented with PKFY-WL*VKM series.)

- When running the refrigerant piping and the drain piping together.

(1) Install the refrigerant piping using the left piping method.
(2) Run the piping through the space in the mounting plate.
  - Be sure that the indoor unit must be positioned at the place where was marked at 4-1.
  - The bending radius of the refrigerant piping must be R80 or less.
    (If it is larger than R80, the exterior cover cannot be attached because it touches to the piping.)
  - The tube raised should be fixed with the pull tight which was put through the square hole of the mounting plate.

(3) Position the refrigerant piping in the left piping space of the indoor unit as shown in Fig. 8.

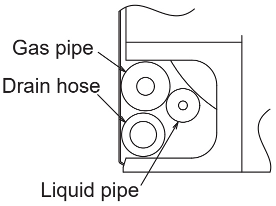


Fig.8

4. Installation of drain piping

4-1 Connection of Drain hose

(1) Connect the drain hose (D), which is fixed to the left side drain port on the indoor unit to the drain port on the Drain Pump as shown in Fig.9. Be sure to use PVC adhesive to close the connection part so that water will not leak.
(2) Connect the flexible hose, which runs from the top panel of the Drain Pump, to the local drain piping as shown in Fig.10.
Be sure to use the PVC adhesive and the attached band (F) to close and fix the connection part so that water will not leak.
(3) Insulate the flexible hose which runs from top panel of Drain Pump by attaching the flexible hose cover (E) as shown in Fig.10.

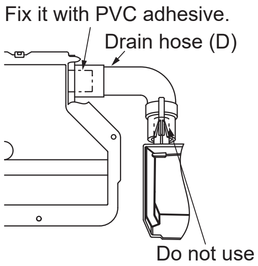


Fig.9

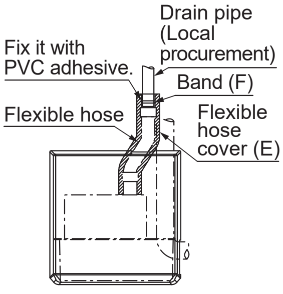


Fig.10

4-2 Installation of drain piping

(1) The drain pipe should be installed in accordance with the following procedure.
  - The drain pipe should be installed so that the outdoor side (drain side) becomes falling slope (1/100 or more) and do not make trap or peaks.
  - The horizontal run of the drain pipe should be 20 m or less. In case that the tube is horizontally run for long distance, some support brackets should be installed to prevent the pipe from being wavy. Never install the air bleeder. The drain will blow out.
  - The hard vinyl chloride pipe VP20 (outer dia. 26 mm) should be used for the drain pipe. And the part connected must be closed by PVC adhesive to prevent water leak.
  - Be sure to wrap the drain pipe with adiabatic material (foam polyethylene: specific gravity 0.03, thickness 10 mm or more) available on the market.
  - Do not install stink trap to the outlet of the drain pipe.
  - The outlet of the drain pipe should be installed the place where it is not possible to cause stink.
  - In case that plural drain pipes are installed, install the main pipe so that it comes approximately 10 cm lower than the drain outlet and the pipes must be made of material of VP30 or similar and they should be falling slope (1/100 or more).
  - It is possible to raise the outlet of the drain pipe to 85 cm (max. lift) from bottom face of Drain Pump. However, if there is a horizontal run pipe connected to the vertical section of the drain pipe, water will overflow from the drain pan. This is because too much water will flow back when the operation stops. Therefore, the drain pipe must be raised vertically. Also, install the flow back stop at the highest point to prevent the water from flow back from horizontal part of the pipe. See the drawing below.

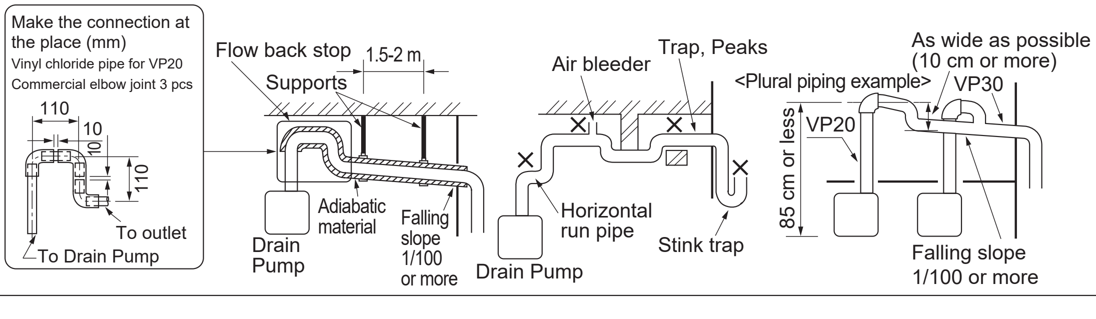


Fig.11

5. Electric wiring

5-1 Set up of the indoor unit

(* Confirm that the power is off before starting the installation work.)

(1) Remove the panel of indoor unit and the electric box cover. (* See the indoor unit installation section in the installation manual of the indoor unit.)

5-2 Electric wiring

- Pass the wiring through the left piping space of the indoor unit to the electric box as shown in Fig.12.
- Connect the lead wires to the connectors of the indoor unit control board, and then place the slack in the wires in the wiring storage space of the Drain Pump. (Fix the lead wires with the clamps.)

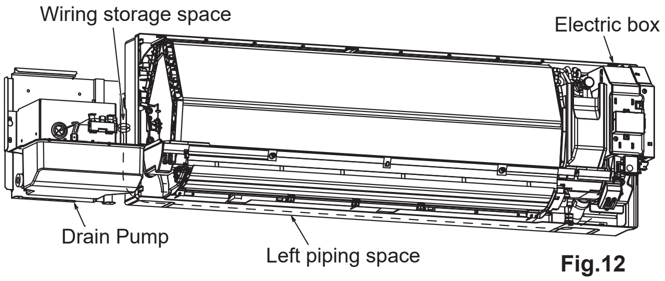


Fig.12

5-3 Electric wiring operation

- Pull out the electric box as far as necessary to connect the lead wires to the control board connectors “CNP” and “CN4F”.
- Connect the lead wires with connectors to the control board connectors “CNP” and “CN4F”. At this time, remove the bypass connector (will be unused) from the terminal CN4F of the control board.
- Be sure not to have the lead wires touch the heat generator (heat sink) on the control board.

Electric wiring operation

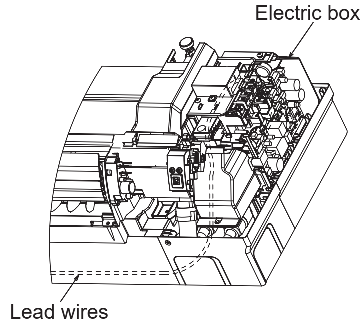
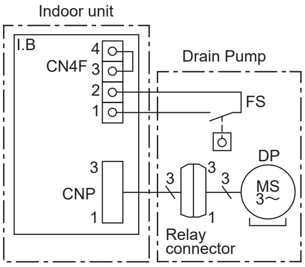


Fig.13

Electric circuit diagram



Symbol	Name
I.B	Indoor control board
CNP	Connector (Drain Pump)
CN4F	Connector (Float switch)
DP	Drain Pump
FS	Float switch

Fig.14

Note: ▭, ⊡⊡ stands for connector joint.

- After completing the electric wiring operation, make sure that the hooks are securely caught on the unit, and then put the electric box cover and panel back in place.

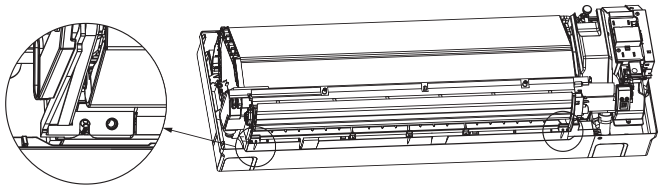


Fig.15

6. Test run

- After the installation of the Drain Pump has been completed, make sure that the drain works correctly and the water does not leak from any part of connection.

(1) Pour water
Pour water approximately 800 cc to the drain pan of indoor unit. (* See the drain pipe [checking the drain flow] section in the installation manual of the indoor unit.)
(* If water is poured too much, the drain pump may stop working and cannot drain water due to the activation of the drain over flow protection.)

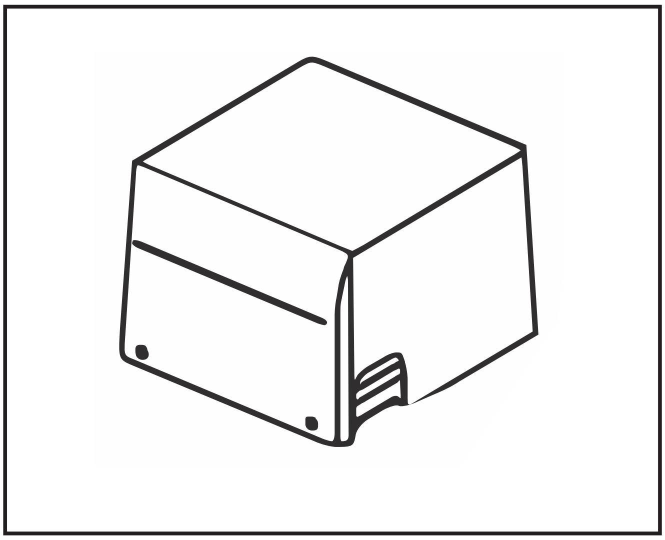
(2) Test run
In accordance with the procedure for test run in the installation manual for the indoor unit, operate the air cooling and make sure that the drainage works and the water does not leak.
* When the Drain Pump is installed in winter season, the water must be drained.
To drain water, remove the drain plug on the side surface of the Drain Pump. Prepare the pan to receive drain.
When the drainage has been completed, put the drain plug back in place.

(3) After checking, put the cover back in place.
* Make sure that the left end of the indoor unit perfectly comes on the point marked at 4-1. (If they do not match, the cover may be not able to be installed or may have a gap from the indoor unit.)

Drain Pump

PAC-SK01DM-E

Photo



Descriptions

Raises drain generated during unit' s operation to secure the appropriate angle of the drain pipe.

Applicable Models

- ■ PKA-M35LA(L)2
- ■ PKA-M50LA(L)2

Specifications

Rated voltage	220V-240V 50Hz/60Hz
Power consumption	3.9W
Operating current	0.05A
Discharge lift	Max. 555 mm from drain pump's top surface
Discharge rate	24 ℓ /h or more
Extwernal dimensions (mm)	295 (H) × 288 (W) × 210 (D)
Exterior	Cover : PS resin (Munsell 0.7PB 9.2/0.4)
Driving motor	DC motor(Class E insulation)
Drain piping	Connected to drain outlet. PVC pipe VP-20 (O.D. 26) can be used

Dimensions

Unit : mm

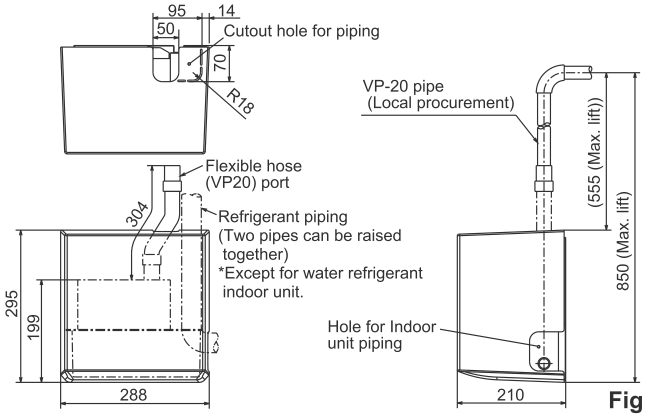


Fig.1

Dimension of Mounting plate

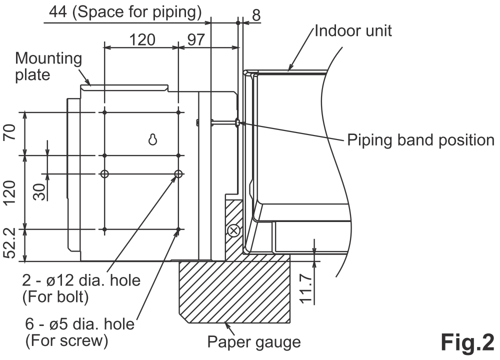


Fig.2

Required space for installation of Drain Pump

	A *1	B	C	D	E	F *2	G
PK-L type	773/898	299	237	150	250	75	15

*1 Refer to the installation manual of the indoor unit.

*2 In case that there is a rim at the corner of ceiling, consider the dimension of the rim before installation.

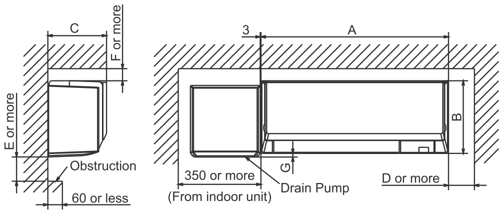
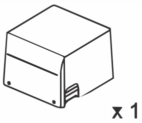
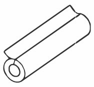
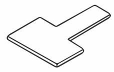


Fig.3

Accessories

(Make sure of the following items attached with the Drain Pump before installation.)

(A) Drain Pump	(B) Screw	(C) Screw	(D) Drain hose	(E) Flexible hose cover	(F) Band	(G) Paper gauge
 x 1	(4 x 35) x 6	(4 x 16) x 1	x 1	 x 1	x 2	 x 1

* The items (B) - (F) are packed between main body and exterior cover of the Drain Pump. Take them out after the exterior cover removed.

1. Before installation of the Drain Pump (* Position the indoor unit first.)

1 -1 Set up of the Drain Pump

- Remove the exterior cover and the mounting plate which is fixed on the back of the Drain Pump.
  * Take out the accessories.
- When installing the refrigerant piping vertically, run the band (F) attached through the square hole on the mounting plate, and cut the cutout hole on the top of the exterior cover with a nipper.

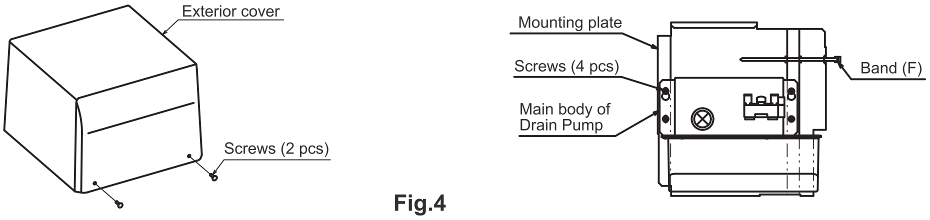


Fig.4

* The removed screws will be used later. Keep them not to lose.

1 -2 Set up and installation of the indoor unit (* See the item of piping connection set up in the installation manual of the indoor unit.)

(1) Make the cutout hole for left side piping on the left side panel of the indoor unit.

(2) Pull out the drain cap from the left drain outlet.
- Hold the convex section at the end and pull the drain cap.

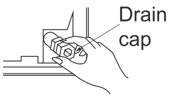


Fig.5-1

(3) Remove the drain hose from the indoor unit.
- Hold the end of the drain hose (a) (marked by the arrow) and pull the drain hose out (b).

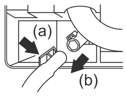


Fig.5-2

(4) Insert the drain cap into the right drain outlet.
- Insert a screwdriver or similar tool into the hole at the end of the cap and insert the cap fully into the outlet.

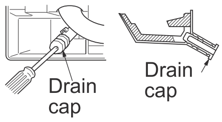


Fig.5-3

(5) Insert the accessory drain hose (D) into the left drain outlet.
- Insert the hose up to the base of the drain pipe connection opening.
  * Make sure that the hook on the drain hose is securely caught on the projection in the opening in the drain pan.

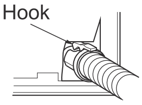


Fig.5-4

(6) Install the indoor unit.

⚠ CAUTION	**The indoor unit must be installed horizontally.**
	Otherwise, the water can leak and it will make the wall dirty.

2. Installation of the Drain Pump

2 -1 Fixing of the mounting plate

- The installation place should be carefully considered about whether it is proper for installation. If it is not strong enough to hole the unit, make it stronger by using board or beam before installation.

(1) Decide the installation position of the mounting plate by using the paper gauge (G).
(* The left end of the indoor unit should be marked in advance.)
1) Fix the paper gauge (G) on the wall with the screw (C) (4 × 16) attached with putting it to the left end of the indoor unit for positioning of the Drain Pump as shown in the drawing.
2) Position the mounting plate with pushing it against the paper gauge (G).

(2) Fix the mounting plate with the screws (B) (4 × 35) attached.
Fix the mounting plate using the 5 dia. holes.
(6 locations pointed by arrows in the drawing.)
In case that the mounting plate is fixed by fixing bolts (through bolts, bolt anchors, or nut anchors), get M10 or W3/8 screws locally and put them into two ø 12 holes of the mounting plate to fix it.

(3) When the mounting plates is installed, remove the paper gauge (G).

(4) Check that the mounting plate is level and positioned correctly with the indoor unit as shown in Fig.2.

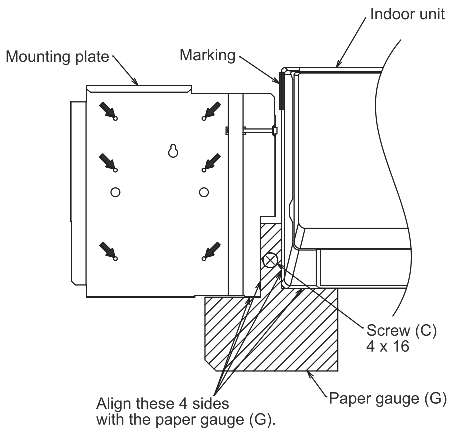


Fig.6

2-2 Installation of the Drain Pump

- Fix the Drain Pump on the mounting plate.

(1) Install the screws to the 2 upper holes (indicated by the arrows shown in Fig. 7) of the mounting plate by hand tightening them about halfway, and then hook the Drain Pump on the screws.
(2) Level the Drain Pump by using a spirit level.
Then tighten the 4 screws securely to fix the Drain Pump.

CAUTION	**The Drain Pump must be installed horizontally.** Otherwise, the water leaks and it makes wall dirty.

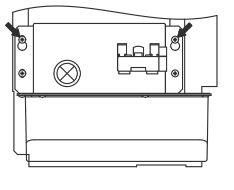


Fig.7

3. Installation of refrigerant piping

(* See the item of refrigerant piping connection in the Installation of the indoor unit.)

- When running the refrigerant piping and the drain piping together.

(1) Install the refrigerant piping using the left piping method.
(2) Run the piping through the space in the mounting plate.
- Be sure that the indoor unit must be positioned at the place where was marked at 4-1.
- The bending radius of the refrigerant piping must be R80 or less.
(If it is larger than R80, the exterior cover cannot be attached because it touches to the piping.)
- The tube raised should be fixed with the pull tight which was put through the square hole of the mounting plate.

(3) Position the refrigerant piping in the left piping space of the indoor unit as shown in Fig. 8.

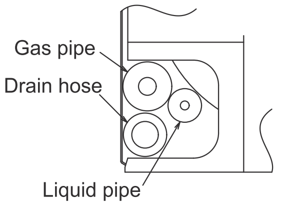


Fig.8

4. Installation of drain piping

4-1 Connection of Drain hose

(1) Connect the drain hose (D), which is fixed to the left side drain port on the indoor unit to the drain port on the Drain Pump as shown in Fig.9. Be sure to use PVC adhesive to close the connection part so that water will not leak.
(2) Connect the flexible hose, which runs from the top panel of the Drain Pump, to the local drain piping as shown in Fig.10. Be sure to use the PVC adhesive and the attached band (F) to close and fix the connection part so that water will not leak.
(3) Insulate the flexible hose which runs from top panel of Drain Pump by attaching the flexible hose cover (E) as shown in Fig.10.

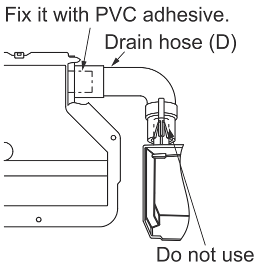


Fig.9

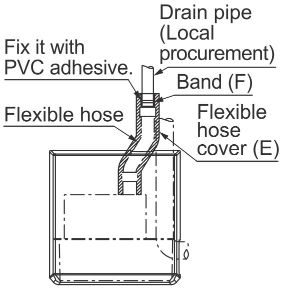


Fig.10

4-2 Installation of drain piping

(1) The drain pipe should be installed in accordance with the following procedure.
- The drain pipe should be installed so that the outdoor side (drain side) becomes falling slope (1/100 or more) and do not make trap or peaks.
- The horizontal run of the drain pipe should be 20 m or less. In case that the tube is horizontally run for long distance, some support brackets should be installed to prevent the pipe from being wavy. Never install the air bleeder. The drain will blow out.
- The hard vinyl chloride pipe VP20 (outer dia. 26 mm) should be used for the drain pipe. And the part connected must be closed by PVC adhesive to prevent water leak.
- Be sure to wrap the drain pipe with adiabatic material (foam polyethylene: specific gravity 0.03, thickness 10 mm or more) available on the market.
- Do not install stink trap to the outlet of the drain pipe.
- The outlet of the drain pipe should be installed the place where it is not possible to cause stink.
- In case that plural drain pipes are installed, install the main pipe so that it comes approximately 10 cm lower than the drain outlet and the pipes must be made of material of VP30 or similar and they should be falling slope (1/100 or more).
- It is possible to raise the outlet of the drain pipe to 85 cm (max. lift) from bottom face of Drain Pump. However, if there is a horizontal run pipe connected to the vertical section of the drain pipe, water will overflow from the drain pan. This is because too much water will flow back when the operation stops. Therefore, the drain pipe must be raised vertically. Also, install the flow back stop at the highest point to prevent the water from flow back from horizontal part of the pipe. See the drawing below.

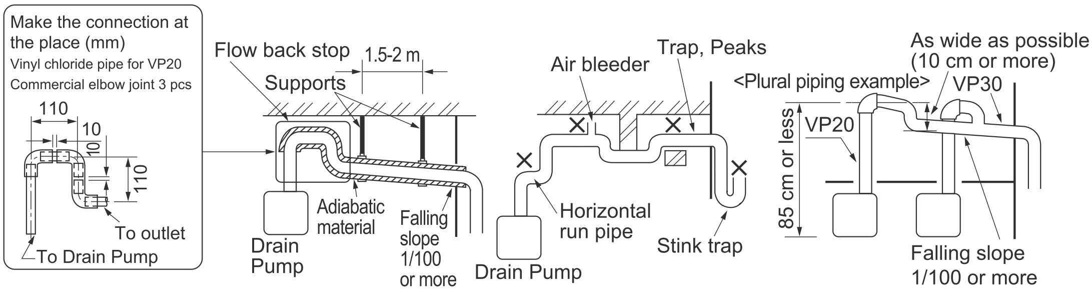


Fig.11

5. Electric wiring

5-1 Set up of the indoor unit (* Confirm that the power is off before starting the installation work.)

(1) Remove the panel of indoor unit and the electric box cover. (* See the indoor unit installation section in the installation manual of the indoor unit.)

5-2 Electric wiring

- Pass the wiring through the left piping space of the indoor unit to the electric box as shown in Fig.12.
- Connect the lead wires to the connectors of the indoor unit control board, and then place the slack in the wires in the wiring storage space of the Drain Pump. (Fix the lead wires with the clamps.)

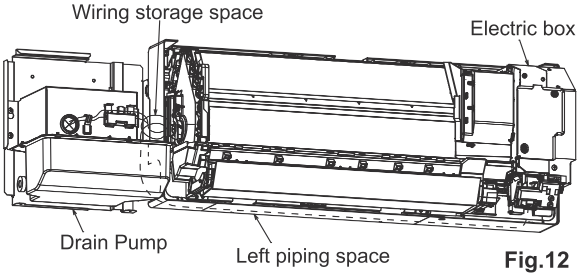
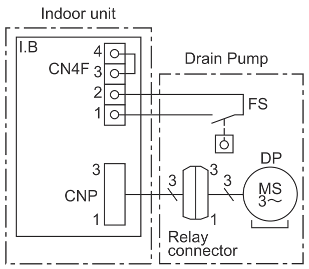


Fig.12

5-3 Electric wiring operation

- Pull out the electric box as far as necessary to connect the lead wires to the control board connectors “CNP” and “CN4F”.
- Connect the lead wires with connectors to the control board connectors “CNP” and “CN4F”. At this time, remove the bypass connector (will be unused) from the terminal CN4F of the control board.
- Be sure not to have the lead wires touch the heat generator (heat sink) on the control board.

Electric circuit diagram



Symbol	Name
I.B	Indoor control board
CNP	Connector (Drain Pump)
CN4F	Connector (Float switch)
DP	Drain Pump
FS	Float switch

Fig.14

Note: ▭, ⊡⊡ stands for connector joint.

Electric wiring operation

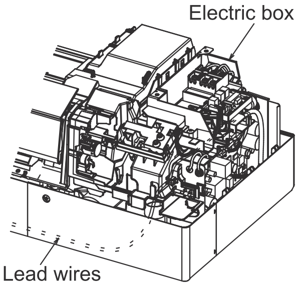


Fig.13

- After completing the electric wiring operation, make sure that the hooks are securely caught on the unit, and then put the electric box cover and panel back in place.

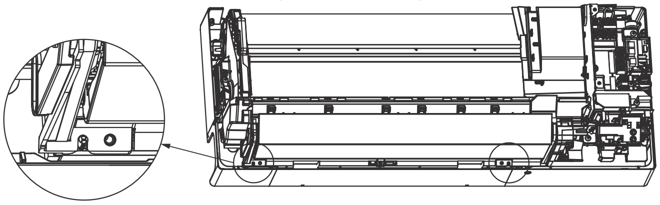


Fig.15

6. Test run

- After the installation of the Drain Pump has been completed, make sure that the drain works correctly and the water does not leak from any part of connection.

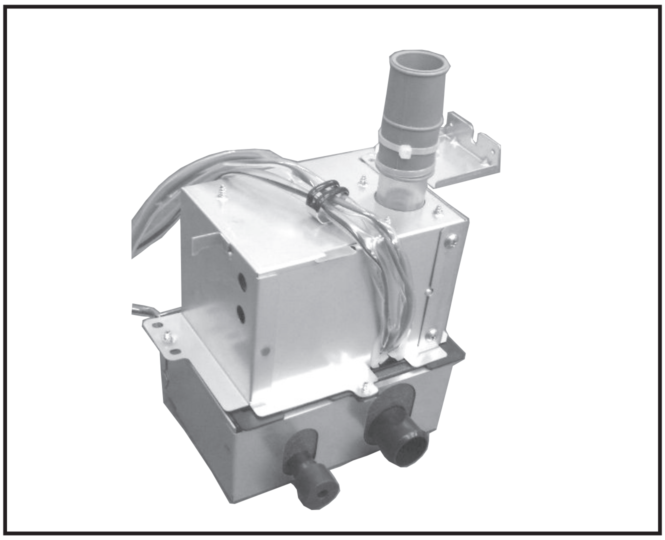
(1) Pour water
Pour water approximately 800 cc to the drain pan of indoor unit. (* See the drain pipe [checking the drain flow] section in the installation manual of the indoor unit.)
(* If water is poured too much, the drain pump may stop working and cannot drain water due to the activation of the drain over flow protection.)

(2) Test run
In accordance with the procedure for test run in the installation manual for the indoor unit, operate the air cooling and make sure that the drainage works and the water does not leak.
* When the Drain Pump is installed in winter season, the water must be drained.
To drain water, remove the drain plug on the side surface of the Drain Pump. Prepare the pan to receive drain.
When the drainage has been completed, put the drain plug back in place.

(3) After checking, put the cover back in place.
* Make sure that the left end of the indoor unit perfectly comes on the point marked at 4-1. (If they do not match, the cover may be not able to be installed or may have a gap from the indoor unit.)

Drain Pump for Ceiling Suspended models PAC-SJ92,93,94DM-E

Photo



Descriptions

Raises drain generated during unit's operation to secure the appropriate angle of the drain pipe.

Applicable Models

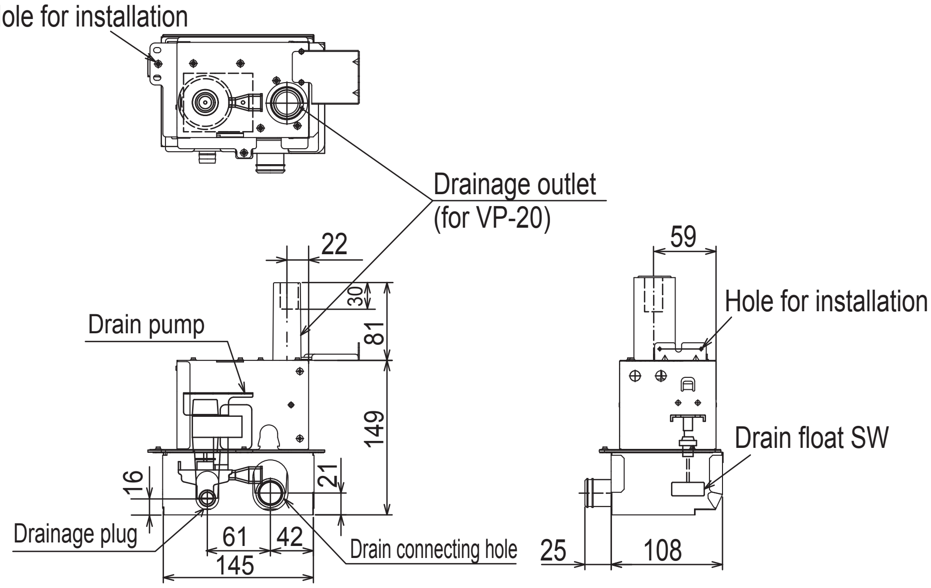
Drain pump	PAC-SJ92DM-E	PAC-SJ93DM-E	PAC-SJ94DM-E
Applicable models	PCA-M35KA type PCA-M50KA type	PCA-M71KA type PCA-M100KA type PCA-M125KA type PCA-M140KA type	PCA-M60KA type

Specifications

Rated power	220V AC, single-phase, 50/60Hz
Power consumption	12/10.8W
Operating current	0.114/0.092A
Drain lift	Max. 600mm from indoor unit’s top surface
Discharge rate	24 ℓ/h or more
Driving motor	Shading type (Class E insulation)
Drain piping	Connected to drain outlet. PVC pipe VP-20 (O.D. Φ 26) can be used.

Dimensions

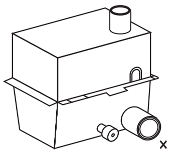
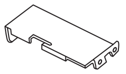
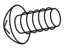
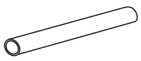
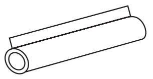
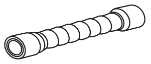
Unit : mm

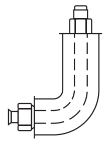
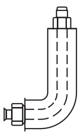
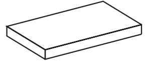
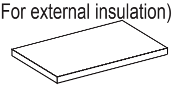


How to Use / How to Install

1 Confirming Supplied Accessories

* Before starting installation, make sure that the following accessories are present.

① Drain lift up mechanism	② Attachment	③ Screws (4×10)	④ VP-20 pipe	⑤ Pipe cover	⑥ Flexible hose	⑦ Fastener
 ×1	 ① Drain lift up mechanism fixture ×1	 For the installation of drain lift up mechanism① ×6	 ×1	 For insulation of VP20 pipe④ ×1	 ×1	×1

⑧ L-shaped pipe (gas pipe)	⑨ L-shaped pipe (liquid pipe)	⑩ Insulator A	⑪ Insulator B
 ×1	 PAC-SJ92/93 ×1 PAC-SJ94 ×2	6t×220×80 (For internal insulation)  For the insulation of L-shaped pipes ⑧ and ⑨ and the refrigerant pipes. ×2	3t×250×120 (For external insulation)  For the insulation of L-shaped pipes ⑧ and ⑨ and the refrigerant pipes. ×2

2 Installation Diagram of the Drain lift up mechanism

* This drain lift up mechanism must be installed inside an indoor unit.

* Installing this drain lift up mechanism limits to arrange the refrigerant pipe only upward.

* To facilitate installation of the drain lift up mechanism, it should be installed before indoor unit.

* The size of the plumbing that must connect, by the refrigerant kind of the indoor unit that corresponds in the case of PAC-SH85DM-E, changes.

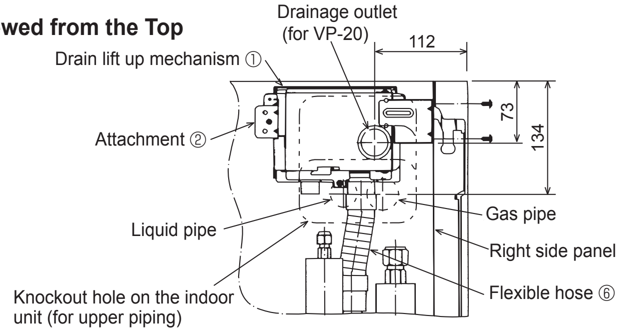
* Please refer to the installation manual of an indoor unit for details.

* Accessory pipes (⑧ or ⑨) are compatible with any types of refrigerant pipe. The connection pipe of the L-shaped pipe (liquid pipe) included with PAC-SJ94 will differ depending on the indoor unit model in use.

※1 In case of accessory parts VP-20pipe ④ and pipe cover ⑤ do not have enough length because the lifting height is high, please supply locally.

Unit:mm

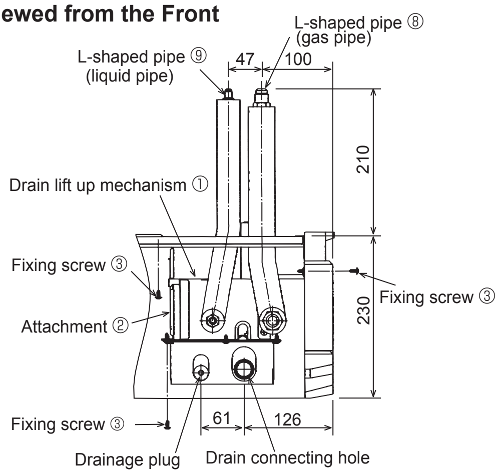
Viewed from the Top


Drainage outlet (for VP-20)
112
Drain lift up mechanism ①
73
134
Attachment ②
Gas pipe
Liquid pipe
Right side panel
Flexible hose ⑥
Knockout hole on the indoor unit (for upper piping)

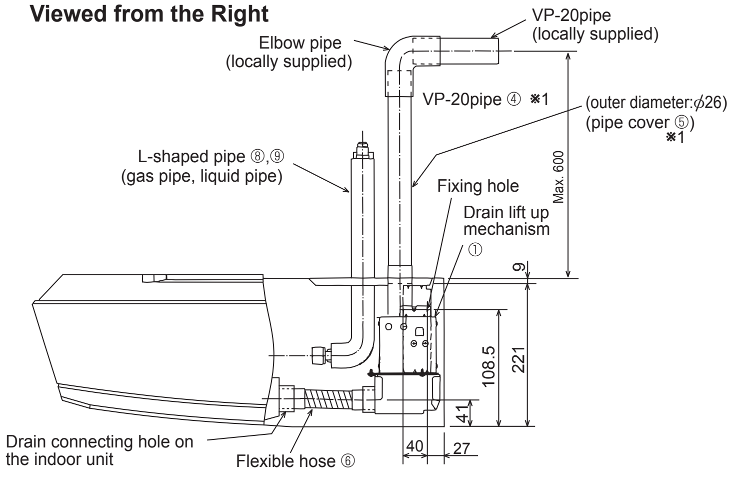
<Table 1>

Gas pipe	Liquid Pipe	Drain lift up mechanism Model
φ12.7	φ6.35	PAC-SJ92
φ15.88	φ9.52	PAC-SJ93
φ15.88	φ6.35/φ9.52	PAC-SJ94

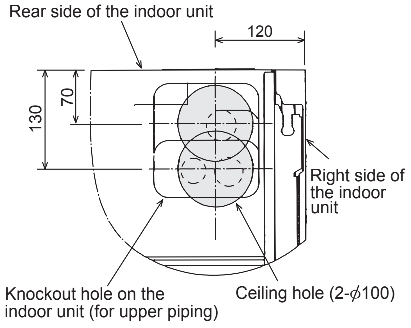
Viewed from the Front



Viewed from the Right


VP-20pipe (locally supplied)
Elbow pipe (locally supplied)
VP-20pipe ④ ※1
(outer diameter:φ26) (pipe cover ⑤) ※1
Max. 600
L-shaped pipe ⑧,⑨ (gas pipe, liquid pipe)
Fixing hole
Drain lift up mechanism ①
9
221
108.5
41
Drain connecting hole on the indoor unit
Flexible hose ⑥
40
27

Positions of Holes on the Ceiling

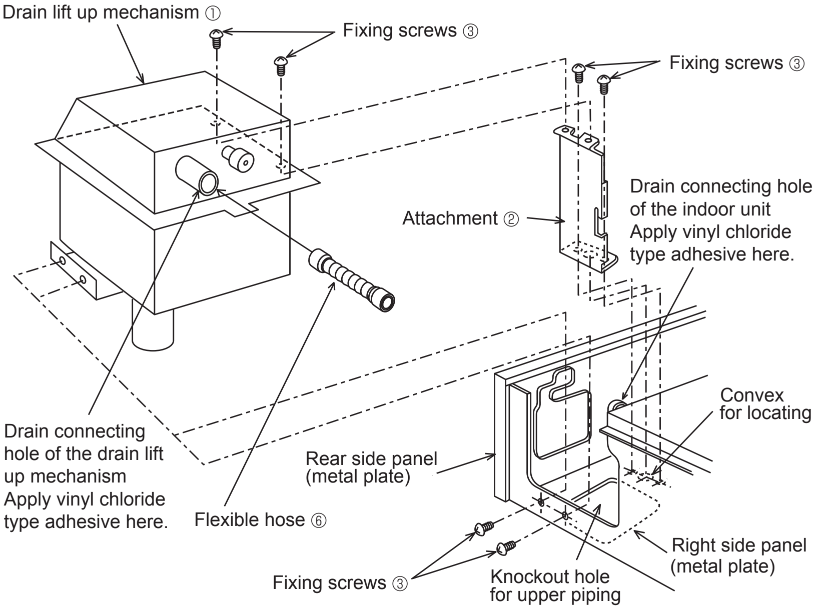

Rear side of the indoor unit
120
130
70
Right side of the indoor unit
Knockout hole on the indoor unit (for upper piping)
Ceiling hole (2-φ100)

3 Installing the Drain lift up mechanism

- Connect the flexible hose to the drain lift up mechanism before installing the mechanism to an indoor unit.

1.Remove the intake grille and side panel. (Refer to the indoor unit installation manual.)
2.Prepare the knockout hole to be used for the upper piping of the indoor unit.
3.Fix the attachment ② with the fixing screws ③ (×2)
4.Apply vinyl chloride type adhesive to the drain connecting hole of the drain lift up mechanism ① and insert the flexible hose ⑥ firmly into the hole.
5.Apply vinyl chloride type adhesive to the drain connection hole of the indoor unit, and install the drain lift up mechanism ① while inserting the flexible hose ⑥. Do not twist during insertion.
6.Fix the drain lift up mechanism ① with the fixing screws ③ (×4)

Notice	Do not press the rear side panel (metal plate) as deformation will result.


Drain lift up mechanism ①
Fixing screws ③
Fixing screws ③
Attachment ②
Drain connecting hole of the indoor unit Apply vinyl chloride type adhesive here.
Convex for locating
Drain connecting hole of the drain lift up mechanism Apply vinyl chloride type adhesive here.
Rear side panel (metal plate)
Flexible hose ⑥
Right side panel (metal plate)
Fixing screws ③
Knockout hole for upper piping

---

4 Refrigerant Piping

- **For details on piping, refer to the installation manual of the indoor unit.**

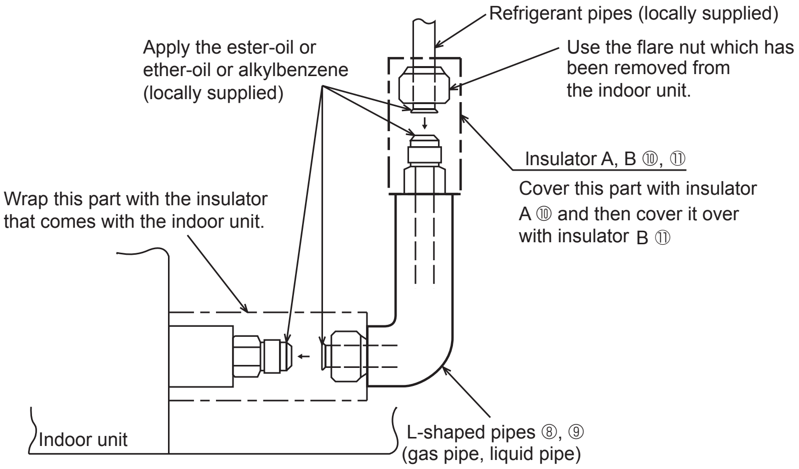
[With the stop valve of the outdoor unit fully closed]

1.Apply lubricant to the flare sheet of the L-shaped pipes (gas pipe, liquid pipe) ⑧, ⑨.
2.Remove the flare nut and cap from the indoor unit.
3.Apply lubricant to the flare sheet connecting section of the indoor unit.
4.Connect the L-shaped pipes (gas pipe, liquid pipes) ⑧ and ⑨ quickly.
5.Fit the removed flare nut to the existing pipes and carry out flaring.
6.Connect the L-shaped pipes with the existing pipes in the same way.
7.Cover each connection with heat insulator ⑩, ⑪.

[After the refrigerant circuit is complete]

8.Vacuumize the refrigerant lines through the service port of the liquid stop valve.
9.Fully open the stop valves (both liquid and gas).

- The method for operating the stop valve is described on the outdoor unit installation manual.


Refrigerant pipes (locally supplied)
Apply the ester-oil or ether-oil or alkylbenzene (locally supplied)
Use the flare nut which has been removed from the indoor unit.
Insulator A, B ⑩, ⑪
Cover this part with insulator A ⑩ and then cover it over with insulator B ⑪
Wrap this part with the insulator that comes with the indoor unit.
Indoor unit
L-shaped pipes ⑧, ⑨ (gas pipe, liquid pipe)

5 Drain Piping

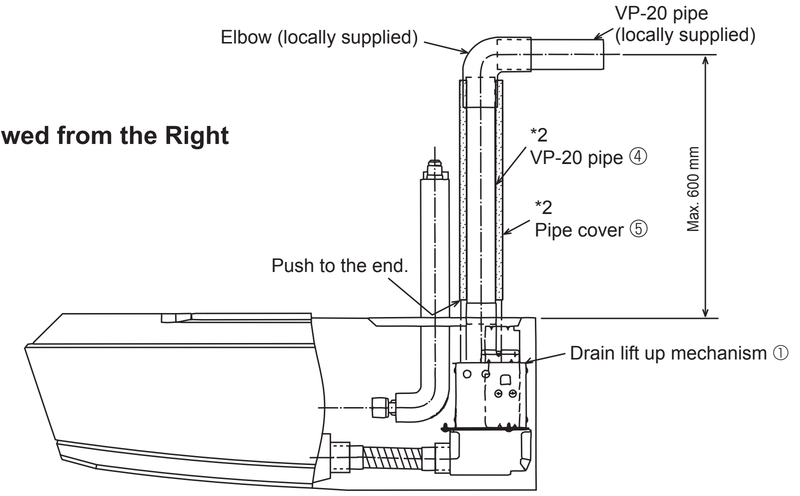
*2 In case of accessory parts VP-20pipe ④ and pipe cover ⑤ do not have enough length because the lifting height is high, please supply locally.

- **For details on piping, refer to the installation manual of the indoor unit.**

1.Apply vinyl chloride type adhesive to the drainage outlet of the drain lift up mechanism ①, then insert the VP-20 pipe ④ into it. (30mm deep)
2.Connect the VP20 pipe ④ and existing drain pipe using a 90-degree elbow etc. and adhesive.
3.Cover the VP-20 pipe ④ with the pipe cover ⑤.

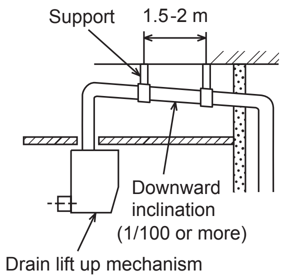
- **Insulate all pipes, from the drain lift up mechanism up to the outside.**

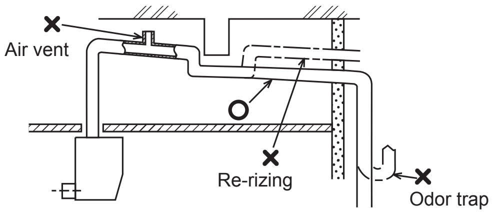
Viewed from the Right



[Make sure to follow the following points during drain piping.]

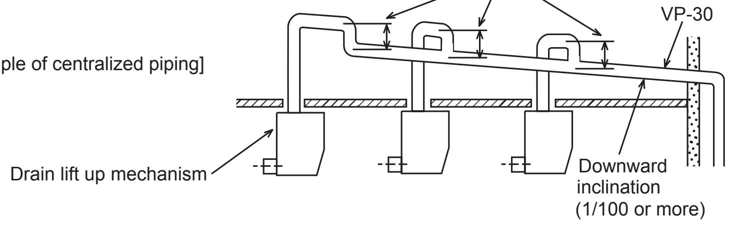
- Drain lifting height must be less than 600 mm.
- Incline the drain pipe downwards (1/100 or more) to the drainage side (outdoor).
- Do not create traps or peaks.
- Keep the horizontal piping within 20 m. Use fixtures to prevent the pipe from waving.
- Do not install air vent pipes. The drainage may spout out.
- Use general-purpose hard vinyl chloride pipes (outer diameter:ϕ26) and apply vinyl chloride type adhesive to prevent any leakage.
- Cover with insulator (made of foamed polyethylene, with specific gravity of 0.03 thickness of 9 mm or more).
- Do not install odor trap at the drain outlet.
- Locate the end of pipe at a point where odor is unlikely to occur.
- Do not insert the pipe directly into a drainage ditch where sulfur gas may be produced.
- Use VP-30 pipes for centralized piping. Install the centralized drain pipe approximately 10 cm below the output of pipes connected from the drain lift up mechanism.





Make the drop as long as possible (approx. 10 cm)

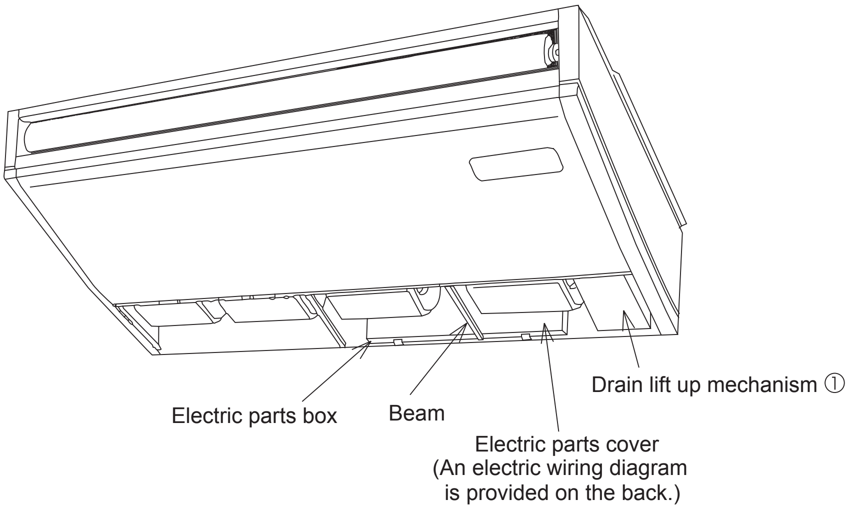
[Example of centralized piping]

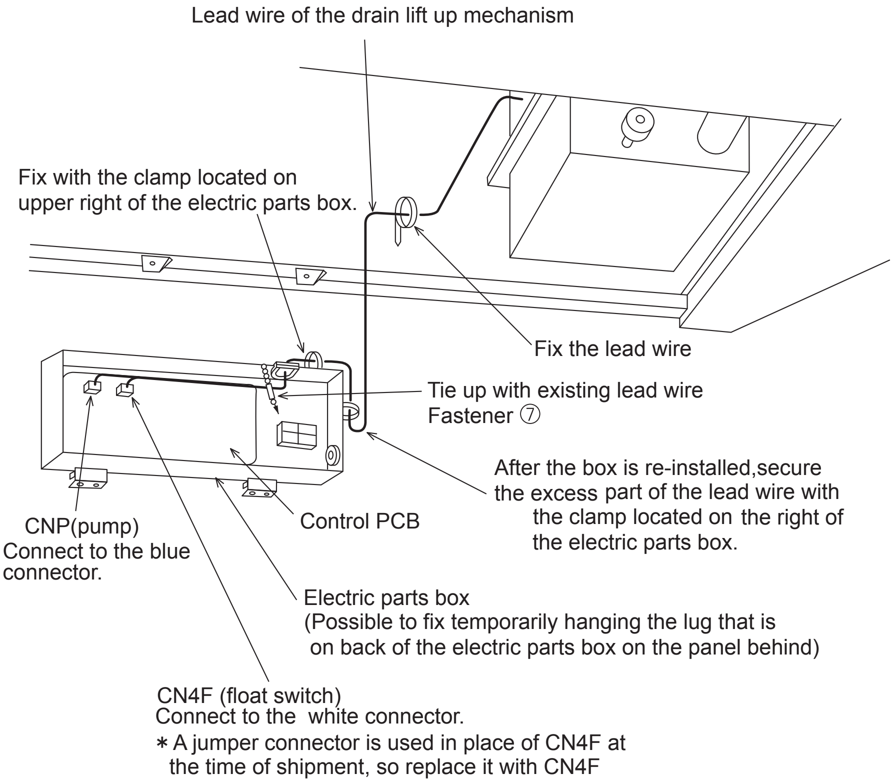


6 Electric Wiring

*Refer to the installation manual of the indoor unit together with this manual.
*Perform the work after checking that the power supply is off.

1.Remove the beam.
2.Remove the electric parts cover.
3.Pull the electric parts box downwards.
4.Connect the lead wire of drain lift up mechanism to the CNP and CN4F connectors provided on the control PCB of the indoor unit.
5.Tie up the lead wires with the fastener ⑦ so that the wires do not come apart inside the electric parts box.
6.When the wiring is finished, re-install the electric parts box, its cover and the beam.


Drain lift up mechanism ①
Electric parts box
Beam
Electric parts cover
(An electric wiring diagram
is provided on the back.)

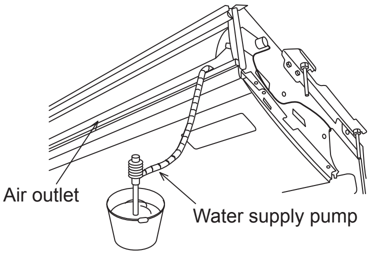

Lead wire of the drain lift up mechanism
Fix with the clamp located on upper right of the electric parts box.
Fix the lead wire
Tie up with existing lead wire
Fastener ⑦
After the box is re-installed,secure the excess part of the lead wire with the clamp located on the right of the electric parts box.
CNP(pump)
Connect to the blue connector.
Control PCB
Electric parts box
(Possible to fix temporarily hanging the lug that is on back of the electric parts box on the panel behind)
CN4F (float switch)
Connect to the white connector.
∗A jumper connector is used in place of CN4F at the time of shipment, so replace it with CN4F

∗The positions of the connectors which must be connected to the control PCB in certain models differ from those specified in the above diagram. Make sure that the lead wire are connected to CNP and CN4F connectors.

7 Test Run

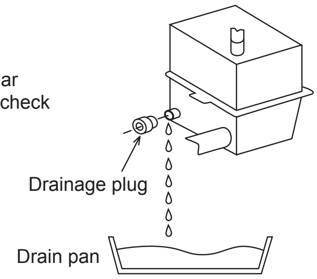
*Through this test run, check that drainage is discharged properly and that there is no water leakage from any of the connections.
*Refer to the installation manual of the indoor unit together with this manual.

1. Supplying water
   Supply approximately 1000cc of water to the air outlet.



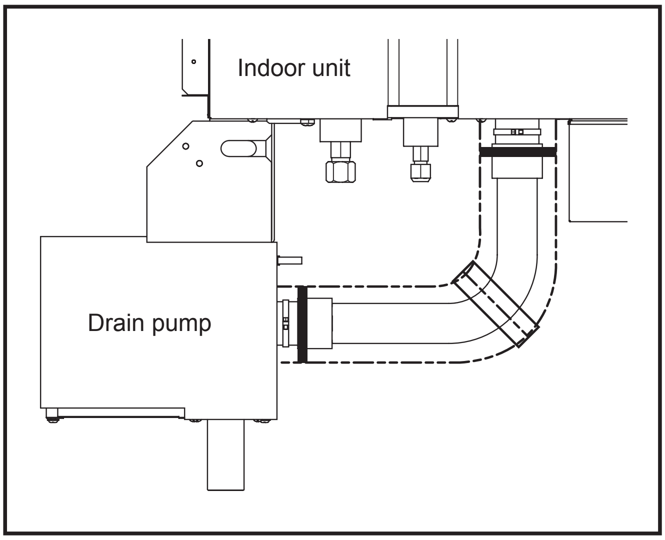
2.Carrying out a test run
(1) Turn the power ON.
(2) Press the TEST RUN button on the remote controller twice.
(3) Press the MODE button to select cooling mode.
*The drain lift up mechanism will be activated to start discharging the water.
(4) Check whether water is discharged properly.
(5) Press the POWER ON/OFF button to cancel the test run.
(6) Turn the power OFF.

3.Re-install each part after checking.
*If the drain lift up mechanism is installed at the time of the year when heating is used, make sure that the water for the drain check has been removed.
After removal of the water, reinstall the drainage plug.



Drain Pump for Ceiling Concealed models **PAC-KE07DM-E**

Installation figure



Descriptions

Raises drain generated during unit's operation to secure the appropriate angle of the drain pipe.

Applicable Models

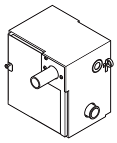
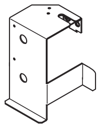
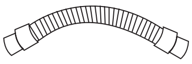
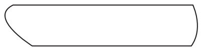
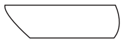
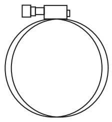
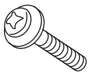
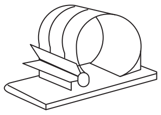
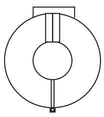
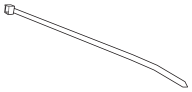
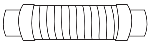
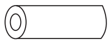
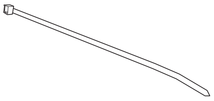
■ SEZ-M・DA(L) series

Specifications

- External type
- 220 - 240V AC
- Liquid level detection: Float switch

Provided parts

Check that the packet includes the following parts in addition to installation manual.

Item	① DRAIN PUMP	② ATTACHMENT	③ DRAIN HOSE 1	④ PIPE COVER 1	⑤ PIPE COVER 2
Quantity	1	1	1	1	1
Shape			(385mm) 	(255mm) 	(200mm) 
Item	⑥ HOSE BAND	⑦ SCREW	⑧ CLAMP	⑨ FERRITE CLAMP	⑩ BAND 1
Quantity	1	3	3	1	2
Shape					(100mm) 
Item	⑪ DRAIN HOSE 2	⑫ PIPE COVER 3	⑬ BAND 2		
Quantity	1	1	6		
Shape	(175mm) 		(380mm) 		

How to Use / How to Install

1 Installing the Drain Pump

1-1 Installing the Drain Pump

(1) Unscrew the (a)screw on the unit cover, hook the ②ATTACHMENT over the mounting bracket on the unit, and screw it on to the unit with the (a)screw. (Fig. 1)

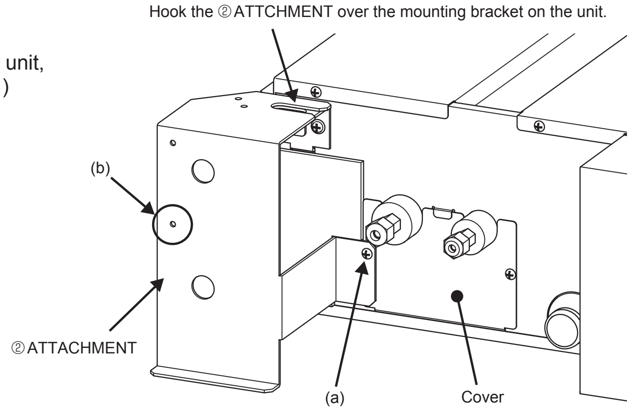


Fig. 1

(2) Temporarily screw in the ⑦SCREW in the hole (b) on the ②ATTACHMENT. (Fig. 1 and 2)

(3) Loosen the drain-pump-cover fixing screws, and remove the cover. (Fig. 3)

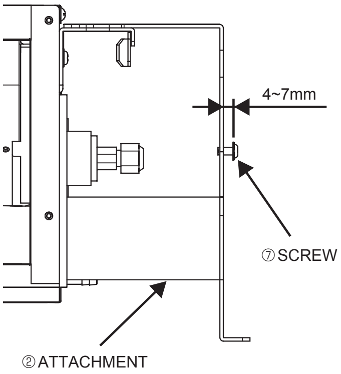


Fig. 2

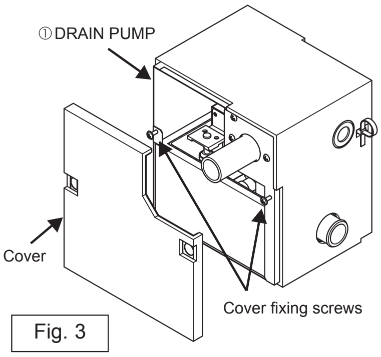


Fig. 3

(4) Hang the ①DRAIN PUMP on the ②ATTACHMENT by placing the ⑦SCREW (the one screwed in during Step (2) above) through the Figure-8 hole on back of the ①DRAIN PUMP, and then tighten the ⑦SCREW from inside the ①DRAIN PUMP. (Fig. 4)

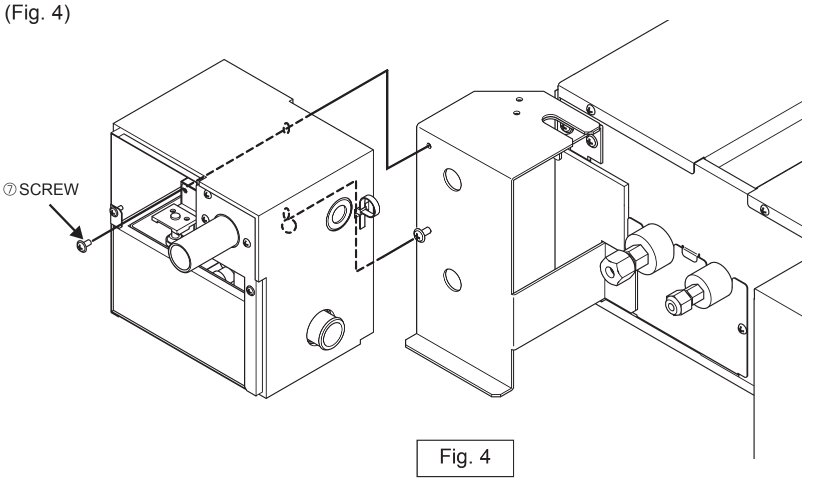


Fig. 4

1-2 Installing DRAIN HOSE 1

(1) Connect each end of ③DRAIN HOSE 1 to the drain port on the unit and on the drain pump. (Fig. 5)
✻ Insert the hose all the way to the end of the ports.
✻ Do not use any adhesive.

(2) Secure the hose with ⑥HOSE BANDs at both ends of the hose. (Fig. 5)

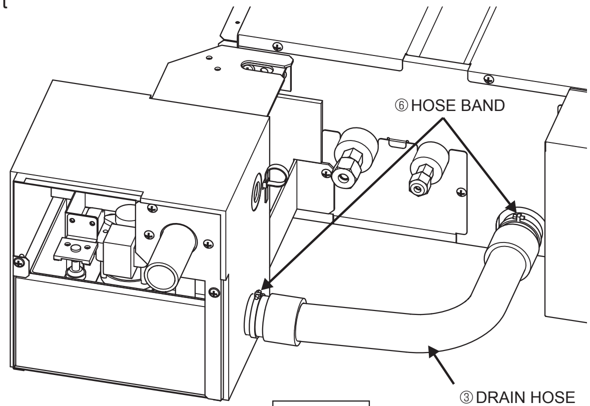


Fig. 5

(3) Attach ④PIPE COVER 1 and ⑤PIPE COVER 2 to ③DRAIN HOSE 1 flush against each other and against the unit and the drain pump, and then secure them in place with ⑬ BANDs.
Wrap the pipe cover connection with vinyl tape to close the gap. (Fig. 6)

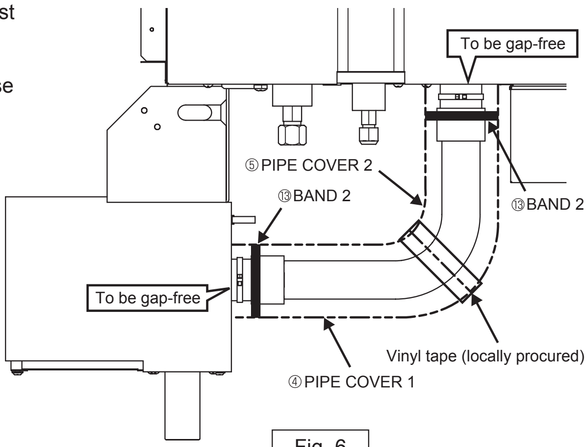


Fig. 6

1-3 Wiring connections

(1) Remove the CONTROL BOX COVER from the unit by unscrewing the two screws on the cover. (Fig. 7)

(2) Unscrew the (c)CONTROL BOX fixing screw. (Fig. 7)

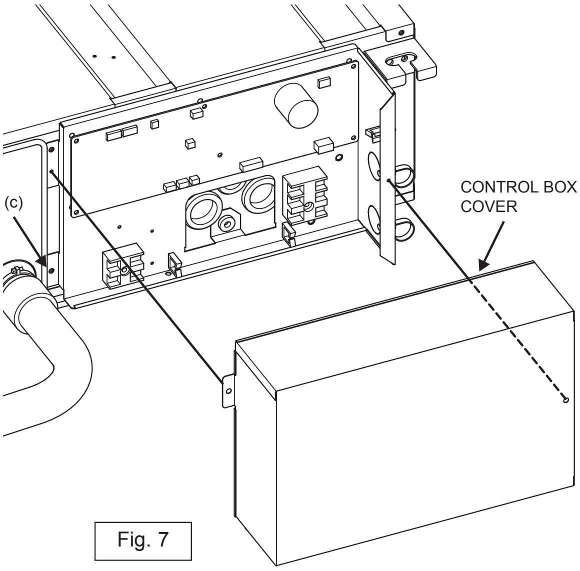


Fig. 7

(3) Remove the short-circuit connector from CN4F on the control board (white, 4P). (Fig. 8)

(4) Route the two drain pump wires behind the CONTROL BOX and into the CONTROL BOX.
Lift the CONTROL BOX in the direction of the arrow (d) to allow the wires through. (Fig. 8)
✻ Do not pinch the wires.

(5) Wind the drain pump wire (connector: blue, 3P) around ⑨FERRITE CLAMP once, and fix it in place with ⑩BAND. (Fig. 9)

(6) Connect the drain pump wire (connector: blue, 3P) to CNP on the control board, and connect the float switch wire (white: 4P) to CN4F on the control board respectively. (Fig. 8)

(7) Place the screw(c) that was removed in Step 3-3.(2) above back on. (Fig. 7)

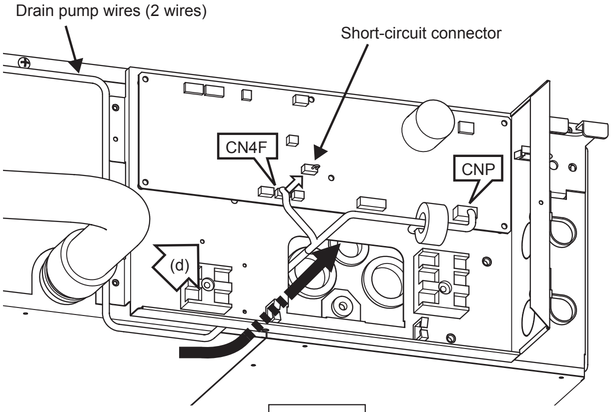


Fig. 8

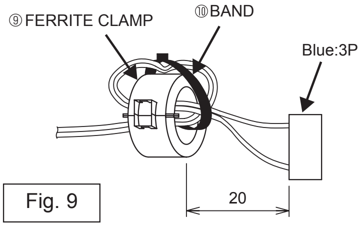


Fig. 9

(8) Fix the two drain pump wires with ⑧CLAMPs to the unit. (Fig. 10)

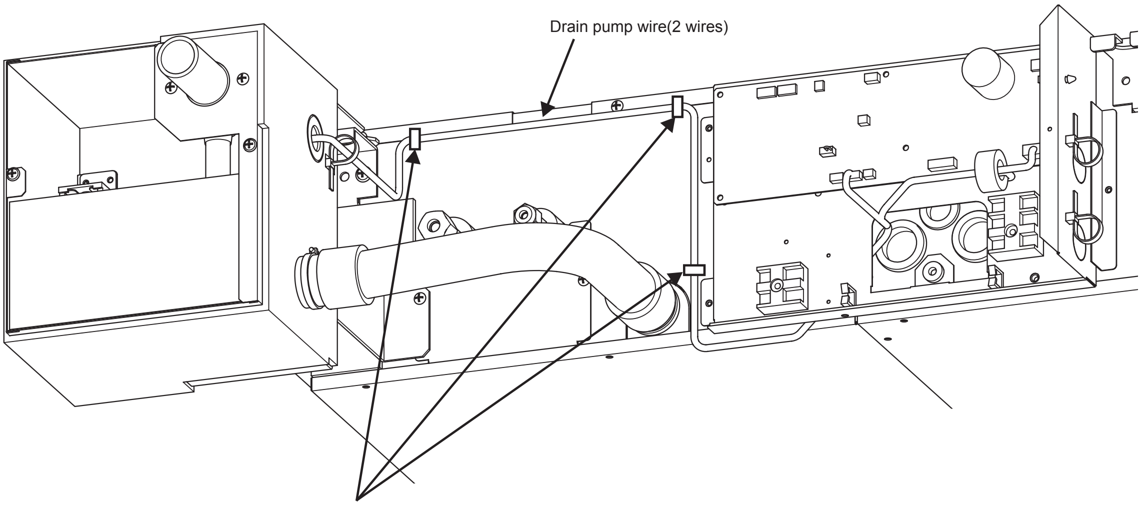
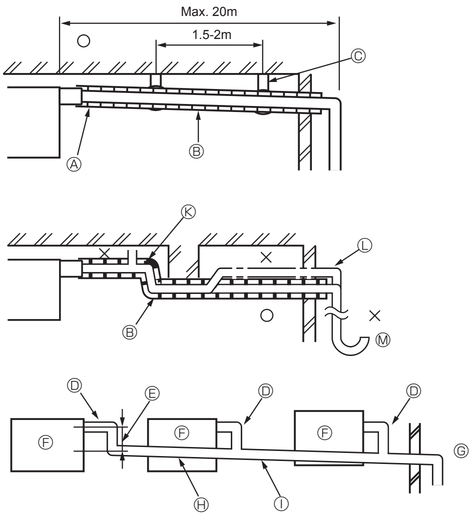
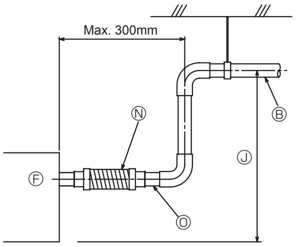


Fig. 10

2 Drain piping work

- Ensure that the drain piping is downward (pitch of more than 1/100) to the outdoor (discharge) side. Do not provide any trap or irregularity on the way.
- Ensure that any cross-wise drain piping is less than 20 m (excluding the difference of elevation). If the drain piping is long, provide metal braces to prevent it from waving. Never provide any air vent pipe. Otherwise drain may be ejected.
- Use a hard vinyl chloride pipe O.D. ø 32 for drain piping.
- Ensure that collected pipes are 10 cm lower than the unit body's drain port.
- Do not provide any odor trap at the drain discharge port.
- Put the end of the drain piping in a position where no odor is generated.
- Do not put the end of the drain piping in any drain where ionic gases are generated.





○ Correct piping
× Wrong piping
Ⓐ Insulation (9 mm or more)
Ⓑ Downward slope (1/100 or more)
Ⓒ Support metal
Ⓚ Air bleeder
Ⓛ Raised
Ⓜ Odor trap

Grouped piping
Ⓓ O. D. ø 32 PVC TUBE
Ⓔ Make it as large as possible. About 10 cm.
Ⓕ Indoor unit (Drain pump)
Ⓖ Make the piping size large for grouped piping.
Ⓗ Downward slope (1/100 or more)
Ⓘ O. D. ø 38 PVC TUBE for grouped piping. (9 mm or more insulation)
Ⓙ Up to 580 mm
Ⓝ Drain hose (accessory)
Ⓞ Horizontal or slightly upgradient

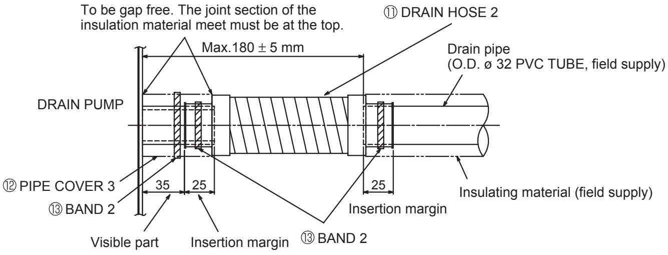
2-1. Insert the ⑪ DRAIN HOSE 2 into the drain port (insertion margin: 25mm).
(The drain hose must not be bent more than 45˚ to prevent the hose from breaking or clogging.)
(Attach the hose with glue for the hard vinyl chloride pipe, and fix it with the ⑬ BAND 2.)

2-2. Attach the drain pipe (O.D. ø 32 PVC TUBE, field supply).
(Attach the pipe with glue for the hard vinyl chloride pipe, and fix it with the ⑬ BAND 2.)

2-3. Perform insulation work on the drain pipe (O.D. ø 32 PVC TUBE) and on the socket (including elbow).

2-4. Check the drainage.

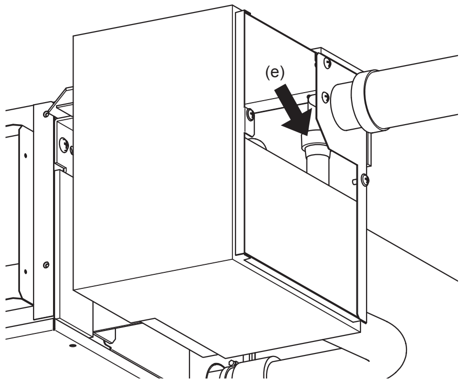
2-5. Attach the ⑫ PIPE COVER 3 and, fix it with the ⑬ BAND 2 to insulate the drain port.


To be gap free. The joint section of the insulation material meet must be at the top.
⑪ DRAIN HOSE 2
Max.180 ± 5 mm
Drain pipe
(O.D. ø 32 PVC TUBE, field supply)
DRAIN PUMP
⑫ PIPE COVER 3
⑬ BAND 2
35
25
25
Insertion margin
Insulating material (field supply)
Visible part
Insertion margin
⑬ BAND 2

3 Confirming drain discharge

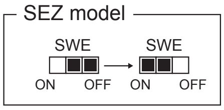
Make sure that the drain-up mechanism operates normally for discharge and that there is no water leakage from the connections.

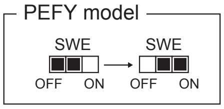
- Be sure to confirm the above in a period of heating operation.
- Be sure to confirm the above before ceiling work is done in the case of a new construction.
- Make sure that water is not leaking from the connection (e) on the drain pump shown in the right figure.



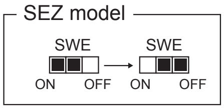
3-1. Fill water into the feed water pump using a feed water tank. In filling, be sure to put the end of the pump or tank in a drain pan. (If the insertion is incomplete, water may flow over the machine.)
❊ Do not splash water on the drain pump coil or the float switch wire through hole when pouring water.

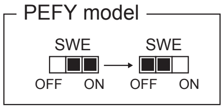
3-2. Perform the test run in cooling mode, or turn on the switch SWE on the controller circuit board. (The drain pump and the fan are forced to operate without any remote controller operation.) Make sure using a transparent hose that drain is discharged.

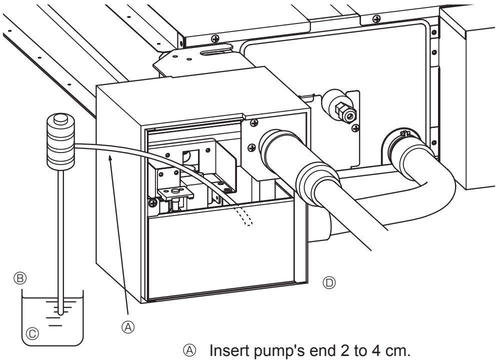




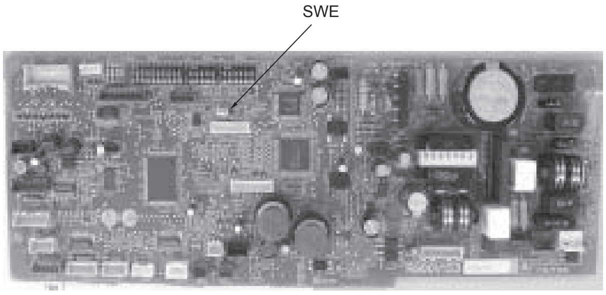
3-3. After confirmation, cancel the test run mode, and turn off the main power. When the switch SWE has been turned on, turn it off, and attach the CONTROL BOX COVER and the DRAIN PUMP COVER in the original positions.







Ⓐ Insert pump's end 2 to 4 cm.
Ⓑ About 2000 cc
Ⓒ Water
Ⓓ Do not splash water on the drain pump coil or the float switch wire through hole when pouring water.



<Indoor board>

Decoration Covers Front & Suspension Bracket Cover PAC-SF81KC-E

Photo

Descriptions

A decoration cover to be attached to the upper section of ceiling suspended models. Possible to prevent dust accumulation.

Applicable Models

- PCA-M71HA type

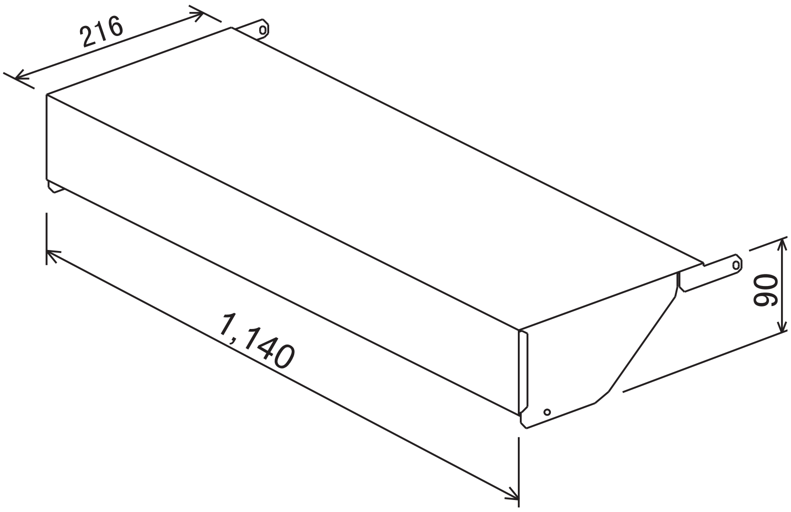
Specifications

Material	SUS304 (0.8t)
Parts composition	Front cover x 1
	Suspension bracket cover x 4
	Tapping screw (4 x 10, with nylon washer) x 4
	Washer x 8 (hot-dip zinc-coated carbon steel sheet (t1. 2))

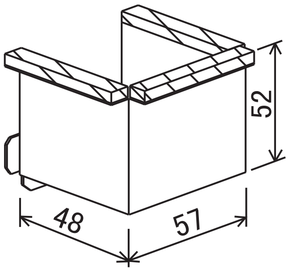
Dimensions

Unit : mm

Front cover



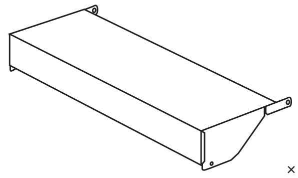
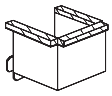
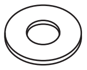
Suspention blacket cover



How to Use / How to Install

1. Checking Provided Parts

※Make sure that you have all the following parts before install ation:

① Front cover	② Suspending bracket covers	③ Tapping screws (4x10)	④ Washers
 ×1	 ×4	(with nylon washers) ×4	 ×8

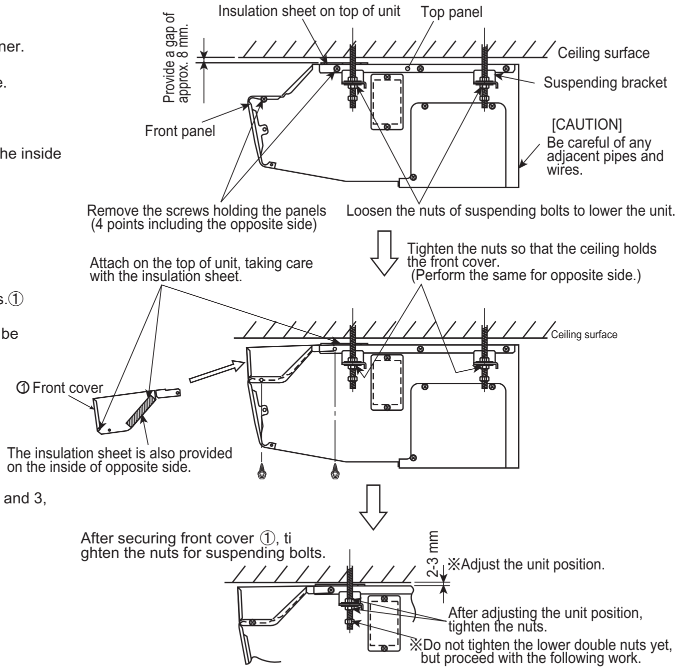
2. Front Cover Installation Procedure

★The following procedure shows how to attach the front cover after installing air-conditioner.

1. Loosen the nuts of bolts suspending the unit, and lower the unit by approx. 5 mm.
   - ・When lowering the unit, be careful not to damage the wires, coolant pipe or drain pipe.
2. Remove the screws that secure the front panel and top panel to the unit (at 4 points).
   (The provided tapping screws③are spares for these screws.)
3. Put front cover ① over the unit.
   - ・Be careful not to damage the insulation sheets pasted on the top surface of unit and the inside of front cover ①.
4. Use the screws removed in step 2 to temporarily secure front cover ①.
   (Do not tighten the screws at this time.)
5. Tighten the nuts of bolts suspending the unit, and fit the unit onto ceiling.
   - ・Tighten the nuts while carefully watching the attached status of front cover ①.
6. Tighten the screws that were temporarily secured in step 4.
   - ・Make sure that front cover holds the insulation sheet on the top surface of unit, and that the cover fits securely on the top surface of unit before tightening the screws.①
7. Separate the unit from ceiling to leave a gap of 2-3 mm fromceiling.
   - ・Be sure to provide this space: If the unit is in contact with ceiling, the vibrations could be transmitted to ceiling.
8. Make sure that the unit is correctly installed, and then tighten the nuts of bolts suspending the unit.

[CAUTION] Do not tighten the lower double nuts yet, because installing suspending bracket covers must now be done.

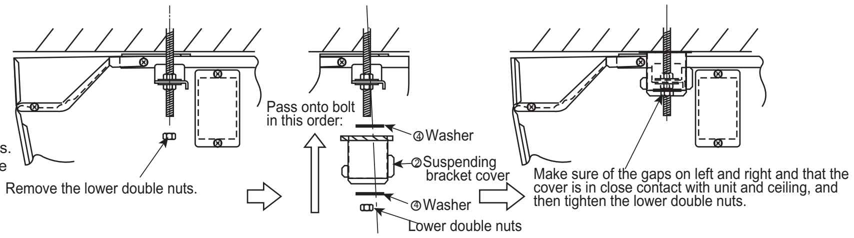
※ If you attach the front cover before installing the unit, perform the procedure in steps 2 and 3, and then fully tighten the 2 screws on each side (4 in total).


Provide a gap of approx. 8 mm.
Insulation sheet on top of unit
Top panel
Ceiling surface
Suspending bracket
Front panel
[CAUTION]
Be careful of any adjacent pipes and wires.
Remove the screws holding the panels (4 points including the opposite side)
Loosen the nuts of suspending bolts to lower the unit.
Attach on the top of unit, taking care with the insulation sheet.
Tighten the nuts so that the ceiling holds the front cover.
(Perform the same for opposite side.)
Ceiling surface
① Front cover
The insulation sheet is also provided on the inside of opposite side.
After securing front cover ①, ti ghten the nuts for suspending bolts.
2-3 mm
※Adjust the unit position.
After adjusting the unit position, tighten the nuts.
※Do not tighten the lower double nuts yet, but proceed with the following work.

3. Suspending Bracket Installation Procedure

★Attach the suspending bracket covers in succession.

1. Remove the lower double nuts (from 4 points) from the suspending bolts.
2. Put the provided washers (tops and bottoms of suspending bracket covers) and suspending bracket covers through suspending bolts. ④
3. Tighten the nuts removed in step 1 for the suspending bolts.
   - ・ Make sure that the suspending bracket covers are in close contact with the unit and ceiling.


Remove the lower double nuts.
Pass onto bolt in this order:
④Washer
②Suspending bracket cover
④Washer
Lower double nuts
Make sure of the gaps on left and right and that the cover is in close contact with unit and ceiling, and then tighten the lower double nuts.

4. Test Run

※ Also refer to the installation manual of indoor unit.

★ Make sure that test run is performed without any abnormal sound, such as vibrations, fluttering sound, etc.

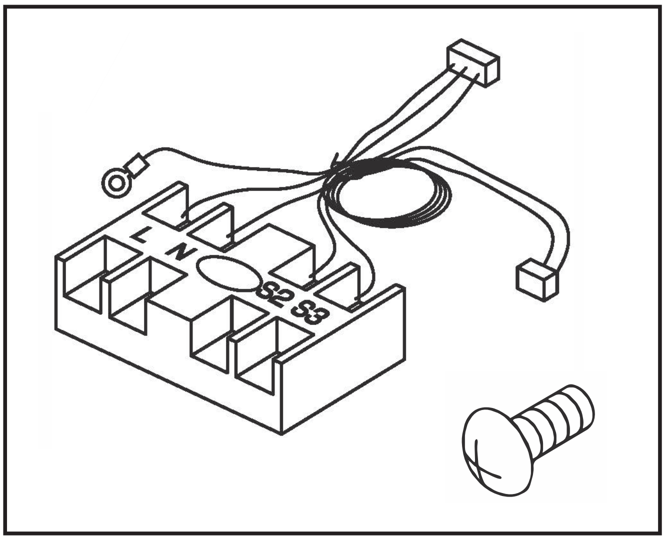
[Test Run Procedure]

1. Turn power on.
2. Press the TEST RUN button on remote controller twice.
3. Press the MODE button on remote controller to set to the fan mode.
   ＊The fan will rotate to blow out air.
4. Make sure that no abnormal sound, such as vibrations, fluttering sound, etc. is heard.
5. Press the ON/OFF button on remote controller to release test run.
6. Turn power off.

Power Supply Terminal Kit

PAC-SK38HR-E

Figure



Descriptions

This kit is used when the power supply of indoor unit and outdoor unit is separated.(For PUHZ/PUZ application only)

Applicable Models

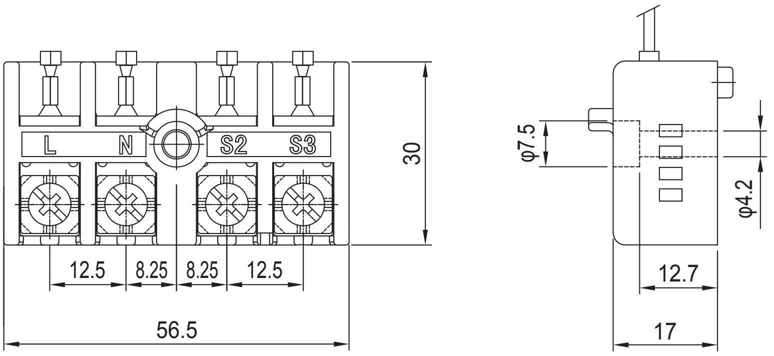
- PKA-M35LA(L) type
- PKA-M50LA(L) type

Specifications

Terminal block capacity	20A/300V
Terminal block material	Denatured melamine

Dimensions

Unit : mm



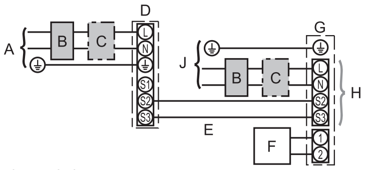
How to Use / How to Install

1. Overview

This kit is used when the power supply of the indoor unit and the outdoor unit is separated. (For PUHZ/PUZ application only)
Refer to the installation manual of the indoor unit as well.

1:1 System

- The indoor power supply.

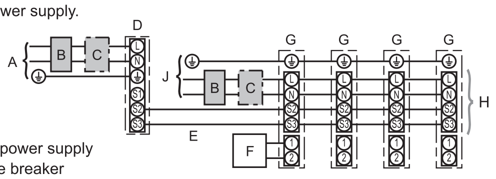


A Outdoor unit power supply
B Earth leakage breaker
C Wiring circuit breaker or isolating switch
D Outdoor unit
E Indoor unit/outdoor unit connecting cables
F Remote controller
G Indoor unit
H This terminal kit
J Indoor unit power supply

* Affix label B that is included with the manuals of indoor unit near each wiring diagram for the indoor and outdoor units.

Simultaneous twin/triple/quadruple system

- The indoor power supply.

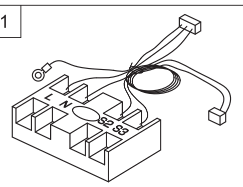
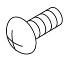


A Outdoor unit power supply
B Earth leakage breaker
C Wiring circuit breaker or isolating switch
D Outdoor unit
E Indoor unit/outdoor unit connecting cables
F Remote controller
G Indoor unit
H This terminal kit
J Indoor unit power supply

* Affix label B that is included with the manuals of indoor unit near each wiring diagram for the indoor and outdoor units.
Note:
Some units cannot be used in a simultaneous twin/triple/quadruple system.
Refer to the outdoor unit installation manual for details.

2. Provided parts

Confirm the following parts are included.

Part	① Terminal block with lead wires	② screw
Qty	1	1
Shape		

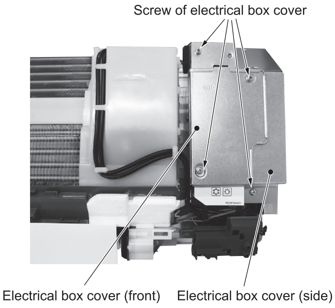
OPTIONAL PARTS

INDOOR UNIT

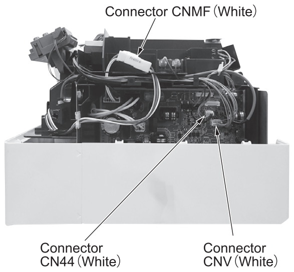
3. Installation procedure

(1) Remove the panel.
(2) Remove the front and side electrical box covers (2 screws each). <Photo 1>
(3) Disconnect the connectors below. <Photo 2>
CNMF : For fan motor
CN44 : For indoor coil thermistor
CNV : For vane motor
(4) Disconnect the connector for ground wire (Green/Yellow). <Photo 3>
(5) Remove the screw on lower side of the electrical box. <Photo 3>
Afterwards, remove the electrical box.
(6) Disconnect the all connectors. <Photo 4>
(7) Remove the indoor controller board. <Photo 4>
(8) Remove the screw that holds the terminal block. <Photo 3>
Remove the screw that secures the ground wire (Black). <Photo 3>
Remove the lead wire from the hook and remove the power terminal block. <Photo 5>
(9) Secure the terminal block ① with the screw ② and the ground wire (Black) with the screw. <Photo 6>
Hang the lead wire of the terminal block ①. <Photo 5>
* Route the lead wire so that it does not stick out to the side cover side. It may cause wire breakage.
(10) Restore the removed parts.

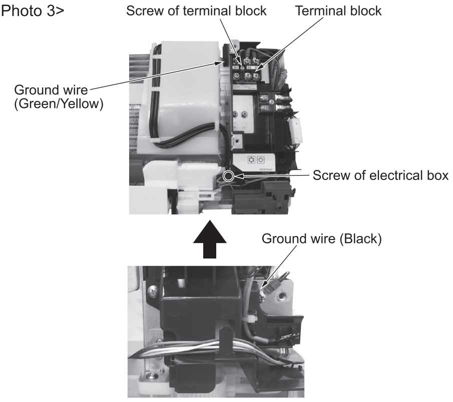
<Photo 1>


Screw of electrical box cover
Electrical box cover (front)
Electrical box cover (side)

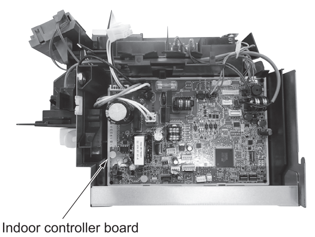
<Photo 2>



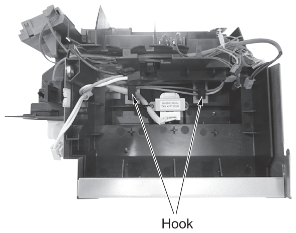
<Photo 3>



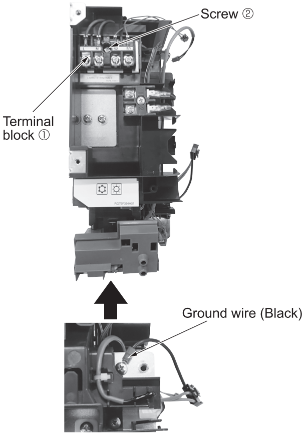
<Photo 4>



<Photo 5>



<Photo 6>



4. Electric wiring

Be sure to do the electric wiring according to the indoor unit installation manual.

5. Affix the labels enclosed with the manual of indoor unit near the electric wiring diagrams of both indoor and outdoor units.

Three types of labels (labels A-C) are provided: Affix the label B.
(Separate indoor unit/outdoor unit power supplies... Label B)

6. DIP switch settings of the outdoor unit control board

It is necessary to change the settings of DIP switch on the outdoor unit control board.

Outdoor unit DIP switch settings (when using separate indoor unit/ outdoor unit power supplies only) SW8-3:ON	ON 3 OFF 1 2 <SW8>

7. Test run

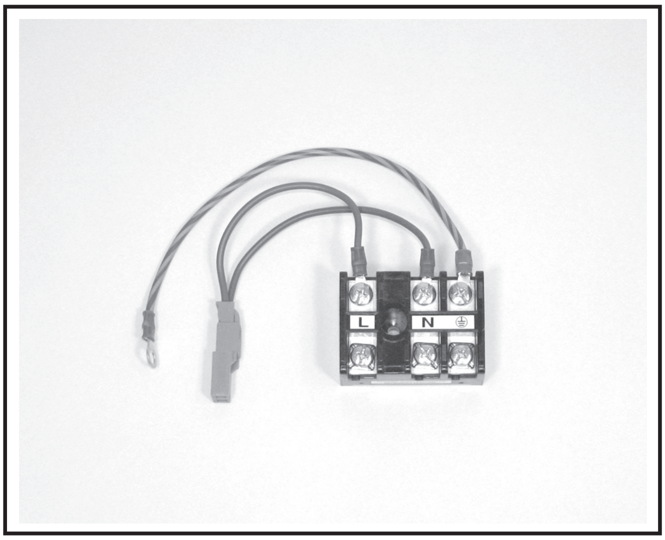
Perform a test run according to the installation manuals of the indoor and outdoor units.

Power Supply Terminal Kit

for new A-Control indoor units
(L/N/Earth)

PAC-SG94HR-E

Photo



Descriptions

This kit (L/N/Earth) is used when the power supply of the indoor unit and the outdoor unit is separated.
(For PUHZ applications only)

Applicable Models

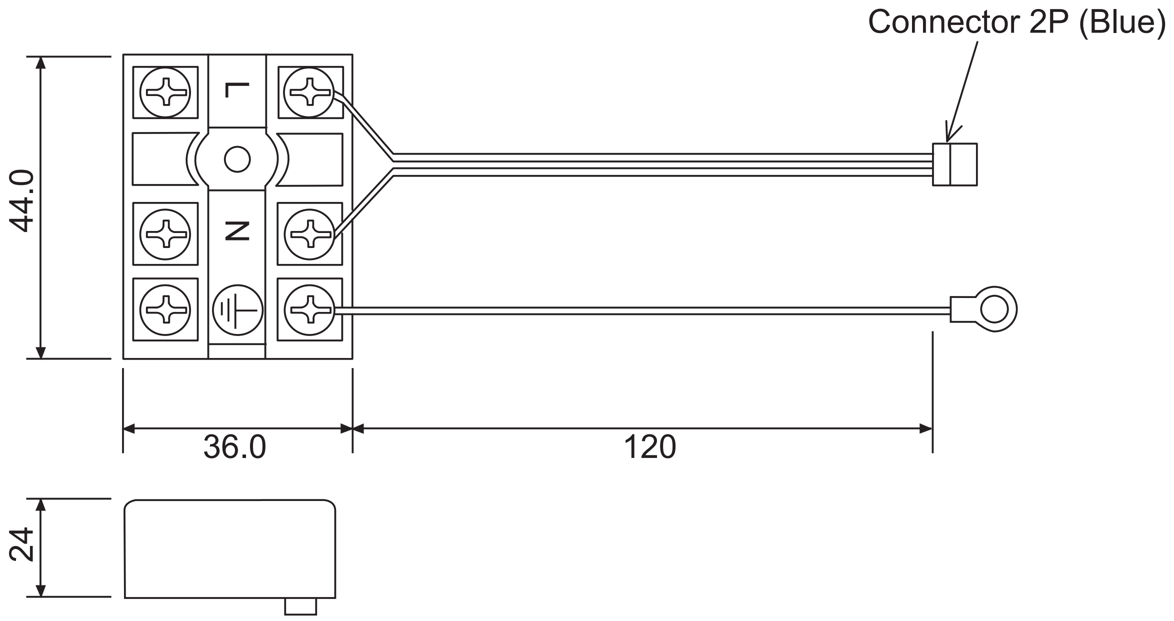
- PKA-M60,71,100KA type
- PKA-M60,71,100KAL type

Specifications

Terminal block capacity	20A/250V
Terminal block material	Denatured melamine

Dimensions

Unit : mm



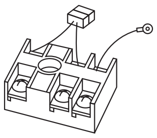
How to Use / How to Install

1. Overview

This kit is used when the power supply of the indoor unit and the outdoor unit is separated.
(for PUHZ applications only)
Refer to the installation manual of the indoor unit as well.

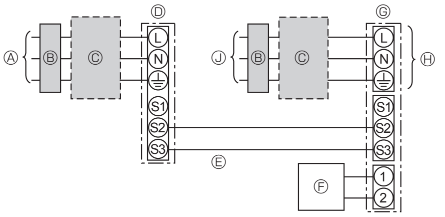
2. Provided parts

Comfirm the following parts are included.

Terminal block (lead wires already wired) x 1	Screw (to attach terminal block) x 1	Fastener (to tie lead wires) x 1	Screw (to secure ground wire) x 1
			For PAC-SG96HR-E only

1:1 System

<For models without heater>
•The indoor power supply terminal kit is required.

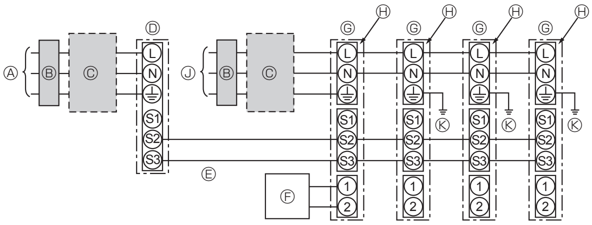


ⒶOutdoor unit power supply
ⒷEarth leakage breaker
ⒸWiring circuit breaker or isolating switch
ⒹOutdoor unit
ⒺIndoor unit / outdoor unit connecting cords
ⒻWired remote controller(option)
ⒼIndoor unit
ⒽOption
ⒿIndoor unit power supply

•Affix a label B that is included with the manuals near each wiring diagram for the indoor and outdoor units.

Simultaneous twin/triple/four system

<For models without heater>
•The indoor power supply terminal kits are required.

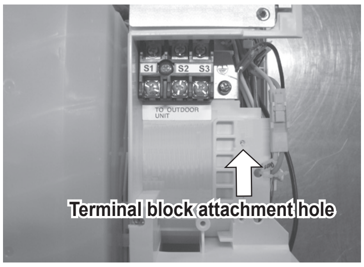


ⒶOutdoor unit power supply
ⒷEarth leakage breaker
ⒸWiring circuit breaker or isolating switch
ⒹOutdoor unit
ⒺIndoor unit / outdoor unit connecting cords
ⒻWired remote controller(option)
ⒼIndoor unit
ⒽOption
ⒿIndoor unit power supply
ⓀIndoor unit earth

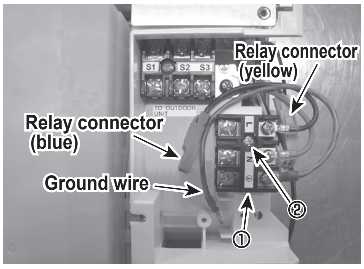
•Affix a label B that is included with the manuals near each wiring diagram for the indoor and outdoor units.

- Wall mounted, PKA-M·KA, PKA-M·KAL series:

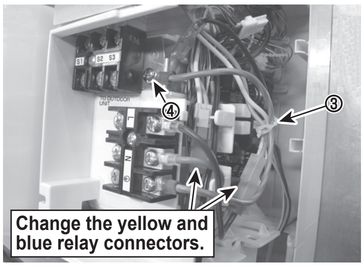
1. Remove the electrical box covers (front and side).



2. Attach terminal block ① using screw ② in the direction shown in the figure.



3. Change the relay connectors of blue and yellow lead wires, secure the ground wire using screw ④ at the position shown in the figure, and then bundle the lead wires using fastener ④.



3. Electric wiring

Be sure to do the electric wiring following the steps in each indoor unit installation manual.

4. Paste the labels enveloped in the instruction document of indoor unit near the electric wiring diagrams of both indoor and outdoor units.

Three types of labels (labels A-C) are provided: Paste the label B.
(Separate indoor unit/outdoor unit power supplies... Label B)

5. DIP switch settings of the outdoor unit control board

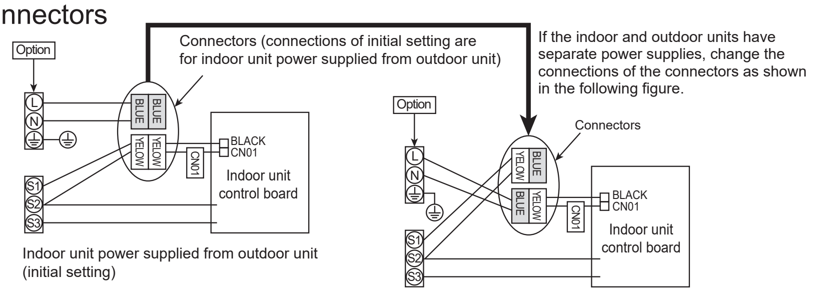
It is necessary to change the settings of DIP switch on the outdoor unit control board.

Outdoor unit DIP switch settings (when using separate indoor unit / outdoor unit power supplies only)	ON ☐ ☐ 3 OFF 1 2 ☐ <SW8>

6. Test run

Perform a test run following the steps in the installation manual of the outdoor unit.

Change of connectors



Connectors (connections of initial setting are for indoor unit power supplied from outdoor unit)

If the indoor and outdoor units have separate power supplies, change the connections of the connectors as shown in the following figure.

