MITSUBISHI ELECTRIC

Changes for the Better

AIR CONDITIONING SYSTEMS

CITY MULTI

DATA BOOK

MODEL

PCFY-MS-VKM2-E

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PCFY-MS-VKM2-E

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1. SPECIFICATIONS

Model			PCFY-MS40VKM2-E	PCFY-MS63VKM2-E	PCFY-MS100VKM2-E	PCFY-MS125VKM2-E
Power source			1-phase 220-240V 50Hz/60Hz			
Cooling capacity *1		kW	4.5	7.1	11.2	14.0
(Nominal) *1		BTU / h	15,400	24,200	38,200	47,800
	Power input	kW	0.04	0.05	0.09	0.11
(220V)	Current input	A	0.28	0.33	0.65	0.76
Heating capacity *2		kW	5.0	8.0	12.5	16.0
(Nominal) *2		BTU / h	17,100	27,300	42,700	54,600
	Power input	kW	0.04	0.05	0.09	0.11
(220V)	Current input	A	0.28	0.33	0.65	0.76
External finish			MUNSELL (6.4Y 8.9/0.4)	MUNSELL (6.4Y 8.9/0.4)	MUNSELL (6.4Y 8.9/0.4)	MUNSELL (6.4Y 8.9/0.4)
External dimension HxWxD		mm	230x960x680	230x1280x680	230x1600x680	230x1600x680
		in.	9-1/16 x 37-13/16 x 26-3/4	9-1/16 x 50-3/8 x 26-3/4	9-1/16 x 63 x 26-3/4	9-1/16 x 63 x 26-3/4
Net weight		kg(lbs)	25 (55)	32 (71)	37 (82)	39 (86)
Heat exchanger			Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
FAN	Type x Quantity		Sirocco fan x 2	Sirocco fan x 3	Sirocco fan x 4	Sirocco fan x 4
	External static press.	Pa	0	0	0	0
		mmH_2O	0	0	0	0
	Motor Type		DC motor	DC motor	DC motor	DC motor
	Motor output	kW	0.090	0.095	0.160	0.160
	Driving mechanism		Direct-drive	Direct-drive	Direct-drive	Direct-drive
	Air flow rate	m^3 / min	10-11-12-13	14-15-16-18	21-24-26-28	21-24-27-31
	(Low-Mid2-Mid1-High)	L/s	167-183-200-217	233-250-267-300	350-400-433-467	350-400-450-517
		cfm	353-388-424-459	494-530-565-636	742-847-918-989	742-847-953-1095
Sound pressure level (measured in anechoic room)		dB <A>	29-32-34-36	31-33-35-37	36-38-41-43	36-39-42-44
Insulation material			Polyester sheet	Polyester sheet	Polyester sheet	Polyester sheet
Air filter			PP honeycomb	PP honeycomb	PP honeycomb	PP honeycomb
Protection device			Fuse	Fuse	Fuse	Fuse
Refrigerant control device			LEV (RH50B088H01) (PAM 4 ton)	LEV (RH50B088H01) (PAM 4 ton)	LEV (RH50B089H01) (PAM 8 ton)	LEV (RH50B089H01) (PAM 8 ton)
Connectable outdoor unit			R32, R410A CITY MULTI	R32, R410A CITY MULTI	R32, R410A CITY MULTI	R32, R410A CITY MULTI
Diameter of refrigerant pipe	Liquid	mm(in.)	6.35(1/4) Flare	6.35(1/4) / 9.52(3/8) Flare*3	9.52(3/8) Flare	9.52(3/8) Flare
	Gas	mm(in.)	12.70(1/2) Flare	15.88(5/8) Flare	15.88(5/8) Flare	15.88(5/8) Flare
Field drain pipe size		mm(in.)	O.D. 26mm(1)	O.D. 26mm(1)	O.D. 26mm(1)	O.D. 26mm(1)
Drawing	External		-	-	-	-
	Wiring		-	-	-	-
	Refrigerant cycle		-	-	-	-
Standard attachment	Document		Installation Manual, Instruction Book	Installation Manual, Instruction Book	Installation Manual, Instruction Book	Installation Manual, Instruction Book
	Accessory		-	-	-	-
Optional parts	High efficiency filter		PAC-SH88KF-E	PAC-SH89KF-E	PAC-SH90KF-E	PAC-SH90KF-E
	Drain pump		PAC-SJ92DM-E	PAC-SJ94DM-E	PAC-SJ93DM-E	PAC-SJ93DM-E
	Wireless remote controller kit		PAR-FL32MA, PAR-SL103A-E	PAR-FL32MA, PAR-SL103A-E	PAR-FL32MA, PAR-SL103A-E	PAR-FL32MA, PAR-SL103A-E
	Air cleaning filter		PAC-SK48KF-E	PAC-SK49KF-E	PAC-SK50KF-E	PAC-SK50KF-E
	V blocking filter		PAC-SK55KF-E	PAC-SK56KF-E	PAC-SK57KF-E	PAC-SK57KF-E
	Sensor and alarm kit		PAC-SL72SA-E	PAC-SL72SA-E	PAC-SL72SA-E	PAC-SL72SA-E
	Power supply interface for alarm kit		PAC-SL73IFL-E	PAC-SL73IFL-E	PAC-SL73IFL-E	PAC-SL73IFL-E
Remarks			* Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.	* Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.	* Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.	* Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.