Indoor unit power supplied from outdoor unit (initial setting)

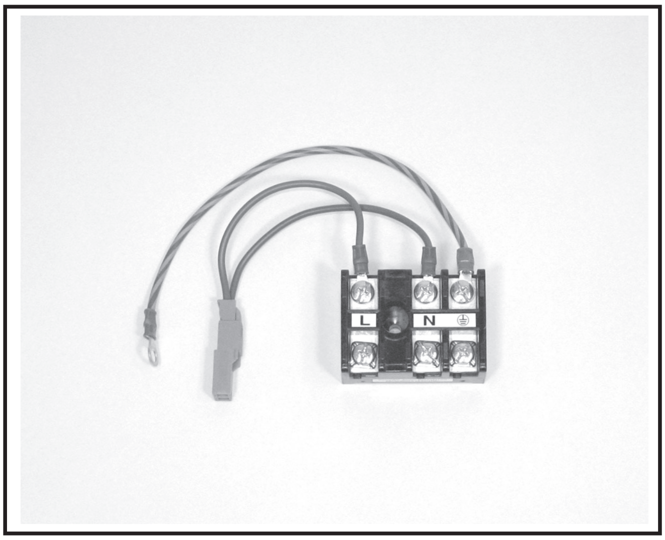
Separate indoor unit / outdoor unit power supplies

Power Supply Terminal Kit

for new A-Control indoor units
(L/N/Earth)

PAC-SG96HR-E

Photo



Descriptions

This kit (L/N/Earth) is used when the power supply of the indoor unit and the outdoor unit is separated.
(For PUHZ applications only)

Applicable Models

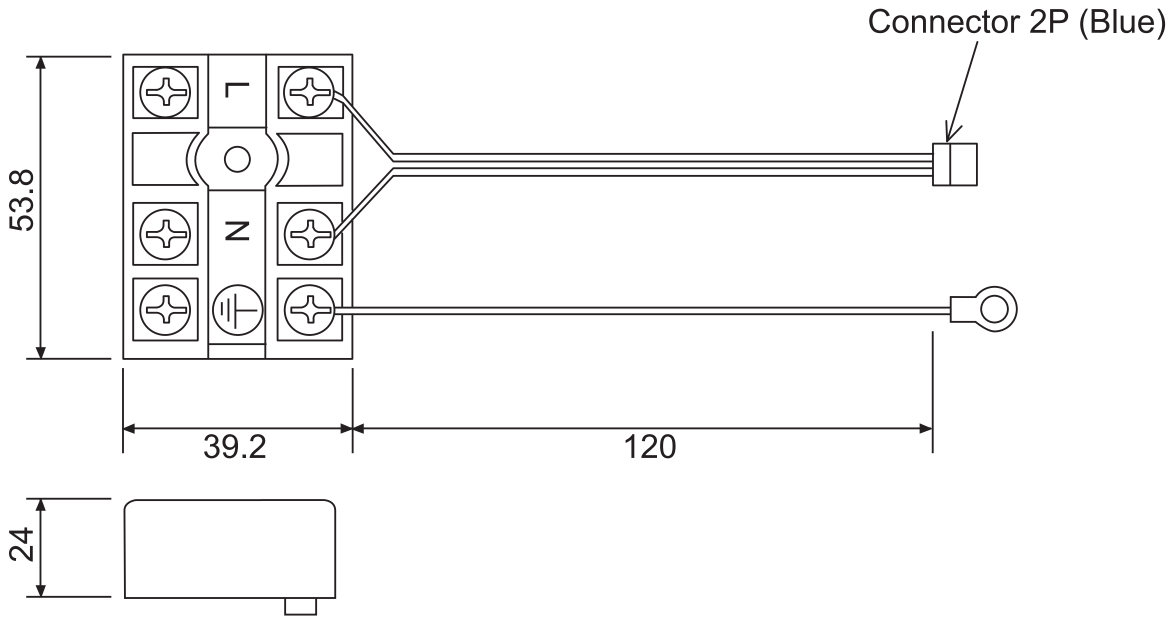
- ■ PSA-M***KA series
- ■ PCA-M***KA series

Specifications

Terminal block capacity	30A/330V
Terminal block material	Denatured melamine
Parts composition	Terminal block (with lead wires connected) x 1, Screw x 1, Fastener (for binding lead wires)

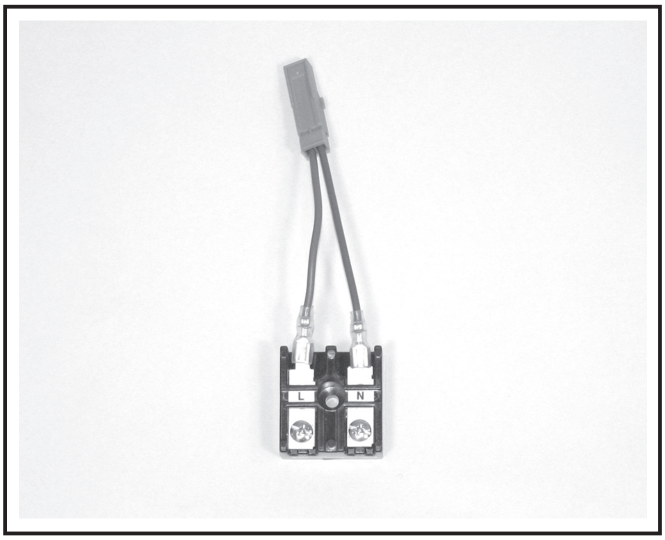
Dimensions

Unit : mm



Power Supply Terminal Kit for new A-Control indoor units (L/N) PAC-SG97HR-E

Photo



Descriptions

This kit (L/N) is used when the power supply of the indoor unit and the outdoor unit is separated.
(For PUHZ applications only)

Applicable Models

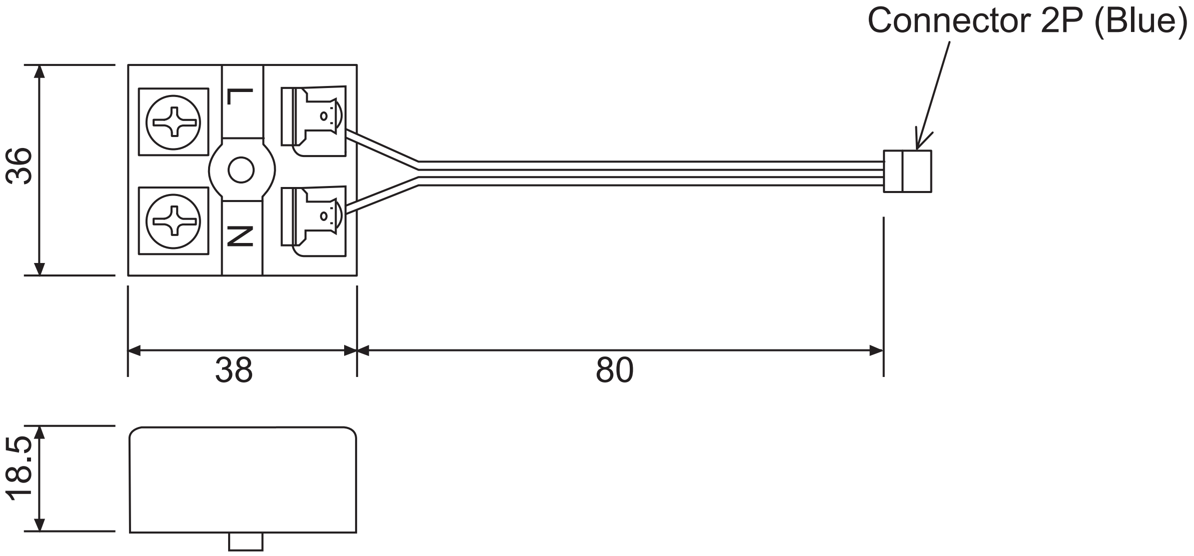
- PCA-M71HA type
- PEAD-M・JA series
- PEAD-M・JAL series
- PEAD-SM35/50/60JA(L)
- PEAD-SM71/100/125/140JA(L)2

Specifications

Terminal block capacity	15A/264V
Terminal block material	Denatured melamine
Parts composition	Terminal block (with lead wires connected) x 1, Screw x 1, Fastener (for binding lead wires)

Dimensions

Unit : mm



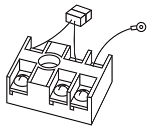
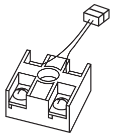
How to Use / How to Install

1. Overview

This kit is used when the power supply of the indoor unit and the outdoor unit is separated.
(for PUHZ applications only)
Refer to the installation manual of the indoor unit as well.

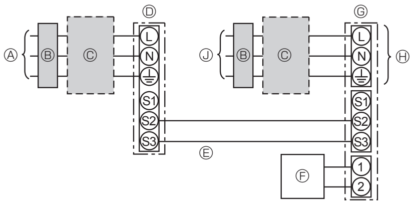
2. Provided parts

Comfirm the following parts are included.

Terminal block (lead wires already wired) x 1	Screw (to attach terminal block) x 1	Fastener (to tie lead wires) x 1	Screw (to secure ground wire) x 1
For PAC-SG96HR-E  For PAC-SG97HR-E 			For PAC-SG96HR-E only

1:1 System

<For models without heater>
- The indoor power supply terminal kit is required.

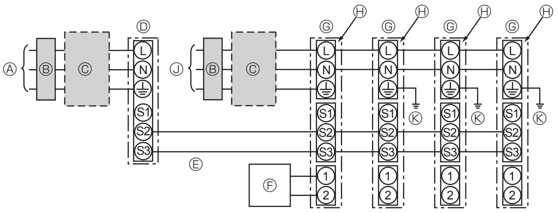


ⒶOutdoor unit power supply
ⒷEarth leakage breaker
ⒸWiring circuit breaker or isolating switch
ⒹOutdoor unit
ⒺIndoor unit / outdoor unit connecting cords
ⒻRemote controller
ⒼIndoor unit
ⒽOption
ⒿIndoor unit power supply

- Affix a label B that is included with the manuals near each wiring diagram for the indoor and outdoor units.

Simultaneous twin/triple/four system

<For models without heater>
- The indoor power supply terminal kits are required.



ⒶOutdoor unit power supply
ⒷEarth leakage breaker
ⒸWiring circuit breaker or isolating switch
ⒹOutdoor unit
ⒺIndoor unit / outdoor unit connecting cords
ⒻRemote controller
ⒼIndoor unit
ⒽOption
ⒿIndoor unit power supply
ⓀIndoor unit earth

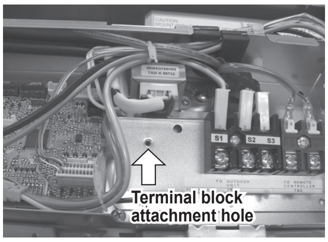
- Affix a label B that is included with the manuals near each wiring diagram for the indoor and outdoor units.

3. Attachment method

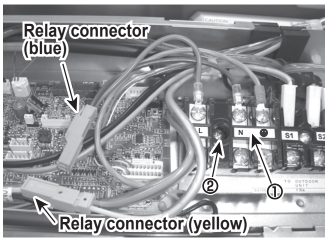
■ PAC-SG96HR

Ceiling suspended, PCA-M·KA series

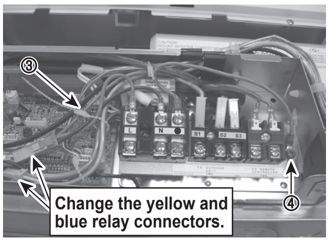
1. Remove the cover of electric parts box.



2. Attach terminal block ① using screw ② in the direction shown in the figure.



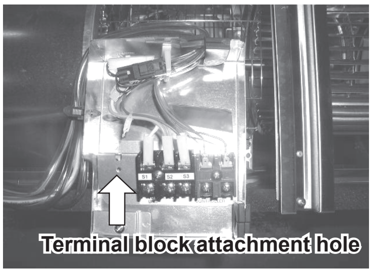
3. Change the relay connectors of blue and yellow lead wires, secure the ground wire using screw ④ at the position shown in the figure, and then bundle the lead wires using fastener ③.



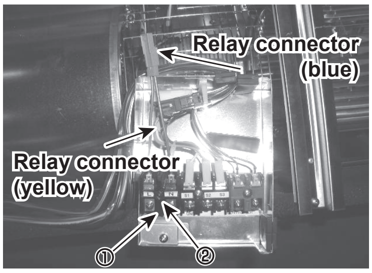
■ PAC-SG97HR

Ceiling suspended for kitchens, PCA-M71HA type:

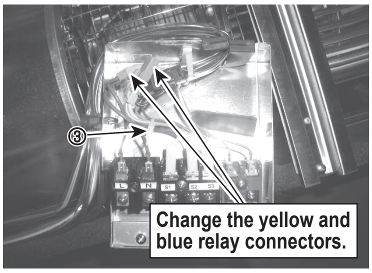
1.Remove the terminal block cover of electric parts box.



2. Attach terminal block ① using screw ② in the direction shown in the figure.

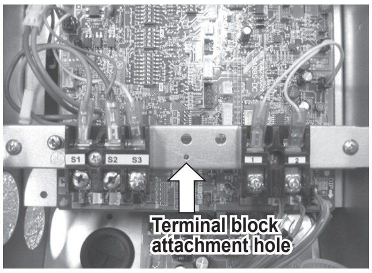


3. Change the relay connectors of blue and yellow lead wires, and then bundle the lead wires using fastener ③.

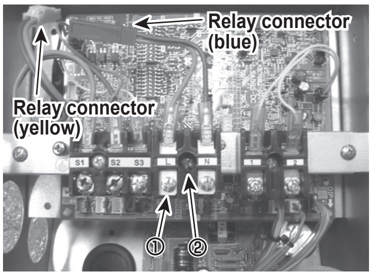


Ceiling concealed, PEAD-M·JA, PEAD-M·JAL series

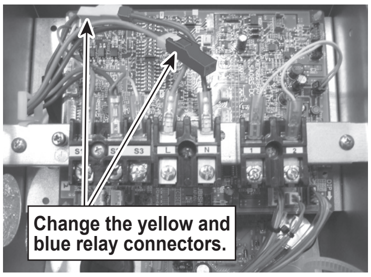
1.Remove the cover of electric parts box.



2. Attach terminal block ① using screw ② in the direction shown in the figure.



3.Change the relay connectors of blue and yellow lead wires.



4. Electric wiring

Be sure to do the electric wiring following the steps in each indoor unit installation manual.

5. Paste the labels enveloped in the instruction document of indoor unit near the electric wiring diagrams of both indoor and outdoor units.

Three types of labels (labels A-C) are provided: Paste the label B.
(Separate indoor unit/outdoor unit power supplies... Label B)

6. DIP switch settings of the outdoor unit control board

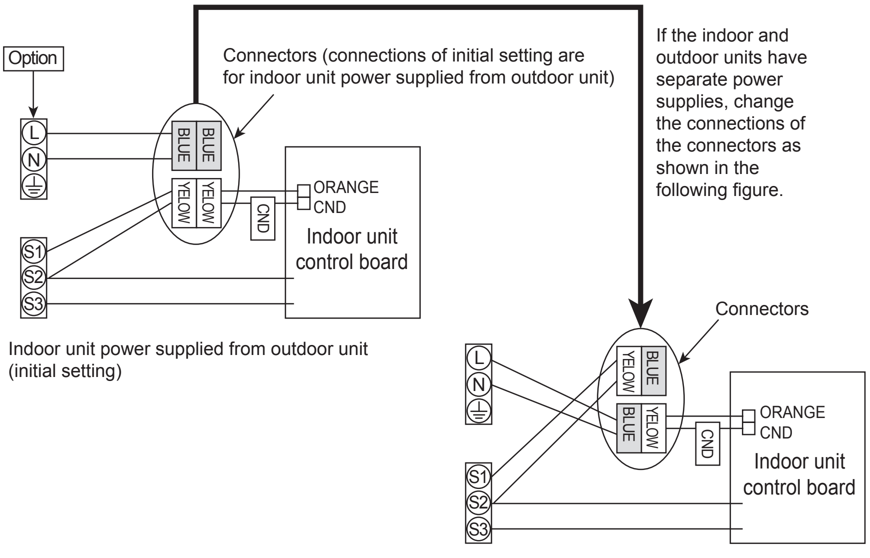
It is necessary to change the settings of DIP switch on the outdoor unit control board.

Outdoor unit DIP switch settings (when using separate indoor unit / outdoor unit power supplies only)	ON 3 OFF 1 2 <SW8>

7. Test run

Perform a test run following the steps in the installation manual of the outdoor unit.

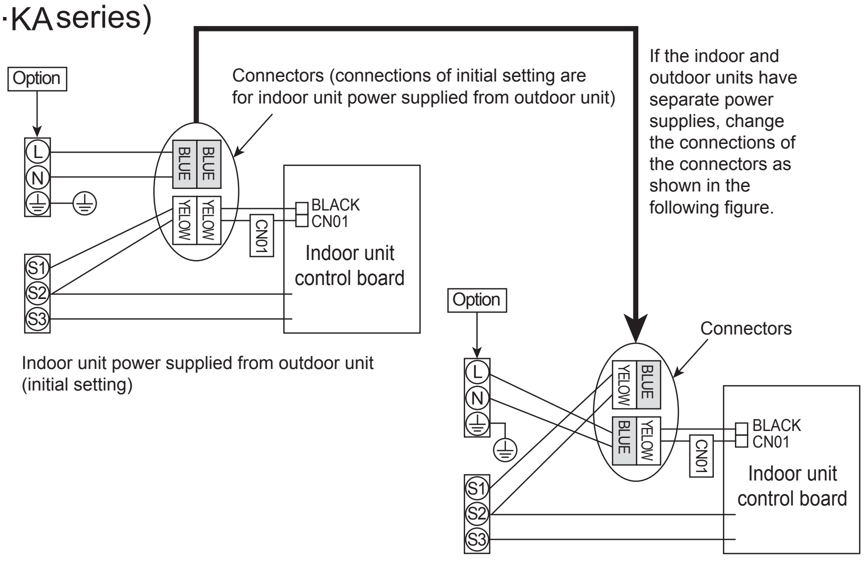
Change of connectors
(except PCA-M·KA series)


Option
L
N
S1
S2
S3
BLUE
BLUE
YELOW
YELOW
CND
ORANGE
CND
Indoor unit control board
Indoor unit power supplied from outdoor unit (initial setting)
If the indoor and outdoor units have separate power supplies, change the connections of the connectors as shown in the following figure.
Connectors
YELOW
BLUE
BLUE
YELOW
CND
ORANGE
CND
Indoor unit control board

Connectors (connections of initial setting are for indoor unit power supplied from outdoor unit)

Separate indoor unit / outdoor unit power supplies

(PCA-M·KA series)

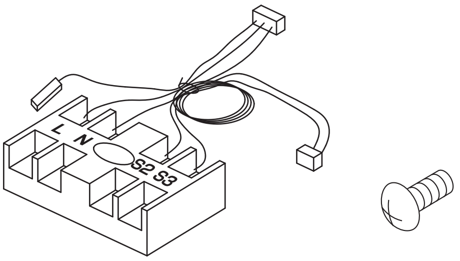

Option
L
N
S1
S2
S3
BLUE
BLUE
YELOW
YELOW
CN01
BLACK
CN01
Indoor unit control board
Indoor unit power supplied from outdoor unit (initial setting)
If the indoor and outdoor units have separate power supplies, change the connections of the connectors as shown in the following figure.
Option
Connectors
YELOW
BLUE
BLUE
YELOW
CN01
BLACK
CN01
Indoor unit control board

Connectors (connections of initial setting are for indoor unit power supplied from outdoor unit)

Separate indoor unit / outdoor unit power supplies

Indoor Power Supply Terminal Kit PAC-SJ39HR-E

Figure



Descriptions

This kit is used when the power supply of the indoor unit and the outdoor unit is separated.
(for PLA series applications only)

Applicable Models

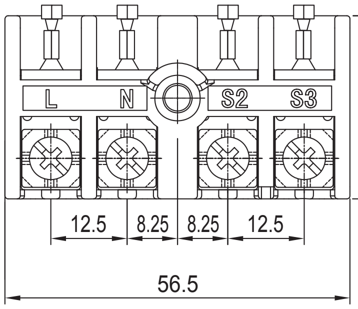
- PLA-ZM · EA series
- PLA-M · EA series
- PLA-SM · EA series

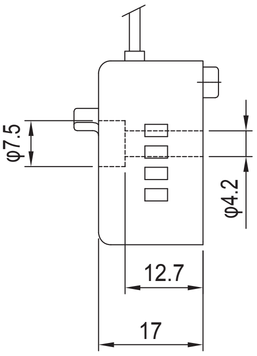
Specifications

Terminal block capacity	5A/250V
Terminal block material	Denatured melamine

Dimensions

Unit : mm





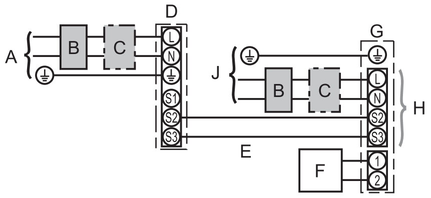
How to Use / How to Install

1. Overview

This kit is used when the power supply of the indoor unit and the outdoor unit is separated. (For PUHZ/PUZ application only)
Refer to the installation manual of the indoor unit as well.

1:1 System

- The indoor power supply.

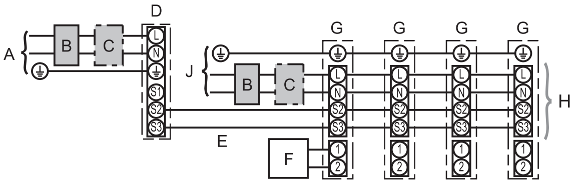


A Outdoor unit power supply
B Earth leakage breaker
C Wiring circuit breaker or isolating switch
D Outdoor unit
E Indoor unit/outdoor unit connecting cables
F Remote controller
G Indoor unit
H This terminal kit
J Indoor unit power supply

* Affix label B that is included with the manuals of indoor unit near each wiring diagram for the indoor and outdoor units.

Simultaneous twin/triple/quadruple system

- The indoor power supply.

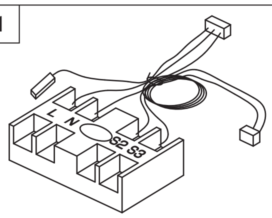
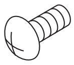


A Outdoor unit power supply
B Earth leakage breaker
C Wiring circuit breaker or isolating switch
D Outdoor unit
E Indoor unit/outdoor unit connecting cables
F Remote controller
G Indoor unit
H This terminal kit
J Indoor unit power supply

* Affix label B that is included with the manuals of indoor unit near each wiring diagram for the indoor and outdoor units.
Note:
Some units cannot be used in a simultaneous twin/triple/quadruple system.
Refer to the outdoor unit installation manual for details.

2. Provided parts

Confirm the following parts are included.

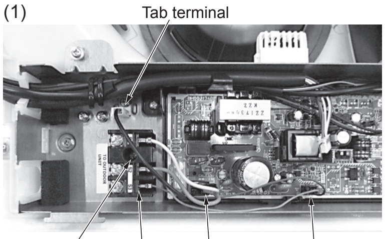
Part	① Terminal block with lead wires	② screw
Qty	1	1
Shape		

3. Installation procedure

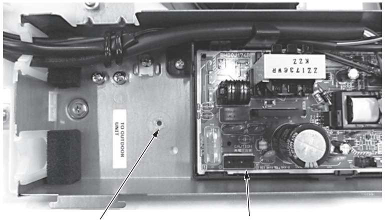
Note: Please refer to the electrical work section in the indoor unit's installation manual for how to remove the electrical box cover.

(1) Remove the electrical box cover.
(2) Remove the 1 screw and disconnect the connector CN01 (black) and CN3C (blue), and the tab terminal; then remove the terminal block.
(3) Secure the terminal block ① to the terminal block attachment position using the 1 screw ② in the direction as shown in the figure, then connect the connector CN01 (black) and CN3C (blue), and the tab terminal.

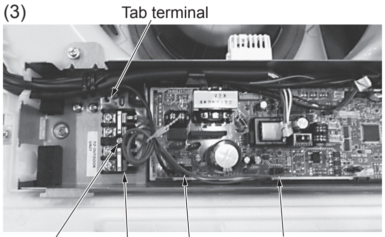
(1)



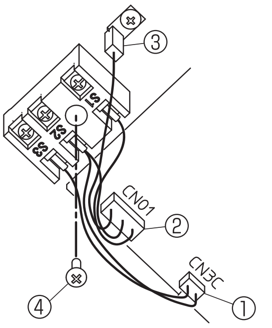
(2)

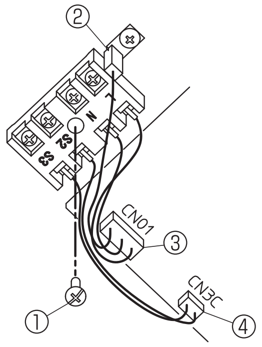


(3)



<Attachment method details>





① Disconnect connector CN3C (blue) from the indoor controller board.
② Disconnect connector CN01 (black) from the indoor controller board.
③ Disconnect the tab terminal.
④ Remove the screw from the terminal block.

Install the optional Power supply terminal kit.
① Secure the terminal block with the screw.
② Insert the tab terminal.
③ Connect connector CN01 (black) to the indoor controller board.
④ Connect connector CN3C (blue) to the indoor controller board.

4. Electric wiring

Be sure to do the electric wiring according to the indoor unit installation manual.

5. Affix the labels enclosed with the manual of indoor unit near the electric wiring diagrams of both indoor and outdoor units.

Three types of labels (labels A-C) are provided: Affix the label B.
(Separate indoor unit/outdoor unit power supplies... Label B)

6. DIP switch settings of the outdoor unit control board

It is necessary to change the settings of DIP switch on the outdoor unit control board.

Outdoor unit DIP switch settings (when using separate indoor unit/ outdoor unit power supplies only) SW8-3:ON	ON ☐ ☐ 3 OFF 1 2 ☐ <SW8>

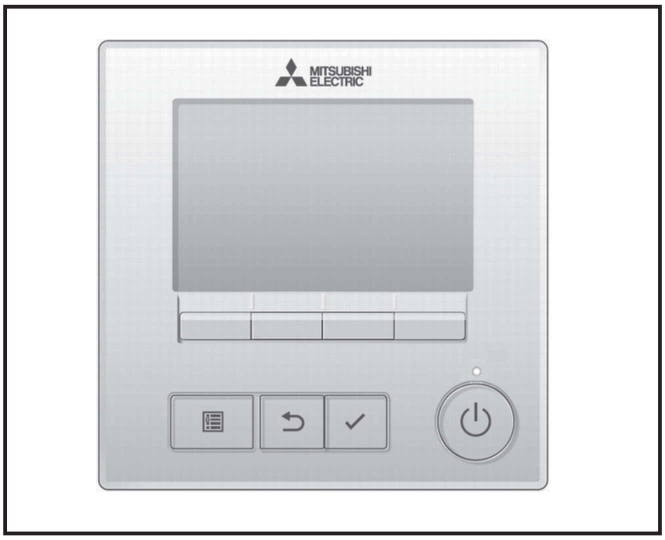
7. Test run

Perform a test run according to the installation manuals of the indoor and outdoor units.

Wired Remote Controller

PAR-41MAA

Photo



Descriptions

Advanced MA remote controller with the large size dot liquid crystal display. Multi-language display and weekly timer function are available.

Applicable Models

- ■ MSZ-RW25,35,50VG*1
- ■ MSZ-LN18,25,35,50,60VG2(W)(V)(R)(B)*1
- ■ MSZ-FT25,35,50VG*1
- ■ MSZ-AY15,20,25,35,42,50VGK(P)*1
- ■ MSZ-AP60,71VG*1
- ■ MSZ-EF18,22,25,35,42,50VG(W)(B)(S)*1
- ■ MSZ-BT20,25,35,50VG*1
- ■ MSZ-HR25,35,42,50,60,71VF*1
- ■ MSZ-DW25,35,50VF*1
- ■ MSY-TP35,50VF*1
- ■ MFZ-KT25,35,50,60VG*1
- ■ MFZ-KW25,35,50,60VG*1
- ■ MLZ-KP25,35,50VF*1
- ■ MLZ-KY20VG*1
- ■ P-series models *2 (except for PSA-M・KA)
- ■ SLZ-M・FA2 series
- ■ SEZ-M・DA2 series
- ■ SFZ-M・VA series

*1 Either MAC-334IF-E or MAC-497IF-E is required.

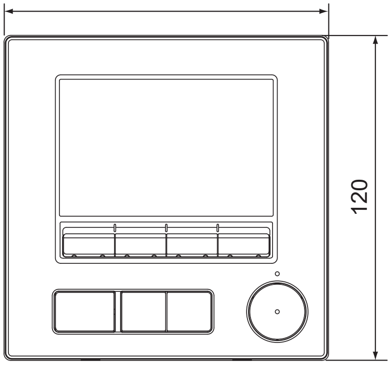
*2 Remote controller terminal block kit“PAC-SH29TC-E”is required for PKA-M*LAL2・KAL2.

Specifications

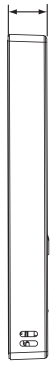
Product size	120(W) × 120(H) × 14.5(D)mm (4 3/4 × 4 3/4 × 37/64 [in])	
Net weight	0.25kg (35/64lbs)	
Rated power supply voltage	12V DC (supplied from indoor units)	
Power consumption	0.3W	
Usage environment	Temperature	0 - 40° C (32 - 104° F)
	Humidity	25 - 90%RH (with no dew condensation)
Material	Panel	PMMA
	Main body	ABS
Sound Pressure Level	The A-weighted sound pressure level is below 70dB	

Dimensions

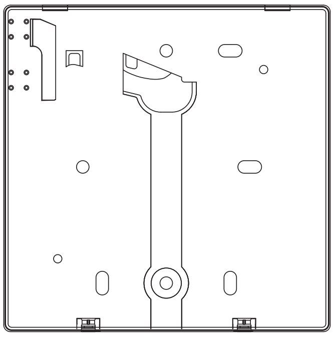
Unit : mm



(Front view)



(Side view)



(Rear view)

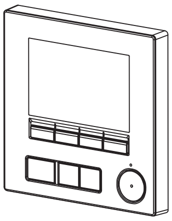
How to Use / How to Install

2 Component names and supplied parts

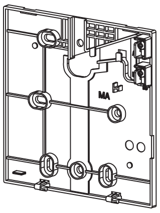
The following parts are included in the box.

Parts name	Qty.	Appearance
Remote controller (top case)	1	Right figure *1
Remote controller (bottom case)	1	Right figure *2
Roundhead cross slot screws M4×30	2	*3
Wood screw 4.1×16 (for direct wall installation)	2	*3
Simple Manual	2	

Top case *1



Bottom case *2



*3 ISO metric screw thread
*4 Remote controller cable is not included.

3 Field-supplied parts/Required tools

(1) Field-supplied parts

The following parts are field-supplied parts.

Parts name	Qty.	Notes
Double switch box or 86type switch box	1	Not required for direct wall installation
Thin metal conduit	Necessary	
Lock nut and bushing	Necessary	
Cable cover	Necessary	Required for routing remote controller cable along a wall
Putty	Reasonable	
Molly anchor	Necessary	
Remote controller cable (Use a 0.3 mm² (AWG22) 2-core sheathed cable.)	Necessary	

(2) Field-supplied tools

- Flat-tip screwdriver (Width: 3 - 5 mm (1/8 - 13/64 inch))
- Nipper
- Miscellaneous tools

5 How To Install

This remote controller is for the wall installation. It can be installed either in the switch box or directly on the wall. When performing direct wall installation, wires can be thread through either back or top of the remote controller.

(1) Selecting an installation site

Install the remote controller (switch box) on the site where the following conditions are met.

(a) For connection to the indoor unit with an Auto descending panel, a place where people can check the Auto descending panel operation of the indoor unit while they are operating the remote controller (Refer to the indoor unit Instructions Book for how to operate Auto descending panel.)

(b) A flat surface

(c) A place where the remote controller can measure the accurate indoor temperature
Sensors to monitor indoor temperature are on the indoor unit and on the remote controller. When the room temperature is monitored with the sensor on the remote controller, the built-in sensor on the remote controller monitors the room temperature. When using the sensor on the remote controller, follow the instructions below.

- To monitor the accurate indoor temperature, install the remote controller away from direct sunlight, heat sources, and the supply air outlet of the air conditioner.

- Install the remote controller in a location that allows the sensor to measure the representative room temperature.
- Install the remote controller where no wires are routed around the temperature sensor on the controller. (If wires are routed, the sensor cannot measure accurate indoor temperature.)

Important

■ **Discrepancy between the indoor temperature measured at the wall and the actual indoor temperature may occur.**

If the following conditions are met, the use of the temperature sensor on the indoor unit is recommended.

- Supply air does not reach to the wall easily where the remote controller is installed due to improper airflow distribution.
- There is a great discrepancy between the wall temperature and the actual indoor temperature.
- The back side of the wall is directly exposed to the outside air.

Note: When temperature changes rapidly, the temperature may not be detected accurately.

Do not install the controller in a place where the difference between the remote controller surface temperature and the actual room temperature will be great.
If the temperature difference is too high, room temperature may not be adequately controlled.

To reduce the risk of malfunctions, do not install the controller in a place where water or oil may come into contact with the controller, or in a condensing or corrosive environments.

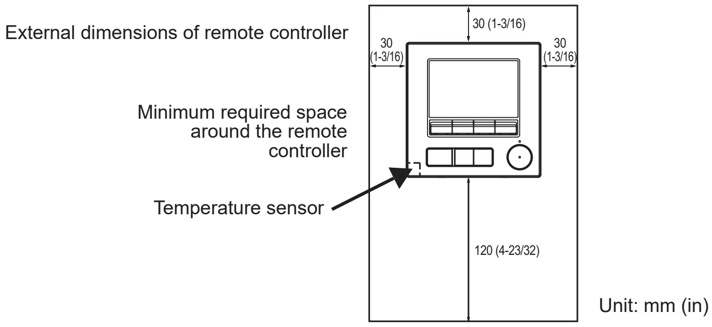
To avoid deformation and malfunction, do not install the remote controller in direct sunlight or where the ambient temperature may exceed 40ºC (104ºF) or drop below 0ºC (32ºF).

To reduce the risk of malfunctions and damage to the controller, avoid installing the remote controller on an electrically conductive surface, such as an unpainted metal sheet.

Refer to either of the following manuals for temperature sensor setting: indoor unit Installation Manual for CITY MULTI; this manual for Mr. SLIM.

(2) Installation space

Leave a space around the remote controller as shown in the figure shown below, regardless of whether the controller is installed in the switch box or directly on the wall. Removing the remote controller will not be easy with insufficient space.
Also, leave an operating space in front of the remote controller.


External dimensions of remote controller
30 (1-3/16)
30 (1-3/16)
30 (1-3/16)
Minimum required space around the remote controller
Temperature sensor
120 (4-23/32)
Unit: mm (in)

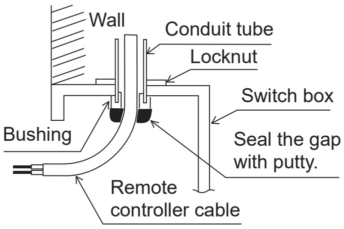
(3) Installation work

Controller can be installed either in the switch box or directly on the wall. Perform the installation properly according to the installation method.

① **Drill a hole in the wall.**

■ Installation using a switch box
  - Drill a hole in the wall, and install the switch box on the wall.
  - Connect the switch box to the conduit tube.

■ Direct wall installation
  - Drill a hole in the wall, and thread the cable through it.



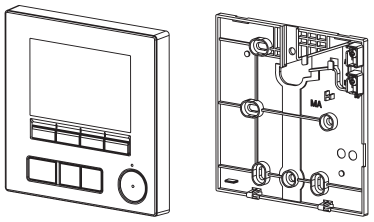
② **Seal the cable access hole with putty.**

■ Installation using a switch box

- Seal the remote controller cable access hole at the connection of switch box and conduit tube with putty.

> To reduce the risk of electric shock, malfunctions, or fire, seal the gap between the cables and cable access holes with putty.

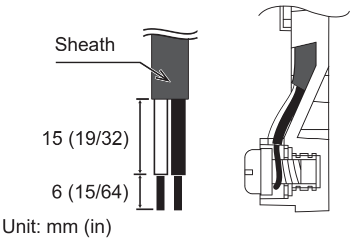
③ **Prepare the bottom case of the remote controller.**

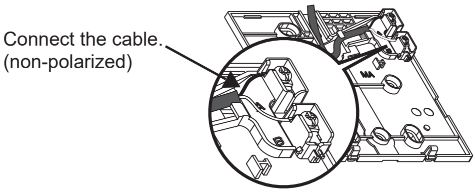


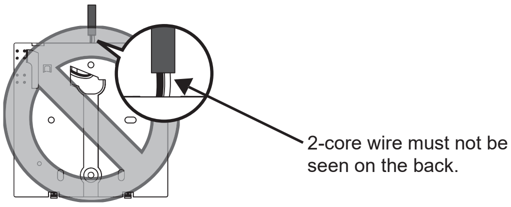
Top case Bottom case

④ **Connect the remote controller cable to the terminal block on the bottom case.**

Peel off the remote controller cable sheath as shown below to connect to the terminal block properly. Secure the remote controller cable so that the peeled part of the cable will fit into the case.



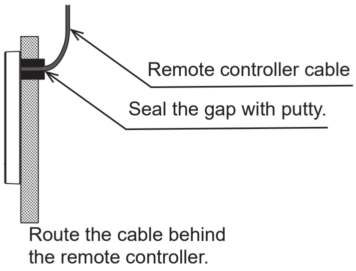




■ Direct wall installation

- Seal the hole through which the cable is threaded with putty.

> To reduce the risk of electric shock, shorting, or malfunctions, keep wire pieces and sheath shavings out of the terminal block.



Important

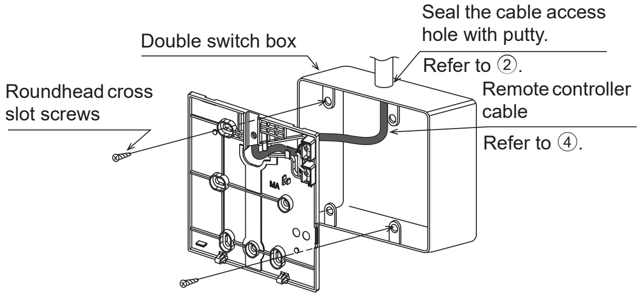
> Do not use solderless terminals to connect cables to the terminal block.
> Solderless terminals may come in contact with the circuit board and cause malfunctions or damage the controller cover.

⑤ Install the bottom case.

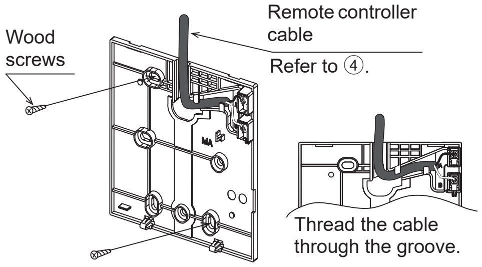
■ Installation using a switch box
- Secure at least two corners of the switch box with screws.

■ Direct wall installation
- Thread the cable through the groove.
- Secure at least two corners of the remote controller with screws.
- Be sure to secure top-left and bottom-right corners of the remote controller (viewed from the front) to prevent it from lifting. (Use molly anchor etc.)

■ Installation using a switch box


Seal the cable access hole with putty.
Refer to ②.
Double switch box
Roundhead cross slot screws
Remote controller cable
Refer to ④.

■ Direct wall installation



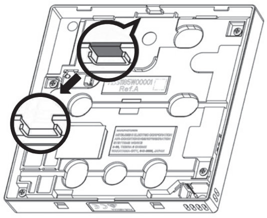
Important

To avoid damage to the controller, do not overtighten the screws. (Recommended torque: 0.2 to 0.3 N•m)

To avoid damage to the controller, do not make holes on the controller cover.

⑥ Cut out the cable access hole.

■ Direct wall installation (when running the cable along the wall)
- Cut out the thin-wall part on the cover (the shaded area in the right figure) with a nipper.

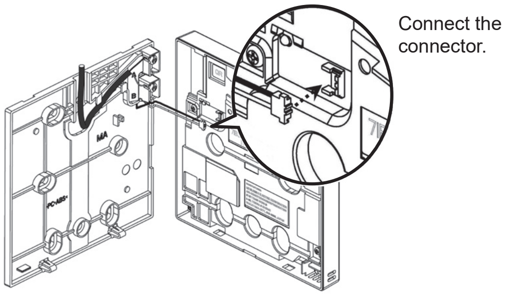


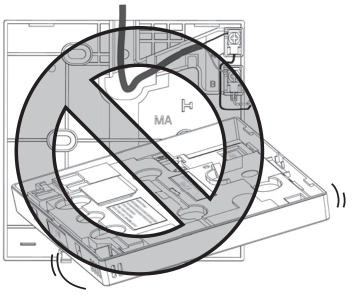
Notice

Note that accidentally touching the circuit board may damage the circuit board when cutting out a cable access hole.

⑦ Connect the connector to the top case.

Connect the connector on the bottom case to the socket on the top case.





Important

To prevent malfunctions, do not remove the protective sheet or the circuit board from the top case.

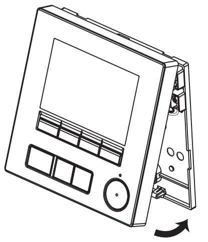
To prevent cable breakage and malfunctions, do not hang the top controller casing hang by the cable as shown in the figure above.

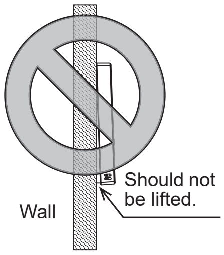
⑧ Install the top case on the bottom case.

Two mounting tabs are at the top of the top case.
Hook those two tabs onto the bottom case, and click the top case into place. Check that the case is securely installed and not lifted.

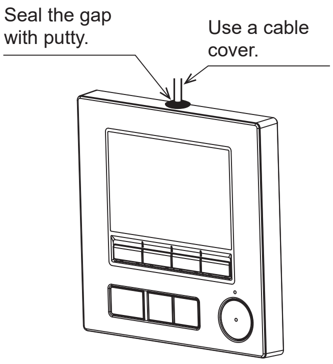
Important

When attaching the top casing to the bottom casing, push it until it they click into place. If they are not properly locked into place, they may fall, causing personal injury, controller damage, or malfunctions.





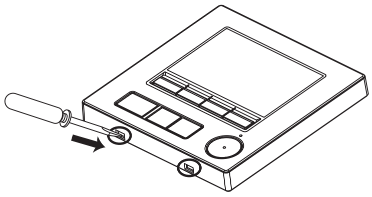
■ Direct wall installation (when running the cable along the wall)
- Thread the cable through the access hole at the top of the remote controller.
- Seal the cut-out part of the cover with putty.
- Use a cable cover.

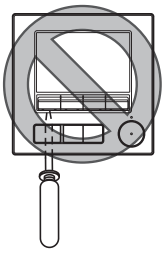


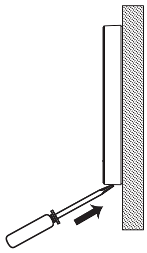
- **Uninstalling the top case**

① Uninstalling the top case

Insert a flat-tip screwdriver with a blade width of 3-5 mm (1/8-13/64 inch) into the latches at the bottom of the remote controller and lift the latches. Then, pull up the top case.







■ **At the time of factory shipment, protective sheet is on the operation interface of the front cover. Peel off the protective sheet on the operation interface prior to use.**

Important

To prevent damage to the controller casing, do not force the flat-tip screwdriver to turn with its tip inserted in the slot.

Do not insert the flat-tip screwdriver too far. Doing so will damage the circuit board.

To prevent damage to the controller casing, use a flat-head screwdriver with a blade width of 3-5 mm (1/8-13/64 inch).

② Disconnect the cable from the connector.

Hold the connector end of the cable, and pull it upward and out of the connector.

6. Important

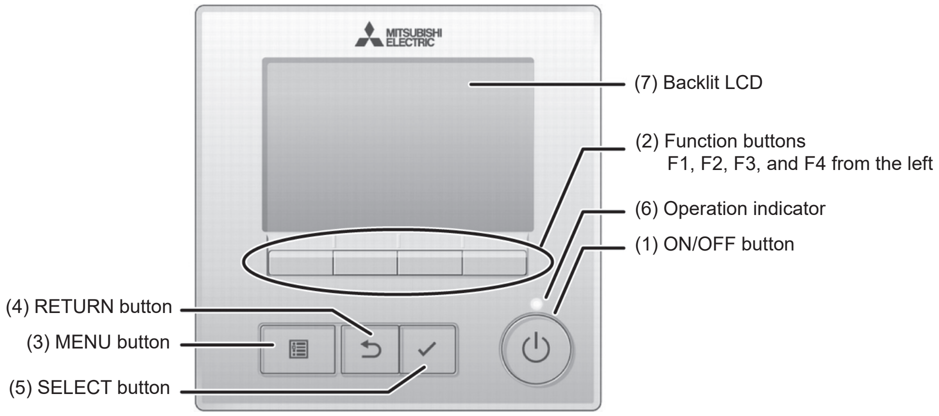
■ **Discrepancy between the indoor temperature measured at the wall and the actual indoor temperature may occur.**

If the following conditions are met, the use of the temperature sensor on the indoor unit is recommended.

- Supply air does not reach to the wall easily where the remote controller is installed due to improper airflow distribution.
- There is a great discrepancy between the wall temperature and the actual indoor temperature.
- The back side of the wall is directly exposed to the outside air.

Note: When temperature changes rapidly, the temperature may not be detected accurately.

6 Remote controller button functions



(1) ON/OFF button
Use to turn ON/OFF the indoor unit.

(2) Function buttons
Use to select the operation mode or to set the temperature and fan speed on the Main display. Use to select items on other screens.

(3) MENU button
Use to bring up the Main menu.

(4) RETURN button
Use to return to the previous screen.

(5) SELECT button
Use to jump to the setting screen or to save the settings.

(6) Operation indicator
Stays lit during normal operation. Blinks during startup and when an error occurs.

(7) Backlit LCD
Dot display. When the backlight is off, pressing any button turns the backlight on and it will stay lit for a certain period of time depending on the screen. Performing any button operation keeps the backlight on.

Note: When the backlight is off, pressing any button turns the backlight on and does not perform its function. (except for the ON/OFF button)

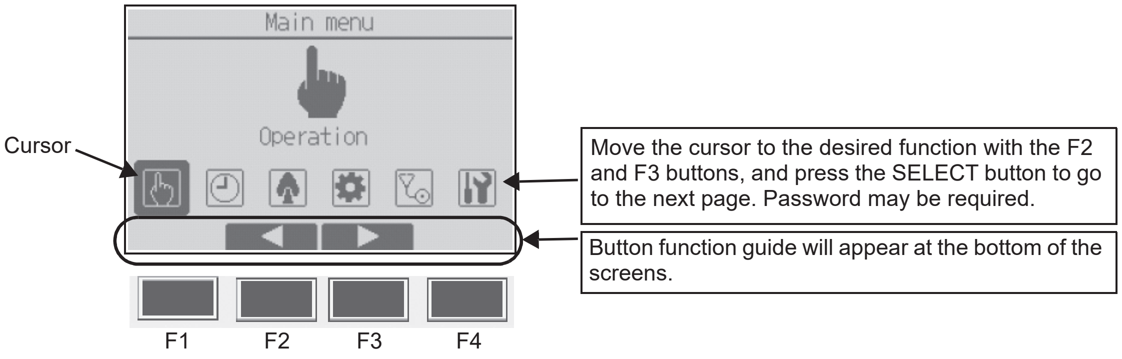
Pressing the MENU button will bring up the Main menu as shown below.

Operation menu *1
Timer menu *1
Energy saving menu *1
Initial setting menu *2*3
Maintenance menu *1
Service menu *2*3

*1 Refer to the Instructions Book for details.
*2 Explained in this manual.
*3 If no buttons are pressed for 10 minutes on the initial setting screens, or 2 hours on the service screens (10 minutes on some screens), the screen will automatically return to the Main display. Any settings that have not been saved will be lost.

The available items on the menu depend on the connected indoor unit model. For items not described in the manuals that are enclosed with the MA Remote Controller, refer to the manuals that came with the air conditioning units.

Button operations on the Main menu



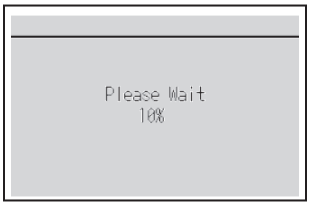
Move the cursor to the desired function with the F2 and F3 buttons, and press the SELECT button to go to the next page. Password may be required.

Button function guide will appear at the bottom of the screens.

7 Turning on the power

Make sure that the MA remote controller is properly installed according to the instructions in the Installation Manual and that the indoor and outdoor unit installation has been completed before turning on the power.

(1) When the power is turned on, the following screen will appear.



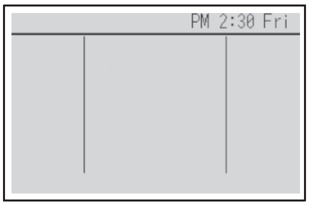
Please Wait
10%

Normal start up (indicating the percentage of process completion)

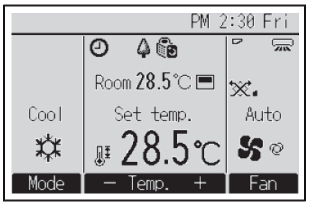
Note: When the power is on for the first time, the Language selection screen will be displayed. Refer to section 9 (5) under “Display setting menu”. Select a desired language. The system will not start-up without language selection.

(2) Main display

After the successful startup, the Main display will appear. The Main display can be displayed in two different modes: “Full” and “Basic.” Refer to section 9 “Initial settings” for how to select the display mode. (The factory setting is “Full.”)



Main display in the Full mode (while the unit is not in operation)



Main display in the Full mode (while the unit is in operation)

Note: Refer to the Instruction Book for the icons on the display.

8 Test run

Note: Maintenance password is required.

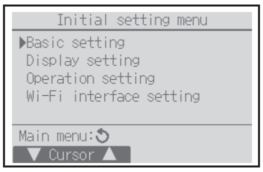
(1) Read the section about Test run in the indoor unit Installation Manual before performing a test run.
(2) At the Main display, press the MENU button and select Service>Test run>Test run.
(3) Press the ON/OFF button to cancel the test run if necessary.
(4) Refer to the indoor unit Installation Manual for the detailed information about test run and for how to handle the errors that occur during a test run.

Note: Refer to section 10 “Service menu” for information about the maintenance password.

9 Initial settings (Remote controller settings)

Note: Administrator password is required.

From the Main display, select Main menu>Initial setting, and make the remote controller settings on the screen that appears.



Basic setting menu
- Main/Sub
- Clock
- Daylight saving time
- Administrator password

Display setting menu
- Main display
- Remote controller display details setting
- Contrast•Brightness
- Language selection

Operation setting menu
- Auto mode

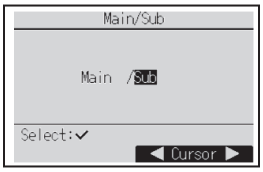
Wi-Fi interface setting

Note: The initial administrator password is “0000.” Refer to section (4) “Administrator password setting” for how to change the password.

[Button operation]

① When the F3 or F4 button is pressed, the currently selected setting will appear highlighted. Select “Sub”, and press the SELECT button to save the change.

② Press the MENU button to return to the Main menu screen. (This button always brings up the Main menu screen.)


Main/Sub

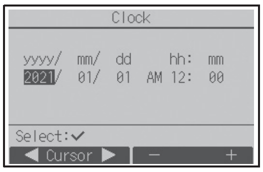
Main /Sub

(2) Clock setting

[Button operation]

① Move the cursor with the F1 or F2 button to the desired item.

② Change the date and time with the F3 or F4 button, and press the SELECT button to save the change. The change will be reflected on the clock display on the Status display and the Main display.


Clock

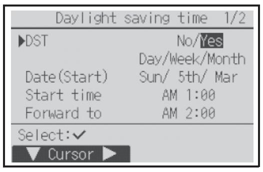
yyyy/ mm/ dd hh: mm
2021/ 01/ 01 AM 12: 00

Note: Clock setting is necessary for time display, weekly timer, timer setting and error history. Make sure to perform clock setting when the unit is used for the first time or has not used for a long time.
Note: If a given system has no system controllers, the clock time will not automatically be corrected. In this case, periodically correct the clock time.

(3) Daylight saving time

The start/end time for daylight saving time can be set. The daylight saving time function will be activated based on the setting contents.

- If a given system has a system controller, disable this setting to keep the correct time.
- At the beginning and the end of daylight saving time, the timer may go into action twice or not at all.
- This function will not work unless the clock has been set.


Daylight saving time 1/2

▶DST No/Yes
Day/Week/Month
Date(Start) Sun/ 5th/ Mar
Start time AM 1:00
Forward to AM 2:00

[Button operation]

① The daylight saving time function can be activated/deactivated or the start/end times can be set by using the F1 through F4 buttons.

- DST

  Select “Yes” to activate the daylight saving time, or select “No” to deactivate.
- Date(Start)

  Set the start day of the week, week number, and month for daylight saving time.
- Start time

  Set the start time for daylight saving time.
- Forward to

  Set the time when the clock is to be set forward to at the start time above.
- Date(End) (2nd page)

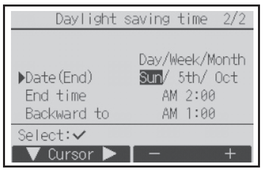
  Set the end day of the week, week number, and month for daylight saving time.
- End time (2nd page)

  Set the end time for daylight saving time.
- Backward to (2nd page)

  Set the time when the clock is to be set backward to at the end time above.

② Press the SELECT button to save the setting.

* If “5th” is selected for the week number and the 5th week does not exist in the selected month of the year, the setting is considered to be “4th.”


Daylight saving time 2/2

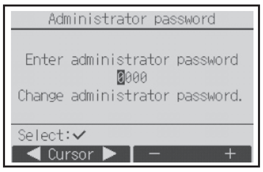
Day/Week/Month
▶Date(End) Sun/ 5th/ Oct
End time AM 2:00
Backward to AM 1:00

(4) Administrator password setting

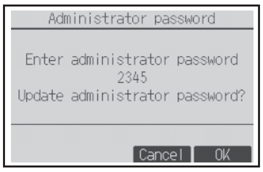
[Button operation]

① A window to enter a new password will appear. Enter a new password, and press the SELECT button.

② Press the F4 button (OK) on the password change confirmation screen to save the change. Press the F3 button (Cancel) to cancel the change.


Administrator password

Enter administrator password
0000
Change administrator password.


Administrator password

Enter administrator password
2345
Update administrator password?

Note: The initial administrator password is “0000.” Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.

Note: If you forget your administrator password, you can initialize the password to the default password “0000” by pressing and holding the F1 button for ten seconds on the administrator password setting screen.

Note: The administrator password is required to make the settings for the following items.
- Timer setting
- Weekly timer setting
- Energy-save setting
- Outdoor unit silent mode setting
- Restriction setting
- Night setback setting
- Initial setting

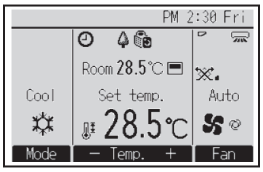
Refer to the Instruction Book that came with the remote controller for the detailed information about how to make the settings for these items.

Display setting menu

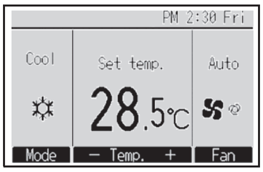
(1) Main display setting

[Button operation]

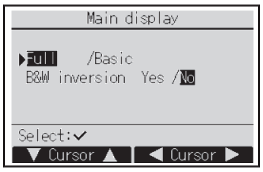
Move the cursor to “Full/Basic,” and use the F3 or F4 button to select the display mode “Full” or “Basic.” (The factory setting is “Full.”)



Full mode (Example)



Basic mode (Example)


Main display

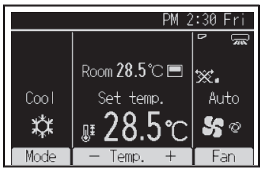
▶Full /Basic
B&W inversion Yes /No

Note: This setting is only for the Main display. In the Basic mode, icons that indicate control status on timer and schedule settings will not appear on the display. Vane, louver, and ventilation settings or room temperature will not appear, either.

(2) Black and white inversion setting

Move the cursor to “B&W inversion” and use the F3 or F4 button to select the display mode “Yes” or “No.” (The factory setting is “No.”)

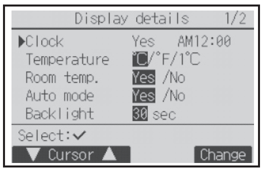
Selecting “Yes” will invert the colors of the display, turning white background to black and black characters to white as shown at right.



(3) Remote controller display details setting

Make the settings for the remote-controller-related items as necessary.

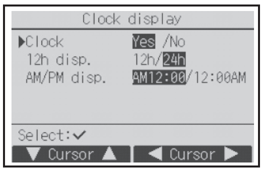
Press the SELECT button to save the changes.


Display details 1/2

▶Clock Yes AM12:00
Temperature °C/°F/1°C
Room temp. Yes /No
Auto mode Yes /No
Backlight 30 sec

[1] Clock display

[Button operation]



Clock display

▶Clock Yes /No

12h disp. 12h/24h

AM/PM disp. AM12:00/12:00AM

Select:✓

① Select “Clock” from the display details setting screen, and press the F4 button (Change) to bring up the clock display setting screen.

② Use the F1 through F4 buttons to select “Yes” (display) or “No” (non-display) and its format for the Status display and the Main display.

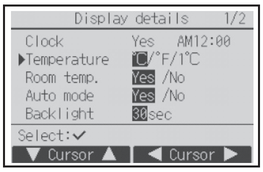
③ Save the settings with the SELECT button. (The factory settings are “Yes” (display) and “24 h” format.)

Clock display: Yes (Time is displayed on the Status display and the Main display.)
No (Time is not displayed on the Status display and the Main display.)
Display format: 24-hour format
12-hour format
AM/PM display (Effective when the display format is 12-hour): AM/PM before the time
AM/PM after the time

Note: Time display format will also be reflected on the timer and schedule setting display. The time is displayed as shown below.
12-hour format: AM12:00 ~ AM1:00 ~ PM12:00 ~ PM1:00 ~ PM11:59
24-hour format: 0:00 ~ 1:00 ~ 12:00 ~ 13:00 ~ 23:59

[2] Temperature unit setting

[Button operation]



Display details 1/2

Clock Yes AM12:00

▶Temperature ℃/°F/1℃

Room temp. Yes /No

Auto mode Yes /No

Backlight 30sec

Select:✓

Move the cursor to “Temperature” from the display details setting screen, and select the desired temperature unit with the F3 or F4 button. (The factory setting is Centigrade (ºC).)

- ºC: Temperature is displayed in Centigrade. Temperature is displayed in 0.5- or 1-degree increments, depending on the model of indoor units.
- ºF: Temperature is displayed in Fahrenheit.
- 1 ºC: Temperature is displayed in Centigrade in 1-degree increments.

[3] Room temperature display

[Button operation]

Move the cursor to “Room temp.” on the display details setting screen, and select the desired setting with the F3 or F4 button.

(The factory setting is “Yes”.)

- Yes: Room temperature appears on the Main display.
- No: Room temperature does not appear on the Main display.

Note: Even when “Yes” is set, the room temperature is not displayed on the Main display in the “Basic” mode.

[4] Auto (single set point) mode display setting

[Button operation]

Move the cursor to “Auto mode” from the display details setting screen, and select the desired mode with the F3 or F4 button. (The factory setting is “Yes.”)

- Yes: “Auto Cool” or “Auto Heat” is displayed during operation in the Auto (single set point) mode.
- No: Only “Auto” is displayed during operation in the Auto (single set point) mode.

[5] Backlight

The backlight lighting-up time can be set.

[Button operation]

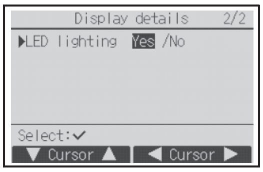
Move the cursor to “Backlight” from the display details setting screen, and select the desired time (5/10/20/30/60 seconds) with the F4 button. (The factory setting is “30” seconds.)

Note: This setting is effective on the Status display and the Main display.

[6] LED lighting

The LED lighting can be set to either “Yes” (On) or “No” (Off). (The factory setting is “Yes”.)

When “No” is selected, the LED will not light up even during the normal operation.


Display details 2/2

▶LED lighting Yes /No

Select:✓

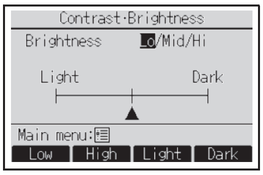
(4) Contrast•Brightness

[Button operation]

Select the desired brightness for the remote controller LCD with the F1 and F2 buttons.

Adjust the contrast with the F3 or F4 button. The current level is indicated with a triangle.

Note: Adjust the contrast and brightness to improve viewing in different lighting conditions or installation locations. This setting can not improve viewing from all directions.


Contrast·Brightness

Brightness Lo/Mid/Hi

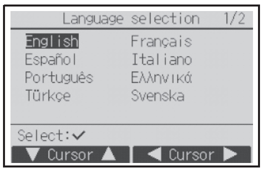
Main menu:

(5) Language selection

[Button operation]

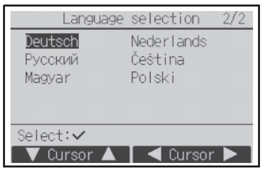
Move the cursor to the language you desire with the F1 through F4 buttons.

Press the SELECT button to save the setting.


Language selection 1/2

English Français
Español Italiano
Português Ελληνικά
Türkçe Svenska

Select:✓


Language selection 2/2

Deutsch Nederlands
Русский Čeština
Magyar Polski

Select:✓

10 Service menu

Note: Maintenance password is required.

At the Main display, press the MENU button and select “Service” to make the maintenance settings.

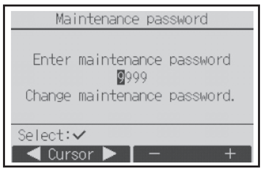
When the Service menu is selected, a window will appear asking for the password.

To enter the current maintenance password (4 numerical digits), move the cursor to the digit you want to change with the F1 or F2 button, and set each number (0 through 9) with the F3 or F4 button. Then, press the SELECT button.

Note: The initial maintenance password is “9999.” Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.

Note: If you forget your maintenance password, you can initialize the password to the default password “9999” by pressing and holding the F1 button for ten seconds on the maintenance password setting screen.

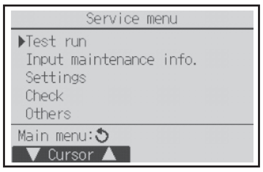
Note: Air conditioning units may need to be stopped to make certain settings. There may be some settings that cannot be made when the system is centrally controlled.



Maintenance password

Enter maintenance password
9999
Change maintenance password.

Select:✓
◀ Cursor ▶ − +



Service menu

▸Test run
Input maintenance info.
Settings
Check
Others

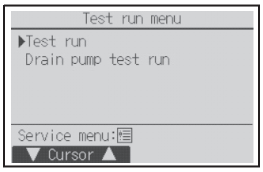
Main menu:↺
▼ Cursor ▲

(1) Test run (CITY MULTI and Mr. SLIM)

Select “Test run” from the Service menu to bring up the Test run menu.

- Test run: Select this option to perform a test run.
- Drain pump test run: Select this option to perform a test run on the drain pump on the indoor unit.

Applicable only to the type of indoor units that support the test run function.



Test run menu

▸Test run
Drain pump test run

Service menu:☰
▼ Cursor ▲

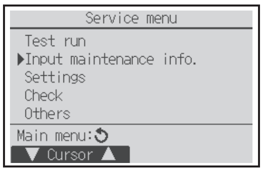
Note: Refer to the indoor unit Installation Manual for the detailed information about test run.

(2) Collecting the model names and serial numbers (Mr. SLIM only)

The model names and the serial numbers of the indoor and outdoor units can be imported into the remote controller.

[Button operation]

① Select “Input maintenance info.” from the Service menu to bring up the Maintenance information screen.

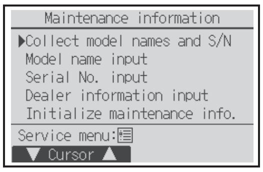


Service menu

Test run
▸Input maintenance info.
Settings
Check
Others

Main menu:↺
▼ Cursor ▲

② Select “Collect model names and S/N”.

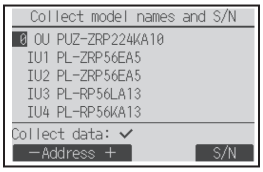


Maintenance information

▸Collect model names and S/N
Model name input
Serial No. input
Dealer information input
Initialize maintenance info.

Service menu:☰
▼ Cursor ▲

The model name will be displayed on the remote controller after the model names and the serial numbers have been collected.
Press the F4 button to switch the display between the model name and the serial number.

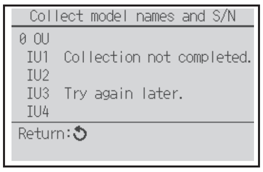


Collect model names and S/N

0 OU PUZ-ZRP224KA10
IU1 PL-ZRP56EA5
IU2 PL-ZRP56EA5
IU3 PL-RP56LA13
IU4 PL-RP56KA13

Collect data: ✓
−Address + S/N

Note:
- · The model names and serial numbers cannot be collected immediately after the power is turned on. Wait for approximately 10 minutes until the remote controller is ready to collect data.
- · It may take more than 10 minutes when certain functions are selected or when an error occurs.
- · It may take approximately one minute for the remote controller to collect data.
- · This function may not be available on some indoor units. Refer to the catalog for details.

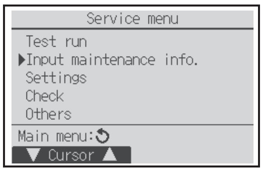


Collect model names and S/N
0 OU
IU1 Collection not completed.
IU2
IU3 Try again later.
IU4

Data cannot be collected for approximately 10 minutes after the power is turned on.

(3) Input maintenance information (CITY MULTI and Mr. SLIM)

Select "Input maintenance info." from the Service menu to bring up the Maintenance information screen. Refer to the indoor unit Installation Manual for how to make the settings.

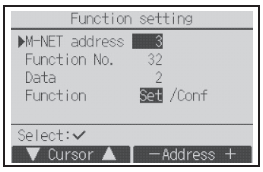


Note: The following settings can be made from the Maintenance information screen.
- ·Registering model names and serial numbers
  Enter the model names and serial numbers of outdoor and indoor units. The information entered will appear on the Error information screen. Model names can have up to 25 characters, and the serial numbers can have up to 15 characters.
- ·Registering dealer information
  Enter phone number of a dealer. The entered information will appear on the Error information screen. Phone number can have up to 13 characters.
- ·Initializing maintenance information
  Select the desired item to initialize the model name, serial number, and dealer information settings.

(4) Function setting (CITY MULTI)

Make the settings for the indoor unit functions via the remote controller as necessary.

Select "Function setting" from the Settings menu to bring up the Function setting screen.

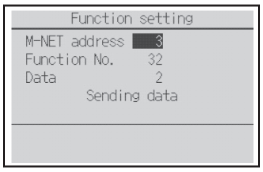


Function setting
▶M-NET address 3
Function No. 32
Data 2
Function Set /Conf

[Button operation]

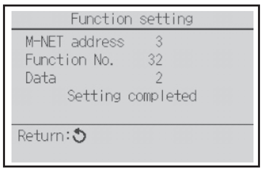
① The Function setting screen will appear.
Press the F1 or F2 button to move the cursor to one of the following: M-NET address, function setting number, or setting value. Then, press the F3 or F4 button to change the settings to the desired settings.

② Once the settings have been completed, press the SELECT button.
A screen will appear that indicates that the settings information is being sent.
To check the current settings of a given unit, enter the setting for its M-NET address and function setting number, select Conf for the Function, and press the SELECT button.
A screen will appear that indicates that the settings are being searched for. When the search is done, the current settings will appear.



Function setting
M-NET address 3
Function No. 32
Data 2
Sending data

③ When the settings information has been sent, a screen will appear that indicates its completion.
To make additional settings, press the RETURN button to return to the screen shown in Step ② above. Set the function numbers for other indoor units by following the same steps.



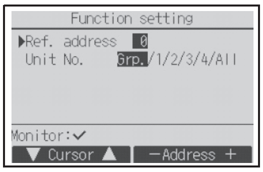
Function setting
M-NET address 3
Function No. 32
Data 2
Setting completed

Note:
- · **Refer to the indoor unit Installation Manual for information about the factory settings of indoor units, function setting numbers, and setting values.**
- · Be sure to write down the settings for all functions if any of the initial settings has been changed after the completion of installation work.

(5) Function setting (Mr. SLIM)

Make the settings for the indoor unit functions via the remote controller as necessary.

Select “Function setting” from the Settings menu to bring up the Function setting screen.

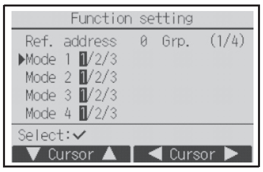


```
Function setting
▶Ref. address  0
 Unit No.     Grp./1/2/3/4/All
Monitor:✓
```

[Button operation]

① Set the indoor unit refrigerant addresses and unit numbers with the F1 through F4 buttons, and then press the SELECT button to confirm the current setting.

② When data collection from the indoor units is completed, the current settings appears highlighted. Non-highlighted items indicate that no function settings are made. Screen appearance varies depending on the “Unit No.” setting.

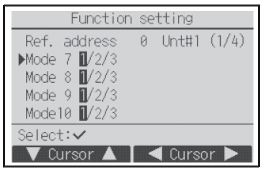


```
Function setting
 Ref. address   0  Grp.  (1/4)
▶Mode 1 1/2/3
 Mode 2 1/2/3
 Mode 3 1/2/3
 Mode 4 1/2/3
Select:✓
```

Common items

The display format and the setting method vary with indoor units.
Pattern 1

③ Use the F1 or F2 button to move the cursor to select the mode number, and change the setting number with the F3 or F4 button.

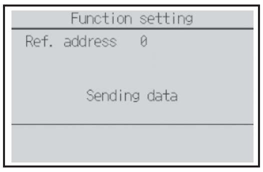


```
Function setting
 Ref. address   0  Unt#1 (1/4)
▶Mode 7 1/2/3
 Mode 8 1/2/3
 Mode 9 1/2/3
 Mode10 1/2/3
Select:✓
```

Individual items
(Unit No. 1 through 4)

④ When the settings are completed, press the SELECT button to send the setting data from the remote controller to the indoor units.

⑤ When the transmission is successfully completed, the screen will return to the Function setting screen.



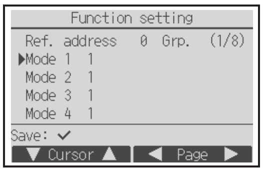
```
Function setting
 Ref. address   0

     Sending data
```

Pattern 2

③ Toggle through the pages with the F3 or F4 button.

④ Select the mode number with the F1 or F2 button, and then press the SELECT button.

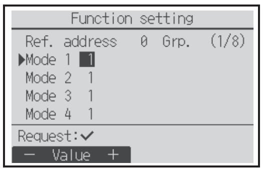
⑤ Select the setting number with the F1 or F2 button.
Setting range for modes 1 through 28: 1 through 3
Setting range for modes 31 through 66: 1 through 15



```
Function setting
 Ref. address   0  Grp.  (1/8)
▶Mode 1  1
 Mode 2  1
 Mode 3  1
 Mode 4  1
Save: ✓
```

⑥ When the settings are completed, press the SELECT button to send the setting data from the remote controller to the indoor units.

⑦ When the transmission is successfully completed, the screen will return to the Function setting screen.



```
Function setting
 Ref. address   0  Grp.  (1/8)
▶Mode 1  1
 Mode 2  1
 Mode 3  1
 Mode 4  1
Request:✓
```

Note:
- Make the function settings shown in Table 1 on Mr. SLIM units as necessary.
- Refer to the Instructions Book when it is necessary to set the settings for CITY MULTI units.
- **Table 1 summarizes the setting options for each mode number. Refer to the indoor unit Installation Manual for the detailed information about initial settings, mode numbers, and setting numbers for the indoor units.**
- Be sure to write down the settings for all functions if any of the initial settings has been changed after the completion of installation work.

Table1. Function setting options

Mode No.	Mode	Settings	Setting No.	Unit numbers
01	Automatic recovery after power failure	Disable	1	Set “Grp.” for the Unit number. These settings apply to all the connected indoor units.
		Enable (Four minutes of standby time is required after the restoration of power.)	2	
02	Thermistor selection (indoor temperature detection)	Average temperature reading of the indoor units in operation	1	
		Thermistor on the indoor unit to which the remote controller is connected (fixed)	2	
		Built-in sensor on the remote controller	3	
03	LOSSNAY connection	Not connected	1	
		Connected (without outdoor air intake by the indoor units)	2	
		Connected (with outdoor air intake by the indoor units)	3	
04	Power voltage	240 V	1	
		220 V, 230 V	2	
05	Auto mode	Enable (Automatically the unit achieves effective energy saving operation.)	1	
		Disable	2	
07	Filter sign	100 hours	1	Set “1, 2, 3, 4, or All” for the Unit number. These settings apply to each indoor unit. ･If “1, 2, 3, or 4” is set for the Unit number, the settings apply only to the specified indoor unit regardless of the number of connected indoor units (one through four units). ･If “All” is set for the Unit number, the settings apply to all the connected indoor units regardless of the number of connected indoor units (one through four units).
		2500 hours	2	
		Not displayed	3	
08	Fan speed	Silent mode (or standard)	1	
		Standard (or High ceiling 1)	2	
		High ceiling (or High ceiling 2)	3	
09	Outlet	4 directional	1	
		3 directional	2	
		2 directional	3	
10	Optional parts (High-efficiency filter)	No	1	
		Yes	2	
11	Vane	No vanes (or the vane setting No.3 is effective.)	1	
		Equipped with vanes (The vane setting No.1 is effective.)	2	
		Equipped with vanes (The vane setting No.2 is effective.)	3	

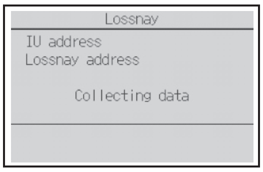
(6) LOSSNAY setting (CITY MULTI only)

This setting is required only when the operation of CITY MULTI units is interlocked with LOSSNAY units. This setting is not available for the Mr. SLIM units. Interlock settings can be made for the indoor unit to which the remote controller is connected. (They can also be confirmed or deleted.)

Note:
- Use the centralized controller to make the settings if it is connected.
- To interlock the operation of the indoor units with the LOSSNAY units, be sure to interlock the addresses of ALL indoor units in the group and that of the LOSSNAY unit.

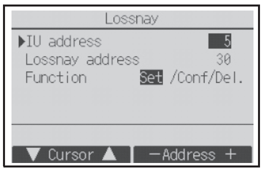
[Button operation]

① When “Lossnay” on the Settings menu is selected, the remote controller will automatically begin searching for the registered LOSSNAY addresses of the currently connected indoor unit.



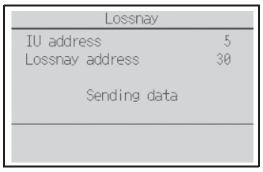
Lossnay
IU address
Lossnay address
Collecting data

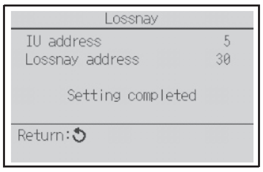
② When the search is completed, the smallest address of the indoor units that are connected to the remote controller and the address of the interlocked LOSSNAY unit will appear. "--" will appear if no LOSSNAY unit is interlocked with the indoor units.
If no settings need to be made, press the RETURN button to go back to the Settings menu.


Lossnay
▶IU address 5
Lossnay address 30
Function Set /Conf/Del.

To make LOSSNAY interlock setting

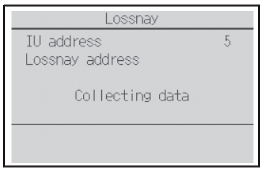
③ Enter the addresses of the indoor unit and the LOSSNAY unit to be interlocked, with the F1 through F4 buttons, select "Set" in the "Function", and press the SELECT button to save the settings. "Sending data" will appear on the screen. If the setting is successfully completed, "Setting completed" will appear.

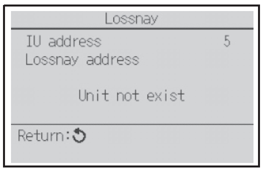

Lossnay
IU address 5
Lossnay address 30
Sending data


Lossnay
IU address 5
Lossnay address 30
Setting completed
Return:↺

To search for the LOSSNAY address

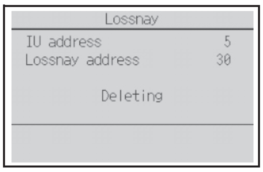
④ Enter the address of the indoor unit to which the remote controller is connected, select "Conf" in the "Function", and press the SELECT button. "Collecting data" will appear on the screen. If the signal is received correctly, the indoor unit address and LOSSNAY address will appear. "--" will appear when no LOSSNAY unit is found. "Unit not exist" will appear if no indoor units that are correspond to the entered address are found.

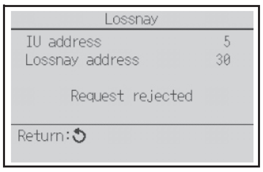

Lossnay
IU address 5
Lossnay address
Collecting data


Lossnay
IU address 5
Lossnay address
Unit not exist
Return:↺

To delete the interlock setting

⑤ To delete the interlocked setting between LOSSNAY unit and the indoor units to which the remote controller is connected, enter the indoor unit address and LOSSNAY address with the F1 through F4 buttons, select "Del." in the "Function", and press the SELECT button. "Deleting" will appear. The screen will return to the search result screen if the deletion is successfully completed. "Unit not exist" will appear if no indoor units that are correspond to the entered address are found. If deletion fails, "Request rejected" will appear on the screen.


Lossnay
IU address 5
Lossnay address 30
Deleting

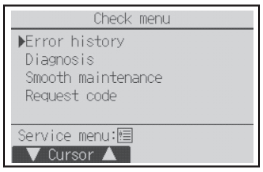

Lossnay
IU address 5
Lossnay address 30
Request rejected
Return:↺

(7) Check

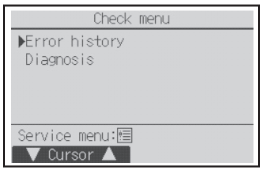
Select “Check” on the Service menu to bring up the Check menu screen.

The type of menu that appears depends on the type of indoor units that are connected (CITY MULTI or Mr. SLIM).

<Mr. SLIM>



<CITY MULTI>

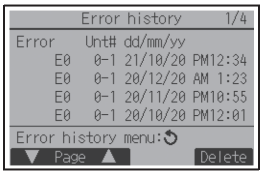


[Button operation]

① Error history

Select “Error history” from the menu[*1], and press the SELECT button to view up to 16 error history records. Four records are shown per page, and the top record on the first page indicates the latest error record.

*1 Mr. SLIM: Error history menu; CITY MULTI: Check menu

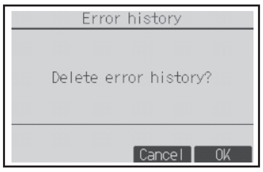


```
Error    Unt# dd/mm/yy
    E0   0-1 21/10/20 PM12:34
    E0   0-1 20/12/20 AM 1:23
    E0   0-1 20/11/20 PM10:55
    E0   0-1 20/10/20 PM12:01
```

[Deleting the error history]

To delete the error history on the screen that shows error history, press the F4 button (Delete). A confirmation screen will appear asking if you want to delete the error history.

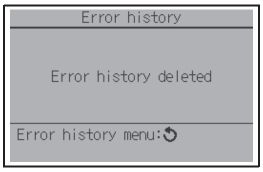
Press the F4 button (OK) to delete the error history.



Delete error history?

“Error history deleted” will appear on the screen. Press the RETURN button to go back to the menu[*1].

*1 Mr. SLIM: Error history menu; CITY MULTI: Check menu

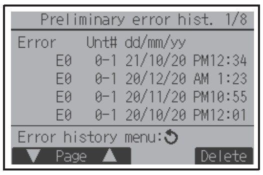


Error history deleted

② Preliminary error history (Mr. SLIM only)

The detected error signs can be maintained.

Select “Preliminary error hist.” from the Error history menu, and press the SELECT button to view up to 32 preliminary error history records. Four records are shown per page, and the top record on the first page indicates the latest error record.

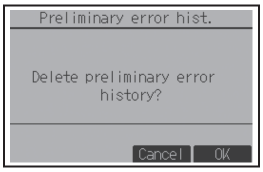


```
Error    Unt# dd/mm/yy
    E0   0-1 21/10/20 PM12:34
    E0   0-1 20/12/20 AM 1:23
    E0   0-1 20/11/20 PM10:55
    E0   0-1 20/10/20 PM12:01
```

[Deleting the preliminary error history]

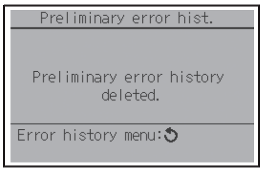
To delete the preliminary error history on the screen that shows preliminary error history, press the F4 button (Delete). A confirmation screen will appear asking if you want to delete the preliminary error history.

Press the F4 button (OK) to delete the preliminary error history.



Delete preliminary error history?

“Preliminary error history deleted” will appear on the screen. Press the RETURN button to go back to the Error history menu.



Preliminary error history deleted.

③ Other options in the Check menu (Mr. SLIM only)

The following options are also available on the Mr. SLIM units in the Check menu. Refer to the indoor unit Installation Manual for details.

- Smooth maintenance
- Request code

(8) Diagnostic function

Error history of each unit can be checked via the remote controller.

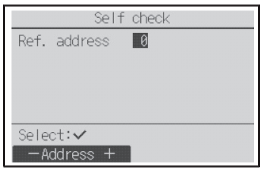
[Button operation]

① Select “Self check” from the Diagnosis menu, and press the SELECT button to view the Self check screen.

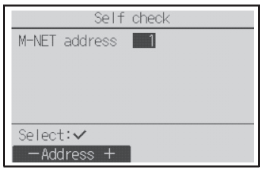
② With the F1 or F2 button, enter the refrigerant address (Mr. SLIM) or the M-NET address (CITY MULTI), and press the SELECT button.

③ Error code, unit number, attribute, and indoor unit demand signal ON/OFF status at the contact (CITY MULTI only) will appear. “-” will appear if no error history is available.

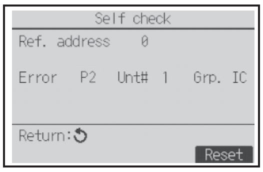
<Mr. SLIM>


Self check
Ref. address 0

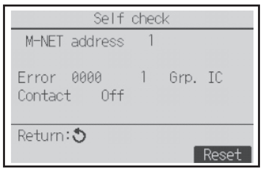
<CITY MULTI>

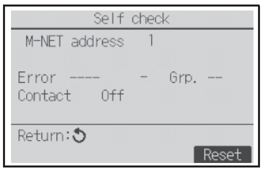

Self check
M-NET address 1

<Mr. SLIM>


Self check
Ref. address 0
Error P2 Unt# 1 Grp. IC

<CITY MULTI>

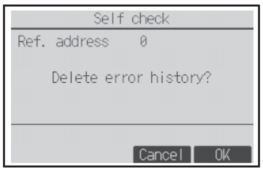

Self check
M-NET address 1
Error 0000 1 Grp. IC
Contact Off


Self check
M-NET address 1
Error ---- - Grp. --
Contact Off

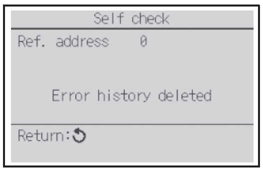
When there is no error history

[Resetting the error history]

① Press the F4 button (Reset) on the screen that shows the error history. A confirmation screen will appear asking if you want to delete the error history.


Self check
Ref. address 0
Delete error history?

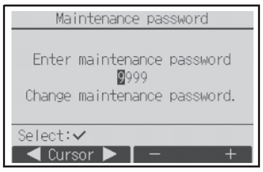
② Press the F4 button (OK) to delete the error history. If deletion fails, “Request rejected” will appear, and “Unit not exist” will appear if no indoor units that are correspond to the entered address are found.


Self check
Ref. address 0
Error history deleted

(9) Changing the maintenance password

[Button operation]

① Select “Maintenance password” on the Others menu, and press the SELECT button to bring up the screen to enter a new password.


Maintenance password

Enter maintenance password

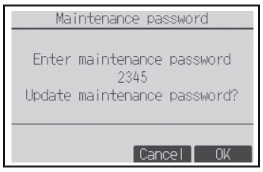
9999

Change maintenance password.

② Move the cursor to the digit you want to change with the F1 or F2 button, and set each digit to the desired number (0 through 9) with the F3 or F4 button.

③ Press the SELECT button to save the new password.

④ A confirmation screen will appear asking if you want to change the maintenance password. Press the F4 button (OK) to save the change. Press the F3 button (Cancel) to cancel the change.


Maintenance password

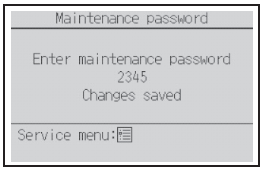
Enter maintenance password

2345

Update maintenance password?

⑤ “Changes saved” will appear when the password is updated.

⑥ Press the MENU button to return to the Service menu or press the RETURN button to go back to the “Maintenance password” screen.


Maintenance password

Enter maintenance password

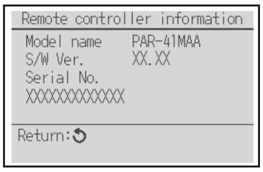
2345

Changes saved

(10)Remote controller information

The following information of the remote controller in use can be checked.

- Model name
- Software version
- Serial number


Remote controller information

Model name PAR-41MAA

S/W Ver. XX.XX

Serial No.

XXXXXXXXXXXX

[Button operation]

① Select “Others” from the Service menu.

② Select “Remote controller information”.

Simple MA Remote Controller PAC-YT52CRA

Photo

Descriptions

New functions have been added to the CITY MULTI series that enable the setting of certain indoor unit functions (such as static pressure) from the remote controller. (For more detailed information, please contact your nearest sales office or distributor.)

Applicable Models

- MSZ-RW25,35,50VG*1
- MSZ-LN18,25,35,50,60VG2(W)(V)(R)(B)*1
- MSZ-FT25,35,50VG*1
- MSZ-AY15,20,25,35,42,50VGK(P)*1
- MSZ-AP60,71VG*1
- MSZ-EF18,22,25,35,42,50VG(W)(B)(S)*1
- MSZ-BT20,25,35,50VG*1
- MSZ-HR25,35,42,50,60,71VF*1
- MSZ-DW25,35,50VF*1
- MSY-TP35,50VF*1
- MFZ-KT25,35,50,60VG*1
- MFZ-KW25,35,50,60VG*1
- MLZ-KP25,35,50VF*1
- MLZ-KY20VG*1
- P-series models *2 (except for PSA-M・KA)
- SLZ-M・FA2 series
- SEZ-M・DA2 series
- SFZ-M・VA series

*1 Either MAC-334IF-E or MAC-497IF-E is required.

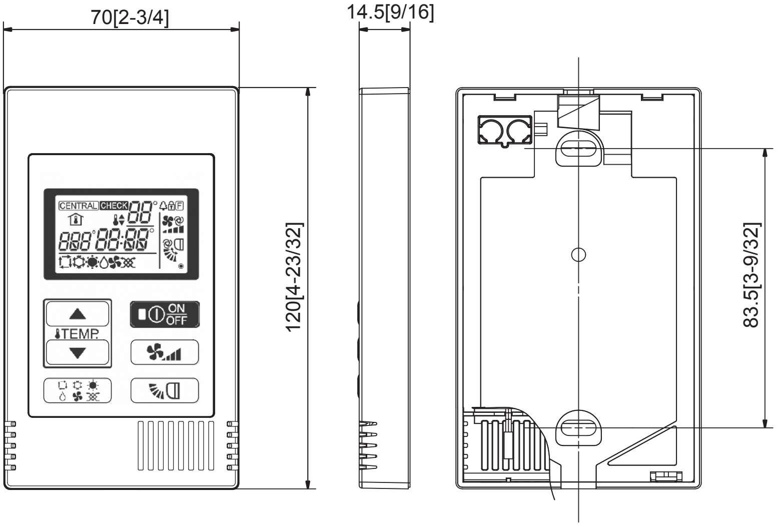
*2 Remote controller terminal block kit “PAC-SH29TC-E” is required for PKA-M*LAL2・KAL2.

Specifications

	Specifications
Product size	70 (W) × 120 (H) × 14.5 (D) mm (2-3/4 × 4-3/4 × 9/16 [in]) (not including the protruding part)
Net weight	0.1 kg (1/4 lb.)
Rated power supply voltage	12 VDC (supplied from indoor units)
Power consumption	0.3 W
Usage environment	Temperature 0 to 40ºC (32 to104ºF) Humidity 30 - 90%RH (with no dew condensation)
Material	PC + ABS

Dimensions

Unit:mm[in.]



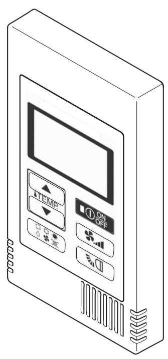
How to Use / How to Install

1 Component names and supplied parts

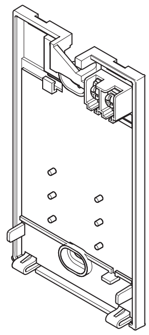
The following parts are included in the box.

Parts name	Qty.	Appearance
Remote controller (top case)	1	Right figure *1
Remote controller (bottom case)	1	Right figure *2
Roundhead cross slot screws M4×30	2	*3
Wood screw 4.1×16 (for direct wall installation)	2	*3
Installation Manual (this manual)	1	
Instruction Book	1	

Top case *1



Bottom case *2



*3 ISO metric screw thread
*4 Remote controller cable is not included.

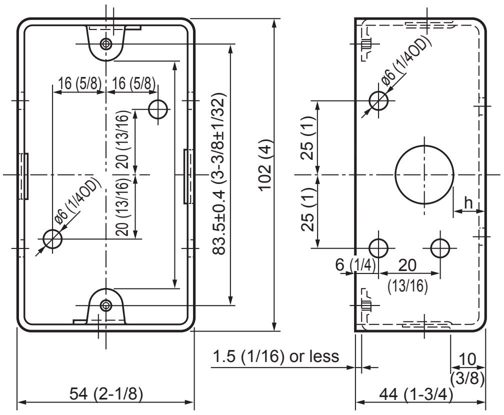
2 Field-supplied parts/Required tools

(1) Field-supplied parts

The following parts are field-supplied parts.

Parts name	Qty.	Notes
Single switch box	1	Not required for direct wall installation
Thin metal conduit	Necessary	
Lock nut and bushing	Necessary	
Cable cover	Necessary	Required for routing remote controller cable along a wall
Putty	Reasonable	
Molly anchor	Necessary	
Remote controller cable (Use a 0.3 mm² (AWG22) 2-core sheathed cable.)	Necessary	

Switch box



unit: mm (in)

(2) Field-supplied tools

- Flat-tip screwdriver (Width: 3 - 5 mm (1/8 - 7/32 inch))
- Knife or Nipper
- Miscellaneous tools

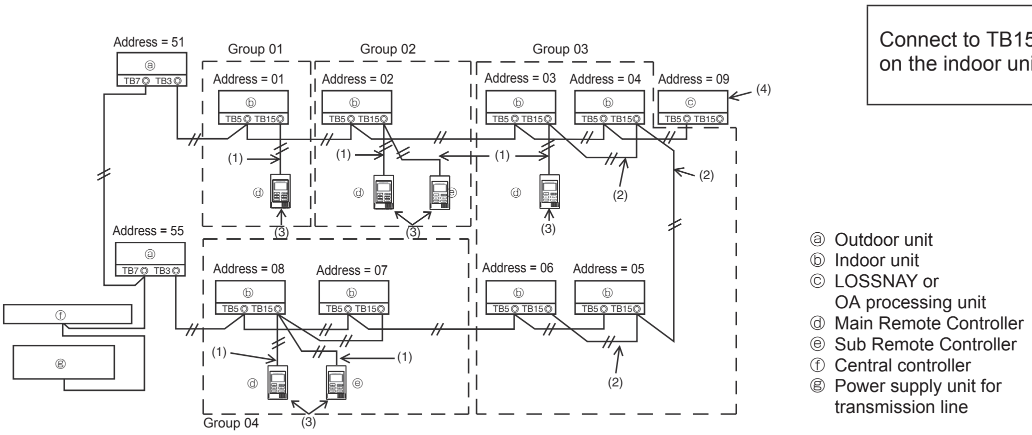
3 How To Wire Transmission Line

The wiring is different when the remote controller is connected to a CITY MULTI control system ("-A" type and later) and when it is connected to a Mr. SLIM air conditioner (A control type). The wiring also differs with the system configuration. Check the system used.

1. Connecting to CITY MULTI control system

The numbers (1) to (4) in the figure correspond to items (1) to (4) in the following description.

Connect to TB15 on the indoor unit.



(1) Wiring from the remote controller
- Connect to the MA remote controller terminal block (TB15) on the indoor unit.
- The terminal block has no polarity. Connect to the terminal block at the rear bottom of the remote controller.

(2) Operating in a group (Groups 03, and 04 above)
- Interconnect the MA remote controller terminal block (TB15) of the indoor units you want to operate as a group, and connect the MA remote controller to that point.
- When the remote controller is used in combination with the system controller as shown in the figure above, group setting at the system controller (central controller in the figure above) is necessary.

(3) Number of connectable remote controllers (groups 02 and 04)
- A main remote controller and one sub remote controller, a total of two, can be connected to a group made up of indoor units.

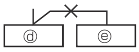
NOTE: When using this Simple MA remote controller in combination with other MA remote controllers, be sure to follow the compatibility rules below.

Indoor unit function	Main remote controller	Sub remote controller	Compatibility
Models applicable for AUTO (dual set point) mode	This Simple MA remote controller	This Simple MA remote controller	Compatible, and AUTO (dual set point) mode can be used depending on the indoor units to be connected.
	Other MA remote controllers	This Simple MA remote controller	Compatible, but AUTO (dual set point) mode cannot be used.
	This Simple MA remote controller	Other MA remote controllers	Incompatible
Models not applicable for AUTO (dual set point) mode	Combination with all of the above		Compatible

(4) To interlock to a LOSSNAY or OA processing unit, make the following settings using the remote controller. (For a description of how to set an interlock, see section 6 Ventilation Setting .)
Set the LOSSNAY or OA processing unit address and the address of all the indoor units you want to interlock.

(5) Total length of remote controller wiring
- The simple MA controller can be wired up to 200 m (656 ft).

⚠ CAUTION | Remote controllers cannot be wired together. Only one wire can be connected to the remote controller terminal block.

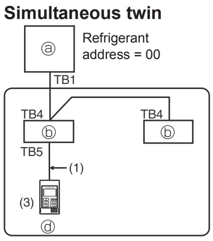


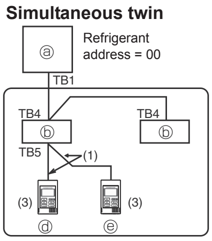
NOTE: When interlocking the MA remote controller with a LOSSNAY or OA processing unit, always set the address of all the indoor units in the group and the address of the LOSSNAY or OA processing unit.

2. Connecting to Mr. SLIM air conditioner

The remote controller wiring depends on the system configuration. Check the system configuration. Wire the remote controller as shown in the example below.
The numbers (1) to (3) in the figure correspond to items (1) to (3) in the following description.

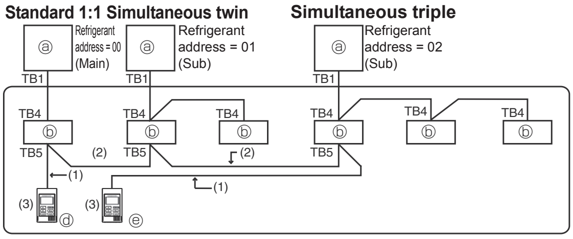
[1] Connecting the remote controller for each refrigerant system (Standard 1:1, simultaneous twin, simultaneous triple, simultaneous four)





Connect to TB5 on the indoor unit.

[2] When grouping by different refrigerant systems



ⓐ Outdoor unit
ⓑ Indoor unit
ⓓ Main Remote Controller (Simple MA Controller)
ⓔ Sub Remote Controller (Simple MA Controller)

* Set the refrigerant address using the outdoor unit dip switches. (For more information, refer to the outdoor unit installation manual.)

* All the indoor units enclosed in ▭ are controlled as one group.

(1) Wiring from remote controller
- Connect to indoor unit TB5 (remote controller terminal block). (The terminal block has no polarity.)
- For simultaneous multi type, when mixing various types of indoor units, always connect the remote controller to the indoor unit with the most functions (wind velocity, vane, louver, etc.).

(2) When grouping with difference refrigerant systems
- Group using the remote controller wiring. Connect the remote controller to an arbitrary indoor unit of each refrigerant system you want to group.
- When mixing different types of indoor units in the same group, always make the outdoor unit connecting the indoor unit with the most functions (wind velocity, vane, louver, etc.) the Main unit (refrigerant address = 00). Also, when the Main unit is the simultaneous multi type, always satisfy the conditions of (1) above.
- The Simple MA Remote Controller can control up to 16 refrigerant systems as one group.

(3) Up to two remote controllers can be connected to one group
- When two remote controllers are connected to one group, always set the Main remote controller and Sub remote controller.
- When only one remote controller is connected to one group, set it as the Main controller. When two remote controllers are connected to one group, set the Main remote controller and Sub remote controller. (For a description of how to set the Main/Sub switch, see step 5 in section (4 How To Install) .)

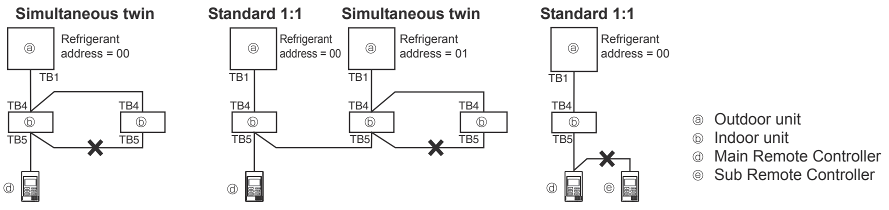
NOTE: When using this Simple MA remote controller in combination with other MA remote controllers, be sure to follow the compatibility rules below.

Indoor unit function	Main remote controller	Sub remote controller	Compatibility
Models applicable for AUTO (dual set point) mode	This Simple MA remote controller	This Simple MA remote controller	Compatible, and AUTO (dual set point) mode can be used depending on the indoor units to be connected.
	Other MA remote controllers	This Simple MA remote controller	Compatible, but AUTO (dual set point) mode cannot be used.
	This Simple MA remote controller	Other MA remote controllers	Incompatible
Models not applicable for AUTO (dual set point) mode	Combination with all of the above		Compatible

(4) Total length of remote controller wiring

- The Simple MA Remote Controller can be wired up to 500 m (1640 ft).

⚠CAUTION
- The wiring cannot be connected to TB5 of the indoor unit of the same refrigerant system. If so connected, the system will not operate normally.
- Remote controllers cannot be wired together. Only one wire can be connected to the remote controller terminal block.
- When connecting to TB5, connect up to two wires of the same size to one terminal block.



4 How To Install

This remote controller is for the wall installation. It can be installed either in the switch box or directly on the wall. When performing direct wall installation, wires can be thread through either back or top of the remote controller.

(1) Selecting an installation site

Install the remote controller (switch box) on the site where the following conditions are met.

(a) A flat surface

(b) A place where the remote controller can measure the accurate indoor temperature
Sensors to monitor indoor temperature are on the indoor unit and on the remote controller. When the room temperature is monitored with the sensor on the remote controller, the built-in sensor on the Main remote controller monitors the room temperature. When using the sensor on the remote controller, follow the instructions below.

- To monitor the accurate indoor temperature, install the remote controller away from direct sunlight, heat sources, and the supply air outlet of the air conditioner.
- Install the remote controller in a location that allows the sensor to measure the representative room temperature.
- Install the remote controller where no wires are routed around the temperature sensor on the controller. (If wires are routed, the sensor cannot measure accurate indoor temperature.)

Important

Do not install the controller in a place where the difference between the remote controller surface temperature and the actual room temperature will be great.
If the temperature difference is too high, room temperature may not be adequately controlled.

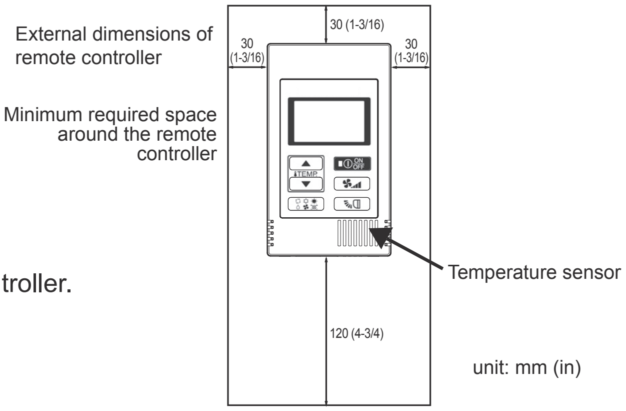
To reduce the risk of malfunctions, do not install the controller in a place where water or oil may come into contact with the controller, or in a condensing or corrosive environments.

To avoid deformation and malfunction, do not install the remote controller in direct sunlight or where the ambient temperature may exceed 40ºC (104ºF) or drop below 0ºC (32ºF).

Do not install the remote controller directly onto electrically conductive objects such as metal plate that has not been painted.

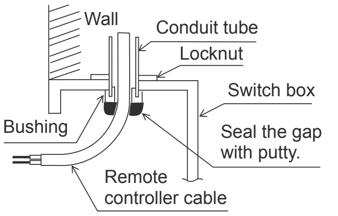
(2) Installation space

Leave a space around the remote controller as shown in the figure shown below, regardless of whether the controller is installed in the switch box or directly on the wall. Removing the remote controller will not be easy with insufficient space.
Also, leave an operating space in front of the remote controller.


External dimensions of remote controller
Minimum required space around the remote controller
30 (1-3/16)
30 (1-3/16)
30 (1-3/16)
120 (4-3/4)
Temperature sensor
unit: mm (in)

(3) Installation work

Controller can be installed either in the switch box or directly on the wall. Perform the installation properly according to the installation method.



① **Drill a hole in the wall.**

■ Installation using a switch box

- Drill a hole in the wall, and install the switch box on the wall.
- Connect the switch box to the conduit tube.

■ Direct wall installation

- Drill a hole in the wall, and thread the cable through it.

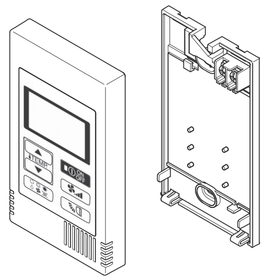
② **Seal the cable access hole with putty**

■ Installation using a switch box

- Seal the remote controller cable access hole at the connection of switch box and conduit tube with putty.

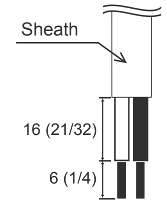
To reduce the risk of electric shock, malfunctions, or fire, seal the gap between the cables and cable access holes with putty.

③ **Prepare the bottom case of the remote controller.**

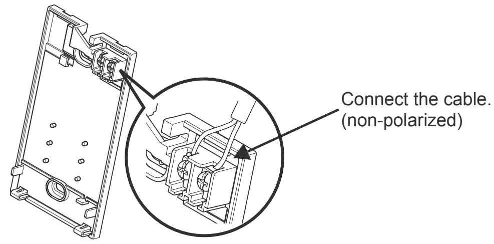


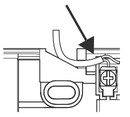
④ **Connect the remote controller cable to the terminal block on the bottom case.**

Peel off the remote controller cable sheath as shown below to connect to the terminal block properly. Secure the remote controller cable so that the peeled part of the cable will fit into the case.

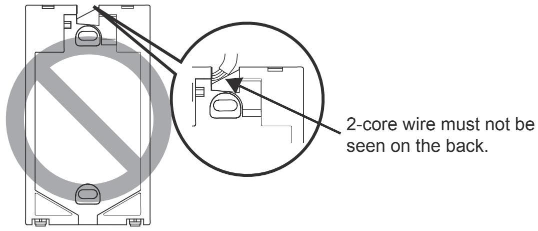


Unit: mm (in)





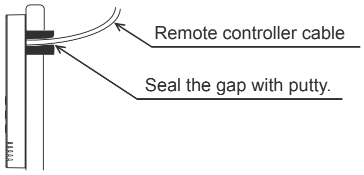
Insert the sheathed part of the cable inside the case, and then secure the cable.



■ Direct wall installation

- Seal the hole through which the cable is threaded with putty.

To reduce the risk of electric shock, shorting, or malfunctions, keep wire pieces and sheath shavings out of the terminal block.



Route the cable behind the remote controller.

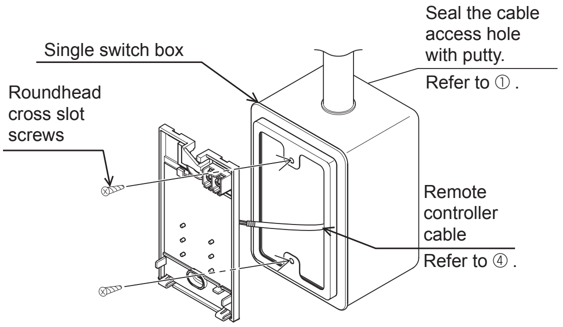
Important

Do not use solderless terminals to connect cables to the terminal block.
Solderless terminals may come in contact with the circuit board and cause malfunctions or damage the controller cover.

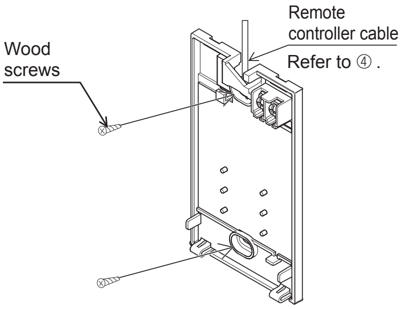
⑤ Install the bottom case.

Be sure to secure two places of the bottom case.

■ Installation using a switch box


Single switch box
Roundhead cross slot screws
Seal the cable access hole with putty.
Refer to ① .
Remote controller cable
Refer to ④ .

■ Direct wall installation



Important

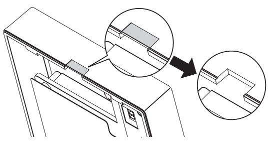
To avoid deformation and damage to the bottom case, do not overtighten the screws.

To avoid damage to the bottom case, do not make holes on it.

⑥ Cut out the cable access hole.

■ Direct wall installation (when running the cable along the wall)

- Cut out the thin-wall part on the cover (the shaded area in the right figure) with a knife or a nipper.
- Thread the cable from the groove behind the bottom case through this access hole.



⑦ Set the dip switches on the top case.

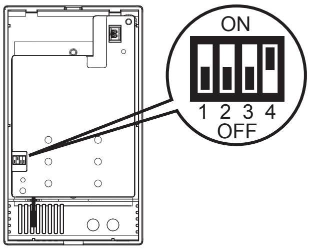
When using two remote controllers in one group, set the dip switches.
When using two remote controllers in one group, specify the main and sub remote controllers using dip switch No. 1 shown below.

- When connecting only one remote controller to one group, it is always the main remote controller. When connecting two remote controllers to one group, set one remote controller as the main remote controller and the other as the sub remote controller.
- The factory setting is “Main”.

Setting the dip switches

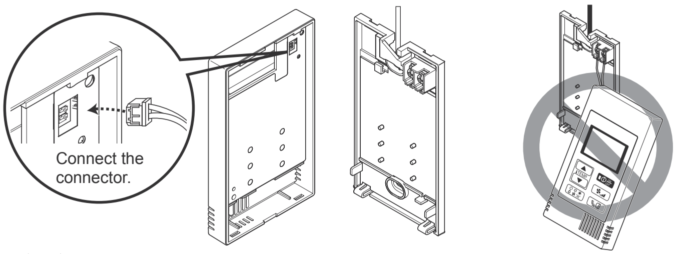
There are switches on the back of the top case. Remote controller Main/Sub and other function settings are performed using these switches. Ordinarily, only change the Main/Sub setting of SW1. (The factory settings are ON for SW1, 2, and 3 and OFF for SW4.)

SW No.	SW contents Main	ON	OFF	Comment
1	Remote controller Main/Sub setting	Main	Sub	Set one of the two remote controllers at one group to “ON”.
2	Temperature display units setting	Celsius	Fahrenheit	When the temperature is displayed in [Fahrenheit], set to “OFF”.
3	Cooling/heating display in AUTO mode	Yes	No	When you do not want to display “Cooling” and “Heating” in the AUTO mode, set to “OFF”.
4	Indoor temperature display	Yes	No	When you want to display the indoor temperature, set to “ON”.



⑧ Connect the connector to the top case.

Connect the connector on the bottom case to the socket on the top case.



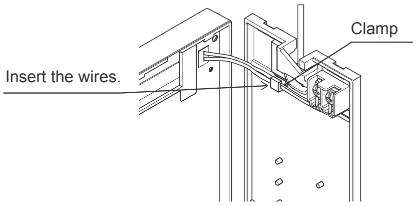
Important

To prevent malfunctions, do not remove the protective sheet or the circuit board from the top case.	To prevent cable breakage and malfunctions, do not hang the top controller casing hang by the cable as shown in the figure above.

⑨ Insert the wires into the clamp.

Important

Hold the wires in place with the clamp to prevent undue force from being applied to the terminal block and causing cable breakage.

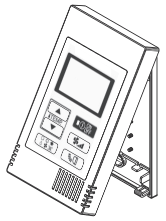


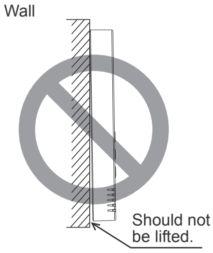
⑩ Install the top case on the bottom case.

Two mounting tabs are at the top of the top case.
Hook those two tabs onto the bottom case, and click the top case into place. Check that the case is securely installed and not lifted.

Important

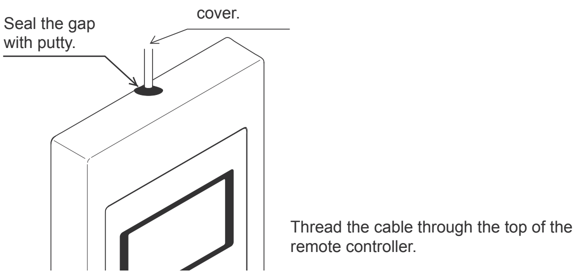
When attaching the top casing to the bottom casing, push it until it they click into place. If they are not properly locked into place, they may fall, causing personal injury, controller damage, or malfunctions.





■ Direct wall installation (when running the cable along the wall)

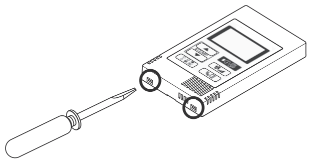
- Thread the cable through the access hole at the top of the remote controller.
- Seal the cut-out part of the cover with putty.
- Use a cable cover.



- **Uninstalling the top case**

① Uninstalling the top case

Insert a flat-tip screwdriver with a blade width of 3-5 mm (1/8-7/32 inch) into the latches at the bottom of the remote controller and lift the latches. Then, pull up the top case.



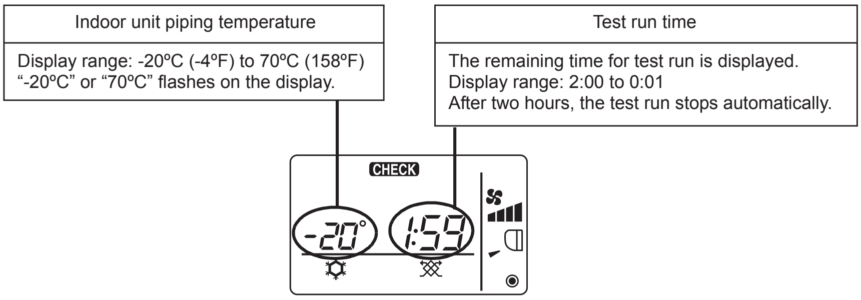
Important

To prevent damage to the controller casing, do not force the flat-tip screwdriver to turn with its tip inserted in the slot.

Do not insert the flat-tip screwdriver too far. Doing so will damage the circuit board.

5 Test Run

1. Before making a test run, refer to the “Test Run” section of the indoor unit installation manual.
2. When the ⓘON OFF button and TEMP. ▲ button are pressed simultaneously for 2 seconds or longer, test run is performed.
3. Stop the test run by pressing the ⓘON OFF button.
4. If trouble occurred during the test run, refer to the “Test Run” section of the indoor unit installation manual.



Indoor unit piping temperature

Display range: -20ºC (-4ºF) to 70ºC (158ºF)
“-20ºC” or “70ºC” flashes on the display.

Test run time

The remaining time for test run is displayed.
Display range: 2:00 to 0:01
After two hours, the test run stops automatically.

6 Ventilation Setting

Make this setting only when interlocked operation with LOSSNAY or OA processing unit is necessary with CITY MULTI models.
(This setting cannot be made with Mr. SLIM air conditioners.)

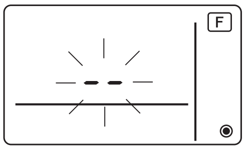
Perform this operation when you want to register the LOSSNAY or OA processing unit, confirm the registered units, or delete the registered units controlled by the remote controller.

The following uses indoor unit address 05 and LOSSNAY or OA processing unit address 30 as an example to describe the setting procedure.

[Setting Procedure]

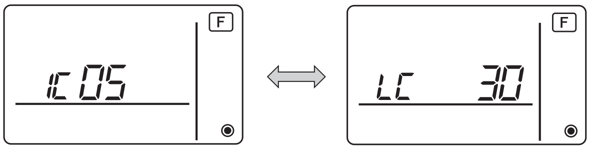
① Stop the air conditioner using the remote controller ⓘON OFF button.

② Press and hold down the ✻▂▃▅ and TEMP. ▼ buttons at the same time for two seconds. The display shown below appears. The remote controller confirms the registered LOSSNAY or OA processing unit addresses of the currently connected indoor units.



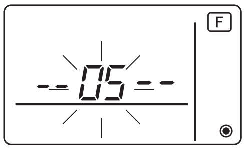
③ Registration confirmation result

- The indoor unit address and registered LOSSNAY or OA processing unit address are displayed alternately.



<Indoor unit address and indoor unit display> <LOSSNAY address display and LOSSNAY display>

- When LOSSNAY or OA processing unit are not registered

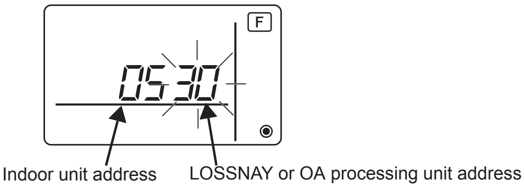


④ If registration is unnecessary, end registration by pressing and holding down the ✻▂▃▅ and TEMP. ▼ buttons at the same time for two seconds.
If a new LOSSNAY or OA processing unit must be registered, go to step **1. Registration procedure**.
If you want to confirm another LOSSNAY or OA processing unit, go to step **2. Confirmation procedure**. To delete a registered LOSSNAY or OA processing unit, go to step **3. Deletion procedure**.

<1. Registration procedure>

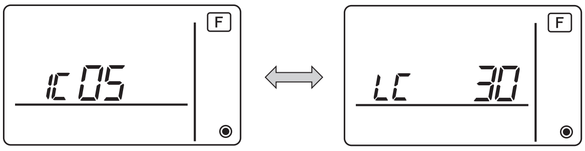
⑤ Set the address of the indoor unit to be interlocked with the LOSSNAY unit using the TEMP. ▲ and TEMP. ▼ buttons. (01 to 50)

⑥ After setting, press the ✤ button and set the Lossnay address you want to register by operating the TEMP. ▲ and TEMP. ▼ buttons. (01~50)

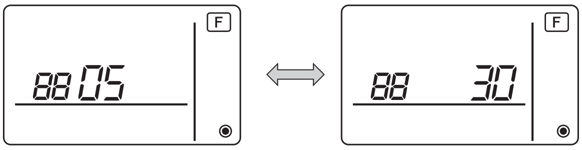


⑦ Press the ON/OFF button, and register the set indoor unit address and LOSSNAY address.

- Registration end display
  The indoor unit address and “IC” and LOSSNAY address and “LC” are alternately displayed.



- Registration error display
  If the address is not registered correctly, the indoor unit address and [88], and the registered LOSSNAY (or OA processing unit address) and [88] are alternately displayed.



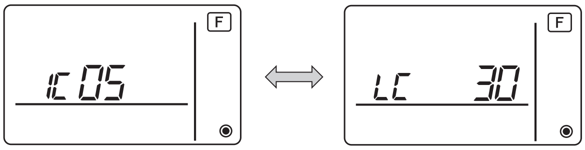
Cannot be registered because the registered indoor unit or LOSSNAY or OA processing unit does not exist.
Cannot be registered because another LOSSNAY or OA processing unit was registered at the registered indoor unit.

<2. Confirmation procedure>

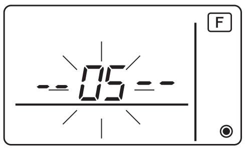
⑧ Set the address of the indoor unit connected by the remote controller whose LOSSNAY or OA processing unit you want to confirm using the TEMP. ▲ and TEMP. ▼ buttons. (01 to 50)

⑨ Press the ON/OFF button and ✤ button simultaneously for 2 seconds, and check the LOSSNAY address registered at the set indoor unit address.

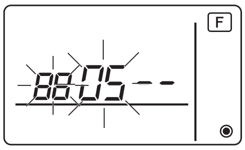
- Confirmation end display (When LOSSNAY is connected.)
  The indoor unit address and “IC” and registered LOSSNAY address and “LC” are alternately displayed.



- Confirmation end display (When LOSSNAY or OA processing unit is not connected.)



- Registered indoor unit address does not exist.



<3. Deletion procedure>

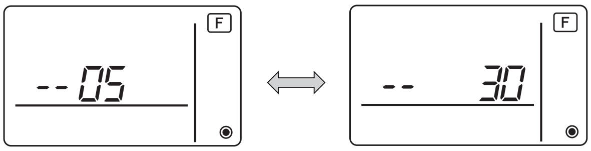
Use this procedure when you want to delete registration of indoor units connected by the remote controller and LOSSNAY or OA processing unit.

⑩ Confirm (see **2. Confirmation procedure**) the LOSSNAY or OA processing unit you want to delete and display the indoor units and LOSSNAY or OA processing unit confirmation results.

⑪ Press the TEMP. ▲ and TEMP. ▼ buttons simultaneously for 2 seconds, and delete registration of the LOSSNAY or OA processing unit address registered at the set indoor unit.

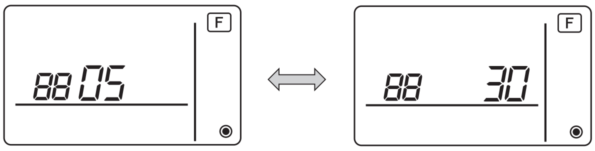
- Deletion end display

  Indoor unit address and "– –" and registered LOSSNAY or OA processing unit address and "– –" are alternately displayed.



- Deletion error display

  When deletion was not performed properly.



7 Function Selection for Mr. SLIM

Make the following settings for Mr. SLIM if necessary.
(This setting cannot be made with CITY MULTI Control System. To make CITY MULTI indoor unit settings from the remote controller, refer to section 8 Function Selection for CITY MULTI .)

Set the functions of each indoor unit from the remote controller, as required. The functions of each indoor unit can be selected only from the remote controller.
Set the functions by selecting the necessary items from Table 1.

Table1. Function selection contents
(For a detailed description of the factory settings and mode of each indoor unit, refer to the indoor unit installation manual.)

Mode No.	Mode	Settings	Setting No.	Check	Unit numbers
01	Automatic recovery after power failure	Disable	1		Set "00" for the Unit number. These settings apply to all the connected indoor units.
		Enable (Four minutes of standby time is required after the restoration of power.)	2		
02	Thermistor selection (Indoor temperature detection)	Average temperature reading of the indoor units in operation	1		
		Thermistor on the indoor unit to which the remote controller is connected (fixed)	2		
		Built-in sensor on the remote controller	3		
03	LOSSNAY connection	Not connected	1		
		Connected (without outdoor air intake by the indoor units)	2		
		Connected (with outdoor air intake by the indoor units)	3		
04	Power voltage	240 V	1		
		220 V, 230 V	2		
07	Filter sign	100 hours	1		Set "01" to "04" or "AL" for the Unit number. These settings apply to each indoor unit. • If "01" ("02", "03", "04") is set for the Unit number, the settings apply only to the specified indoor unit regardless of the number of connected indoor units (one through four units). • If "AL" is set for the Unit number, the settings apply to all the connected indoor units regardless of the number of connected indoor units (one through four units).
		2500 hours	2		
		Not displayed	3		
08	Fan speed	Silent mode (or standard)	1		
		Standard (or High ceiling 1)	2		
		High ceiling (or High ceiling 2)	3		
09	No. of air outlets	4 directional	1		
		3 directional	2		
		2 directional	3		
10	Installed options	No	1		
	(High performance filter)	Yes	2		
11	Vane setting	No vanes (or the vane setting No.3 is effective.)	1		
		Equipped with vanes (The vane setting No.1 is effective.)	2		
		Equipped with vanes (The vane setting No.2 is effective.)	3		

* Static pressure setting can be made by using Mode 08 in combination with Mode 10 depending on the indoor unit model. Refer to the Indoor unit Installation Manual for details.

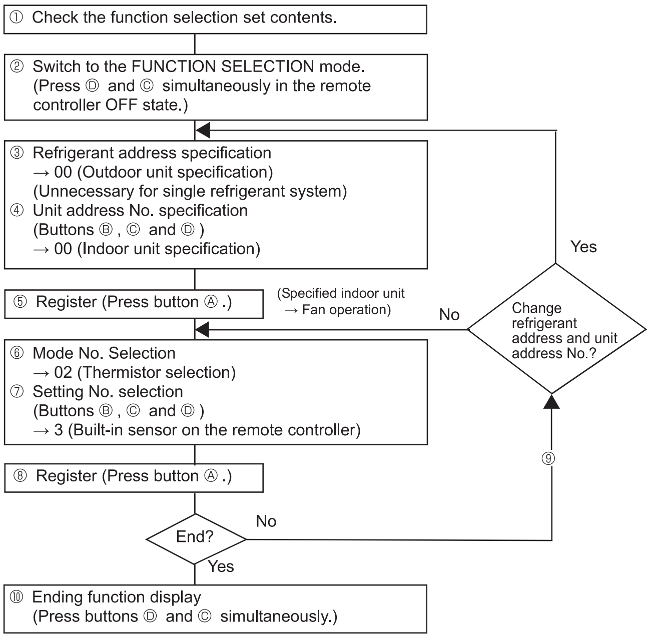
* For mode numbers other than listed above, refer to the indoor unit installation manual.

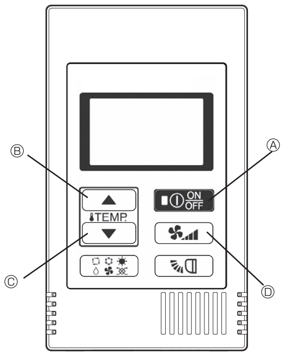
NOTE: When the indoor unit functions were changed using the function selection after installation is complete, always indicate the set contents by entering check marks or other marks in the appropriate check field of Table 1.

[Function selection flow]

First grasp the function selection flow. The following describes setting of “Thermistor selection” of Table 1 as an example.

(For the actual setting procedure, see [Setting procedure] ① to ⑩ .)


① Check the function selection set contents.
② Switch to the FUNCTION SELECTION mode. (Press Ⓓ and Ⓒ simultaneously in the remote controller OFF state.)
③ Refrigerant address specification → 00 (Outdoor unit specification) (Unnecessary for single refrigerant system)
④ Unit address No. specification (Buttons Ⓑ , Ⓒ and Ⓓ) → 00 (Indoor unit specification)
⑤ Register (Press button Ⓐ .)
(Specified indoor unit → Fan operation)
Change refrigerant address and unit address No.?
Yes
No
⑥ Mode No. Selection → 02 (Thermistor selection)
⑦ Setting No. selection (Buttons Ⓑ , Ⓒ and Ⓓ) → 3 (Built-in sensor on the remote controller)
⑧ Register (Press button Ⓐ .)
⑨
End?
No
Yes
⑩ Ending function display (Press buttons Ⓓ and Ⓒ simultaneously.)

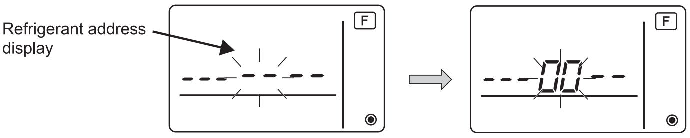


[Setting procedure] (Set only when change is necessary.)

① Check the set contents of each mode. When the set contents of a mode were changed by function selection, the functions of that mode also change.
Check the set contents as described in steps ② to ⑦ and change the setting based on the entries in the Table 1 check field. For the factory settings, refer to the indoor unit installation manual.

---

② Set the remote controller to Off.
Press and hold down the Ⓓ and the Ⓒ TEMP. ▼ buttons at the same time for two seconds or longer.
“ F (FUNCTION)” blinks for a while, then the remote controller display changes to the display shown below.

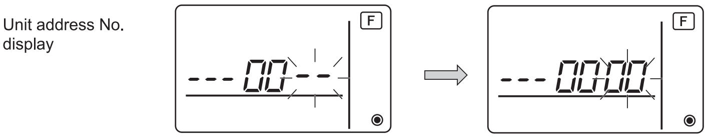


③ Set the outdoor unit refrigerant address No.
When the Ⓑ TEMP. ▲ and Ⓒ TEMP. ▼ buttons are pressed, the refrigerant address No. decreases and increases between 00 and 15.
Set it to the refrigerant address No. whose function you want to select.
(This step is unnecessary for single refrigerant system.)

* If the remote controller enters the OFF state after the “ F (FUNCTION)” and room temperature displays “ 88 ” have flashes for two seconds, communication is probably abnormal. Make sure there are no noise sources near the transmission line.

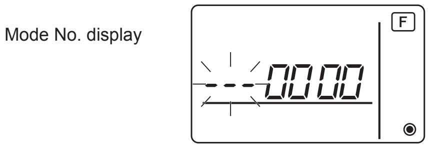
NOTE: If you make a mistake during operation, end function selection by step ⑩ and repeat selection from step ② .

④ Set the indoor unit address No.
Press the Ⓓ button. The unit address No. display “– –” flashes.
When the Ⓑ TEMP. ▲ and Ⓒ TEMP. ▼ buttons are pressed, the unit address No. changes in the order of 00 ↔ 01 ↔ 02 ↔ 03 ↔ 04 ↔ AL. Set it to the unit address No. of the indoor unit whose functions you want to set.



* When setting mode 1 to 6, set the unit address No. to “00”.
* When setting modes 7 to 14:
- When setting for each indoor unit, set the unit address No. to “01-04”.
- When batch setting for all indoor units, set the unit address No. to “AL”.

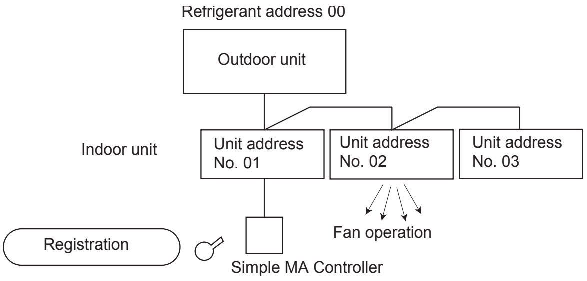
⑤ Refrigerant address and unit address No. registration
Press the Ⓐ ON OFF button. The refrigerant address and unit address No. are registered.
After a while, the mode No. display "– –" flashes.



* When " 88 " flashes at the room temperature display, the selected refrigerant address is not in the system. When "F" is displayed at the unit address No. display, and when it flashes together with the refrigerant address display, the selected unit address No. does not exist. Correctly set the refrigerant address and unit address No. by repeating steps ③ and ④ .

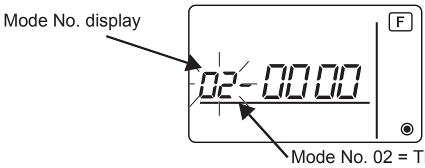
☞ When registered using the Ⓐ ON OFF, the registered indoor unit begins fan operation.
When you want to know the location of the indoor units of the unit address No. whose functions were selected, check here.
When the unit address No. is 00 or AL, all the indoor units of the selected refrigerant address perform the fan operation.

EX): When refrigerant address 00, unit address No. = 02 registered



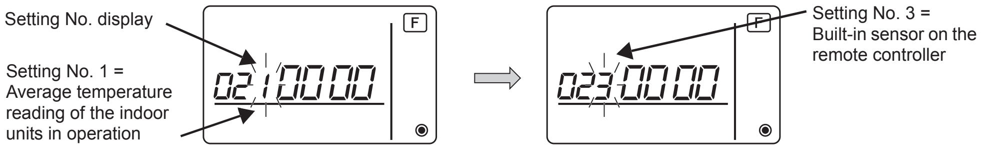
* When grouping by different refrigerant systems and an indoor unit other than the specified refrigerant address performs the fan operation, the refrigerant address set here is probably duplicated.
Recheck the refrigerant address at the outdoor unit dip switches.

⑥ Mode No. selection
Select the mode No. you want to set with the Ⓑ TEMP. ▲ and Ⓒ TEMP. ▼ buttons. (Only the settable mode numbers can be selected.)

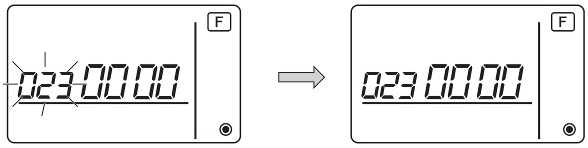


Mode No. 02 = Thermistor selection

⑦ Select the setting contents of the selected mode.
When the Ⓓ button is pressed, the current setting No. flashes. Use this to check the currently set contents.
Select the setting No. using the Ⓑ TEMP. ▲ and Ⓒ TEMP. ▼ buttons.


Setting No. display
Setting No. 1 = Average temperature reading of the indoor units in operation
F
02 1 00 00
F
02 3 00 00
Setting No. 3 = Built-in sensor on the remote controller

⑧ The contents set at steps ③ to ⑦ are registered.
When the Ⓐ ON OFF button is pressed, the mode No. and setting No. flash and registration begins.
The flashing mode No. and setting No. change to a steady light and setting ends.



* When " 88 " flashes at the Mode No. display, communication is probably abnormal.
Make sure there are no noise sources near the transmission line.

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⑨ To select more functions, press the Ⓓ and repeat steps ③ to ⑧ .

---

⑩ End function selection.
Press and hold down the Ⓒ [🌡TEMP. ▼] and Ⓓ [✤▂▄▆] buttons at the same time for two seconds or longer.
After a while, the function selection display disappears and the remote controller returns to the air conditioner off display.
* Do not operate the air conditioner from the remote controller for 30 seconds after the end of function selection.

> NOTE: When the functions of an indoor unit were changed by function selection after the end of installation, always indicate the set contents by entering check marks or other marks in the appropriate check field of Table 1.

8 Function Selection for CITY MULTI

> Make this setting only when the function settings need to be changed on CITY MULTI.
> (This setting cannot be made with Mr. SLIM Control System. To make settings for Mr. SLIM, refer to section (7 Function Selection for Mr. SLIM).)

Set the functions of each indoor unit from the remote controller, as required.
Refer to the Indoor unit Installation Manual for factory settings, mode No., and the setting No. of the indoor units.

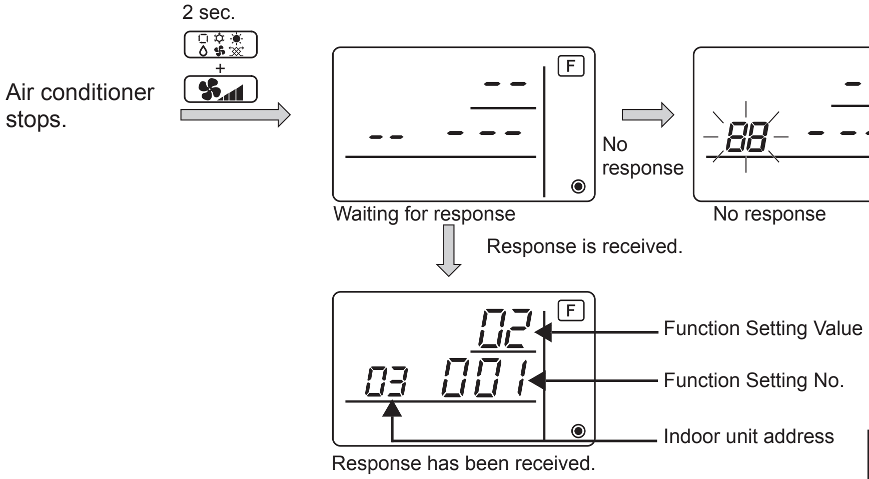
> NOTE: Be sure to write down any settings that you change performing the following steps.

■ Setting the indoor unit Setting Value

① Press the [⏻ON/OFF] button to stop the operation of the air conditioner.

② Press and hold down the [❄☀] and the [✤▂▄▆] buttons at the same time for two seconds or longer to check the current settings.

③ When the response has been received from the indoor unit, the current settings appear. If there is no response, nothing appears.



Procedure A

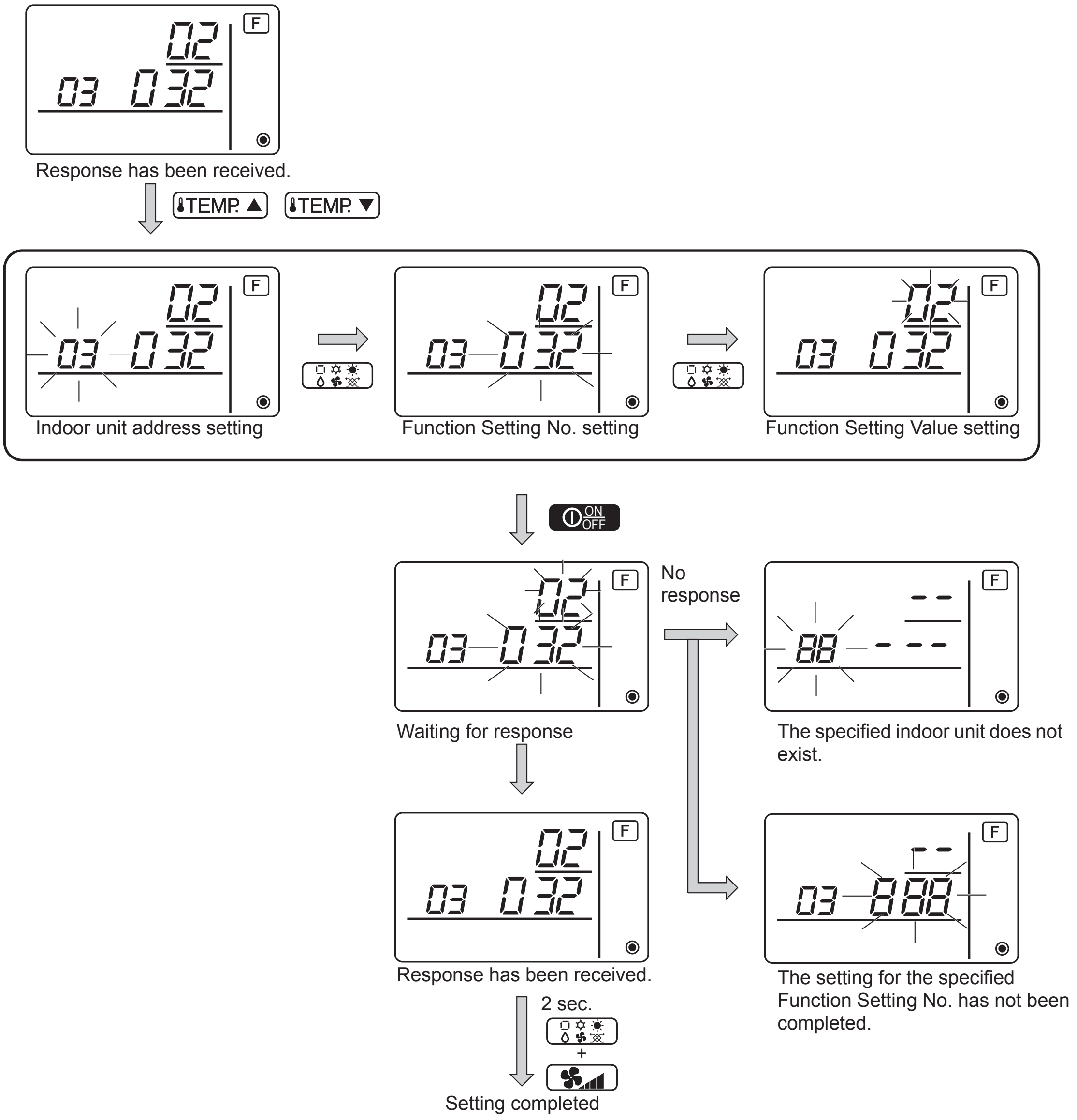
④ Press the [🌡TEMP. ▲] and the [🌡TEMP. ▼] buttons to set the address of the indoor unit whose settings to be made. (ALL, 1 to 50)

⑤ Press the [❄☀] button, then press the [🌡TEMP. ▲] and the [🌡TEMP. ▼] buttons to set the Function Setting No. to be set. (000 to 255)

⑥ Press the [❄☀] button, then press the [🌡TEMP. ▲] and the [🌡TEMP. ▼] buttons to set the Function Setting Value. to be set (00 to 15)

⑦ Press the [⏻ON/OFF] button to set the settings.

⑧ If the set settings need to be changed, repeat steps ④ to ⑦.
To complete the settings, press the ☼ and the ✽ buttons at the same time for two seconds or longer.


02
03 032
F
Response has been received.
TEMP. ▲
TEMP. ▼
Indoor unit address setting
Function Setting No. setting
Function Setting Value setting
ON/OFF
No response
Waiting for response
The specified indoor unit does not exist.
88 - - -
Response has been received.
2 sec.
+
Setting completed
03 888
The setting for the specified Function Setting No. has not been completed.

■ Checking the indoor unit Function Setting Value

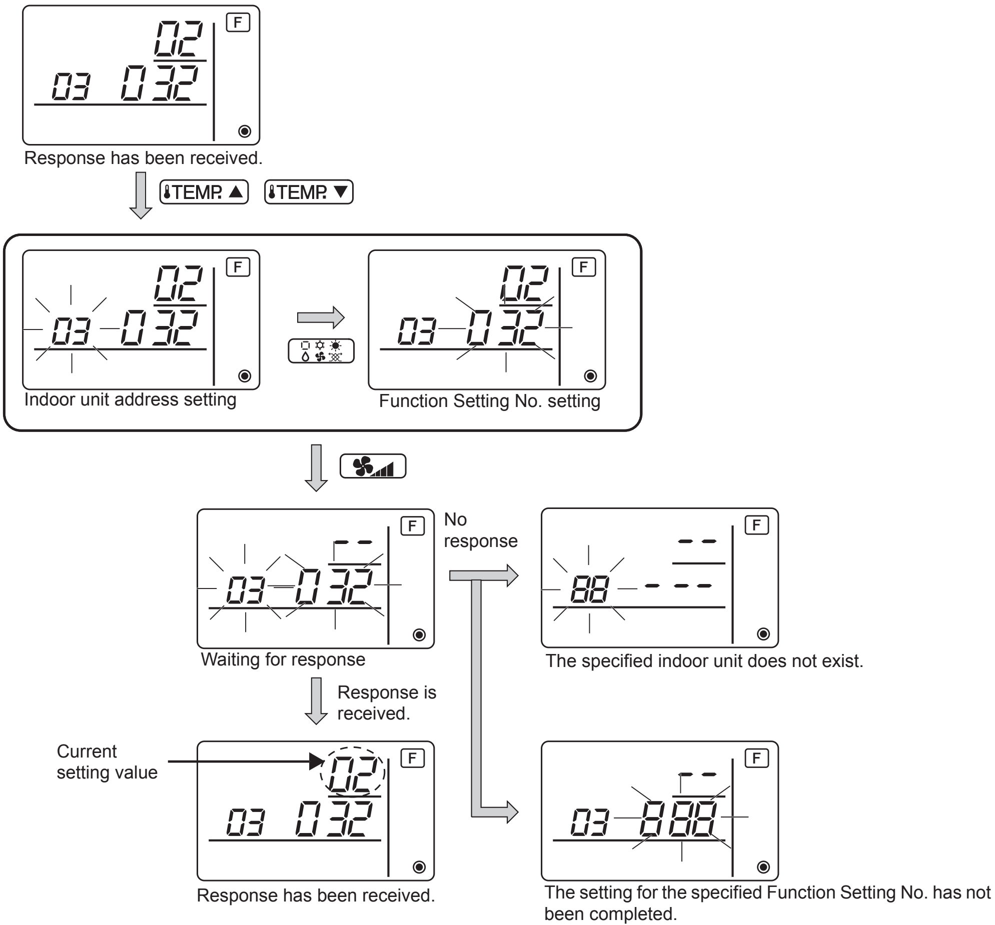
① Perform the Procedure A on the previous page.

② Press the TEMP. ▲ and the TEMP. ▼ buttons to set the address of the indoor unit whose settings to be checked. (ALL, 1 to 50)

③ Press the ☼ button, then press the TEMP. ▲ and the TEMP. ▼ buttons to set the Function Setting No. to be checked. (000 to 255)

④ Press the ✽ button to display the current Function Setting Value.

⑤ To check the settings, repeat steps ② to ④ .
To complete the checking process, press the ❄☀ and the ✽▂▄▆ buttons at the same time for two seconds or longer.

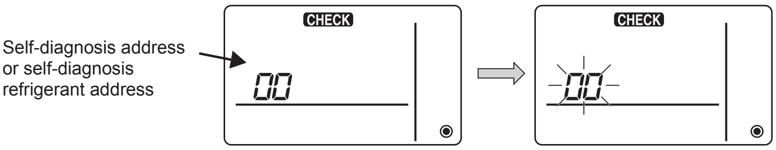

F
02
03 032
Response has been received.
TEMP. ▲
TEMP. ▼
Indoor unit address setting
Function Setting No. setting
No response
88 - - -
The specified indoor unit does not exist.
Waiting for response
Response is received.
Current setting value
Response has been received.
03 888
The setting for the specified Function Setting No. has not been completed.

9 Self diagnosis

Retrieve the error history of each unit using the Simple MA controller.

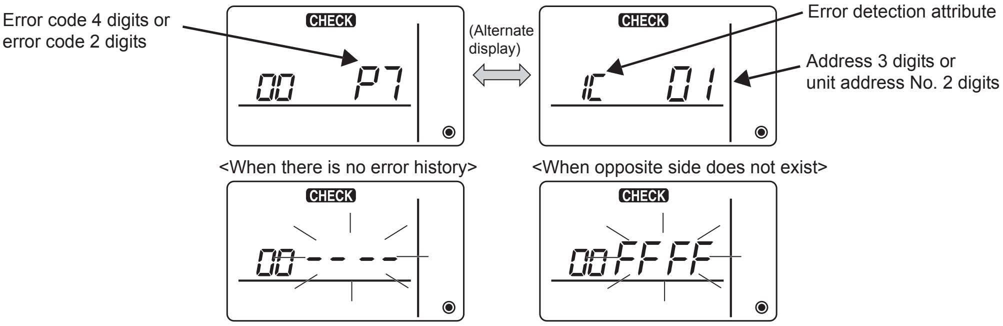
① Switch to the self-diagnosis mode.
When the Ⓐ ON/OFF button and the Ⓒ TEMP. ▼ button are pressed for 5 seconds or longer, the figure shown below is displayed.

② Set the address or refrigerant address No. you want to self-diagnosis.
When the Ⓑ TEMP. ▲ and Ⓒ TEMP. ▼ are pressed, the address decreases and increases between 01 and 50 or 00 and 15. Set it to the address No. or refrigerant address No. you want to self-diagnosis.


Self-diagnosis address or self-diagnosis refrigerant address
CHECK
00

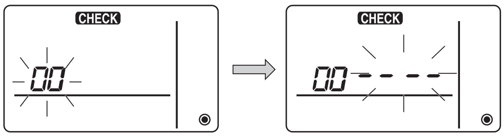
Approximately three seconds after the change operation, the self-diagnosis refrigerant address changes from flashing to a steady light and self-diagnosis begins.

③ Self-diagnosis result display <Error history> (For the contents of the error code, refer to the indoor unit installation manual or service handbook.)


Error code 4 digits or error code 2 digits
CHECK
00 P7
(Alternate display)
IC 01
Error detection attribute
Address 3 digits or unit address No. 2 digits
<When there is no error history>
00 - - - -
<When opposite side does not exist>
00 FFFF

④ Error history reset

The error history is displayed in ③ self-diagnosis results display.
When the Ⓓ ✤ button is pressed two times successively within three seconds, the self-diagnosis object address and refrigerant address flash.
When the error history was reset, the display shown below appears.
When error history reset failed, the error contents are displayed again.



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⑤ Self-diagnosis reset

There are the following two ways of resetting self-diagnosis.

Press the Ⓐ ON OFF button and the Ⓒ TEMP. ▼ button simultaneously for 5 seconds or longer.
→ Resets self-diagnosis and returns to the state before self-diagnosis.

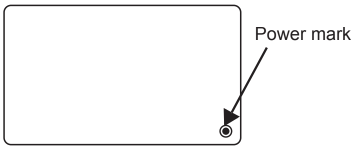
Press the Ⓐ ON OFF button. → Self-diagnosis resets and indoor units stop. (When operation is prohibited, this operation is ineffective.)

10 Remote Controller Check

When the air conditioner cannot be controlled from the Simple MA controller, use this function to check the remote controller.

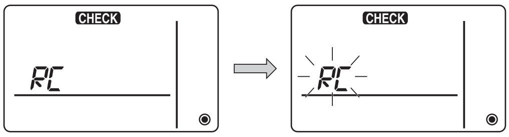
① First check the power mark.

When normal voltage (DC12V) is not applied to the remote controller, the power mark goes off.
When the power mark is off, check the remote controller wiring and the indoor unit.



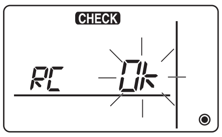
② Switch to the remote controller check mode.

When the Ⓑ TEMP. ▲ button and Ⓓ ✤ button are pressed simultaneously for 5 seconds or longer, the figure shown below is displayed.
When the Ⓐ ON OFF button is pressed, remote controller check begins.



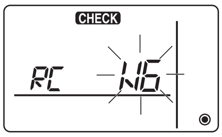
③ Remote controller check result

<When remote controller is normal>



Since there is no problem at the remote controller, check for other causes.

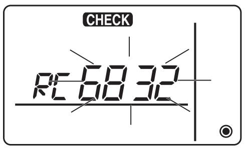
<When remote controller is faulty>



(Error display 1) "NG" flashes
→ Remote controller send/receive circuit abnormal

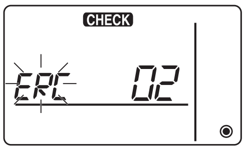
Remote controller switching is necessary.

When the problem is other than the checked remote controller



(Error display 2) "E3" "6833" "6832" flash → Cannot send

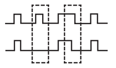
There is noise on the transmission line, or the indoor unit or another remote controller is faulty. Check the transmission line and the other remote controllers.



(Error display 3) "ERC" and data error count are displayed → Data error generation

"Data error count" is the difference between the number of bits of remote controller send data and the number of bits actually sent to the transmission line. In this case, the send data was disturbed by the noise, etc. Check the transmission line.

When data error count is 02
Remote controller send data Send data on transmission line



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④ Remote controller check reset

When the Ⓑ TEMP. ▲ button and Ⓓ ✤ button are pressed simultaneously for 5 seconds or longer, remote controller diagnosis is reset, the [HO] and run lamp flash for a certain period of time, and then the remote controller returns to its state before diagnosis.

MA Touch Remote Controller **PAR-CT01MAA-PB,SB**

Photo

Descriptions

Advanced MA remote controller with the large size dot liquid crystal display. Multi-language display and weekly timer function are available.

Applicable Models

- ■ MSZ-RW25,35,50VG*1
- ■ MSZ-LN18,25,35,50,60VG2(W)(V)(R)(B)*1
- ■ MSZ-FT25,35,50VG*1
- ■ MSZ-AY15,20,25,35,42,50VGK(P)*1
- ■ MSZ-AP60,71VG*1
- ■ MSZ-EF18,22,25,35,42,50VG(W)(B)(S)*1
- ■ MSZ-BT20,25,35,50VG*1
- ■ MSZ-HR25,35,42,50,60,71VF*1
- ■ MSZ-DW25,35,50VF*1
- ■ MSY-TP35,50VF*1
- ■ MFZ-KT25,35,50,60VG*1
- ■ MFZ-KW25,35,50,60VG*1
- ■ MLZ-KP25,35,50VF*1
- ■ MLZ-KY20VG*1
- ■ P-series models *2 (except for PSA-M・KA)
- ■ SLZ-M・FA2 series
- ■ SEZ-M・DA2 series
- ■ SFZ-M・VA series

*1 Either MAC-334IF-E or MAC-497IF-E is required.

*2 Remote controller terminal block kit "PAC-SH29TC-E" is required for PKA-M*LAL2・KAL2.

How to Use / How to Install

1. System Requirements

⚠ **WARNING** The CD-ROM that is supplied with the unit can only be played on a CD-drive or a DVD-drive. Do not attempt to play this CD-ROM on an audio CD player as this may damage your ears and/or speakers.

Your computer must meet the following requirements to run Manual Navigation Software.

[PC] PC/AT compatible

[CPU] Core2 Duo 1.66 GHz or faster (Core2 Duo 1.86 GHz or faster recommended)
Pentium D 1.7 GHz or faster (Pentium D 3.0 GHz or faster recommended)
Pentium M 1.7 GHz or faster (Pentium M 2.0 GHz or faster recommended)
Pentium 4 2.4 GHz or faster (Pentium 4 2.8 GHz or faster recommended)
* Core2 Duo or faster processor is required to run Manual Navigation Software on Windows Vista or later.

[RAM] Windows Vista or later: 1 GB minimum (2 GB or more recommended)
Windows XP: 512 MB minimum (1 GB or more recommended)

[HDD space] 1 GB minimum (available space)
* Windows Vista or later: Available space in the drive that has the Document folder
* Windows XP: Available space in the drive that has the My Document folder

[Resolution] SVGA 800 × 600 or greater

[OS] Windows8/Pro/Enterprise (Pro recommended)
Windows7 Ultimate/Enterprise/Professional/Home Premium Service Pack1 (Professional recommended)
Windows Vista Ultimate/Business/Home Basic Service Pack1 (Business version recommended)
Windows XP Professional/Home Edition Service Pack2 or Service Pack3 (Professional version recommended)

[Required software] Windows8: Adobe Reader 11.0.2 or later (Windows Reader, installed by default in Windows8, cannot be used.)
Windows7: Adobe Reader 10.1.0 or later
Windows XP and Windows Vista: Adobe Reader 8.1.3 or later
* Software to view PDF files

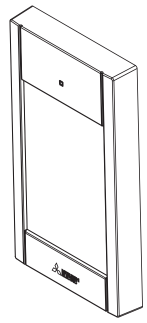
“Windows”, “Windows XP”, “Windows Vista”, “Windows7” and “Windows8” are registered trade marks of Microsoft Corporation.
“Adobe Reader” and “Adobe Acrobat” are registered trademarks of Adobe Systems Incorporated.
“Core2 Duo” and “Pentium” are registered trademarks of Intel Corporation.

2. Component names and supplied parts

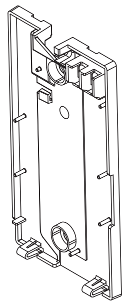
The following parts are included in the box.

Parts name	Qty.	Appearance
Remote controller (top case)	1	Right figure *1
Remote controller (bottom case)	1	Right figure *2
Roundhead cross slot screws M4×30	2	*3
Wood screw 4.1×16 (for direct wall installation)	2	*3
Simple Manual	1	
CD-ROM (this manual) Instruction Book and Installation Manual	1	

Top case *1



Bottom case *2



*3 ISO metric screw thread
*4 Remote controller cable is not included.

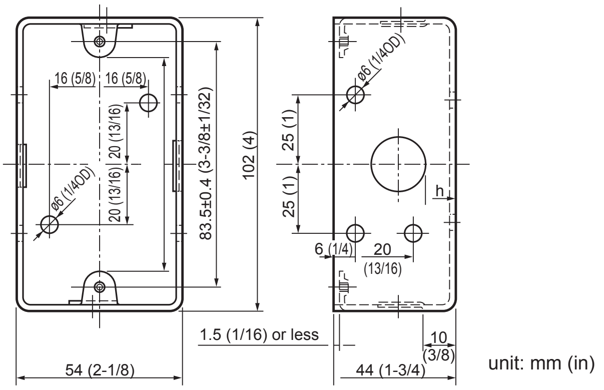
3. Field-supplied parts/Required tools

(1) Field-supplied parts

The following parts are field-supplied parts.

Parts name	Qty.	Notes
Single switch box	1	Not required for direct wall installation
Thin metal conduit	Necessary	
Lock nut and bushing	Necessary	
Cable cover	Necessary	Required for routing remote controller cable along a wall
Putty	Reasonable	
Molly anchor	Necessary	
Remote controller cable (Use a 0.3 mm² (AWG22) 2-core sheathed cable.)	Necessary	

Switch box



(2) Field-supplied tools

- Flat-tip screwdriver (Width: 3 - 5 mm (1/8 - 7/32 inch))
- Nipper
- Miscellaneous tools

4. Selecting an installation site

This remote controller is for the wall installation. It can be installed either in the switch box or directly on the wall. When performing direct wall installation, wires can be thread through either back or top of the remote controller.

(1) Selecting an installation site

Install the remote controller (switch box) on the site where the following conditions are met.

(a) For connection to the indoor unit with an Auto descending panel, a place where people can check the Auto descending panel operation of the indoor unit while they are operating the remote controller (Refer to the indoor unit Instructions Book for how to operate Auto descending panel.)

(b) A flat surface

(c) A place where the remote controller can measure the accurate indoor temperature
Sensors to monitor indoor temperature are on the indoor unit and on the remote controller. When the room temperature is monitored with the sensor on the remote controller, the built-in sensor on the remote controller monitors the room temperature. When using the sensor on the remote controller, follow the instructions below.

- To monitor the accurate indoor temperature, install the remote controller away from direct sunlight, heat sources, and the supply air outlet of the air conditioner.
- Install the remote controller in a location that allows the sensor to measure the representative room temperature.
- Install the remote controller where no wires are routed around the temperature sensor on the controller. (If wires are routed, the sensor cannot measure accurate indoor temperature.)

Important

■ **Discrepancy between the indoor temperature measured at the wall and the actual indoor temperature may occur.**
If the following conditions are met, the use of the temperature sensor on the indoor unit is recommended.

- Supply air does not reach to the wall easily where the remote controller is installed due to improper airflow distribution.
- There is a great discrepancy between the wall temperature and the actual indoor temperature.
- The back side of the wall is directly exposed to the outside air.

Note: When temperature changes rapidly, the temperature may not be detected accurately.

Do not install the controller in a place where the difference between the remote controller surface temperature and the actual room temperature will be great.
If the temperature difference is too high, room temperature may not be adequately controlled.

To reduce the risk of malfunctions, do not install the controller in a place where water or oil may come into contact with the controller, or in a condensing or corrosive environments.

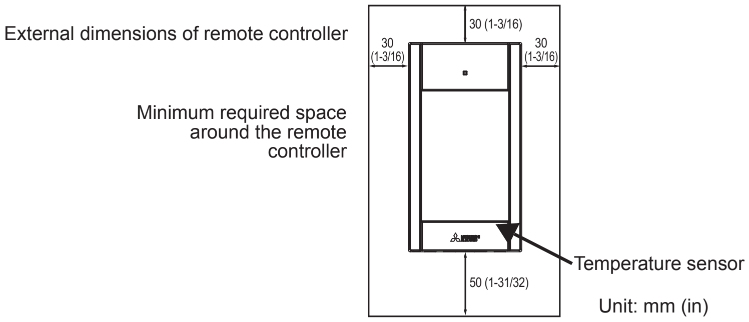
To avoid deformation and malfunction, do not install the remote controller in direct sunlight or where the ambient temperature may exceed 40ºC (104ºF) or drop below 0ºC (32ºF).

To reduce the risk of malfunctions and damage to the controller, avoid installing the remote controller on an electrically conductive surface, such as an unpainted metal sheet.

Refer to either of the following manuals for temperature sensor setting: indoor unit Installation Manual for CITY MULTI; this manual for Mr. SLIM.

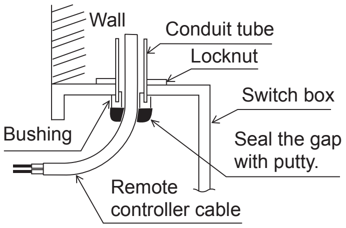
(2) Installation space

Leave a space around the remote controller as shown in the figure shown below, regardless of whether the controller is installed in the switch box or directly on the wall. Removing the remote controller will not be easy with insufficient space.
Also, leave an operating space in front of the remote controller.


External dimensions of remote controller
Minimum required space around the remote controller
30 (1-3/16)
30 (1-3/16)
30 (1-3/16)
50 (1-31/32)
Temperature sensor
Unit: mm (in)

(3) Installation work

Controller can be installed either in the switch box or directly on the wall. Perform the installation properly according to the installation method.

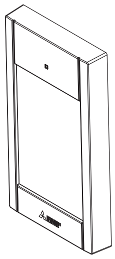


① **Drill a hole in the wall.**
- ■ Installation using a switch box
  - Drill a hole in the wall, and install the switch box on the wall.
  - Connect the switch box to the conduit tube.
- ■ Direct wall installation
  - Drill a hole in the wall, and thread the cable through it.

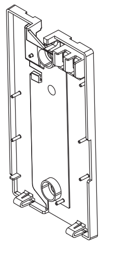
② **Seal the cable access hole with putty.**
- ■ Installation using a switch box
  - Seal the remote controller cable access hole at the connection of switch box and conduit tube with putty.

To reduce the risk of electric shock, malfunctions, or fire, seal the gap between the cables and cable access holes with putty.

③ Prepare the bottom case of the remote controller.



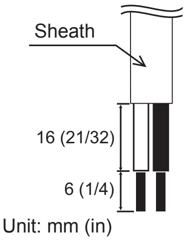
Top case

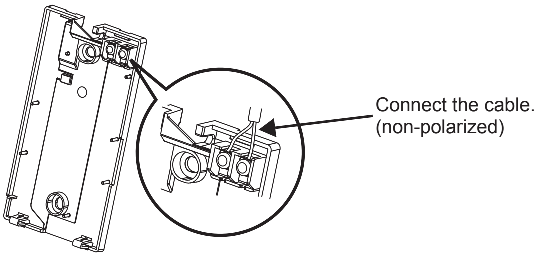


Bottom case

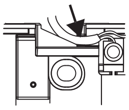
④ Connect the remote controller cable to the terminal block on the bottom case.

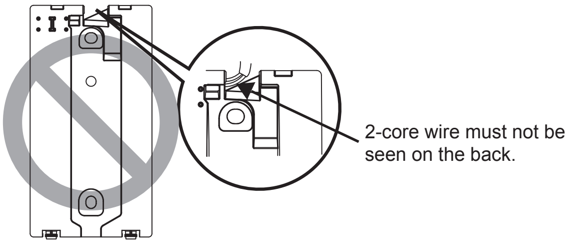
Peel off the remote controller cable sheath as shown below to connect to the terminal block properly.
Secure the remote controller cable so that the peeled part of the cable will fit into the case.



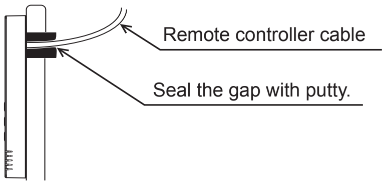


Insert the sheathed part of the cable inside the case, and then secure the cable.





■ Direct wall installation
- Seal the hole through which the cable is threaded with putty.



Route the cable behind the remote controller.

To reduce the risk of electric shock, shorting, or malfunctions, keep wire pieces and sheath shavings out of the terminal block.

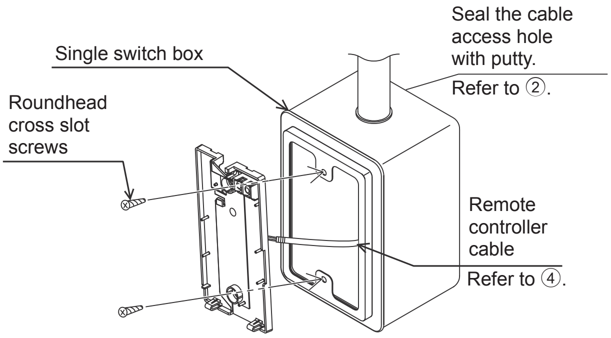
Important

Do not use solderless terminals to connect cables to the terminal block.
Solderless terminals may come in contact with the circuit board and cause malfunctions or damage the controller cover.

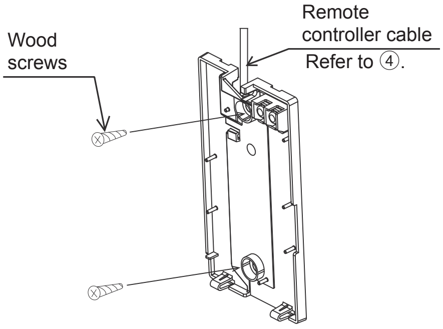
⑤ Install the bottom case.

Be sure to secure two places of the bottom case.

■ Installation using a switch box


Single switch box
Roundhead cross slot screws
Seal the cable access hole with putty.
Refer to ②.
Remote controller cable
Refer to ④.

■ Direct wall installation



Important

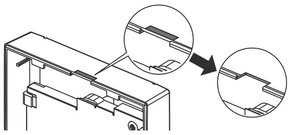
To avoid deformation and damage to the bottom case, do not overtighten the screws.

To avoid damage to the bottom case, do not make holes on it.

⑥ Cut out the cable access hole.

■ Direct wall installation (when running the cable along the wall)

- Cut out the thin-wall part on the cover (the shaded area in the right figure) with a nipper.
- Thread the cable from the groove behind the bottom case through this access hole.



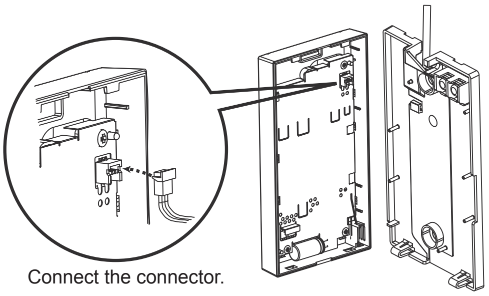
Notice

To prevent damage to the circuit board, remove the front cover from the top case before cutting out a cable access hole.

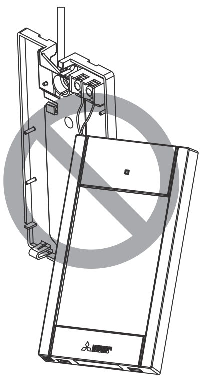
Note that accidentally touching the circuit board may damage the circuit board when cutting out a cable access hole.

⑦ Connect the connector to the top case.

Connect the connector on the bottom case to the socket on the top case.



Connect the connector.



Important

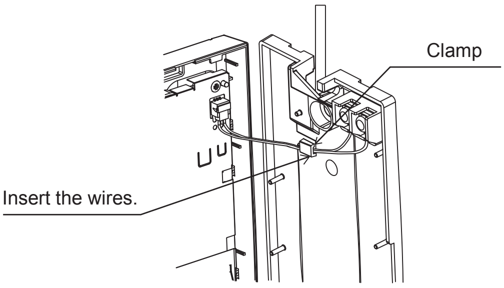
To prevent malfunctions, do not remove the protective sheet or the circuit board from the top case.

To prevent cable breakage and malfunctions, do not hang the top controller casing hang by the cable as shown in the figure above.

⑧ Insert the wires into the clamp.

Important

Hold the wires in place with the clamp to prevent undue force from being applied to the terminal block and causing cable breakage.

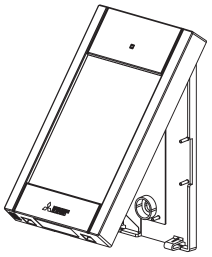


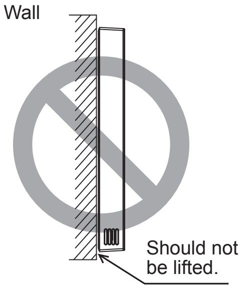
⑨ Install the top case on the bottom case.

Two mounting tabs are at the top of the top case.
Hook those two tabs onto the bottom case, and click the top case into place. Check that the case is securely installed and not lifted.

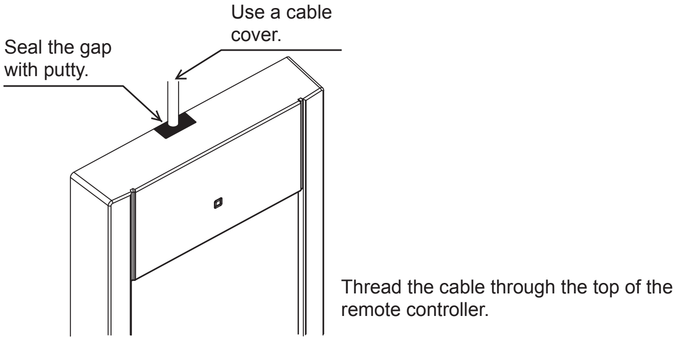
Important

When attaching the top casing to the bottom casing, push it until it they click into place. If they are not properly locked into place, they may fall, causing personal injury, controller damage, or malfunctions.





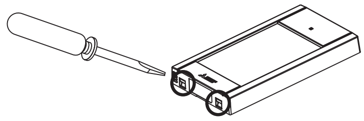
■ Direct wall installation (when running the cable along the wall)
- Thread the cable through the access hole at the top of the remote controller.
- Seal the cut-out part of the cover with putty.
- Use a cable cover.



- **Uninstalling the top case**

① Uninstalling the top case

Insert a flat-tip screwdriver with a blade width of 3-5 mm (1/8-7/32 inch) into the latches at the bottom of the remote controller and lift the latches. Then, pull up the top case.



■ At the time of factory shipment, protective sheet is on the operat cover. Peel off the protective sheet on the operation interface prior to use.

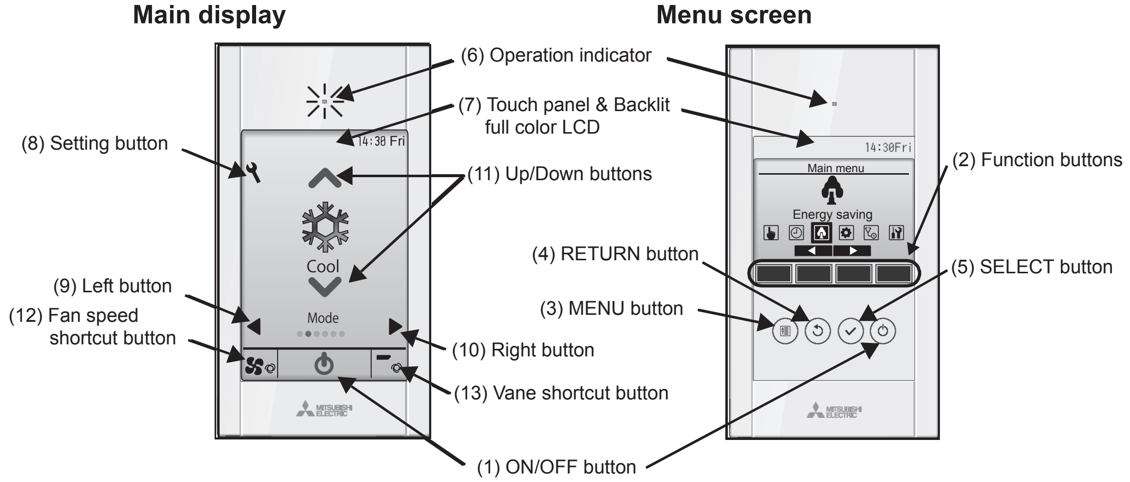
Important

To prevent damage to the controller casing, do not force the flat-tip screwdriver to turn with its tip inserted in the slot.

Do not insert the flat-tip screwdriver too far. Doing so will damage the circuit board.

To prevent damage to the controller casing, use a flat-head screwdriver with a blade width of 3-5 mm (1/8-7/32 inch).

5. Remote controller button functions



Main display

Menu screen

(1) ON/OFF button
Use to turn ON/OFF the indoor unit.

(2) Function buttons
Use to select the operation mode or to set the temperature and fan speed on the Main display. Use to select items on other screens.

(3) MENU button
Use to bring up the Main menu.

(4) RETURN button
Use to return to the previous screen.

(5) SELECT button
Use to jump to the setting screen or to save the settings.

(6) Operation indicator
Stays lit during normal operation. Blinks during startup and when an error occurs.

(7) Touch panel & Backlit full color LCD
Dot display. When the backlight is off, pressing any area turns the backlight on and it will stay lit for a certain period of time depending on the screen. Performing any button operation keeps the backlight on.

(8) Setting button
Use to bring up the Main menu.
When the menu operation is locked, an administrator password is required.

(9) Left button
Use to switch the setting items in the following order: louver, ventilation, vane, fan speed, operation mode, and preset temperature.

(10) Right button
Use to switch the setting items in the following order: preset temperature, operation mode, fan speed, vane, ventilation, and louver.

(11) Up/Down buttons
Use to change the contents of the setting selected in (9) and (10) above.

(12) Fan speed shortcut button
Use to directly access the fan speed settings screen.

(13) Vane shortcut button
Use to directly access the vane settings screen.

Pressing the Setting button will bring up the Main menu as shown below.

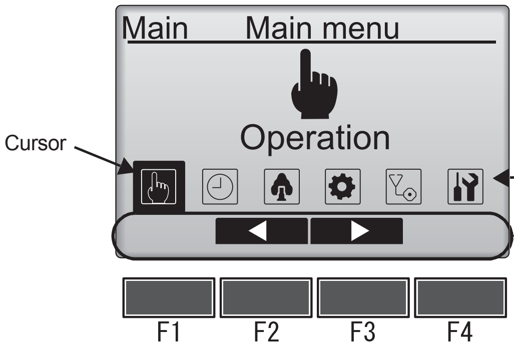
Operation menu *1
Timer menu *1
Energy saving menu *1
Initial setting menu *2*3
Maintenance menu *1
Service menu *2*3

*1 Refer to the Instructions Book in the CD-ROM for details.
*2 Explained in this manual.
*3 If no buttons are pressed for 10 minutes on the initial setting screens, or 2 hours on the service screens (10 minutes on some screens), the screen will automatically return to the Main display. Any settings that have not been saved will be lost.

The available items on the menu depend on the connected indoor unit model. For items not described in the manuals that are enclosed with the MA Touch Remote Controller, refer to the manuals that came with the air conditioning units.

Note: When the backlight is off, pressing any area turns the backlight on and does not perform its function.

Button operations on the Main menu



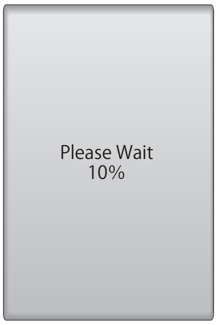
Move the cursor to the desired function with the F2 and F3 buttons, and press the SELECT button to go to the next page. Password may be required.

Button function guide will appear at the bottom of the screens.

6. Turning on the power

Make sure that the MA remote controller is properly installed according to the instructions in the Installation Manual and that the indoor and outdoor unit installation has been completed before turning on the power.

(1) When the power is turned on, the following screen will appear.

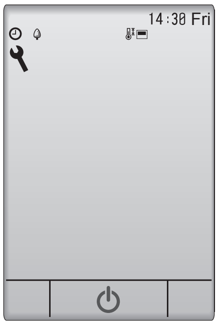

Please Wait
10%

Normal start up (indicating the percentage of process completion)

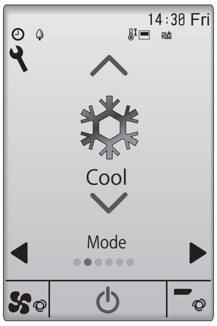
Note: When the power is on for the first time, the Language selection screen will be displayed. Refer to section 10 (4) under “Display setting menu”. Select a desired language. The system will not start-up without language selection.

(2) Main display

After the successful startup, the Status display will appear. While the Status display is displayed, pressing any area switches the screen to the Main display. The Main display can be displayed in two different modes: “Full” and “Basic.” Refer to section 10 “Initial settings” for how to select the display mode. (The factory setting is “Full.”)



Main display in the Full mode (while the unit is not in operation)



Main display in the Full mode (while the unit is in operation)

Note: Refer to the Instruction Book for the icons on the display.

7. Test run

Note: Maintenance password is required.

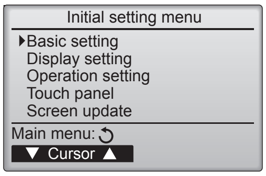
(1) Read the section about Test run in the indoor unit Installation Manual before performing a test run.
(2) At the Main display, press the Setting button and select Service>Test run>Test run.
(3) Press the ON/OFF button to cancel the test run if necessary.
(4) Refer to the indoor unit Installation Manual for the detailed information about test run and for how to handle the errors that occur during a test run.

Note: Refer to section 11 “Service menu” for information about the maintenance password.

8. Initial settings (Remote controller settings)

Note: Administrator password is required.

From the Main display, select Main menu>Initial setting, and make the remote controller settings on the screen that appears.



Basic setting menu
- Clock
- Daylight saving time
- Administrator password

Display setting menu
- Main display
- Remote controller display details setting
- Brightness
- Language selection
- Design

Operation setting menu
- Auto mode

Touch panel menu
(Refer to the Instruction Book.)

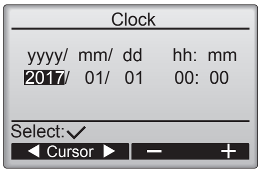
Note: The initial administrator password is “0000.” Refer to section (3) “Administrator password setting” for how to change the password.

Basic setting menu

(1) Clock setting

[Button operation]

① Move the cursor with the F1 or F2 button to the desired item.
② Change the date and time with the F3 or F4 button, and press the SELECT button to save the change. The change will be reflected on the clock display on the Status display and the Main display.



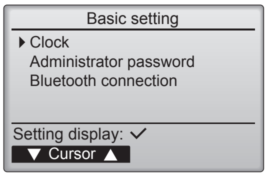
yyyy/ mm/ dd hh: mm
2017/ 01/ 01 00: 00

Note: Clock setting is necessary for time display, weekly timer, timer setting and error history. Make sure to perform clock setting when the unit is used for the first time or has not used for a long time.
Note: If a given system has no system controllers, the clock time will not automatically be corrected. In this case, periodically correct the clock time.

(2) Daylight saving time

The start/end time for daylight saving time can be set. The daylight saving time function will be activated based on the setting contents.

- If a given system has a system controller, disable this setting to keep the correct time.
- At the beginning and the end of daylight saving time, the timer may go into action twice or not at all.
- This function will not work unless the clock has been set.



Basic setting

▶Clock
Administrator password
Bluetooth connection

Setting display: ✓

[Button operation]

① The daylight saving time function can be activated/deactivated or the start/end times can be set by using the F1 through F4 buttons.

- DST

  Select “Yes” to activate the daylight saving time, or select “No” to deactivate.
- Date(Start)

  Set the start day of the week, week number, and month for daylight saving time.
- Start time

  Set the start time for daylight saving time.
- Forward to

  Set the time when the clock is to be set forward to at the start time above.
- Date(End) (2nd page)

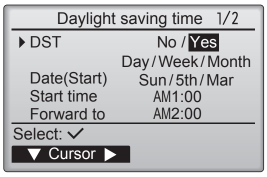
  Set the end day of the week, week number, and month for daylight saving time.
- End time (2nd page)

  Set the end time for daylight saving time.
- Backward to (2nd page)

  Set the time when the clock is to be set backward to at the end time above.

② Press the SELECT button to save the setting.

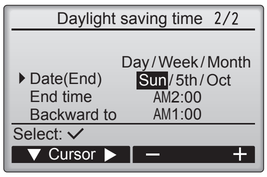
* If “5th” is selected for the week number and the 5th week does not exist in the selected month of the year, the setting is considered to be “4th.”



Daylight saving time 1/2

▶DST No / Yes
Day / Week / Month
Date(Start) Sun / 5th / Mar
Start time AM1:00
Forward to AM2:00

Select: ✓



Daylight saving time 2/2

Day / Week / Month
▶Date(End) Sun / 5th / Oct
End time AM2:00
Backward to AM1:00

Select: ✓

(3) Administrator password setting

[Button operation]

① A window to enter a new password will appear. Enter a new password, and press the SELECT button.

② Press the F4 button (OK) on the password change confirmation screen to save the change. Press the F3 button (Cancel) to cancel the change.

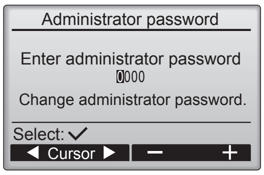
Note: The initial administrator password is “0000.” Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.

Note: If you forget your administrator password, you can initialize the password to the default password “0000” by pressing and holding the F1 button for ten seconds on the administrator password setting screen.

Note: The administrator password is required to make the settings for the following items.

· Timer setting · Weekly timer setting · Energy-save setting
· Outdoor unit silent mode setting · Restriction setting
· Night setback setting · Initial setting

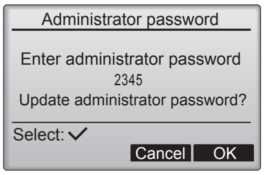
Refer to the Instruction Book that came with the remote controller for the detailed information about how to make the settings for these items.



Administrator password

Enter administrator password
0000
Change administrator password.

Select: ✓



Administrator password

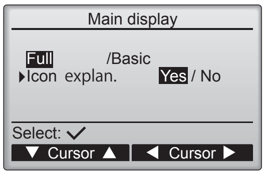
Enter administrator password
2345
Update administrator password?

Select: ✓

Display setting menu

(1) Main display setting

[Button operation]



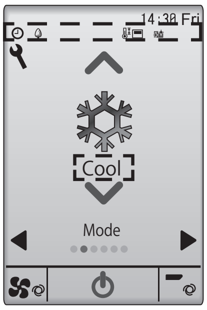
Main display

Full /Basic
▸Icon explan. Yes / No

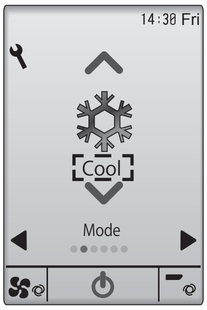
Select: ✓
▼ Cursor ▲ ◀ Cursor ▶

① Move the cursor to “Full/Basic,” and use the F3 or F4 button to select the display mode “Full” or “Basic.” (The factory setting is “Full.”)

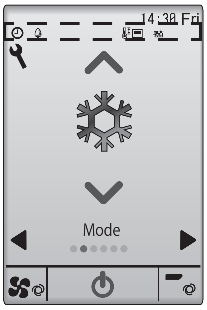
② Move the cursor to “Icon explan.” and use the F3 or F4 button to select the display mode “Yes” or “No.” (The factory setting is “Yes.”)



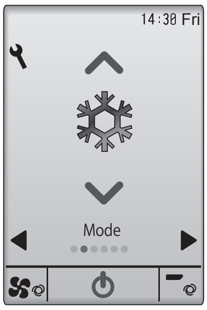
Example: Full mode
(Icon explanation enabled)



Example: Basic mode
(Icon explanation enabled)



Example: Full mode
(Icon explanation disabled)

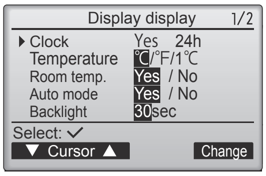


Example: Basic mode
(Icon explanation disabled)

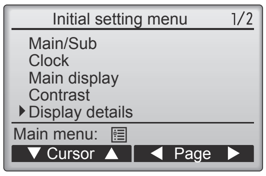
Note: This setting is only for the Main display. In the Basic mode, icons that indicate control status on timer and schedule settings will not appear on the display. When “No” is selected, the explanation of the setting contents on the Main display will not appear.

(2) Remote controller display details setting

Make the settings for the remote-controller-related items as necessary.
Press the SELECT button to save the changes.



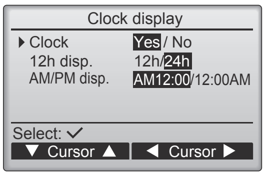
Display display 1/2
▸Clock Yes 24h
Temperature ℃/°F/1℃
Room temp. Yes / No
Auto mode Yes / No
Backlight 30sec
Select: ✓
▼ Cursor ▲ Change



Initial setting menu 1/2
Main/Sub
Clock
Main display
Contrast
▸Display details
Main menu: ▤
▼ Cursor ▲ ◀ Page ▶

[1] Clock display

[Button operation]



Clock display
▸Clock Yes / No
12h disp. 12h/24h
AM/PM disp. AM12:00/12:00AM
Select: ✓
▼ Cursor ▲ ◀ Cursor ▶

① Select “Clock” from the display details setting screen, and press the F4 button (Change) to bring up the clock display setting screen.

② Use the F1 through F4 buttons to select “Yes” (display) or “No” (non-display) and its format for the Status display and the Main display.

③ Save the settings with the SELECT button. (The factory settings are “Yes” (display) and “24 h” format.)

Clock display: Yes (Time is displayed on the Status display and the Main display.)
No (Time is not displayed on the Status display and the Main display.)
Display format: 24-hour format
12-hour format
AM/PM display (Effective when the display format is 12-hour): AM/PM before the time
AM/PM after the time

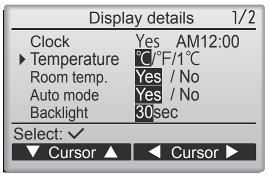
Note: Time display format will also be reflected on the timer and schedule setting display. The time is displayed as shown below.
12-hour format: AM12:00 - AM1:00 - PM12:00 - PM1:00 - PM11:59
24-hour format: 0:00 - 1:00 - 12:00 - 13:00 - 23:59

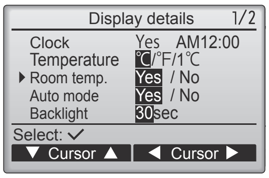
[2] Temperature unit setting

[Button operation]

Move the cursor to “Temperature” from the display details setting screen, and select the desired temperature unit with the F3 or F4 button. (The factory setting is Centigrade (ºC).)

- ºC: Temperature is displayed in Centigrade. Temperature is displayed in 0.5- or 1-degree increments, depending on the model of indoor units.
- ºF: Temperature is displayed in Fahrenheit.
- 1 ºC: Temperature is displayed in Centigrade in 1-degree increments.


Display details 1/2
Clock Yes AM12:00
▶ Temperature °C/°F/1°C
Room temp. Yes / No
Auto mode Yes / No
Backlight 30sec


Display details 1/2
Clock Yes AM12:00
Temperature °C/°F/1°C
▶ Room temp. Yes / No
Auto mode Yes / No
Backlight 30sec

[3] Room temperature display

[Button operation]

Move the cursor to “Room temp.” on the display details setting screen, and select the desired setting with the F3 or F4 button.

(The factory setting is “Yes”.)

- Yes: Room temperature appears on the Main display.
- No: Room temperature does not appear on the Main display.

Note: Even when “Yes” is set, the room temperature is not displayed on the Main display in the “Basic” mode.

[4] Auto (single set point) mode display setting

[Button operation]

Move the cursor to “Auto mode” from the display details setting screen, and select the desired mode with the F3 or F4 button. (The factory setting is “Yes.”)

- Yes: “Auto Cool” or “Auto Heat” is displayed during operation in the Auto (single set point) mode.
- No: Only “Auto” is displayed during operation in the Auto (single set point) mode.

[5] Backlight

The backlight lighting-up time can be set.

[Button operation]

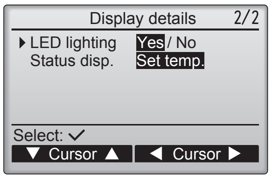
Move the cursor to “Backlight” from the display details setting screen, and select the desired time (5,10,20,30,60 seconds) with the F4 button. (The factory setting is “30” seconds.)

Note: This setting is effective on the Status display and the Main display.

[6] LED lighting

The LED lighting can be set to either “Yes” (On) or “No” (Off). (The factory setting is “Yes”.)

When “No” is selected, the LED will not light up even during the normal operation.


Display details 2/2
▶ LED lighting Yes / No
Status disp. Set temp.

[7] Status display

Make the settings for the temperature to be displayed on the Status display.

[Button operation]

Move the cursor to “Status disp.” from the display details setting screen, and select the desired setting with the F4 button.

Each pressing the F4 button will toggle through the following options: Set temp., Room temp., and Hide.

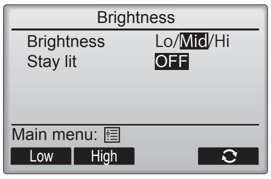
(3) Brightness

[Button operation]

Select the desired brightness for the remote controller LCD with the F1 and F2 buttons.

The ON/OFF of the Stay lit mode can be switched with the F4 button. When “ON” is selected, the backlight will remain lit dimly even after the specified time has elapsed.

Note: Adjust the brightness to improve viewing in different lighting conditions or installation locations. This setting can not improve viewing from all directions.



Brightness Lo/Mid/Hi

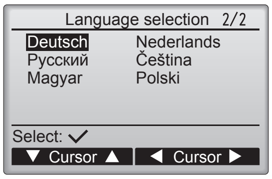
Stay lit OFF

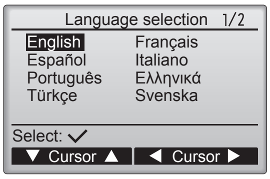
(4) Language selection

[Button operation]

Move the cursor to the language you desire with the F1 through F4 buttons.

Press the SELECT button to save the setting.





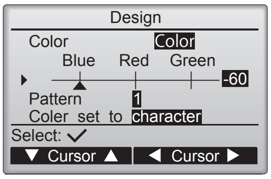
(5) Design setting

The screen design can be set.

[Button operation]

Select the color option with the F4 button.

- Color: The display color can be selected.
- White: Monochrome display (white basis)
- Black: Monochrome display (black basis)



Color Color

-60

Pattern 1

Coler set to character

When “White” or “Black” is selected, press the SELECT button. When “Color” is selected, select the following item with the F1 or F2 button, and set the desired display color for each item.

- Color shade: Set the color shade with the F3 or F4 button. (The settable range is -90 to 89.)
- Pattern: Set the color with the F4 button.
- Color set to: Select “Character” or “BG” (Background) as a target to which the color is applied with the F4 button.

* At factory shipment, these items are set as follows.

	Color option	Color shade	Pattern	Color set to
CT01MAA(R)-S, SB	Color	-70	1	Character
CT01MAA(R)-PB	Color	-90	2	Character

Operation setting menu

(1) Auto mode setting

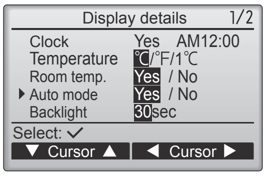
[Button operation]

Whether or not to use the Auto (single set point) or Auto (dual set points) mode can be selected by using the F3 or F4 button. This setting is valid only when indoor units with the Auto mode function are connected.

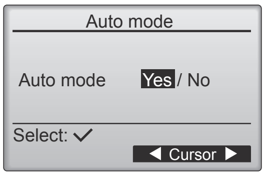
(The factory setting is “Yes”.)

Press the SELECT button to save the changes made.

- Yes: The Auto mode can be selected in the operation mode setting.
- No: The Auto mode cannot be selected in the operation mode setting.


Display details 1/2

Clock Yes AM12:00
Temperature °C/°F/1°C
Room temp. Yes / No
Auto mode Yes / No
Backlight 30sec


Auto mode

Auto mode Yes / No

9. Service menu

Note: Maintenance password is required.

At the Main display, press the Setting button and select “Service” to make the maintenance settings.

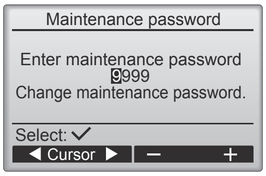
When the Service menu is selected, a window will appear asking for the password.

To enter the current maintenance password (4 numerical digits), move the cursor to the digit you want to change with the F1 or F2 button, and set each number (0 through 9) with the F3 or F4 button. Then, press the SELECT button.

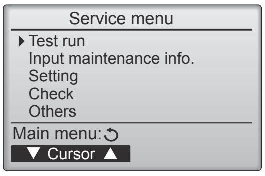
Note: The initial maintenance password is “9999.” Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.

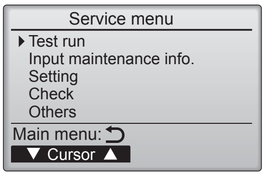
Note: If you forget your maintenance password, you can initialize the password to the default password “9999” by pressing and holding the F1 button for ten seconds on the maintenance password setting screen.

Note: Air conditioning units may need to be stopped to make certain settings. There may be some settings that cannot be made when the system is centrally controlled.


Maintenance password

Enter maintenance password
9999
Change maintenance password.


Service menu



Service menu
▸Test run
Input maintenance info.
Setting
Check
Others
Main menu: ↺
▼ Cursor ▲

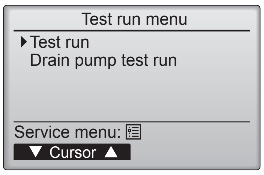
(1) Test run (CITY MULTI and Mr. SLIM)

Select “Test run” from the Service menu to bring up the Test run menu.

- Test run: Select this option to perform a test run.
- Drain pump test run: Select this option to perform a test run on the drain pump on the indoor unit.

Applicable only to the type of indoor units that support the test run function.

Note: Refer to the indoor unit Installation Manual for the detailed information about test run.

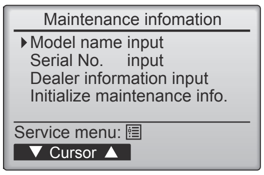


Test run menu
▸Test run
Drain pump test run
Service menu: ▤
▼ Cursor ▲

(2) Input maintenance information (CITY MULTI and Mr. SLIM)

Select “Input maintenance info.” from the Service menu to bring up the Maintenance information screen. Refer to the indoor unit Installation Manual for how to make the settings.

Note: The following settings can be made from the Maintenance information screen.
·Registering model names and serial numbers
Enter the model names and serial numbers of outdoor and indoor units. The information entered will appear on the Error information screen. Model names can have up to 18 characters, and the serial numbers can have up to 8 characters.
·Registering dealer information
Enter phone number of a dealer. The entered information will appear on the Error information screen. Phone number can have up to 13 characters.
·Initializing maintenance information
Select the desired item to initialize the model name, serial number, and dealer information settings.

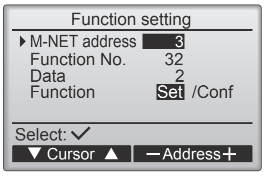


Maintenance infomation
▸Model name input
Serial No. input
Dealer information input
Initialize maintenance info.
Service menu: ▤
▼ Cursor ▲

(3) Function setting (CITY MULTI)

Make the settings for the indoor unit functions via the remote controller as necessary.

Select “Function setting” from the Settings menu to bring up the Function setting screen.

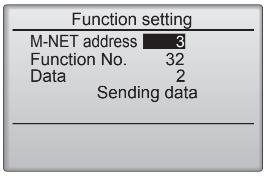


Function setting
▸M-NET address 3
Function No. 32
Data 2
Function Set /Conf
Select: ✓
▼ Cursor ▲ — Address +

[Button operation]

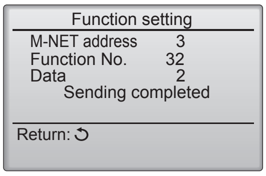
① The Function setting screen will appear.
Press the F1 or F2 button to move the cursor to one of the following: M-NET address, function setting number, or setting value. Then, press the F3 or F4 button to change the settings to the desired settings.

② Once the settings have been completed, press the SELECT button.
A screen will appear that indicates that the settings information is being sent.
To check the current settings of a given unit, enter the setting for its M-NET address and function setting number, select Conf for the Function, and press the SELECT button.
A screen will appear that indicates that the settings are being searched for. When the search is done, the current settings will appear.



Function setting
M-NET address 3
Function No. 32
Data 2
Sending data

③ When the settings information has been sent, a screen will appear that indicates its completion.
To make additional settings, press the RETURN button to return to the screen shown in Step ② above. Set the function numbers for other indoor units by following the same steps.



Function setting
M-NET address 3
Function No. 32
Data 2
Sending completed
Return: ↺

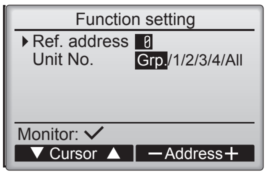
Note:

- **Refer to the indoor unit Installation Manual for information about the factory settings of indoor units, function setting numbers, and setting values.**
- Be sure to write down the settings for all functions if any of the initial settings has been changed after the completion of installation work.

(4) Function setting (Mr. SLIM)

Make the settings for the indoor unit functions via the remote controller as necessary.

Select “Function setting” from the Settings menu to bring up the Function setting screen.

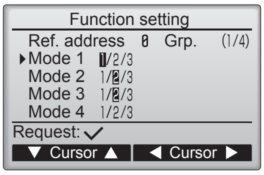


Function setting
▶Ref. address 0
Unit No. Grp./1/2/3/4/All
Monitor: ✓
▼ Cursor ▲ − Address +

[Button operation]

① Set the indoor unit refrigerant addresses and unit numbers with the F1 through F4 buttons, and then press the SELECT button to confirm the current setting.

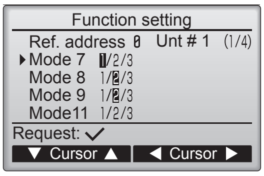
② When data collection from the indoor units is completed, the current settings appears highlighted. Non-highlighted items indicate that no function settings are made. Screen appearance varies depending on the “Unit No.” setting.



Function setting
Ref. address 0 Grp. (1/4)
▶Mode 1 1/2/3
Mode 2 1/2/3
Mode 3 1/2/3
Mode 4 1/2/3
Request: ✓
▼ Cursor ▲ ◀ Cursor ▶

Common items

③ Use the F1 or F2 button to move the cursor to select the mode number, and change the setting number with the F3 or F4 button.

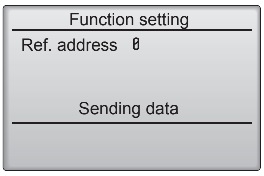


Function setting
Ref. address 0 Unt # 1 (1/4)
▶Mode 7 1/2/3
Mode 8 1/2/3
Mode 9 1/2/3
Mode11 1/2/3
Request: ✓
▼ Cursor ▲ ◀ Cursor ▶

Individual items
(Unit No. 1 through 4)

④ When the settings are completed, press the SELECT button to send the setting data from the remote controller to the indoor units.

⑤ When the transmission is successfully completed, the screen will return to the Function setting screen.



Function setting
Ref. address 0
Sending data

Note:

- Make the function settings shown in Table 1 on Mr. SLIM units as necessary.
- Refer to the Instructions Book when it is necessary to set the settings for CITY MULTI units.
- **Table 1 summarizes the setting options for each mode number. Refer to the indoor unit Installation Manual for the detailed information about initial settings, mode numbers, and setting numbers for the indoor units.**
- Be sure to write down the settings for all functions if any of the initial settings has been changed after the completion of installation work.

Table1. Function setting options

Mode No.	Mode	Settings	Setting No.	Unit numbers
01	Automatic recovery after power failure	Disable	1	Set “Grp.” for the Unit number. These settings apply to all the connected indoor units.
		Enable (Four minutes of standby time is required after the restoration of power.)	2	
02	Thermistor selection (indoor temperature detection)	Average temperature reading of the indoor units in operation	1	
		Thermistor on the indoor unit to which the remote controller is connected (fixed)	2	
		Built-in sensor on the remote controller	3	
03	LOSSNAY connection	Not connected	1	
		Connected (without outdoor air intake by the indoor units)	2	
		Connected (with outdoor air intake by the indoor units)	3	
04	Power voltage	240 V	1	
		220 V, 230 V	2	
05	Auto mode	Enable (Automatically the unit achieves effective energy saving operation.)	1	
		Disable	2	
07	Filter sign	100 hours	1	Set “1, 2, 3, 4, or All” for the Unit number. These settings apply to each indoor unit. ·If “1, 2, 3, or 4” is set for the Unit number, the settings apply only to the specified indoor unit regardless of the number of connected indoor units (one through four units). ·If “All” is set for the Unit number, the settings apply to all the connected indoor units regardless of the number of connected indoor units (one through four units).
		2500 hours	2	
		Not displayed	3	
08	Fan speed	Silent mode (or standard)	1	
		Standard (or High ceiling 1)	2	
		High ceiling (or High ceiling 2)	3	
09	Outlet	4 directional	1	
		3 directional	2	
		2 directional	3	
10	Optional parts (High-efficiency filter)	No	1	
		Yes	2	
11	Vane	No vanes (or the vane setting No.3 is effective.)	1	
		Equipped with vanes (The vane setting No.1 is effective.)	2	
		Equipped with vanes (The vane setting No.2 is effective.)	3	

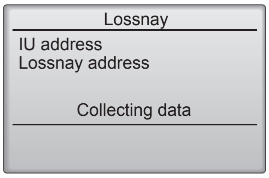
(5) LOSSNAY setting (CITY MULTI only)

This setting is required only when the operation of CITY MULTI units is interlocked with LOSSNAY units. This setting is not available for the Mr. SLIM units. Interlock settings can be made for the indoor unit to which the remote controller is connected. (They can also be confirmed or deleted.)

Note:
- Use the centralized controller to make the settings if it is connected.
- To interlock the operation of the indoor units with the LOSSNAY units, be sure to interlock the addresses of ALL indoor units in the group and that of the LOSSNAY unit.

[Button operation]

① When “Lossnay” on the Settings menu is selected, the remote controller will automatically begin searching for the registered LOSSNAY addresses of the currently connected indoor unit.

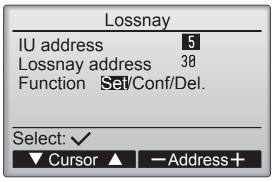


Lossnay

IU address
Lossnay address

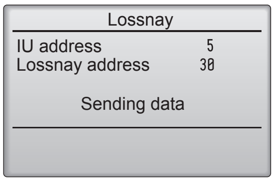
Collecting data

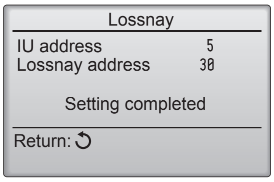
② When the search is completed, the smallest address of the indoor units that are connected to the remote controller and the address of the interlocked LOSSNAY unit will appear. "--" will appear if no LOSSNAY unit is interlocked with the indoor units.
If no settings need to be made, press the RETURN button to go back to the Settings menu.


Lossnay
IU address 5
Lossnay address 30
Function Set/Conf/Del.
Select: ✓
▼ Cursor ▲ −Address+

To make LOSSNAY interlock setting

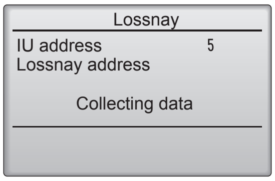
③ Enter the addresses of the indoor unit and the LOSSNAY unit to be interlocked, with the F1 through F4 buttons, select "Set" in the "Function", and press the SELECT button to save the settings. "Sending data" will appear on the screen. If the setting is successfully completed, "Setting completed" will appear.

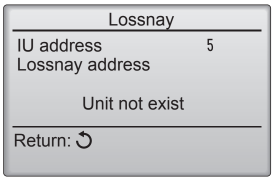

Lossnay
IU address 5
Lossnay address 30
Sending data


Lossnay
IU address 5
Lossnay address 30
Setting completed
Return: ↺

To search for the LOSSNAY address

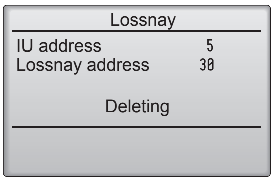
④ Enter the address of the indoor unit to which the remote controller is connected, select "Conf" in the "Function", and press the SELECT button. "Collecting data" will appear on the screen. If the signal is received correctly, the indoor unit address and LOSSNAY address will appear. "--" will appear when no LOSSNAY unit is found. "Unit not exist" will appear if no indoor units that are correspond to the entered address are found.

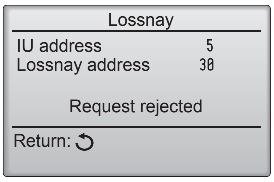

Lossnay
IU address 5
Lossnay address
Collecting data


Lossnay
IU address 5
Lossnay address
Unit not exist
Return: ↺

To delete the interlock setting

⑤ To delete the interlocked setting between LOSSNAY unit and the indoor units to which the remote controller is connected, enter the indoor unit address and LOSSNAY address with the F1 through F4 buttons, select "Del." in the "Function", and press the SELECT button. "Deleting" will appear. The screen will return to the search result screen if the deletion is successfully completed. "Unit not exist" will appear if no indoor units that are correspond to the entered address are found. If deletion fails, "Request rejected" will appear on the screen.


Lossnay
IU address 5
Lossnay address 30
Deleting


Lossnay
IU address 5
Lossnay address 30
Request rejected
Return: ↺

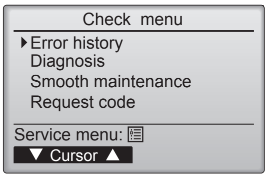
(6) Check

Select “Check” on the Service menu to bring up the Check menu screen.

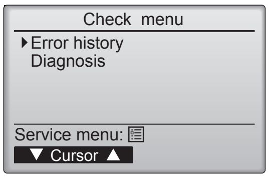
The type of menu that appears depends on the type of indoor units that are connected (CITY MULTI or Mr. SLIM).

(When CITY MULTI is connected, only “Error history” will appear in the menu.)

<Mr. SLIM>



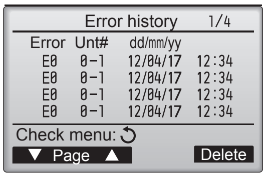
<CITY MULTI>



[Button operation]

① Error history

Select “Error history” from the Check menu, and press the SELECT button to view up to 16 error history records. Four records are shown per page, and the top record on the first page indicates the latest error record.

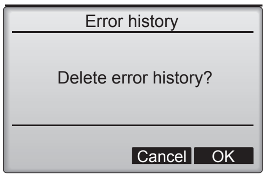


```
Error  Unt#  dd/mm/yy
 E0    0-1   12/04/17  12:34
 E0    0-1   12/04/17  12:34
 E0    0-1   12/04/17  12:34
 E0    0-1   12/04/17  12:34
```

[Deleting the error history]

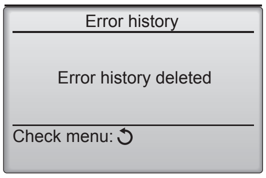
To delete the error history, press the F4 button (Delete) on the screen that shows error history. A confirmation screen will appear asking if you want to delete the error history.

Press the F4 button (OK) to delete the error history.



Delete error history?

“Error history deleted” will appear on the screen. Press the RETURN button to go back to the Check menu screen.