Notes:

	*1 Nominal cooling conditions (subject to EN 14511-2)	*2 Nominal heating conditions (subject to EN 14511-2)
Indoor:	27°CD.B./19°CW.B.	20°CD.B.
	(81°FD.B./66°FW.B.)	(68°FD.B.)
Outdoor:	35°CD.B.	7°CD.B./6°CW.B.
	(95°FD.B.)	(45°FD.B./43°FW.B.)
Pipe length:	7.5 m (24-9/16 ft.)	7.5 m (24-9/16 ft.)
Level difference:	0 m (0 ft.)	0 m (0 ft.)

*3 It is possible to reduce the pipe size to ø6.35 using a "Flare nut for ø6.35" included in the accessory bag.
The pipe size required depends on the connected outdoor unit, so check the Outdoor Unit Installation Manual to confirm whether the Reducer can be used.

Unit converter

BTU/h = kW x 3,412

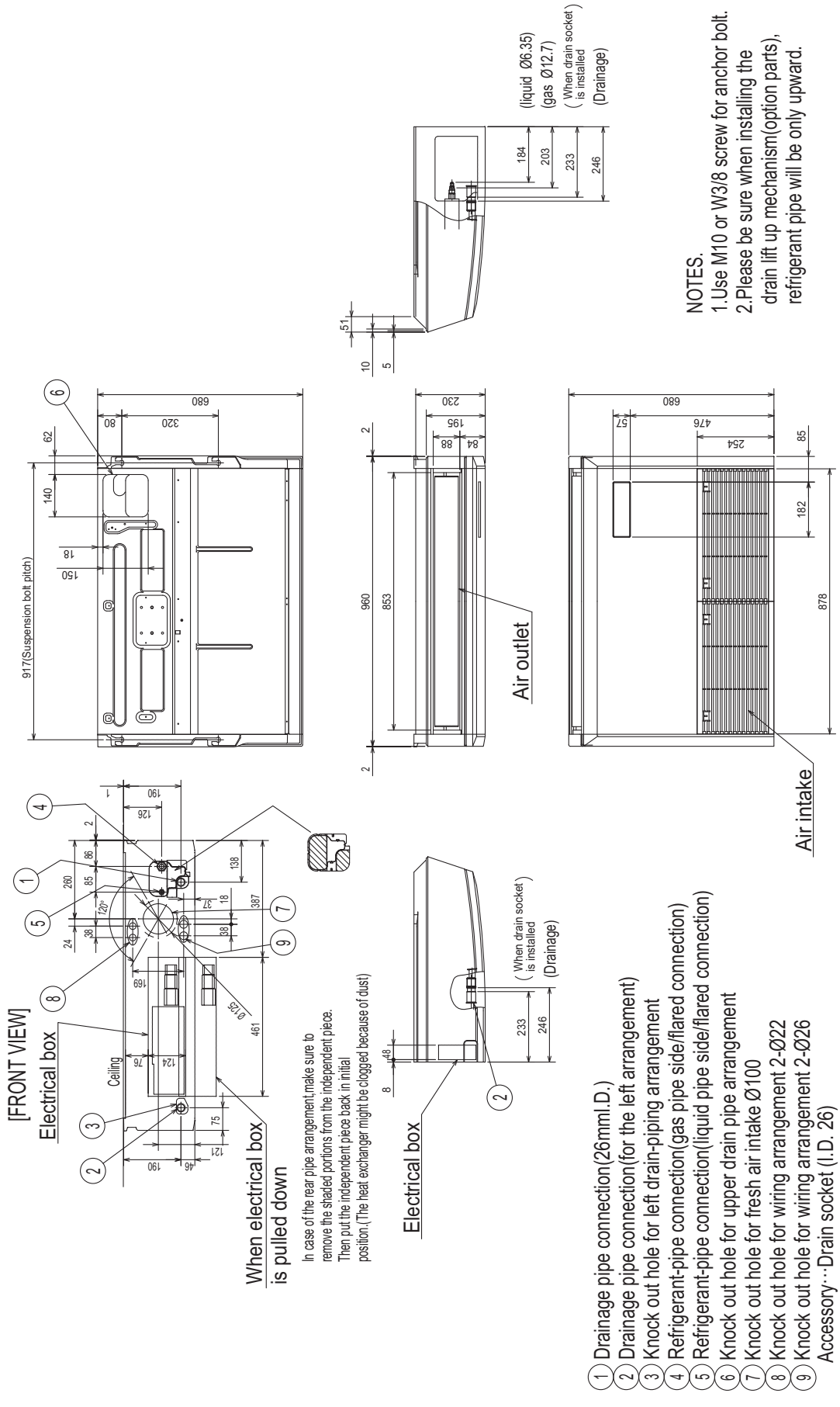
cfm = m^3/min x 35.31

lbs = kg / 0.4536

*The specification data is subject to rounding variation.