Error history deleted

② Other options in the Check menu (Mr. SLIM only)

The following options are also available on the Mr. SLIM units in the Check menu.

- Smooth maintenance
- Request code

These options are available only on the Mr. SLIM units. Refer to the indoor unit Installation Manual for details.

(7) Diagnostic function

Error history of each unit can be checked via the remote controller.

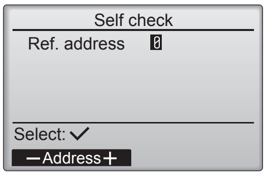
[Button operation]

① Select “Self check” from the Diagnosis menu, and press the SELECT button to view the Self check screen.

② With the F1 or F2 button, enter the refrigerant address (Mr. SLIM) or the M-NET address (CITY MULTI), and press the SELECT button.

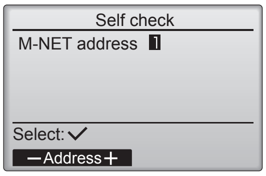
③ Error code, unit number, attribute, and indoor unit demand signal ON/OFF status at the contact (CITY MULTI only) will appear. “-” will appear if no error history is available.

<Mr. SLIM>



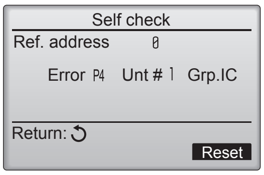
Ref. address 0

<CITY MULTI>



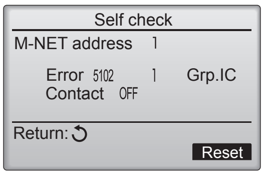
M-NET address 1

<Mr. SLIM>

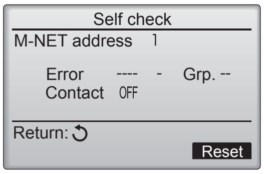


Self check
Ref. address 0
Error P4 Unt # 1 Grp.IC
Return: ↺
Reset

<CITY MULTI>



Self check
M-NET address 1
Error 5102 1 Grp.IC
Contact OFF
Return: ↺
Reset

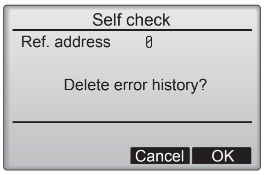


Self check
M-NET address 1
Error ---- - Grp. --
Contact OFF
Return: ↺
Reset

When there is no error history

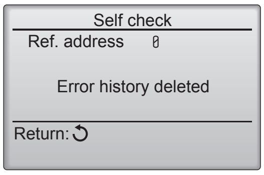
[Resetting the error history]

① Press the F4 button (Reset) on the screen that shows the error history. A confirmation screen will appear asking if you want to delete the error history.



Self check
Ref. address 0
Delete error history?
Cancel OK

② Press the F4 button (OK) to delete the error history. If deletion fails, “Request rejected” will appear, and “Unit not exist” will appear if no indoor units that are correspond to the entered address are found.



Self check
Ref. address 0
Error history deleted
Return: ↺

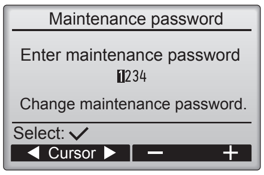
(8) Changing the maintenance password

[Button operation]

① Select “Maintenance password” on the Others menu, and press the SELECT button to bring up the screen to enter a new password.

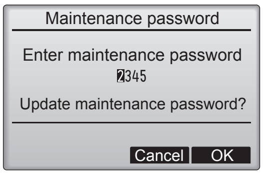
② Move the cursor to the digit you want to change with the F1 or F2 button, and set each digit to the desired number (0 through 9) with the F3 or F4 button.

③ Press the SELECT button to save the new password.



Maintenance password
Enter maintenance password
1234
Change maintenance password.
Select: ✓
◀ Cursor ▶ − +

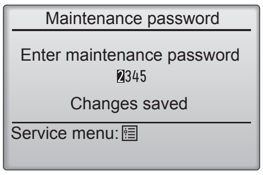
④ A confirmation screen will appear asking if you want to change the maintenance password. Press the F4 button (OK) to save the change. Press the F3 button (Cancel) to cancel the change.



Maintenance password
Enter maintenance password
2345
Update maintenance password?
Cancel OK

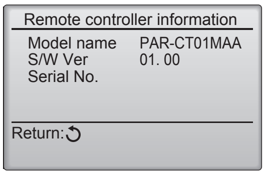
⑤ “Changes saved” will appear when the password is updated.

⑥ Press the MENU button to return to the Service menu or press the RETURN button to go back to the “Maintenance password” screen.



Maintenance password
Enter maintenance password
2345
Changes saved
Service menu: ▤

(9) Remote controller information



Model name PAR-CT01MAA
S/W Ver 01. 00
Serial No.

The following information of the remote controller in use can be checked.

- Model name
- Software version
- Serial number

[Button operation]

① Select “Others” from the Service menu.

② Select “Remote controller information”.

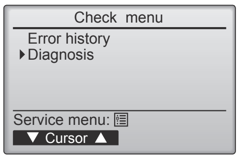
10. Remote controller check

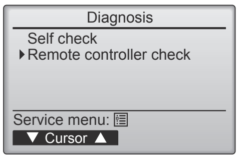
When the remote controller does not work properly, use the remote controller checking function to troubleshoot the problem.

(1) Check the remote controller display and see if anything is displayed (including lines). Nothing will appear on the remote controller display if the correct voltage (8.5-12 VDC) is not supplied to the remote controller. If this is the case, check the remote controller wiring and indoor units.

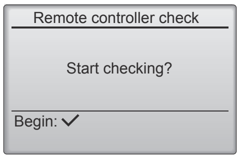
[Button operation]

① Select “Remote controller check” from the Diagnosis menu, and press the SELECT button to start the remote controller check and see the check results. To cancel the remote controller check and exit the Remote controller check menu screen, press the MENU or the RETURN button. The remote controller will not reboot itself.

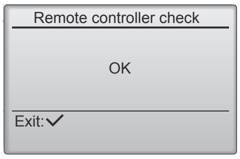




Select “Remote controller check”.



Start checking?



OK

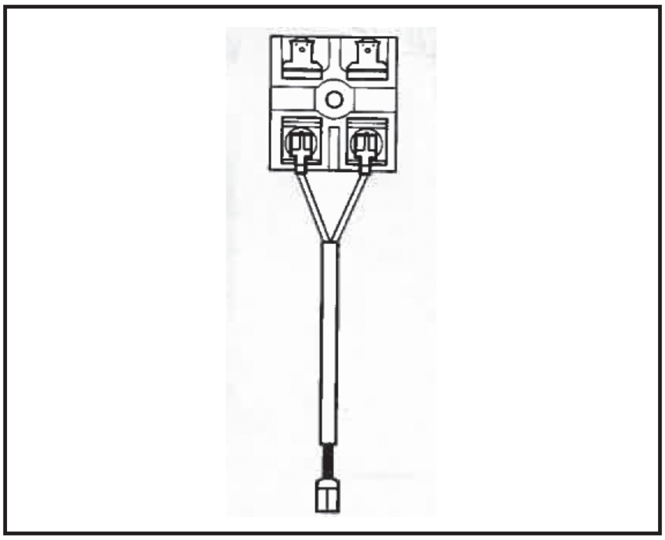
Remote controller check results screen

OK: No problems are found with the remote controller. Check other parts for problems.
E3, 6832: There is noise on the transmission line, or the indoor unit or another remote controller is faulty. Check the transmission line and the other remote controllers.
NG (ALL0, ALL1): Send-receive circuit fault. Remote controller needs replacing.
ERC: The number of data errors is the discrepancy between the number of bits in the data transmitted from the remote controller and that of the data that was actually transmitted over the transmission line. If data errors are found, check the transmission line for external noise interference.

② If the SELECT button is pressed after the remote controller check results are displayed, remote controller check will end, and the remote controller will automatically reboot itself.

Remote Controller Terminal Block kit for Wall Mounted models PAC-SH29TC-E

Figure



Descriptions

The terminal block is used as a relay to wire an indoor unit and to 2 remote controllers or to wire a remote controller and multiple indoor units in order to perform grouping control.

Applicable Models

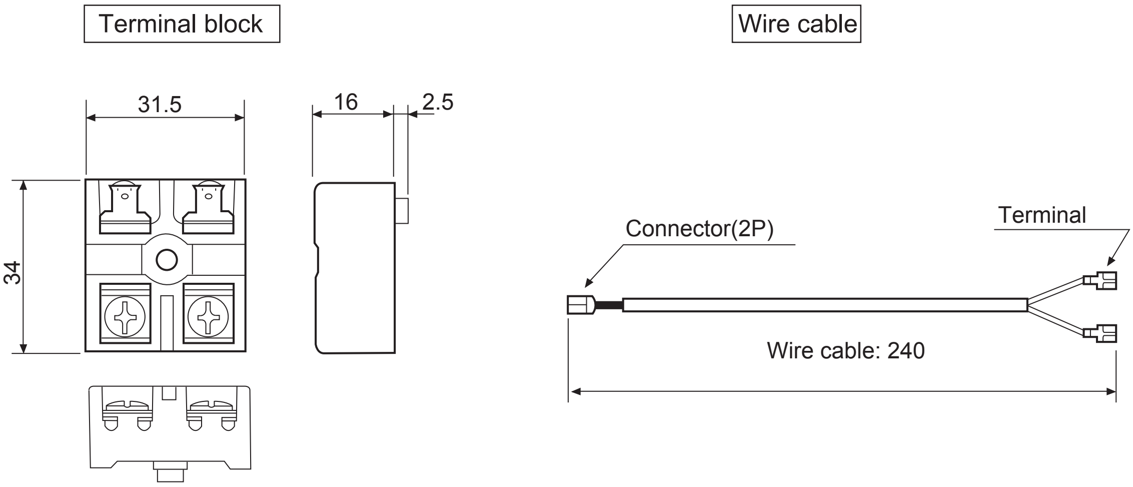
- ■ PKA-M***LA series
- ■ PKA-M***LAL series
- ■ PKA-M***KA series
- ■ PKA-M***KAL series

Specifications

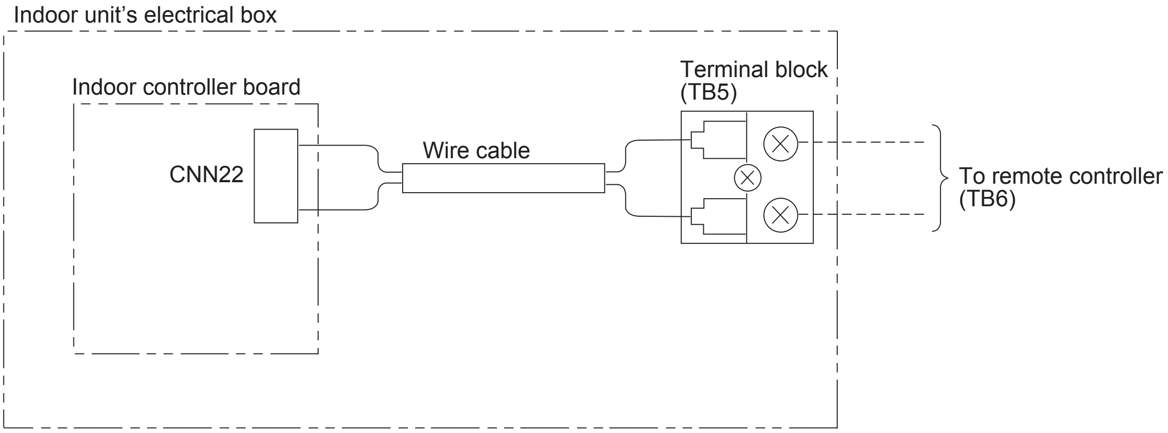
Terminal block capacity	10A/250V
Applicable wire	Φ 1.6mm or less
Terminal block material	Phenol resin

Dimensions

Unit : mm



Wiring Diagram



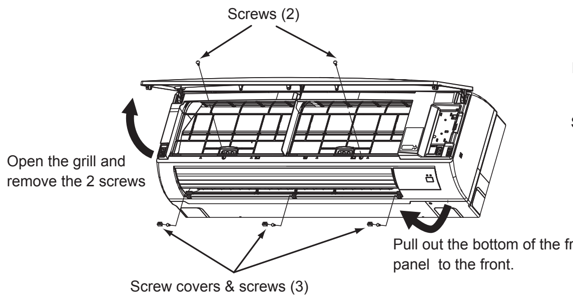
1 Included parts

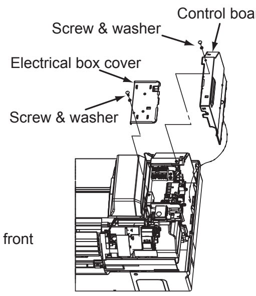
① Terminal block (TB5) ·······1 ② Screw ·······1 ③ Wire cable ·······1 (240 mm)

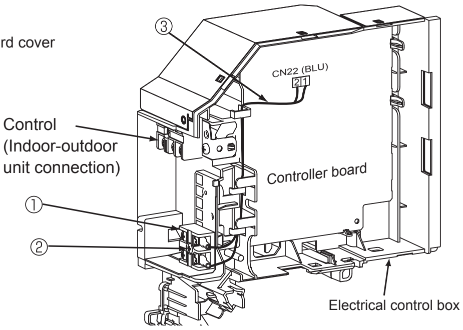
2 Installation procedure

PKA-M · KAL

1). Open the front grille and remove the 2 screws.
2). Remove the 3 screw covers and the 3 front panel screws.
3). Pull out the bottom of the front panel to the front.
Note: Beware that the panel does not contact with the vane while in the procedure.
4). Remove the terminal block cover and the control board cover by removing their respective screws.
Note: Be sure to keep the washers at hand.
5). Secure terminal block ① with screw ② to the electrical control box.
6). Connect wire cable ③ to terminal block ① and to connector CN22 on the indoor controller board.
7). Wire the wires of the cable that wire an indoor unit and 2 remote controllers or the cable that wire a remote controller and multiple indoor units for grouping control to the screw terminals at the bottom of terminal block ①.
Note: For more details about the methods for wiring the indoor unit and the remote controller(s), refer to the installation manual attached with the appropriate indoor unit.
8). After the installation of the terminal block is complete, reinstall the removed parts in the reverse order.


Screws (2)
Open the grill and remove the 2 screws
Pull out the bottom of the front panel to the front.
Screw covers & screws (3)





Signal sender

PAR-SL97A-E

Photo

Descriptions

Wireless remote controller for P series and S series.
(The receiver is necessary.)

Applicable Models

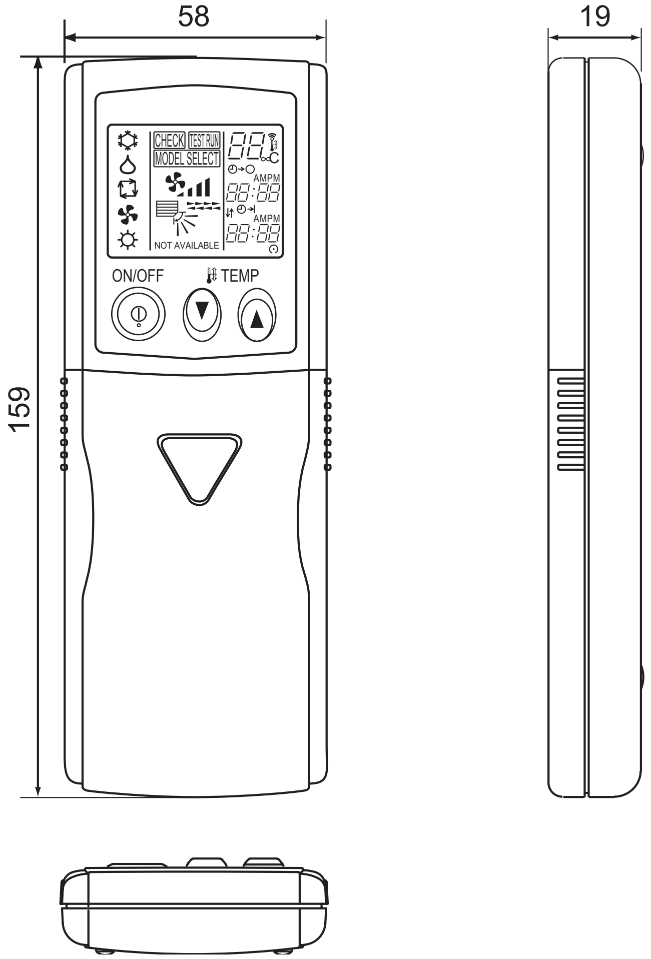
- PLA-M·EA series
- PLA-ZM·EA series
- PLA-SM·EA series
- SLZ-M·FA series
- SEZ-M·DA series
- SEZ-M·DAL series
- SFZ-M·VA series
- PEAD-M·JA series
- PEAD-M·JAL series
- PEAD-SM·JA series
- PEAD-SM·JAL series
- PEA-M·LA series
- PKA-M·LA series
- PKA-M·LAL series
- PKA-M·KA series
- PKA-M·KAL series
- PCA-M·KA series
- PCA-M71HA type

Specifications

Accessory	“AAA” LR03 alkaline batteries: 2 pcs
	4.1 × 16 wood screw: 2

Dimensions

Unit : mm



Wireless Remote Controller **PAR-SL101A-E**

Photo

Descriptions

Wireless remote controller for P-series and S-series.

Applicable Models

- ■ SLZ-M・FA2 series
- ■ SEZ-M・DAL2 series
- ■ SFZ-M·VA series
- ■ PLA-ZM・EA2 series
- ■ PLA-M・EA2 series
- ■ PLA-SM・EA2 series
- ■ PEAD-M・JA(L)2 * series
- ■ PEAD-SM35/50/60JA(L)
- ■ PEAD-SM71/100/125/140JA(L)2
- ■ PEA-M・LA series
- ■ PKA-M・LAL2 series
- ■ PKA-M・KAL2 series
- ■ PCA-M・KA2 * series
- ■ PCA-M・HA2 * series
- ■ PSA-M・KA * series

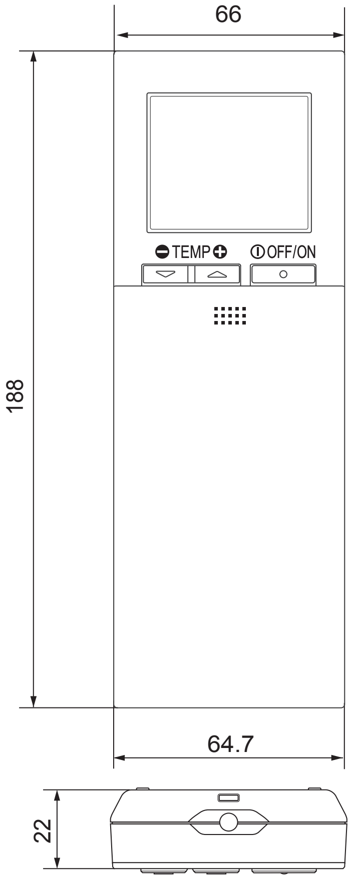
*Signal receiver "PAR-SA9CA-E" is required.

Specifications

Parts Name	Quantity
Wireless remote controller	1
Remote controller holder	1
AA(LR6) alkaline battery	2
Tapping screws 3.5 × 16	2

Dimensions

Unit : mm



How to Use / How to Install

1 Confirming the Supplied Parts

Check that the box includes the following parts in addition to this installation manual:

Parts Name	Quantity
Wireless remote controller	1
Remote controller holder	1
LR6 AA alkaline battery	2
Tapping screws 3.5 × 16	2

Only use LR6 AA batteries. Replace low batteries with new LR6 AA batteries. Observe the polarity of the batteries as indicated, and insert the negative end first.

2 Installation

- Use the remote controller holder that is provided to avoid misplacing the remote controller.
- Install the remote controller in a location that meets the following conditions.
  - Out of the direct sun light
  - Away from any heat sources
  - Out of the airflow from the air conditioner (cool or warm)
  - Where the operation of the remote controller can easily be performed and the display is readily visible to the user
  - Out of the reach of small children

NOTES:

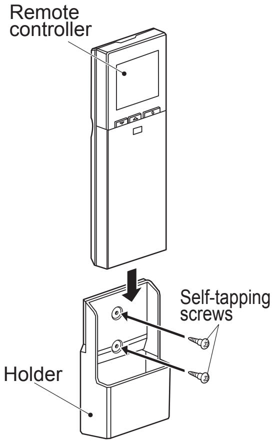
* If there is a fluorescent light in the room in which the air conditioner is to be installed, turn it on and make sure that the signal from the remote controller can be received by the indoor unit from the intended installation location. When the signal receiving unit receives a signal from the remote controller, a short beeping sound will be heard.

If the air conditioner unit is installed in a room in which a fluorescent light on an electronic lighting control system (i.e., inverter light) is installed, signal interference may occur.

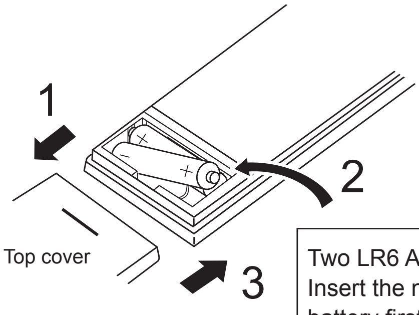
* Maximum signal receiving distance is approximately 7 meters (Approx. 22 feet). Signal receiving angle is approximately 45 degrees to the right and the left from the center.

* Install the unit at least 1 meter (Approx. 3 feet) away from the TV or radio.
(If the unit is installed too close to these appliances, signal interference (picture distortion and noise) may occur.)

- Use the tapping screws that are provided to mount the remote controller holder on the wall, and then place the remote controller in the holder.

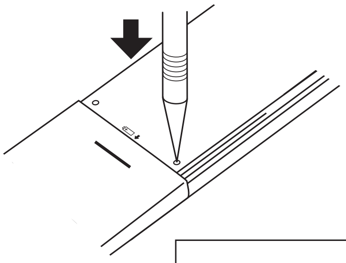


1. Remove the top cover, insert two LR6 AA batteries, and then install the top cover.



Two LR6 AA batteries
Insert the negative (–) end of each battery first. Install the batteries in the correct directions (+, –)!

2. Press the Reset button.



Press the Reset button with an object that has a narrow end.

3 Initial Setting

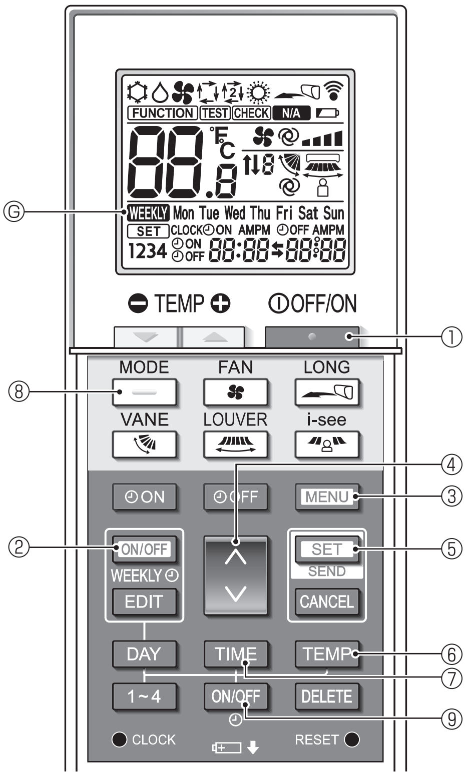


Fig. 3-1

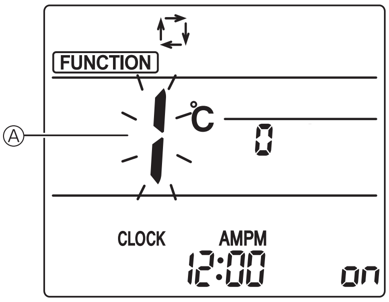


Fig. 3-2

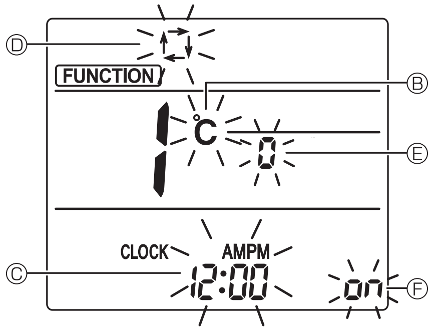


Fig. 3-3

The following settings can be made in the initial setting mode.

Item	Setting	Fig. 5-3
Temperature unit	ºC/ºF	Ⓑ
Time display	12-hour format/24-hour format	Ⓒ
AUTO mode	Single set point/Dual set point	Ⓓ
Pair No.	0–3	Ⓔ
Backlight	On/Off	Ⓕ

1. Switching to the initial setting mode
(Fig. 3-1, Fig. 3-2)

1. Press the ▭ button ① to stop the air conditioner.
   - If the weekly timer is enabled, press the ON/OFF WEEKLY button ② to disable the timer. (WEEKLY Ⓖ disappears.)
2. Press the MENU button ③.
   - The Function setting screen will be displayed and the function No. Ⓐ will blink.
   - Press the ∧∨ button ④ to change the function No.
3. Check that function No. "1" is displayed, and then press the SET button ⑤.
   - The Screen display setting screen will be displayed.

2. Changing the temperature unit
(Fig. 3-1, Fig. 3-3 Ⓑ)

Press the TEMP button ⑥.

- Pressing the TEMP button ⑥ changes the temperature unit (**°C / °F**). (The factory setting is "°C".)

  ℃ : The temperature is displayed in degrees Celsius.

  ℉ : The temperature is displayed in degrees Fahrenheit.

3. Changing the time display
(Fig. 3-1, Fig.3-3 Ⓒ)

Press the TIME button ⑦.

- Pressing the TIME button ⑦ changes the time display (AMPM 12:00 / 24:00). (The factory setting is "12-hour format".)

  AMPM 12:00 : The time is displayed in the 12-hour format.

  24:00 : The time is displayed in the 24-hour format.

4. Changing the AUTO mode
(Fig. 3-1, Fig.3-3 Ⓓ)

Press the — button ⑧.

- Pressing the — button ⑧ changes the Auto mode (⟲ / ⟲2). (The factory setting is "Single set point".)

  ⟲ : The AUTO mode operates as the usual automatic mode (Single set point).

  ⟲2 : The AUTO mode operates using dual set points.

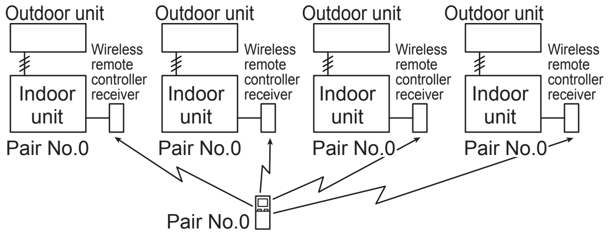
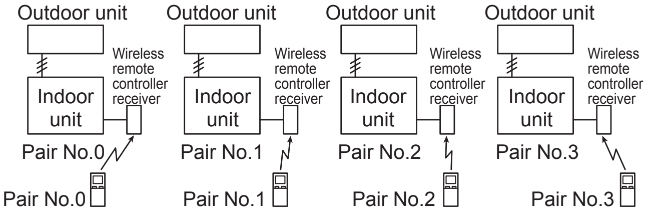
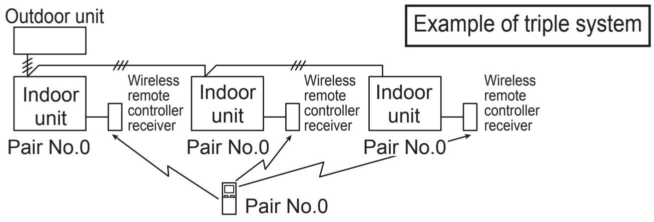
5. Changing the pair No. (Fig. 3-1, Fig.3-3 Ⓔ)

Press the ∧∨ button ④.

- Set the pair number to "0"–"3". (The factory setting is “0”.)

	Indoor unit setting		
	Mr. Slim	CITY MULTI	
Pair No. of wireless remote controller	Indoor PC board jumper wire (J41 and J42 settings)	Indoor PC board SW22 settings	
		SW22-3	SW22-4
0	Do not cut (initial setting)	ON	ON
1	Cut only J41	OFF	ON
2	Cut only J42	ON	OFF
3	Cut both J41 and J42	OFF	OFF

Setting example (when using Mr. Slim)

Independent system	(1) Same settings • All of the units can be operated by the same wireless remote controller.  Outdoor unit Outdoor unit Outdoor unit Outdoor unit Wireless remote controller receiver Indoor unit Pair No.0 Pair No.0 Pair No.0 Pair No.0 Pair No.0 Wireless remote controller operation unit	• All of the indoor PC boards and the wireless remote controller are set to the same pair number. • Install each unit within the receiving range of the wireless remote controller or have the operator move the wireless remote controller to operate each unit.
	(2) Separate settings • Each unit can be operated only by its own wireless remote controller.  Outdoor unit Wireless remote controller receiver Indoor unit Pair No.0 Pair No.1 Pair No.2 Pair No.3 Pair No.0 Pair No.1 Pair No.2 Pair No.3 Wireless remote controller operation unit	• The indoor PC boards and wireless remote controllers are set to different pair numbers for each unit.
Simultaneous twin/triple/quadruple system	 Outdoor unit Example of triple system Indoor unit Wireless remote controller receiver Pair No.0 Pair No.0 Pair No.0 Pair No.0 Wireless remote controller operation unit	• The system operates regardless of which indoor unit receives the signals.

6. Changing the backlight setting

(Fig. 3-1, Fig. 3-3 Ⓕ)

Press the ON/OFF button ⑨.

- Pressing the ON/OFF button ⑨ changes the setting (on / oFF). (The factory setting is “ON”.)
  on : The backlight comes on when a button is pressed.
  oFF : The backlight does not come on when a button is pressed.

7. Completing the settings

(Fig. 3-1, Fig. 3-2)

Press the SET button ⑤.

- The function No. Ⓐ blinks.

Press the MENU button ③.

- The remote controller exits the initial setting mode. (The air conditioner operation is stopped.)

4 Function settings

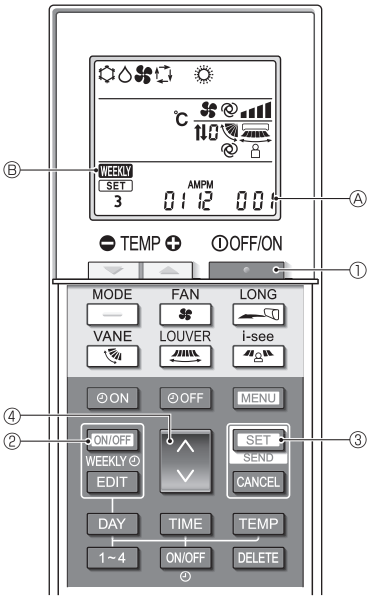


Fig. 4-1

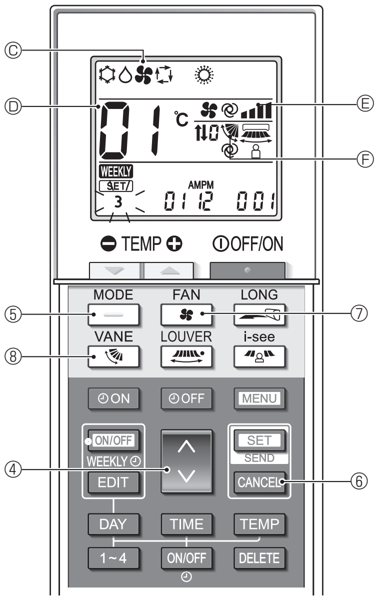


Fig. 4-2

To confirm the functions and settings for the indoor unit you want to set, refer to the operation manual and technical materials for the unit.

1. Switching to the function setting mode (Fig. 4-1)

1. Press the ● button ① to stop the air conditioner.
   - If the weekly timer is enabled, press the ON/OFF WEEKLY button ② to disable the timer. (WEEKLY Ⓑ disappears.)
2. Press the SET button ③ for 5 seconds.
   - The remote controller enters the function setting mode. (The group model setting number Ⓐ blinks.)

2. Entering the group model setting number (Fig. 4-1)

Press the ⌃⌄ button ④.

- Enter the group model setting number for the indoor unit you want to operate. (The factory setting is "001".)
  To confirm the group model setting number, refer to the indoor unit operation manual.
- The fan speed, vertical airflow direction and operation mode can be set by operating the group model setting number.
  When you want to change any settings other than above, refer to the descriptions about the separate setting modes in the following pages.

3. Separate settings mode 1 (Fig. 4-2, Fig. 4-3)

You can also set the functions as necessary for the indoor unit that you want to operate.

1) Operation mode setting (The factory setting is "01".)

1. Press the — button ⑤.
   - The operation mode Ⓒ blinks.
2. Press the ⌃⌄ button ④ to select the setting number Ⓓ.

Operation mode display Ⓒ	Setting No. Ⓓ	Operation mode display Ⓒ	Setting No. Ⓓ
❄ 💧 ✤ ⟳ ☼	01	❄ ✤ ⟳ ☼	05
❄ 💧 ⟳ ☼	02	❄ 💧 ✤	06
❄ 💧 ✤ ☼	03	❄ ✤	07
❄ ✤ ☼	04		

* If the setting is incorrect, press the CANCEL button ⑥ and repeat the procedure from step 1.

2) Fan speed setting (The factory setting is "01".)

1. Press the ✤ button ⑦.
   - The fan speed Ⓔ blinks.
2. Press the ⌃⌄ button ④ to select the setting number Ⓓ.

Fan speed display Ⓔ	Setting No. Ⓓ
✤ ▂▃▅▇ (4 speeds)	01
✤ ▂▃▅ (3 speeds)	02
✤ ▂▃ (2 speeds)	03
✤ ▂ (1 speed, none)	04

* If the setting is incorrect, press the CANCEL button ⑥ and repeat the procedure from step 1.

3) Vertical airflow direction setting (The factory setting is "01".)

1. Press the ◢ button ⑧.
   - The airflow direction Ⓕ blinks.
2. Press the ⌃⌄ button ④ to select the setting number Ⓓ.

Airflow direction Ⓕ				Setting No. Ⓓ
With auto vane		Without auto vane		
◢	(With vane, swing)	◢	(With vane, swing)	01
◢	(With vane, no swing)	◢	(With vane, no swing)	02
No display (no vane)		No display (no vane)		03

* If the setting is incorrect, press the CANCEL button ⑥ and repeat the procedure from step 1.

5 Service

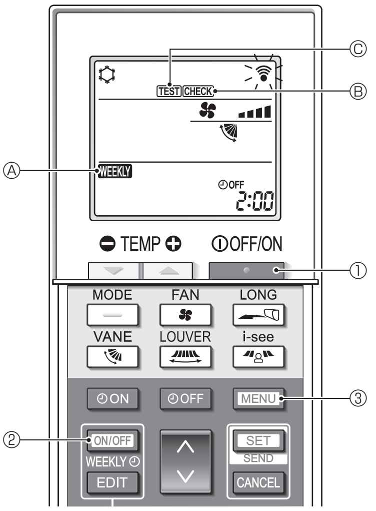


Fig. 5-1

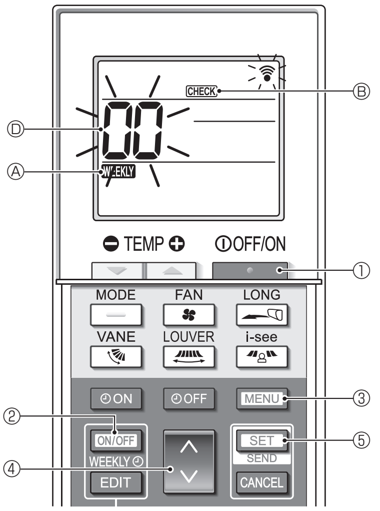


Fig. 5-2

1. Testrun (Fig. 5-1)

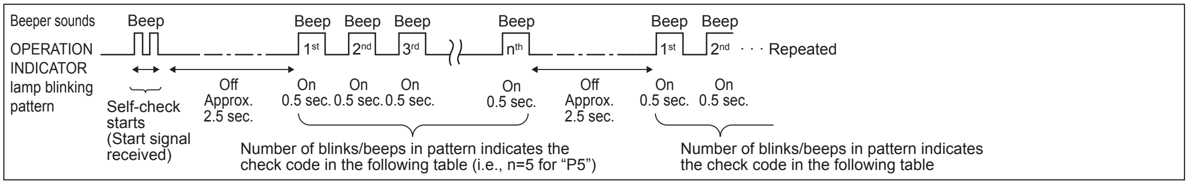
1. Press the ▬ button ① to stop the air conditioner.
   - If the weekly timer is enabled (WEEKLY Ⓐ is on), press the ON/OFF WEEKLY button ② to disable it (WEEKLY Ⓐ is off).
2. Press the MENU button ③ for 5 seconds.
   - CHECK Ⓑ comes on and the unit enters the service mode.
3. Press the MENU button ③.
   - TEST Ⓒ comes on and the unit enters the test run mode.
4. Press the following buttons to start the test run.
   - — : Switch the operation mode between cooling and heating and start the test run.
   - ✤ : Switch the fan speed and start the test run.
   - ↘ : Switch the airflow direction and start the test run.
   - ↔ : Switch the louver and start the test run.
   - SET : Start the test run.
5. Stop the test run.
   - Press the ▬ button ① to stop the test run.
   - After 2 hours, the stop signal is transmitted.

2. Self-check (Fig. 5-2)

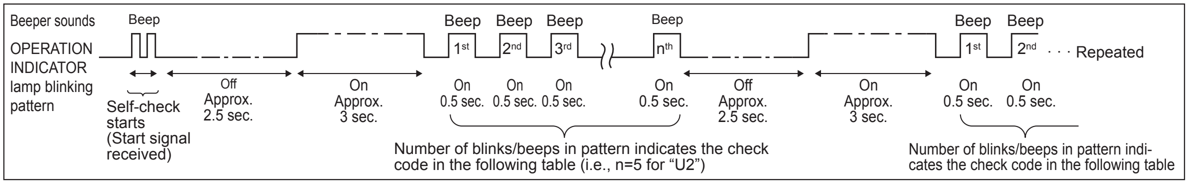
1. Press the ▬ button ① to stop the air conditioner.
   - If the weekly timer is enabled (WEEKLY Ⓐ is on), press the ON/OFF WEEKLY button ② to disable it (WEEKLY Ⓐ is off).
2. Press the MENU button ③ for 5 seconds.
   - CHECK Ⓑ comes on and the unit enters the self-check mode.
3. Press the ⌃⌄ button ④ to select the refrigerant address (M-NET address) Ⓓ of the indoor unit for which you want to perform the self-check.
4. Press the SET button ⑤.
   - If an error is detected, the check code is indicated by the number of beeps from the indoor unit and the number of blinks of the OPERATION INDICATOR lamp.
5. Press the ▬ button ①.
   - CHECK Ⓑ and the refrigerant address (M-NET address) Ⓓ go off and the self-check is completed.

Refer to the following tables for details on the check codes.
* A receiver adapter (MA type) cannot be used.

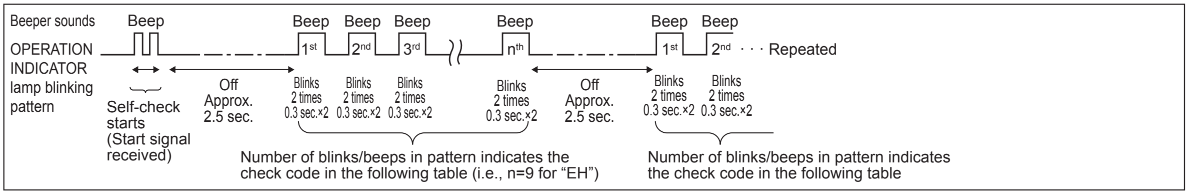
[Output pattern A]


Beeper sounds
OPERATION INDICATOR lamp blinking pattern
Beep
Beep Beep Beep
Beep
Beep Beep
1st
2nd
3rd
nth
1st
2nd
· · · Repeated
Self-check starts (Start signal received)
Off Approx. 2.5 sec.
On 0.5 sec.
On 0.5 sec.
On 0.5 sec.
On 0.5 sec.
Off Approx. 2.5 sec.
On 0.5 sec.
On 0.5 sec.
Number of blinks/beeps in pattern indicates the check code in the following table (i.e., n=5 for "P5")
Number of blinks/beeps in pattern indicates the check code in the following table

[Output pattern B]


Beeper sounds
OPERATION INDICATOR lamp blinking pattern
Beep
Beep Beep Beep
Beep
Beep Beep
1st
2nd
3rd
nth
1st
2nd
· · · Repeated
Self-check starts (Start signal received)
Off Approx. 2.5 sec.
On Approx. 3 sec.
On 0.5 sec.
On 0.5 sec.
On 0.5 sec.
On 0.5 sec.
Off Approx. 2.5 sec.
On Approx. 3 sec.
On 0.5 sec.
On 0.5 sec.
Number of blinks/beeps in pattern indicates the check code in the following table (i.e., n=5 for "U2")
Number of blinks/beeps in pattern indicates the check code in the following table

[Output pattern C]


Beeper sounds
OPERATION INDICATOR lamp blinking pattern
Beep
Beep Beep Beep
Beep
Beep Beep
1st
2nd
3rd
nth
1st
2nd
· · · Repeated
Self-check starts (Start signal received)
Off Approx. 2.5 sec.
Blinks 2 times 0.3 sec.×2
Blinks 2 times 0.3 sec.×2
Blinks 2 times 0.3 sec.×2
Blinks 2 times 0.3 sec.×2
Off Approx. 2.5 sec.
Blinks 2 times 0.3 sec.×2
Blinks 2 times 0.3 sec.×2
Number of blinks/beeps in pattern indicates the check code in the following table (i.e., n=9 for "EH")
Number of blinks/beeps in pattern indicates the check code in the following table

■ Mr. Slim output contents

[Output pattern A]　Errors detected by indoor unit

Wireless remote controller	Wired remote controller	Symptom	Remark
Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Check code		
1	P1	Intake sensor error	
2	P2, P9	Pipe (liquid or 2-phase pipe) sensor error	
3	E6, E7	Indoor/outdoor unit communication error	
4	P4	Drain sensor error/Float switch connector open	
5	P5	Drain overflow protection operation	
	PA	Forced compressor error	
6	P6	Freezing (during cooling operation)/Overheating protection operation (during heating operation)	
7	EE	Assembly error (system error)	
8	P8	Pipe temperature error	
9	E4	Communication error between wired remote controller and indoor unit	
10	—	—	
11	Pb	Indoor unit fan motor error	
12	Fb	Indoor unit control system error (memory error, etc.)	
14	PL	Refrigerant circuit abnormal	

[Output pattern B]　Errors detected by unit other than indoor unit (outdoor unit, etc.)　* The supported check codes may vary depending on the connected outdoor unit.

Wireless remote controller	Wired remote controller	Symptom	Remark
Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Check code		
1	E9	Indoor/outdoor unit communication error	For details, check the LED display of the outdoor controller board.
2	UP	Compressor overcurrent interruption	
3	U3, U4	Open/short of outdoor unit thermistors	
4	UF	Compressor overcurrent interruption (When compressor locked)	
5	U2	Abnormal high discharging temperature/49C worked/insufficient refrigerant	
6	U1, Ud	Abnormal high pressure (63H worked)/Overheating protection operation	
7	U5	Abnormal temperature of heat sink	
8	U8	Outdoor unit fan protection stop	
9	U6	Compressor overcurrent interruption/Abnormal of power module	
10	U7	Abnormality of super heat due to low discharge temperature	
11	U9, UH	Abnormality such as overvoltage or voltage shortage and abnormal synchronous signal to main circuit/Current sensor error	
12	—	—	
13	—	—	
14	Others	Other errors (Refer to the technical manual for the outdoor unit.)	

[Output pattern C]　Errors detected by unit other than indoor unit (outdoor unit, etc.)

Wireless remote controller	Wired remote controller	Symptom	Remark
Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Check code		
9	EH	Panel communication abnormal (auto ascending/descending panel)	

■ CITY MULTI output contents

[Output pattern A] The abnormal unit (attribute) is an indoor unit, LOSSNAY unit, or outdoor air processing unit.
[Output pattern B] The abnormal unit (attribute) is an outdoor unit or other unit (a unit other than an indoor unit, LOSSNAY unit, or outdoor air processing unit).

Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	M-NET check code	Remarks
1	1000 – 1999	If the wired remote controller and system controller are not used together, the details of the check codes in the error history can be checked using the LED display of the outdoor PC board. To check the error history of the outdoor unit, refer to the outdoor unit service handbook.
2	2000 – 2999	
3	3000 – 3999	
4	4000 – 4999	
5	5000 – 5999	
6	6000 – 6999	
7	7000 – 7999	
8	0 – 999	

Notes:

1. If the beeper does not sound and the OPERATION INDICATOR lamp remains off after the signal was received when the self-check starts, there is no error history.
2. If the beeper sounds 3 times continuously “beep, beep, beep (0.4 + 0.4 + 0.4 seconds)” after the signal was received when the self-check starts, the specified refrigerant address (M-NET address) is incorrect.

3. Unit function selection

This setting method is for Mr. Slim. For CITY MULTI models, set the DIP switches on the indoor PC board and outdoor PC board.
To set the DIP switches, refer to the technical materials for the CITY MULTI models.

Set the functions as necessary using the remote controller. The functions for each unit can be set only from the remote controller.
Select the functions from table 1 that must be set.
Only the refrigerant systems that are connected to indoor units equipped with wireless remote controller receivers can be set from the wireless remote controller operation unit. The refrigerant address cannot be specified using the wireless remote controller operation unit.

Table 1 Function selection settings (For details about the factory settings and modes of each indoor unit, refer to the indoor unit installation manual.)

Note: The items in the following table are representative examples. Because the settings for each mode may vary depending on the model, refer to the indoor unit installation manual for details.

Mode	Settings	Mode no.	Setting no.	Initial setting	Setting
Power failure automatic recovery	Not available	01	1		Select unit number 00.
	Available		2		
Indoor temperature detecting	Indoor unit operating average	02	1		
	Set by indoor unit’s remote controller		2		
	Remote controller’s internal sensor		3		
LOSSNAY connectivity	Not Supported	03	1		
	Supported (indoor unit is not equipped with fresh air intake)		2		
	Supported (indoor unit is equipped with fresh air intake)		3		
Auto operation mode	Auto operation mode Single set point (Available 14°C (58°F) cooling setting) *1 *2	06	1		
	Dual set point (Not available 14°C (58°F) cooling setting) *1 *2		2		
Filter sign	100Hr	07	1		Select unit number 01–04 or AL (all units).
	2500Hr		2		
	No filter sign indicator		3		
Fan speed	Silent	08	1		
	Standard		2		
	High ceiling		3		
Number of air outlets	4-directional	09	1		
	3-directional		2		
	2-directional		3		
Installed option (high-efficiency filter, etc.)	Without	10	1		
	With		2		
Up/down vane setting *3	Not setting/Equipped with vanes (vanes angle setup ③)	11	1		
	Equipped with vanes (vanes angle setup ①)		2		
	Equipped with vanes (vanes angle setup ②)		3		
Built-in humidifier	Not equipped	13	1		
	Equipped		2		

*1 It is available when the indoor unit is connected to any of the particular outdoor units.
*2 An optional insulation kit is required.
*3 The setting varies depending on the model.

Function selection procedure (Fig. 5-3, 5-4)
First, it is important to understand the procedure for the function selection. The following procedure explains how to set "LOSSNAY connectivity" in table 1 to "Supported (indoor unit is not equipped with outdoor-air intake)" as an example.
For the actual operations, refer to the following procedure.

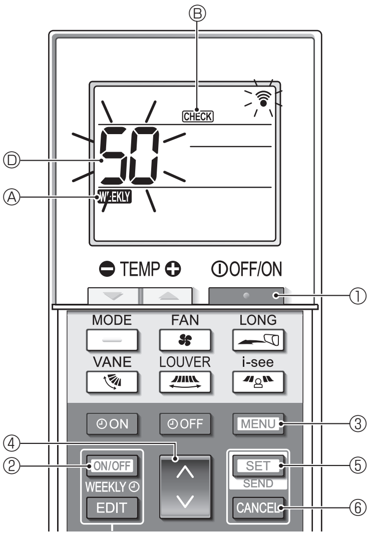


Fig. 5-3

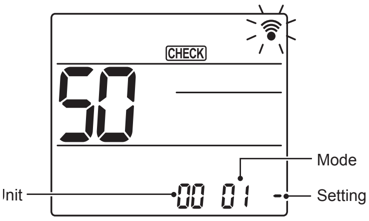


Fig. 5-4

1. Press the ▭ button ① to stop the air conditioner.
   - * If the weekly timer is enabled (WEEKLY Ⓐ is on), press the ON/OFF WEEKLY button ② to disable it (WEEKLY Ⓐ is off).
2. Press the MENU button ③ for 5 seconds.
   - CHECK Ⓑ comes on and the unit enters the self-check mode.
3. Press the ∧∨ button ④ to set the displayed number Ⓓ to "50".
   - While pointing the wireless remote controller toward the receiver, press the SET button ⑤. (The unit number blinks.)
4. Press the ∧∨ button ④ to set the unit number of the indoor unit.
   - While pointing the wireless remote controller toward the receiver, press the SET button ⑤. (The mode number blinks.)
   - * When the unit number is transmitted, the selected indoor unit starts operating in the fan mode.
     You can use this step to confirm which indoor unit corresponds to the unit number you selected to change the functions.
     However, if you set the unit number to "00" or "AL", all of the indoor units in the same refrigerant system will start operating in the fan mode.
   - * If you transmit a unit number that cannot be selected, the beeper sounds 3 times continuously "beep, beep, beep (0.4 + 0.4 + 0.4 sec.)".
     If this occurs, press the CANCEL button ⑥, and then set the unit number again while the unit number display is blinking.
   - * If the signal was not received correctly, the beeper will not sound or it will beep twice.
     If this occurs, press the CANCEL button ⑥, and then set the unit number again while the unit number display is blinking.

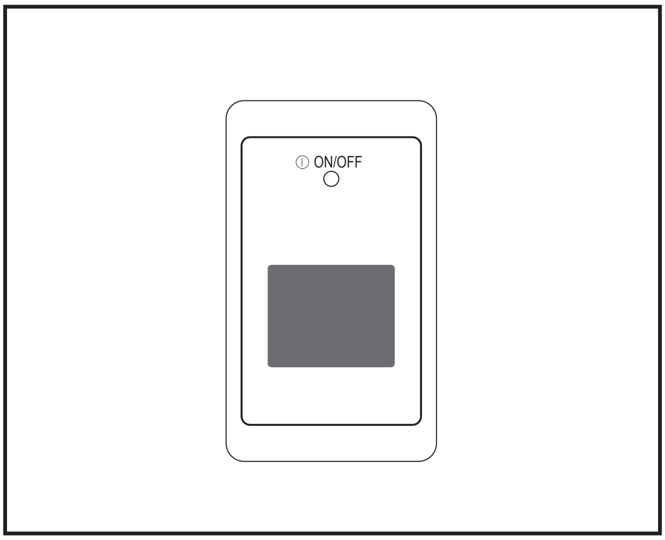
5. Press the ∧∨ button ④ to set the mode number.
   - While pointing the wireless remote controller toward the receiver, press the SET button ⑤. (The setting number blinks.)
   At this time, the beeper sound and OPERATION INDICATOR lamp blinking pattern indicate the current setting number for the selected mode number.
   Current setting value = 1: Beep (1 sec.) × 1 time
   = 2: Beep (1 sec.) × 2 times
   = 3: Beep (1 sec.) × 3 times
   - * If you enter a mode that cannot be set, the beeper sounds 3 times continuously "beep, beep, beep (0.4 + 0.4 + 0.4 sec.)".
     If this occurs, press the CANCEL button ⑥, and then set the mode number again while the mode number display is blinking.
   - * If the signal was not received correctly, the beeper will not sound or it will beep twice.
     If this occurs, press the CANCEL button ⑥, and then set the mode number again while the mode number display is blinking.
6. Press the ∧∨ button ④ to select the setting number.
   - While pointing the wireless remote controller toward the receiver, press the SET button ⑤. (The mode number blinks.)
   At this time, the beeper sound and OPERATION INDICATOR lamp blinking pattern indicate the setting number for the selected mode number.
   Current setting value = 1: Beep (1 sec.) × 1 time
   = 2: Beep (1 sec.) × 2 times
   = 3: Beep (1 sec.) × 3 times
   - * If you enter a number that cannot be set, the originally set number will be used.
   - * If the signal was not received correctly, the beeper will not sound or it will beep twice.
     If this occurs, repeat the procedure from step 5.
7. To set another mode without changing the unit number of the indoor unit, repeat steps 5 and 6.
8. To change the unit number of the indoor unit and perform the function selection, repeat steps 4–6.
9. Press the ▭ button ① to complete the function selection.

Note:
- **After the function selection is complete, do not operate the wireless remote controller for 30 seconds.**
- **Whenever the function selection is used to change the indoor unit functions after installation, be sure to record all of the settings with a "○" or other mark in the "Initial setting" column of the table.**

Signal Receiver

PAR-SA9CA-E

Figure



Descriptions

Enables the use of wireless remote controller.

Applicable Models

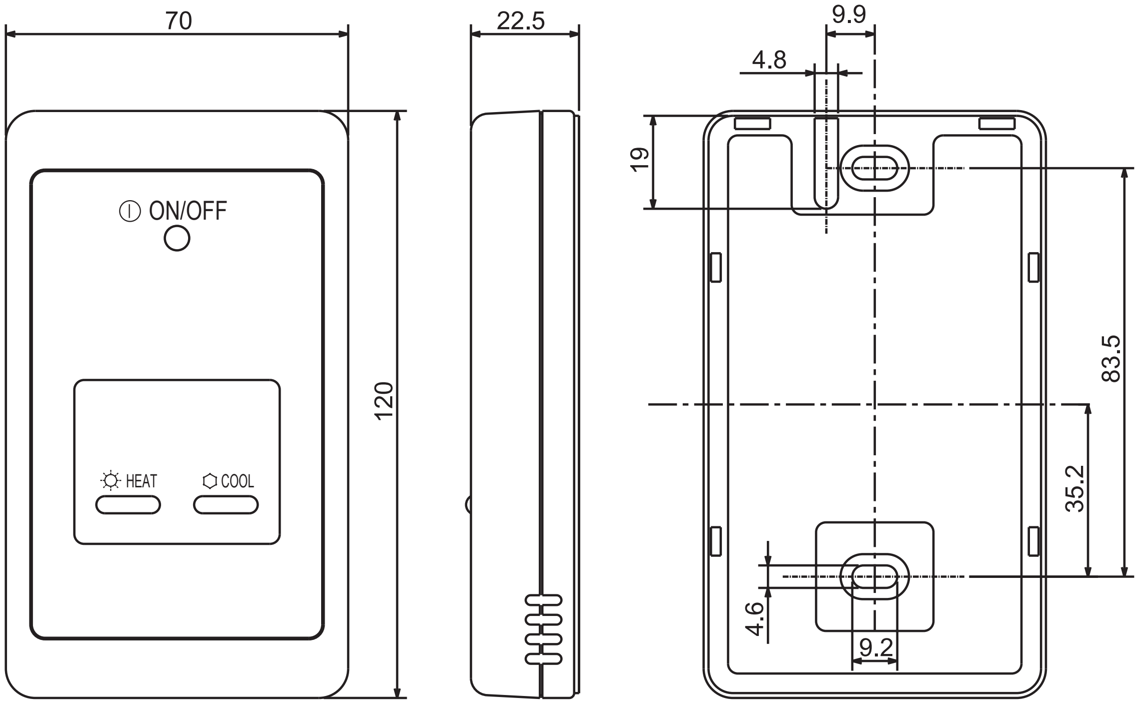
- PEAD-M・JA series
- PEAD-M・JAL series
- SEZ-M・DA series
- SEZ-M・DAL series
- SFZ-M・VA series
- PEAD-SM・JA series
- PEAD-SM・JAL series
- PEA-M・LA series
- PSA-M・KA series
- PCA-M・KA2 series
- PCA-M・HA2 type

Specifications

Item	Content
external dimensions	120(H) × 70(W) × 22.5(D) mm
Weight	0.2kg
Power	DC12V (supplied from indoor unit control)
Temperature	0 − 40 ℃ Humidity : 30 − 90% RH (no condensing)
Material	ABS
Colour (Munsell)	White Grey (4.8Y7.92/0.66)

Dimensions

Unit : mm



Signal Receiver **PAR-SA9CA-E**

This installation manual contains only the description of how to install the Signal Receiving Unit PAR-SA9CA-E. For information about how to wire and how to install air conditioning units, see the installation manual for them.
For your safety, first be sure to read 1 Safety Precautions described below thoroughly and then install the Signal Receiving Unit PAR-SA9CA-E correctly.

1 Safety Precautions

- The following two symbols are used to denote dangers that may be caused by incorrect use and their degree:

⚠ **WARNING**	This symbol denotes what could lead to serious injury or death if you misuse the PAR-SA9CA-E.
⚠ **CAUTION**	This symbol denotes what could lead to a personal injury or damage to your property if you misuse the PAR-SA9CA-E.

- After reading this installation manual, keep it in a place where the final user can see it anytime.
  When someone moves, repairs or uses the PAR-SA9CA-E, make sure that this manual is forwarded to the final user.

⚠ WARNING

- **Ask your dealer or technical representative to install the unit.**
  Any deficiency caused by your own installation may result in an electric shock or fire.
- **Install in a place which is strong enough to withstand the weight of the PAR-SA9CA-E.**
  Any lack of strength may cause the PAR-SA9CA-E to fall down, resulting in personal injury.
- **Firmly connect the wiring using the specified cables. Carefully check that the cables do not exert any force on the terminals.**
  Improper wiring connections may produce heat and possibly a fire.
- **Never modify or repair the PAR-SA9CA-E by yourself.**
  Any deficiency caused by your modification or repair may result in an electric shock or fire.
  Consult with your dealer about repairs.
- **Ensure that installation work is done correctly following this installation manual.**
  Any deficiency caused by installation may result in an electric shock or fire.
- **All electrical work must be performed by a licensed technician, according to local regulations and the instructions given in this manual.**
  Any lack of electric circuit or any deficiency caused by installation may result in an electric shock or fire.
- **Do not move and re-install the PAR-SA9CA-E yourself.**
  Any deficiency caused by installation may result in an electric shock or fire.
  Ask your distributor or special vendor for moving and installation.
- **To dispose of this product, consult your dealer.**

⚠ CAUTION

- **Do not install in any place exposed to flammable gas leakage.**
  Flammable gases accumulated around the body of PAR-SA9CA-E may cause an explosion.
- **Do not use in any special environment.**
  Using in any place exposed to oil (including machine oil), steam and sulfuric gas may deteriorate the performance significantly or give damage to the component parts.
- **Wire so that it does not receive any tension.**
  Tension may cause wire breakage, heating or fire.
- **Completely seal the wire lead-in port with putty etc.**
  Any dew, moisture, cockroaches, insects entering the unit may cause an electric shock or a malfunction.
- **Do not wash with water.**
  Doing so may cause an electric shock or a malfunction.
- **Do not install in any place at a temperature of more than 40 °C (104 °F) or less than 0 °C (32 °F) or exposed to direct sunlight.**
- **Do not install in any steamy place such a bathroom or kitchen.**
  Avoid any place where moisture is condensed into dew. Doing so may cause an electric shock or a malfunction.
- **Do not install in any place where acidic or alkaline solution or special spray are often used.**
  Doing so may cause an electric shock or malfunction.
- **Use standard wires in compliance with the current capacity.**
  A failure to this may result in an electric leakage, heating or fire.
- **Do not touch any PCB (Printed Circuit Board) with your hands or with tools. Do not allow dust to collect on the PCB.**
  Doing so may cause fire or an electric shock.
- **Do not touch any control button with your wet hands.**
  Doing so may cause an electric shock or a malfunction.
- **Do not press any control button using a sharp object.**
  Doing so may cause an electric shock or a malfunction.
- **Never contact the power supply with the control wiring terminals.**
  Doing so will certainly cause the controller to catch fire.

2 Confirming the Supplied Parts

Check that the box includes the following parts in addition to this installation manual:

(1)	Signal Receiving Unit	1
(2)	Remote controller wire (5 m (16 ft))	1
(3)	Screw (M4 × 30)	2
(4)	Wood screw (4.1 × 16)	2

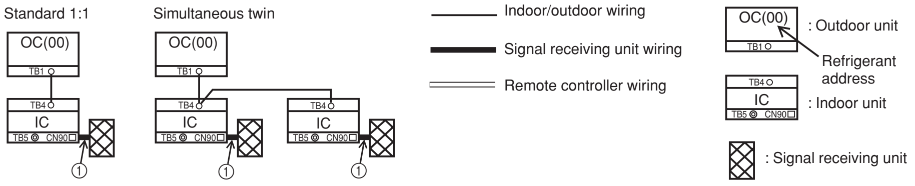
3 Sample System Connection

Only the wiring from the signal receiving unit and between the remote controllers is shown below. The wiring differs depending on the unit to be connected or the system to be used.
For details on restrictions, refer to the installation manual or the service handbook that came with the unit.

1. Connecting to Mr. SLIM air conditioner

(1) Standard 1:1, simultaneous twin

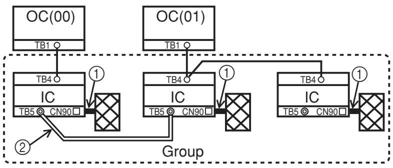
① Connecting the signal receiving unit
Connect the signal receiving unit to the CN90 (Connect to the wireless remote controller board) on the indoor unit using the supplied remote controller wire. Connect the signal receiving units to all the indoor units.



(2) Grouping indoor units connected to different outdoor units

① Connecting the signal receiving unit
Connect the signal receiving unit to the CN90 (Connect to the wireless remote controller board) on the indoor unit using the supplied remote controller wire. Connect the signal receiving units to all the indoor units.
② Remote controller wiring

- Connect the remote controller wire to the TB5 (terminal block for remote controller wiring) on the indoor unit. (No polarity)
- The indoor units can be grouped by the remote controller wiring. Daisy-chain the indoor unit to be grouped to one of the indoor units connected to the same outdoor unit.
- When some types of indoor units are in the system, connect the remote controller wire to the indoor unit with the most functions (wind velocity, vane, louver, etc.). Assign the refrigerant address of "00" to the outdoor unit connected to the indoor unit with the most function.
- The indoor units connected to 16 different outdoor units at maximum can be controlled as one group.

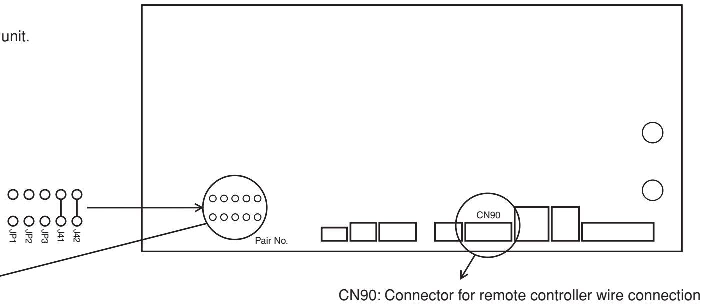


4 Setting the Pair Number Switch

Pair number setting cannot be made on the SEZ-KA·VA or SEZ-KC·VA model.
For details on restrictions, refer to the installation manual or the service handbook with the unit.

1. Setting method

Assign the same pair number to the wireless remote controller as that of the indoor unit. If not doing so, the remote controller cannot be operated. Refer to the installation manual that came with the wireless remote controller for how to set pair numbers of wireless remote controllers.
Position of daisy wire on the controller circuit board on the indoor unit



Controller circuit board on the indoor unit (reference)

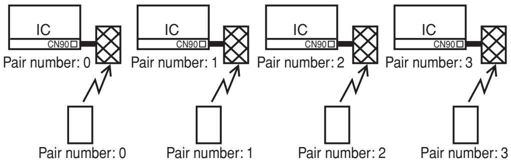
For pair number settings, the following 4 patters (A-D) are available.

Pair number setting pattern	Pair number on remote controller side	Indoor controller circuit board side Point where the daisy wire is disconnected
A	0	Not disconnected
B	1	J41 disconnected
C	2	J42 disconnected
D	3~9	J41 and J42 disconnected

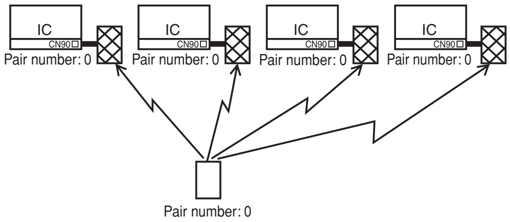
2. Setting example

(1) To use the units in the same room

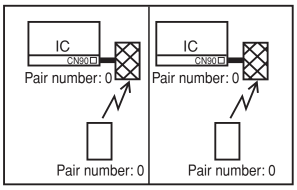
① Separate setting
Assign a different pair number to each indoor unit to operate each indoor unit by its own wireless remote controller.



② Single setting
Assign the same pair number to all the indoor units to operate all the indoor units by a single wireless remote controller.



(2) To use the units in different rooms
Assign the same pair number to the wireless remote controller as that of the indoor unit. (Leave the setting as it is at purchase.)



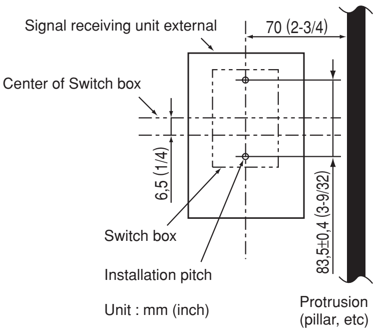
5 How To Install

The installation method for the signal receiving unit varies depending on the installation site.
When it is installed on the ceiling, refer to the section "Installation on the ceiling", and when it is installed on the switch box or on the wall, refer to the section "Installation on the switch box or on the wall".

1. Common items for "Installation on the ceiling" and "Installation on the switch box or on the wall"

(1) Select the installation site.

The following must be observed.
① Connect the signal receiving unit to the indoor unit with the supplied remote controller wire. Note that the length of the remote controller wire is 5 m (16 ft). Install the remote controller within the reach of the remote controller wire.
② When installing on either the switch box or the wall, allow space around the Signal Receiving Unit as shown in the figure on the right.
③ When installing the Signal Receiving Unit to the swich box, the Signal Receiving Unit slipped downward for 6.5 mm (1/4 inch) as right illustrated.



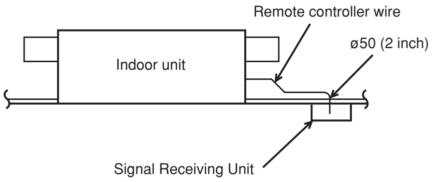
④ Parts which must be supplied on site.
Switch box for one unit
Thin-copper wiring pipe
Lock nut and bushing

⑤ The thickness of the ceiling to which the remote controller is installed must be between 9 mm (3/8 inch) and 25 mm (1 inch).

⑥ Install the unit on the ceiling or on the wall where the signal can be received from the wireless remote controller.
The area where the signal from the wireless remote controller can be received is 45 ° and 7 m (22 ft) away from the front of the signal receiving unit.

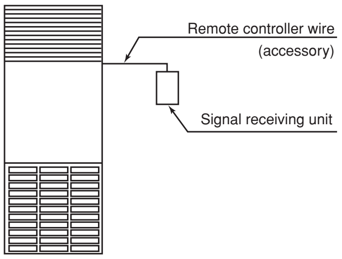
⑦ Install the signal receiving unit to the position shown below depending on the indoor unit model.

Ⓐ: Ceiling cassette type, Ceiling concealed type



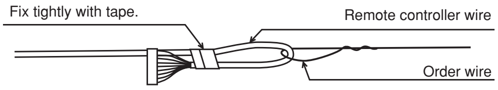
* When concealing wire, the hole ø50 (2 inch) to push a remote control wire through is nesessary on the ceiling.

Ⓑ: Floor standing



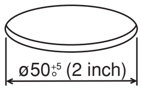
NOTE: • The point where the remote controller wire is connected differs depending on the indoor unit model. Take into account that the remote controller wire cannot be extended when selecting the installation site.
• If the Signal Receiving Unit is installed near a fluoresent lamp specially inverter type,signal interception may occur. Be careful for installing the Signal Receiving Unit or replacing the lamp.

⑧ Connect the remote controller wire securely to the order wire to pass the remote controller wire through the conduit as shown below.

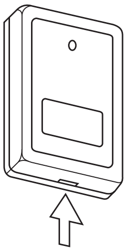


2. Installation on the ceiling

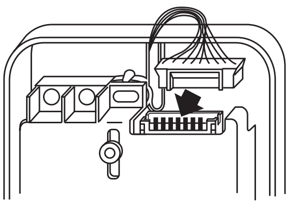
(1) Make a hole on the ceiling to install the signal receiving unit.



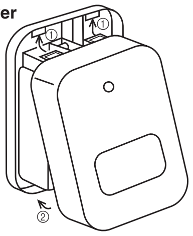
(2) Install the remote controller wire to the terminal block.

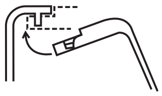


Insert the minus screwdriver toward the arrow pointed and wrench it to remove the cover.
A flat screwdriver whose width of blade is between 4 and 7 mm (5/32 - 9/32 inch) must be used.



Mounting the cover





Cross-section of upper hooks

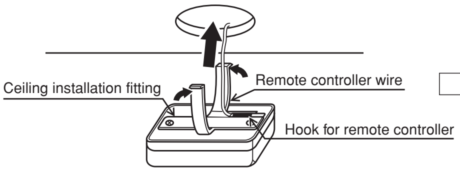
① Hang the cover to the upper hooks (2 places).

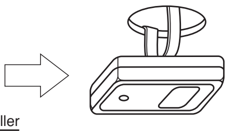
② Mount the cover to the lower case

⚠ CAUTION Insert the cover securely until the clicking sound is made.
If not doing so, the cover may fall.

(3) Use the remote controller wire to connect it to the connector (CN90) on the controller circuit board on the indoor unit.
Refer to the (4 | Setting the Pair Number Switch) for details on controller circuit board on the indoor unit.

(4) Install the signal receiving unit to the ceiling.





To remove the signal receiving unit, pull it down, secure the space for fingers, and remove the ceiling installation fitting.

- Hang the remote controller wire securely to the hook before installation.
- Hook the springs on the ceiling installation fitting first, and push the signal receiving unit from the bottom to install it to the ceiling.

⚠ CAUTION

- Do not install the signal receiving unit to the ceiling with holding the ceiling installation fitting. Doing so cause fingers to be caught leading to injury.
- Do not leave the remote controller wire hanging from the signal receiving unit. Doing so may cause disconnection of the wire or malfunction of the signal receiving unit.

NOTE: Confirm the installation direction first before installing the signal receiving unit.

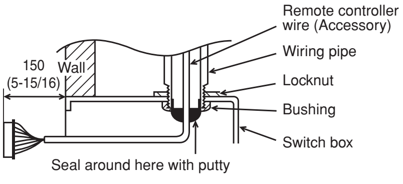
3. Installation on the switch box or on the wall

(1) Use the remote controller wire to connect it to the connector (CN90) on the controller circuit board on the indoor unit.
Refer to the (4 | Setting the Pair Number Switch) for details on controller circuit board on the indoor unit.

(2) Seal the Signal Receiving Unit cord lead-in hole with putty in order to prevent the possible entry of dew, water droplets, cockroaches, other insects, etc.

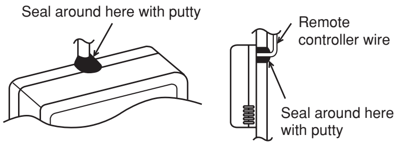
- When installing on the switch box, seal the connections between the switch box and wiring pipe with putty.

When using the switch box


Remote controller wire (Accessory)
Wiring pipe
150 (5-15/16)
Wall
Locknut
Bushing
Switch box
Seal around here with putty

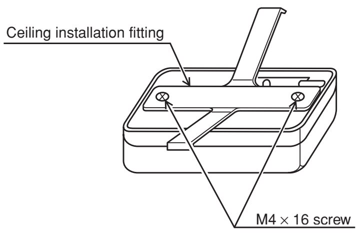
- When opening a hole using a drill for Signal Receiving Unit wire (or taking the wire out of the back of the Signal Receiving Unit), seal that hole with putty.
- When routing the wire via the portion cut off from the upper case, equally seal that portion with putty.

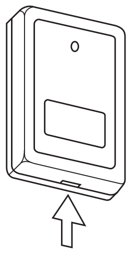
When installing directly on the wall



(3) Remove the ceiling installation fitting.

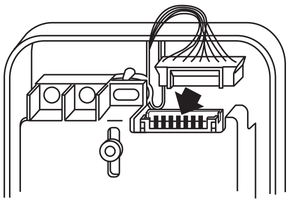
- Remove the screws (M4 × 16) on the ceiling installation fitting.
- The screws (M4 × 16) are fixed with nuts from inside. Remove the cover, and fix the nuts to prevent the nuts from moving.





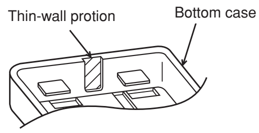
Insert the minus screwdriver toward the arrow pointed and wrench it to remove the cover.
A flat screwdriver whose width of blade is between 4 and 7 mm (5/32 - 9/32 inch) must be used.

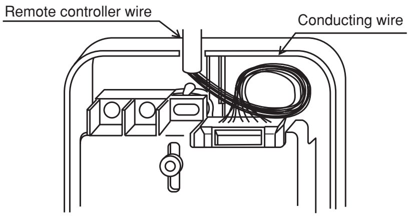
(4) Install the remote control wire to the terminal block.



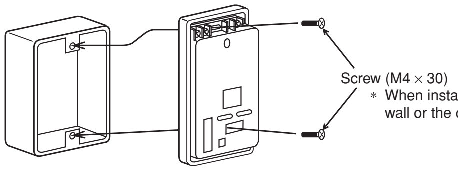
(5) Installing hole when the Signal Receiving Unit is installed on the wall direct.

- Cut the thin-wall portion inside the bottom case (oblique section) by a knife or a nipper.
- Take out the connected remote controller wire to the terminal brock through this space.



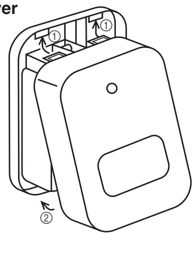


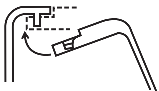
(6) Install the lower case on the switch box or directly on the wall.



* When installing the lower case directly on the wall or the ceiling, use wood screws.

Mounting the cover





Cross-section of upper hooks

① Hang the cover to the upper hooks (2 places).

② Mount the cover to the lower case

⚠ CAUTION	Insert the cover securely until the clicking sound is made. If not doing so, the cover may fall.

6 Emergency Operation

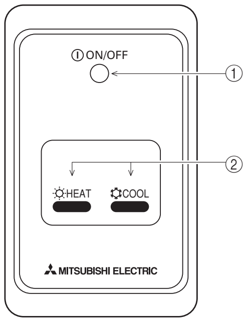
① **ON/OFF lamp** (lit when unit is operating; unlit when unit is not operating)

② **Emergency operation**

In cases where the remote control unit does not operate properly, use either the ❄ COOL or ☼ HEAT button on the wireless remote control signal receiver to toggle the unit on or off. On cooler only units, pushing the ☼ HEAT button toggles the fan on and off.

Pressing the ❄ COOL or ☼ HEAT button selects the following settings.

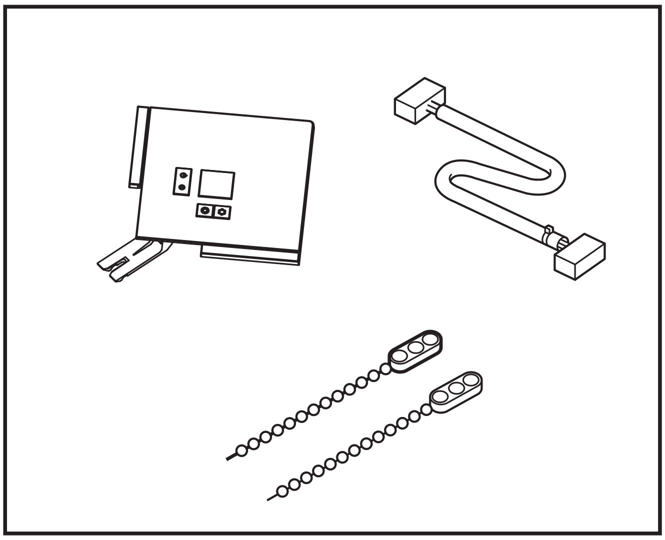
Operation mode	COOL	HEAT
Preset temperature	24 °C/75 °F	24 °C/75 °F
Fan speed	High	High
Air Direction	Horizontal	Down



Signal Receiver

PAR-SF9FA-E

Figure



Descriptions

•Integrate the Signal Receiver in the corner panel.

Applicable Models

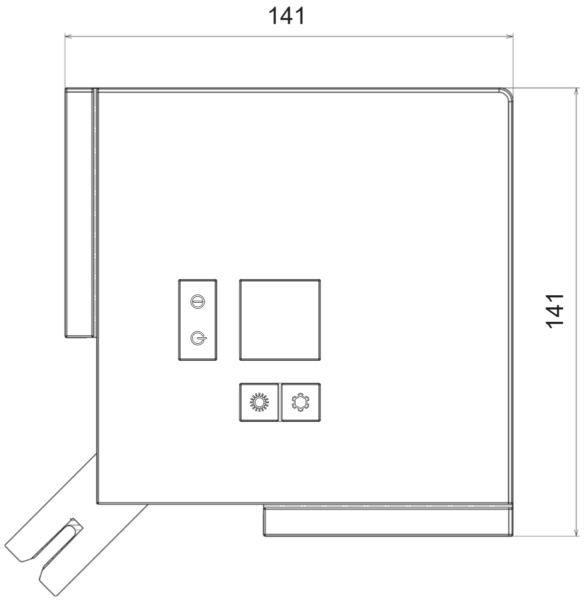
- SLZ-M・FA series

Specifications

Model name	PAR-SF9FA-E
Operation indicator lamp	During operation: LED (green) lights, Abnormal condition: LED (green) blinks, Preparing for heating operation:LED.(orange) lights
Emergency operation	Cooling/heating switch (operate/stop) equipped.
Number of controllable units	Maximum 16 refrigerant systems in one group (At least one wireless signal receiving kit must be installed to each refrigerant system.)
Adapter wiring	Connect the 9-core cord with connector (attached) to CN90 of the indoor controller board of the indoor unit.
Signal distance	Within 7m in 45 degrees range from the front of the Signal Receiver

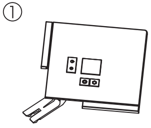
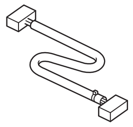
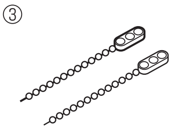
Dimensions

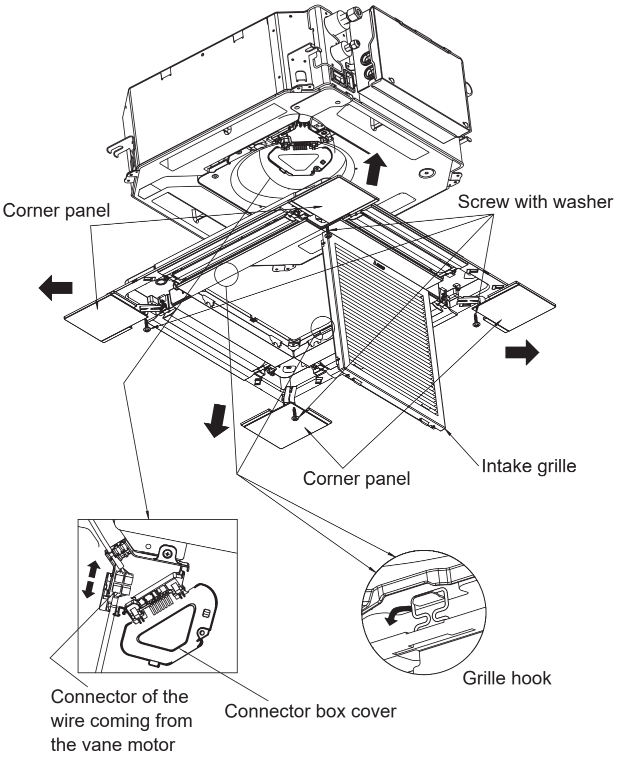
Unit : mm



How to Use / How to Install

1. Accessories
   Make sure that all the following accessories besides this installation manual are contained in the package.

Model	Accessory name		Q’ty
PAR-SF9FA-E	①	Signal receiver	1
	②	Junction wire	1
	③	Fastener	2
① 	② 	③ 	



2. Preparation for mounting signal receiver
   (The junction wire ② needs to be connected to the indoor unit.)
   Note 1: Turn off main power supply to the indoor unit before installation.
   Note 2: See the installation manual of the indoor unit in addition to this manual.

   - Remove the grille from the indoor unit as described in the following procedure.
     1) Open the intake grille, loosen the screws for the corner panels, and remove the corner panels.
     2) Remove the screw for the connector box cover, and open the connector box cover. Disconnect the connector of the wire coming from the vane motor.
     3) Remove the 4 screws fastened on the corners of the grille.
     4) Disengage the 2 hooks of the grille from the indoor unit, and remove the grille.

   - Perform the electrical work of the junction wire ② by referring to [Electrical work] in the installation manual of the indoor unit.

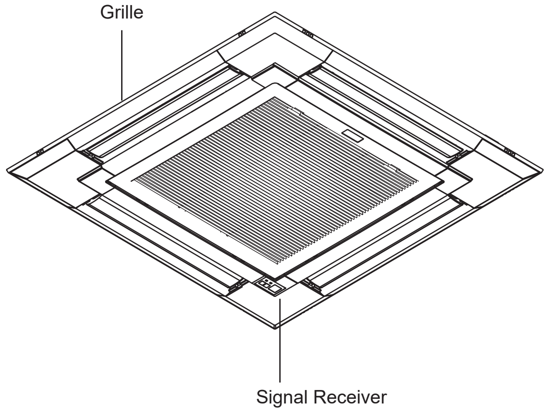
3. Mounting signal receiver
   - Mount the signal receiver ① on either corner of the grille, which is marked with “□” or “○” by referring to [Installing the grille] in the installation manual of the indoor unit.
     Note 1: “□” stamp : default signal receiver position.
     Note 2: Discard the corner panel removed from the position indicated with “□” or “○”.
   - After mounting the signal receiver ①, close the connector box cover. Replace the 3 corner panels, the intake grille, in the reverse order of the removal described above.

4. Check
   - Make sure that there is no gap either between the body of indoor unit and the grille or between the ceiling surface and the grille. The gap may cause dew formation.
   - Make sure that the wires are connected properly.
     The colors of the male and female sections of the junction wire connectors must match.
     Otherwise the vanes do not move or the indoor unit does not respond to input from the wireless remote controller.

Signal Receiver

PAR-SE9FA-E

Figure



Descriptions

•Integrate the Signal Receiver in the corner panel.

Applicable Models

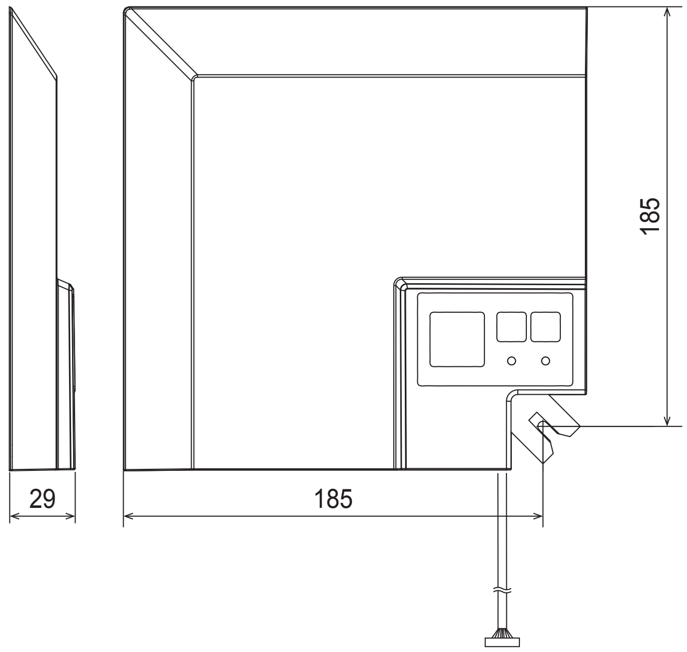
- ■ PLA-ZM・EA series
- ■ PLA-M・EA series
- ■ PLA-SM・EA series

Specifications

Model name	PAR-SE9FA-E
Operation indicator lamp	During operation: LED (green) lights, Abnormal condition: LED (green) blinks, Preparing for heating operation:LED.(orange) lights
Emergency operation	Cooling/heating switch (operate/stop) equipped.
Number of controllable units	Maximum 16 refrigerant systems in one group (At least one wireless signal receiving kit must be installed to each refrigerant system.)
Adapter wiring	Connect the 9-core cord with connector (attached) to CN90 of the indoor controller board.
Signal distance	Within 7m in 45 degrees range from the front of the Signal Receiver

Dimensions

Unit : mm



How to Use / How to Install

1 Preparation for installing SIGNAL RECEIVER

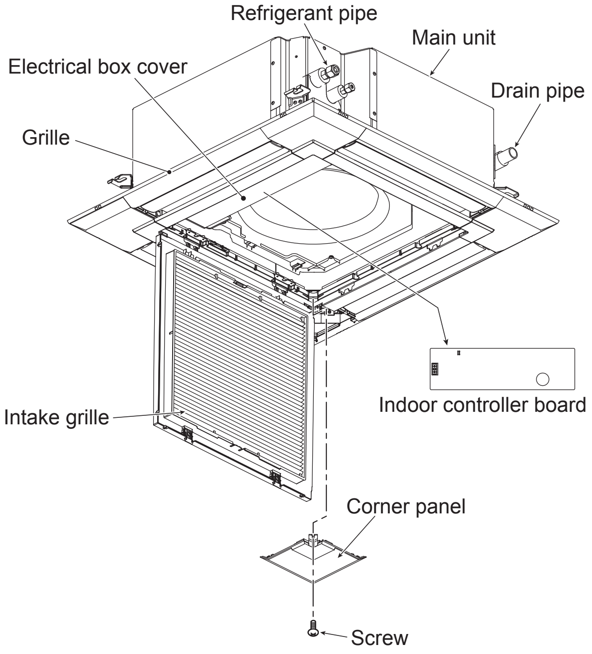
1. Open the intake grille and remove the corner panel. The corner panel is in opposite to where refrigerant pipes are (where local wires are drawn into).

Note:

- ● Discard only the removed corner panel.
- ● Reuse the screw of the removed corner panel to install the signal receiver.
- ● When installing the signal receiver during grille installation, complete the wiring work of grille before proceeding to the following procedure.

2. Loosen the 2 screws on the electrical box cover, and remove the cover by sliding; however, in this installation, the cover can hang temporarily.
3. Specify the target unit for wireless remote controller operation. Follow the procedure below to set the pair number on the indoor controller board and the wireless remote controller.

Make sure to turn off the main power before work.



■ Setting pair number

- ● The pair number setting is to specify the unit which is to be operated by wireless remote controller.

  When specifying the unit is not required, this setting is not necessary.

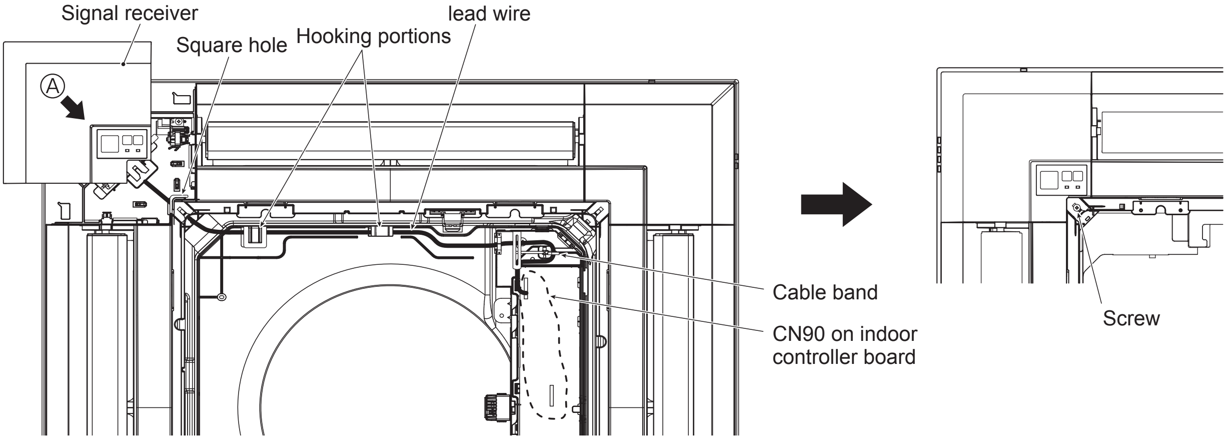
  The pair number is set to "0" on indoor unit (signal receiver) side and wireless remote controller side at an initial setting.
- ● When specifying the unit is required, match the pair number on the indoor unit (signal receiver) side and on the wireless remote controller side as shown in the table below.

Pair number of wireless remote controller	Pair number of indoor unit		
	• When the unit is in combination with PLA-EA Cut jumper wire J41, J42, or both on the indoor controller board.	• When the unit is in combination with PLFY-EM Set SW22.	
		SW 22-3	SW 22-4
0	No need to cut.	ON	ON
1	Cut only J41.	OFF	ON
2	Cut only J42.	ON	OFF
3	Cut J41 and J42.	OFF	OFF

2 Installing SIGNAL RECEIVER

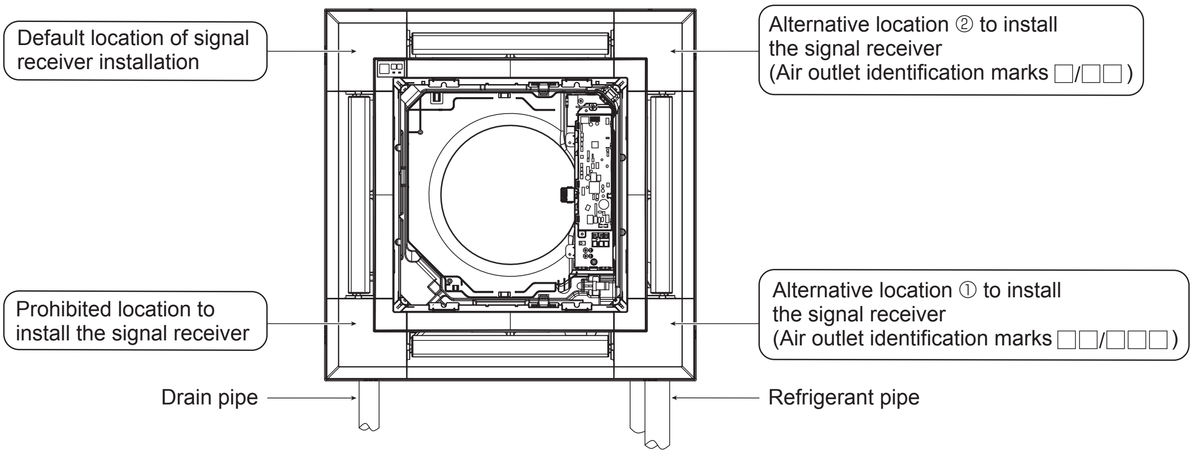
● Installation procedure for the default location

1. Pull out the lead wire of signal receiver from the square hole located in the corner of grille, where the removed corner panel was in the preparation procedure.
2. Pass the lead wire through the 2 hooking portions and inside the electrical box, and connect it to CN90 on the indoor controller board as shown below.
   Adjust the lead wire length to allow the corner panel to be removed again, and fix it with the cable band.
3. Install the signal receiver by sliding it towards the arrow A, and fix in the corner with the screw.
   (Reuse the screw which was used to fix the removed corner panel.)



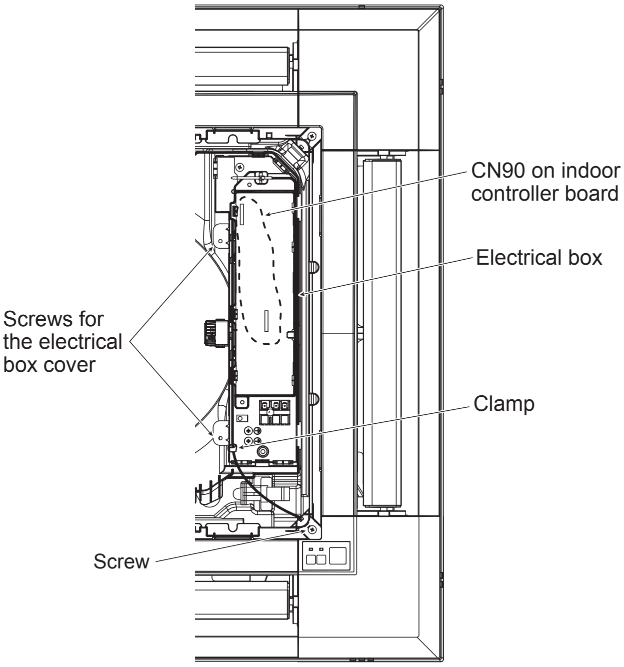
4. After completing the installation, attach the electrical box cover and the intake grille as they were.

- To install the signal receiver to the 2 locations other than the default location, follow the procedure below.


Default location of signal receiver installation
Alternative location ② to install the signal receiver (Air outlet identification marks □/□□)
Prohibited location to install the signal receiver
Alternative location ① to install the signal receiver (Air outlet identification marks □□/□□□)
Drain pipe
Refrigerant pipe

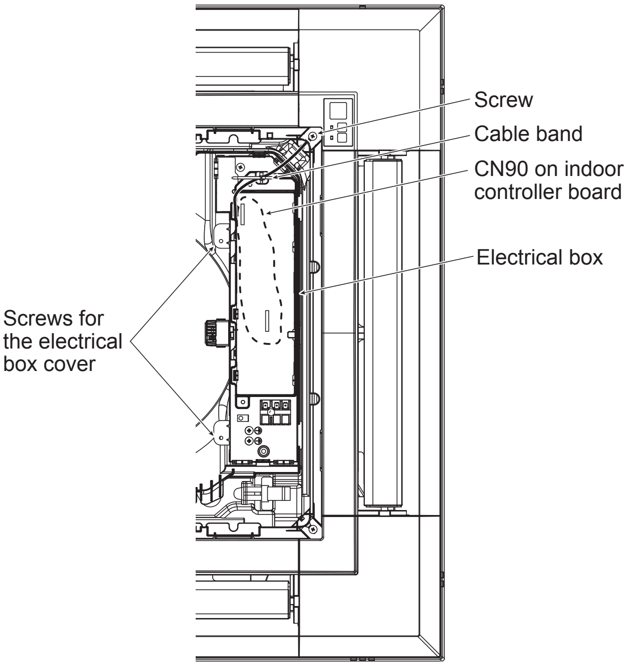
- Installation procedure for the alternative location ①

1. Pass the lead wire of signal receiver through the square hall located in the corner of grille.
2. Loosen the 2 screws fixing the electrical box cover on the unit, and slide the cover to open.
3. Route the lead wire of signal receiver (white, 9 poles) from the electrical box side on the unit, and certainly connect it to CN90 on the indoor controller board.
4. The lead wire of signal receiver must be held together without slack using the clamp into the electrical box.
5. Follow the reverse procedure of 2 to reinstall the electrical box cover on the unit.
6. Install the signal receiver to the grille and fix with the screws.


CN90 on indoor controller board
Electrical box
Screws for the electrical box cover
Clamp
Screw

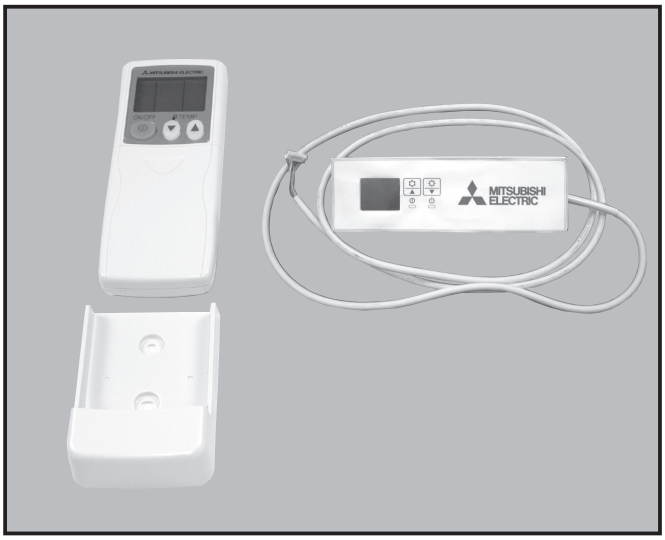
- Installation procedure for the alternative location ②

1. Pass the lead wire of signal receiver through the square hall located in the corner of grille.
2. Loosen the 2 screws fixing the electrical box cover on the unit, and slide the cover to open.
3. Route the lead wire of signal receiver (white, 9 poles) from the electrical box side on the unit, and certainly connect it to CN90 on the indoor controller board.
4. The lead wire of signal receiver must be held together without slack, and fixed with the cable band into the electrical box.
5. Follow the reverse procedure of 2 to reinstall the electrical box cover on the unit.
6. Install the signal receiver to the grille and fix with the screws.


Screw
Cable band
CN90 on indoor controller board
Electrical box
Screws for the electrical box cover

Wireless Remote Controller Kit for Ceiling Suspended models PAR-SL94B-E

Photo



Descriptions

Enables the use of wireless remote controller for ceiling suspended models.

Applicable Models

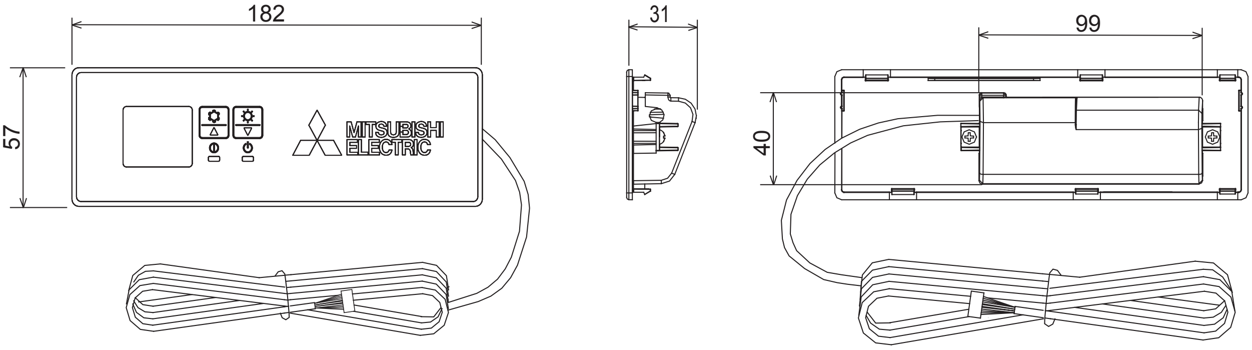
- PCA-M・KA series

Specifications

Operation indication	During operation: LED (green) is lit, Alarm: LED (green) flashes.
Emergency operation	Cooler/heater button (start/stop) is provided.
Number of units controlled	Max. 16 refrigerant systems per group (One or more wireless light receivers must be installed for each refrigerant system.)
Adapter wiring	9-wire cord (standard accessory) with connector is connected to the connector (CN90) on the indoor unit control board.
Light receiver range	7m or less, at within 45 degrees to the front of receiver (the range varies with conditions)
Operating conditions	Temperature: 0 to 40 ℃ , Humidity: 30 to 90% (no condensation)
Exterior	White gray (Munsell 4.48Y 7.92/0.66), ABS resin
Installation method	Attached to the brand label case of indoor unit.

Dimensions

Unit : mm



How to Use / How to Install

1 Making Sure of Components

Make sure that the following components, along with this manual, are packed in the box.

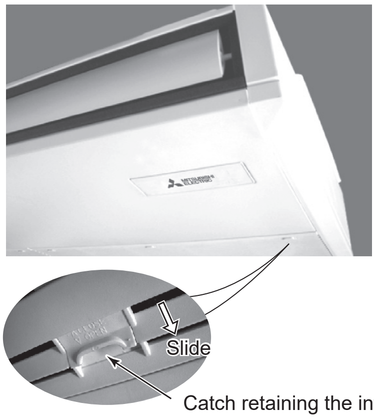
Component	Q'ty
Wireless remote controller receiver	1
Wireless remote controller	1
Remote control holder	1
"AAA" LR03 alkaline batteries	2
4.1×16 wood screws	2
Cord retaining clips	2
Connection cord fixing seal (12×30 size)	1

2 How to Install

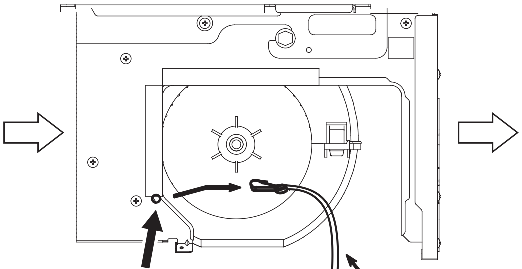
※ Be sure to turn the power off before installing.

① Removing the intake grille and the right side panel

- Slide the catch holding the intake grille backwards to open the grille. Remove the screw holding the side panel, and then slide the side panel forward to remove it.

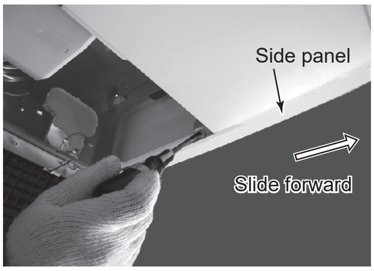


Catch retaining the intake grille



hole for side panel support hanger

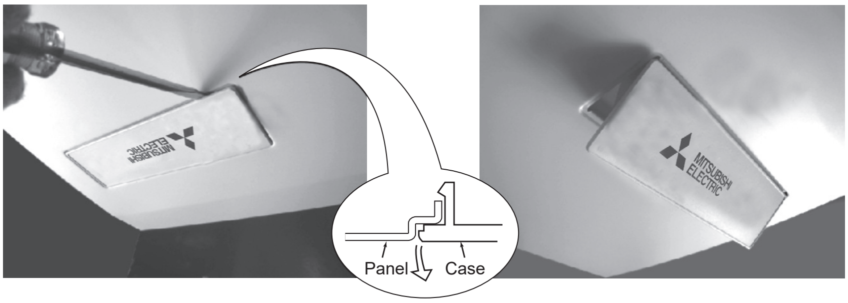
side panel support hanger



Remove the screw holding the side panel

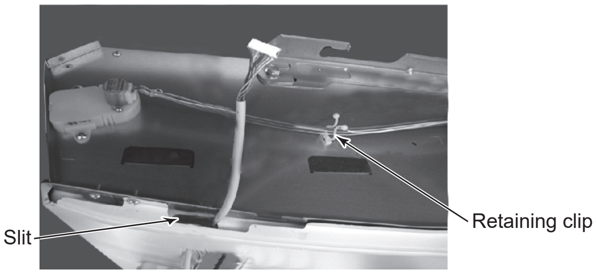
② Removing the existing brand label case

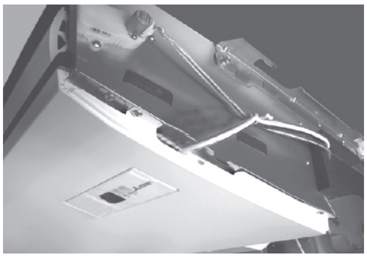
- Remove the brand label case (name plate with MITSUBISHI ELECTRIC) from the bottom right of the unit. If it is difficult to remove the case, use a flat-blade screwdriver, etc., taking care not to damage the panel.



③ Installing to the indoor unit

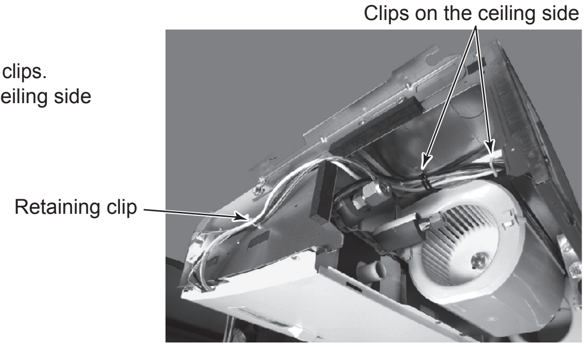
- Pass the receiver board connector through the right side of the square hole to which the brand label case was attached and then pull the connector and cord through the slit in the right side of the bottom panel.
- Fit the receiver into the square hole where the brand label case was attached.





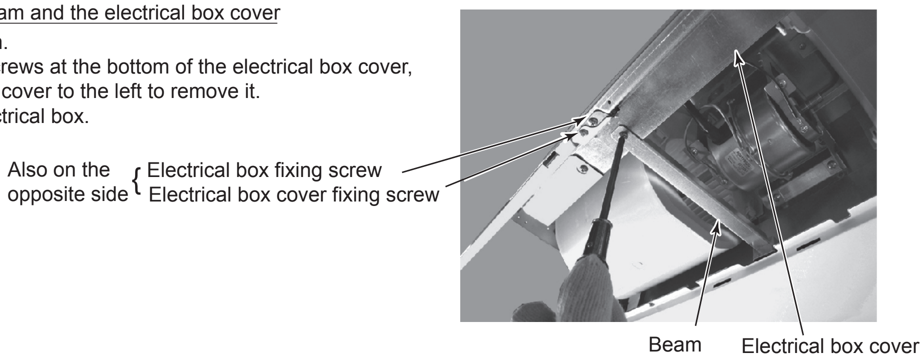
④ Laying out the lead wire

- Pass the lead wire for receiver through the retaining clips.
- Fix the lead wire for receiver with the clips on the ceiling side of the unit.



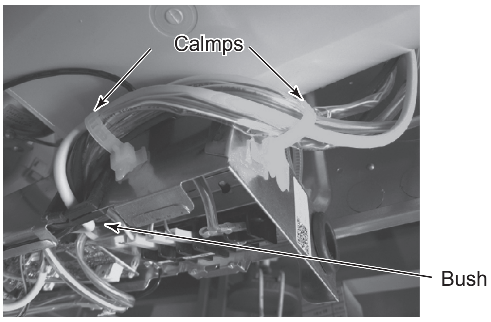
⑤ Removing the beam and the electrical box cover

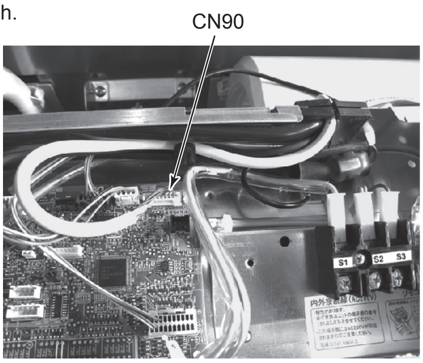
- Remove the beam.
- Loosen the two screws at the bottom of the electrical box cover, and then slide the cover to the left to remove it.
- Pull down the electrical box.


Also on the opposite side
Electrical box fixing screw
Electrical box cover fixing screw
Beam
Electrical box cover

⑥ Connecting the receiver board connector to the control circuit board

- Pass the cord through the bush at the top right of the electrical box.
- Connect the connector to CN90 on the right of the control board.
- If the cord is loose, bundle it using the clamps under the above bush.





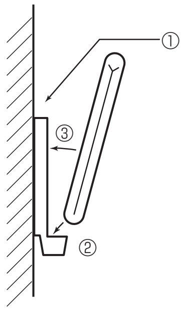
* The positions of the connectors may be different according to the model.
Please refer to the wiring diagram to confirm the positions of the connectors.

⑦ Reinstalling the removed components

- Reinstall the removed components in reverse order. (The brand label case is not needed.)

⑧ Remote control holder

- To install the wireless remote controller on a wall, first attach the remote control holder to a wall.



Fitting remote control into holder

① Fix the remote control holder to the wall using the 2 wood screws provided.
② Insert the remote control into the holder.
③ Push the remote control against the wall.

Removing remote control

- ● Pull the top of remote control forward.

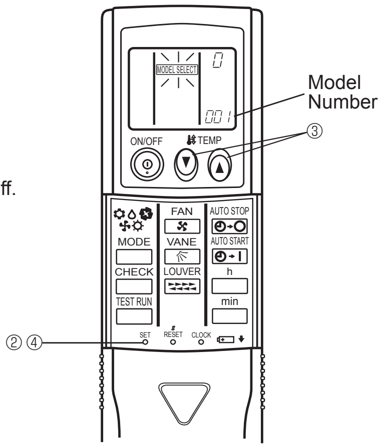
NOTE : The remote signal will reach the receiver over a distance of approx. 7m in a straight line and approx. 45° left or right. If the infrared receiver is affected by fluorescent light (especially, inverter type), it may not be able to receive the signal. Take this into consideration when installing fluorescent lights or replacing them.

3 Model Select

This remote controller needs model number setting before use.
Set the model number in the following order.
Without setting the air conditioner will not work property.
(The factory setting of model number is “001”.)

① Insert batteries.
② Press the SET button with something sharp at the end.
MODE SELECT blinks and Model No. is lighted.
③ Press the temp ▽ △ button to set the Model Number.
④ Press the SET button with something sharp at the end.
MODE SELECT and Model No. are lighted for 3 seconds, then turned off.

Indoor Unit Model	(H/P)/(C/O)	Model No.
PCA-M·KA	Outdoor Heat pump	001
	Outdoor Cooling only	033

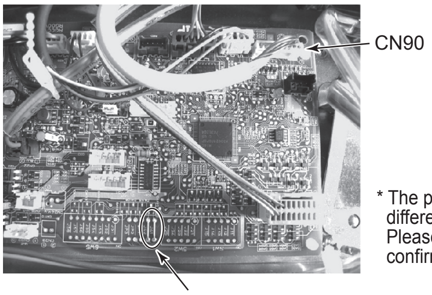


4 Pair Number Setting

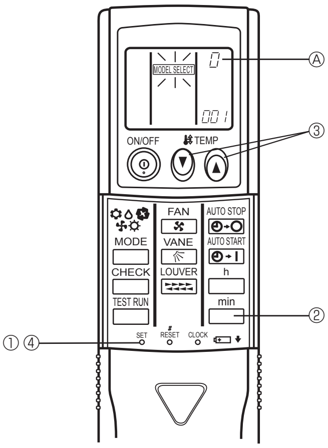
- This is the setting to specify the unit to operate with the wireless remote controller.
- Make setting for J41, J42 (Jumper wire) of indoor controller board and the pair number of wireless remote controller.
- The pair number setting is available with the 4 patterns as shown in the following table. Make setting for the pair number (J41, J42) of indoor controller board and the pair number of wireless remote controller which is used as shown in the following table. *The initial setting is Pair No. “0”.

① Press the SET button with something sharp at the end.
Start this operation from the status of remote controller display turned off.
MODEL SELECT blinks and Model No. is lighted.
② Press the min button twice continuously. Pair No. “0” blinks.
③ Press the temp ▽ △ button to set the pair number you want to set.
④ Press the SET button with something sharp at the end.
Set pair number is lighted for 3 seconds then turned off.

Ⓐ Pair No. of wireless remote controller	Indoor PC board
0	Initial setting
1	Cut J41
2	Cut J42
3 ~ 9	Cut J41, J42

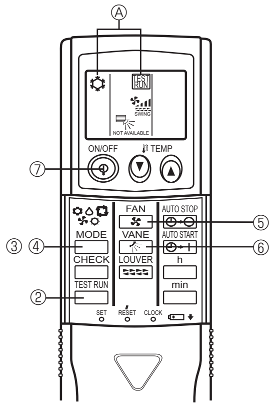


Jumper wire (J41, J42)



* The positions of the connectors may be different according to the model. Please refer to the wiring diagram to confirm the positions of the connectors.

5 Test Run



Measure an impedance between the power supply terminal block on the outdoor unit and the ground with a 500V Megger and check that it is equal to or greater than 1.0 MΩ.

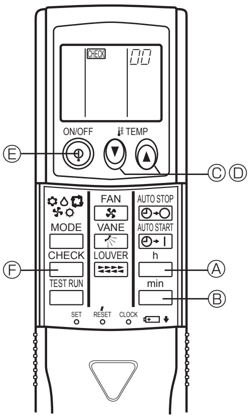
① Turn on the main power to the unit.
② Press the TEST RUN button twice continuously.
(Start this operation from the status of remote controller display turned off.)
Ⓐ TEST RUN and current operation mode are displayed.
③ Press the MODE (✲◊✿ ✤☼) button to activate COOL ✲ mode, then check whether cool air is blown out from the unit.
④ Press the MODE (✲◊✿ ✤☼) button to activate HEAT ☼ mode, then check whether warm air is blown out from the unit. (only H/P model)
⑤ Press the FAN button and check whether strong air is blown out from the unit.
⑥ Press the VANE button and check whether the auto vane operates properly.
⑦ Press the ON/OFF button to stop the test run.

NOTE : • Point the remote controller towards the indoor unit receiver while following steps ② to ⑦.
• It is not possible to run in FAN, DRY or AUTO mode.

6 Function Selection

This setting is available only for Mr. Slim model. CITY MULTI model can be set by dip switch of indoor/outdoor control circuit board. Refer to technical data of CITY MULTI model to set dip switch.

Each function can be set according to necessity using the remote controller.
The setting of function for each unit can only be done by the remote controller.
Select function available from the Table3. Function selection using wireless remote controller is available only for refrigerant system with wireless function. Refrigerant address cannot be specified by the wireless remote controller.
The article below describes how to set “LOSSNAY connectivity” into “supported (indoor unit is not equipped with outdoor-air intake)” in Table 3 as an example.



① Go to the function select mode
Press the CHECK button Ⓕ twice continuously.
(Start this operation from the status of remote controller display turned off.)
CHECK is lighted and “00” blinks.
Press the temp ▼ button Ⓒ once to set “50”. Direct the wireless remote controller toward the receiver of the indoor unit and press the h button Ⓐ.

② Setting the unit number
Press the temp ▼ ▲ button Ⓒ and Ⓓ to set the unit number “00”. Direct the wireless remote controller toward the receiver of the indoor unit and press the min button Ⓑ.

③ Selecting a mode
Enter “03” to change the LOSSNAY connectivity setting using the ▼ Ⓒ and ▲ Ⓓ buttons. Direct the wireless remote controller toward the receiver of the indoor unit and press the h button Ⓐ.

Current setting number:	1=1 beep (1 second)
	2=2 beeps (1 second each)
	3=3 beeps (1 second each)

※ If a mode number that can not be recognized by the unit is entered, 3 beeps (3 beeps of 0.4 seconds duration) will be heard.
Reenter the mode number selecting.

※ If the signal was not received by the sensor or an error occurred during transmission, you will not hear a beep or a “double beep” may be heard.
Press the h button again.

④ Selecting the setting number
Use the ▼ Ⓒ and ▲ Ⓓ buttons to change the LOSSNAY connectivity setting to “02”. Direct the wireless remote controller toward the sensor of the indoor unit and press the h button Ⓐ.
→ At this time, current setting number for selected mode number will be output by the interrupted buzzer sounds and the blinks of operation indicator.

Output : setting number = 1 → beep beep (0.4 second + 0.4 second) ×1
2 → beep beep (0.4 second + 0.4 second) ×2
3 → beep beep (0.4 second + 0.4 second) ×3

※ If a setting number that can not be recognized by the unit is entered, 3 beeps (3 beeps of 0.4 seconds duration) will be heard (unit will beep only).
Reenter the setting number selecting.

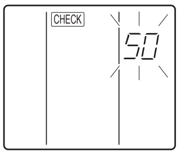
※ If the signal was not received by the sensor or an error occurred during transmission, you will not hear a beep or a “double beep” may be heard.
Press the h button again.

※ If the number that can not be set is input, the former setting number will be set.

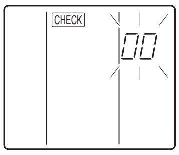
⑤ To select multiple functions continuously
Repeat steps ③ and ④ to change multiple function settings continuously.

⑥ Complete function selection
Direct the wireless remote controller toward the sensor of the indoor unit and press the ⏻ button Ⓔ.

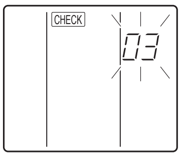
①



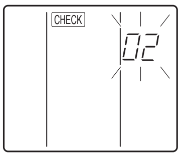
②



③



④



NOTE : Whenever changes are made to the function settings after construction or maintenance, be sure to record the added functions with an “○”, in the “Check” column provided on the chart.

Other function selections
Now that you know how to change LOSSANY connectivity setting, there are several other settings that can be changed as well. The following table lists the various settings that can be changed through the remote controller and the default settings.

Table 3.

Function	Settings	PCA-M·KA
Power failure automatic recovery	Not available	*1
	Available	*1
Indoor temperature detecting	Indoor unit operating average	○
	Set by indoor unit's remote controller	
	Remote controller's internal sensor	
LOSSNAY connectivity	Not supported	○
	Supported (indoor unit is not equipped with outdoor-air intake)	
	Not supported (indoor unit is not equipped with outdoor-air intake)	
Filter sign	100Hr	
	2500Hr	○
	No filter sign indicator	
Fan speed	Quiet	
	Standard	○
	High ceiling	
Up/down vane setting	No vanes	
	Equipped with vanes (No.1 set)	○
	Equipped with vanes (No.2 set)	

*1 Power failure automatic recovery initial setting depends on the connecting outdoor unit.

Things to remember when entering function selections:
The basic procedure for entering function selections is the same as described for switching between LOSSNAY connectivity. However, there are some differences at step ② for selecting the unit number, step ③ for selecting the mode number and step ④ for selecting the setting number.
The following Tables 4 and 5 list the various function settings, mode numbers and setting numbers.
Table 4 details the function of the entire refrigerant system while Table 5 shows the function that can be set for the indoor unit.

Table 4. Itemized functions of the entire refrigerant system (select unit number 00)

Mode	Settings	Mode No.	Setting No.	Check	Remarks
Power failure automatic recovery	Not available	01	1		
	Available (Approximately 4-minutes wait-period after power is restored.)		2		Approximately 4-minutes wait-period after power is restored.
Indoor temperature detecting	Indoor unit operating average	02	1		
	Set by indoor unit's remote controller		2		
	Remote controller's internal sensor		3		
LOSSNAY connectivity	Not supported	03	1		
	Supported (indoor unit is not equipped with outdoor-air intake)		2		
	Not supported (indoor unit is not equipped with outdoor-air intake)		3		

Table 5. Itemized functions of the indoor unit (select unit numbers 01 to 04 or 07)

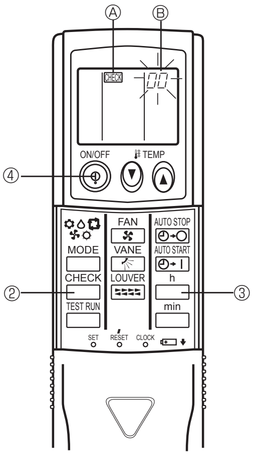
Mode	Settings	Mode No.	Setting No.	Check	Remarks
Filter sign	100Hr	07	1		
	2500Hr		2		
	No filter sign indicator		3		
Fan speed	Quiet	08	1		
	standard		2		
	High ceiling		3		
Up/down vane setting	No vanes	11	1		
	Equipped with vanes (No.1 set)		2		
	Equipped with vanes (No.2 set)		3		

② Setting the unit numbers
Set "00" as the unit number when setting function from Table 4.
When setting function from Table 5.
- When setting function for an indoor unit in an independent system, set the unit number to 01.
- When setting function for a simultaneous-Twin Triple quadruple indoor unit system, assign unit numbers from 01 to 04 to each indoor unit.
- When setting the same functions for an entire simultaneous Twin Triple quadruple-indoor unit system, assign "07" as the unit number.

③ Selecting the mode number
Select from Table 4 and Table 5.

④ Selecting the setting number.

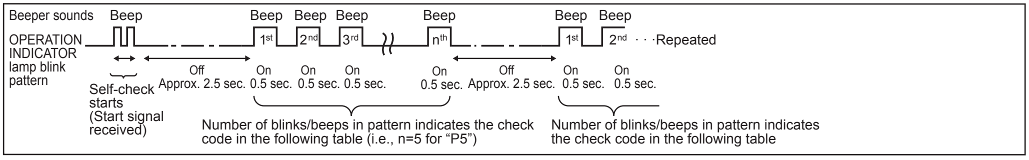
7 Self-Check



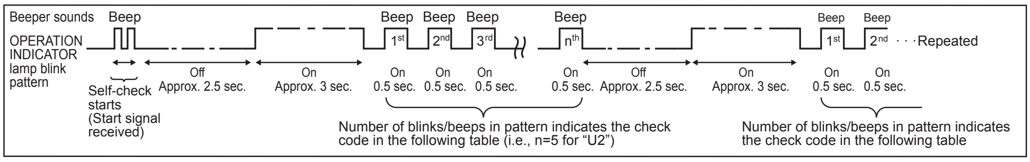
① Turn on the main power to the unit.
② Press the CHECK button twice continuously.
(Start this operation from the status of remote controller display turned off.)
Ⓐ CHECK begins to light.
Ⓑ “00” begins to blink.
③ While pointing the remote controller toward the unit’s receiver, press the h button. The check code will be indicated by the number of times that the buzzer sounds from the receiver section and the number of blinks of the operation lamp.
④ Press the ON/OFF button to stop the self-check.

- Refer to the following tables for details on the check codes.

① Output pattern (Mr.Slim model / CITY MULTI model)
[Output pattern A]


Beeper sounds
Beep
Beep Beep Beep
Beep
Beep Beep
OPERATION INDICATOR lamp blink pattern
1st 2nd 3rd
nth
1st 2nd · · ·Repeated
Self-check starts (Start signal received)
Off Approx. 2.5 sec.
On 0.5 sec.
On 0.5 sec.
On 0.5 sec.
On 0.5 sec.
Off Approx. 2.5 sec.
On 0.5 sec.
On 0.5 sec.
Number of blinks/beeps in pattern indicates the check code in the following table (i.e., n=5 for “P5”)
Number of blinks/beeps in pattern indicates the check code in the following table

[Output pattern B]


Beeper sounds
Beep
Beep Beep Beep
Beep
Beep Beep
OPERATION INDICATOR lamp blink pattern
1st 2nd 3rd
nth
1st 2nd · · ·Repeated
Self-check starts (Start signal received)
Off Approx. 2.5 sec.
On Approx. 3 sec.
On 0.5 sec.
On 0.5 sec.
On 0.5 sec.
On 0.5 sec.
Off Approx. 2.5 sec.
On Approx. 3 sec.
On 0.5 sec.
On 0.5 sec.
Number of blinks/beeps in pattern indicates the check code in the following table (i.e., n=5 for “U2”)
Number of blinks/beeps in pattern indicates the check code in the following table

② Check code (Mr.Slim model)
[Output pattern A] Errors detected by indoor unit

Wireless remote controller	Wired remote controller	Symptom	Remarks
Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Check code		
1	P1	Intake sensor error	
2	P2, P9	Pipe (Liquid or 2-phase pipe) sensor error	
3	E6,E7	Indoor/outdoor unit communication error	
4	P4	Drain sensor error/Float switch connector open	
5	P5	Drain pump error	
6	P6	Freezing/Overheating safeguard operation	
7	EE	Communication error between indoor and outdoor units	
8	P8	Pipe temperature error	
9	E4	Remote controller signal receiving error	
10	–	–	
11	–	–	
12	Fb	Indoor unit control system error (memory error, etc.)	
No sound	E0, E3	Remote controller transmission error	
No sound	E1, E2	Remote controller control board error	
No sound	– – – –	No corresponding	

OPTIONAL PARTS
INDOOR UNIT

[Output pattern B] Errors detected by unit other than indoor unit (outdoor unit, etc.)

Wireless remote controller	Wired remote controller	Symptom	Remarks
Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Check code		
1	E9	Indoor/outdoor unit communication error (Transmitting error) (Outdoor unit)	For details, check the LED display of the outdoor controller board.
2	UP	Compressor overcurrent interruption	
3	U3,U4	Open/short of outdoor unit thermistors	
4	UF	Compressor overcurrent interruption (When compressor locked)	
5	U2	Abnormal high discharging temperature/ insufficient refrigerant	
6	U1,Ud	Abnormal high pressure (63H worked)/Overheating protection operation	
7	U5	Abnormal temperature of heat sink	
8	U8	– (Outdoor unit error)	
9	U6	Compressor overcurrent interruption/Abnormal of power module	
10	U7	Abnormality of super heat due to low discharge temperature	
11	U9,UH	Abnormality such as overvoltage or voltage shortage and abnormal synchronous signal to main circuit/Current sensor error	
12	–	–	
13	–	–	
14	Others	Other errors (Refer to the technical manual for the outdoor unit.)	

*1 If the beeper does not sound again after the initial 2 beeps to confirm the self-check start signal was received and the OPERATION INDICATOR lamp does not come on, there are no error records.

*2 If the beeper sounds 3 times continuously "beep, beep, beep (0.4 + 0.4 + 0.4 sec.)" after the initial 2 beeps to confirm the self-check start signal was received, the specified refrigerant address is incorrect.

- On wireless remote controller
  The continuous buzzer sounds from receiving section of indoor unit.
  Blink of operation lamp
- On wired remote controller
  Check code display in the LCD.

③ Check code (CITY MULTI model)
[Output pattern A] Errors detected by indoor unit or LOSSNAY unit
[Output pattern B] Errors detected by unit other than indoor unit (outdoor unit, etc.)

Wireless remote controller	Wired remote controller	Remarks
Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Check code	
1	1000 ~ 1999	
2	2000 ~ 2999	
3	3000 ~ 3999	
4	4000 ~ 4999	
5	5000 ~ 5999	
6	6000 ~ 6999	
7	7000 ~ 7999	
8	0000 ~ 0999	
9	8000 over	

*1 Refer to service handbook of outdoor unit for the detail.

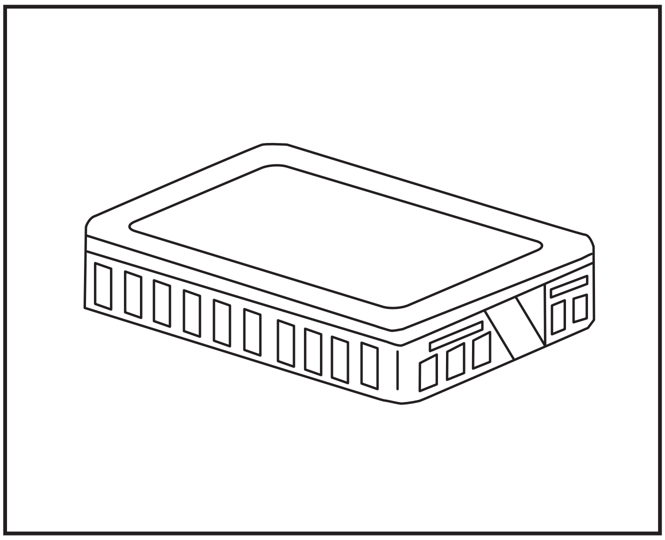
*2 If the beeper does not sound again after the initial 2 beeps to confirm the self-check start signal was received and the OPERATION INDICATOR lamp does not come on, there are no error records.

*3 If the beeper sounds 3 times continuously "beep, beep, beep (0.4 + 0.4 + 0.4 sec.)" after the initial 2 beeps to confirm the self-check start signal was received, the specified address is incorrect.

- On wireless remote controller
  The continuous buzzer sounds from receiving section of indoor unit.
  Blink of operation lamp
- On wired remote controller
  Check code display in the LCD.

Remote Sensor **PAC-SE41TS-E**

Figure



Descriptions

Enables to pick up the room tempreture at the remote position.

Applicable Models

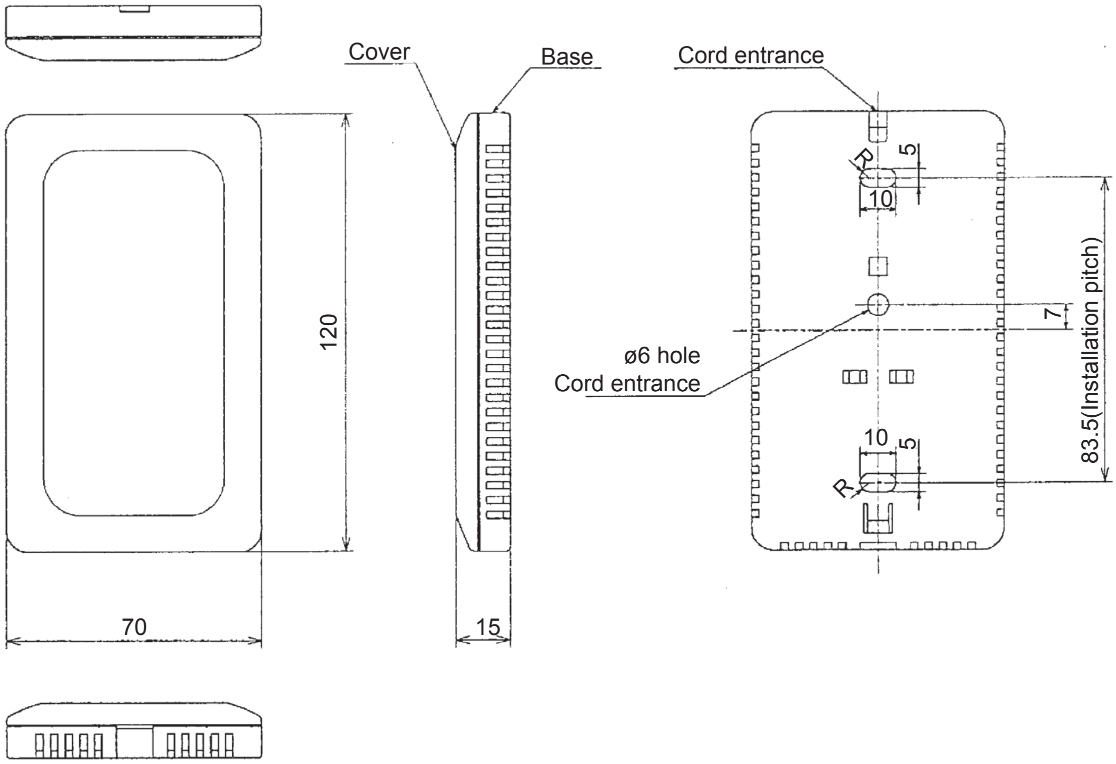
- ■ S-series models
- ■ P-series models

Specifications

External dimensions (mm)	120 (H) x 70 (W) x 15 (D)
Exterior	White gray (Munsell 4.48Y 7.92/0.66) Material: ABS resin
Operating conditions	Temperature: -20 to 65 ℃ Humidity: 30 to 90% RH (no condensation)
Installation method	Mounting on single-type switch box (JIS C8336) or directly mounting on wall
Accessory	2-wire cable (12m), Connector with post, Fixing screw (x2)
When combining with environmental measurement controller	
Temperature measuring range	-20 to 65 ℃
Measurement resolution	0.1 ℃ (10 to 35 ℃), 0.5 ℃ (other temperature ranges)

Dimensions

Unit : mm



How to Use / How to Install

1 How to Install

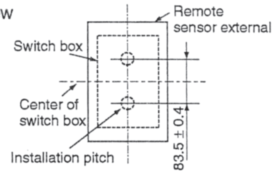
(1)Determine the installation of the remote sensor (switch box). The follwing items must be observed.

①Select a place where the remote sensor will detect an average temperature of the room, and where the sensor will not be subject to direct sunlight, heat sources, or the blow-off from the air conditioner, etc.

②Install the sensor within the length of the cable provided (12m). (The cable cannot be extented. If extented, it may cause misoperation due to noise.)

③The following parts must be procured at the site.

- Cross-recessed pan head screw
  M4 .... Tow screws
- Single switch box
- Thin steel conduit
- Lock nut, bushing



(2)Connect the wires.

- Connect the 2-core cable to the terminal block in the lower case. Peel the sheath of the 2-core cable as shown in Fig.1 , and correctly wire it as shown in Fig.2.

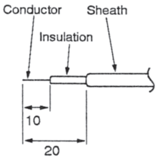
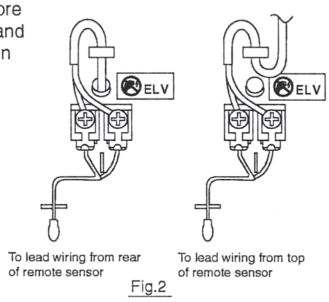


Fig.1



To lead wiring from rear of remote sensor

To lead wiring from top of remote sensor

Fig.2

- The wiring connection of the indoor unit's electrical box and remote sensor is an shown in Fig.3. There are three methods of connecting the 2-core cable to the electrical box.
  Exchange 2-core cable (connector 20)
  ①When using the connector attached to the end of the 2-core cable as it is.
  ②When cutting the connector attached to the end of the 2-core cable and connecting the cable to the terminal block in the I.B. (Indoor Board).
  ③When using the enclosed post for connection and convert cable.
  The above three methods are used according to the indoor unit being used. If the 2-core cable is to be embedded in the wall, follow Fig.4.

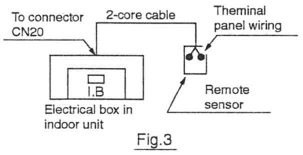


Fig.3

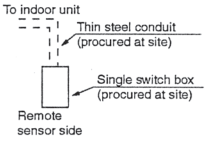
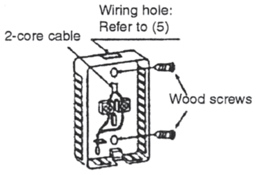


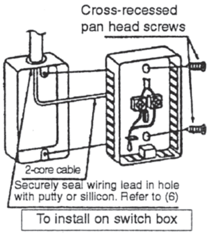
Fig.4

(3)Install the lower case on the wall or switch box.

NOTE The recommended tightening torque for installing the 2-core cable to the terminal block is 1.17N·m.



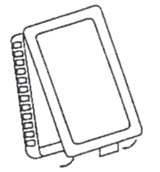
To install on wall


Cross-recessed
pan head screws
2-core cable
Securely seal wiring lead in hole
with putty or sillicon. Refer to (6)

To install on switch box

⚠CAUTION
- If the screws are tightened too hard, the case may break or deform.
- Install the sensor on a flat wall. If installed on a bumpy wall, the case may break or trouble may occur.

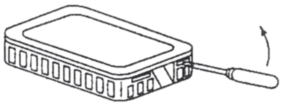
(4)Fit the upper case.



Catch the two upper claws first, and fit the case as shown on the left.

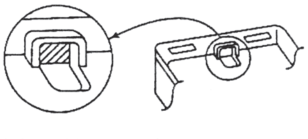
⚠CAUTION
- Securely fit the case until a catching sound is heard.
  It may drop off if is not fitted securely.

To remove the case, fit a flat-flap screwdriver into the claw section as shown below, and move the screwdriver in the direction of the arrow.



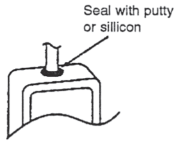
⚠CAUTION
- Do not turn the screwdriver when it is fit into the claw section as the claws may be broken.

(5)Wiring hole for direction installation on wall, etc.
Cut the thin section (shaded section) of the lower case with a knife or pair of nippers, etc. The 2-core cable connected to the terminal block is led out from here.

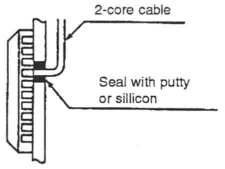


(6)Securely seal the wiring lead hole with putty or silicon to prevent dew, water drops, cockroaches and other insects from entering.

- When installing directly on the wall, seal the section cut on the lower case with putty or silicon.
  If the wiring is to be passed through a hole in the wall (when leading the wiring from the rear of the remote sensor), seal the hole in the same manner.
- When installing on a switch box, seal the connection of the switch box and conduit with putty or silicon.

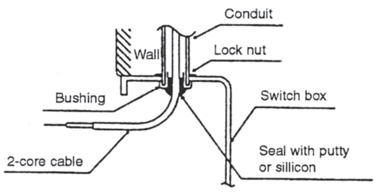


To lead wiring from top of remote sensor.



To lead wiring from rear of remote sensor.

To install directly on wall



To use switch box

2 Setting of indoor unit

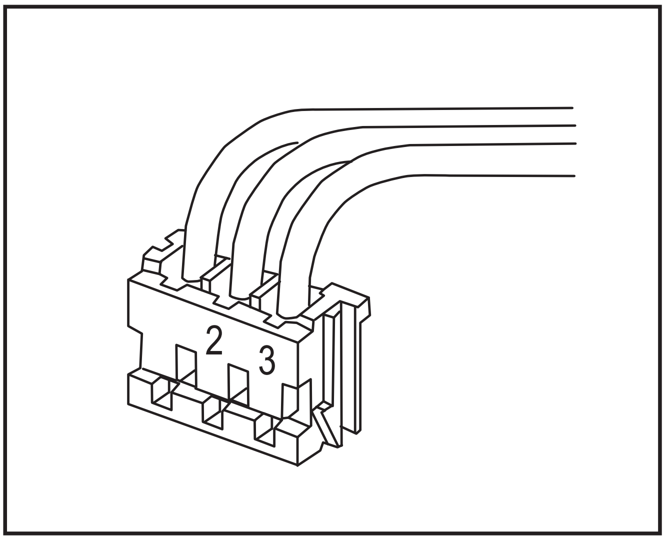
When the remote sensor is connected to the indoor unit and room temepature detection poisition is changed, reset the setting of "Set temp. 4-deg. up" in the heating mode as shown below.

① K control models : DIP switch Nos 1-6 on the control PCB of the indoor unit.
② M-NET control models : DIP switch Nos 3-8 on the control PCB of the indoor unit.
③ A control models : Refer to A-control air-conditioners SERVICE TECHNICAL GUIDE.

Remote On/Off Adapter

PAC-SE55RA-E

Figure



Descriptions

- Operation other than ON/OFF (adjustment of temperature, fan speed, and air direction, for example) can be performed even when remote controller operation is prohibited.

Applicable Models

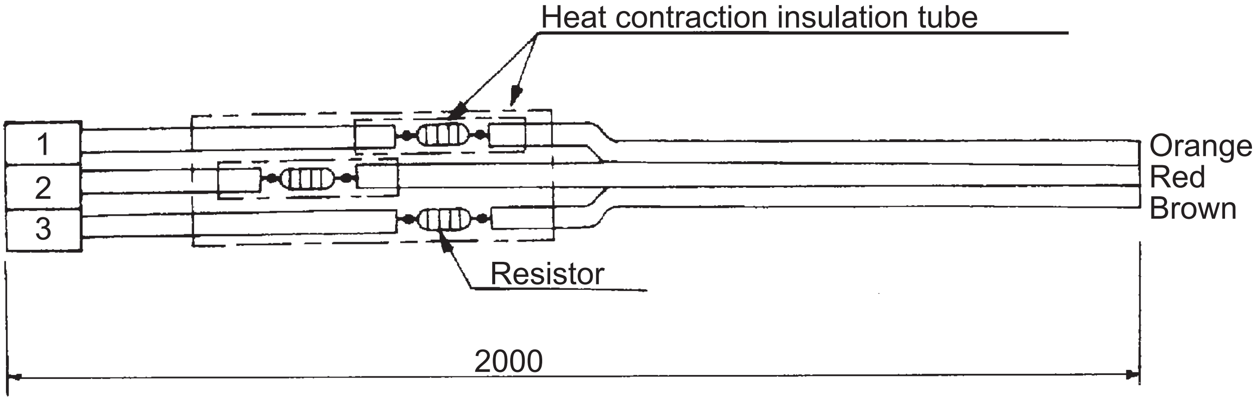
- ■ S-series models
- ■ P-series models

Specifications

Function	ON/OFF by external signal External signal ON (remote control disabled) / OFF (remote control enabled) switch able
Input signal	No-voltage contact (ON/OFF level signal)
Connector	3P (connected to CN32 on outdoor unit control board)
Cable type	3-wire cable, for extension: Sheathed vinyl cord or cable (0.5 to 1.25mm^2)
Cable length	2m (max. 10m when extended locally)

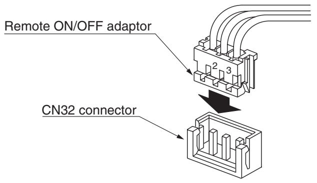
Dimensions

Unit : mm



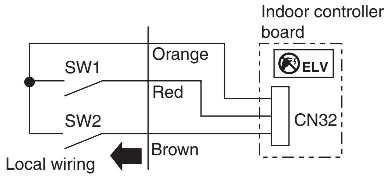
How to Use / How to Install

1 Connecting to the Indoor Unit



1. Connect to the connector CN32 on the indoor controller board.
2. Press the connector for the remote ON/OFF adaptor into the CN32 connector.
   The connector can only be connected in one direction only. Do not force the connection.

2 Locally Procured Wiring



With the remote ON/OFF adaptor, variations of connection method with the locally installed circuit will provide different types of operating configurations.

Example: External timer operation, remote control operation

1. Basic Connection Method
   - SW1 - Operating switch
     Performs operation/stopping of indoor unit.
   - SW2 - Selecting switch
     For selecting whether the operation/stopping is to be performed by external circuit or remote control.*
     * Also includes system controller (central controller).
2. Switch Settings (Refer to table at right for details.)

SW2 - If on.
- Operation/stopping cannot be controlled from remote controller.
  Other operations (such as temperature settings and changing fan speed) can be performed.
- Operation/stopping can be performed by SW1.

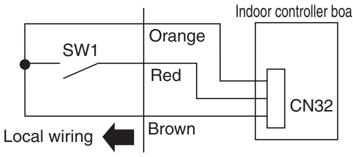
SW2 - If off.
- Operations can be performed from remote controller.
- Operation/stopping cannot be performed by SW1.

		SW2	
		ON	OFF
Remote controller		Cannot perform operation/stopping	Can perform operation/stopping
SW1	ON	Operation	Cannot perform operation/stopping
	OFF	Stopping	

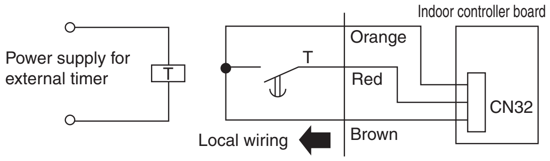
3 Examples of Usage

In either case, there is a 5 to 6 second delay from the time when the operating command is sent until the unit operates.

1. To perform operation/stopping by only remote operation or external timer and to prohibit operation/stopping by the remote controller, use the following circuits.

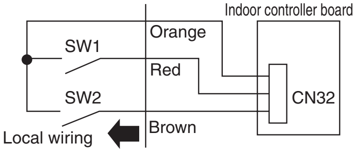


For remote operation

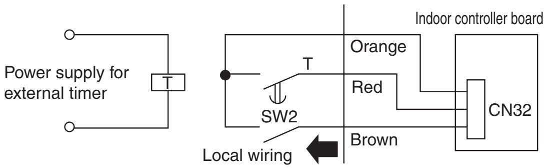


For remote timer operation

2. To perform operation/stopping by remote operation or external timer and allow operation/stopping by the remote controller, use the following circuits.

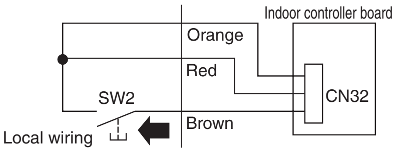


For remote operation



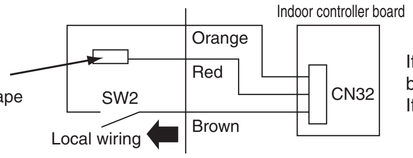
For remote timer operation

3. To start operation by remote operation and then freely use remote controller, use the following circuit.



Use a momentary switch (a switch that is turned on manually and turns off automatically) for SW2.
Press SW2 (for 1 second or more) and the operation starts. After this, the remote controller can be used for operations.

4. To permit/prohibit the use of the remote controller by an external circuit.

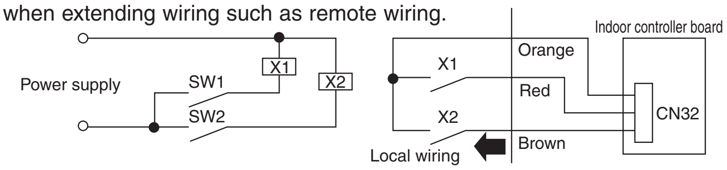


Since this is not used, be sure to completely wrap with insulation tape

If SW2 is on, operation cannot be performed by the remote controller.
If SW2 is off, operation is permitted.

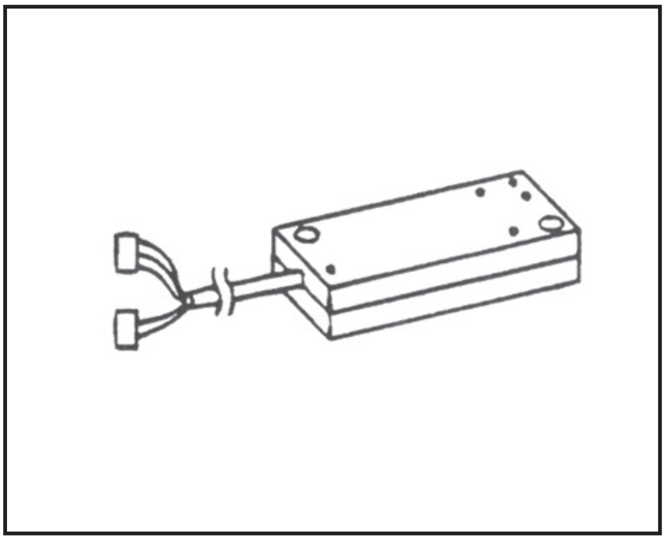
4 Wiring Restrictions

Keep the length of wire from the circuit board of the indoor unit within 10 meters. Excessive length could cause improper operation.
Use a transit relay when extending wiring such as remote wiring.



Remote Operation Adapter **PAC-SF40RM-E**

Figure



Descriptions

Extraction of non-voltage contact output.
*Use of optional [Remote Operation Adapter] and "remote display panel" Part to be provided at your site) provides non-voltage contact outputs of signals (operation, error) and operation/stop input function.
Unable to use with wireless remote controller. (except PKA-M·LAL/KAL)

Applicable Models

- ■ S-series models
- ■ P-series models (Except PKA-M·LA(L), PKA-M·KA(L))

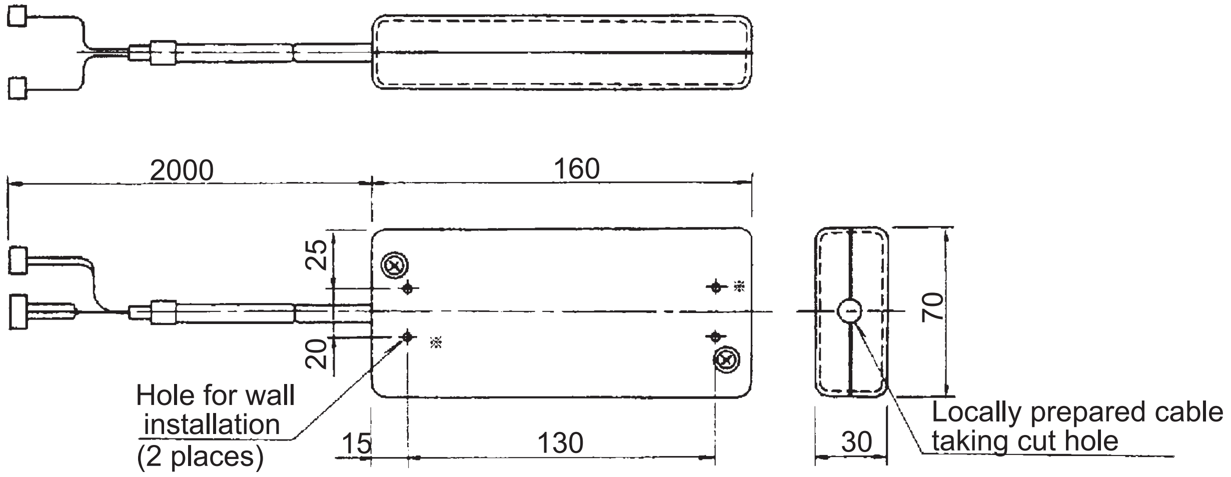
Specifications

Power		Supplied from indoor unit
External dimensions (mm)		160 x 70 x 30
Exterior		Material: ABS resin, Color: Gray (Munsell 3.07Y 6.16/0.33)
Weight		200g
Operating conditions		Indoor only Temperature: 0 to 40 ℃ , Humidity: 35 to 85%RH (no condensation)
Connecting cable (indoor unit)		5-wire (3 + 2) cable with connector (9-pin, 4-pin)
Output signal		No-voltage "a" contact (relay contact method)
	Number of Contacts	2 (Operation / Alarm)
	Contact capacity	200V AC (30V DC)/1A or less
	Minimum load	10mA
Input signal		Pulse signal (instantaneous non-voltage "a" contact), pulse width: 200ms or more
	Number of Contacts	1 (start/stop)
Input/output signal cable (locally prepared)	Type	CV, CVS, or equivalent sheathed vinyl cord/cable
	Diameter	Twisted: 0.5 to 1.25mm2, Single: Φ 0.65 to Φ 1.2mm
	Distance	Output signal cable: Max. 100m Input signal cable: Max. 10m (Extension relay must be used when exceeding 10m)

* This kit cannot be used with a wireless remote controller.
Water leakage alarm will not be displayed if the unit is built into the ceiling (PDH)

Dimensions

Unit : mm

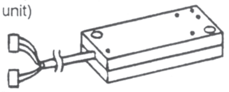
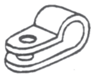
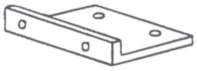
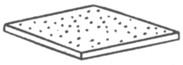
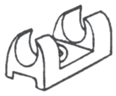

2000
160
25
20
70
Hole for wall installation (2 places)
15
130
30
Locally prepared cable taking cut hole

How to Use / How to Install

1 Confirming the Supplied Parts

(1) Parts Provided

Check that the box includes the following parts in addition to this installation manual.

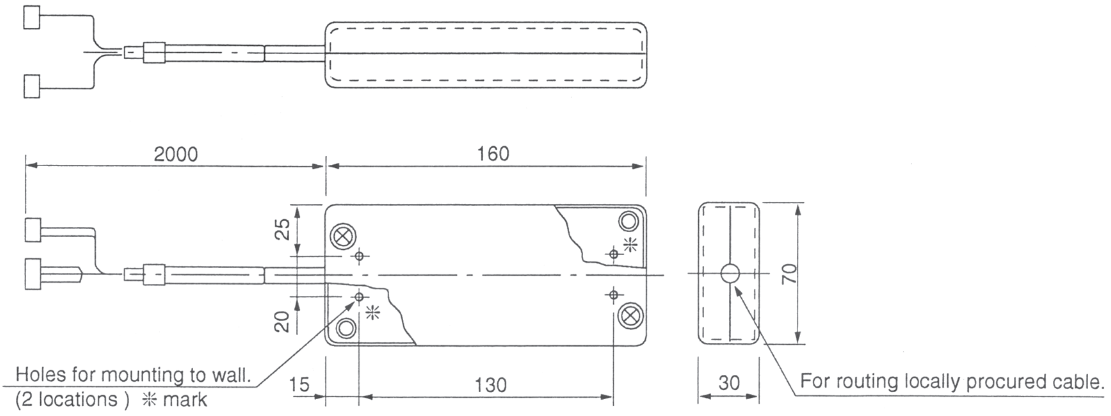
Parts	① Remote operation adaptor unit	② Cord clamp	③ Wall mount bracket
Shape	(with 2 meter wire for connecting with indoor unit) 	(Use this clamp if the local wiring is too thick to be held by the clamp inside the main unit.) 	
Quantity	1	1	1
Parts	④ Screws for mounting ③	⑤ Cushion material	⑥ Tie-wrap
Shape	 3.5 x 12 (Black)	(With adhesive on both sides.) 	(Use this for bundling lead wires.)
Quantity	4	1	5
Parts	⑦ Cord clamp	⑧ Screws for mounting ⑦	⑨ Screws for mounting main unit
Shape		 3.5 x 12 (Black)	 3.5 x 12 (Black)
Quantity	5	5	2

(2) Locally Procured Parts

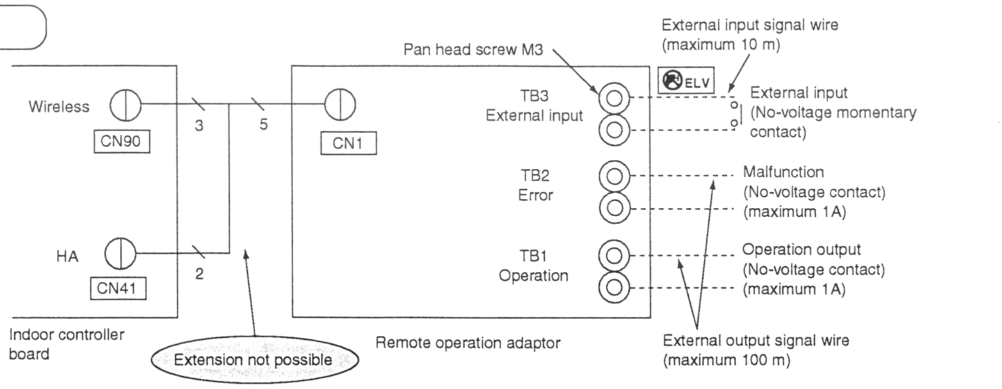
Note : Please keep LVD. LVD;Low Voltage Directive (EC Directive of Europe)
Apply some countermeasure for wiring and relay not to be touched from outside.
① Wiring should be covered by the insulation tube. ② Use relay with EU regulation.

Item	Part Name	Model & Specifications
External output function	External signal output wire	Use a vinyl cord with sheath or cable Electric wire type: CV, CVS or equivalent Electric wire size: 0.5 mm² to 1.25 mm² Single wire: ø0.65 mm to ø1.2 mm
	Display lamp, etc.	No-voltage contact AC 220 to 240 V (DC30V), 1A or less
External input function	External signal input wire	Use a vinyl cord with sheath or cable Electric wire type: CV, CVS or equivalent Electric wire size: 0.5 mm² To 1.25 mm² (Single wire: ø0.65 mm to ø1.2 mm)
	Switch	No-voltage momentary contact (Operation ⇄ Stop is switched by input of a pulse of 200 ms or more)

2 External Dimension Drawing


2000
160
25
20
70
15
130
30
Holes for mounting to wall.
(2 locations) ✻ mark
For routing locally procured cable.

3 Wiring



⚠Caution

1) TB3 is a dedicated terminal for contact input. Do not apply voltage. Applying voltage will cause damage to the circuit board inside the for the indoor unit controller.
2) Always use the cable provided for connecting the unit to the indoor unit. Never make modifications to extend this cable. Extensions could cause the cable to be affected by external noise which could lead to mis-operation.
   If an extension is needed, refer to specification chart in "6. Product Specifications" a follow it when extending the external signal wire.

<Connecting to the indoor unit>

① If external output functions are used ····· Insert the 9-electrode (3 core) side of the cable provided into CN90 on the controller circuit board for the indoor unit.

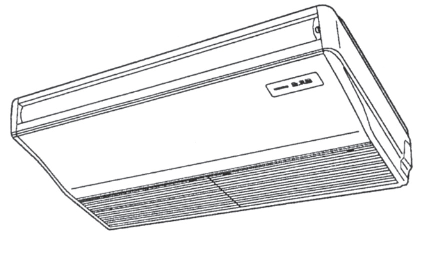
② If external input functions are used ····· Insert the 4-electrode (2 core)side of the cable provided into CN41 on the controller circuit board for the indoor unit.

※ The connector can only be inserted in one direction. Be sure to check that the connector is in the proper direction before inserting. Forcing the connector will cause damage.

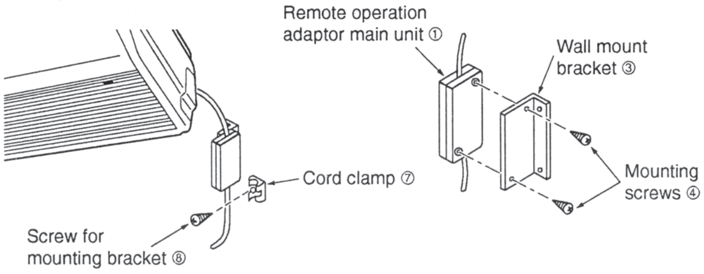
4 How to Install

There are three ways to mount the remote operation adaptor main unit: [A] Using mounting bracket, [B] Mounting directly, and [C] Using the cushion material.

(1) Installation Example (Suspended Type)



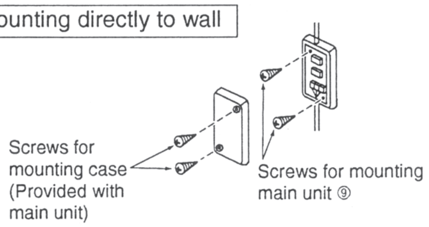
[A] Mounting to wall mounting bracket

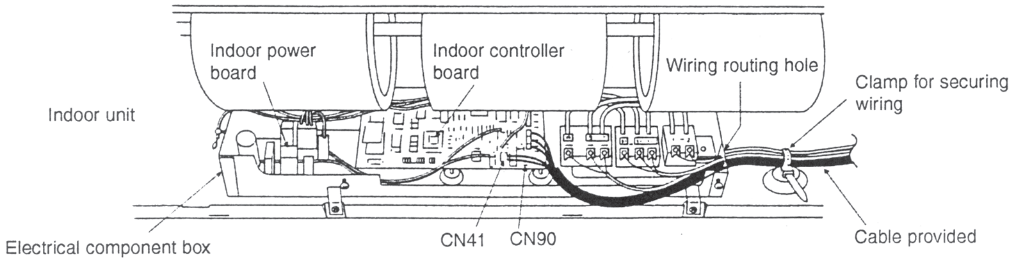


⚠Caution

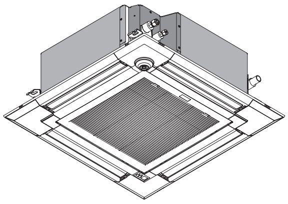
1) When mounting the remote operation adaptor main unit, be sure to use the mounting hardware to mount it to a wall or beam so that an inspection port is available for servicing.
2) If there is any loose remaining wire after installation, use a tie-wrap ⑥ to bundle it.

[B] Mounting directly to wall





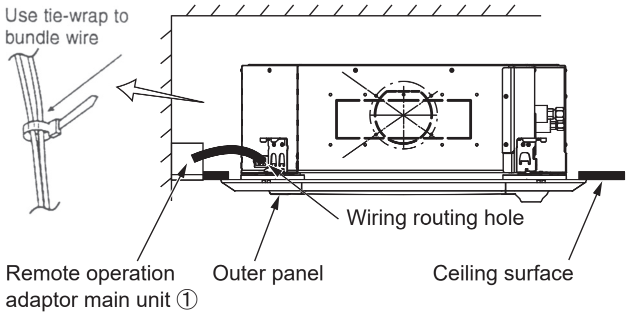
(2) Installation Example 2 [Cassette Type]



⚠Caution

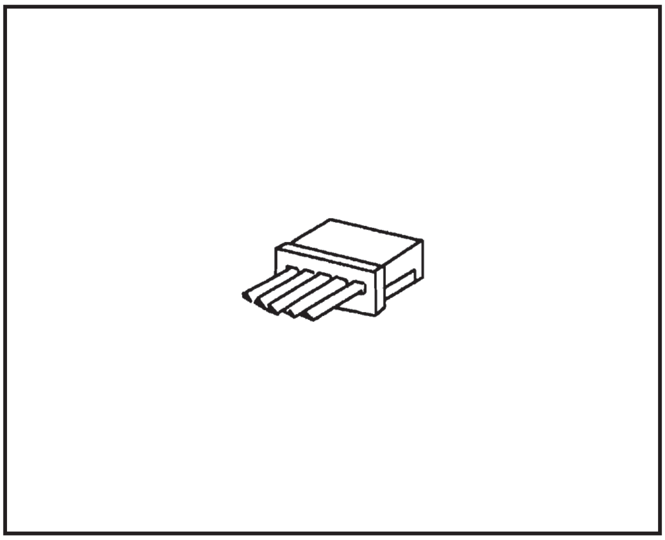
1) When mounting the remote operation adaptor main unit, be sure to use the mounting hardware to mount it to a wall or beam so that an inspection port is available for servicing.
2) If there is any loose remaining wire after installation, use a tie-wrap ⑥ to bundle it.

[A] If recess-mounted into ceiling


Use tie-wrap to bundle wire
Wiring routing hole
Remote operation adaptor main unit ①
Outer panel
Ceiling surface

Connector Cable For Remote Display PAC-SA88HA-E

Figure



Descriptions

•This adapter enables control of several units with a multiple remote control display.

Applicable Models

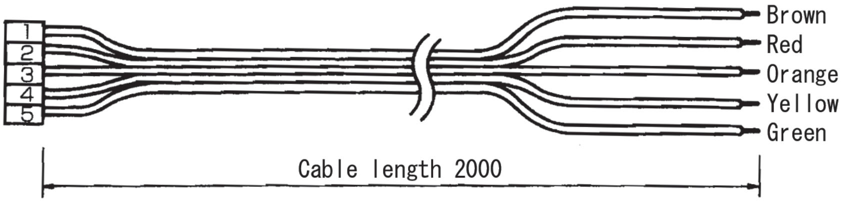
- ■ S-series models
- ■ P-series models

Specifications

Function	Connecting cable to output status signal of the air conditioner, and ON/OFF by external (pulse) signal.
Input signal	Pulse signal (no voltage instantaneous ON contact) Pulse duration 200m/s or more.
Connector	5P (connector to CN51 or CN52 on indoor unit control board)
Cable type	5-wire vinyl cable, for extension: sheathed vinyl cord or cable (0.5 to 1.25 mm²)
Cable length	2 m (max. 10 m when extended locally)
Output capacity)	DC12V 75 mA (Max 0.9W)

Dimensions

Unit : mm



How to Use / How to Install

1. Parts list

Make sure that the following items are included in the package.
Multiple Remote Controller Adapter 2 m (6-1/2 ft)
• PAC-SA88HA-E: 1 pc.

2. Connection to the Indoor Unit

Connect the connector of the Multiple Remote Controller Adapter to the connector CN51 or CN52 of the indoor unit control board as necessary.
The connector can only be connected in one direction. Do not force the connection.

3. Locally Procured Parts

All parts other than the Multiple Remote Controller Adapter are procured locally.
The items required will depend on the connection method. Refer to the example of use shown below.

(Example) ① Switch .... Single pole, single action switch.

⚠CAUTION	Select a part with contacts for extremely low amperage. 5 or 12 VDC is used at the contact points for the switch so there is a load of only approximately 1 mA. Improper switch selection could cause improper operation.

② Relay .... Use relays that meet the following specifications.
Operation coil
Rated voltage: 12 VDC
Power consumption: 0.9 W or less
* Use the diode that is recommended by the relay manufacturer at both ends of the relay coil.

③ Transit relay .... When the wiring work as described in *6. Wiring Restrictions* is required, this relay is used.

④ Control cable .... The length of the electrical wiring for the PAC-SA88HA-E is 2 meters (6-1/2 ft).
To extend this length, use sheathed 2-core cable. Don't extend the cable more than 10 meters (32 ft).
Control cable type: CVV, CVS, CPEV or equivalent
Cable size: 0.5 mm^2 ~ 1.25 mm^2 (16 to 22 AWG)

⚠CAUTION	**1. Wiring should be covered by insulation tube with supplementary insulation.** **2. Use relays or switches with IEC or equivalent standard.** **3. The electric strength between accessible parts and control circuit should have 2750 V or more.**

4. Locally Procured Wiring

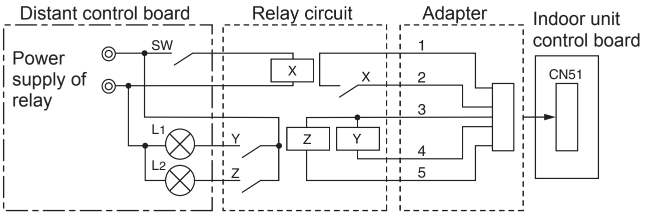
Basic connection methods for following models are shown below as examples. For details, refer to the CITY MULTI DATA BOOK, Electrical Wiring Diagram etc.

Polarity (output terminal)

No.	Color	CN51	CN52
1	Brown		+
2	Red		-
3	Orange	+	-
4	Yellow	-	-
5	Green	-	

Indoor unit "-E" type input/output connector (CITY MULTI series)

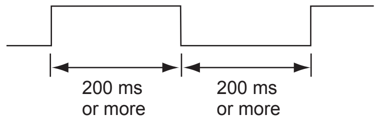
① Input (CN51)



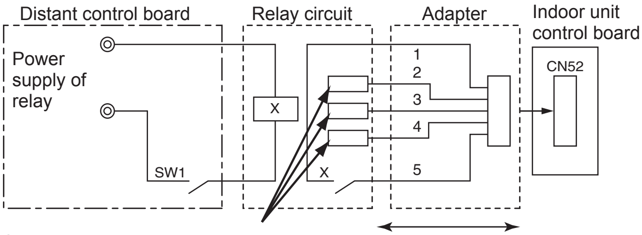
SW: Distant ON/OFF switch
L1: Status lamp
L2: Error lamp
X: Relay (a point of contact, fixed DC1 mA)
Y, Z: Relay Contact rating voltage ≥ 15 VDC
Contact rating current ≥ 0.1 A
Minimum applicable load ≤ DC1 mA

Maximum cable length is 10 m (32 ft.)
* Every time the SW is pushed (the pulse is inputted), it reacts against ON/OFF.

• ON/OFF (Pulse) input specification

Item	Description
Input signal	Pulse sign (Normally open)
Standard of pulse	

② Input (CN52)

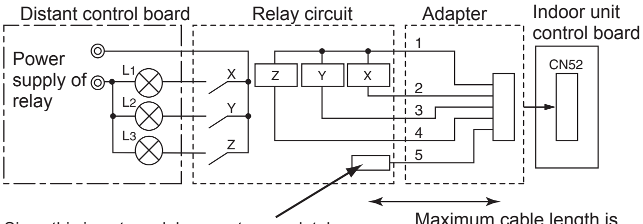


Since this is not used, be sure to completely wrap with insulation tape.
SW1: Demand switch
X: Relay (coil ≤ 0.9 W, 12 VDC)

SW1	Indoor unit
ON	Forced thermo-OFF
OFF	Normal running

Maximum cable length is 10 m (32 ft.)

③ Output (CN52)



Since this is not used, be sure to completely wrap with insulation tape.
L1: Status lamp
Fan motor output (SW1-5 OFF)
Thermostat ON (SW1-5 ON)
L2: Cooling/Dry status lamp
L3: Heating status lamp
X, Y, Z: Relay (Coil with fixed 12 VDC, a power consumption of 0.9 W or less)

Maximum cable length is 10 m (32 ft.)

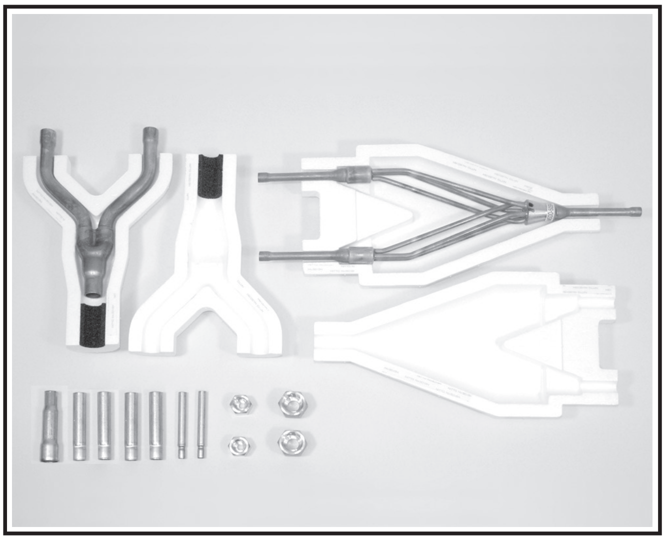
5. Wiring Restrictions

Keep the length of the cable connecting to the circuit board of the indoor unit shorter than 10 meters (32 ft).
Longer than 10 meters (32 ft) could cause improper operation.
Use a transit relay when extending wiring such as remote wiring.
When using a polarized relay (such as a relay with a diode), connect the relay in the correct polarity to avoid damage to the indoor unit circuit board.

Distribution Pipe

MSDD-50TR2-E

Photo



Descriptions

Branch pipe for Multi-System Twin type Twin use. (50:50)

Applicable Models

■ PUZ-ZM71VHA type
■ PUZ-ZM100,125,140VKA type
■ PUZ-ZM100,125,140YKA type
■ PUZ-M100,125,140VKA type
■ PUZ-M100,125,140YKA type
[R32 type]

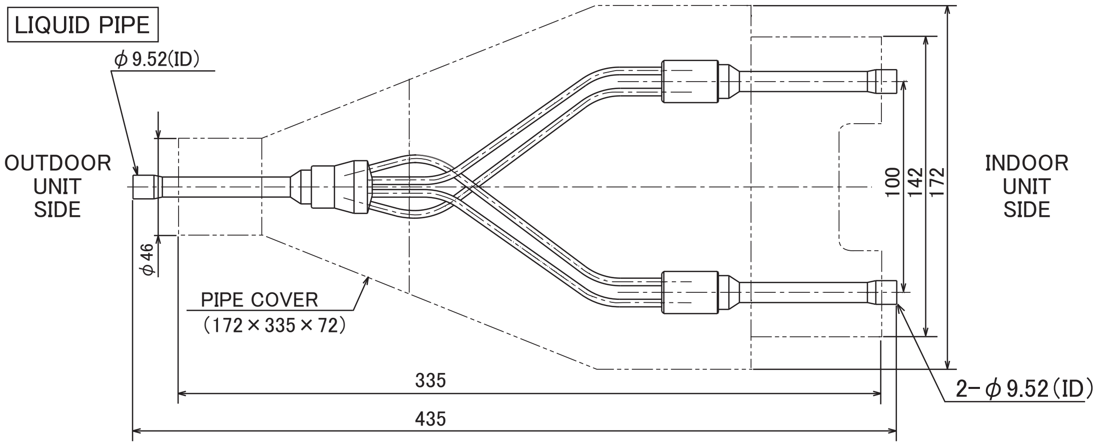
Specifications

Main body	Distribution ratio	Outdoor unit capacity is divided into two (50:50)
	Number of distribution pipes	1 each for liquid pipe and gas pipe
	Pipe material	Phosphate deoxidized copper C1220T-OL (JIS H3300)
Accessory	Pipe cover	Styrofoam molding (1 each for liquid pipe and gas pipe)
	Joint	7 joints (4 types)

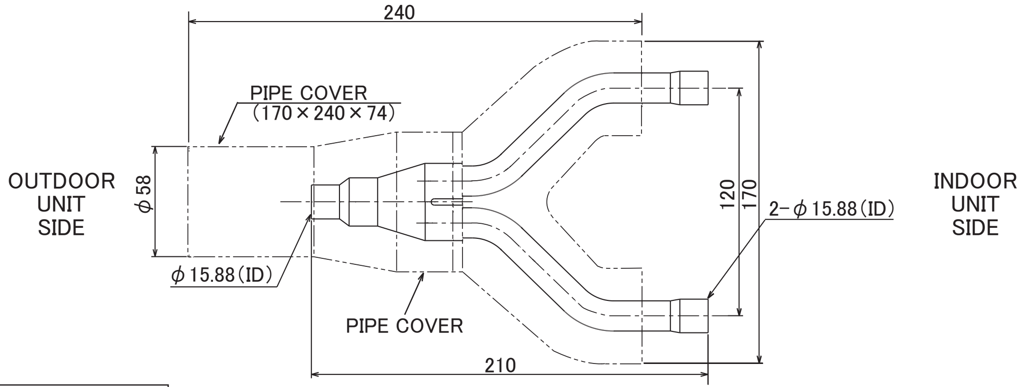
Dimensions

Unit: mm

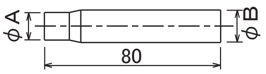
LIQUID PIPE



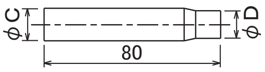
GAS PIPE



JOINT(Accessory)



ØA(ID)	ØB(OD)	Amount
6.35	9.52	2
9.52	15.88	2
12.7	15.88	2

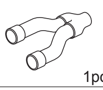
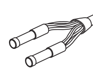
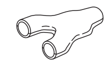
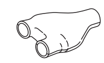


ØC(ID)	ØD(OD)	Amount
19.05	15.88	1

How to Use / How to Install

Package Air-conditioner Optional Parts Instruction Sheet for Simultaneous Twin Distributing Pipe

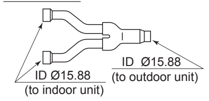
Make sure that you have all the following parts before installation.

① Instruction sheet	② Gas pipe	③ Liquid pipe	④ Pipe cover (for gas pipe)	⑤ Pipe cover (for liquid pipe)	⑥ Joint pipe	⑦ Flare nut
This sheet 1 sheet	 1pc	 1pc	 1pc	 1pc	Ⓐ ϕ9.52→ ϕ6.35····2pcs Ⓑϕ15.88→ϕ12.7······2pcs Ⓒϕ15.88→ϕ19.05····1pc Ⓓϕ15.88→ϕ9.52······2pcs	1/4F····2pcs 1/2F····2pcs For R32 indoor unit.

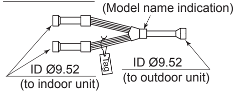
- See the following for the specifications of gas pipe ②, and liquid pipe ③,

■ MSDD-50TR2

② Gas pipe



③ Liquid pipe



※ Procure the following at local site in addition to the above
· Tape for heat insulator sealing
· Extended pipe for refrigerant pipe

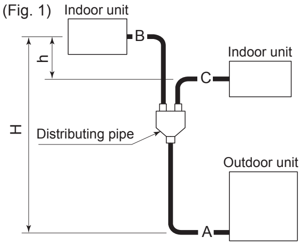
Pipe size and limit to refrigerant pipe

■ For R32 power inverter (Table 1)

Outdoor unit capacity	Pipe size (mm)				Actual pipe length (m)			Height Difference (m)		Note 1 Number of bends
	Gas pipe side		Liquid pipe side							
	Outdoor unit side	Indoor unit side	Outdoor unit side	Indoor unit side	Indoor-Outdoor	A + B + C=	Indoor-Indoor	Indoor-Outdoor	Indoor-Indoor	
ZM71	Ø15.88 (5/8)	M35, 50 Ø12.7(1/2)	Ø9.52 (3/8)	M35, 50 Ø6.35(1/4)	–	55m or less	|B – C| = 8m or less	H = 30m or less	h = 1m or less	15 or less
ZM100-140		M60, 71 Ø15.88(5/8)		M60, 71 Ø9.52(3/8)		100m or less				

Note 1: Limit the number of bends for refrigerant pipes to 8 in each of the < A + B> and < A + C> ranges.
※ See the installation manual provided with the main unit for details on chargeless pipe length and refrigerant additional charge amount.

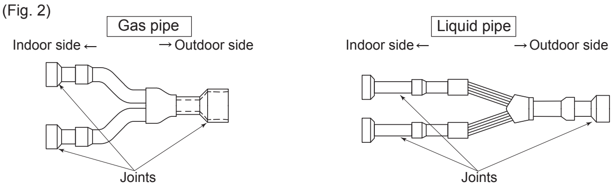
(Fig. 1)



Pipe connections

Combination pattern of indoor and outdoor units and joints to be used:

(Fig. 2)



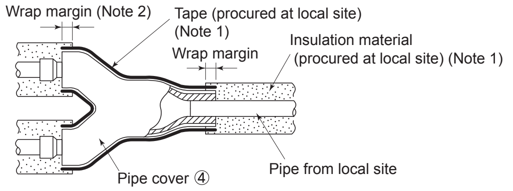
1. Perform work, taking care with the followings:
   - Be sure to check the combination pattern of indoor and outdoor units and joints to be used (Table 2).
   - Be sure to observe the limits to refrigerant pipe length and number of bends (Table 1).
   - Insert the refrigerant pipe (procured at local site) and joint ⑥ into the expanded pipe portions of distributing pipe (this product) until they stop, and then connect them using anti-oxidization soldering.
   - There is no restriction on the orientation of distributing pipe (this product)during installation.
   - Take care that no foreign object, such as dust, enters during pipe connecting work.
   - Remove the tag of liquid pipe ③ after checking it.
2. Pipe connections
   - The provided joints ⑥ will be necessary depending on the capability of model used: See (Table 2), and connect the joints as shown in (Fig. 2).
   - Do not bend or widen the distributing pipe (liquid pipe).

■ For R32 power inverter <Table 2>

Outdoor unit	Indoor unit	Joint to be used
ZM71	35+35	ⒷOuter Ø15.88 – inner Ø12.7 [indoor gas pipe side], ⒶOuter Ø9.52 – inner Ø6.35 [indoor liquid pipe side]
ZM100	50+50	ⒷOuter Ø15.88 – inner Ø12.7 [indoor gas pipe side], ⒶOuter Ø9.52 – inner Ø6.35 [indoor liquid pipe side]
ZM125	60+60	No joint is necessary.
ZM140	71+71	

Note: Installation positions in brackets [   ].

Heat insulation work



Notes:
1. Cover the entire refrigerant pipe (procured at local site) with heat insulation material. When using generally available heat insulation material, heat-resistant insulation material (at least 12 mm thick).
2. Pipe covers ④ and ⑤ will shrink slightly at high temperatures: Provide wrap margins with insulation material.

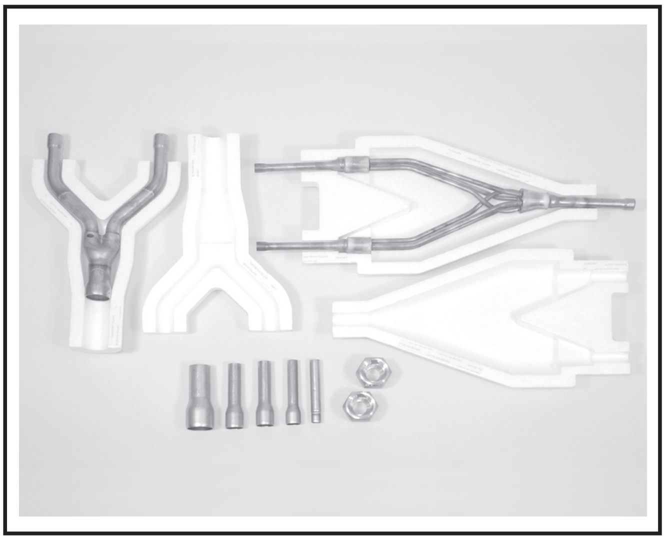
- Fit gas pipe ② into pipe covers ④, and then seal the mated portion of pipe covers ④ using heat insulation seal tape (procured at local site).
- Process liquid pipe ③ in the same way.

Please install contents other than this description on the main part of a product with an attached installation description, and use them as it.

Distribution Pipe

MSDD-50WR2-E

Photo



Descriptions

Branch pipe for Multi-System Twin type Twin use. (50:50)

Applicable Models

- ■ PUZ-ZM200,250YKA type
- ■ PUZ-M200,250YKA type

for Twin 50:50 use
[R32 type]

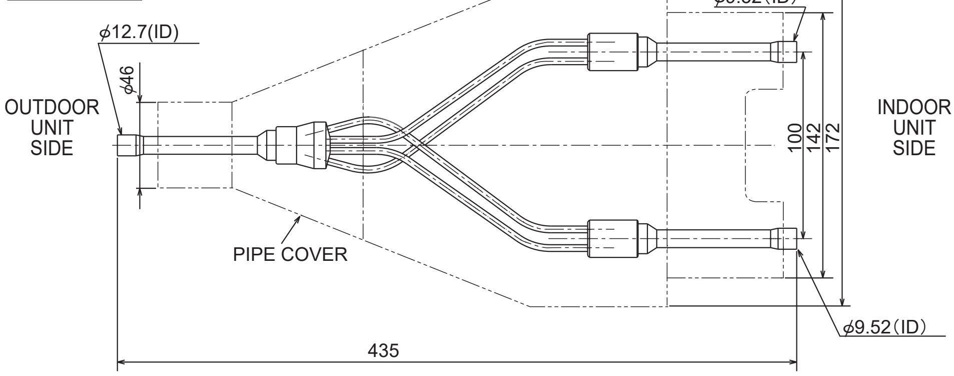
Specifications

Main body	Distribution ratio	Outdoor unit capacity is divided into two (50:50)
	Number of distribution pipes	1 each for liquid pipe and gas pipe
	Pipe material	Phosphate deoxidized copper C1220T-OL (JIS H3300)
Accessory	Pipe cover	Styrofoam molding (for liquid pipe and gas pipe)
	Joint	5 joints (4 types)

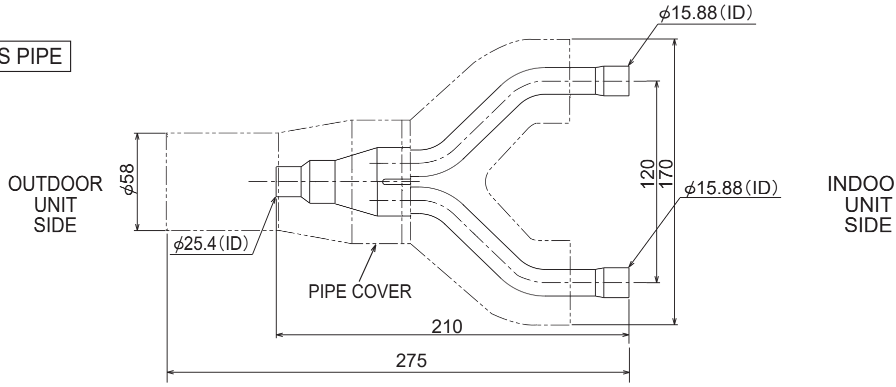
Dimensions

Unit: mm

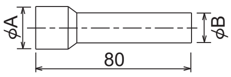
LIQUID PIPE



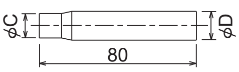
GAS PIPE



JOINT(Accessory)



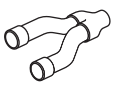
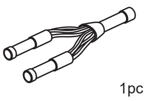
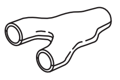
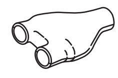
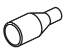
ØA(ID)	ØB(OD)	Amount
28.6	25.4	1
15.88	12.7	1
19.05	15.88	2



ØC(ID)	ØD(OD)	Amount
9.52	12.7	1

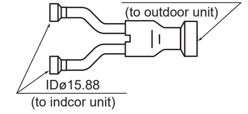
How to Use / How to Install

1 Make sure that you have all the following parts in packing box before installation.

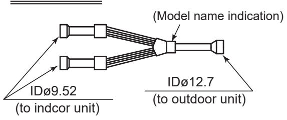
①Instruction sheet	②Gas pipe	③Liquid pipe	④Pipe cover (for gas pipe)	⑤Pipe cover (for liquid pipe)	⑥Joint pipe	⑦Flare nut
1 sheet	 1pc	 1pc	 1pc	 1pc	 Ⓓ ø12.7→ø9.52 • • • 1pc Ⓔ ø12.7→ø15.88 • • 1pc Ⓕ ø15.88→ø19.05• •2pcs Ⓖ ø25.4→ø28.6 • • • 1pc	©5/8F• • •2pcs For R32 indoor unit.

- See the following for the specifications of gas pipe ②,and liquid pipe ③.

②Gas pipe



③Liguid pipe



Note:
The following items must be obtained locally in addition to the packed parts.
ⓐ Heat insulating seallng tape
ⓑ Extension pipe for refrigerant pipe

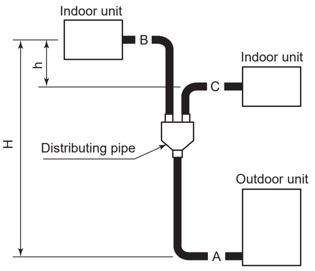
2 Pipe size and limit to refrigerant pipe

■For R32 power inverter

<Table 1>

Outdoor unit capacity	Pipe size (mm)				Actual pipe length (m)			Difference of elevation (m)		Note 1 Number of bends
	Gas pipe side		Liquid pipe side							
	Outdoor unit side	Indoor unit side	Outdoor unit side	Indoor unit side	Indoor-Outdoor	A+B+C=	Indoor-Indoor	Indoor-Outdoor	Indoor-Indoor	
200	ø25.4 <1>	35, 50 ø12.7<1/2> 60～125 ø15.88<5/8>	ø9.52 <3/8>	35, 50 ø6.35<1/4> 60～125 ø9.52<3/8>	Refer to the instruction manual of the outdoor unit.					
250			ø12.7 <1/2>							

<Fig. 1>



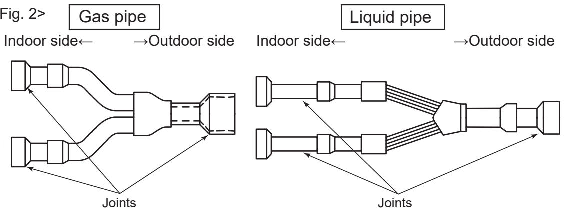
Note 1: Limit the number of bends for refrigerant pipes to 8 in each of the <A+B> and <A+C> ranges.
•See the installation manual provided with the main unit for details on charge-less pipe length and refrigerant additional charge amount.

3 Pipe connections

1. Perform work, taking care with the following:
   - Be sure to check the combination pattern of indoor and outdoor units and joints to be used <Table 2>.
   - Be sure to observe the limits to refrigerant pipe length and number of bends <Table 1>.
   - Insert the refrigerant pipe (procured at local site) and joint ⑥ into the expanded pipe portions of distributing pipe (this product) until they stop, and then connect them using anti-oxidization soldering.
   - There is no restriction on the orientation of distributing pipe (this product) during installation.
   - Take care that no foreign object, such as dust, enters during pipe connecting work.
2. Pipe connections
   - The provided joint(s) ⑥ will be necessary depending on the capability of model used: See <Table 2>, and connect the joints as shown in <Fig. 2>.
   - Do not bend or widen the distributing pipe (liquid pipe).

Combination pattern of indoor and outdoor units and joints to be used:

<Fig. 2>



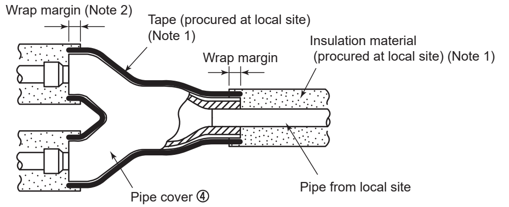
■For R32 power inverter

<Table 2>

Outdoor unit	Indoor unit	Joint to be used
200	100+100	Ⓓ Outerø12.7−innerø9.52[outdoor liquid pipe side]
250	125+125	No joint is necessary

Note 1: Installation positions in brackets [ ].

4 Heat insulation work



Notes:
1. Cover the entire refrigerant pipe (procured at local site) with heat insulation material. When using generally available heat insulation material, heat-resistant insulation material (at least 12 mm thick).
2. Pipe covers ④ and ⑤ will shrink slightly at high temperatures: Provide wrap margins with insulation material.

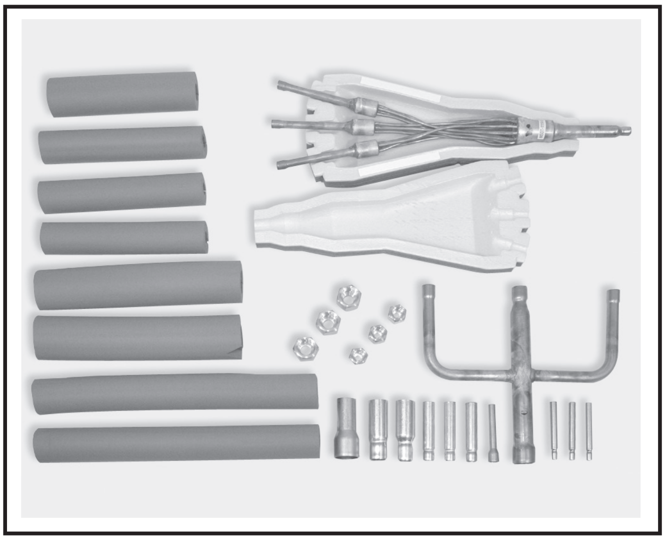
- Fit gas pipe ② into pipe covers ④, and then seal the mated portion of pipe cover ④ using heat insulation seal tape (procured at local site).
- Process liquid pipe ③ in the same way.

Please install contents other than this description on the main part of a product with an attached installation description, and use them as it.

Distribution Pipe

MSDT-111R3-E

Photo



Descriptions

3-branch pipe for Multi-System Triple use. (33:33:33)

Applicable Models

- ■ PUZ-ZM100,125,140VKA type
- ■ PUZ-ZM100,125,140,200,250YKA type
- ■ PUZ-M140VKA type
- ■ PUZ-M140,200,250YKA type

for 33:33:33 Triple use
[R32 type]

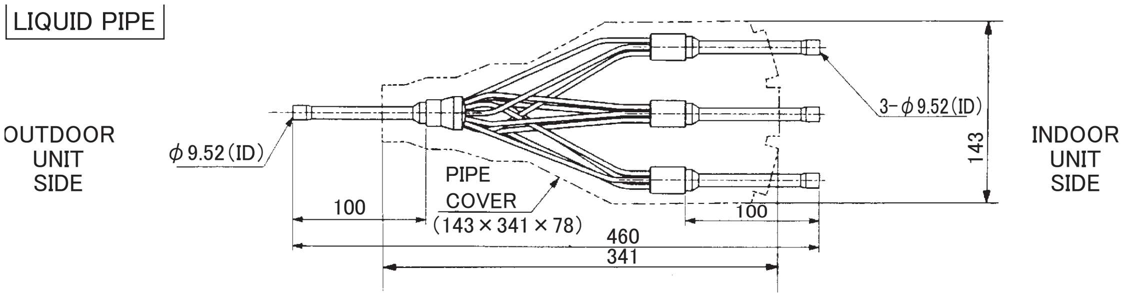
Specifications

Main body	Distribution ratio	Outdoor unit capacity is divided into three (33:33:33)
	Number of distribution pipes	1 each for liquid pipe and gas pipe
	Pipe material	Phosphate deoxidized copper C1220T-OL (JIS H3300)
Accessory	Pipe cover	Polyethylene foam molding (for liquid pipe) EPT sponge rubber type (for gas pipe)
	Joint	10 joints (6 types)

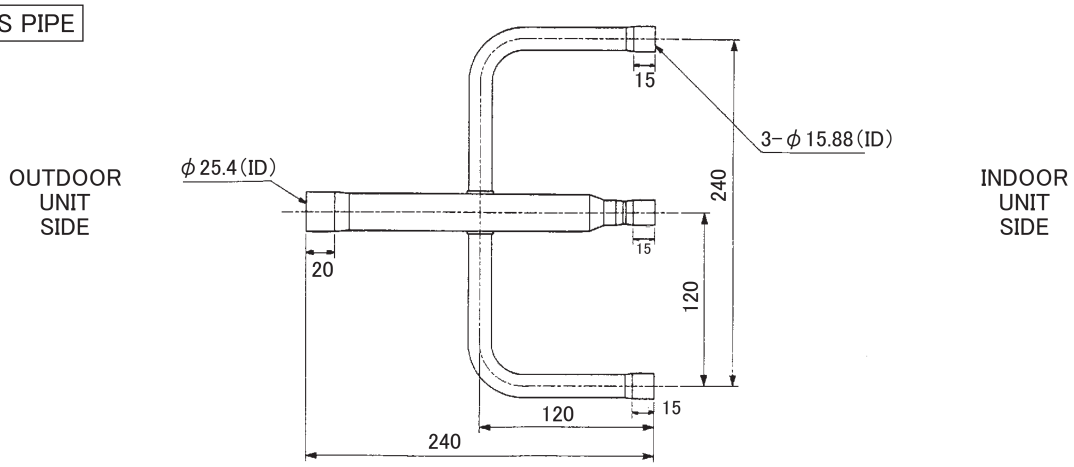
Dimensions

Unit: mm

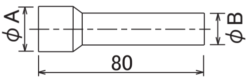
LIQUID PIPE



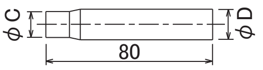
GAS PIPE



JOINT(Accessary)



ØA(ID)	ØB(OD)	Amount
12.7	9.52	1
28.6	25.4	1



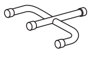
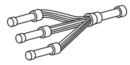
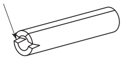
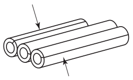
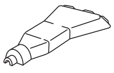
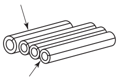
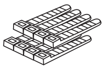
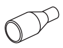
ØC(ID)	ØD(OD)	Amount
12.7	15.88	3
19.05	25.4	1
6.35	9.52	3
15.88	25.4	1

How to Use / How to Install

Packaged Air Conditioner Optional Parts Instruction Sheet for Simultaneous Triple Distributing Pipe exclusively used with Free Compo Multi-Units

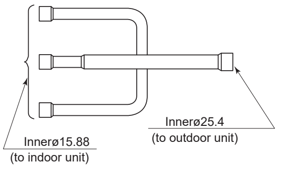
MSDT-111R3-E [Indoor unit same-capacity triple 33:33:33]

1 Make sure that you have all the following parts in packing box before beginning installation:

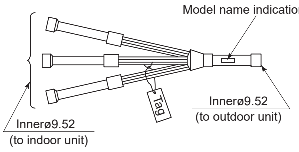
①Instruction sheet	②Gas pipe	③Liquid pipe	④Pipe cover (for gas pipe)	⑤⑥Pipe cover (for gas pipe)	⑦Pipe cover (for liquid pipe)	⑧⑨Pipe cover	⑩Band	⑪Joint	⑫ Flare nut
 1 sheet	 1pc	 1pc	With V cut  1pc	⑤Outerø50×250 ℓ −1pc  ⑥Outerø43×350 ℓ −2pcs	 2pcs	⑧Outerø42×180 ℓ −1pc  ⑨Outerø38×200 ℓ −3pcs	 8pcs	 See Table 1.	 ⓐ1/4F• • 3pcs ⓑ1/2F• • 3pcs For R32 indoor unit

●See the following for the specifications of gas pipe ② and liquid pipe ③ :

②Gas pipe



③Liquid pipe



Note:
The following items must be obtained locally in addition to the packed parts.
ⓐ Heat insulating sealing tape
ⓑ Extension pipe for refrigerant pipe

Joint specifications and provided numbers <Table 1>

Sizes of joint pipe ends (mm)	Numbers provided
Ⓐ Outerø9.52−Innerø6.35	3
Ⓑ Outerø9.52−Innerø12.7	1
Ⓒ Outerø15.88−Innerø12.7	3
Ⓓ Outerø25.4−Innerø19.05	1
Ⓔ Outerø25.4−Innerø15.88	1
Ⓕ Outerø25.4−Innerø28.6	1
Ⓖ Outerø15.88−Innerø9.52	3

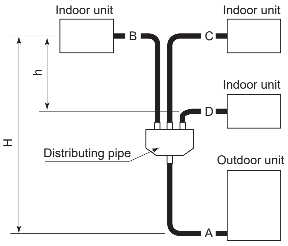
2 Pipe size and limit to refrigerant pipe

<Table 2>

Outdoor unit capacity	Pipe size (mm)				Actual pipe length (m)			Difference of elevation (m)		Note 1 Number of bends
	Gas pipe side		Liquid pipe side		Indoor-Outdoor	A+B+C+D=	Indoor-Indoor	Indoor-Outdoor	Indoor-Indoor	
	Outdoor unit side	Indoor unit side	Outdoor unit side	Indoor unit side						
100	ø15.88 <5/8>	ø9.52 <3/8>	ø9.52 <3/8>	ø6.35 <1/4>	Refer to the instruction manual of the outdoor unit.					
125, 140		ø12.7 <1/2>								
200	ø25.4 <1>	ø15.88 <5/8>	ø9.52 <3/8>	ø9.52 <3/8>						
250			ø12.7 <1/2>							

Note 1: Limit the number of bends for refrigerant pipes to 8 in each of the <A+B>, <A+C> and <A+D> ranges.
•See the installation manual provided with the main unit for details on charge-less pipe length and refrigerant additional charge amount.

<Fig. 1>



3 Pipe connections

1. Perform work, taking care with the following:
   - Be sure to check the combination pattern of indoor and outdoor units, joints to be used <Table 3>, pipe size <Table 1> and joint ⑪.
   - Be sure to observe the limits to refrigerant pipe length and number of bends <Table 2>.
   - Insert the refrigerant pipe (procured at local site) and joint ⑪ into the expanded pipe portions of distributing pipe (this product) until they stop, and then connect them using anti-oxidization soldering.
   - There is no restriction on the orientation of distributing pipe (this product) during installation.
   - Take care that no foreign object, such as dust, enters during pipe connecting work.
   - Remove the tag of liquid pipe ③ after checking it.
2. Pipe connections
   - The provided joints ⑪ will be necessary depending on the capability of model used: See <Table 3>, and connect the refrigerant piping.
   - Do not bend or widen the distributing pipe (liquid pipe).

Combination pattern of indoor and outdoor units and joints to be used:

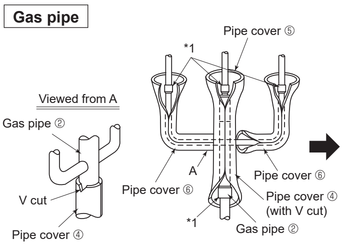
<Table 3>

Outdoor unit	Indoor unit	Joint to be used
100	35+35+35	Ⓔ Outerø25.4−innerø15.88[outdoor gas pipe side]×1, Ⓖ Outerø15.88−innerø9.52[indoor gas pipe side]×3, Ⓐ Outerø9.52−innerø6.35[indoor liquid pipe side]×3
125,140	50+50+50	Ⓔ Outerø25.4−innerø15.88[outdoor gas pipe side]×1 , Ⓒ Outerø15.88−innerø12.7[indoor gas pipe side]×3, Ⓐ Outerø9.52−innerø6.35[indoor liquid pipe side]×3
200	60+60+60	No Joint is necessary
250	71+71+71	Ⓑ Outerø9.52−innerø12.7[outdoor liquid pipe side]×1

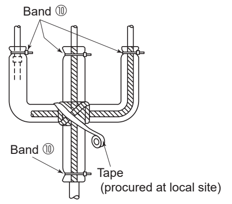
Note 1: Installation positions in brackets [ ].

4 Heat insulation work

Gas pipe

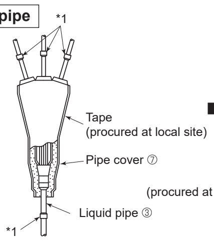


(1)Wind pipe cover ④, ⑤ and ⑥ round gas pipe ② so that there is no gap. Securely fit the V-cut portions of pipe cover ④ into the roots of pipe on both sides to install the pipe cover.

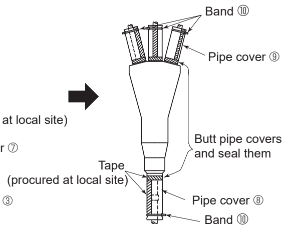


(2)Completely seal the openings of pipe cover ④, ⑤ and ⑥ using heat insulation seal tape (procured at local site). Wind seal tape round the pipe crossing portion in a crossed way so that there is no gap.
(3)Use band ⑩ to tighten the ends of each pipe cover.

Liquid pipe



(1)Fit liquid pipe ③ into 2 pipe cover ⑦, and then seal the mated portion of pipe cover ⑦ using heat insulation seal tape (procured at local site).



(2)Fit pipe cover ⑧ and ⑨ into liquid pipe ③, and then securely seal the mated portion of pipe cover ⑦ using heat insulation seal tape (procured at local site).
(3)Use band ⑩ to tighten the ends of each pipe cover.

*1 Notes:
1. Cut off any surplus pipe cover to make appropriate length.
2. Use pipe covers to completely cover the connection portions of refrigerant pipe (procured at local site), gas pipe ② and liquid pipe ③.
3. Cover the entire refrigerant pipe (procured at local site) with heat insulation material. When using generally available heat insulation material, make sure it is heat-resistant insulation material (at least 12 mm thick).

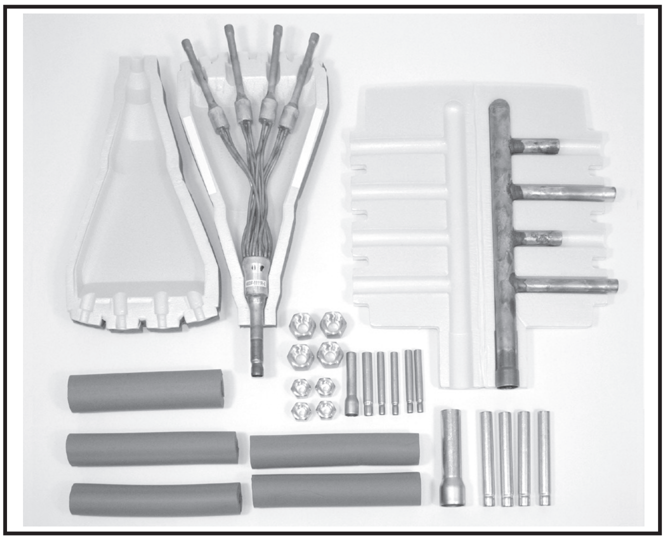
Please install contents other than this description on the main part of a product with an attached installation description, and use them as it.

OPTIONAL PARTS
INDOOR UNIT

Distribution Pipe

MSDF-1111R2-E

Photo



Descriptions

4-branch pipe for Multi-System Quadruple use. (25:25:25:25)

Applicable Models

- ■ PUZ-ZM125,140VKA type
- ■ PUZ-ZM125,140,200,250YKA type
- ■ PUZ-M200,250YKA type

[R32 type]
for 25:25:25:25 Quadruple use

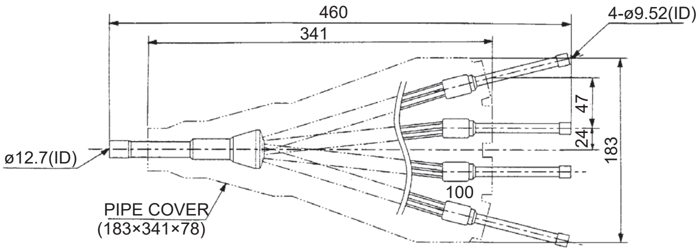
Specifications

Main body	Distribution ratio	Outdoor unit capacity is divided into four (25:25:25:25)
	Number of distribution pipes	1 each for liquid pipe and gas pipe
	Pipe material	Phosphate deoxidized copper C1220T-OL (JIS H3300)
Accessory	Pipe cover	Polyethylene foam molding (for liquid pipe) EPT sponge rubber type (for gas pipe)
	Joint	15 joints (7 types)
	Band	7 bands

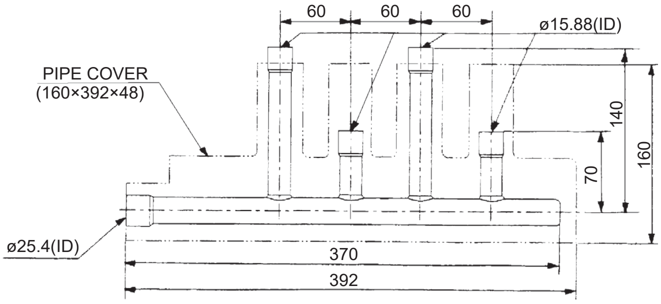
Dimensions

Unit: mm

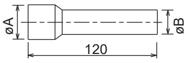
LIQUID PIPE



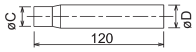
GAS PIPE



JOINT(Accessory)



ØA(ID)	ØB(OD)	Amount
28.6	25.4	1
15.88	12.7	1



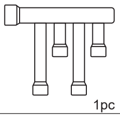
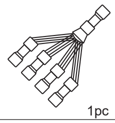
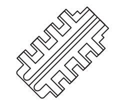
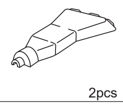
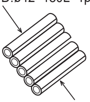
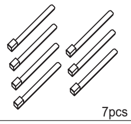
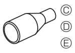
ØC(ID)	ØD(OD)	Amount
12.7	15.88	4
6.35	9.52	4
9.52	12.7	1
15.88	25.4	1
9.52	15.88	4

How to Use / How to Install

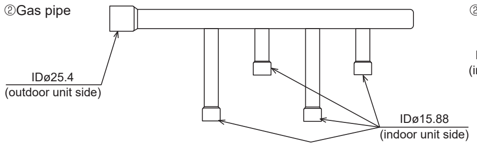
Packaged Air Conditioner Optional Parts Instruction Sheet for Simultaneous Quadruple Distributing Pipe exclusively used with Free Compo Multi-Units

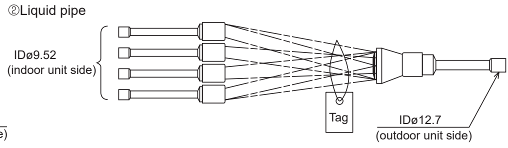
Model MSDF-1111R2-E [Indoor unit (quadruple) With same-capacity 25:25:25:25]

1 Make sure that you have all the following parts in packing box before beginning installation:

①Installation manual	②Gas pipe	③Liquid pipe	④Pipe cover (for gas pipe)	⑤Pipe cover (for liquid pipe)	⑥⑦Pipe cover	⑧Band	⑨Joint	⑩Flare nut
 1 sheet	 1pc	 1pc	 1pc	 2pcs	⑥OD.ø42×180L−1pc  ⑦ø38×200L−4pcs	 7pcs	 Ⓐ ø9.52→ø6.35 • • • 4pcs Ⓑ ø12.7→ø9.52 • • • 1pc Ⓒ ø12.7→ø15.88 • • 1pc Ⓓ ø15.88→ø12.7 • • 4pcs Ⓔ ø25.4→ø28.6 • • • 1pc Ⓕ ø25.4→ø15.88 • • 1pc Ⓖ ø15.88→ø9.52 • • 4pcs	 ⓐ1/4F• • 4pcs ⓑ1/2F• • 4pcs For R32 indoor unit.

- The gas pipe ② and liquid pipe ③ are specified as shown below.



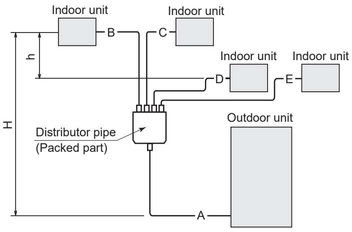


Note:
The following items must be obtained locally in addition to the packed parts.
ⓐ Heat insulating sealing tape
ⓑ Extension pipe for refrigerant pipe

2 Pipe size and refrigerant pipe limits

<Table 1>

Outdoor unit capacity	Pipe size (mm)				Actual pipe length (m)			Difference of elevation (m)		Note 1 Number of bends
	Gas pipe side		Liquid pipe side		Indoor-Outdoor	A+B+C+D=	Indoor-Indoor	Indoor-Outdoor	Indoor-Indoor	
	Outdoor unit side	Indoor unit side	Outdoor unit side	Indoor unit side						
125,140	ø15.88 <5/8>	ø9.52 <3/8>	ø9.52 <3/8>	ø6.35 <1/4>	Refer to the instruction manual of the outdoor unit.					
200	ø25.4 <1>	ø12.7 <1/2>	ø9.52 <3/8>	ø6.35 <1/4>						
250	ø25.4 <1>	ø15.88 <5/8>	ø12.7 <1/2>	ø9.52 <3/8>						



Note 1: The number of bends in the refrigerant pipes is respectively 8 or less in the range of <A+B><A+C><A+D><A+E>.
•See the installation manual provided with the main unit for details on charge-less pipe length and refrigerant additional charge amount.

3 Pipe connections

1. Perform work, taking care with the following:
   - Be sure to check the combination pattern of indoor and outdoor units, joints to be used <Table 2>, pipe size and joint ⑨.
   - Be sure to observe the limits to refrigerant pipe length and number of bends <Table 1>.
   - Insert the refrigerant pipe (procured at local site) and joint ⑨ into the expanded pipe portions of distributing pipe (this product) until they stop, and then connect them using anti-oxidization soldering.
   - There is no restriction on the orientation of distributing pipe (this product) during installation.
   - Take care that no foreign object, such as dust, enters during pipe connecting work.
   - Remove the tag of liquid pipe ③ after checking it.
2. Pipe connections
   - The provided joint(s) ⑨ will be necessary depending on the capability of model used: See <Table 2>, and connect the refrigerant piping.
   - Do not bend or widen the distributing pipe (liquid pipe).

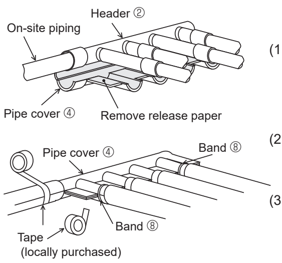
Combination pattern of indoor and outdoor units and joints to be used:

<Table 2>

Outdoor unit	Indoor unit	Joint to be used
125,140	35+35+35+35	Ⓕ Outerø25.4−innerø15.88[outdoor gas pipe side]×1, Ⓖ Outerø15.88−innerø9.52[indoor gas pipe side]×4, Ⓑ Outerø12.7−innerø9.52[outdoor liquid pipe side]×1, Ⓐ Outerø9.52−innerø6.35[indoor liquid pipe side]×4
200	50+50+50+50	Ⓓ Outerø15.88−innerø12.7[indoor gas pipe side]×4, Ⓐ Outerø9.52−innerø6.35[indoor liquid pipe side]×4, Ⓑ Outerø12.7−innerø9.52[outdoor gas pipe side]×1
250	60+60+60+60	No Joint is necessary

4 Heat insulation work

Gas pipe

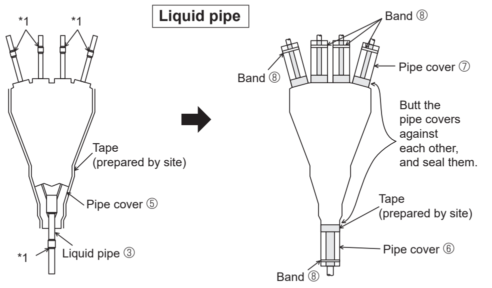


(1)After assembling header ② into pipe cover ④ remove the release paper from inside pipe cover ④ and wrap header ② with pipe cover ④.

(2)Clamp both ends of the indoor branch connection of pipe cover ④ with band ⑧ as shown above. Cut off the excess length of the band.

(3)Tightly seal the joints of the pipe cover with tape (locally purchased). (Incomplete sealing can result in dew condensation.)

Liquid pipe



(1)Install the liquid pipe ③ while aligning it with the pipe cover ⑤ (2 pcs). Seal the joint ares of the pipe cover ⑤ with heat insulating sealing tape (obtain locally).

(1)As shown above, install the liquid pipe ③ on the pipe cover ⑧ and ⑦, and securely seal with heat insulating sealing tape (obtain locally).
(2)Fasten the end of each pipe cover with band ⑧.

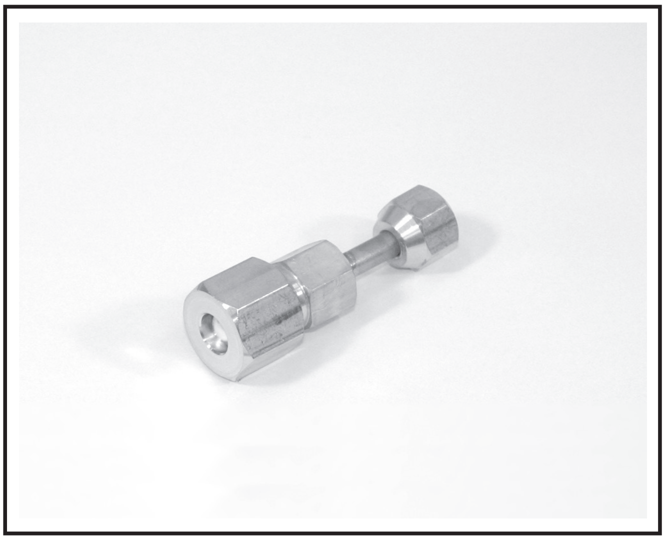
Notes:

1. Cut the excessive part of each pipe cover.
2. Securely cover the joint areas (*1) of the refrigerant pipe (obtained locally) to the gas pipes ② and liquid pipe ③ with the pipe covers.
3. Cover the entire refrigerant pipe (obtained locally) with heat insulating material.
   If commercial heat insulating material is used, it must be 12mm or thicker.

Please install contents other than this description on the main part of a product with an attached installation description, and use them as it.

Joint Pipe Unit ϕ6.35 → Pipe ϕ9.52 PAC-SJ87RJ-E

Photo



Descriptions

A part to connect refrigerant pipes of the different diameter.
(Unit ϕ6.35 → ϕ9.52)

Applicable Models

- ■ PUZ-ZM35,50VKA type
- ■ PUZ-ZM60VHA type

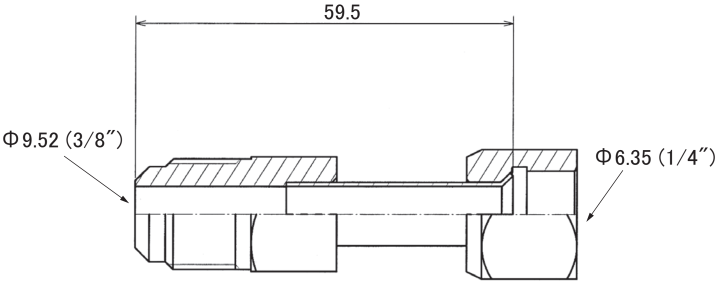
[R32 type]

Specifications

Pipe diameter	Φ6.35
Pipe material	C 1220T - OL

Dimensions

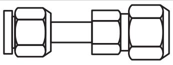
Unit: mm (inch)



How to Use / How to Install

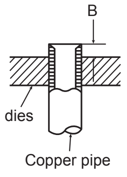
Make sure that you have all the following parts, in addition to this manual in this box:

Joint Pipe
PAC-SJ87RJ-E (unit side:ø6.35 diameter, onsite pipe side:ø9.52 diameter)
PAC-SJ88RJ-E (unit side:ø9.52 diameter, onsite pipe side:ø12.70 diameter)

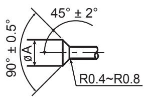
Unit side  Onsite piping side

Installation procedure
(carefully read the following before installing.)
This optional part is used to connect indoor/outdoor unit to on-site pipes of different diameters.
※When installing this optional part, be sure to read "Refrigerant pipe connection" in the installation manual attached to outdoor unit.

1) Apply flare processing to on-site pipes to adapt to R32, according to the table on the right. Use optional accessory flare nut at this time.
※Check the installation manual attached to the outdoor unit for advisability on whether or not on-site (existing) pipes can be used.

	Pipe diameter (mm)	B size (mm)	
		R32 flare tool	R22/R407C flare tool
		Clutch type	
	ø 6.35(1/4")	0 - 0.5	1.0 - 1.5
	ø 9.52(3/8")	0 - 0.5	1.0 - 1.5
	ø12.70(1/2")	0 - 0.5	1.0 - 1.5

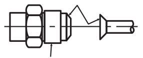
※When flare processing for refrigerant R32 is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

Outer diameter of copper pipe (mm)	Processing size of flare section (mm)	Flare shape
ø6.35	8.7 - 9.1	
ø9.52	12.8 - 13.2	
ø12.70	16.2 - 16.6	

2) Remove caps (both ends) for protection against mixing of foreign materials from optional part, and thinly apply refrigerat or oil (locally procured) on flare surface.

Refrigerator oil application point

Apply refrigerator oil to entire circumference of flare sheet surface.



※ Do not apply to thread section.
(If applied to threads, flare nut can easily be loosened.)

3) Securely tighten flare nut using torque wrench according to the table on the right.

〈Proper tightening torque using torque wrench〉

Outer diameter of copper pipe (mm)	Tightening torque N•m (kgf•cm)
ø6.35	14 - 18(140 - 180)
ø9.52	34 - 42(340 - 420)
ø12.70	49 - 61(490 - 610)

4) After refrigerant pipe is connected, be sure to perform gas leakage inspection for onsite connection pipes (including this optional part) and indoor/outdoor unit.
5) Heat insulation is necessary for this optional part: Wrap heat insulator (locally procured) around the onsite pipes and also the optional part (for dewdrop dripping prevention).
6) Perform test run according to the installation manual of the unit, making sure to also perform operation check.

Joint Pipe Unit ϕ 9.52 → Pipe ϕ 12.7 PAC-SJ88RJ-E

Photo

Descriptions

A part to connect refrigerant pipes of the different diameter. (Unit ϕ 9.52 → ϕ 12.7)

Applicable Models

- ■ PUZ-ZM60,71VHA type
- ■ PUZ-ZM50,100,125,140VKA type
- ■ PUZ-ZM100,125,140,200YKA type

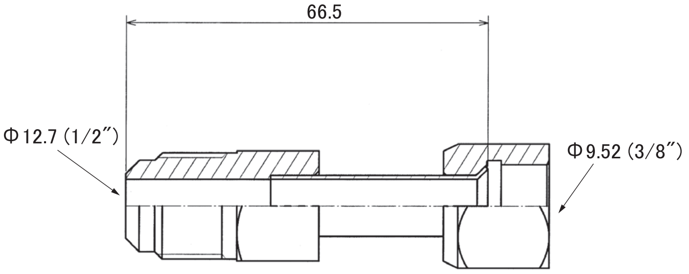
[R32 type]

Specifications

Pipe diameter	Φ 9.52
Pipe material	C 1220T - OL

Dimensions

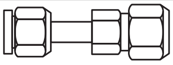
Unit: mm (inch)



How to Use / How to Install

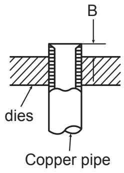
Make sure that you have all the following parts, in addition to this manual in this box:

Joint Pipe
PAC-SJ87RJ-E (unit side:ø6.35 diameter, onsite pipe side:ø9.52 diameter)
PAC-SJ88RJ-E (unit side:ø9.52 diameter, onsite pipe side:ø12.70 diameter)

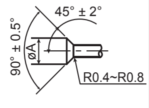
Unit side  Onsite piping side

Installation procedure
(carefully read the following before installing.)
This optional part is used to connect indoor/outdoor unit to on-site pipes of different diameters.
※When installing this optional part, be sure to read "Refrigerant pipe connection" in the installation manual attached to outdoor unit.

1) Apply flare processing to on-site pipes to adapt to R32, according to the table on the right. Use optional accessory flare nut at this time.
※Check the installation manual attached to the outdoor unit for advisability on whether or not on-site (existing) pipes can be used.

 B dies Copper pipe	Pipe diameter (mm)	B size (mm)	
		R32 flare tool	R22/R407C flare tool
		Clutch type	
	ø 6.35(1/4")	0 - 0.5	1.0 - 1.5
	ø 9.52(3/8")	0 - 0.5	1.0 - 1.5
	ø12.70(1/2")	0 - 0.5	1.0 - 1.5

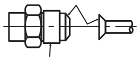
※When flare processing for refrigerant R32 is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

Outer diameter of copper pipe (mm)	Processing size of flare section (mm)	Flare shape
ø6.35	8.7 - 9.1	 45° ± 2° 90° ± 0.5° øA R0.4~R0.8
ø9.52	12.8 - 13.2	
ø12.70	16.2 - 16.6	

2) Remove caps (both ends) for protection against mixing of foreign materials from optional part, and thinly apply refrigerat or oil (locally procured) on flare surface.

Refrigerator oil application point

Apply refrigerator oil to entire circumference of flare sheet surface.



※ Do not apply to thread section.
(If applied to threads, flare nut can easily be loosened.)

3) Securely tighten flare nut using torque wrench according to the table on the right.

〈Proper tightening torque using torque wrench〉

Outer diameter of copper pipe (mm)	Tightening torque N•m (kgf•cm)
ø6.35	14 - 18(140 - 180)
ø9.52	34 - 42(340 - 420)
ø12.70	49 - 61(490 - 610)

4) After refrigerant pipe is connected, be sure to perform gas leakage inspection for onsite connection pipes (including this optional part) and indoor/outdoor unit.

5) Heat insulation is necessary for this optional part: Wrap heat insulator (locally procured) around the onsite pipes and also the optional part (for dewdrop dripping prevention).

6) Perform test run according to the installation manual of the unit, making sure to also perform operation check.

Joint Pipe Unit ϕ9.52 → Pipe ϕ15.88 PAC-SG76RJ-E

Photo

Descriptions

A part to connect refrigerant pipes of the different diameter. (Unit ϕ9.52 → ϕ15.88)

Applicable Models

- ■ MXZ-3F68VF4
- ■ MXZ-4F72VF4
- ■ MXZ-4F80VF4
- ■ MXZ-4F83VF2
- ■ MXZ-5F102VF2
- ■ MXZ-6F120VF2
- ■ MXZ-4F83VFHZ2
- ■ PXZ-4F75VG
- ■ PXZ-5F85VG

<Branch Box>

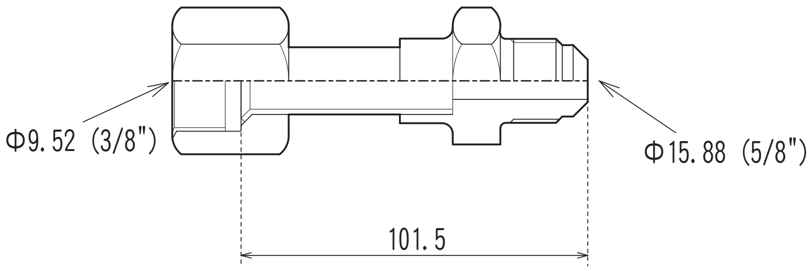
- ■ PAC-MK34BC (Flare)
- ■ PAC-MK54BC (Flare)

Specifications

Pipe diameter	Φ 9.52
Pipe material	C 1220T - OL

Dimensions

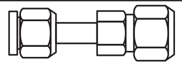
Unit: mm (inch)



How to Use / How to Install

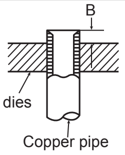
Make sure that you have all the following parts, in addition to this manual in this box:

Joint Pipe
PAC-SG76RJ-E (unit side:ø9.52 diameter, onsite pipe side:ø15.88 diameter)
PAC-493PI (unit side:ø6.32 diameter, onsite pipe side:ø9.52 diameter)
MAC-A454JP-E (unit side:ø9.52 diameter, onsite pipe side:ø12.7 diameter)
MAC-A455JP-E (unit side:ø12.7 diameter, onsite pipe side:ø9.52 diameter)
MAC-A456JP-E (unit side:ø12.7 diameter, onsite pipe side:ø15.88 diameter)

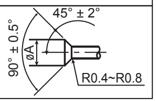
Unit side  Onsite piping side

Installation procedure
(carefully read the following before installing.)
This optional part is used to connect indoor/outdoor unit to onsite pipes of different diameters.
※When installing this optional part, be sure to read "Refrigerant pipe connection" in the installation manual attached to outdoor unit.

1) Apply flare processing to onsite pipes to adapt to R410A, according to the table on the right.Use optional accessory flare nut at this time.
※Check the installation manual attached to the outdoor unit for advisability on whether or not onsite (existing) pipes can be used.

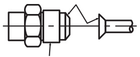
	Pipe diameter (mm)	B size (mm)	
		R410A flare tool	R22/R407C flare tool
		Clutch type	
	ø 6.35(1/4")	0 - 0.5	1.0 - 1.5
	ø 9.52(3/8")	0 - 0.5	1.0 - 1.5
	ø12.70(1/2")	0 - 0.5	1.0 - 1.5
	ø15.88(5/8")	0 - 0.5	1.0 - 1.5

※When flare processing for refrigerant R410A is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

Outer diameter of copper pipe (mm)	Processing size of flare section (mm)	Flare shape
ø6.35	8.7 - 9.1	
ø9.52	12.8 - 13.2	
ø12.70	16.2 - 16.6	
ø15.88	19.3 - 19.7	

2) Remove caps (both ends) for protection against mixing of foreign materials from optional part, and thinly apply refrigerat or oil (locally procured) on flare surface.

Refrigerator oil application point
Apply refrigerator oil to entire circumference of flare sheet surface.



※ Do not apply to thread section.
(If applied to threads, flare nut can easily be loosened.)

3) Securely tighten flare nut using torque wrench according to the table on the right.

〈Proper tightening torque using torque wrench〉

Outer diameter of copper pipe (mm)	Tightening torque N•m (kgf•cm)
ø6.35	14 - 18(140 - 180)
ø9.52	34 - 42(340 - 420)
ø12.70	49 - 61(490 - 610)
ø15.88	68 - 82(680 - 820)

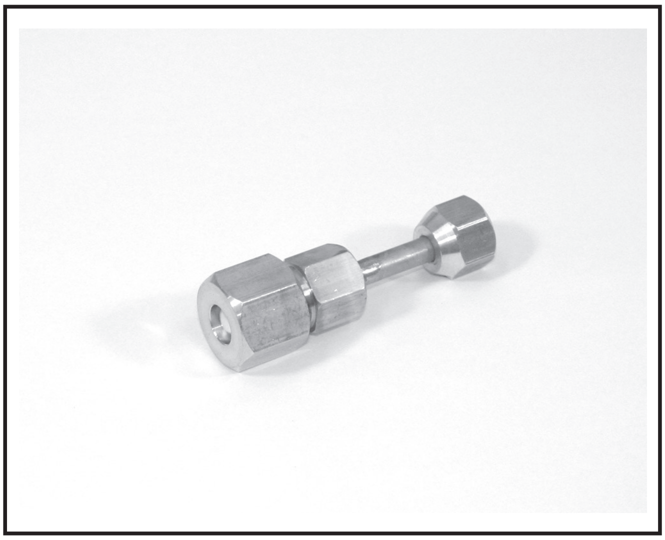
4) After refrigerant pipe is connected, be sure to perform gas leakage inspection for onsite connection pipes (including this optional part) and indoor/outdoor unit.

5) Heat insulation is necessary for this optional part: Wrap heat insulator (locally procured) around the onsite pipes and also the optional part (for dewdrop dripping prevention).

6) Perform test run according to the installation manual of the unit, making sure to also perform operation check.

Joint Pipe Unit ϕ6.35 → Pipe ϕ9.52 PAC-493PI

Photo



Descriptions

A part to connect refrigerant pipes of the different diameter. (Unit ϕ6.35 → ϕ9.52)

Applicable Models

- ■ MXZ-3F68VF4
- ■ MXZ-4F72VF4
- ■ MXZ-4F80VF4
- ■ MXZ-4F83VF2
- ■ MXZ-5F102VF2
- ■ MXZ-6F120VF2
- ■ MXZ-4F83VFHZ2
- ■ PXZ-4F75VG
- ■ PXZ-5F85VG

<Branch Box>

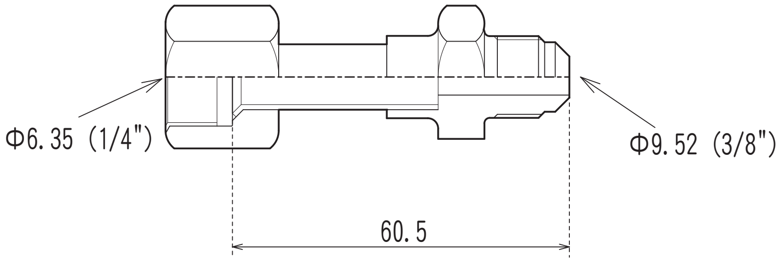
- ■ PAC-MK34BC (Flare)
- ■ PAC-MK54BC (Flare)

Specifications

Pipe diameter	Φ 6.35
Pipe material	C 1220T - OL

Dimensions

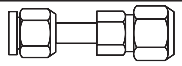
Unit: mm (inch)



How to Use / How to Install

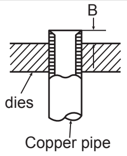
Make sure that you have all the following parts, in addition to this manual in this box:

Joint Pipe
PAC-SG76RJ-E (unit side:ø9.52 diameter, onsite pipe side:ø15.88 diameter)
PAC-493PI (unit side:ø6.32 diameter, onsite pipe side:ø9.52 diameter)
MAC-A454JP-E (unit side:ø9.52 diameter, onsite pipe side:ø12.7 diameter)
MAC-A455JP-E (unit side:ø12.7 diameter, onsite pipe side:ø9.52 diameter)
MAC-A456JP-E (unit side:ø12.7 diameter, onsite pipe side:ø15.88 diameter)

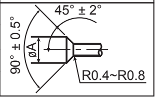


Installation procedure
(carefully read the following before installing.)
This optional part is used to connect indoor/outdoor unit to onsite pipes of different diameters.
※When installing this optional part, be sure to read "Refrigerant pipe connection" in the installation manual attached to outdoor unit.

1) Apply flare processing to onsite pipes to adapt to R410A, according to the table on the right.Use optional accessory flare nut at this time.
※Check the installation manual attached to the outdoor unit for advisability on whether or not onsite (existing) pipes can be used.

	Pipe diameter (mm)	B size (mm)	
		R410A flare tool	R22/R407C flare tool
		Clutch type	
	ø 6.35(1/4")	0 - 0.5	1.0 - 1.5
	ø 9.52(3/8")	0 - 0.5	1.0 - 1.5
	ø12.70(1/2")	0 - 0.5	1.0 - 1.5
	ø15.88(5/8")	0 - 0.5	1.0 - 1.5

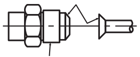
※When flare processing for refrigerant R410A is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

Outer diameter of copper pipe (mm)	Processing size of flare section (mm)	Flare shape
ø6.35	8.7 - 9.1	
ø9.52	12.8 - 13.2	
ø12.70	16.2 - 16.6	
ø15.88	19.3 - 19.7	

2) Remove caps (both ends) for protection against mixing of foreign materials from optional part, and thinly apply refrigerat or oil (locally procured) on flare surface.

Refrigerator oil application point

Apply refrigerator oil to entire circumference of flare sheet surface.



※ Do not apply to thread section.
(If applied to threads, flare nut can easily be loosened.)

3) Securely tighten flare nut using torque wrench according to the table on the right.

〈Proper tightening torque using torque wrench〉

Outer diameter of copper pipe (mm)	Tightening torque N•m (kgf•cm)
ø6.35	14 - 18(140 - 180)
ø9.52	34 - 42(340 - 420)
ø12.70	49 - 61(490 - 610)
ø15.88	68 - 82(680 - 820)

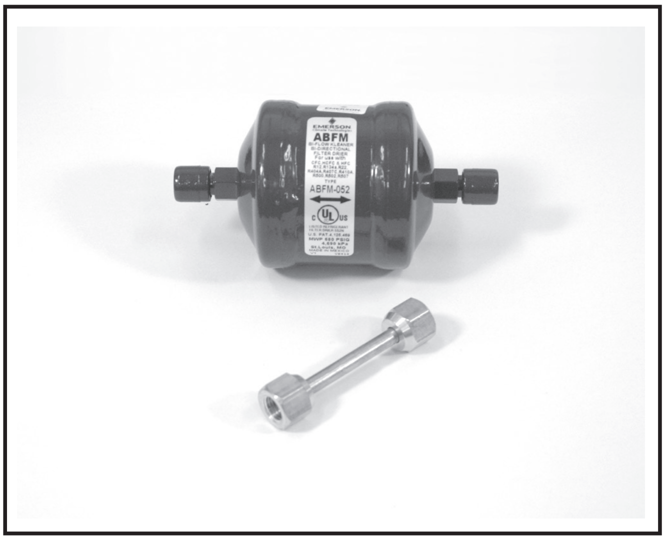
4) After refrigerant pipe is connected, be sure to perform gas leakage inspection for onsite connection pipes (including this optional part) and indoor/outdoor unit.

5) Heat insulation is necessary for this optional part: Wrap heat insulator (locally procured) around the onsite pipes and also the optional part (for dewdrop dripping prevention).

6) Perform test run according to the installation manual of the unit, making sure to also perform operation check.

Filter Dryer (for Liquid Pipe of ϕ6.35) PAC-SG81DR-E

Photo



Descriptions

Removes minute dirt particles in the refrigerant pipe, when replacing an air-conditioning unit. (for Liquid Pipe of ø6.35)

Applicable Models

- PUZ-ZM35VKA2
- PUZ-ZM50VKA2

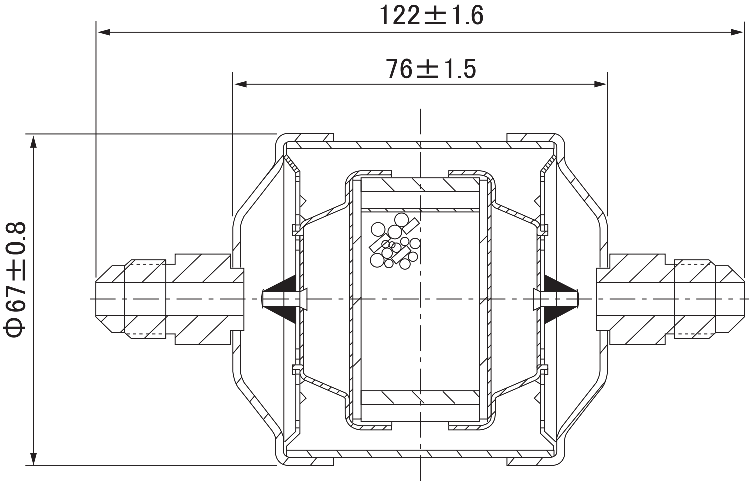
[R32 type]

Specifications

Pipe size	Liquid side: Ø6.35 flare
Applicable refrigerant	R32 / R410A

Dimensions

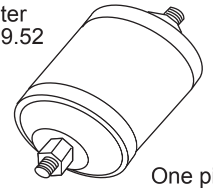
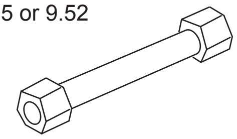
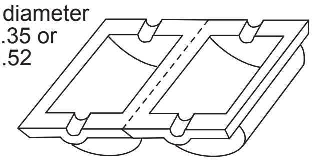
Unit: mm



OPTIONAL PARTS
INDOOR UNIT

How to Use / How to Install

Make sure that you have all the following parts.

①Filter dryer PAC-SG81DR-E (for diameter of Ø6.35) PAC-SG82DR-E (for diameter of Ø9.52)	②Connection pipe PAC-SG81DR-E (for diameter of Ø6.35) PAC-SG82DR-E (for diameter of Ø9.52)	③Heat insulator PAC-SG81DR-E (for diameter of Ø6.35) PAC-SG82DR-E (for diameter of Ø9.52)
For diameter of 6.35 or 9.52  One piece	For diameter of 6.35 or 9.52  One piece	For diameter of 6.35 or 9.52  One piece

Installation Procedures (carefully read the following before installation.)

Cautions:

1) This optional part is used to remove moisture within refrigerant pipe to prevent compressor failures. However, if too much impurity inside refrigerant cycle has accumulated, such as amount of mixed moisture, dryer must be replaced after one season elapses. (Amount of allowable moisture absorption: 3 -7 cc)
2) Install the filter dryer to refrigerant pipe mid way on liquid side.
3) Filter dryer can be installed outside of the unit. Installation inside the unit is possible only when installation space can be secured.

1 Preparation for installation

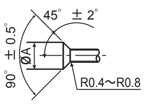
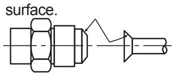
In the following parts, the installation for PUHZ-RP3VHA is highlighted as a representive.

•1)Refer to the installation manual of the unit for procedure of refrigerant piping and vacuuming, etc.
Remove the panel from outdoor unit. (See Fig. 1.)

•2)Removing the panel
Remove the service panel, front pipe cover and back pipe cover.
Remove back pipe cover only when taking it from back pipe.

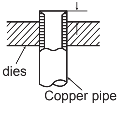
•3)Pipe connection
- When bending pipe, take bending R (R100-R150) just enough, and take care that pipe des not fold.
- Apply pipe processing without touching compressor. (If the pipe touches, it may cause abnormal sound or vibration.)
- Apply flare processing to connection pipe, arranging this on site.
- Thinly apply refrigerator oil (locally procured) to flare sheet surface.

Outer diameter of copper pipe (mm)	Processing size of flare section (mm)
ø6.35	8.7 - 9.1
ø9.52	12.8 - 13.2

Flare shape	Refrigerator oil application point
	Apply refrigerator oil to entire circumference of flare sheet surface. 

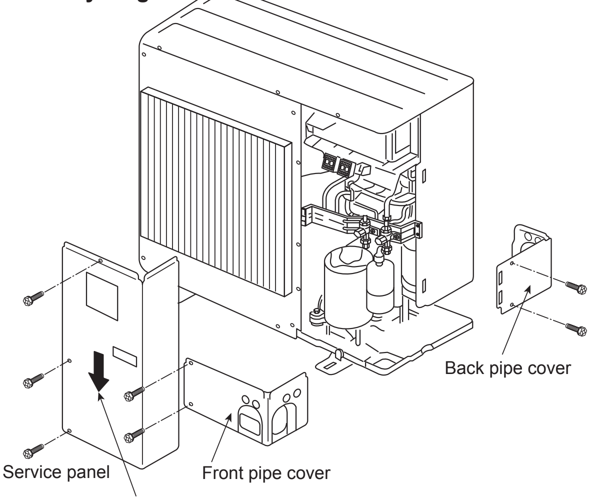
〈Proper tightening torque using torque wrench〉

Outer diameter of copper pipe (mm)	Tightening torque N•m (kgf•cm)
ø6.35	14 - 18 (140 - 180)
ø9.52	34 - 42 (340 - 420)

	Pipe diameter (mm)	B size (mm)	
		R410A flare tool	R22, R407C flare tool
		Clutch type	
	ø 6.35(1/4")	0 - 0.5	1.0 - 1.5
	ø 9.52(3/8")	0 - 0.5	1.0 - 1.5

※When flare processing for refrigerant R410A is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

[Fig. 1]
Panel disassembly diagram

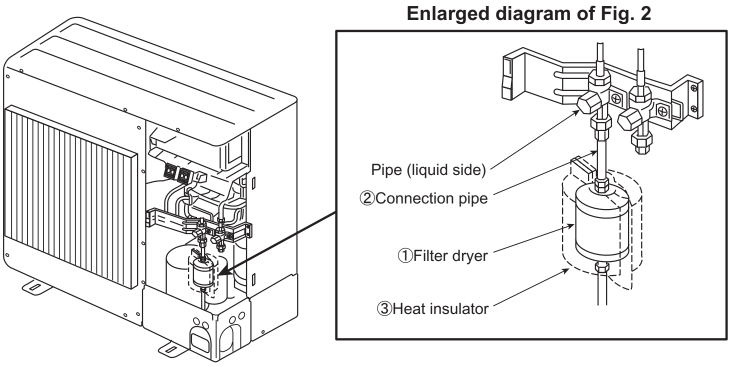


2 Installation of Filter dryer

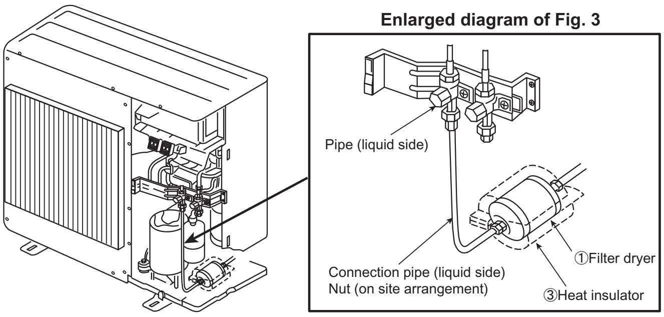
Be sure to install filter dryer on liquid side (narrow side).

- 1）When filter dryer is being installed inside the unit, refer to Figs 2 and 3, according to the installation space for dryer. If installation space for dryer cannot be secured, install it outside of the unit.Install referring to Item 2-ii).

【Fig. 2】
Filter dryer installation diagram (Installation inside the unit)

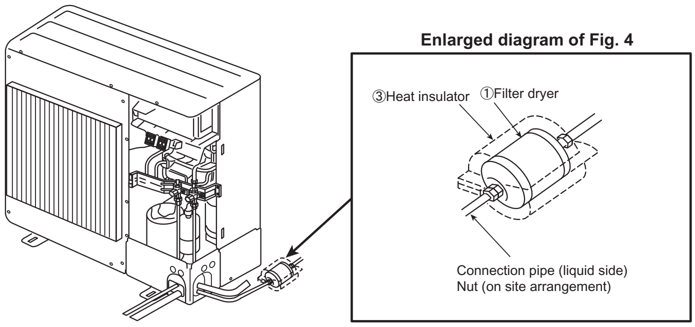

Enlarged diagram of Fig. 2

【Fig. 3】
Filter dryer installation diagram (horizontal installation inside the unit)


Enlarged diagram of Fig. 3

2）When installing outside of the unit, install it at optional position of extension pipe. Make and arrange connection pipe on the site. (See Fig. 4.)

【Fig. 4】
Filter dryer installation diagram (Installation outside of the unit)


Enlarged diagram of Fig. 4

3）Perform heat insulation work. (To prevent dewdrops forming)

- After dryer is installed, wrap heat insulator around dryer section.
  ※Apply taping to joint of heat insulator ensuring that there is no gap. Also wrap heat insulator around pipe.

3 Filter dryer installation is now complete. Reattach service panel as it was.

4 Test run

1）Perform test run according to the installation manual of the unit, and be sure to perform gas leak check and operation check.

Filter Dryer (for Liquid Pipe of ϕ9.52) PAC-SG82DR-E

Photo

Descriptions

Removes minute dirt particles in the refrigerant pipe, when replacing an air-conditioning unit. (for Liquid Pipe of ϕ9.52)

Applicable Models

- ■ PUZ-ZM60VHA type
- ■ PUZ-ZM71VHA type
- ■ PUZ-ZM100VKA type
- ■ PUZ-ZM125VKA type
- ■ PUZ-ZM140VKA type
- ■ PUZ-ZM100YKA type
- ■ PUZ-ZM125YKA type
- ■ PUZ-ZM140YKA type
- ■ PUZ-ZM200YKA type
- ■ PUZ-M100VKA type
- ■ PUZ-M125VKA type
- ■ PUZ-M140VKA type
- ■ PUZ-M100YKA type
- ■ PUZ-M125YKA type
- ■ PUZ-M140YKA type
- ■ PUZ-M200YKA type

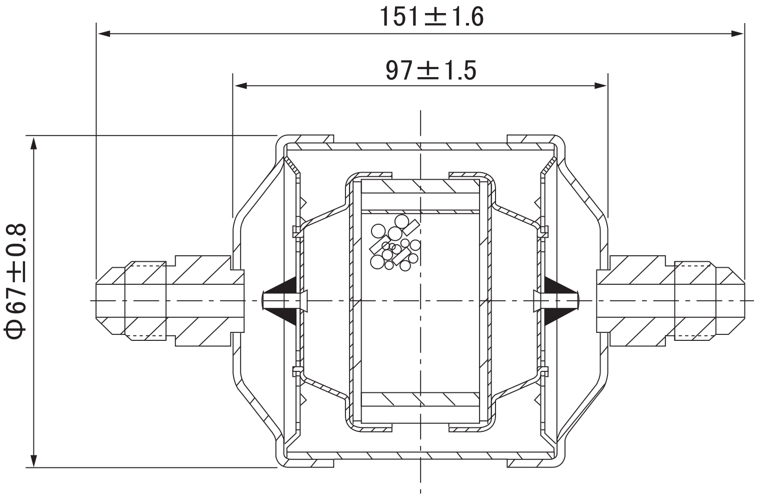
[R32 type]

Specifications

Pipe size	Liquid side: Ø 9.52 flare
Applicable refrigerant	R32 / R410A

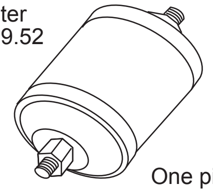
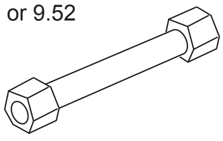
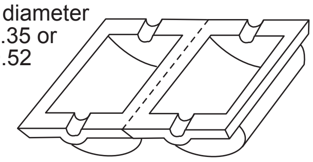
Dimensions

Unit: mm



How to Use / How to Install

Make sure that you have all the following parts.

①Filter dryer PAC-SG81DR-E (for diameter of ø6.35) PAC-SG82DR-E (for diameter of ø9.52)	②Connection pipe PAC-SG81DR-E (for diameter of ø6.35) PAC-SG82DR-E (for diameter of ø9.52)	③Heat insulator PAC-SG81DR-E (for diameter of ø6.35) PAC-SG82DR-E (for diameter of ø9.52)
For diameter of 6.35 or 9.52  One piece	For diameter of 6.35 or 9.52  One piece	For diameter of 6.35 or 9.52  One piece

Installation Procedures (carefully read the following before installation.)

Cautions:

1) This optional part is used to remove moisture within refrigerant pipe to prevent compressor failures. However, if too much impurity inside refrigerant cycle has accumulated, such as amount of mixed moisture, dryer must be replaced after one season elapses. (Amount of allowable moisture absorption: 3 -7 cc)
2) Install the filter dryer to refrigerant pipe mid way on liquid side.
3) Filter dryer can be installed outside of the unit. Installation inside the unit is possible only when installation space can be secured.

1 Preparation for installation

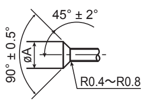
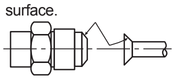
In the following parts, the installation for PUHZ-RP3VHA is highlighted as a representive.

•1)Refer to the installation manual of the unit for procedure of refrigerant piping and vacuuming, etc.
Remove the panel from outdoor unit. (See Fig. 1.)

•2)Removing the panel
Remove the service panel, front pipe cover and back pipe cover.
Remove back pipe cover only when taking it from back pipe.

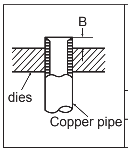
•3)Pipe connection
- When bending pipe, take bending R (R100 - R150) just enough, and take care that pipe des not fold.
- Apply pipe processing without touching compressor. (If the pipe touches, it may cause abnormal sound or vibration.)
- Apply flare processing to connection pipe, arranging this on site.
- Thinly apply refrigerator oil (locally procured) to flare sheet surface.

Outer diameter of copper pipe (mm)	Processing size of flare section (mm)
ø6.35	8.7 - 9.1
ø9.52	12.8 - 13.2

Flare shape	Refrigerator oil application point
	Apply refrigerator oil to entire circumference of flare sheet surface. 

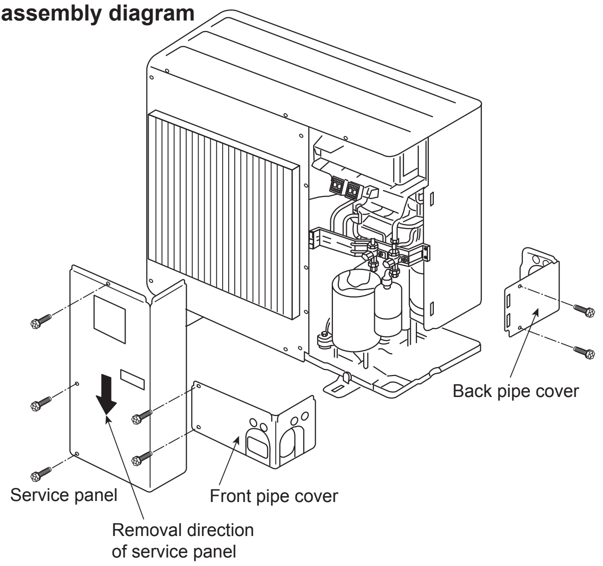
〈Proper tightening torque using torque wrench〉

Outer diameter of copper pipe (mm)	Tightening torque N•m(kgf•cm)
ø6.35	14 - 18(140 - 180)
ø9.52	34 - 42(340 - 420)

	Pipe diameter (mm)	B size (mm)	
		R410A flare tool	R22, R407C flare tool
		Clutch type	
	ø6.35(1/4")	0 - 0.5	1.0 - 1.5
	ø9.52(3/8")	0 - 0.5	1.0 - 1.5

※When flare processing for refrigerant R410A is applied using current tool, refer to the table above. B size can be secured using copper pipe gauge for margin adjustment.

[Fig.1]
Panel disassembly diagram



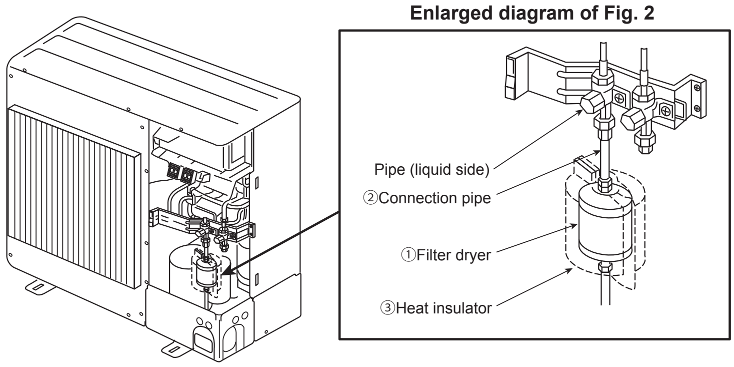
2 Installation of Filter dryer

Be sure to install filter dryer on liquid side (narrow side).

·1）When filter dryer is being installed inside the unit, refer to Figs 2 and 3, according to the installation space for dryer. If installation space for dryer cannot be secured, install it outside of the unit (see Fig. 4).

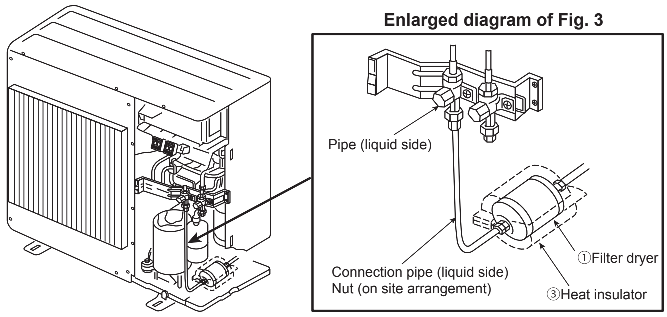
【Fig. 2】

Filter dryer installation diagram (Installation inside the unit)



【Fig. 3】

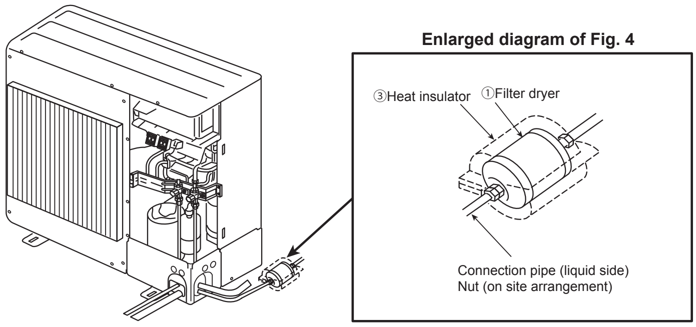
Filter dryer installation diagram (horizontal installation inside the unit)


Enlarged diagram of Fig. 3
Pipe (liquid side)
Connection pipe (liquid side)
Nut (on site arrangement)
①Filter dryer
③Heat insulator

2）When installing outside of the unit, install it at optional position of extension pipe. Make and arrange connection pipe on the site. (See Fig. 4.)

【Fig. 4】

Filter dryer installation diagram (Installation outside of the unit)


Enlarged diagram of Fig. 4
③Heat insulator
①Filter dryer
Connection pipe (liquid side)
Nut (on site arrangement)

3）Perform heat insulation work. (To prevent dewdrops forming)

· After dryer is installed, wrap heat insulator around dryer section.

※Apply taping to joint of heat insulator ensuring that there is no gap. Also wrap heat insulator around pipe.

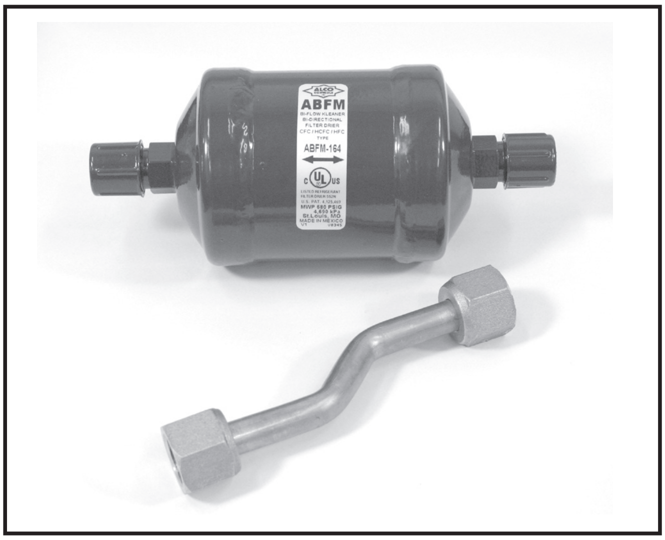
3 Filter dryer installation is now complete. Reattach service panel as it was.

4 Test run

1）Perform test run according to the installation manual of the unit, and be sure to perform gas leak check and operation check.

Filter Dryer (for Liquid Pipe of ϕ 12.7) **PAC-SG85DR-E**

Photo



Descriptions

Removes minute dirt particles in the refrigerant pipe. Is used when replacing an air-conditioning unit. (for Liquid Pipe of ϕ 12.7)

Applicable Models

- ■ PUZ-ZM250YKA type
- ■ PUZ-M250YKA type

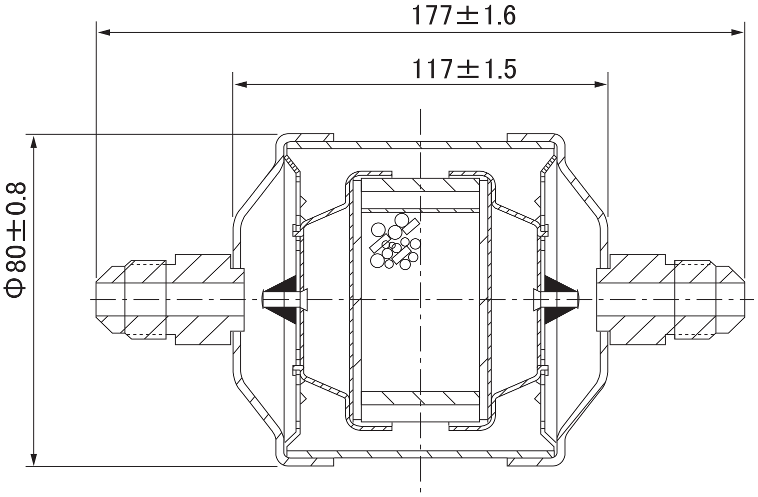
[R32 type]

Specifications

Pipe size	Liquid side: Ø 12.7 flare
Applicable refrigerant	R32 / R410A

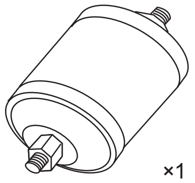
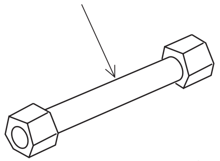
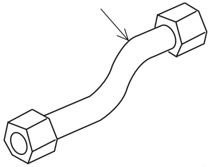
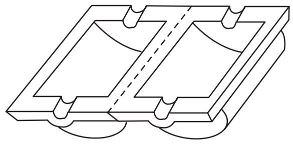
Dimensions

Unit: mm



How to Use / How to Install

Make sure that you have all the following parts.

①Filter dryer	②Connection pipe		③Heat insulator
 ×1	With PAC-SG81DR-E (forø6.35) or PAC-SG82DR-E (forø9.52)  ×1	or With PAC-SG85DR-E (forø12.7)  ×1	 ×1

Installation Procedures (carefully read the following before installing)

Cautions

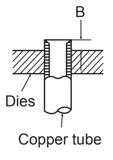
1) This optional part is used to remove moisture inside the refrigerant pipe and prevent fault of compressor. However, if there is excessive contamination inside the refrigerant cycle, such as a large amount of mixed moisture, etc., the dryer must be replaced after it is used during one season (the amount of allowable moisture absorption: 3-7 cc).
2) Install the filter dryer to refrigerant pipe midway on liquid side, using flare connection.
3) The filter dryer can be attached outside the unit. It can also be attached to the inside of unit only if the space for installation can be secured

1 Preparations for Installation

i) Refer to the installation manual of outdoor unit for the procedures of removing outdoor unit panel, refrigerant piping, vacuuming, etc.

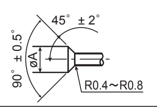
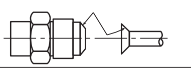
ii) Removing panel
- Remove the service panel and cover.

iii) Connecting pipes
- When bending pipe, allow enough bending R (R100-150), and take care that the pipe is not folded.
- Lay out the pipe so that it does not come into contact with the compressor. (Being in contact could cause abnormal sound or vibrations.)
- Apply flare processing to the connection pipe procured at local site.
- Thinly coat the flare sheet surface with refrigerant oil (procured at local site).

	Pipe diameter (mm)	Dimension B (mm)	
		R410A flare tool	R22/R407C flare tool
		Clutch type	
 	ø6.35(1/4")	0 － 0.5	1.0 － 1.5
	ø9.52 (3/8")	0 － 0.5	1.0 － 1.5
	ø12.7 (1/2")	0 － 0.5	1.0 － 1.5

※Use the above table as a reference when processing the flare for refrigerant R410A using the conventional tool. Dimension B can be secured when using a copper pipe gauge for outgoing margin adjustment.

Outer diameter of copper pipe (mm)	Processing size of flare portion øA (mm)
ø6.35	8.7 － 9.1
ø9.52	12.8 － 13.2
ø12.7	16.2 － 16.6

Flare shape	Refrigerant oil coating point
 	Coat the entire circumference of sheet surface with refrigerant oil. 

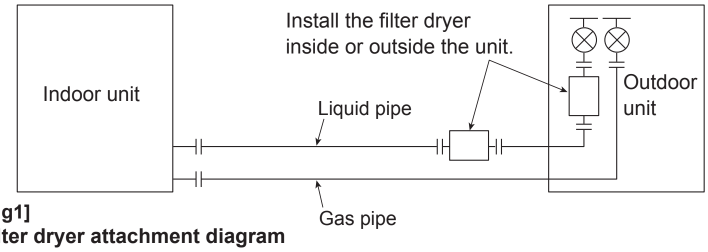
〈Appropriate tightening force with torque wrench〉

Outer diameter of copper pipe (mm)	Tightening force N.m (kgf-cm)
ø6.35	14 － 18（140 － 180）
ø9.52	34 － 42（340 － 420）
ø12.7	49 － 61（490 － 610）

2 Installing Filter Dryer

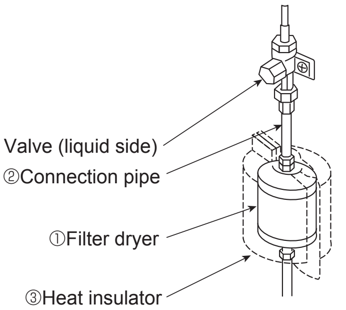
Be sure to attach the filter dryer on the liquid pipe (narrower one)

i) When installing the filter dryer inside the unit, refer to Fig. 1 or Fig. 2 according to the space in unit and install it.
If there is no space for the dryer to be installed in unit, install it outside the unit (see Fig. 3).

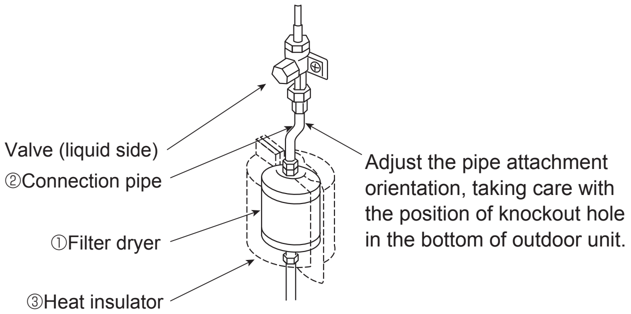


[Fig1]
Filter dryer attachment diagram
(installing in unit)

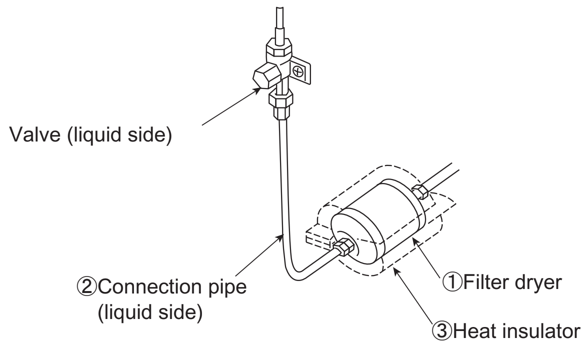
With PAC-SG81DR-E or PAC-SG82DR-E



With PAC-SG85DR-E

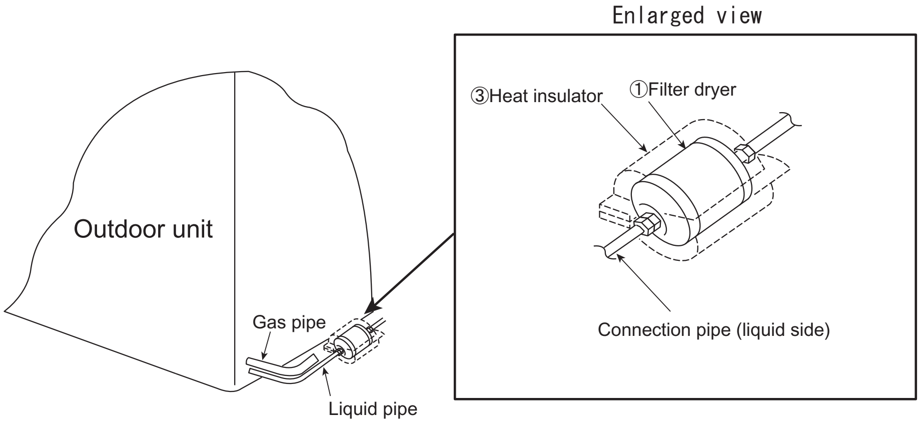

Valve (liquid side)
②Connection pipe
①Filter dryer
③Heat insulator
Adjust the pipe attachment
orientation, taking care with
the position of knockout hole
in the bottom of outdoor unit.

【Fig2】Filter dryer attachment diagram (horizontal attachment in unit)



ii) When installing the filter dryer outside the unit, attach it to any position of extended pipe.
Procure the connection pipe at local site.

【Fig3】Filter dryer attachment diagram (attachment outside unit)



iii) Heat insulation (to prevent dripping)

- After attaching the filter dryer, wrap the heat insulator around the dryer.
  ※Tape the seam of heat insulator so that no gap is produced.
- Also wrap heat insulator around other pipes.

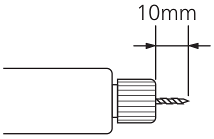
3 The attachment of filter dryer is now complete.

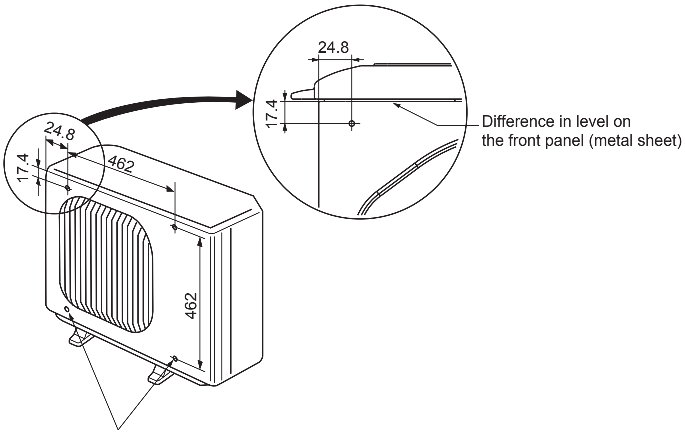
Reattach the service panels, etc. to the original position.

4 Test Run

i) Perform test run according to the installation manual of unit, and be sure to execute gas leakage check and operation check.

For 684(W) x 540(H) x 255(D) outdoor units
- Remove the front panel from the outdoor unit.
- Drill Ø4.0 mm screw holes in the front panel at the 4 locations shown below.
- The length of the drill bit should be about 10 mm as shown in the figure below. If the drill bit is too long, it may damage the parts inside the outdoor unit.



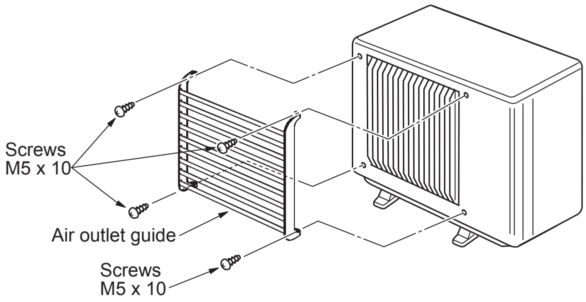


Drill the lower holes through the front panel and the base.

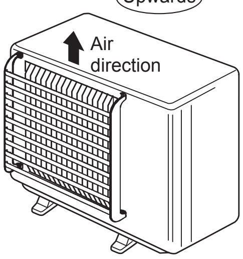
2. Attaching the air outlet guide

- Attach the air outlet guide to the outdoor unit with the 4 screws provided with the air outlet guide.
- The air outlet guide is allowed to be installed in any of the following directions so that air blows upwards, to the left, or to the right.
  * Do not install the air outlet guide in the downward direction, or it may cause short cycling.

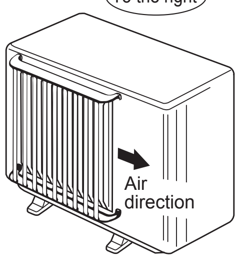
Note: Tighten the screws securely.
A chattering sound could be produced due to vibration if the screws are loose.



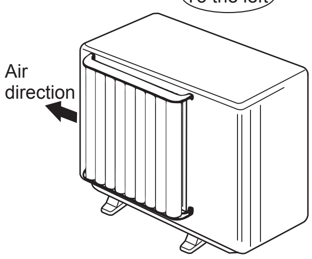
Upwards



To the right

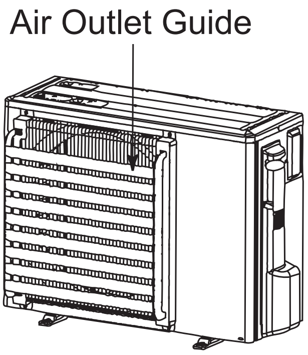


To the left



Air Outlet Guide (to change air blowing direction) PAC-SJ07SG-E

Figure



Descriptions

A part to change air direction from outdoor unit. Can also be used to prevent short cycles.

Applicable Models

- PUZ-ZM35VKA type
- PUZ-ZM50VKA type

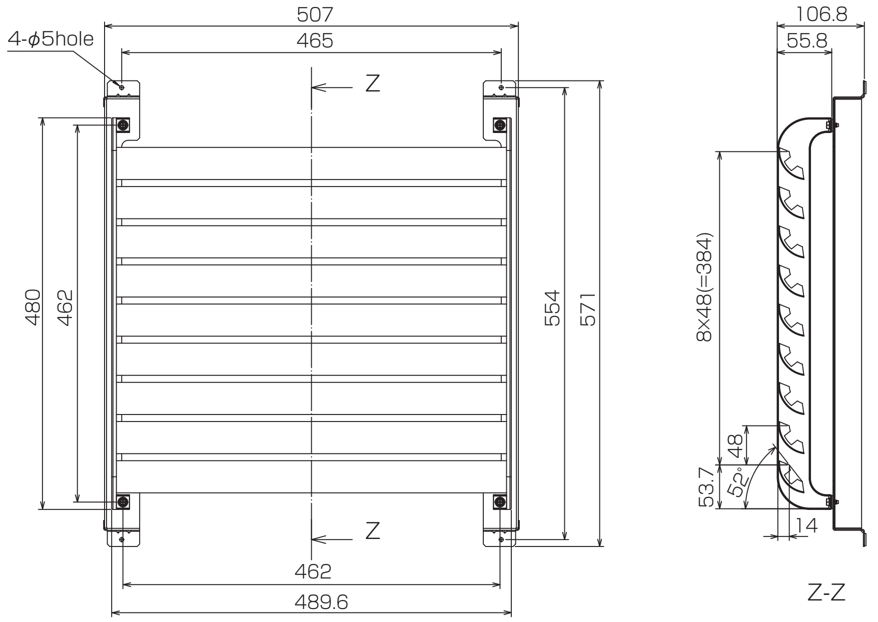
[R32 type]

Specifications

Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Material/surface treatment	Alloy hot-dip zinc-coated carbon steel sheet/Acrylic resin coating
Weight		2.8kg
Air outlet direction		Changeable between up, down or sideways
Accessory name x Qty. <Material/Surface treatment>		Screw (M5x10) x 4 (Iron/Zinc nickel alloy plated) Screw (M4x12) x 4 (Iron/Zinc nickel alloy plated)

Dimensions

Unit: mm



⚠CAUTION

When the outdoor unit is installed in front of a store or in a passage, this air outlet guide is used to change the discharge direction of hot air (during cooling) or cold air (during heating) from the outdoor unit.
Upward, downward and sideways directions are possible. This guide is also effective to protect the winds may blow against the discharge outlet.

Note the followings when installing this guide:

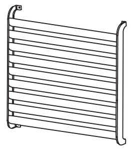
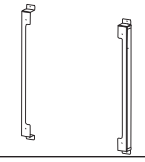
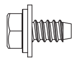
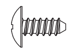
1) Be sure not to use "upward discharge" in a place where snowing is possible. Snow may accumulate in the guard, which could damage the fan, etc.
2) Attaching this unit will decrease the performance (by 2-3%) and increase noise from outdoor unit (by approx. 1-2 dB).
3) Do not use "upward discharge" when there are any obstacles at the back and on both sides of outdoor unit (air is taken in from top of unit): This could cause a short cycle.
4) To eliminate the influence of external wind, be sure to install the unit with its back facing to wall.
5) Do not install this unit in a place where wind directly blows to the back of the unit.

How to Use / How to Install

Note that two sets of this product are necessary for ZM100, ZM125, ZM140

1 Accesories

Make sure that this package has the following parts as well as the installation sheet:

1 Air outlet guide	1	2 Support	2	3 Attachment screw 5×10	4	4 Attachment screw 4×12	4
							

2 Requirements of installation space

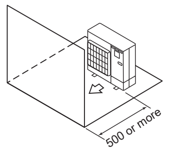
[Unit:mm]

●Secure the necessary surrounding space shown below and select a place with less obstacles, to prevent a short cycle.

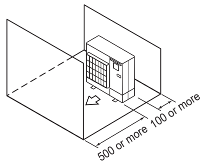
1) Surrounding space needed when installing one unit

・Do not use "upward discharge" in cases of figures (3) and (5) below.

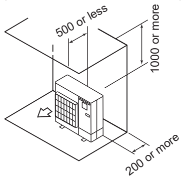
(1) Obstacle at front
(open at back, sides and top)



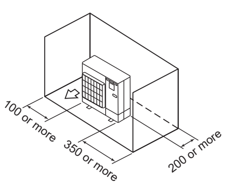
(2) Obstacles at back and front
(open at sides and top)



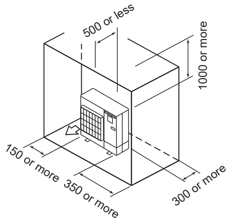
(3) Obstacles at back and top
(open at front and sides)



(4) Obstacles at back, and sides
(open at front and top)



(5) Obstacles at back, sides
and top (open at front)

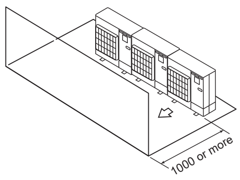


2) Surrounding space needed when installing multiple units

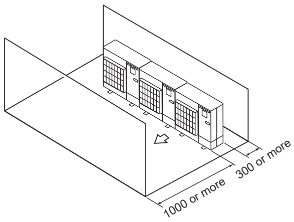
・When installing units horizontally in a series, leave at least 350 mm space between units .

・Do not use "upward discharge" in case of figure (3) below.

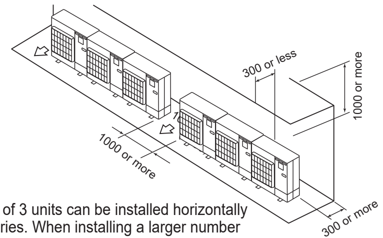
(1) Obstacle at front
(open at back, sides and top)



(2) Obstacles at back and front
(open at sides and top)

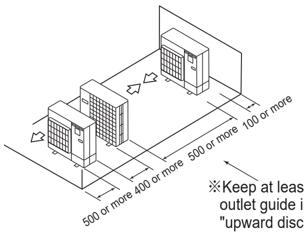


(3) Obstacles at back and top
(open at front and sides)



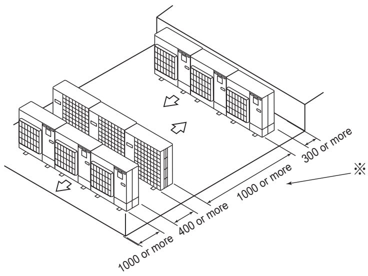
※Limit of 3 units can be installed horizontally in series. When installing a larger number of units, maintain the space between units shown above.

(4) Installing units, one in each row



※Keep at least 1000 when using outlet guide in directions other than "upward discharge".

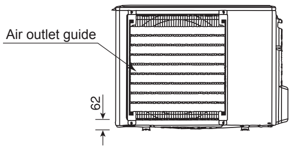
(5) Installing multiple units in multiple rows



※Keep at least 2000 when using outlet guide in directions other than "upward discharge".

3 Installation Complete Diagrams

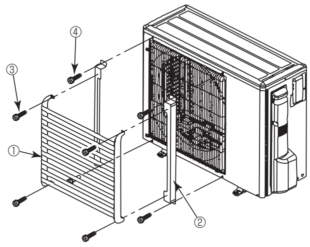
809W × 300D × 630H(mm)
Outdoor unit



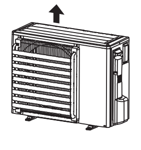
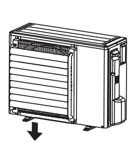
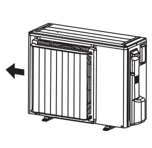
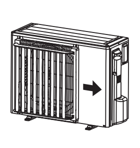
4 Installation Method

- Four blowout directions can be selected: Check the orientation of blowout vane, and attach the blowout guide in the direction that matches the situation at local site.

(1) Make a frame by fixing 2 supports ② on the outdoor unit with 4 screws ④.
(2) Fix the air outlet guide ① to the supports mounted on the outdoor unit with 4 screws ③.

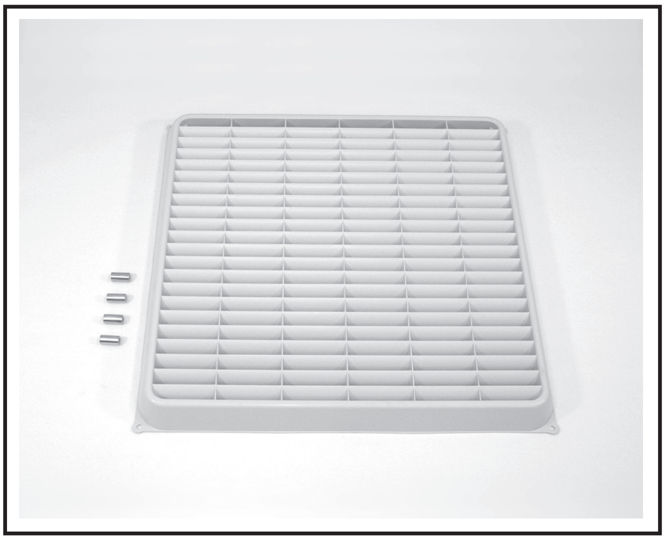


<Setting blow-off direction>

Upward	Downward	Sideways to left	Sideways to right
			

Air Outlet Guide (to change air blowing direction) PAC-SG59SG-E

Photo



Descriptions

A part to change air direction from outdoor unit.
Can also be used to prevent short cycles.

Applicable Models

- ■ PUZ-ZM60VHA type
- ■ PUZ-ZM71VHA type

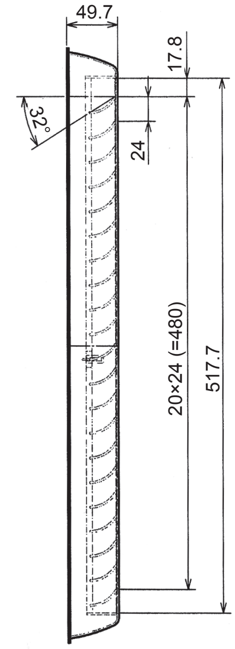
[R32 type]

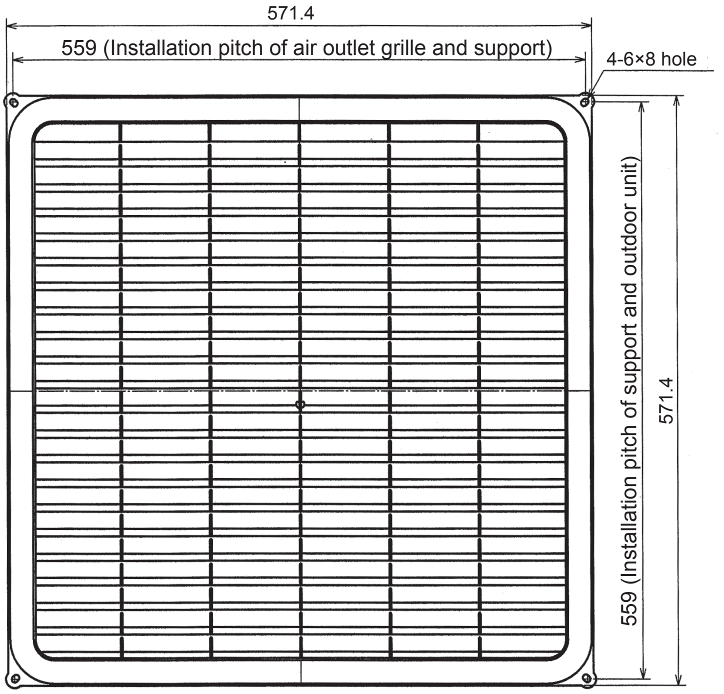
Specifications

Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Material	Air outlet grille: PP resin
Weight		1.2kg
Air outlet direction		Changeable between up, down or sideways
Accessory name x Qty. <Material/Surface treatment>		Washer faced screw (M5x35) x 4 (Iron wire (SWCH18A)/Zinc nickel plated)

Dimensions

Unit: mm




571.4
559 (Installation pitch of air outlet grille and support)
4-6×8 hole
559 (Installation pitch of support and outdoor unit)
571.4

⚠ CAUTION

* Air Guide prevents reverse rotation of outdoor unit fan when it enters low speed rotation mode with fan controller being operated. It is also used for protection of fan when strong winds, such as a typhoon, wind blowing through tall buildings, etc., directly strike the air outlet. In addition, installation of this product is necessary when cooling opetation is to be performed in outdoor tempreture of -5℃ or lower (down to -15℃).

Note the followings when installing this guide:
1) Be sure not to use "upward discharge" in a place where snowing is possible. Snow may accumulate in the guard, which could damage the fan, etc.
2) Attaching this unit will decrease the performance (by 2-3%) and increase noise from outdoor unit (by approx. 1-2 dB).
3) Do not use "upward discharge" when there are any obstacles at the back and on both sides of outdoor unit (air is taken in from top of unit): This could cause a short cycle.
4) To eliminate the influence of external wind, be sure to install the unit with its back facing to wall.
5) Do not install this unit in a place where wind directly blows to the back of the unit.

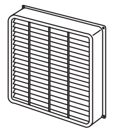
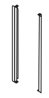
How to Use / How to Install

2-fan type outdoor unit

1 Checking provided parts

Make sure that this package has the following parts as well as the installation sheet:

①Air Discharge guide × 1	②Support × 2 (For the upper and lower sides)	③Support × 2 (For right and left)	④Attachment screw × 4	⑥Spacer × 4

	※PAC-SG58SG-E (Screw hole×6)	PAC-SG58SG-E (Screw hole×2) 	PAC-SG58SG-E(5×10)
			PAC-SG59SG-E(5×35)
				※PAC-SG59SG-E

			⑤Attachment screw × 8	
			PAC-SG58SG-E(4×10)	

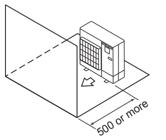
2 Checking Installation Space

(In the following diagrams, dimensions in parentheses are for 2 fan type models. Dimensions not in parentheses are common for all series models. Unit: mm)

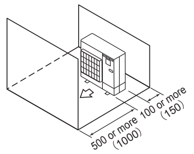
●Secure the necessary surrounding space shown below and select a place with less obstacles, to prevent a short cycle.

1) Surrounding space needed when installing one unit
- Do not use "upward discharge" in cases of figures (3) and (5) below.

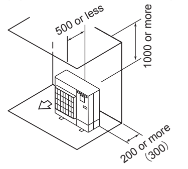
(1) Obstacle at front
(open at back, sides and top)



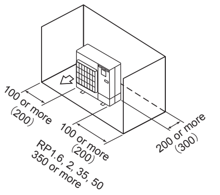
(2) Obstacles at back and front
(open at sides and top)



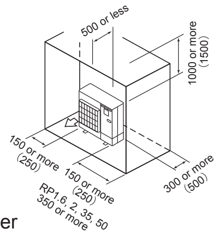
(3) Obstacles at back and top
(open at front and sides)



(4) Obstacles at back, and sides
(open at front and top)

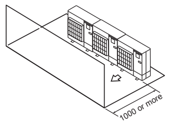


(5) Obstacles at back, sides
and top (open at front)

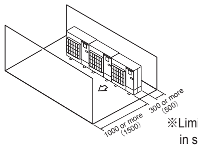


2) Surrounding space needed when installing multiple units
- When installing units horizontally in a series, leave at least 350 mm space between units for RP2, 50 type or lower models, and at least 10 mm for RP2.5, 60 type or higher models.
- Do not use "upward discharge" in case of figure (3) below.

(1) Obstacle at front
(open at back, sides and top)

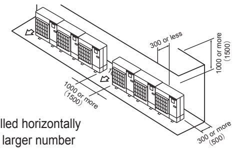


(2) Obstacles at back and front
(open at sides and top)

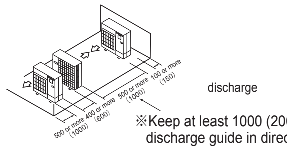


※Limit of 3 units can be installed horizontally in series. When installing a larger number of units, maintain the space between units shown above.

(3) Obstacles at back and top
(open at front and sides)

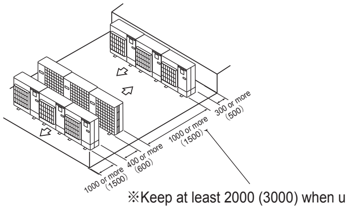


(4) Installing units, one in each row



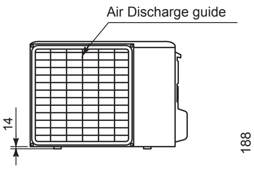
※Keep at least 1000 (2000) when using discharge guide in directions other than "upward discharge".

(5) Installing multiple units in multiple rows

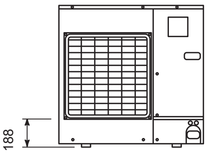


※Keep at least 2000 (3000) when using discharge guide in directions other than "upward discharge".

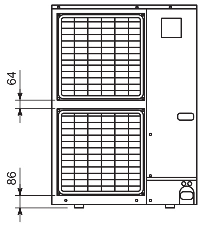
3 Installation Complete Diagrams



<Models RP1.6, 2, 35, 50>



<Models RP2.5, 3, 60, 71>



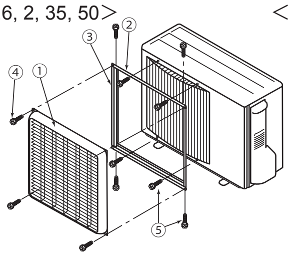
<Models RP4～6,100～140>

4 Installation Method

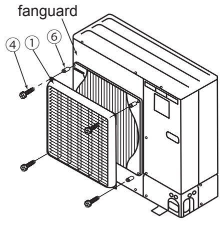
For RP1.6, 2, 35, 50：
1) Fix the two supports (2) and two supports (3), using four screws (5) to make a frame.
2) Attach the assembled supports to the outdoor unit using four screws (5), and then attach blowout guide (1) to the support (2), using four screws (4).
   - Four blowout directions can be selected: Check the orientation of blowout vane, and attach the blowout guide in the direction that matches the situation at local site.

For (R)P2.5 - 6, 60 - 140: (Two sets of support and blowout guide are necessary for two-fan type models.)
1) Remove the 4 screws that hold the existing fan guard.
2) Fit the 4 spacers⑥into the hole in fan guard, and then use the 4 screws④to install the provided blowout guide①to the outdoor unit above the existing fan guard.
   - The four blowout directions can be selected: Check the orientation of blowout vane, and install the blowout guide in the direction that matches the circumstance at local site.

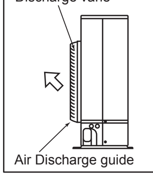
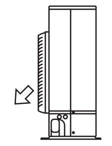
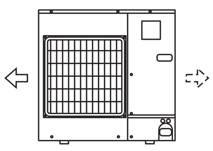
<RP1.6, 2, 35, 50>



<(R)P2.5 - 6, 60 - 140>



<Setting blow-off direction>

Upward	Downward	Sideways (to left or right)
		

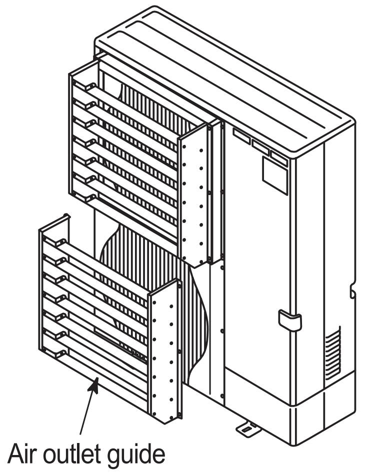
OPTIONAL PARTS

INDOOR UNIT

Air Outlet Guide (to change air blowing direction)

PAC-SH96SG-E

Figure



Descriptions

A part to change air direction from outdoor unit.
Can also be used to prevent short cycles.

Applicable Models

- ■ PUZ-M100VKA type
- ■ PUZ-M125VKA type
- ■ PUZ-M140VKA type
- ■ PUZ-M100YKA type
- ■ PUZ-M125YKA type
- ■ PUZ-M140YKA type
- ■ MXZ-4F83VF2
- ■ MXZ-5F102VF2
- ■ MXZ-6F120VF2
- ■ MXZ-2F53VFHZ2
- ■ MXZ-4F83VFHZ2

1 piece required

- ■ PUZ-ZM100VKA type
- ■ PUZ-ZM125VKA type
- ■ PUZ-ZM140VKA type
- ■ PUZ-ZM100YKA type
- ■ PUZ-ZM125YKA type
- ■ PUZ-ZM140YKA type
- ■ PUZ-ZM200YKA type
- ■ PUZ-ZM250YKA type
- ■ PUZ-M200YKA type
- ■ PUZ-M250YKA type

2 piece required

[R32 type]

- ■ PXZ-5F85VG

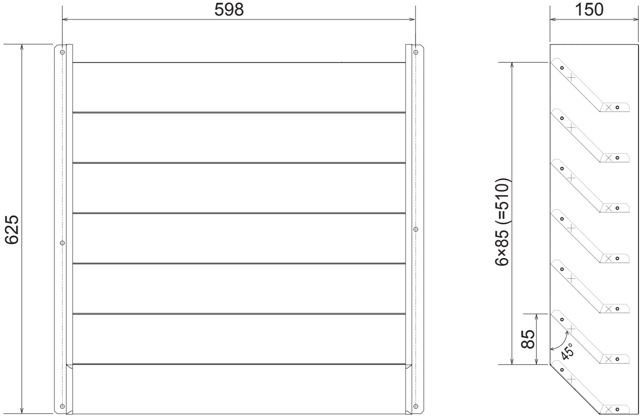
Specifications

Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Material	Air outlet grille: Alloy hot-dip zinc-coated carbon steel sheet
Weight		7kg
Air outlet direction		Changeable between up, down or sideways
Accessory name x Qty. <Material/Surface treatment>		Washer faced screw (M5x15) x 12 (Iron wire (SWCH18A)/Zinc nickel plated) Washer x 12, Spring washer x 12

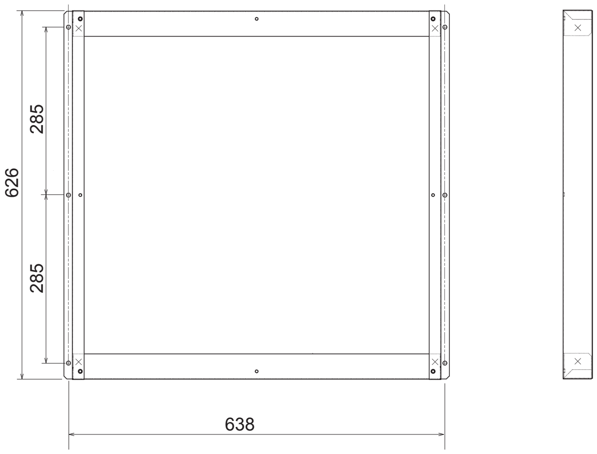
Dimensions

Unit: mm

Air outlet grile



Support



⚠CAUTION

* Air Guide prevents reverse rotation of outdoor unit fan when it enters low speed rotation mode with fan controller being operated. It is also used for protection of fan when strong winds, such as a typhoon, wind blowing through tall buildings, etc., directly strike the air outlet. In addition, installation of this product is necessary when cooling opetation is to be performed in outdoor tempreture of -5°C or lower (down to -15°C).

Note the followings when installing this guide:

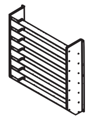
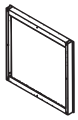
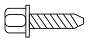
1) Be sure not to use "upward discharge" in a place where snowing is possible. Snow may accumulate in the guard, which could damage the fan, etc.
2) Attaching this unit will decrease the performance (by 2-3%) and increase noise from outdoor unit (by approx. 1-2 dB).
3) Do not use "upward discharge" when there are any obstacles at the back and on both sides of outdoor unit (air is taken in from top of unit): This could cause a short cycle.
4) To eliminate the influence of external wind, be sure to install the unit with its back facing to wall.
5) Do not install this unit in a place where wind directly blows to the back of the unit.

How to Use / How to Install

2-fan type outdoor unit

1 Checking provided parts

Make sure that this package has the following parts as well as the installation sheet:

①Air Discharge guide	1	②Support	1	③Screw(5×15)	12	④Washer	12	⑤Spring washer	12
									

2 Checking Installation Space

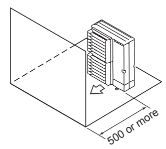
(Unit: mm)

●Secure the necessary surrounding space shown below and select a place with less obstacles, to prevent a short cycle.

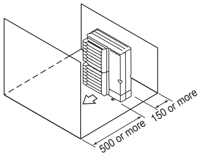
1) Surrounding space needed when installing one unit

- Do not use "upward discharge" in cases of figures (3) and (5) below.

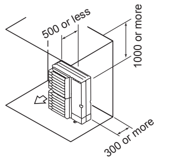
(1) Obstacle at front
(open at back, sides and top)



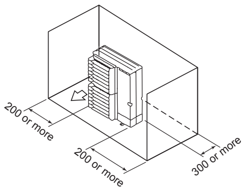
(2) Obstacles at back and front
(open at sides and top)



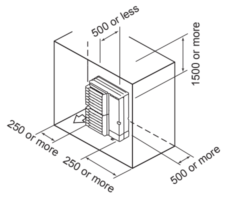
(3) Obstacles at back and top
(open at front and sides)



(4) Obstacles at back, and sides
(open at front and top)



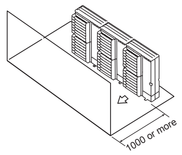
(5) Obstacles at back, sides
and top (open at front)



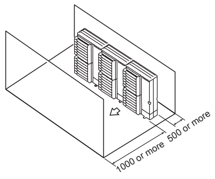
2) Surrounding space needed when installing multiple units

- When installing units horizontally in a series, leave at least 10 mm space between units.
- Do not use "upward discharge" in case of figure (3) below.

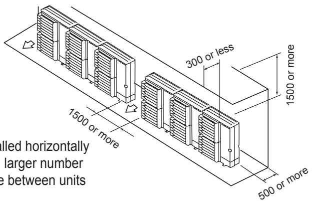
(1) Obstacle at front
(open at back, sides and top)



(2) Obstacles at back and front
(open at sides and top)

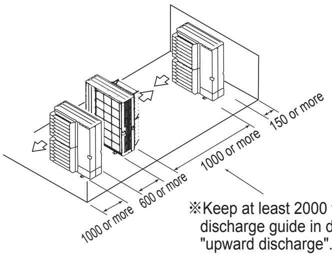


(3) Obstacles at back and top
(open at front and sides)



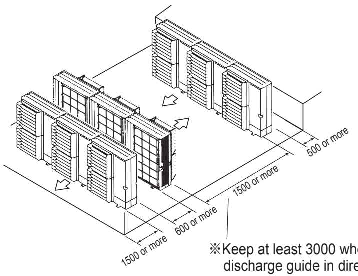
※Limit of 3 units can be installed horizontally in series. When installing a larger number of units, maintain the space between units shown above.

(1) Installing units, one in each row



※Keep at least 2000 when using discharge guide in directions other than "upward discharge".

(2) Installing multiple units in multiple rows

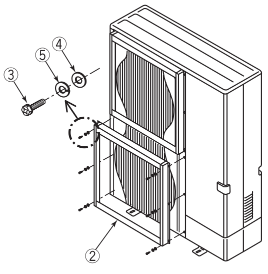


※Keep at least 3000 when using discharge guide in directions other than "upward discharge".

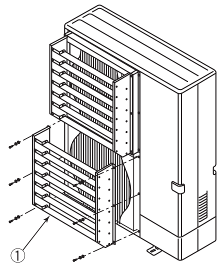
3 Installation Method

- 4 blowout directions can be selected: Check the orientation of blowout vane, and attach the blowout guide in the direction that matches the situation at local site.

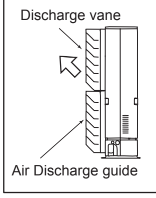
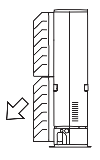
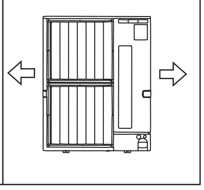
(1)Attach the support ② to the outdoor unit using the washers ④ , spring washers ⑤ and screws ③ (at the 6 points) on the existing fan guard



(2)Set the orientation of the blowout vane of the discharge guide ① to the desired direction and install the vane to the outdoor unit using the washers ④, spring washers ⑤ and screws ③ (at 6 points).

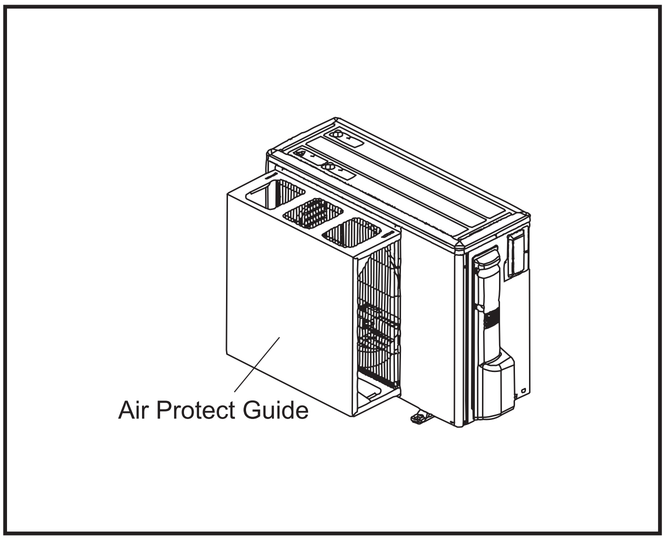


＜Setting blow-off direction＞

Upward	Downward	Sideways (to left or right)
 Discharge vane Air Discharge guide		

Air Protect Guide (for cooling at -15 ℃) PAC-SJ06AG-E

Figure



Descriptions

Enables operation even when the outside temperature is low.
Protect the unit from cold wind.

Applicable Models

- ■ PUZ-ZM35VKA type
- ■ PUZ-ZM50VKA type

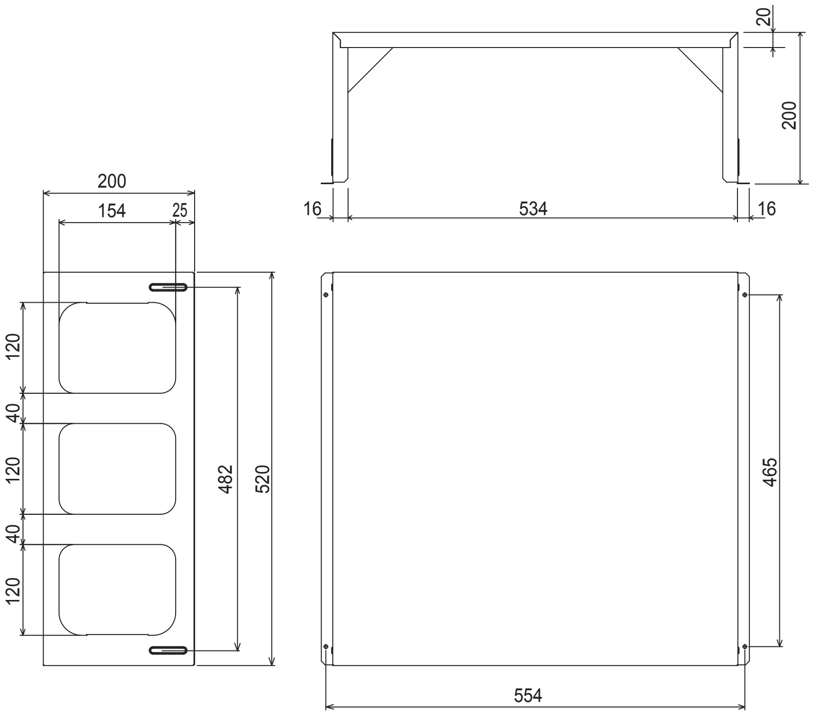
[R32 type]

Specifications

Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Surface treatment	Acrylic resin coating
	Material	Alloy hot-dip zinc-coated carbon steel sheet
Weight		3.4kg
Accessory name x Qty.		Mounting screw (4x10) x 4 Spring washerx 4

Dimensions

Unit: mm



⚠CAUTION

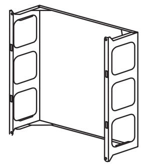
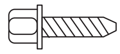
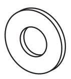
* This Air protect prevents reverse rotation of outdoor unit fan when it enters low speed rotation mode with fan controller being operated. It is also used for protection of fan when strong winds, such as a typhoon, wind blowing through tall buildings, etc., directly strike the air outlet. In addition, installation of this product is necessary when cooling opetation is to be performed in outdoor tempreture of -5℃ or lower (down to -15℃).

Pay attention to the following points when installing this product:
1) To eliminate the effects of external wind, be sure to install this unit with back surface facing wall side.
2) Do not install this unit in orientation or site where wind directly blows at the back of the unit.
3) Installing of this product will reduce the capacity of the unit (approx. 2 or 3%) and increase the noise of outdoor unit (approx. 1 or 2dB)
4) Do not use this product where there is any obstacle at either side or above the outdoor unit (discharge air will be blocked): This may cause a short cycle.

How to Use / How to Install

1 Accessories

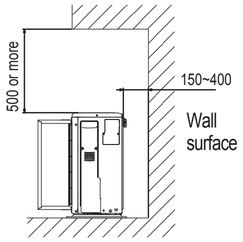
Make sure that all the following parts, in addition to this manual, are in this box.

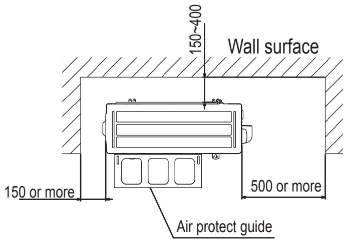
① Air protect guide	1	② Mounting screw 4×16	4	③ Washer	4	④ Spring washer	4
							

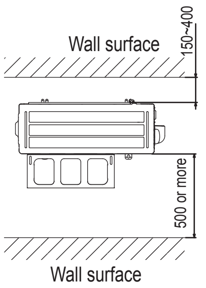
2 Requirements of installation space

[Unit: mm]

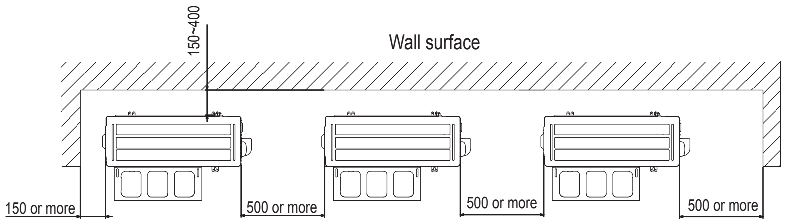
(1) One unit installation:





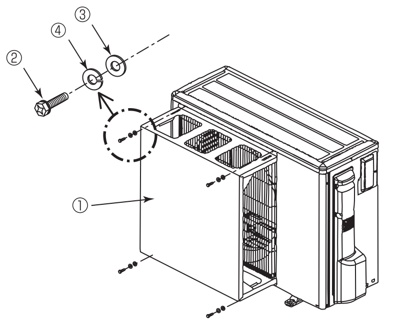


(2) Multiple unit installation: ※Installation of multiple units in series must be no more than five units.



3 Installation procedure

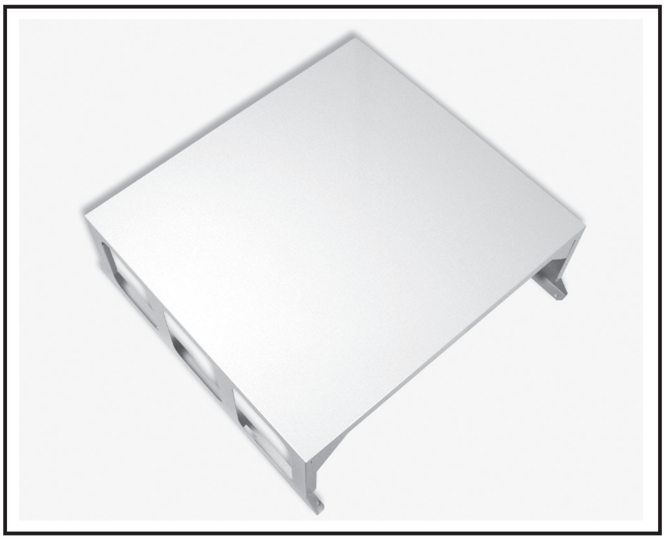
(1) Install the air protect guide ①on the outdoor unit using washers ③, spring washers ④ and screws ②.



Air Protect Guide (for cooling at -15℃) **PAC-SH63AG-E ***

* model change from **PAC-SG57AG-E** from Sep 2005

Photo



Descriptions

Enables operation even when the outside temperature is low.
Protect the unit from cold wind.

Applicable Models

- ■ PUZ-ZM60VHA type
- ■ PUZ-ZM71VHA type

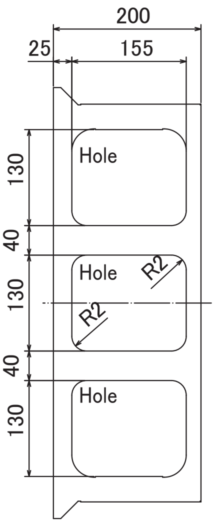
[R32 type]

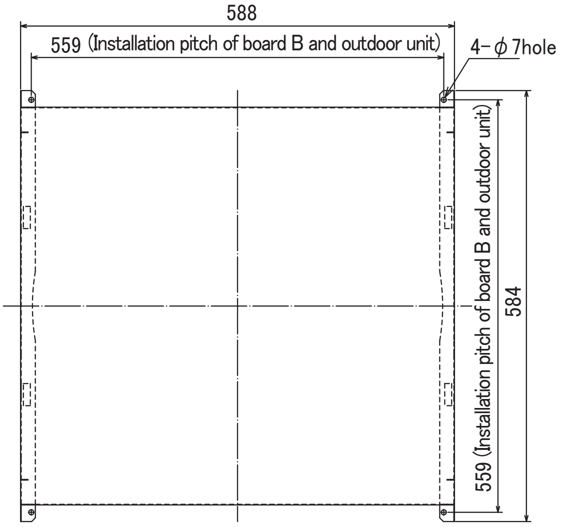
Specifications

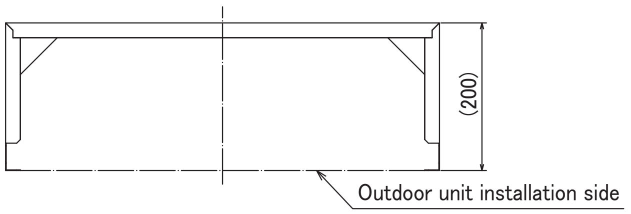
Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Surface treatment	Acrylic resin coating
	Material	Alloy hot-dip zinc-coated carbon steel sheet
Weight		3.3kg
Accessory name x Qty. <Material/Surface treatment>		Washer faced screw (M5x15) x 4 <Iron wire (SWCH18A)/Zinc nickel plated>

Dimensions

Unit: mm (inch)




588
559 (Installation pitch of board B and outdoor unit)
4-ϕ7hole
559 (Installation pitch of board B and outdoor unit)
584



⚠CAUTION

* Air Guide prevents reverse rotation of outdoor unit fan when it enters low speed rotation mode with fan controller being operated.
It is also used for protection of fan when strong winds, such as a typhoon, wind blowing through tall buildings, etc., directly strike the air outlet.
In addition, installation of this product is necessary when cooling opetation is to be performed in outdoor tempreture of -5℃ or lower (down to -15℃).

Note the followings when installing this guide:

1) Be sure not to use "upward discharge" in a place where snowing is possible. Snow may accumulate in the guard, which could damage the fan, etc.
2) Attaching this unit will decrease the performance (by 2-3%) and increase noise from outdoor unit (by approx. 1-2 dB).
3) Do not use "upward discharge" when there are any obstacles at the back and on both sides of outdoor unit (air is taken in from top of unit):
This could cause a short cycle.
4) To eliminate the influence of external wind, be sure to install the unit with its back facing to wall.
5) Do not install this unit in a place where wind directly blows to the back of the unit.

How to Use / How to Install

Package air-conditioner Optional parts
Installation Manual for Air Guide

SAFETY PRECAUTIONS

- Carefully read this section 'Safety Precautions', and securely install the optional parts.
- Be sure to observe the cautions described here: They include critical contents for safety.
- The following indications show the classifications for danger, and possible consequences following incorrect handling.

⚠**WARNING**	Incorrect handling could lead to death or serious injury.
⚠**CAUTION**	Incorrect handling could lead to injury or damage to house and household articles.

- After installation, perform a test run and make sure that there is no abnormality, and ask your customer to keep this installation sheet with the installation manual at all times. Also ask the customer to transfer these manuals to a new user if the user changes.

⚠WARNING

Ask the dealer or specialist for installation.
- If installed incorrectly by user, water leak, electric shock, fire, etc. could result.

Carefully install the optional parts according to this installation sheet.
- Incorrect installation could cause water leak, electric shock, fire, etc.

Before performing installation (moving) and electrical work

⚠CAUTION

Do not place polyethylene bags in reach of young children.
- Putting them over the head will block breathing passages, which could result in suffocation.

If electrical work is necessary, use only specified electric wires adapted with current capacity.
- Use of unsuitable wire could cause electric leak, overheating or fire.

Securely apply heat-insulation to refrigerant pipe so that no condensation occurs.
- If heat-insulation is inadequate, condensation could occur on the surface of pipes and dewdrops could accumulate on ceiling, floor or important goods.

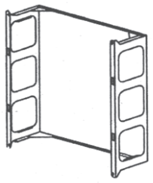
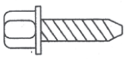
Securely perform drain piping work according to the installation manual so that no condensation occurs.
- If piping work is incorrect, water leak may occur and ceiling, furniture, etc may get wet.

This Air Guide prevents reverse rotation of outdoor unit fan when it enters low speed rotation mode with fan controller being operated. It is also used for protection of fan when strong winds, such as in a typhoon, wind blowing through tall buildings, etc., directly strike the at air outlet.
In addition, installation of this product is necessary when cooling operation is to be performed in outside-air temperature of −5℃ or lower (down to −15℃).
Pay attention to the following points when installing this product:
1) To eliminate the effects of external wind, be sure to install this unit with back surface facing wall side.
2) Do not install this unit in orientation or site where wind directly blows at the back of the unit.
3) Installing of this product will reduce the capacity of the unit (approx. 2 or 3%) and increase the noise of outdoor unit (approx. 1 or 2dB).
4) Do not use this product where there is any obstacle at either side or above the outdoor unit (discharged air will be blocked). This may cause a short cycle.

When 2-fan type outdoor unit is used, note that two sets of this product will be necessary.

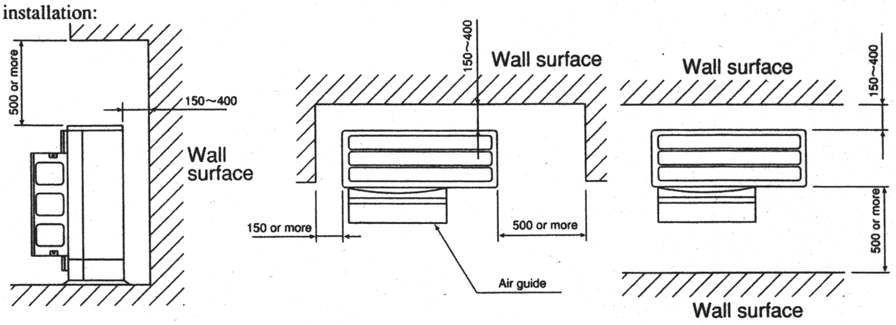
1 Checking parts

Make sure that all the following parts, in addition to this manual, are in this box:

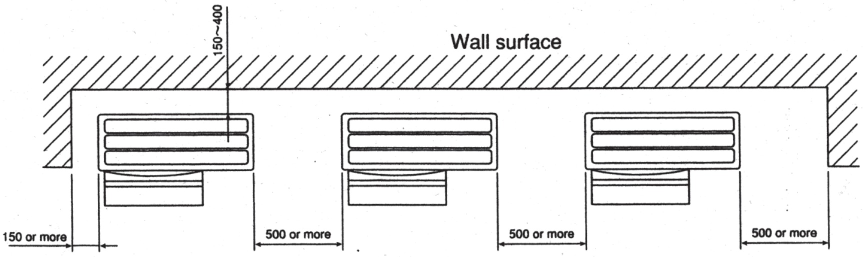
①Air Guide	1	②Mounting screw 5×15	4	③Washer	4	④Spring washer	4
							

2 Requirements of space for installation

(1) **One unit installation:**

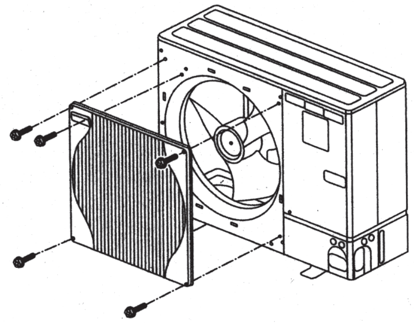


(2) **Multiple unit installation:** **※Installation of multiple units in series must be no more than five units.**

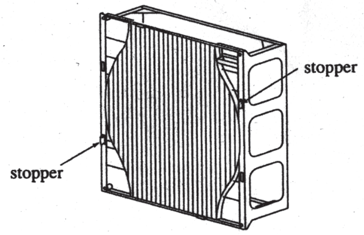


3 Installation procedure

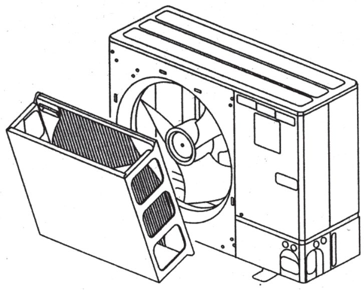
(1) **Remove the fan guard fixing screws (five screws on circumference), and then remove the fan guard.**



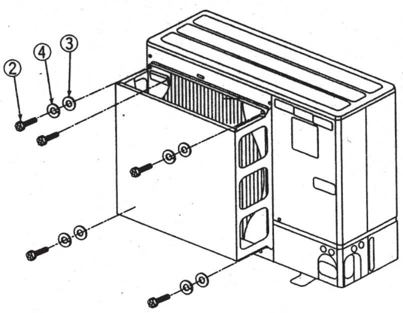
(2) **Insert the fan guard stoppers into the square holes on the air guide.**



(3) **Insert the stoppers (four locations) of the fan guard into the installation holes on the outdoor unit.**

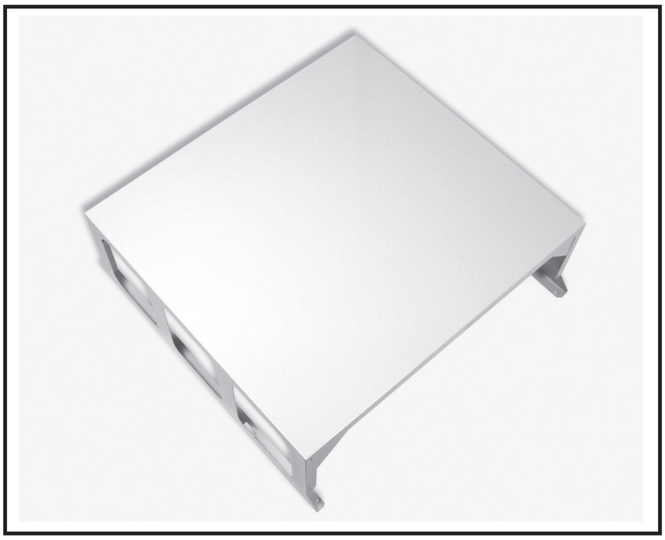


(4) **Install the air guide on the outdoor unit using washers (3), spring washers (4) and screws (2).**
∗ Use existing screws for handle section.



Air Protect Guide (for cooling at -15℃) PAC-SH95AG-E

Photo



Specifications

Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Surface treatment	Acrylic resin coating
	Material	Alloy hot-dip zinc-coated carbon steel sheet
Weight		3.5kg
Accessory name x Qty. <Material/Surface treatment>		Washer faced screw (M5x15) x 4 <Iron wire (SWCH18A)/Zinc nickel plated>

Descriptions

Enables operation even when the outside temperature is low.
Protect the unit from cold wind.

Applicable Models

- ■ PUZ-ZM100VKA type
- ■ PUZ-ZM125VKA type
- ■ PUZ-ZM140VKA type
- ■ PUZ-ZM100YKA type
- ■ PUZ-ZM125YKA type
- ■ PUZ-ZM140YKA type
- ■ PUZ-ZM200YKA type
- ■ PUZ-ZM250YKA type
- ■ PUZ-M200YKA type
- ■ PUZ-M250YKA type

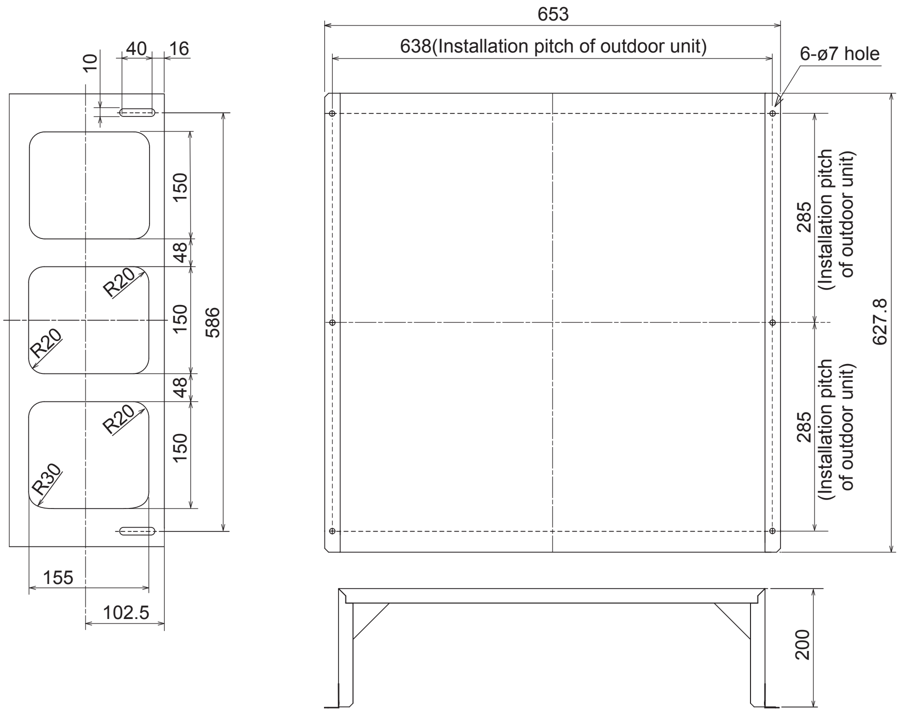
2 pieces required

- ■ PUZ-M100VKA type
- ■ PUZ-M125VKA type
- ■ PUZ-M140VKA type
- ■ PUZ-M100YKA type
- ■ PUZ-M125YKA type
- ■ PUZ-M140YKA type

1 piece required
[R32 type]

Dimensions

Unit: mm (inch)


10
40
16
150
48
R20
R20
150
586
48
R20
R30
150
155
102.5
653
638(Installation pitch of outdoor unit)
6-ø7 hole
285 (Installation pitch of outdoor unit)
627.8
285 (Installation pitch of outdoor unit)
200

⚠CAUTION

* Air Guide prevents reverse rotation of outdoor unit fan when it enters low speed rotation mode with fan controller being operated.
It is also used for protection of fan when strong winds, such as a typhoon, wind blowing through tall buildings, etc., directly strike the air outlet. In addition, installation of this product is necessary when cooling opetation is to be performed in outdoor tempreture of -5℃ or lower (down to -15℃).

Note the followings when installing this guide:

1) Be sure not to use "upward discharge" in a place where snowing is possible. Snow may accumulate in the guard, which could damage the fan, etc.
2) Attaching this unit will decrease the performance (by 2-3%) and increase noise from outdoor unit (by approx. 1-2 dB).
3) Do not use "upward discharge" when there are any obstacles at the back and on both sides of outdoor unit (air is taken in from top of unit): This could cause a short cycle.
4) To eliminate the influence of external wind, be sure to install the unit with its back facing to wall.
5) Do not install this unit in a place where wind directly blows to the back of the unit.

How to Use / How to Install

SAFETY PRECAUTIONS

- Carefully read this section 'Safety Precautions', and securely install the optional parts.
- Be sure to observe the cautions described here: They include critical contents for safety.
- The following indications show the classifications for danger, and possible consequences following incorrect handling.

⚠**WARNING**	Incorrect handling could lead to death or serious injury.
⚠**CAUTION**	Incorrect handling could lead to injury or damage to house and household articles.

- After installation, perform a test run and make sure that there is no abnormality, and ask your customer to keep this installation sheet with the installation manual at all times. Also ask the customer to transfer these manuals to a new user if the user changes.

⚠WARNING

Ask the dealer or specialist for installation.

- If installed incorrectly by user, water leak, electric shock, fire, etc. could result.

Carefully install the optional parts according to this installation sheet.

- Incorrect installation could cause water leak, electric shock, fire, etc.

Before performing installation (moving) and electrical work

⚠CAUTION

Do not place polyethylene bags in reach of young children.

- Putting them over the head will block breathing passages, which could result in suffocation.

If electrical work is necessary, use only specified electric wires adapted with current capacity.

- Use of unsuitable wire could cause electric leak, overheating or fire.

Securely apply heat-insulation to refrigerant pipe so that no condensation occurs.

- If heat-insulation is inadequate, condensation could occur on the surface of pipes and dewdrops could accumulate on ceiling, floor or important goods.

Securely perform drain piping work according to the installation manual so that no condensation occurs.

- If piping work is incorrect, water leak may occur and ceiling, furniture, etc may get wet.

This Air Guide prevents reverse rotation of outdoor unit fan when it enters low speed rotation mode with fan controller being operated. It is also used for protection of fan when strong winds, such as in a typhoon, wind blowing through tall buildings, etc., directly strike the at air outlet.

In addition, installation of this product is necessary when cooling operation is to be performed in outside-air temperature of −5℃ or lower (down to −15℃).

Pay attention to the following points when installing this product:

1) To eliminate the effects of external wind, be sure to install this unit with back surface facing wall side.

2) Do not install this unit in orientation or site where wind directly blows at the back of the unit.

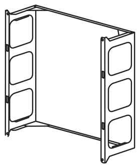
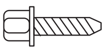
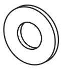
3) Installing of this product will reduce the capacity of the unit (approx. 2 or 3%) and increase the noise of outdoor unit (approx. 1 or 2dB).

4) Do not use this product where there is any obstacle at either side or above the outdoor unit (discharged air will be blocked). This may cause a short cycle.

When 2-fan type outdoor unit is used, note that two sets of this product will be becessary.

1 Checking parts

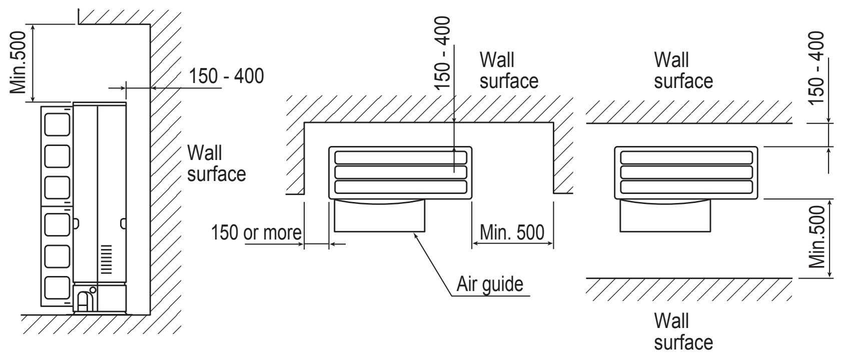
Make sure that all the following parts, in addition to this manual, are in this box:

①Air Guide	1	②Mounting screw (5×15)	6	③Washer	6	④Spring washer	6
							

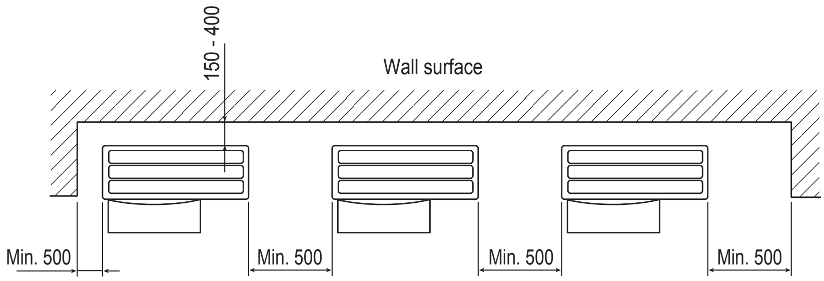
2 Requirements of space for installation

(Unit : mm)

(1)One unit installation

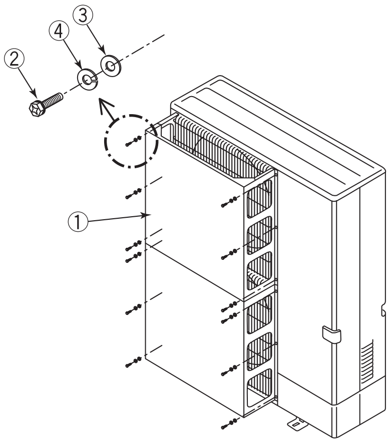


(2)Multiple unit installation : Installation of multiple units in series must be no more than 5 units.



3 Installation procedure

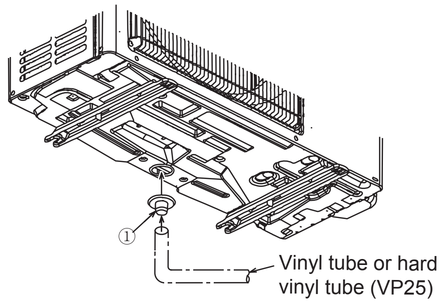
(1)Install the air guide ① on the outdoor unit using washers ③, spring washers ④ and screws ②.



Drain Socket

PAC-SJ08DS-E

Figure



Descriptions

Cap the unnecessary holes on the outdoor unit (bottom) and centralize the drainage when using a drain pipe.

Applicable Models

- ■ PUZ-ZM35VKA type
- ■ PUZ-ZM50VKA type

[R32 type]

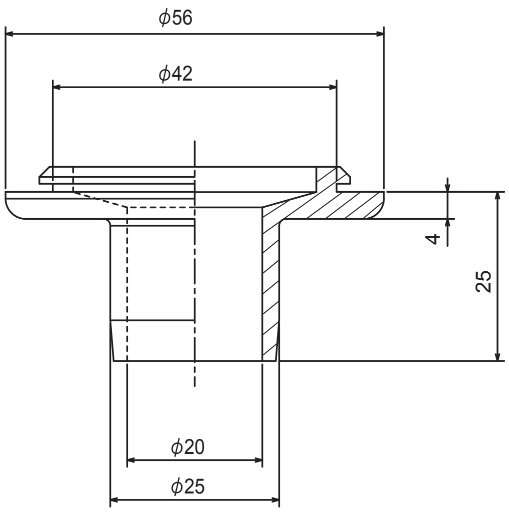
Specifications

Drain pipe	PVC VP-25 or vinyl hose (ID: 25mm)
Operating conditions	No freezing allowed (Never to be used in cold climates)
Material	EPT rubber
Component	Drain socket x 1

Dimensions

Unit: mm

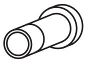
Drain socket



The outdoor unit is provided with several holes for drainage at the bottom to ma
easier. The drain socket is used to close the unnecessary holes and centralize
when using the drain tube at the installation place.
Do not to use the drain socket in cold areas. The drain tube can be frozen.
※ Condensation could drop through the part fitting holes in the bottom of the ou
Use the centralized drain pan to completely prevent condensation dropping.

1. Accessory

①Drain socket••••••••••••1 pc

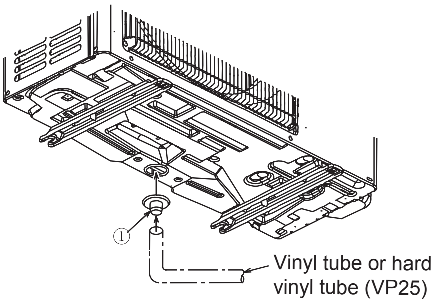


Be aware that the part shown to the left is put in the package together with the installation manual.

2. Installation procedure

☆**Prepare the adhesive in the field.**

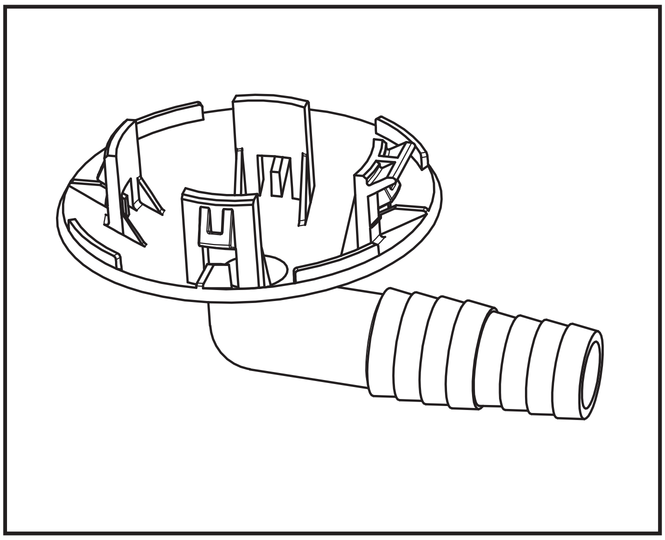
(1) Glue the drain socket ① to the hole that is used to the drainage at the bottom of the unit with the glue (Prepare in the field).
(2) Insert a vinyl tube of which inner diameter 25 mm available commercially or a hard vinyl tube VP25 to the drain socket ①.



Drain Socket

PAC-SG60DS-E

Figure



Descriptions

Cap the unnecessary holes on the outdoor unit (bottom) and centralize the drainage when using a drain pipe.

Applicable Models

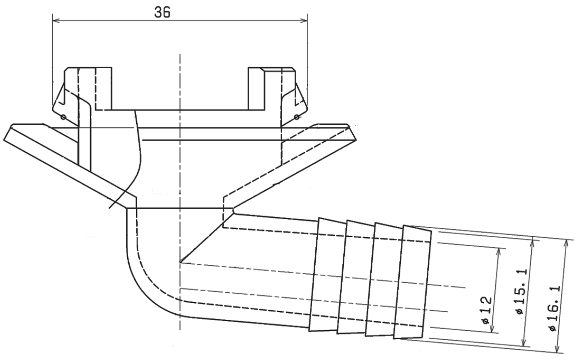
- MXZ-4F83VF2
- MXZ-5F102VF2
- MXZ-6F120VF2
- PXZ-5F85VG

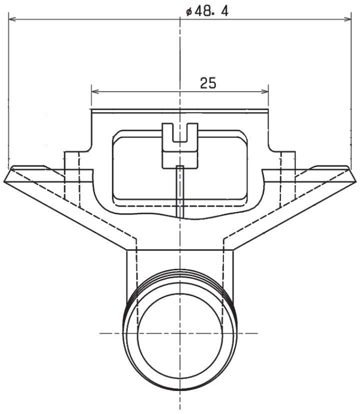
Specifications

Drain pipe	PVC VP-25 or vinyl hose (ID: 25mm)
Operating conditions	No freezing allowed (Never to be used in cold climates)
Material	EPT rubber
Component	Drain socket x 1, Drain cap x 6

Dimensions

Unit: mm

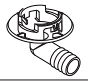




How to Use / How to Install

1. Accessories

Be aware that the following parts are put in the package together with the installation manual.

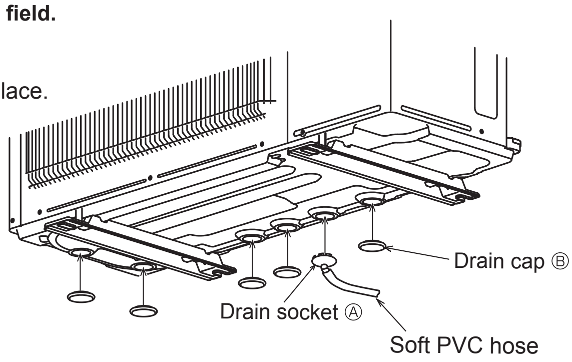
ⒶDrain socket ···············1 pc	ⒷDrain cap ····················6 pcs
	

2. Installation procedure for drain unit

☆**Prepare the adhesive in the field.**

Install the unit horizontally.

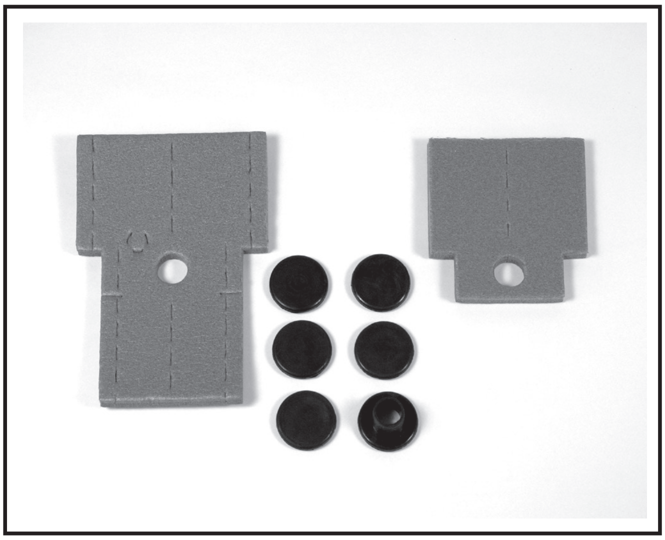
(1)Please perform the drain piping work only when draining from one place.
  ❶ Provide drain piping before indoor and outdoor piping connection.
  ❷ Attach the drain socket Ⓐ to one of the several drain holes. Fix the drain socket Ⓐ into the drain hole of the base using the catches to secure it in place.
  ❸ Connect the soft PVC hose I.D.15 ㎜ as shown in the illustration.
  ❹ Make sure to provide drain piping with a downhill grade for easy drain now.
(2)Glue the drain caps Ⓑ to close all the other unnecessary holes with the glue (Prepare in the field).
  <Note>Apply the glue securely, as the glue (Prepare in the field) will work as seal to prevent water from leaking.
  <Note>Use the adhesive for the rubber and metal.



Drain Socket

PAC-SG61DS-E

Photo



Descriptions

Cap the unnecessary holes on the outdoor unit (bottom) and centralize the drainage when using a drain pipe.

Applicable Models

- PUZ-ZM60VHA type
- PUZ-ZM71VHA type
- PUZ-ZM100VKA type
- PUZ-ZM125VKA type
- PUZ-ZM140VKA type
- PUZ-ZM100YKA type
- PUZ-ZM125YKA type
- PUZ-ZM140YKA type
- PUZ-ZM200YKA type
- PUZ-ZM250YKA type
- PUZ-M100VKA type
- PUZ-M125VKA type
- PUZ-M140VKA type
- PUZ-M100YKA type
- PUZ-M125YKA type
- PUZ-M140YKA type
- PUZ-M200YKA type
- PUZ-M250YKA type

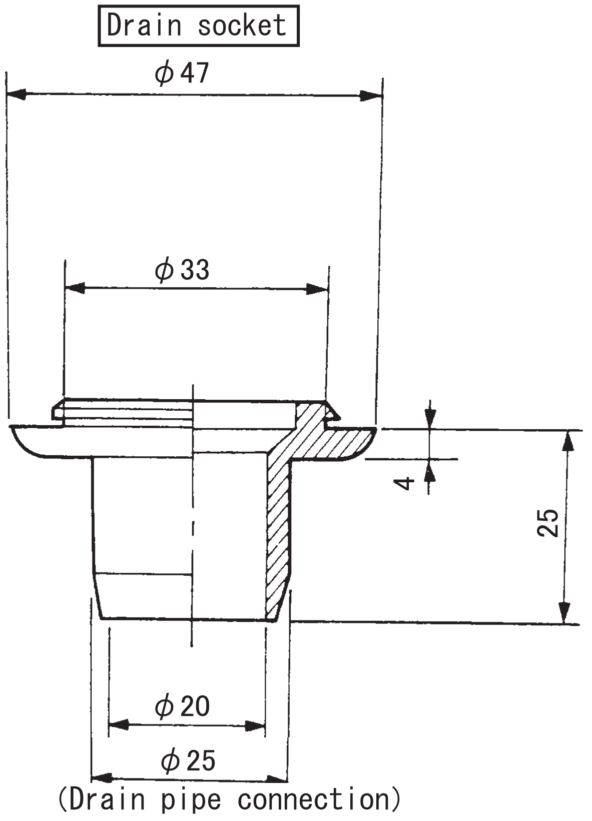
[R32 type]

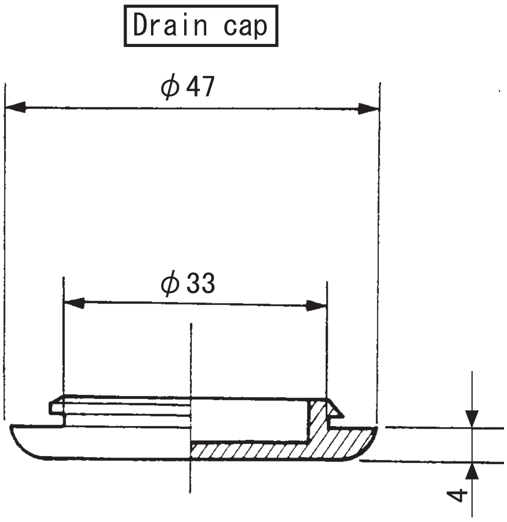
Specifications

Drain pipe	PVC VP-25 or vinyl hose (ID: 25mm)
Operating conditions	No freezing allowed (Never to be used in cold climates)
Material	EPT rubber
Component	Drain socket x 1, Drain cap x 5 Heat insulator x 3 (1 for liquid pipe, 1 large and 1 small insulator for gas pipe), Band x 8

Dimensions

Unit: mm

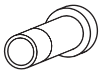
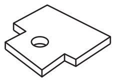
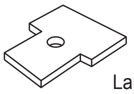
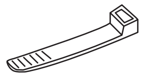




How to Use / How to Install

1 Accessory

Make sure that the following parts are put in the package.

①Drain socket ··········· 1 pcs	②Drain cap ············· 5 pcs	
		
③Insulation part (for liquid pipe) ···· 1 pc	④Insulation part (for gas pipe) ····· 1 pc	⑤Band ················ 8 pcs
 Small size	 Large size	

2. Installation method for drain unit

☆**Prepare the adhesive in the field.**

(1) Glue the drain socket ① to the hole that is used to centralize the drainage among several holes at the bottom of the unit with the glue (Prepare in the field).

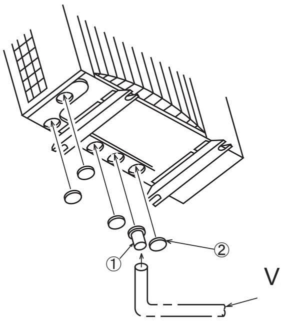
(2) Glue the drain caps ② to close all the other unnecessary holes with the glue (Prepare in the field).

〈Note〉 Apply the glue securely, as the glue (Prepare in the field) will work as seal to prevent water from leaking.

〈Note〉 Use the adhesive for the rubber and metal.

〈Recommended product〉 Supper X series made by CEMEDINE CO., Ltd.

(3) Insert a vinyl tube of which inner diameter 25 mm available commercially or a hard vinyl tube VP25 to the drain socket ①.



Vinyl tube or hard vinyl tube (VP25)

3. Installation method for insulation parts

Install the insulation parts to stop valve of the outdoor unit.

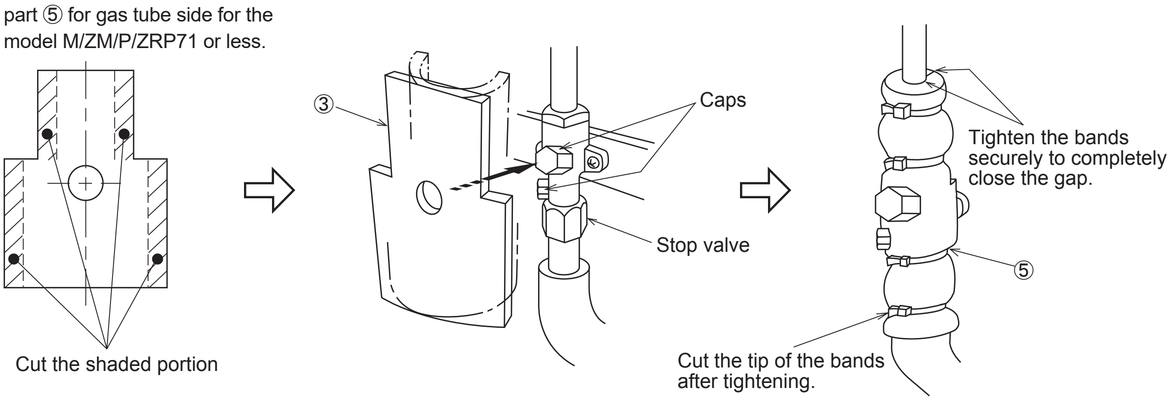
※The insulation parts should be installed after the tube has been connected to the unit.

※Some units are provided with a check valve near stop valve. In this case, cut the insulation parts ③ and ④ so that they will fit the stop valve properly.

(1) Install the insulation part ③ with 2 holes to the liquid pipe side so that the holes fit the valve caps and cover the stop valve entirely.

(2) Fix the insulation part ③ securely with bands ⑤.
Install the other insulation part ④ to the gas pipe side with the same procedure.

・Cut both ends of the insulation part ⑤ for gas tube side for the model M/ZM/P/ZRP71 or less.

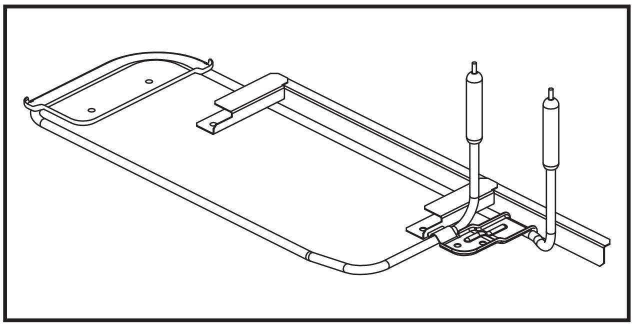

③
Caps
Stop valve
Tighten the bands securely to completely close the gap.
⑤
Cut the tip of the bands after tightening.

Cut the shaded portion

Base Heater

PAC-645BH-E

Figure



Descriptions

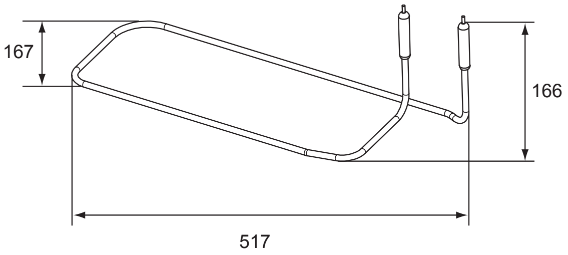
It is freeze-prevention heater for the outdoor unit of the air conditioner.

Applicable Models

- ■ MXZ-4F83VF2
- ■ MXZ-5F102VF2
- ■ MXZ-6F120VF2
- ■ PXZ-5F85VG

Dimensions

Unit: mm

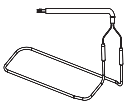
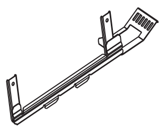
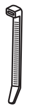
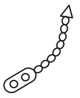


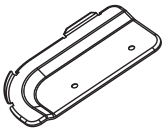
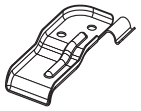
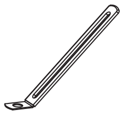
Specifications

Rated voltage	230 V 50 Hz
Power consumption	80 W

Components

This package includes the following parts besides this installation sheet.

① base heater	1	② heater guard*	1	③ screws 5 × 12	8	④ cable ties	2	⑤ fasteners	2
									

⑥ spec label	1	⑦ base heater support(1)	1	⑧ base heater support(2)	1	⑨ clamp	1
							

* Refer to 4 Mounting the heater guard

How to Use / How to Install

1 Preparation

It is easier to mount the base heater before installing the outdoor unit.

- Make sure that the main power supply to the unit is OFF.
- Do not lose the removed screws. Many screws will be removed to install the base heater.
- Eliminate dust, dirt, etc.

2 Preparation for mounting the base heater

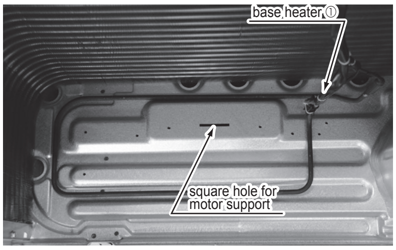
Before mounting the base heater, follow the procedures below to remove some parts from the outdoor unit.

NOTE: Turn OFF power supply before disassembly.

❶ Remove the screw fixing the service panel.
❷ Pull down the service panel and remove it.
❸ Remove the screws fixing the top panel.
❹ Remove the top panel.
❺ Remove the screws fixing the front panel.
❻ Remove the front panel.
❼ Removal of fan.
Remove the mounting screws for the fan. Pull the fan toward you to remove it.
❽ Removal of motor support.
Disconnect the connector of the fan motor, and remove mounting screw for the motor support.
Slightly pull the motor support toward you and lift it up to remove it.

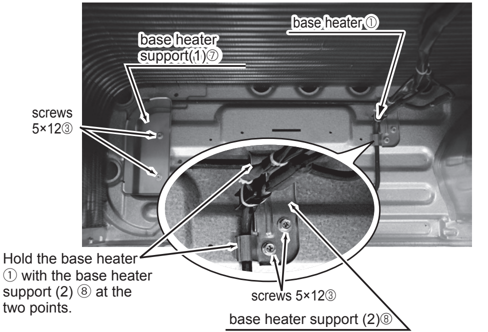
3 Mounting the base heater

❶ Temporarily place the base heater ① along the groove of the base as shown in the photo below.



❷ Fix the base heater ① with the base heater supports ⑦ , ⑧ and the screws 5 × 12 ③ .

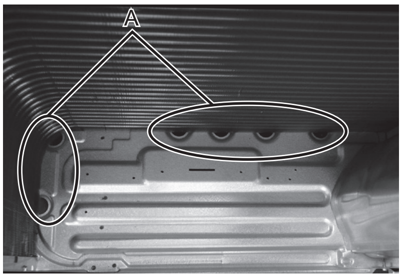
※ Be careful not to damage the lead wire and surface of the base heater with the edge of the sheet metal.



Position the base heater ① as shown in the photo above.

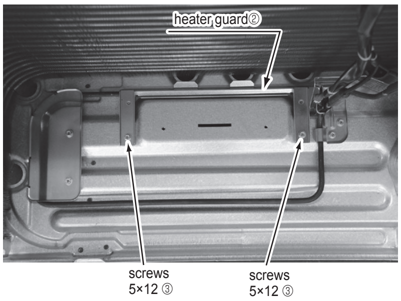
4 Mounting the heater guard

When you see the holes A as in the photo below, install the heater guard ② .

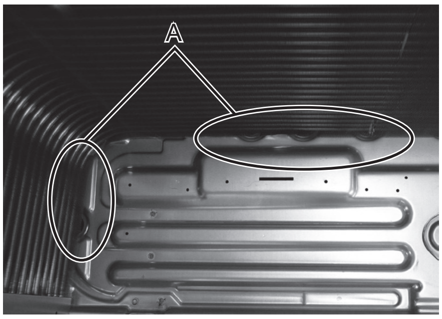


Place the heater guard ② as shown in the below photo. Fix them with the screws 5 × 12 ③ .

<After installation of the heater guard ② >



When the holes A are covered as in the right photo, do not install the heater guard ② .



5 Mounting the motor support

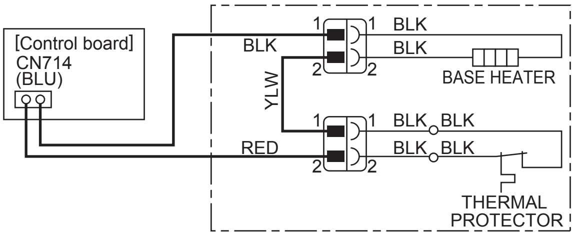
Mount the motor support.

- Make sure that the lead wire is not caught between the bottom of the motor support and the base.

6 Securing the lead wires

Wiring diagram

Connect the lead wires according to the wiring diagram on the right.

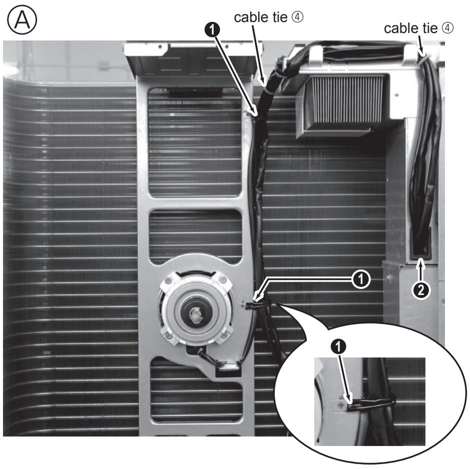


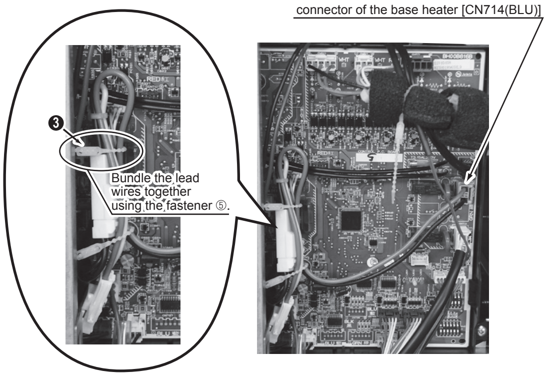
< In case of UNIT size H796 × W950 × D330 > ··· Ⓐ

❶ Bundle the lead wires of the base heater and the fan motor together with clamps.
- Secure the lead wires so they will not interfere with the propeller fan.

❷ Pass the lead wires through the rubber parts hole on the metal parts of the electrical box toward the electrical box.
※ Fix the lead wires between the motor support and the rubber parts hole with the cable ties ④ .

❸ After connecting the lead wires, bundle the extra lead wires together and secure them with the fastener ⑤ .
※ Arrange the lead wires so that they do not touch the service panel.



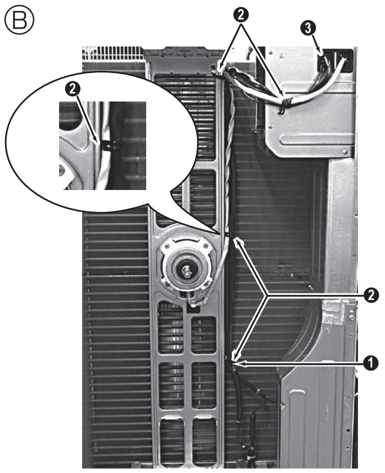

connector of the base heater [CN714(BLU)]
❸
Bundle the lead wires together using the fastener ⑤.

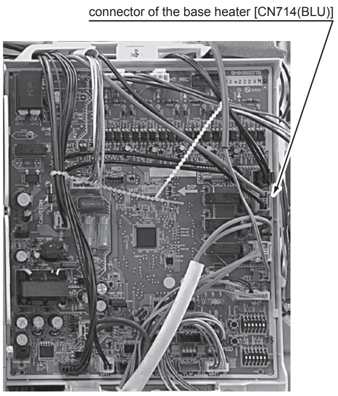
< In case of UNIT size H1048 × W950 × D330 > ··· Ⓑ

❶ Fix the clamp ⑨ on the right side of the motor support with screw 5 × 12 ③ .

❷ Bundle the lead wires of the base heater and the fan motor together with clamps.
- Secure the lead wires so they will not interfere with the propeller fan.

❸ Pass the lead wires through the rubber parts hole on the metal parts of the electrical box toward the electrical box.
※ Arrange the lead wires so that they do not touch the service panel.

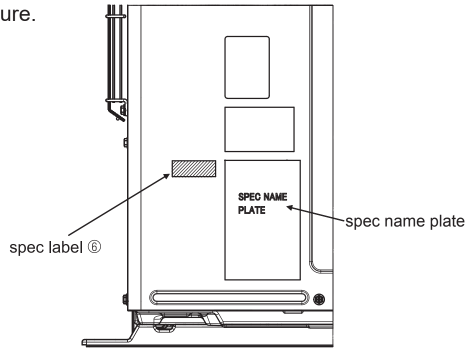




7 Attaching the spec label

Attach the spec label ⑥ by the spec name plate on the service panel.

※ This is an example picture.



8 Reinstallation

Make sure that the installation of the base heater and connections of the lead wires have been completed according to this installation sheet.
Install the removed parts in the reverse order of removal.

- Tighten the propeller fan with a torque of 5.7 ± 0.3N•m[4.2 ± 0.2ft-lbs](57 ± 3kgf•cm).
- Rotate the propeller fan and make sure that the base heater and the lead wires do not interfere with the movement of propeller fan.

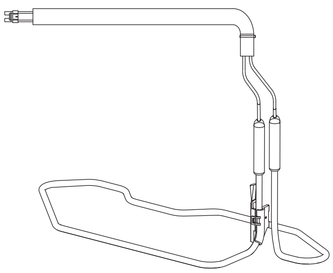
⚠WARNING

Mount the outer panels securely. Incomplete installation may result in electric shock and fire caused by dust, water, etc.

Base Heater

PAC-646BH-E

Figure



Descriptions

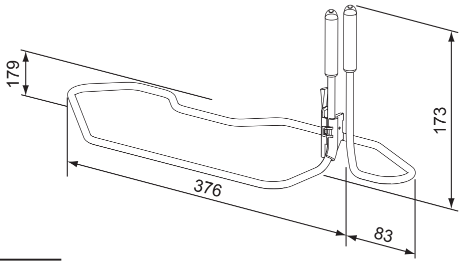
It is freeze-prevention heater for the outdoor unit of the air conditioner.

Applicable Models

- ■ MUZ-EF50VG
- ■ MXZ-3F54VF4
- ■ MXZ-3F68VF4
- ■ MXZ-4F72VF4
- ■ MXZ-4F80VF4
- ■ PXZ-4F75VG

Dimensions

Unit: mm

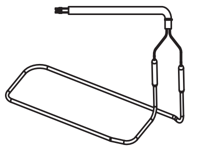
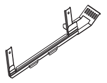
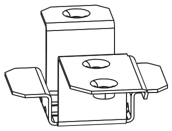
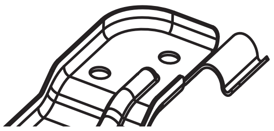
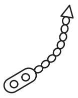
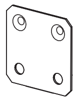


Specifications

Rated voltage	230 V 50 Hz
Power consumption	120 W

Components

This package includes the following parts besides this installation sheet.

1 Base heater	1	② Heater support U	2	③ Heater support L	2	④ Heater plate	1
							
⑤ Cable tie	3	⑥ Fastener	2	⑦ Earth plate	1	⑧ Earth wire	2
							
⑨ Screw M4 × 8	8	⑩ Self-drilling screw	2	⑪ Spec label	1	⑫ Cable strap	2

How to Use / How to Install

1 Preparation

It is easier to mount the base heater before installing the outdoor unit.

- Make sure that the main power supply to the unit is OFF.
- Do not lose the removed screws. Many screws will be removed to install the base heater.
- Eliminate dust, dirt, etc.

2 Preparation for mounting the base heater

Before mounting the base heater, follow the procedures below to remove some parts from the outdoor unit.

NOTE: Turn OFF power supply before disassembly.

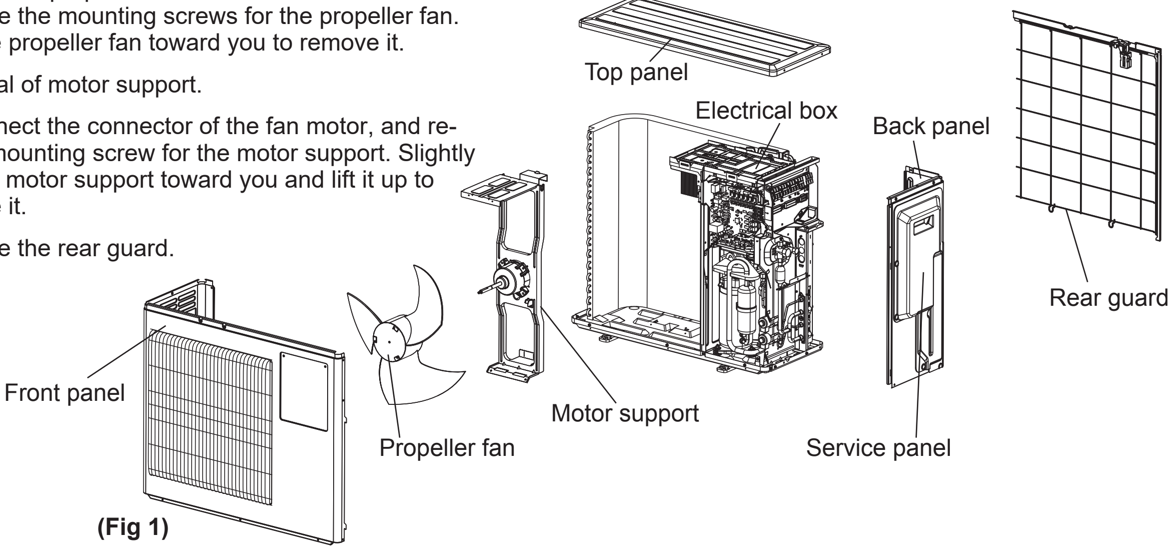
❶ Remove the screw fixing the service panel.
❷ Pull down the service panel and remove it.
❸ Remove the screws fixing the top panel.
❹ Remove the top panel.
❺ Remove the screws fixing the front panel.
❻ Remove the front panel.
❼ Removal of fan.
Remove the mounting screws for the fan. Pull the fan toward you to remove it.
❽ Removal of motor support.
Disconnect the connector of the fan motor, and remove mounting screw for the motor support.
Slightly pull the motor support toward you and lift it up to remove it.

3 Before installation

Before installation, follow the procedures below to remove some parts from the outdoor unit.
NOTE: Turn OFF power supply before disassembly.

1) Remove the screw fixing the service panel.
2) Remove the service panel.
3) Remove the screws fixing the top panel.
4) Remove the top panel.
5) Remove the screws fixing the front panel.
6) Remove the front panel.
7) Remove the screws fixing the back panel.
8) Remove the back panel.
9) Disconnect the connectors (CN791, CN792, CN712, CNTH2, CNTH1, CN797, CN63H, CNF1, and relay connector), and remove the electrical box.
10) Removal of propeller fan.
    Remove the mounting screws for the propeller fan. Pull the propeller fan toward you to remove it.
11) Removal of motor support.

    Disconnect the connector of the fan motor, and remove mounting screw for the motor support. Slightly pull the motor support toward you and lift it up to remove it.
12) Remove the rear guard.

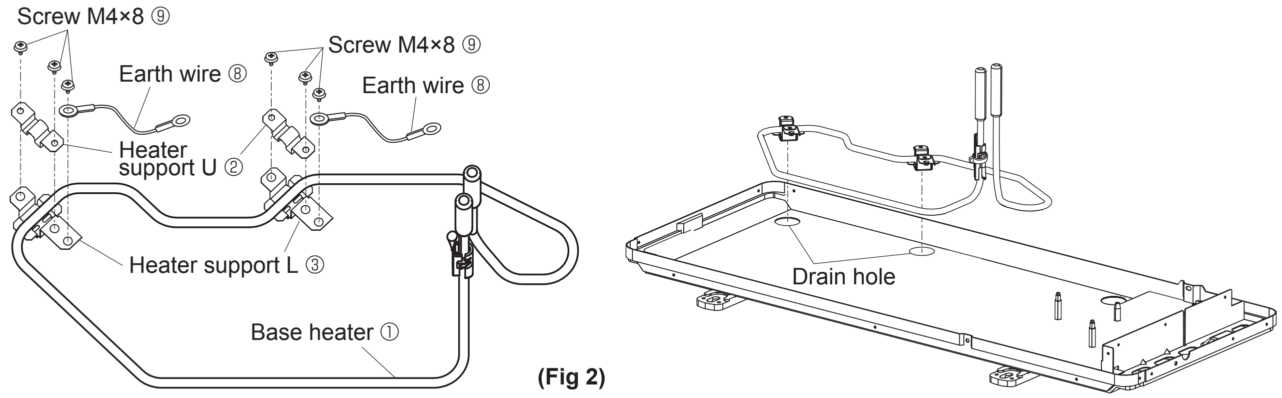


(Fig 1)

4 Preparation for mouting the base heater

1) Fix the heater support U ② and L ③ to the base heater ① with 2 screws M4 × 8 ⑨ (2 places) as shown in the Fig 2.
   (Place the heater supports as they fit in the drain holes).

2) Fix an earth wire ⑧ to each heater support L ③ with screw M4 × 8 ⑨ .



(Fig 2)

5 Installing the base heater

1) Hold the left lower side of the heat exchanger and slightly lift it up as shown in the Fig 3.

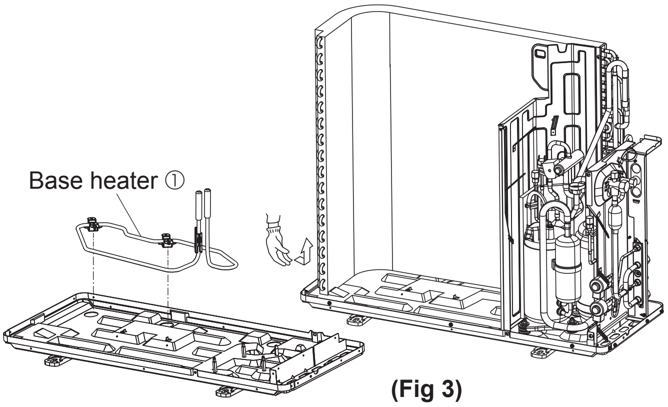
2) Insert the base heater ① under the heat exchanger, and align it with the groove on the base. Confirm that the heater supports are placed as they fit in the drain holes.

3) Mount the motor support.
NOTES:
- ● Take out the earth wire to the left side of the motor support.
- ● Make sure that the lead wire is not caught between the bottom of the motor support and the base.

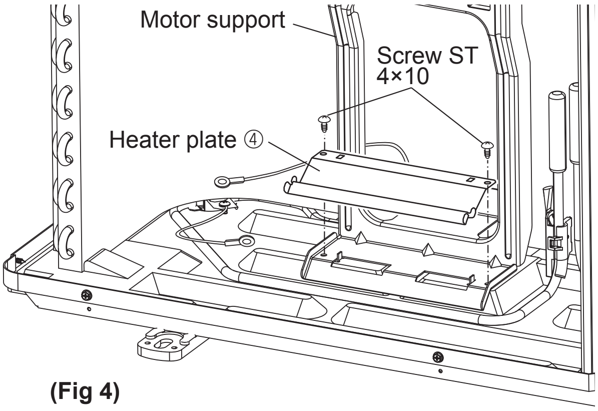
4) Fix the front side of the base heater ① with the heater plate ④ .
Fix the heater plate ④ and motor support with the 2 screws that were installed to fix the motor support as shown in the Fig 4.

5) Screw the earth plate ⑦ on the motor support by self-drilling screw ⑩ as shown in the Fig 5.

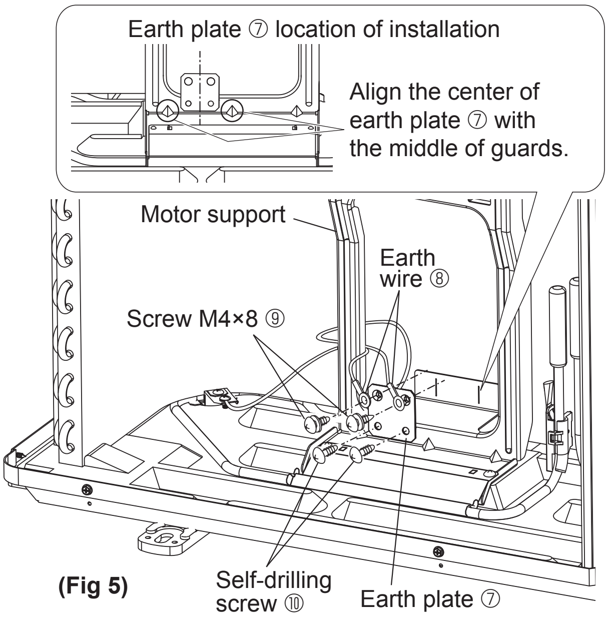
6) Fix the 2 earth wires ⑧ which are attached to the heater support to the earth plate ⑦ .



(Fig 3)



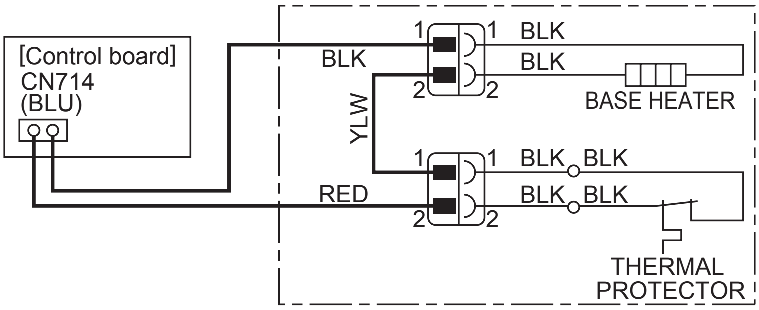
(Fig 4)


Earth plate ⑦ location of installation
Align the center of earth plate ⑦ with the middle of guards.
Motor support
Earth wire ⑧
Screw M4×8 ⑨
Self-drilling screw ⑩
Earth plate ⑦

(Fig 5)

6 Securing the lead wires

Wiring diagram
Connect the lead wires according to the wiring diagram on the right.



1) Bundle the lead wires of the base heater and the fan motor together, and fix 2 positions with the cable ties ⑤ .
   - ● Secure the lead wires so they will not interfere with the propeller fan.
   - ● Hook the lead wire of the fan motor to the hook on the motor support and the ditch.

2) Reinstall the rear guard.

3) Attach the 2 cable straps ⑫ on the separator as shown in Fig 6.
   - ● The holes to mount the cable straps ⑫ are covered with aluminum tape.
     Remove the tape before attaching the cable straps ⑫ .

4) Hook all the lead wires in the notch of the separator.

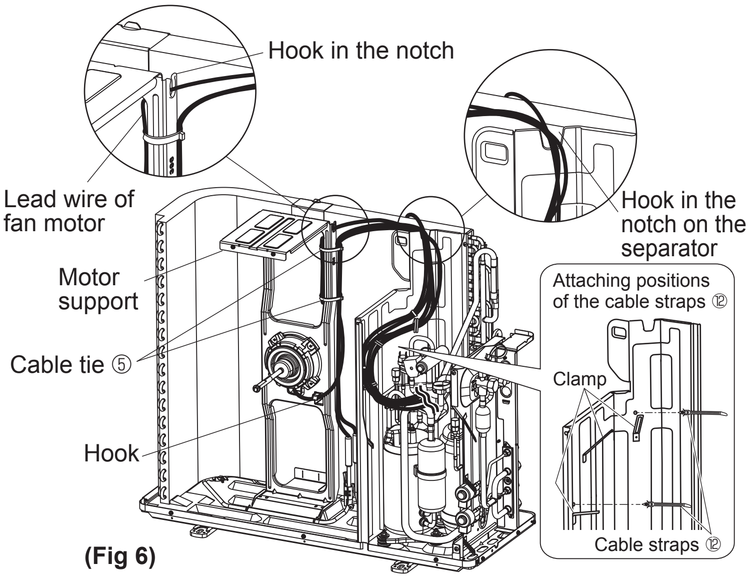
5) Secure the lead wire of the base heater with the 2 cable straps ⑫ .

6) Secure other lead wires with 3 clamps on the separator.

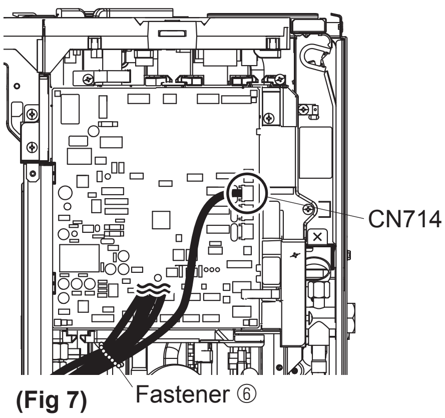
7) Reinstall the electrical box.
   Reconnect the connectors.

8) Connect the lead wire of the base heater to the connector CN714 on the controller circuit board as show in the Fig 7.

9) Bundle all the connectors except CN791, CN792, and relay connector with the fastener ⑥.



(Fig 6)



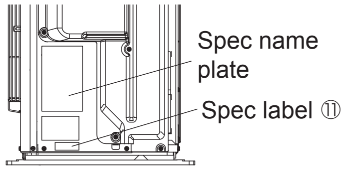
(Fig 7)

7 After installation

1) Reinstall the propeller fan, back panel, front panel, top panel, and service panel.

2) Attach the spec label ⑪ below the spec name plate.

3) Turn on the breaker, and perform test run to confirm that it works properly.
   * Do not install either drain socket which is provided with the outdoor unit or purchased separately.
   Inside of the drain hose and/or the drain socket may freeze if the drain socket is installed.



(Fig 8)

- Tighten the propeller fan with a torque of 3.4 $^{0}_{-0.5}$ N•m [2.5 $^{0}_{-0.4}$ ft-lbs](34 $^{0}_{-5}$ kgf•cm).
- Rotate the propeller fan and make sure that the base heater and the lead wires do not interfere with the movement of propeller fan.

⚠ WARNING

Mount the outer panels securely. Incomplete installation may result in electric shock and fire caused by dust, water, etc.

Centralized Drain Pan

PAC-SG63DP-E

Photo

Descriptions

A drain pan for the drain water generated from the outdoor unit.

Applicable Models

- ■ PUZ-ZM35VKA type
- ■ PUZ-ZM50VKA type

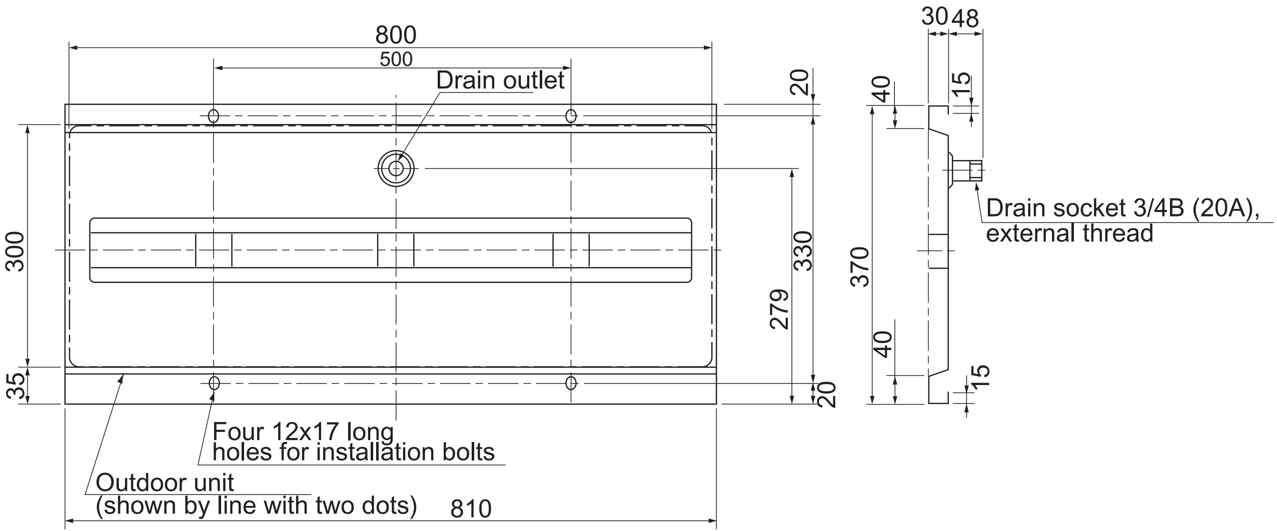
[R32 type]

Specifications

Drain outlet size		R3/4 screw (20A)
Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Surface treatment	Acrylic resin coating
	Material	Alloy hot-dip zinc-coated carbon steel sheet (t1.6)
Weight		6.3kg
Mounting bolt (locally prepared)		M10 (or W3/8), length: 48 mm or less extrusion from drain pan's under surface

Dimensions

Unit: mm


800
500
Drain outlet
20
40
30
48
15
300
330
279
370
40
15
35
20
Drain socket 3/4B (20A), external thread
Four 12x17 long holes for installation bolts
Outdoor unit (shown by line with two dots)
810

Front View of Unit

How to Use / How to Install

1 Installation Method

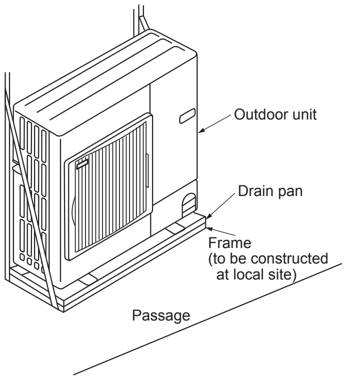
(1) When installing on installation frame

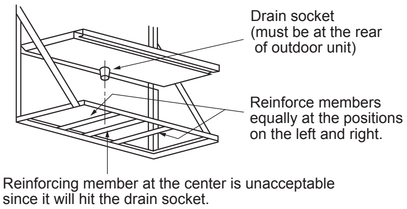
1) The installation frame must have structure and strength that can sufficiently support the outdoor unit and drain pan. Securely install the outdoor unit and drain pan so that they cannot fall or drop as a result of earthquake, strong wind, etc.

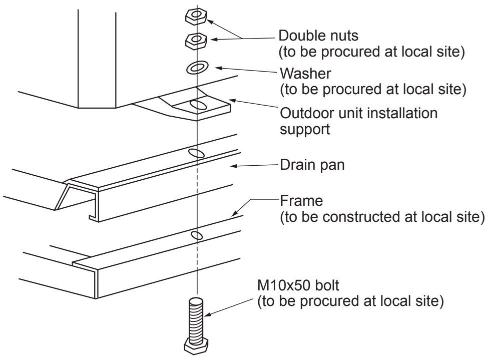
2) The drain socket of drain pan is at the center in the longitudinal direction. When constructing the installation frame, be careful that no part of the frame interferes with the socket.

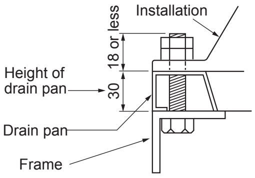
3) The drain pan is tightened with the outdoor unit. Punch approx. ϕ13 holes in the installation frame at pitches to install the outdoor unit.

4) Fix the frame, drain pan and outdoor unit together to join them firmly (at the 4 points). The bolt length must be no more than 60 mm.



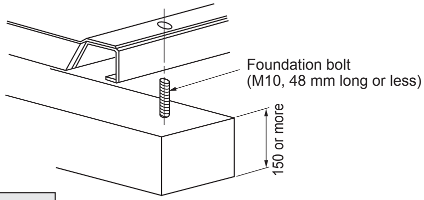

Drain socket (must be at the rear of outdoor unit)
Reinforce members equally at the positions on the left and right.
Reinforcing member at the center is unacceptable since it will hit the drain socket.

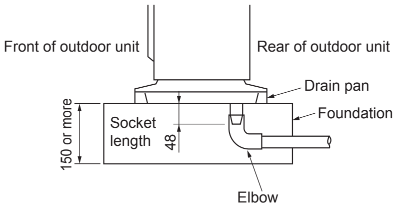

Double nuts (to be procured at local site)
Washer (to be procured at local site)
Outdoor unit installation support
Drain pan
Frame (to be constructed at local site)
M10x50 bolt (to be procured at local site)



(2) When installing on foundation

- Since concentrated drain disposal is necessary, make the foundation at least 150 mm high measured from the ground as shown in the figure below.
  If it is less than 150 mm, drain piping will not be possible because the drain socket protrudes 48 mm.





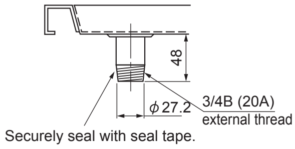
2 Drain Piping

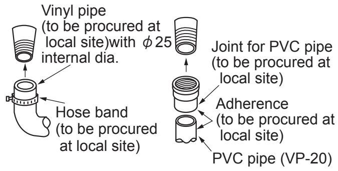
(1) When connecting steel pipe:
Connect 3/4B internally threaded pipe.

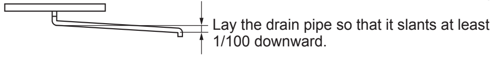
(2) When connecting vinyl pipe (soft):
Use a ϕ25 mm internal dia. pipe, and fix the connected section with a hose band, etc.

(3) When connecting PVC pipe (hard):
Use VP-20 and connect with a joint for PVC pipe.

※In all cases, seal the socket threaded section securely with a seal tape, etc., and make sure that water does not leak.




Vinyl pipe (to be procured at local site)with ϕ25 internal dia.
Hose band (to be procured at local site)
Joint for PVC pipe (to be procured at local site)
Adherence (to be procured at local site)
PVC pipe (VP-20)


Lay the drain pipe so that it slants at least 1/100 downward.

Centralized Drain Pan

PAC-SG64DP-E

Photo

Descriptions

A drain pan for the drain water generated from the outdoor unit.

Applicable Models

- ■ PUZ-ZM60VHA type
- ■ PUZ-ZM71VHA type

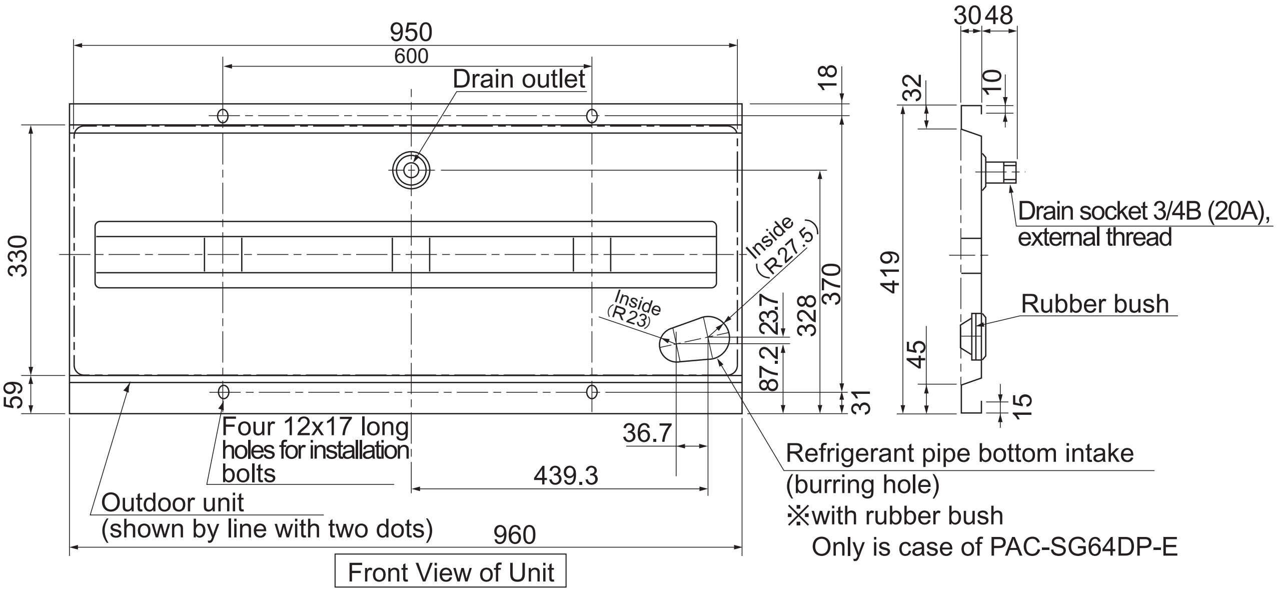
[R32 type]

Specifications

Drain outlet size		R3/4 screw (20A)
Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Surface treatment	Acrylic resin coating
	Material	Alloy hot-dip zinc-coated carbon steel sheet (t1.6)
Weight		7.8kg
Mounting bolt (locally prepared)		M10 (or W3/8), length: 60 mm or less extrusion from drain pan's under surface

Dimensions

Unit: mm

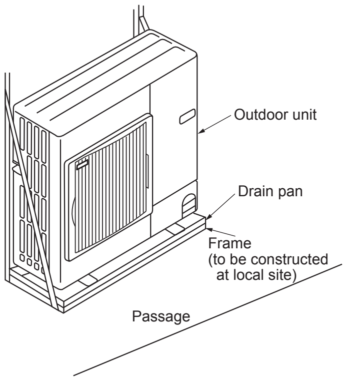

950
600
Drain outlet
18
330
59
Inside (R27.5)
Inside (R23)
23.7
87.2
328
370
31
Four 12x17 long holes for installation bolts
36.7
439.3
Outdoor unit (shown by line with two dots)
960
Front View of Unit
30
48
32
10
419
45
15
Drain socket 3/4B (20A), external thread
Rubber bush
Refrigerant pipe bottom intake (burring hole)
※with rubber bush
Only is case of PAC-SG64DP-E

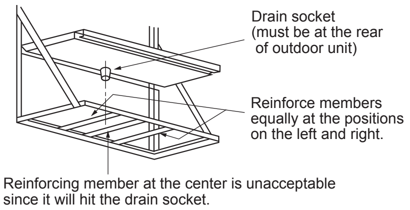
How to Use / How to Install

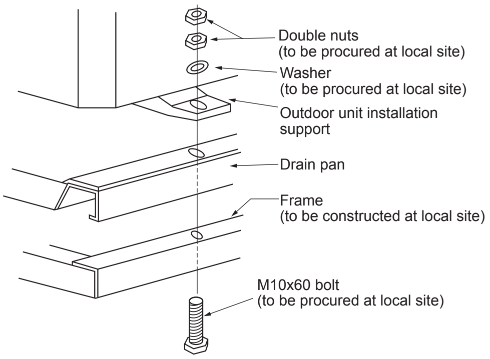
1 Installation Method

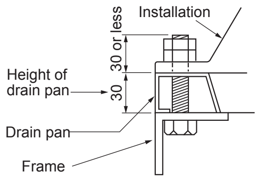
(1) When installing on installation frame

1) The installation frame must have structure and strength that can sufficiently support the outdoor unit and drain pan. Securely install the outdoor unit and drain pan so that they cannot fall or drop as a result of earthquake, strong wind, etc.
2) The drain socket of drain pan is at the center in the longitudinal direction. When constructing the installation frame, be careful that no part of the frame interferes with the socket.
3) The drain pan is tightened with the outdoor unit. Punch approx. ϕ13 holes in the installation frame at pitches to install the outdoor unit.
4) Fix the frame, drain pan and outdoor unit together to join them firmly (at the 4 points). The bolt length must be no more than 60 mm.



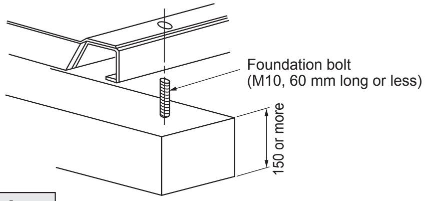

Drain socket
(must be at the rear of outdoor unit)
Reinforce members equally at the positions on the left and right.
Reinforcing member at the center is unacceptable since it will hit the drain socket.

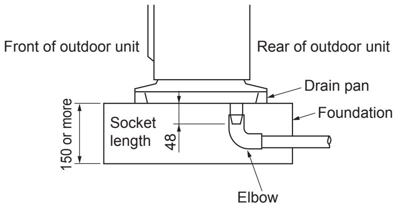

Double nuts
(to be procured at local site)
Washer
(to be procured at local site)
Outdoor unit installation support
Drain pan
Frame
(to be constructed at local site)
M10x60 bolt
(to be procured at local site)



(2) When installing on foundation

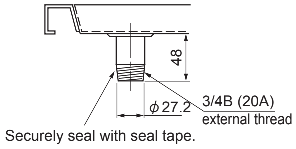
- Since concentrated drain disposal is necessary, make the foundation at least 150 mm high measured from the ground as shown in the figure below.
  If it is less than 150 mm, drain piping will not be possible because the drain socket protrudes 48 mm.

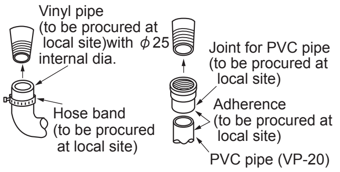


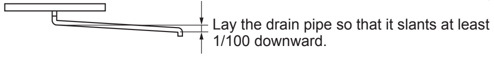


2 Drain Piping

(1) When connecting steel pipe:
Connect 3/4B internally threaded pipe.
(2) When connecting vinyl pipe (soft):
Use a ϕ25 mm internal dia. pipe, and fix the connected section with a hose band, etc.
(3) When connecting PVC pipe (hard):
Use VP-20 and connect with a joint for PVC pipe.
※In all cases, seal the socket threaded section securely with a seal tape, etc., and make sure that water does not leak.




Vinyl pipe
(to be procured at local site)with ϕ25 internal dia.
Hose band
(to be procured at local site)
Joint for PVC pipe
(to be procured at local site)
Adherence
(to be procured at local site)
PVC pipe (VP-20)

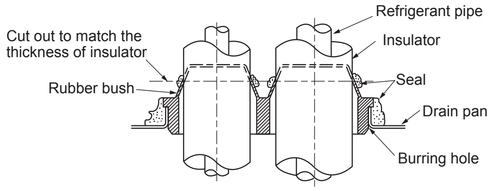

Lay the drain pipe so that it slants at least 1/100 downward.

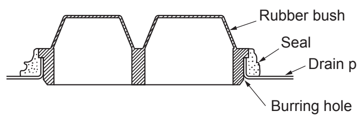
3 Refrigerant Piping

- The refrigerant pipe can be laid in from four directions: front, right, rear and bottom. When laying, be sure to perform the following:

(1) Piping from the bottom:
Cut out the rubber bush to match the thickness of refrigerant pipe insulator. Pass the refrigerant pie through the rubber bush and fit it into the burring hole. Seal it with adhesive that is equivalent to Cemedyne 366 (to be procured at local site) to prevent water leak.

(2)Piping from other directions:
Block the burring hole of the bottom piping section in the drain pan with rubber bush. Seal it with adhesive that is equivalent to Cemedyne 366 (to be procured at local site) to prevent water leak.





Centralized Drain Pan **PAC-SH97DP-E**

Photo

Descriptions

A drain pan for the drain water generated from the outdoor unit.

Applicable Models

- ■ PUZ-ZM100VKA type
- ■ PUZ-ZM125VKA type
- ■ PUZ-ZM140VKA type
- ■ PUZ-ZM100YKA type
- ■ PUZ-ZM125YKA type
- ■ PUZ-ZM140YKA type
- ■ PUZ-ZM200YKA type
- ■ PUZ-ZM250YKA type
- ■ PUZ-M100VKA type
- ■ PUZ-M125VKA type
- ■ PUZ-M140VKA type
- ■ PUZ-M100YKA type
- ■ PUZ-M125YKA type
- ■ PUZ-M140YKA type
- ■ PUZ-M200YKA type
- ■ PUZ-M250YKA type

[R32 type]

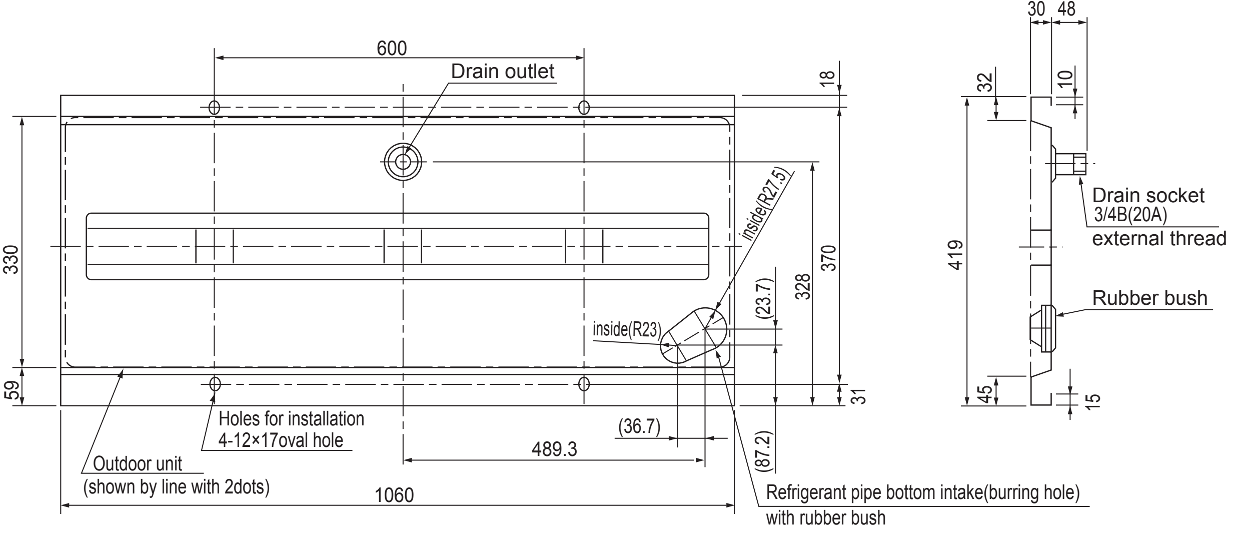
Specifications

Drain outlet size		R3/4 screw (20A)
Exterior	Color (Munsell)	Ivory (3.0Y 7.8/1.1)
	Surface treatment	Acrylic resin coating
	Material	Alloy hot-dip zinc-coated carbon steel sheet (t1.6)
Weight		8.8kg
Mounting bolt (locally prepared)		M10 (or W3/8), length: 60 mm or less extrusion from drain pan's under surface

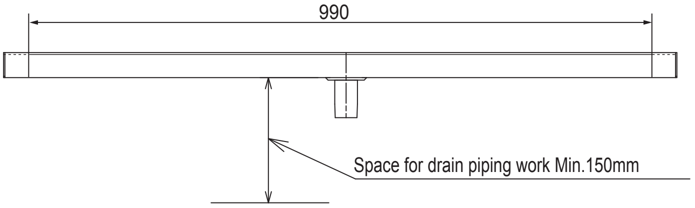
Dimensions

Unit: mm

Air intake side



Air outlet side



How to Use / How to Install

1 Installation Method

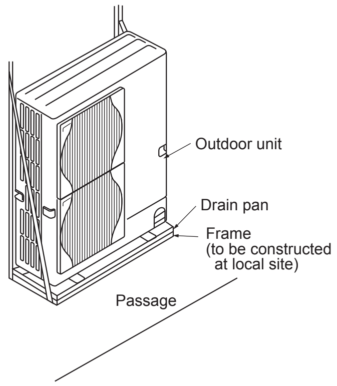
(1) When installing on installation frame

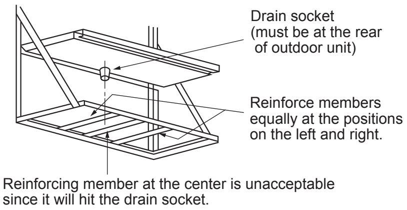
1) The installation frame must have structure and strength that can sufficiently support the outdoor unit and drain pan. Securely install the outdoor unit and drain pan so that they cannot fall or drop as a result of earthquake, strong wind, etc.

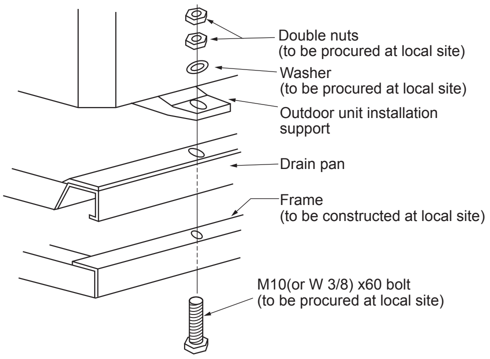
2) The drain socket of drain pan is at the center in the longitudinal direction. When constructing the installation frame, be careful that no part of the frame interferes with the socket.

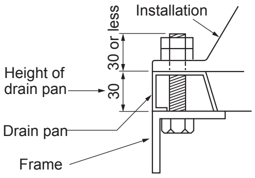
3) The drain pan is tightened with the outdoor unit. Punch approx. ϕ13 holes in the installation frame at pitches to install the outdoor unit.

4) Fix the frame, drain pan and outdoor unit together to join them firmly (at the 4 points). The bolt length must be no more than 60 mm.




Drain socket
(must be at the rear of outdoor unit)
Reinforce members equally at the positions on the left and right.
Reinforcing member at the center is unacceptable since it will hit the drain socket.


Double nuts
(to be procured at local site)
Washer
(to be procured at local site)
Outdoor unit installation support
Drain pan
Frame
(to be constructed at local site)
M10(or W 3/8) x60 bolt
(to be procured at local site)



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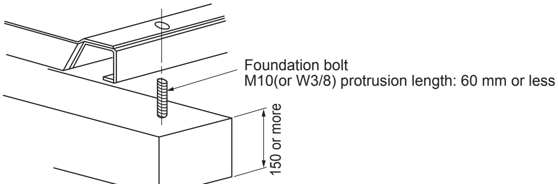
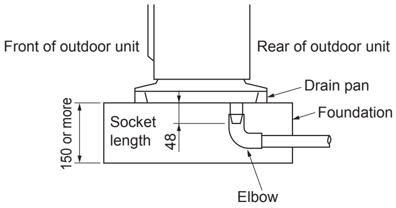




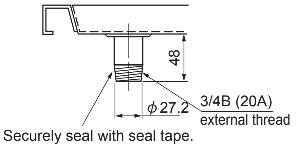
2 Drain Piping

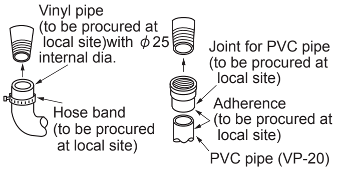
(1) When connecting steel pipe:
Connect 3/4B internally threaded pipe.

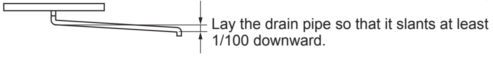
(2) When connecting vinyl pipe (soft):
Use a ϕ25 mm internal dia. pipe, and fix the connected section with a hose band, etc.

(3) When connecting PVC pipe (hard):
Use VP-20 and connect with a joint for PVC pipe.

※In all cases, seal the socket threaded section securely with a seal tape, etc., and make sure that water does not leak.




Vinyl pipe
(to be procured at local site)with ϕ25 internal dia.
Hose band
(to be procured at local site)
Joint for PVC pipe
(to be procured at local site)
Adherence
(to be procured at local site)
PVC pipe (VP-20)


Lay the drain pipe so that it slants at least 1/100 downward.

3 Refrigerant Piping

- The refrigerant pipe can be laid in from four directions: front, right, rear and bottom. When laying, be sure to perform the following:

(1) Piping from the bottom:
Cut out the rubber bush to match the thickness of refrigerant pipe insulator. Pass the refrigerant pie through the rubber bush and fit it into the burring hole. Seal it with adhesive that is equivalent to Cemedyne 366 (to be procured at local site) to prevent water leak.

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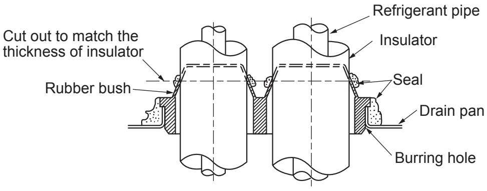
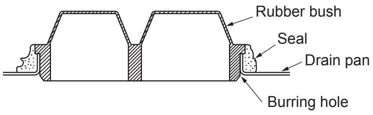
Block the burring hole of the bottom piping section in the drain pan with rubber bush. Seal it with adhesive that is equivalent to Cemedyne 366 (to be procured at local site) to prevent water leak.





M-NET Converter

PAC-SJ95MA-E

Descriptions

A-control Mr. SLIM models can be connected to "M-NET" through optional M-NET converter so that they can be monitored / controlled effectively and meticulously.

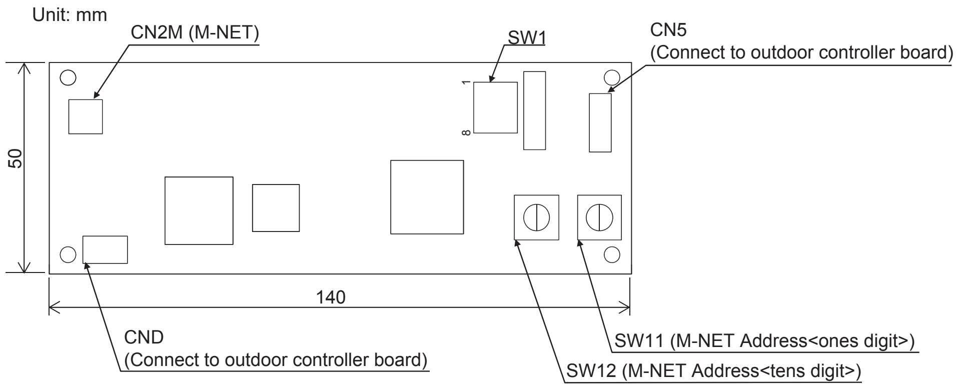
Applicable Models

- ■ PUZ-ZM60,71VHA
- ■ PUZ-ZM100,125,140VKA
- ■ PUZ-ZM100,125,140YKA
- ■ PUZ-ZM200,250YKA
- ■ PUZ-M100,125,140VKA
- ■ PUZ-M100,125,140YKA
- ■ PUZ-M200,250YKA
- ■ [R32 type]

Specifications

Power	Supplied from control board
Power consumption	0.6W (at 5V DC, 12V DC)
Operating conditions	Mounted inside the electrical utility box of outdoor unit. (Temperature: -20 to 60 ℃, humidity: 90% or less (no condensation))
Weight	0.3kg

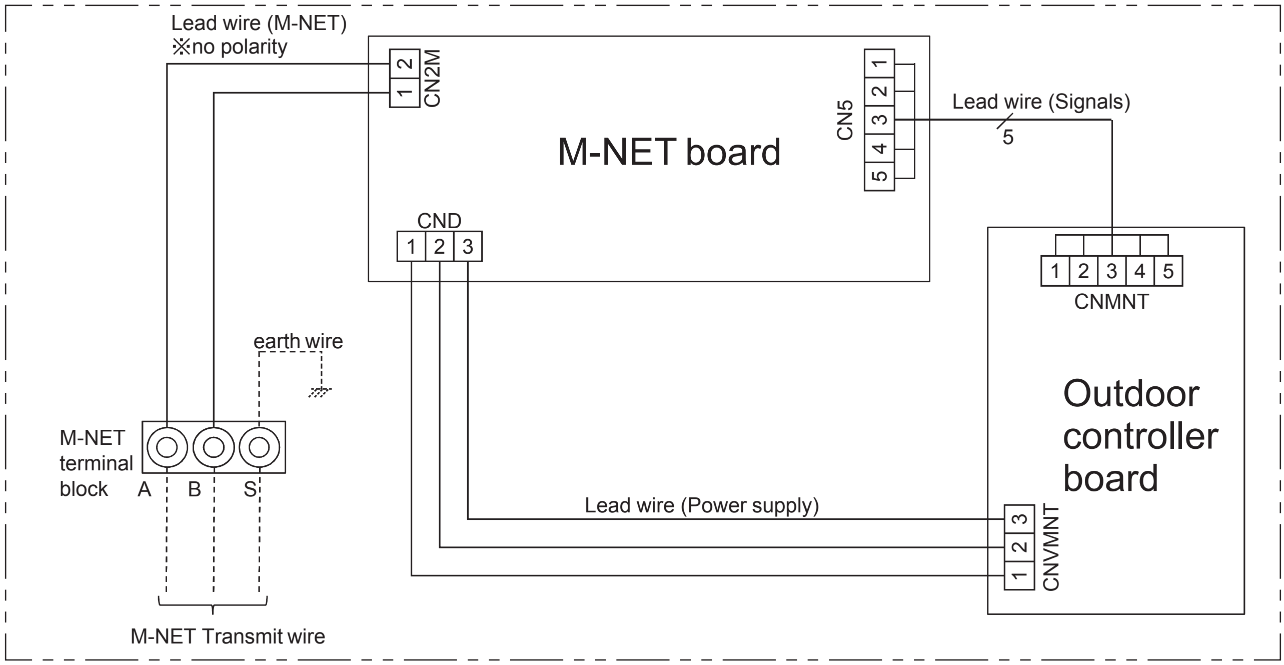
Dimensions


Unit: mm
CN2M (M-NET)
SW1
CN5
(Connect to outdoor controller board)
1
8
50
140
CND
(Connect to outdoor controller board)
SW11 (M-NET Address<ones digit>)
SW12 (M-NET Address<tens digit>)

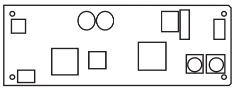
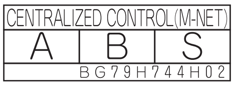
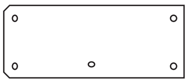
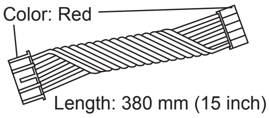
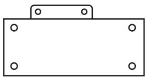
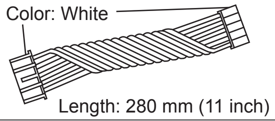
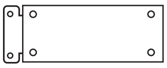
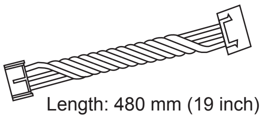
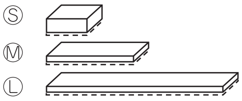
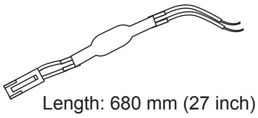
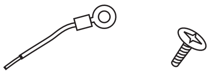
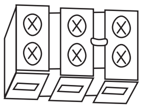
How to Use / How to Install

1. Wiring diagram

The electrical box of outdoor unit.



2. Parts List

No.	Description	Figure	Q'ty	No.	Description	Figure	Q'ty
①	M-NET board (with insulation sheets and supports)		1	⑨	Label		1
②	Plate1 (For mounting M-NET board)		1	⑩	Lead wire-A (5 wires)		1
③	Plate2 (For mounting M-NET board)		1	⑪	Lead wire-B (5 wires)		1
④	Plate3 (For mounting M-NET board)		1	⑫	Lead wire-C (3 wires)		1
⑤	Insulation sheets Ⓢ,Ⓜ,Ⓛ		Ⓢ 1 Ⓜ 1 Ⓛ 1	⑬	Lead wire-D (2 wires)		1
⑥	Terminal screw (M3×20)		2	⑭	Ground wire and screw (M4×8)		1 each
⑦	Terminal block (M-NET)		1	⑮	Fastener		2
⑧	Terminal screw (M3×20)		1				

3. Switch setting

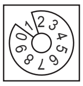
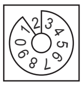
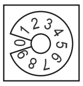
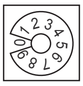
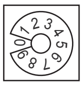
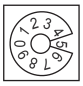
■ M-NET address setting

Make M-NET setting and refrigerant address setting on only outdoor unit.
There is no address settings for outdoor unit and remote controller like City Multi system.
The M-NET address setting for taking into centralized control system should be done only to the outdoor unit.
The address set number should be 1-50 same as for City Multi indoor unit and make set in order of number for the same group.

	A control slim	City Multi (M-NET)
Indoor unit	—	1 - 50
Outdoor unit	1 - 50	51 - 100
Remote controller	—	101 - 150
System controller	201 - 250	
Group remote controller	201 - 250	

The setting should be done by rotary switches SW11 (ones digit) and SW12 (tens digit) on M-NET board of the outdoor unit. (Factory settings are all zero.)

[Example]

M-NET address No.		1	2		50
Switch setting	SW11 (ones digit)			——	
	SW12 (tens digit)				

M-NET Converter

PAC-SJ96MA-E

Descriptions

A-control Mr. SLIM models can be connected to "M-NET" through optional M-NET converter so that they can be monitored / controlled effectively and meticulously.

Applicable Models

- ■ PUZ-ZM35VKA type
- ■ PUZ-ZM50VKA type

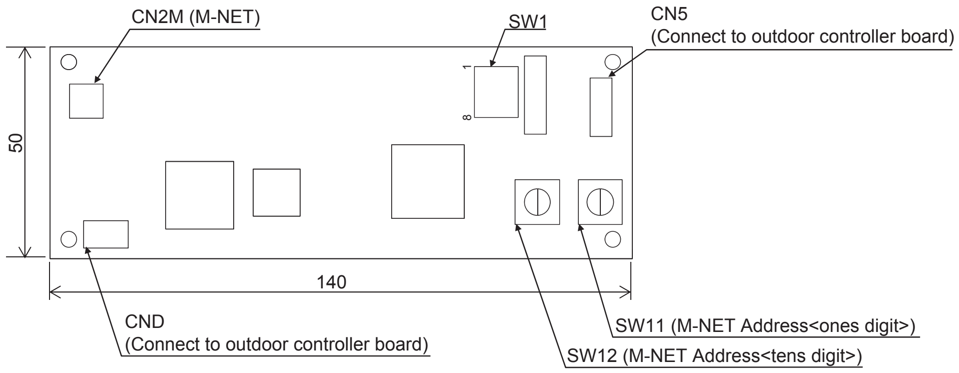
[R32 type]

Specifications

Power	Supplied from control board
Power consumption	0.6W (at 5V DC, 12V DC)
Operating conditions	Mounted inside the electrical utility box of outdoor unit. (Temperature: -20 to 60 ℃ , humidity: 90% or less (no condensation))
Weight	0.3kg

Dimensions

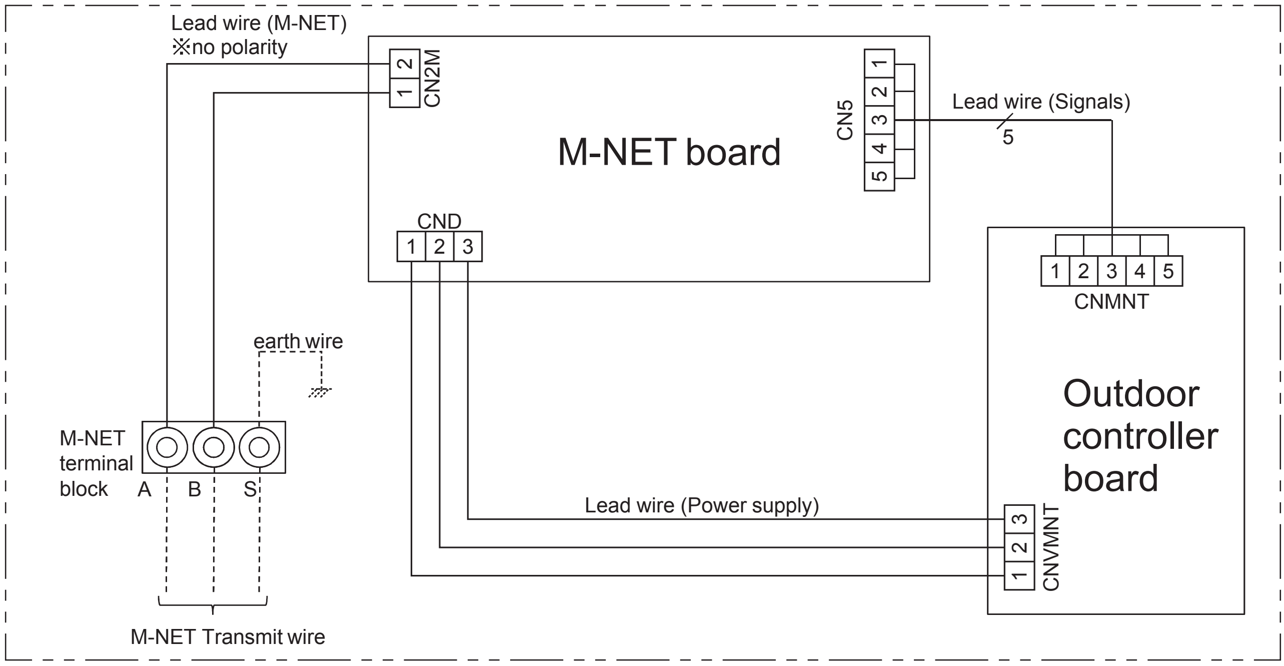
Unit: mm


CN2M (M-NET)
SW1
CN5
(Connect to outdoor controller board)
1
8
50
140
CND
(Connect to outdoor controller board)
SW11 (M-NET Address<ones digit>)
SW12 (M-NET Address<tens digit>)

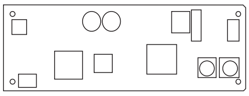
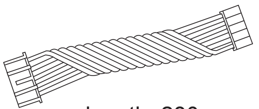
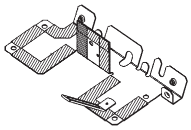
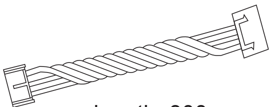
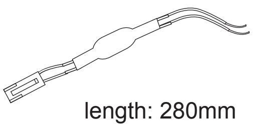
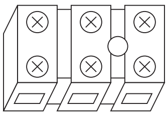
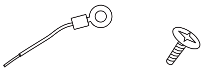
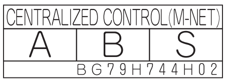
How to Use / How to Install

1. Wiring diagram

The electrical box of outdoor unit.



2. Parts List

No.	Description	Figure	Q'ty	No.	Description	Figure	Q'ty
①	M-NET board (with insulation sheets and supports)		1	⑦	Lead wire (5 wires)	 length: 280mm	1
②	Plate (For mounting M-NET board)		1	⑧	Lead wire (3 wires)	 length: 300mm	1
③	Screw (M4×8)		2	⑨	Lead wire (2 wires)	 length: 280mm	1
④	Terminal block (M-NET)		1	⑩	Ground wire and screw (M4×8)		1 each
⑤	Terminal screw (M3×20)		1	⑪	Fastener		2
⑥	Label		1				

3. Switch setting

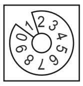
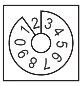
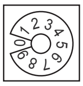
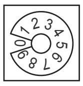
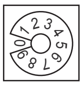
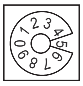
■ M-NET address setting

Make M-NET setting and refrigerant address setting on only outdoor unit.
There is no address settings for outdoor unit and remote controller like City Multi system.
The M-NET address setting for taking into centralized control system should be done only to the outdoor unit.
The address set number should be 1-50 same as for City Multi indoor unit and make set in order of number for the same group.

	A control slim	City Multi (M-NET)
Indoor unit	—	1 - 50
Outdoor unit	1 - 50	51 - 100
Remote controller	—	101 - 150
System controller	201 - 250	
Group remote controller	201 - 250	

The setting should be done by rotary switches SW11 (ones digit) and SW12 (tens digit) on M-NET board of the outdoor unit. (Factory settings are all zero.)

[Example]

M-NET address No.		1	2		50
Switch setting	SW11 (ones digit)			——	
	SW12 (tens digit)				

Control / Service Tool

PAC-SK15MA-E

Descriptions

A-control Mr. SLIM models can be connected to "M-NET" through optional M-NET converter so that they can be monitored / controlled effectively and meticulously.

Applicable Models

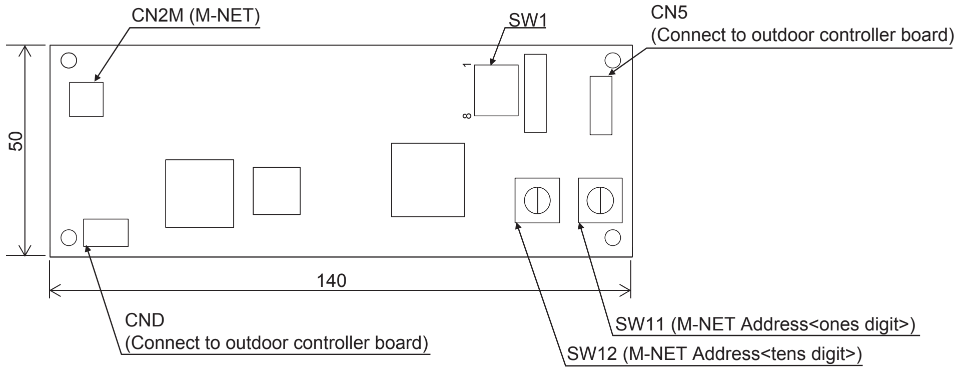
- ■ PUZ-ZM35VKA2
- ■ PUZ-ZM50VKA2

Specifications

Power	Supplied from control board
Power consumption	0.6W (at 5V DC, 12V DC)
Operating conditions	Mounted inside the electrical utility box. (Temperature: -20 to 60℃ , humidity: 90% or less (no condensation)
Weight	0.68kg (without package)

Dimensions

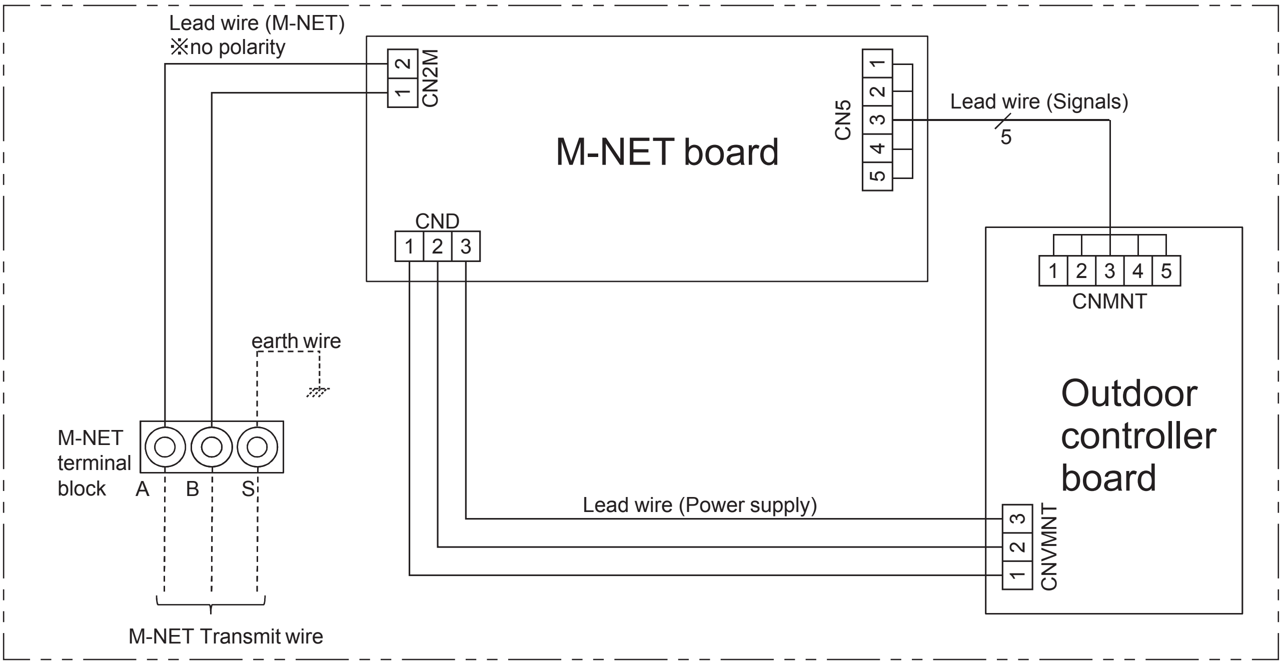
Unit: mm


CN2M (M-NET)
SW1
CN5
(Connect to outdoor controller board)
1
8
50
140
CND
(Connect to outdoor controller board)
SW11 (M-NET Address<ones digit>)
SW12 (M-NET Address<tens digit>)

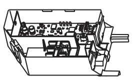
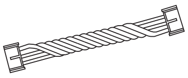
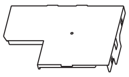
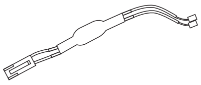
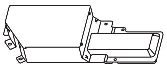
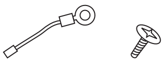
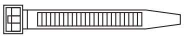
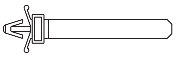
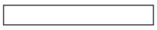
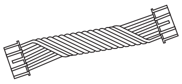
How to Use / How to Install

1. Wiring diagram

The electrical box of outdoor unit.



2. Parts List

No.	Part name	Figure	Q'ty	No.	Part name	Figure	Q'ty
①	M-NET case (bottom) (with M-NET board, M-NET terminal block, and cable bushing)		1	⑧	Lead wire for power supply (3 poles)		1
②	M-NET case (top)		1	⑨	Lead wire for M-NET (2 poles)		1
③	M-NET cover		1	⑩	Earth wire and screw (M4×8)		1 each
④	Screw (M4×10) (not serrated)		2	⑪	Fastener		1
⑤	Screw (M4×10) (serrated)		4	⑫	Cable tie		1
⑥	Cable band		1	⑬	White cushioning material		1
⑦	Lead wire for signal (5 poles)		1				

3. Switch setting

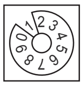
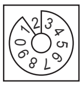
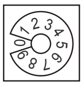
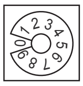
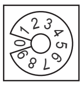
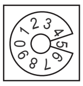
- ■ M-NET address setting

Make M-NET setting and refrigerant address setting on only outdoor unit.
There is no address settings for outdoor unit and remote controller like City Multi system.
The M-NET address setting for taking into centralized control system should be done only to the outdoor unit.
The address set number should be 1-50 same as for City Multi indoor unit and make set in order of number for the same group.

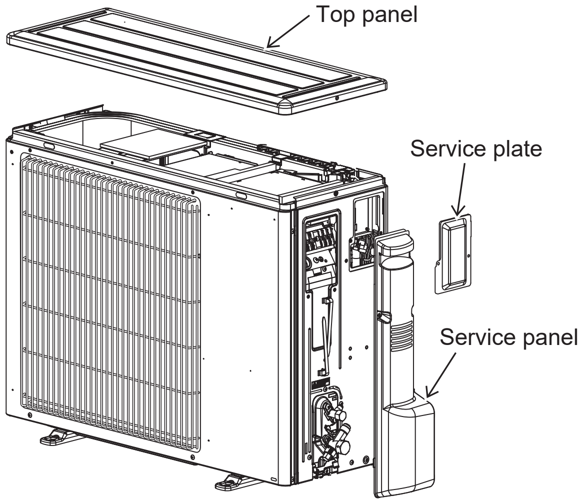
	A control slim	City Multi (M-NET)
Indoor unit	—	1 - 50
Outdoor unit	1 - 50	51 - 100
Remote controller	—	101 - 150
System controller	201 - 250	
Group remote controller	201 - 250	

The setting should be done by rotary switches SW11 (ones digit) and SW12 (tens digit) on M-NET board of the outdoor unit. (Factory settings are all zero.)

[Example]

M-NET address No.		1	2		50
Switch setting	SW11 (ones digit)			——	
	SW12 (tens digit)				

4. Work procedure



(1) Remove the top panel, service panel, and service plate.
- The 2 screws removed from the service plate will be used in (14).
- The removed service plate will not be used.

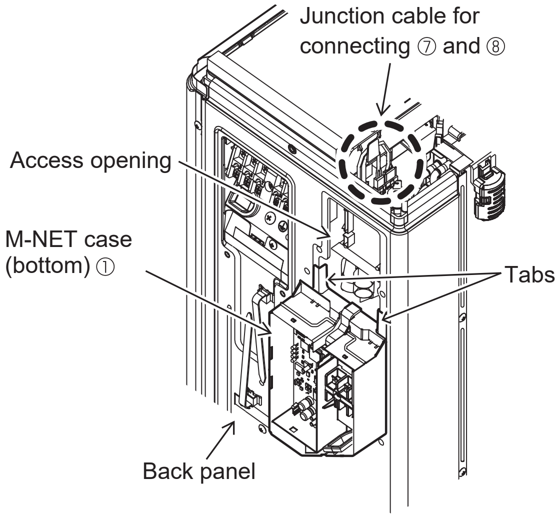
(2) Attach the 2 tabs of the M-NET case (bottom) ① to the access opening.

(3) Fix the M-NET case (bottom) ① to the back panel with the 2 screws ④.

(4) Connect the lead wire for signal (5 poles) ⑦ and the lead wire for power supply (3 poles) ⑧ to the junction cable for connection ⑦ and ⑧ that is fixed on the back of the electrical parts box.
- When connecting the wires, mate the connectors of the same color.

(5) Pass the lead wire for signal (5 poles) ⑦ that was connected in (4) through the middle tab of the M-NET case (bottom) ①, and connect it to CN5 on the M-NET board.

(6) Pass the lead wire for power supply (3 poles) ⑧ that was connected in (4) through the middle and lower tabs of the M-NET case (bottom) ①, and connect it to CND on the M-NET board.



(7) Connect the lead wire for M-NET (2 poles) ⑨ to CN2M on the M-NET board. Pass it through the middle and lower tabs of the M-NET case (bottom) ①, and connect it to A and B terminals on the M-NET terminal block. There is no polarity.
- Position the thick portion of black tube of the lead wire for M-NET (2 poles) ⑨ between the middle and the lower tabs.

Note 1: Connect the shield of the M-NET transmission cable to the outdoor terminal block plate with the earth wire and screw ⑩ as needed.
Refer to "(1) Earth wire connection" on page 2.

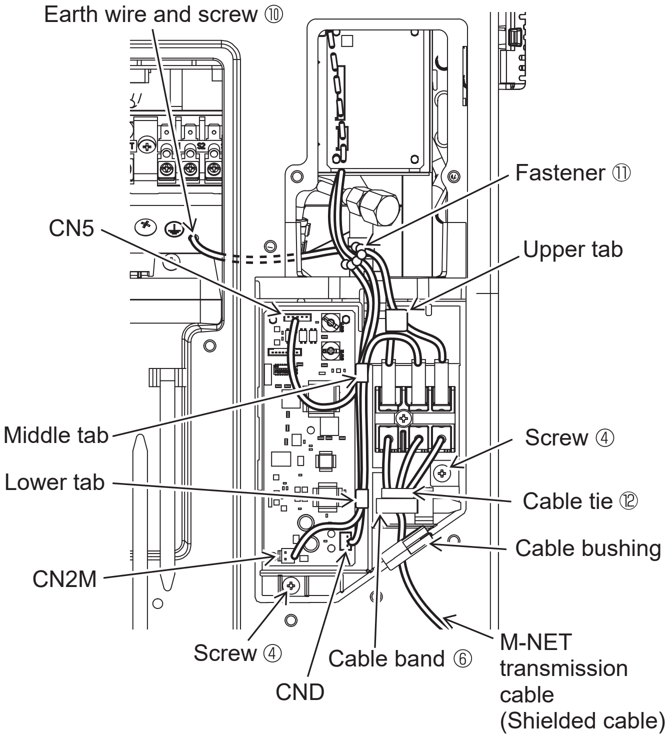
(8) Tie the wires routed in (5), (6), and Note1 together with the fastener ⑪.

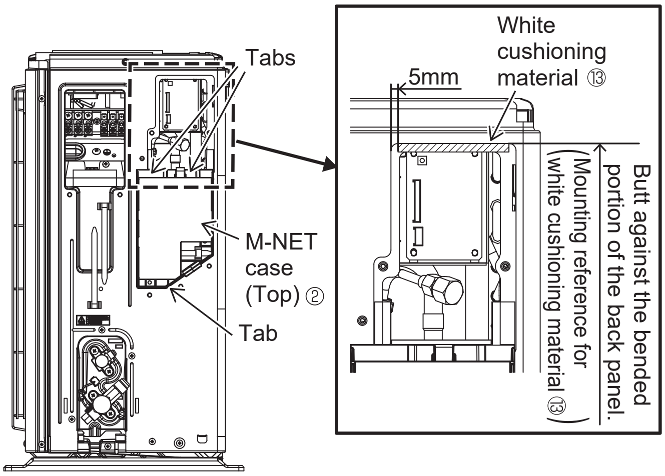
(9) Attach the cable band ⑥ to the M-NET transmission cable (shielded cable), and then attach the cable band ⑥ to the M-NET case (bottom) ①.

(10) Attach the cable tie ⑫ above the cable band ⑥ so that external force on the cables is not transmitted to the terminal connections.
- Cut off the excess part of the cable tie ⑫.

(11) Pass the M-NET transmission cable (shielded cable) that was attached to the M-NET case (bottom) ① in (9) through the cable bushing.
Seal the intake part of the M-NET transmission cable (shielded cable) with putty or other sealing material you have.
(Failure to do so can cause sound leakage or breakdown due to intrusion of small animals, rainwater, dust, etc.)

Note 2: Route the cables as shown in the left figure.

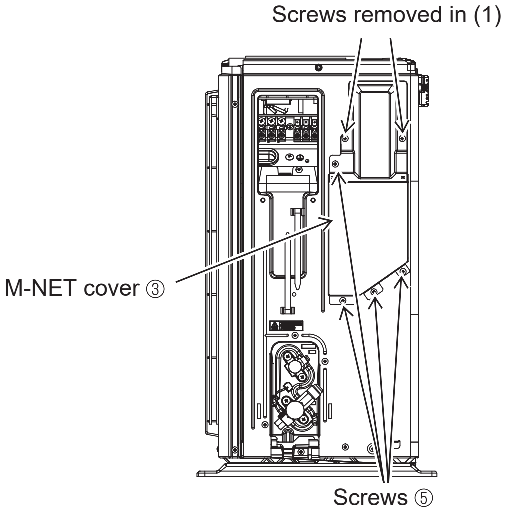




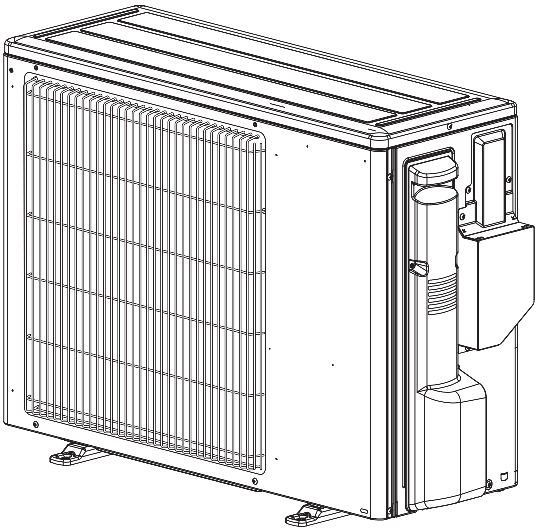
(12) Attach the M-NET case (top) ② to the M-NET case (bottom) ① using the 3 tabs of the M-NET case (bottom) ①.

Note: Insert the black cushioning material (insulation) attached to the lead wire for signal (5 poles) ⑦, the lead wire for power supply (3 poles) ⑧, and the earth wire ⑩ between the M-NET case (bottom) ① and the M-NET case (top) ②.
(Failure to do so can cause breakage due to intrusion of rainwater or oil.)

(13) Attach the white cushioning material ⑬ to the back panel.
(Failure to do so can cause breakage due to intrusion of rainwater or oil.)



(14) Fix the M-NET cover ③ to the back panel with the 4 screws ⑤ and the 2 screws removed in (1).
- Be careful not to let the lead wire get caught between them.

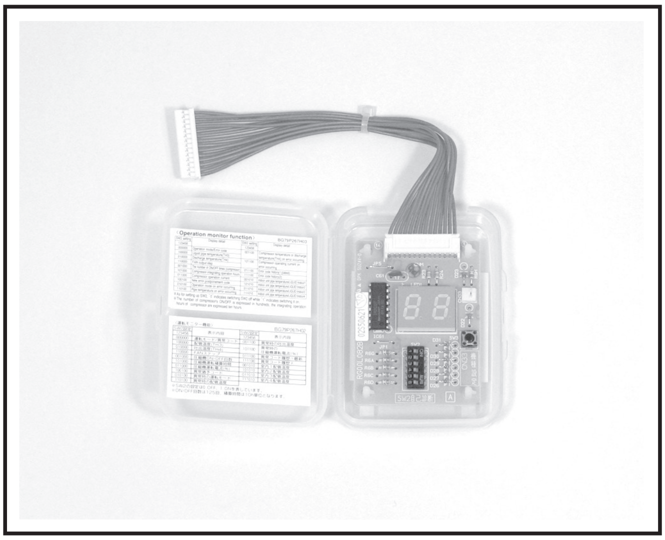


(15) Reinstall the top panel and the service panel.

Control / Service Tool

PAC-SK52ST

Photo



Descriptions

This item is used to display operation and self-diagnosis state.

Applicable Models

- ■ PUZ-ZM Series
- ■ PUZ-M Series

[R32 type]

Specifications

Power	5V DC (supplied from outdoor unit control board)
Temperature	-20 to 60 ℃, Humidity: 90% RH or less (no condensation)
External dimensions	69 (W) x 91 (H) x 27 (D) (mm), excluding lead wires
Weight	0.05kg

How to Use / How to Install

● Notes on Use

- Before installing / removing a control / service tool, make sure that the main power to this unit is turned OFF.
- The connector for control / service tool has a lock. Connection / removal of the connector must be dine with the locking lever pressed.

● How to Use

1. Connect the control / service tool connector to the [CNM] connector on the outdoor unit control board.
2. Operating the control / service tool's DIP switch "SW2" causes "LED1" to display the operation state and inspection code description using 2-digit value and symbols. "SW2" setting varies with the unit to be connected. For details of the display content, refer to the appropriate service handbook.
3. After the control / service tool has been used, remove it from the outdoor unit control board.

STEP Interface

PAC-(S)IF013B-E

Photo

Descriptions

With Step Interface, local units can be connected with P series heat pump outdoor units.

Applicable Models

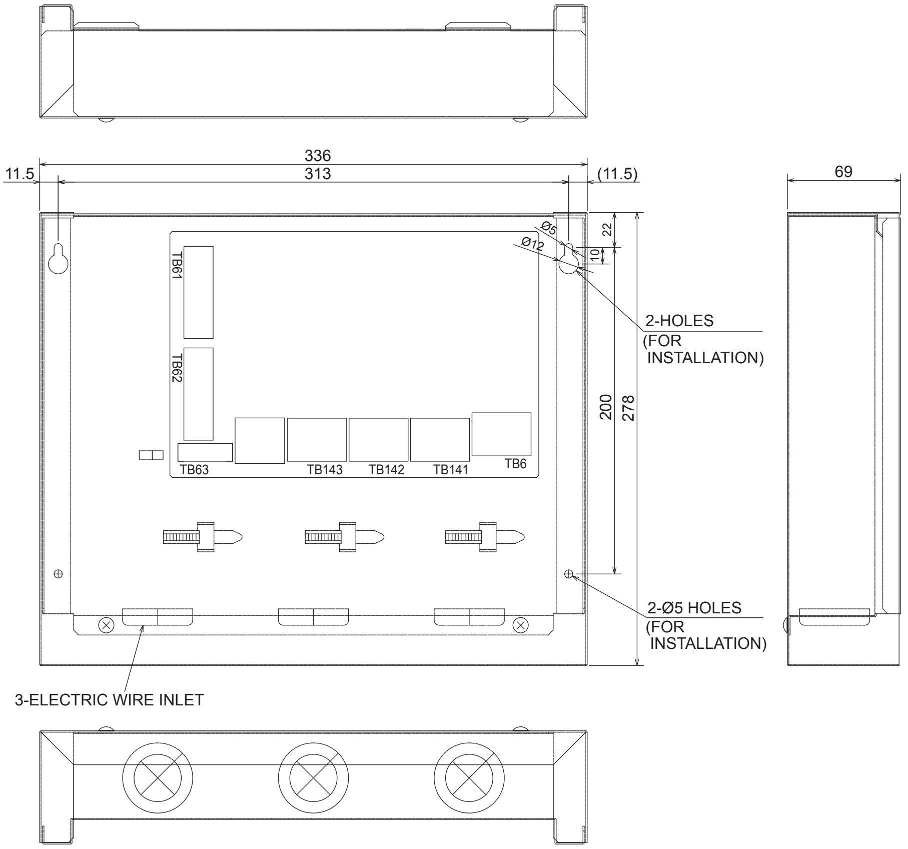
- ■ PUZ-ZM Series
- ■ PUZ-M200,250YKA2

Specifications

	PAC-IF013B-E	PAC-SIF013B-E
Weight	2.5 kg + ACCESSORIES 0.8 kg	2.5 kg + ACCESSORIES 0.4 kg
Allowable ambient temperature	0 to 35° C	0 to 35° C
Allowable ambient humidity	80% RH or less	80% RH or less

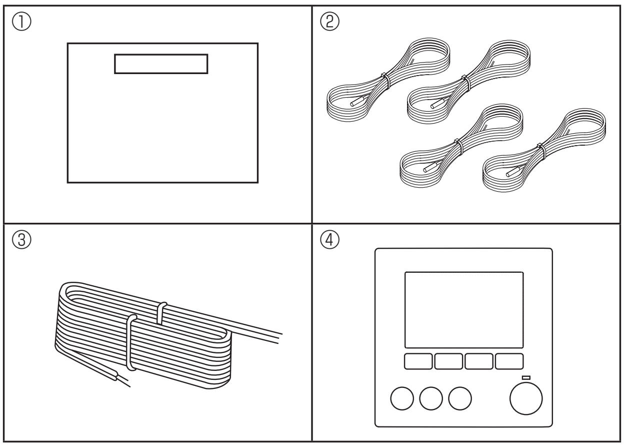
Dimensions

Unit: mm



How to Use / How to Install

2. Installing the interface unit



<Fig. 2.1.1>

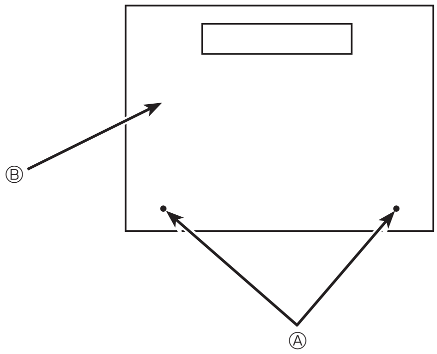
2.1. Check the parts (Fig. 2.1.1)

The interface unit should be supplied with the following parts.

	Part Name	PAC-IF013B-E	PAC-SIF013B-E
①	Interface unit	1	1
②	Thermistor	4	4
③	Remote controller cable (5m)	1	–
④	Remote controller	1	–

2.2. Choosing the interface unit installation location

- Do not install the interface unit in outdoor location as it is designed for indoor installation only. (The interface board and casing are not waterproof.)
- Avoid locations where the unit is exposed to direct sunlight or other sources of heat.
- Select a location where easy wiring access to the power source is available.
- Avoid locations where combustible gases may leak, be produced, flow, or accumulate.
- Select a level location that can bear the weight and vibration of the unit.
- Avoid locations where the unit is exposed to oil, steam, or sulfuric gas.
- Do not install in location that is hot or humid for long period of time.



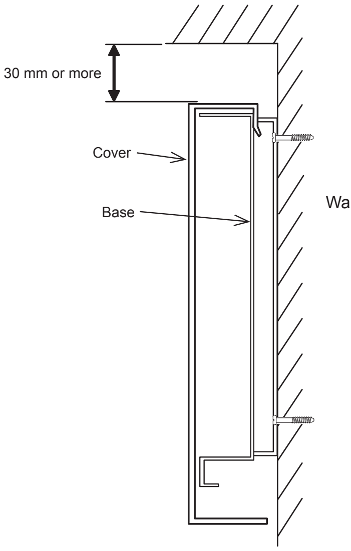
<Fig. 2.3.1>

2.3. Installing the interface unit (Fig. 2.3.1, 2.3.2, 2.3.3)

1. Remove 2 screws Ⓐ from interface unit and remove the cover by sliding it upward (see Fig. 2.3.1).
2. Install the 4 screws (locally supplied) in 4 holes (Ⓒ hole).
   * To prevent the unit from falling off the wall, select the appropriate screws (locally supplied) and secure the base horizontally to the appropriate wall location. (See Fig. 2.3.2)

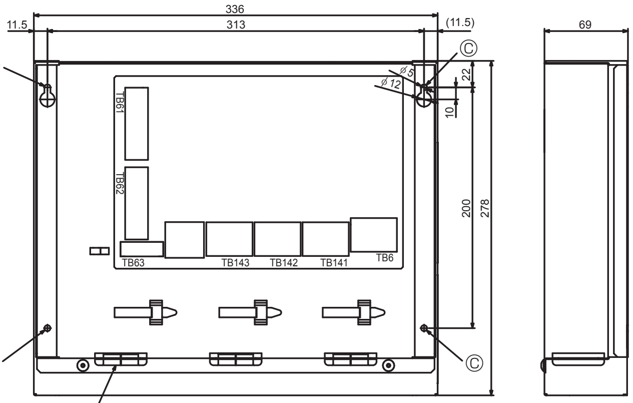
Ⓐ Screw Ⓑ Cover Ⓒ Hole for installation

	PAC-IF013B-E	PAC-SIF013B-E
Weight	2.5 kg + ACCESSORIES 0.8 kg	2.5 kg + ACCESSORIES 0.4 kg
Allowable ambient temperature	0 to 35°C	0 to 35°C
Allowable ambient humidity	80% RH or less	80% RH or less



<Fig. 2.3.2>
Service space

Unit: mm



3-ELECTRIC WIRE INLET
When install on a wall: Lower side

<Fig. 2.3.3>

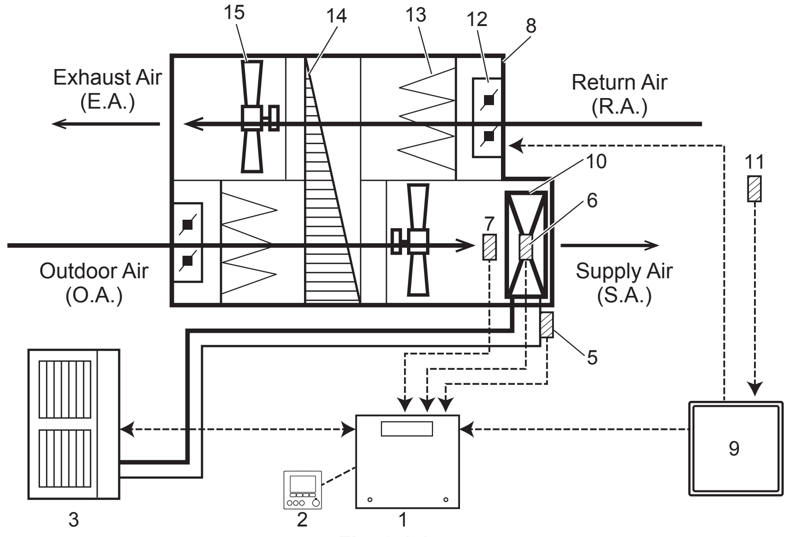
3. System

Step mode (Input)	Target temperature	Number of outdoor unit	Intelligent multiple outdoor unit control	System
Manual	–	1	N/A	See (1-1) below.
		2-6	Apply	See (2-1) below.
			Not apply	See (1-1) below.[*1]
Auto	Supply air temp. control	1-5	N/A	See (1-2) below.
	Return air temp. control	1-5	N/A	See (1-3) below.

[*1] It is recommended to select Intelligent multiple outdoor unit control.
Design local AHU controller to make sure the following points.
- Minimum capacity request should be 20% or more of total capacity.
- Operate all outdoor units when outdoor temperature is below -15 °C.

3.1. System configuration (Single outdoor unit)

(1-1) Manual step mode [*1]



<Fig. 3.1.1>

[*1] Manual step mode:
- Variable capacity request signals for heat pump need to be calculated by AHU local controller.
- AHU local controller can send "Capacity steps" by non-voltage contact signals or analog signals to the interface unit.
- Operation mode can be set by remote controller, external input or DIP switch.

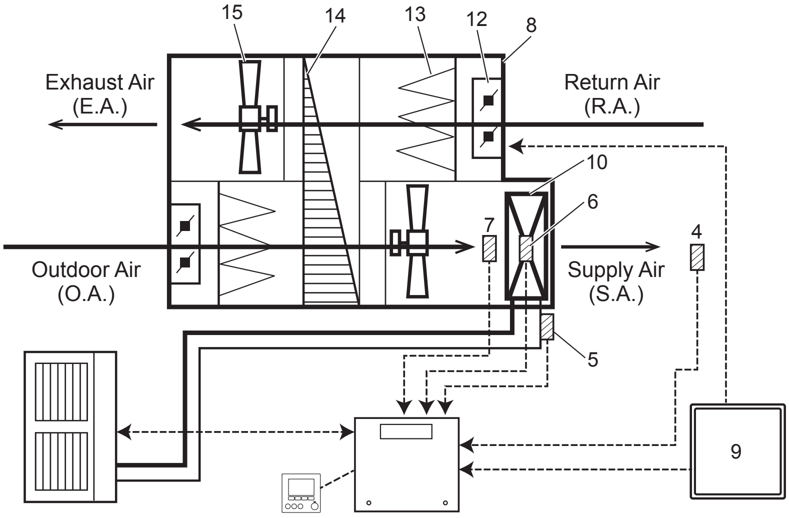
Note
- Do NOT select STEP 0 for 3 minutes after compressor is ON. (Keep compressor ON for 3 minutes at least.)
- When changing STEP, make it less than 5 steps in a single request, and keep at least 5 minutes interval between the changes.
- Keep operation range shown at the following section 3.3.
- Do NOT send STEP 0 during defrost operation.
- Do NOT change operation mode frequently.

No.	Part name	System (1-1)
1	Interface unit	✓
2	Remote controller	✓
3	Outdoor unit	✓
4	Target air temp. thermistor (TH1)	–[*2]
5	Ref. liquid temp. thermistor (TH2)	✓
6	2-Phase temp. thermistor (TH5)	✓[*3]
7	HEX inlet (Coil on) temp. thermistor (TH11)	✓
8	Air-Handling Unit (AHU) (Local supply)	✓
9	AHU local controller (Local supply)	✓
10	Heat exchanger of AHU (Local supply)	✓
11	Target air temp. thermistor (Local supply)	✓
12	Louver (Local supply)	✓
13	Air filter (Local supply)	✓
14	Heat recovery (Local supply)	✓
15	Fan (Local supply)	✓

[*2] Set the DIP SW 2-8 to ON.
[*3] If outdoor unit is SHW series, It's not needed to install this thermistor, and set the DIP SW 1-5 to ON.

3. System

(1-2) Auto step mode *4 & Supply air temp. control



<Fig. 3.1.2>

*4. Auto step mode:

- In this mode, the capacity step of the outdoor unit is controlled automatically to let the target temperature reach the set temperature.

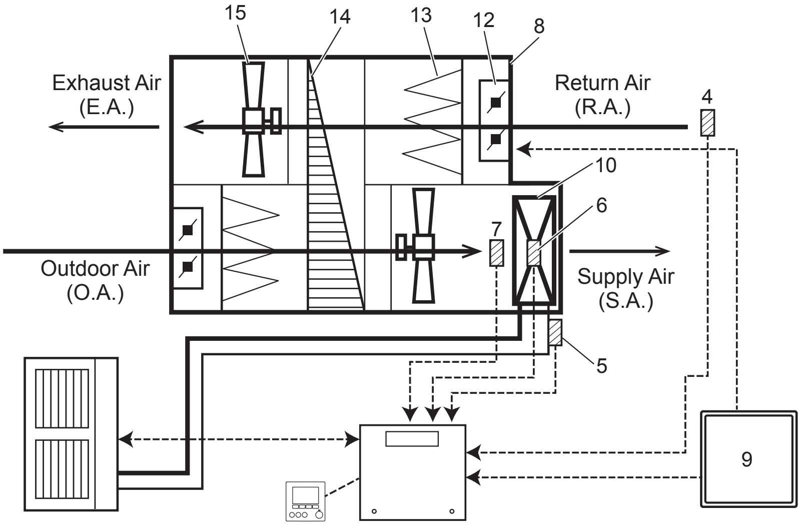
Note

- Auto change over function between cooling and heating mode is NOT available in this system.
- Keep operation range shown at the following section 3.3.
- Standard setting of DIP SW3-4 and SW3-5 is 3°C (SW3-4 : ON , SW3-5 : OFF). (Refer to "4.1.7 Switch setting".)

No.	Part name	System (1-2)
1	Interface unit	✓
2	Remote controller	✓
3	Outdoor unit	✓
4	Target air temp. thermistor (TH1)	✓
5	Ref. liquid temp. thermistor (TH2)	✓
6	2-Phase temp. thermistor (TH5)	✓ *5
7	HEX inlet (Coil on) temp. thermistor (TH11)	✓
8	Air-Handling Unit (AHU) (Local supply)	✓
9	AHU local controller (Local supply)	✓
10	Heat exchanger of AHU (Local supply)	✓
11	Target air temp. thermistor (Local supply)	–
12	Louver (Local supply)	✓
13	Air filter (Local supply)	✓
14	Heat recovery (Local supply)	✓
15	Fan (Local supply)	✓

*5. If outdoor unit is SHW series, It's not needed to install this thermistor, and set the DIP SW 1-5 to ON.

(1-3) Auto step mode *6 & Return/ Room air temp. control *7



<Fig. 3.1.3>

*6. Auto step mode:

- In this mode, the capacity step of the outdoor unit is controlled automatically to let the target temperature reach the set temperature.

*7. Return/Room air temp. control:

- Set the DIP SW 1-7 to ON.

Note

- Auto change over function between cooling and heating mode is available ONLY when this system is selected and the input selection of capacity setting (DIP SW1 and SW6) is "No input (Auto step mode)".
- Keep operation range shown at the following section 3.3.

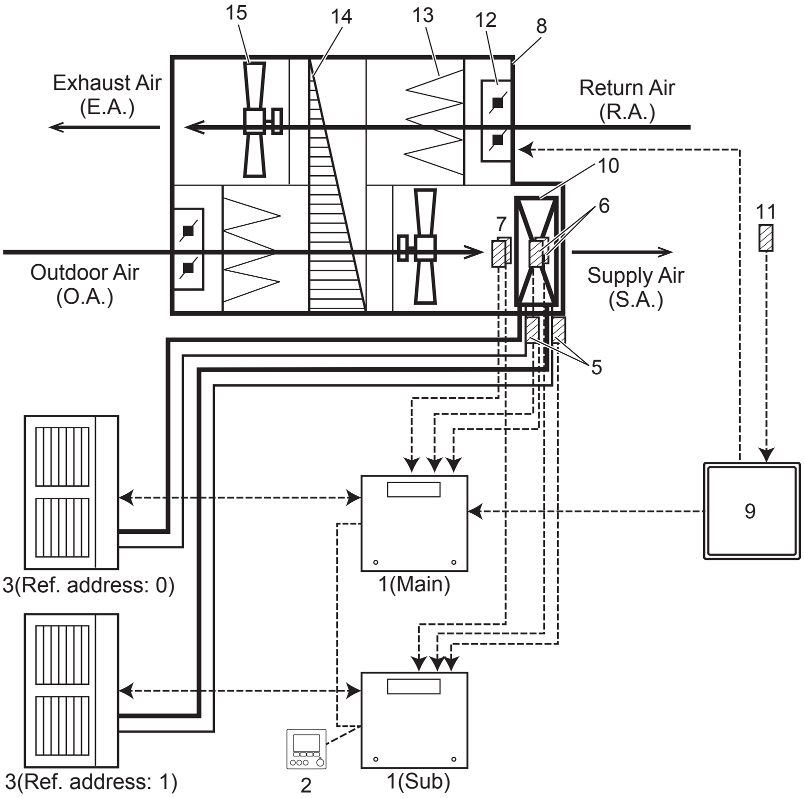
No.	Part name	System (1-3)
1	Interface unit	✓
2	Remote controller	✓
3	Outdoor unit	✓
4	Target air temp. thermistor (TH1)	✓
5	Ref. liquid temp. thermistor (TH2)	✓
6	2-Phase temp. thermistor (TH5)	✓ *8
7	HEX inlet (Coil on) temp. thermistor (TH11)	✓
8	Air-Handling Unit (AHU) (Local supply)	✓
9	AHU local controller (Local supply)	✓
10	Heat exchanger of AHU (Local supply)	✓
11	Target air temp. thermistor (Local supply)	–
12	Louver (Local supply)	✓
13	Air filter (Local supply)	✓
14	Heat recovery (Local supply)	✓
15	Fan (Local supply)	✓

*8. If outdoor unit is SHW series, It's not needed to install this thermistor, and set the DIP SW 1-5 to ON.

3. System

3.2. System configuration (Intelligent multiple outdoor unit control *1)

(2-1) Manual step mode (example)



<Fig. 3.2.1>

*1. Interface system receives step request signal correspond to total capacity of outdoor units, and calculates necessary capacity for each outdoor unit automatically.

Note
- This intelligent multiple outdoor unit control function is available only when Manual step mode is selected.
- Up to 6 outdoor units can be connected.
- 2 different type of outdoor units (capacity and/or series) can be mixed, but connecting the same capacity outdoor units is highly recommended.
- Ref. address setting on each outdoor unit is needed.
- Interface unit which connects to the Ref. address 0 outdoor unit, becomes main interface unit.
- Connect AHU local controller (Part No. 9) to the main interface unit.
- Connect ONE remote controller (Part No. 2) to the interface unit.
- Connect between the interface units with a remote controller (daisy chain). MAX : 500m
- When using this function, set the DIP SW 1-8 of all interface unit to ON.
- Do NOT select STEP 0 for 3 minutes after compressor is ON. (Keep compressor ON for 3 minutes at least.)
- When changing STEP, make it less than 5 steps in a single operation, and keep at least 5 minutes interval between the changes.
- Keep operation range shown at the following section 3.3.
- Do NOT send STEP 0 during defrost operation.
- Do NOT change operation mode frequently.

No.	Part name	System (2-1)
1	Interface unit	✓
2	Remote controller	✓
3	Outdoor unit	✓
4	Target air temp. thermistor (TH1)	— *2
5	Ref. liquid temp. thermistor (TH2)	✓
6	2-Phase temp. thermistor (TH5)	✓ *3
7	HEX inlet (Coil on) temp. thermistor (TH11)	✓
8	Air-Handling Unit (AHU) (Local supply)	✓
9	AHU local controller (Local supply)	✓
10	Heat exchanger of AHU (Local supply)	✓
11	Target air temp. thermistor (Local supply)	✓
12	Louver (Local supply)	✓
13	Air filter (Local supply)	✓
14	Heat recovery (Local supply)	✓
15	Fan (Local supply)	✓

*2. Set the DIP SW 2-8 to ON.

*3. If outdoor unit is SHW series, It's not needed to install this thermistor, and set the DIP SW 1-5 to ON.

3.3. Indoor operation range

Mode	Number of outdoor unit	HEX inlet air temp. operation range
Cooling	1 or more	15 - 32 °C
Heating	1	0 - 28 °C
	2 or more	5 - 28 °C

4. Electrical work

4.1. Electrical connection

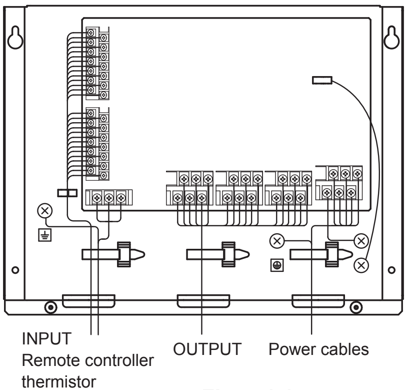
All electrical work should be carried out by a suitably qualified technician. Failure to comply with this could lead to electrocution, fire, and death. All wiring should be according to national wiring regulations.

Connections should be made to the terminals indicated in the following figures.

Use ring terminals and insulate the wires.
Tighten the screw from the bottom terminals first.

Notes:

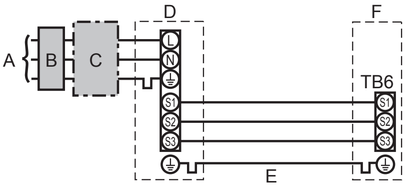
1. **Do not run the low voltage cables through a slot that the high voltage cables go through.**
2. **Do not bundle power cables together with other cables.**
3. **Bundle cables as Fig. 4.1.1 by using clamps.**



<Fig. 4.1.1>

4.1.1. Interface unit power supplied from outdoor unit

The following connection patterns are available.
The outdoor unit power supply patterns vary on models.



A Outdoor unit power supply
B Earth leakage breaker *1, *2
C Wiring circuit breaker or isolating switch
D Outdoor unit
E Interface unit/outdoor unit connecting cables
F Interface unit

*1 If the installed earth leakage circuit breaker does not have a function to protect over-current, install a breaker with that function along the same power line.
*2. A breaker with at least 3.0 mm contact separation in each pole shall be provided. Use earth leakage breaker (NV).
The breaker shall be provided to ensure disconnection of all active phase conductors of the supply.

Note:
In accordance with IEE regulations the circuit breaker/isolating switch located on the outdoor unit should be installed with lockable devices (health and safety).

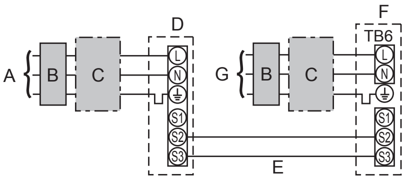
Wiring Wire No. × size (mm²)	Interface unit - Outdoor unit	*3	3 × 1.5 (polar)
	Interface unit - Outdoor unit earth	*3	1 × Min. 1.5
Circuit rating	Interface unit - Outdoor unit S1-S2	*4	230 V AC
	Interface unit - Outdoor unit S2-S3	*4	24 V DC

*3. Max. 45 m
If 2.5 mm² used, Max. 50 m
If 2.5 mm² used and S3 separated, Max. 80 m
*4.The values given in the left table are not always measured against the ground value.

Notes: 1. Wiring size must comply with the applicable local and national code.
2. Interface unit/outdoor unit connecting cords shall not be lighter than polychloroprene sheathed flexible cord. (Design 60245 IEC 57)
Interface unit power supply cords shall not be lighter than polychloroprene sheathed flexible cord. (Design 60227 IEC 53)
3. Install an earth longer than other cables.

4.1.2. Separate interface unit/outdoor unit power supplies

The following connection patterns are available.
The outdoor unit power supply patterns vary on models.



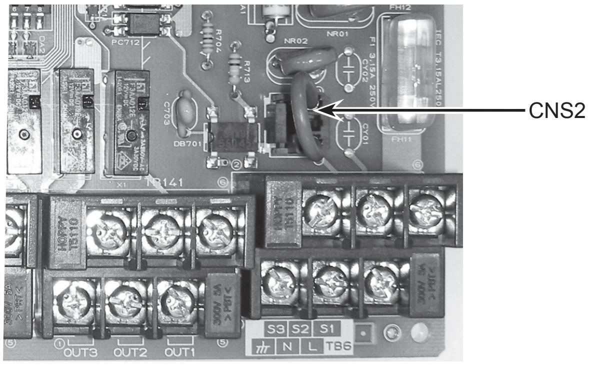
A Outdoor unit power supply
B Earth leakage breaker *1, *2
C Wiring circuit breaker or isolating switch
D Outdoor unit
E Interface unit/outdoor unit connecting cables
F Interface unit
G Interface unit power supply

*1 If the installed earth leakage circuit breaker does not have a function to protect over-current, install a breaker with that function along the same power line.

Note:
In accordance with IEE regulations the circuit breaker/isolating switch located on the outdoor unit should be installed with lockable devices (health and safety).

If the interface and outdoor units have separate power supplies, refer to the table below.

	Separate power supply specifications
Interface unit controller connector (CNS2) connection change	Disconnected
Outdoor unit DIP switch settings (when using separate interface unit/outdoor unit power supplies only)	ON: 3 OFF: 1, 2 (SW8) Set the SW8-3 to ON.



<Photo 4.1.2>

4. Electrical work

Interface unit power supply			~/N 230 V 50 Hz
Interface unit input capacity Main switch (Breaker)		*2	16 A
Wiring Wire No. × size (mm²)	Interface unit power supply		2 × Min. 1.5
	Interface unit power supply earth		1 × Min. 1.5
	Interface unit-Outdoor unit	*3	2 × Min. 0.3
	Interface unit-Outdoor unit earth		—
Circuit rating	Interface unit L-N	*4	230 V AC
	Interface unit-Outdoor unit S1-S2	*4	—
	Interface unit-Outdoor unit S2-S3	*4	24 V DC

*2. A breaker with at least 3.0 mm contact separation in each pole shall be provided. Use earth leakage breaker (NV).
The breaker shall be provided to ensure disconnection of all active phase conductors of the supply.

*3. Max. 120 m

*4. The values given in the left table are not always measured against the ground value.

Notes: 1. Wiring size must comply with the applicable local and national code.
2. Interface unit/outdoor unit connecting cords shall not be lighter than polychloroprene sheathed flexible cord. (Design 60245 IEC 57)
Interface unit power supply cords shall not be lighter than polychloroprene sheathed flexible cord. (Design 60227 IEC 53)
3. Install an earth longer than other cables.

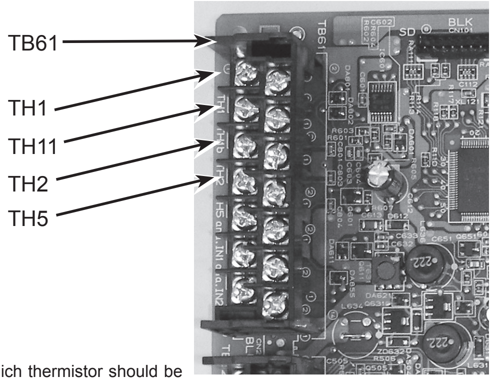
4.1.3. Connecting thermistor cable

Connect the thermistor ② for the interface controller.

1. Target temp. thermistor (TH1)
   Connect the thermistor for the target temp. to 1 and 2 on the terminal block (TB61) on the interface controller.
2. HEX inlet temp. thermistor (TH11)
   Connect the thermistor for the HEX inlet temp. to 3 and 4 on the terminal block (TB61) on the interface controller.
3. Ref. liquid temp. thermistor (TH2)
   Connect the thermistor for the ref. liquid temp. to 5 and 6 on the terminal block (TB61) on the interface controller.
4. 2-phase temp. thermistor (TH5)
   Connect the thermistor for the 2-phase temp. to 7 and 8 on the terminal block (TB61) on the interface controller.

When the thermistor cables are too long, cut it to the appropriate length.
Do not bind it in the interface unit.

The 4 thermistors have the same specification except the color of cables, thus we do not specify which thermistor should be installed to which position.



<Photo 4.1.3>

Note: When multiple outdoor units are connected, connect thermistors to each interface unit respectively.

⚠ Caution:
Do not route the thermistor cables together with power cables.
The sensor part of the thermistor should be installed where user can not access. (It should be separated by the supplementary insulation from areas the user can access.)

4.1.4. Connecting external input

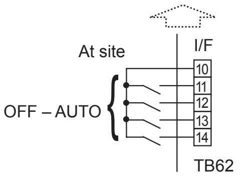
Demand control is available by external input.
Select input type by setting the switch of the interface controller, and it is possible to set capacity request when manual step mode (“Analog input” , “Remote switch” or “Modbus”) is selected.

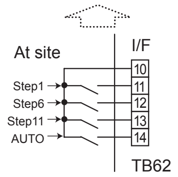
Switch1, Switch 6 : Input selection of inverter capacity setting

Input	SW 1-1	SW 1-2	SW 1-3	SW 6-1	SW 6-2	Step for capacity setting
REMOTE SWITCH Type A (4bit-8 setting)	OFF	OFF	OFF	OFF	OFF	See the "Capacity setting" table below.
REMOTE SWITCHType B (1bit-1 setting)	ON	OFF	OFF	OFF	OFF	
Analog (4-20mA)	ON	ON	OFF	ON	ON	
Analog (1-5V)	ON	ON	OFF	OFF	ON	
Analog (0-10V)	OFF	OFF	ON	OFF	OFF	
Analog (0-10kΩ)	ON	OFF	ON	OFF	OFF	
No input (Auto step mode)	OFF	ON	ON	OFF	OFF	Only Auto step mode
Modbus	ON	ON	ON	OFF	OFF	OFF/Step1/Step2/…/Step11

- **Capacity setting**

Analog input				Step for capacity setting	Remote switch				Step for capacity setting		Remark
Variable resistor (0-10kΩ)	4-20mA	1-5V	0-10V	Analog input	TB 62 10-11 (COM-IN5)	TB 62 10-12 (COM-IN6)	TB 62 10-13 (COM-IN7)	TB 62 10-14 (COM-IN8)	Remote SW (Type A)	Remote SW (Type B)	
OPEN(12kΩ-)	–	–	–	OFF	–	–	–	–	–	–	Stop
10kΩ	–	–	–	Auto	OFF	OFF	OFF	ON	Auto	Auto	Auto step mode
7.5kΩ	19-20mA	4.75-5V	9.75-10V	Step11 max.	ON	ON	ON	OFF	Step11 max.	–	Hz fixed mode
–	–	–	9.02V	Step10	–	–	–	–	–	–	
5.6kΩ	17mA	4.25V	8.20V	Step9	OFF	ON	ON	OFF	Step9	–	
4.3kΩ	15mA	3.75V	7.38V	Step8	ON	OFF	ON	OFF	Step8	–	
–	–	–	6.56V	Step7	–	–	–	–	–	–	
3.3kΩ	13mA	3.25V	5.75V	Step6	OFF	OFF	ON	OFF	Step6	Step11 max.	
–	–	–	4.93V	Step5	–	–	–	–	–	–	
2kΩ	11mA	2.75V	4.11V	Step4	ON	ON	OFF	OFF	Step4	–	
1kΩ	9mA	2.25V	3.29V	Step3	OFF	ON	OFF	OFF	Step3	Step6	
–	–	–	2.47V	Step2	–	–	–	–	–	–	
510Ω	7mA	1.75V	1.66V	Step1 min.	ON	OFF	OFF	OFF	Step1 min.	Step1 min.	
0-100Ω	4-5mA	0-1.25V	0-0.63V	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Stop





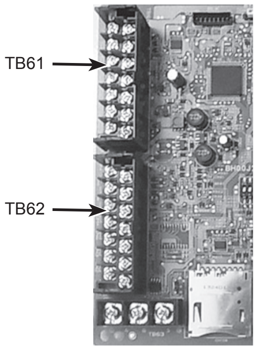
4. Electrical work

- **4-20mA / 1-5V / 0-10V / 0-10kΩ**
  ① Use 4-20mA / 1-5V / 0-10V
  Connect the transmission cables to No. 11 and 12 on the terminal block (TB61).
  No. 11 on the terminal block(TB61) : Plus side
  No. 12 on the terminal block(TB61) : Minus side (Reference side)
  ② Use variable resistor (0-10kΩ)
  Connect the transmission cables to No. 9 and 10 on the terminal block (TB61).

Note:

The values of the "capacity setting" table on the previous page show the center of the input value.

Cable length: Maximum 10m



<Photo 4.1.4>

- **Remote switch Type A (4 bit - 8 setting)/Type B (1 bit - 1 setting)**

Demand control is available by connecting remote switches with terminal No.10 - 14.
Make sure to use the non-voltage switch (for the remote switch)
Remote switch cable length : Maximum 10m
Remote switch : Minimum applicable load 12V DC, 1mA

Note:

When using intelligent multiple outdoor unit control function, input the capacity request signal to the main interface which connects to the ref. address 0 outdoor unit.

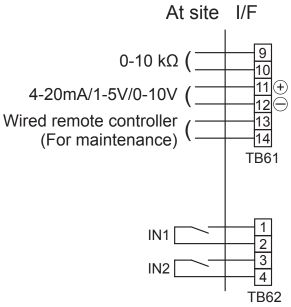
- **External function setting**
  This function is setting operation mode or stopping compressor, by the external signal.

TB62	Item	OFF	ON	Remark
1-2 (IN1)	Forced Comp. OFF *1	Normal	Forced Comp. OFF	
3-4 (IN2)Item	Fixed operation mode	Cooling	Heating	Available when SW2-1 and SW2-2 are ON

*1 The operation continues during defrosting operation.
The “Forced Comp. OFF” signal should not be turned ON frequently. It should only be used if an abnormality occurs.
Cable length : Maximum 10m
Remote switch : Minimum applicable load 12V DC, 1mA

Note:

When using IN1 with intelligent multiple outdoor unit control function, input IN1 to the interface unit respectively. Input IN2 to the main interface which connects to the ref. address 0 outdoor unit.



⚠ **Caution:**

The external input signals are separated by basic insulation from power supply for the unit.

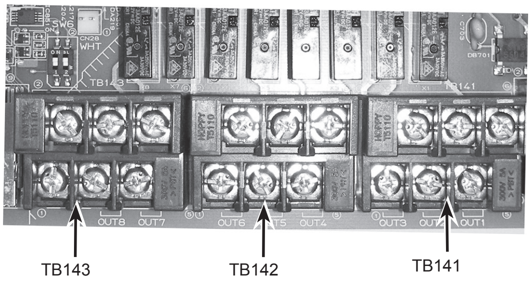
The external input signals should be separated by supplementary insulation from where user may touch in case that it is installed where user may touch.

Connect the terminals by using the ring terminals and also insulate the cables of adjoining terminals when wiring to terminal block.

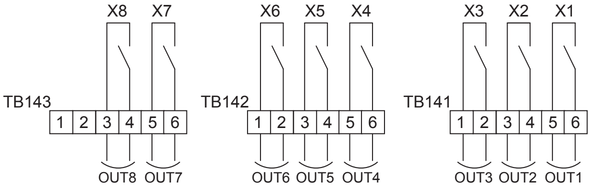
4.1.5. Connecting External Output

Name	Terminal block	Item	OFF	ON
OUT1	TB141 5-6	Operation Output	OFF	ON
OUT2	TB141 3-4	Error Output	Normal	Error
OUT3	TB141 1-2	Comp. ON Output	OFF(Comp. OFF)	ON(Comp. ON)
OUT4	TB142 5-6	Defrost Output	OFF	ON(Defrosting)
OUT5	TB142 3-4	Mode(Cool) Output	OFF	ON(Cooling)
OUT6	TB142 1-2	Mode(Heat) Output	OFF	ON(Heating)
OUT7	TB143 5-6	Self protection Output	OFF	ON
OUT8	TB143 3-4	Pre-Defrost Output *1	OFF	ON

*1 The output may not be available depending on connected outdoor unit models.
Cable length : Maximum 50m
Output specification : Non-voltage switch 1A, 240V AC/30V DC or less
10 mA, 5 V DC or more
*Connect the surge absorber according to the load at site.



<Photo 4.1.5>



Notes:

- **External output signals are separated by basic insulation from other circuit of interface.**
- **When intelligent multiple outdoor unit control function is selected, OUT2, OUT3, OUT4, OUT7 and OUT8 will work individually on each interface.**

⚠ **Caution: When 2 or more external outputs are used, the power supply on the output side should be the same.**

4. Electrical work

4.1.6. Wiring specification External output / External input

Locally supplied parts

Item	Name	Model and specifications
External output function	External output signal wire	Use sheathed vinyl coated cord or cable. Wire type : CV, CVS or equivalent. Wire size : Stranded wire 0.5mm^2 to 1.25mm^2 Solid wire: ϕ0.65mm to ϕ1.2mm
	Display lamp, etc.	Non-voltage Contact 220-240V AC (30V DC), 1A or less 10 mA, 5 V DC or more
External input function	External input signal wire	Use sheathed vinyl coated cord or cable. Wire type : CV, CVS or equivalent. Wire size : Stranded wire 0.5mm^2 to 1.25mm^2 Solid wire : ϕ0.65mm to ϕ1.2mm
	Switch	Non-voltage "a" contact

4.1.7. Switch setting

It is possible to set the following function by setting the switch of the interface controller.

- **SW2-1/2-2 : Fixed operation mode**

SW2-1	SW2-2	Details
OFF	OFF	Not FIX (Depending on Remote controller setting)
ON	OFF	[Cooling] FIX
OFF	ON	[Heating] FIX
ON	ON	External input (Depending on TB62 3-4)

- **SW2-3/2-4/2-5 : Fixed set temperature [For Auto step mode only]**

SW2-3	SW2-4	SW2-5	Details
OFF	OFF	OFF	Not fixed (Remote controller setting)
ON	OFF	OFF	Cooling 19°C/Heating 17°C FIX
OFF	ON	OFF	20°C FIX
ON	ON	OFF	22°C FIX
OFF	OFF	ON	24°C FIX
ON	OFF	ON	26°C FIX
OFF	ON	ON	28°C FIX
ON	ON	ON	Cooling 30°C/Heating 28°C FIX

Set switches in case of auto step mode.

- **SW3-4/3-5 : Thermo OFF point by HEX inlet air temp.**

(difference between target temp. and HEX inlet temp.)
[For Auto step mode and supply air temp. control]
Compressor is forced to stop when HEX inlet temp. is close to target temp. to reduce frequent ON/OFF cycling under low heating/cooling load condition.

SW3-4	SW3-5	Differential
OFF	OFF	1°C
OFF	ON	2°C
ON	OFF	3°C [*1]
ON	ON	4°C

*1. Standard setting : 3°C

- **Other DIP switch setting**

DIP switch	Function	OFF	ON
SW1-4	HEX inlet temp. thermistor (TH11) [*2]	WITH	WITHOUT
SW1-5	2-phase temp. thermistor (TH5)	WITH	WITHOUT
SW1-6	Time stamp function on SD card data	N/A	Available [*1]
SW1-7	Position of target temp. thermistor (TH1)	Supply Air temp. control	Return Air temp. control
SW1-8	Intelligent multiple outdoor units control	Inactive	Active
SW2-6	LEV self control [*2]	OFF	ON
SW2-7	Ref. liquid temp. thermistor (TH2) [*2]	WITH	WITHOUT
SW2-8	Target temp. thermistor (TH1)	WITH	WITHOUT

*1. This function is valid only with remote controller.
*2. This SW must be set to “OFF”.

4.1.8. Before test run

After completing installation and the wiring and piping of the local application and outdoor units, check for refrigerant leakage, looseness in the power supply or control wiring, wrong polarity, and no disconnection of one phase in the supply.
Use a 500-volt megohmmeter to check that the resistance between the power supply terminals and ground is at least 1.0MΩ.

⚠ **Warning:**
Do not use the system if the insulation resistance is less than 1.0MΩ.

⚠ **Caution:**
Do not carry out this test on the control wiring (low voltage circuit) terminals.

4. Electrical work

4.2 Using SD memory card

The interface unit is equipped with an SD memory card interface.
Using an SD memory card can store operating logs.

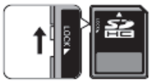
<Handling precautions>

(1) Use an SD memory card that complies with the SD standards. Check that the SD memory card has a logo on it of those shown to the right.

(2) SD memory cards to the SD standards include SD, SDHC, miniSD, micro SD, and microSDHC memory cards. The capacities are available up to 32 GB. Choose that with a maximum allowable temperature of 55ºC.

(3) When the SD memory card is a miniSD, miniSDHC, microSD, or micro SDHC memory card, use an SD memory card converter adapter.

(4) Before writing to the SD memory card, release the write-protect switch.



(5) Before inserting or ejecting an SD memory card, make sure to power off the system. If an SD memory card is inserted or ejected with the system powered on, the stored data could be corrupted or the SD memory card be damaged. *An SD memory card is live for a short duration after the system is powered off. Before insertion or ejection wait until the LED lamps on the interface control board are all off.

(6) The read and write operations have been verified using the following SD memory cards, however, these operations are not always guaranteed as the specifications of these SD memory cards could change.

Manufacturer	Model	Tested in
Verbatim	#44015 0912-61	Mar. 2012
SanDisk	SDSDB-002G-B35	Oct. 2011
Panasonic	RP-SDP04GE1K	Oct. 2011
Arvato	2GB PS8032 TSB 24nm MLC	Jun. 2012
Arvato	2GB PS8035 TSB A19nm MLC	Jul. 2014
Lexar	LSD 8GB ABEUCL6 Rev A	Jul. 2014

Before using a new SD memory card, always check that the SD memory card can be safely read and written to by the interface board.

<How to check read and write operations>

a) Check for correct wiring of power supply to the system. For more details, refer to section 4.1.
(Do not power on the system at this point.)

b) Insert an SD memory card.

c) Power on the system.

d) The LED6 lamp lights if the read and write operations are successfully completed. If the LED6 lamp continues blinking or does not light, the SD memory card cannot be read or written to by the interface controller.

(7) Make sure to follow the instruction and the requirement of the SD memory card's manufacturer.

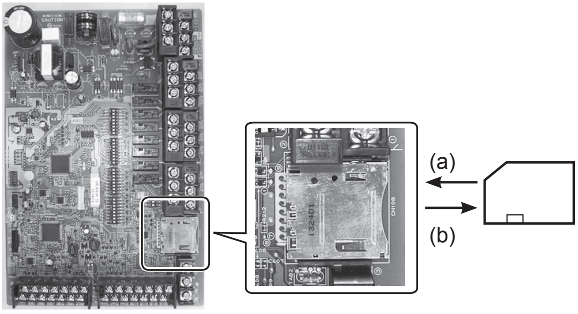
(8) Format the SD memory card if determined unreadable in step (6). This could make it readable.
Download an SD card formatter from the following site.
SD Association homepage: https://www.sdcard.org/home/

(9) Interface board supports FAT file system but not NTFS file system.

(10) Mitsubishi Electric is not liable for any damages, in whole or in part, including failure of writing to an SD memory card, and corruption and loss of the saved data, or the like. Back up saved data as necessary.

(11) Do not touch any electronic parts on the interface controller when inserting or ejecting an SD memory card, or else the control board could fail.

(a) For insertion, push on the SD memory card until it clicks into place.
(b) For ejection, push on the SD memory card until it clicks.
Note: To avoid cutting fingers, do not touch sharp edges of the SD memory card connector (CN108) on the interface controller.

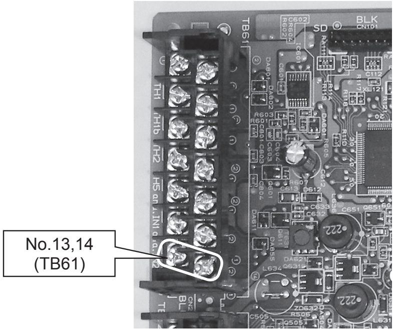


Logos		
SD™	miniSD™	microSD™
SDHC™	miniSDHC™	microSDHC™
Capacities		
2 GB to 32 GB *1		
SD speed classes		
All		

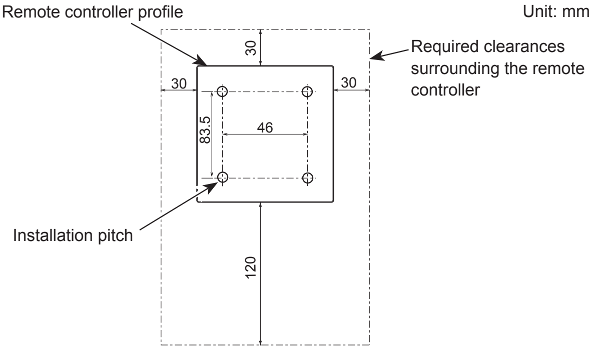
- The SD Logo is a trademark of SD-3C, LLC.
  The miniSD logo is a trademark of SD-3C, LLC.
  The microSD logo is a trademark of SD-3C, LLC.

*1 A 2-GB SD memory card stores up to 30 days of operation logs.

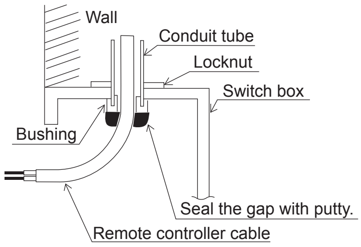
4. Electrical work



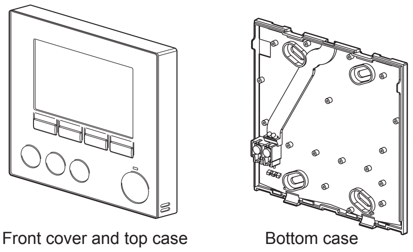
<Fig. 4.3.1>


Remote controller profile
Unit: mm
Required clearances surrounding the remote controller
30
30
30
83.5
46
Installation pitch
120

<Fig. 4.3.2>



<Fig. 4.3.3>



Front cover and top case

Bottom case

<Fig. 4.3.4>

4.3. Connecting the remote controller

4.3.1. Connect the remote controller cable to Interface unit

Connect the remote controller cable to 13 and 14 on the terminal block (TB61) on the interface controller. <Fig. 4.3.1>

Wiring wire No. × size (mm²): 2 × 0.3 (non polar)

The 5 m wire is attached as an accessory. Max. 500 m

Wiring size must comply with the applicable local and national codes.

Circuit rating: 12V DC

Circuit rating is NOT always against the ground.

Notes:

Wiring for remote controller cable shall be (5 cm or more) apart from power source wiring so that it is not influenced by electric noise from power source wiring. (Do not insert the remote controller cable and power source wiring in the same conduit.) (Refer to Fig. 4.1.1)

When wiring to TB61, use the ring type terminals and insulate them from the cables of adjoining terminals.

4.3.2. Installing the remote controller

1. The remote controller can be installed either in the switch box or directly on the wall. Perform the installation properly according to the method.
   (1) Secure clearances shown in <Fig. 4.3.2> regardless of whether installing the remote controller either directly on the wall or in the switch box.
   (2) Prepare the following items in the field.
   Double switch box
   Thin metal conduit
   Locknut and bushing
   Cable cover
   Wall plug

2. Drill an installation hole in the wall.
   ■ Installation using a switch box
   • Drill a hole in the wall for the switch box, and install the switch box in the hole.
   • Fit the conduit tube into the switch box.

   ■ Direct wall installation
   • Drill a cable access hole and thread the remote controller cable through it.

⚠ **Caution:**

To prevent entry of dew, water, and insects, seal the gap between the cable and the hole through which the cable is threaded with putty. Otherwise, electric shock, fire, or failure may result.

3. Have the remote controller ready.
   Remove the bottom case from the remote controller.

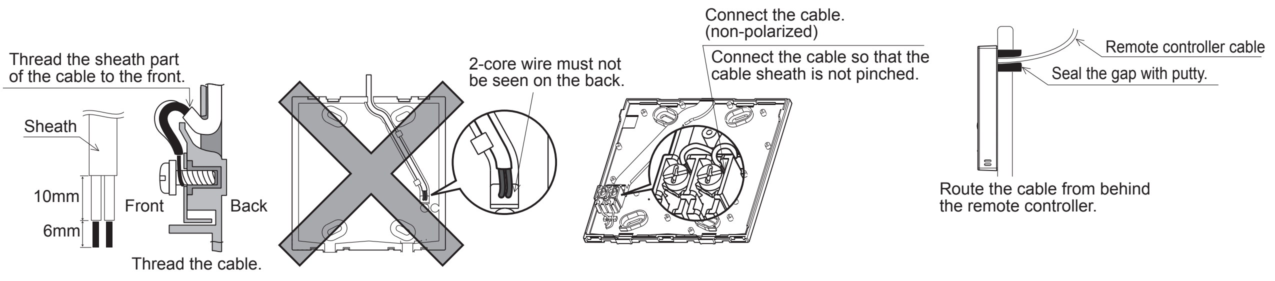
4. Connect the remote controller cable to the terminal block on the bottom case.
   Modify the remote controller cable as shown in <Fig. 4.3.5>, and thread the cable from behind the bottom case.
   Completely thread the cable to the front so that the unsheathed part of the cable cannot be seen behind the bottom case.
   Connect the remote controller cable to the terminal block on the bottom case.

   ■ Direct wall installation
   • Seal the gap between the cable and the hole through which the cable is threaded.

⚠ **Caution**

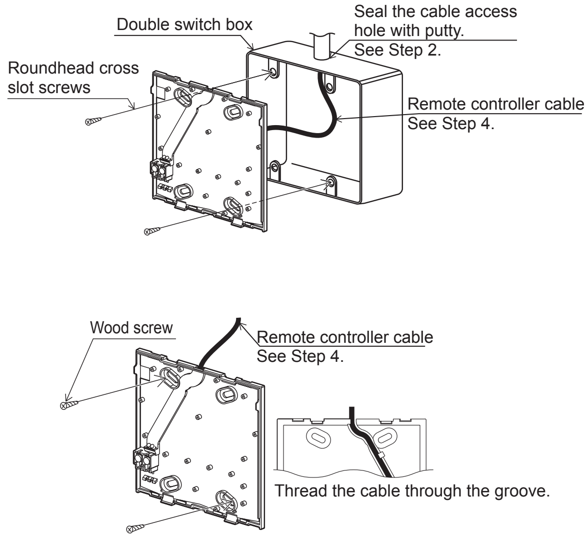
To prevent electric shock or failure, keep the sheath ends or any other foreign objects out of the terminal block.

Do not use ring terminals to connect the wires to the terminal block on the bottom case. The terminals will come in contact with the control board and the front cover and top case, which will result in failure.


Thread the sheath part of the cable to the front.
Sheath
10mm
6mm
Front
Back
Thread the cable.
2-core wire must not be seen on the back.
Connect the cable. (non-polarized)
Connect the cable so that the cable sheath is not pinched.
Remote controller cable
Seal the gap with putty.
Route the cable from behind the remote controller.

<Fig. 4.3.5>

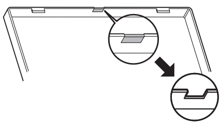
4. Electrical work


Double switch box
Seal the cable access hole with putty. See Step 2.
Roundhead cross slot screws
Remote controller cable See Step 4.
Wood screw
Remote controller cable See Step 4.
Thread the cable through the groove.

<Fig. 4.3.6>

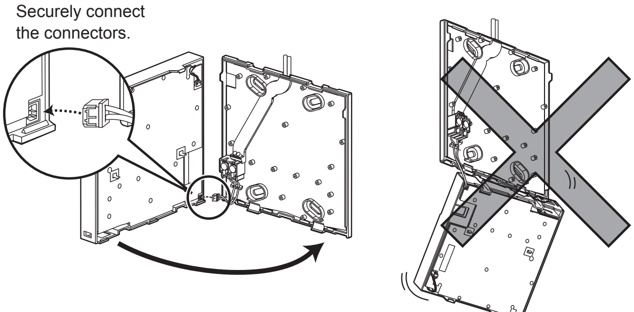
5. Install the bottom case.
   - ■ Installation using a switch box
     - When installing the bottom case in the switch box, secure at least two corners of the switch box with screws.
   - ■ Direct wall installation
     - Thread the cable through the slot provided.
     - When mounting the bottom case on the wall, secure at least two corners of the remote controller with screws.
     - To prevent the bottom case from lifting, use top-left bottom-right corners of the remote controller (viewed from the front) to secure the bottom case to the wall with wall plugs or the like.

⚠ Caution:
To avoid causing deformation or cracks to the remote controller, do not overtighten the screws and make an additional installation hole(s).



<Fig. 4.3.7>

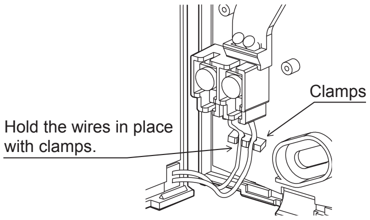
6. Cut out the cable access hole.
   - ■ Direct wall installation
     - Cut out the knockout hole (indicated with grey in <Fig. 4.3.7>) in the front cover by knife or nipper.
     - Thread the remote controller cable from the slot behind the bottom case through this access hole.



<Fig. 4.3.8>

7. Plug the lead wire cable into the top case.
   Plug the lead wire cable coming from the bottom case into the top case.

⚠ Caution:
To avoid failures, do not remove the controller board protective sheet and the controller board from the top case.
After the cable is plugged into the top case, do not hang the top case as shown in <Fig. 4.3.8>. Otherwise, the remote controller cable could sever, which could cause malfunction to the remote controller.

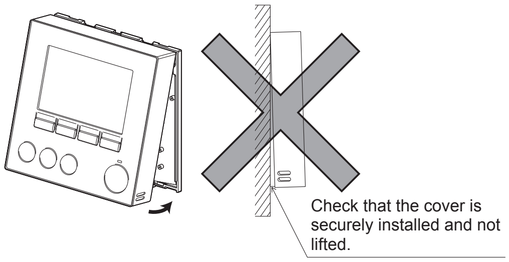


<Fig. 4.3.9>

8. Fit the lead wires into the clamps.

⚠ Caution:
Hold the wires in place with clamps to prevent excessive strain from being applied on the terminal block and causing cable breakage.

4. Electrical work

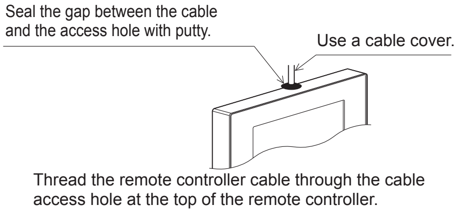


<Fig. 4.3.10>

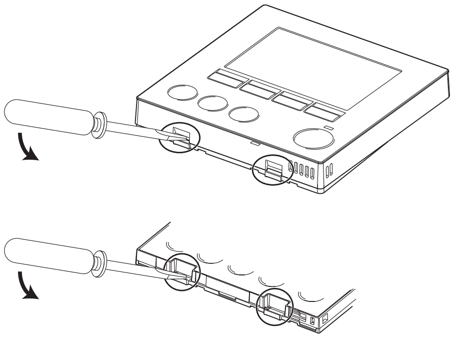
9. Fit the top case and the front cover onto the bottom case.
   The top case assembly (fitted with the front cover at factory shipment) has two tabs on top. Hook the tabs onto the bottom case and snap the top case onto the bottom case into place. Check that the cover is securely installed.

⚠ **Caution:**
When the top case is correctly attached to the bottom case a click is heard. If the front cover is not clicked into place it may fall off.

■ Direct wall installation (when routing the remote controller cable along the wall surface)
- Thread the remote controller cable through the cable access hole at the top of the remote controller.
- Seal the gap between the cable and the access hole with putty.
- Use a cable cover.


Seal the gap between the cable and the access hole with putty.
Use a cable cover.
Thread the remote controller cable through the cable access hole at the top of the remote controller.

<Fig. 4.3.11>



<Fig. 4.3.12>

● Disassembling the top case and the front cover

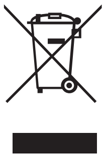
(1) Remove the front cover.
Insert a flat head screwdriver into either of two open slots at the bottom of the remote controller and move the screwdriver handle downward as shown. The engagement of the tabs will be released. Then pull the front cover toward the front to remove the front cover.

(2) Remove the top case.
Insert a flat head screwdriver into either of two open slots at the bottom of the remote controller. The subsequent procedure is the same as that of the front cover.

⚠ **Caution:**
Use a 5 mm- flat head screwdriver. Do not turn the screwdriver forcibly while placing the blade in the slots. Doing so could break the covers.

5. Remote controller operation

■ Disposal of the Unit



<Figure 5.1>

Note: This symbol mark is for EU countries only.
This symbol mark is according to the directive 2012/19/EU Article 14 Information for users and Annex IX, and/or to the directive 2006/66/EC Article 20 Information for end-users and Annex II.
Your Mitsubishi Electric heating system products have been manufactured with high quality materials and components which can be recycled and/or reused. The symbol in Figure 5.1 means that electrical and electronic equipment, batteries and accumulators at the end of their life, should be disposed of separately from your household waste.
If a chemical symbol is printed beneath the symbol (Figure 5.1), this chemical symbol means that the battery or accumulator contains a heavy metal at a certain concentration. This is indicated as follows;
Hg: mercury (0.0005%), Cd: (cadmium (0.002%), Pb: lead (0.004%)

In the European Union there are separate collection systems for used electrical and electronic products, batteries and accumulators.
Please dispose of this equipment, batteries and accumulators correctly at your local community waste collection/recycling centre.

Contact your local Mitsubishi Electric dealer for country-specific details on disposal.
Please, help us to conserve the environment we live in.

5.1. Safety precautions

FOR USER

- ► **Before installing the unit, make sure you read all the "Safety Precautions".**
- ► **The "Safety Precautions" provide very important points regarding safety. Make sure you follow them.**
- ► **Please report to or take consent by the supply authority before connection to the system.**

Symbols used in the text
⚠ Warning:
Describes precautions that should be observed to prevent danger of injury or death to the user.
⚠ Caution:
Describes precautions that should be observed to prevent damage to the unit.

Symbols used in the illustrations
⏚ : Indicates a part which must be grounded.

⚠ Warning:

- **The unit must not be installed by the user. Ask the dealer or an authorized company to install the unit. If the unit is installed improperly, electric shock or fire may result.**
- **Do not stand on, or place any items on the unit.**
- **Do not splash water over the unit and do not touch the unit with wet hands. An electric shock may result.**
- **Do not spray combustible gas close to the unit. Fire may result.**
- **Do not place a gas heater or any other open-flame appliance where it will be exposed to the air discharged from the unit. Incomplete combustion may result.**
- **Do not remove the front panel or the fan guard from the outdoor unit when it is running.**
- **When you notice exceptionally abnormal noise or vibration, stop operation, turn off the power switch, and contact your dealer.**
- **Never insert fingers, sticks etc. into the intakes or outlets.**
- **If you detect odd smells, stop using the unit, turn off the power switch and consult your dealer. Otherwise, a breakdown, electric shock or fire may result.**
- **If the supply cable is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.**
- **This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.**
- **Children should be supervised to ensure that they do not play with the appliance.**
- **If the refrigeration gas blows out or leaks, stop the operation of the air conditioner, thoroughly ventilate the room, and contact your dealer.**
- **Do not install in location that is hot or humid for long periods of time.**

⚠ Caution:

- **Do not use any sharp object to push the buttons, as this may damage the remote controller.**
- **Never block or cover the interface unit's intakes or outlets.**

Disposing of the unit
When you need to dispose of the unit, consult your dealer.

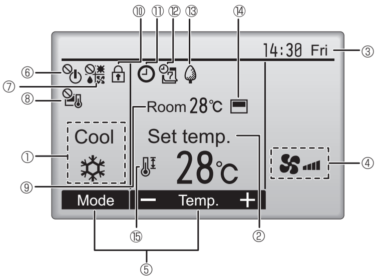
5. Remote controller operation

5.2. Names and functions of controller components

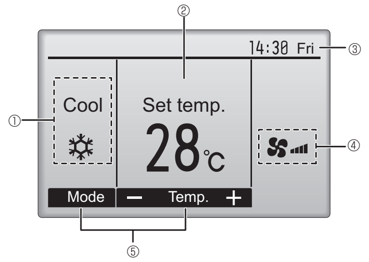
Display

The main display can be displayed in two different modes: "Full" and "Basic."
The factory setting is "Full."

Full mode



Basic mode



* All icons are displayed for explanation.

①Operation mode

Interface unit operation mode appears here.

②Preset temperature

Preset temperature appears here. It is valid only when auto step mode is selected.

③Clock

Current time appears here.

④Fan speed

This function is not available.

⑤Button function guide

Functions of the corresponding buttons appear here.

⑥

Appears when the ON/OFF operation is centrally controlled.

⑦

Appears when the operation mode is centrally controlled.

⑧

Appears when the preset temperature is centrally controlled.

⑨Room temperature

Current room temperature appears here.

⑩

Appears when the buttons are locked.

⑪

Appears when the On/Off timer function is enabled.

⑫

Appears when the Weekly timer is enabled.

⑬

Appears while power is ON.

⑭

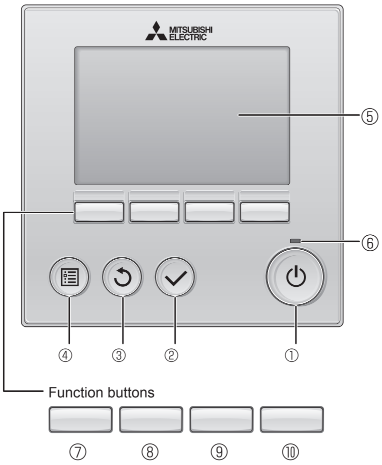
Appears when the built-in thermistor on the remote controller is activated to monitor the room temperature (⑨).

▭ appears when the thermistor on the interface unit is activated to monitor the room temperature.

⑮

Appears when the preset temperature range is restricted.

Controller interface



- When the backlight is off, pressing any button turns the backlight on and does not perform its function. (except for the ON/OFF button)
- Most settings (except ON/OFF, mode, fan speed, temperature) can be made from the Menu screen.

① ON/OFF button

Press to turn ON/OFF the interface unit.

② SELECT button

Press to save the setting.

③ RETURN button

Press to return to the previous screen.

④ MENU button

Press to bring up the Main menu.

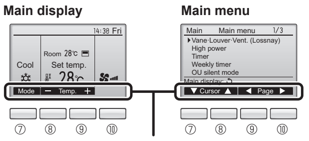
⑤ Backlit LCD

Operation settings will appear. When the backlight is off, pressing any button turns the backlight on and it will stay lit for a certain period of time depending on the screen.

⑥ ON/OFF lamp

This lamp lights up in green while the unit is in operation. It blinks while the remote controller is starting up or when there is an error.

The functions of the function buttons change depending on the screen. Refer to the button function guide that appears at the bottom of the LCD for the functions they serve on a given screen.
When the system is centrally controlled, the button function guide that corresponds to the locked button will not appear.



Function guide

⑦ Function button F1

Main display: Press to change the operation mode.
Main menu: Press to move the cursor down.

⑧ Function button F2

Main display: Press to decrease temperature.
Main menu: Press to move the cursor up.

⑨ Function button F3

Main display: Press to increase temperature.
Main menu: Press to go to the previous page.

⑩ Function button F4

Main display: Not available.
Main menu: Press to go to the next page.

5. Remote controller operation

5.3. Initial settings

From the Main display, press “MENU” button, select “Initial setting”, and make the remote controller settings on the screen that appears.

- · Main/Sub
- · Clock
- · Main display
- · Contrast
- · Display details
  - -Clock
  - -Temperature
  - -Room temp.
  - -Auto mode (Auto cooling/heating operation)
- · Auto mode (Auto cooling/heating operation)
- · Administrator password
- · Language selection

(1) Main/Sub setting
When connecting two remote controllers, one of them needs to be designated as a sub controller.

(2) Clock setting
Clock setting is necessary for time display, SD card data logging, weekly timer, timer setting and error history.
Make sure to perform clock setting when the unit is used for the first time or has not used for a long time.

(3) Main display setting
Use the F3 or F4 button to select the display mode “Full” or “Basic.” (The factory setting is “Full.”)

(4) Remote controller display details setting
Make the settings for the remote-controller-related items as necessary.
Press the SELECT button to save the changes.

[1] Clock display

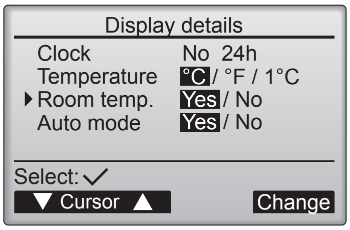
[2] Temperature unit setting

[3] Room temperature display

[4] Auto mode (Auto cooling/heating operation) display setting
(The factory setting is “Yes”.)

· Yes: “AUTO COOL” or “AUTO HEAT” is displayed during Auto mode (Auto cooling/heating operation).

· No: Only “AUTO” is displayed during Auto mode (Auto cooling/heating operation).



Display details
Clock No 24h
Temperature °C / °F / 1°C
Room temp. Yes / No
Auto mode Yes / No

(5) Auto mode (Auto cooling/heating operation) setting

· Yes: The Auto mode (Auto cooling/heating operation) can be selected in the operation mode setting.

· No: The Auto mode (Auto cooling/heating operation) cannot be selected in the operation mode setting.
(The factory setting is “Yes”.)

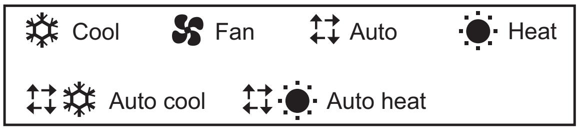
(6) Administrator password setting

- The initial administrator password is “0000.” Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.
- If you forget your administrator password, you can initialize the password to the default password “0000” by pressing and holding the F1 and F2 buttons simultaneously for three seconds on the administrator password setting screen.
- The administrator password is required to make the settings for the following items.
  - · Timer setting
  - · Weekly timer setting
  - · Restriction setting

5. Remote controller operation

5.4. Basic operations

■ Operation mode icons



■ Turning ON and selecting operation mode

1 Press button ① (ON/OFF).

2 Press button ⑦ (F1) to go through the operation modes.

The ON/OFF lamp and the LCD will light up.

→ Cool → Fan → Auto (Auto cooling/heating operation) *1 → Heat →

*1 Operation mode is available ONLY when input selection of capacity setting (DIP SW1 and SW6) is "No input (Auto step mode)" and Return air temp. control is selected (DIP SW 1-7 is ON).

■ Preset temperature setting

Press button ⑧ (F2) to decrease the preset temperature.
Press button ⑨ (F3) to increase the preset temperature.
* Pressing once changes the value by 1ºC (1ºF).

Operation mode	Preset temperature range
Cool (Supply air temp. control)	12 - 30 ºC (54 - 87 ºF)
Cool (Return air temp. control)	19 - 30 ºC (67 - 87 ºF)
Heat	17 - 28 ºC (63 - 83 ºF)
Auto cooling/heating operation	19 - 28 ºC (67 - 83 ºF)
Fan	Not settable

* The temperature range restriction setting will be applied preferentially, if any. If the setting value is outside of the range, a message "Temp. range locked" will appear.

■ Automatic cooling/heating operation

1 Press button ① (ON/OFF).

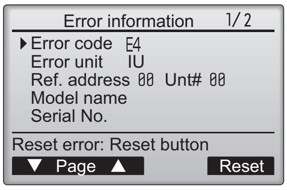
2 Press button ⑦ (F1) to display the operation mode "Auto".

When the room temperature is higher than the preset temperature, cooling operation starts.
When the room temperature is lower than the preset temperature, heating operation starts.

* The current operation mode ("Auto cool" or "Auto heat") will be displayed after the mode is determined.
If "Display/non-display of COOL/HEAT during AUTO mode" has been set to "Non-display" while making the initial settings, only "Auto" will be displayed.

5.5. Troubleshooting

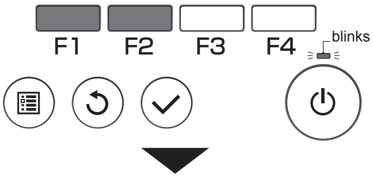
When an error occurs, the following screen will appear.
Check the error status, stop the operation, and consult your dealer.

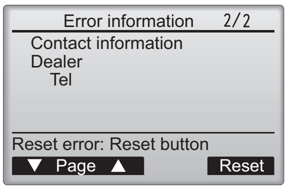


Error information 1/2
Error code E4
Error unit IU
Ref. address 00 Unt# 00
Model name
Serial No.
Reset error: Reset button

Error code, error unit, refrigerant address, unit model name, and serial number will appear.
The model name and serial number will appear only if the information have been registered.

Press button ⑦ (F1) or ⑧ (F2) to go to the next page.

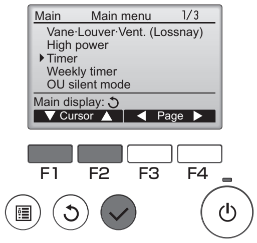




Error information 2/2
Contact information
Dealer
Tel
Reset error: Reset button

Contact information (dealer's phone number) will appear if the information have been registered.

5. Remote controller operation



5.6. Timer and Weekly timer

The settings for Timer and Weekly timer operation can be made from the remote controller.
Press button ④ (MENU) to go to the Main menu, and move the cursor to the desired setting with button ⑦ (F1) or ⑧ (F2).

■ Timer

- On/Off timer

  Operation On/Off times can be set in 5-minute increments.
- Auto-Off timer

  Auto-Off time can be set to a value from 30 to 240 in 10-minute increments.

■ Weekly timer

Operation On/Off times for a week can be set.
Up to eight operation patterns can be set for each day.

5.7. Service

■ Maintenance password setting

- The initial administrator password is "9999". Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.
- If you forget your administrator password, you can initialize the password to default password "9999" by pressing and holding the F1 and F2 buttons simultaneously for three seconds on the maintenance password setting screen.

5.8. Others

The following functions are NOT available.

(1) In main menu (Press button ④ (MENU), main menu appears.)

- “Vane Louver Vent (Lossnay)”
- “High power”
- “OU silent mode”
- In “Energy saving” menu, “schedule” function is NOT available.
- “Filter information”
- “Maintenance”
- In “Service” menu, “Drain pump test run”, “Check” functions are NOT available, except for “Request code” in “Check” function.

6. Service and Maintenance

■ Error Codes

Code	Error	Action
P1	Target air temperature thermistor (TH1) failure	• Check connection of thermistor. • Check resistance value of thermistor. 0ºC 15.0 kΩ 10ºC 9.6 kΩ 20ºC 6.3 kΩ 30ºC 4.3 kΩ
P2	Ref. liquid temperature thermistor (TH2) failure	• Check connection of thermistor. • Check resistance value of thermistor. For characteristics, refer to (P1) above.
P6	Freezing/ overheating protection	• Check local system if air flow is reduced. • Check outdoor fan motor.
P9	2-Phase temperature thermistor (TH5) failure	• Check connection of thermistor. • Check resistance value of thermistor. For characteristics, refer to (P1) above.
E0 - E5	Communication failure between remote controller and interface controller board	• Check connection cable for damage or loose connections. • Check system configuration of remote controller. (Refer to "3. System")
E6 - E7	Communication failure between interface unit and outdoor unit	• Check that outdoor unit has not been turned off. • Check connection cable for damage or loose connections. • Refer to outdoor unit service manual.
Fb	Interface controller board failure	• Replace interface controller board.
PL	Abnormal refrigerant circuit	• Replace the 4-way valve. • Check refrigerant pipes for disconnection or leakage. • Refer to outdoor unit service manual.
PU	HEX inlet temperature thermistor (TH11) failure	• Check connection of thermistor. • Check resistance value of thermistor. For characteristics, refer to (P1) above.
"EE" or "System error 1"	DIP SW setting error (Intelligent multiple outdoor unit control)	• Set DIP SW 1-8 to "OFF", if system is single outdoor unit control. • Connect between interface units and set Ref. address of each outdoor unit. (See "3. System".)
System error 2	Controller board is incompatible with this model.	• Install interface controller board that is compatible with PAC-IF013B-E or PAC-SIF013B-E.
System error 3	Incompatible controller board is mixed when multiple interface units are connected.	• Check all interface controller boards are compatible with PAC-IF013B-E or PAC-SIF013B-E.
System error 4	DIP SW 1-8 of some interface units are ON and those of the other interface units are OFF.	• Set DIP SW 1-8 of all interface units to ON, or SW1-8 of all interface units to OFF.
"System error 5" or "System error 6"	2 or more Interface units are connected with one remote controller and manual step mode is selected, but DIP SW1-8 are OFF.	• Set SW1-8 of all interface units to ON if system is intelligent multiple outdoor unit control. • Disconnect between interface units and connect remote controllers separately to each interface unit, if manual step mode is selected and intelligent multiple outdoor unit control is not selected.
System error 11	7 or more interface units are connected. (Up to 6 interface units can be connected.)	• Connect 6 or less interface units in one system.
"6831" or "Please wait" remains displayed on the remote controller for more than 6 minutes.	Remote controller is incompatible with this model.	• Remote controller included in the package of PAC-IF013B-E is exclusive for PAC-IF013B-E or PAC-SIF013B-E. Use the remote controller that has a drawing number "BH00J360" on the bottom.

7. Requirement on local design

- This interface is to connect Mr. Slim inverter outdoor unit of MITSUBISHI ELECTRIC to local applications. Please check the following when designing the local system.
- MITSUBISHI ELECTRIC does not take any responsibility on the local system design. Therefore, MITSUBISHI ELECTRIC does NOT take any responsibility on the failure (including outdoor unit) caused by local AHU and system design. Also R32 is flammable refrigerant, and the fire safety warranty for the whole system (including outdoor unit) must be done by your side when using R32 refrigerant.
- Conformity of regulations and laws must be confirmed on the system by your side.
- See the document "AIR-HANDLING UNIT (AHU) DESIGN GUIDELINE" for more information. To get it, contact your dealer.

Remote On/Off Input Signal Adaptor PAC-SC36NA-E

Photo

Descriptions

- This adapter connects the relay circuit and the outdoor unit control board to enable low noise mode or demand function using external input.
- All parts besides the wires for connection (timer, switch, relay, etc.) must be procured locally.

Applicable Models

■ PUZ-ZM Series
■ PUZ-M Series

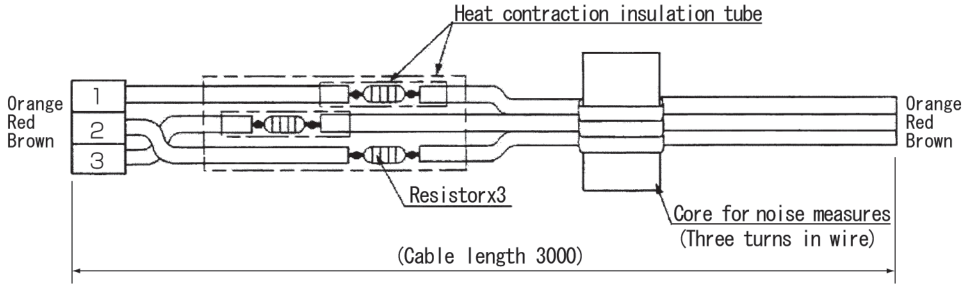
[R32 type]

Specifications

Function	Inputs signal of low noise mode or demand function to the outdoor unit control board.
Input signal	No-voltage contact (ON/OFF level signal)
Connector	3P (connector to CNDM, CN3D, CN3S on outdoor unit control board)
Cable type	3-wire cable, for extension: sheathed vinyl cord or cable (0.5 to 1.25mm²)
Cable length	3m (max. 10m when extended locally)

Dimensions

Unit : mm



How to Use / How to Install

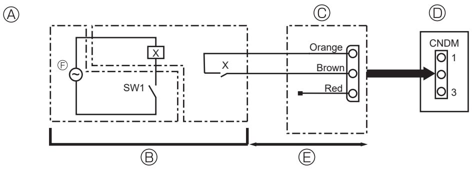


Fig. 1

A Circuit diagram example (low noise mode)
B On-site arrangement
C External input adapter (PAC-SC36NA)
X: Relay
D Outdoor unit control board
E Max. 10 m
F Power supply for relay

Low noise mode (on-site modification) (Fig. 1)

By performing the following modification, operation noise of the outdoor unit can be reduced by about 3-4 dB.

The low noise mode will be activated when a commercially available timer or the contact input of an ON/OFF switch is added to the CNDM connector (option) on the control board of the outdoor unit.

- The ability varies according to the outdoor temperature and conditions, etc.

① Complete the circuit as shown when using the external input adapter (PAC-SC36NA). (Option)
② SW1 ON: Low noise mode
SW1 OFF: Normal operation

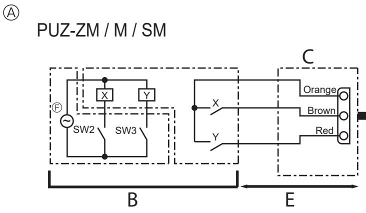


Fig. 2

A Circuit diagram example (Demand function)
B On-site arrangement
X, Y: Relay
C External input adapter (PAC-SC36NA)
D Outdoor unit control board
E Max. 10 m
F Power supply for relay

Demand function (on-site modification) (Fig. 2)

By performing the following modification, energy consumption can be reduced to 0 –100% of the normal consumption.

The demand function will be activated when a commercially available timer or the contact input of an ON/OFF switch is added to the CNDM connector (option) on the control board of the outdoor unit.

① Complete the circuit as shown when using the external input adapter (PAC-SC36NA). (Option)
② By setting SW7-1 on the control board of the outdoor unit, the energy consumption (compared to the normal consumption) can be limited as shown below.

PUZ-ZM / M / SM

SW7-1	SW2	SW3	Energy consumption
ON	OFF	OFF	100%
	ON	OFF	75%
	ON	ON	50%
	OFF	ON	0%(Stop)