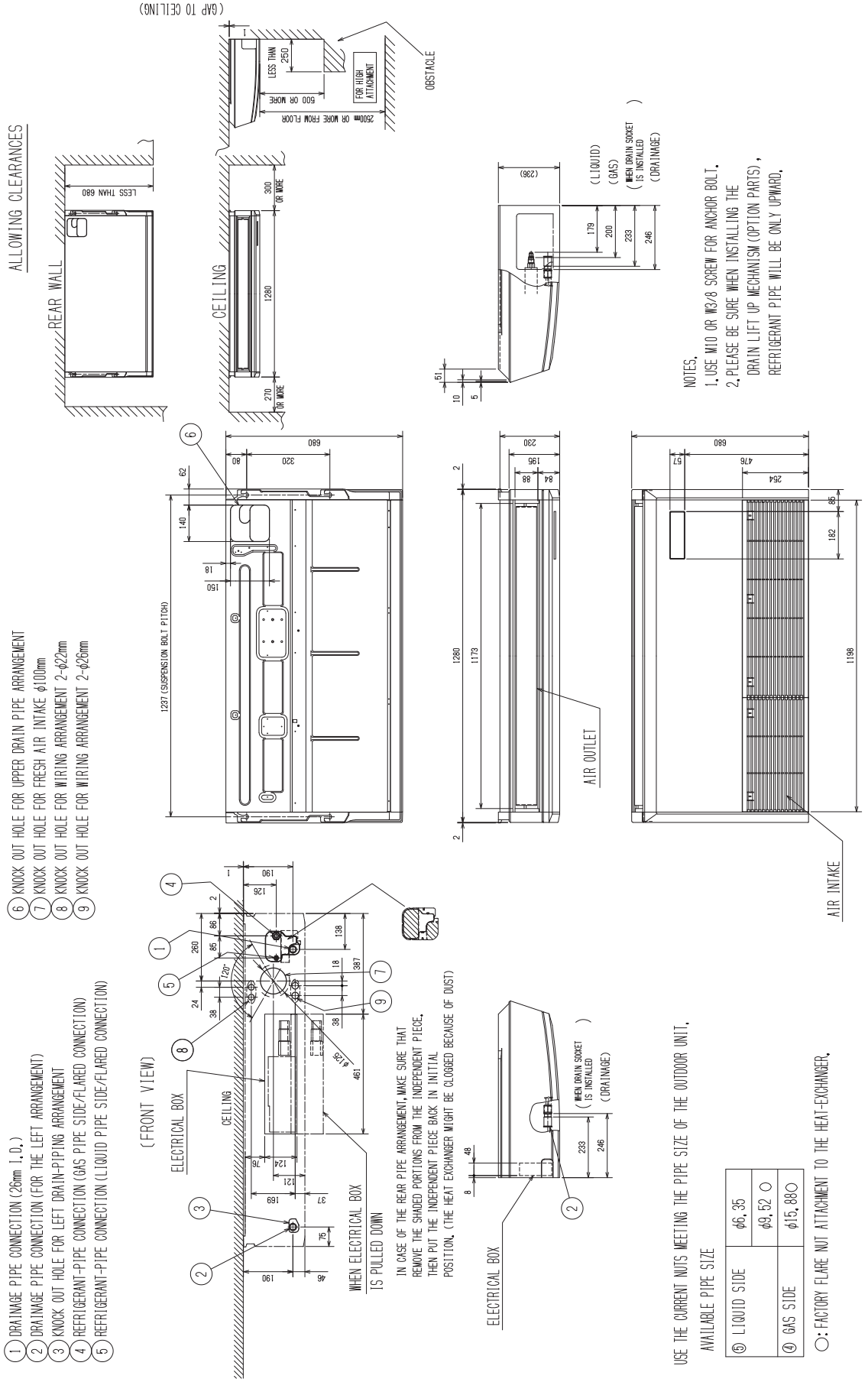
PCFY-MS40VKM2-E

Unit: mm



PCFY-MS63VKM2-E

Unit: mm



USE THE CURRENT NUTS MEETING THE PIPE SIZE OF THE OUTDOOR UNIT.

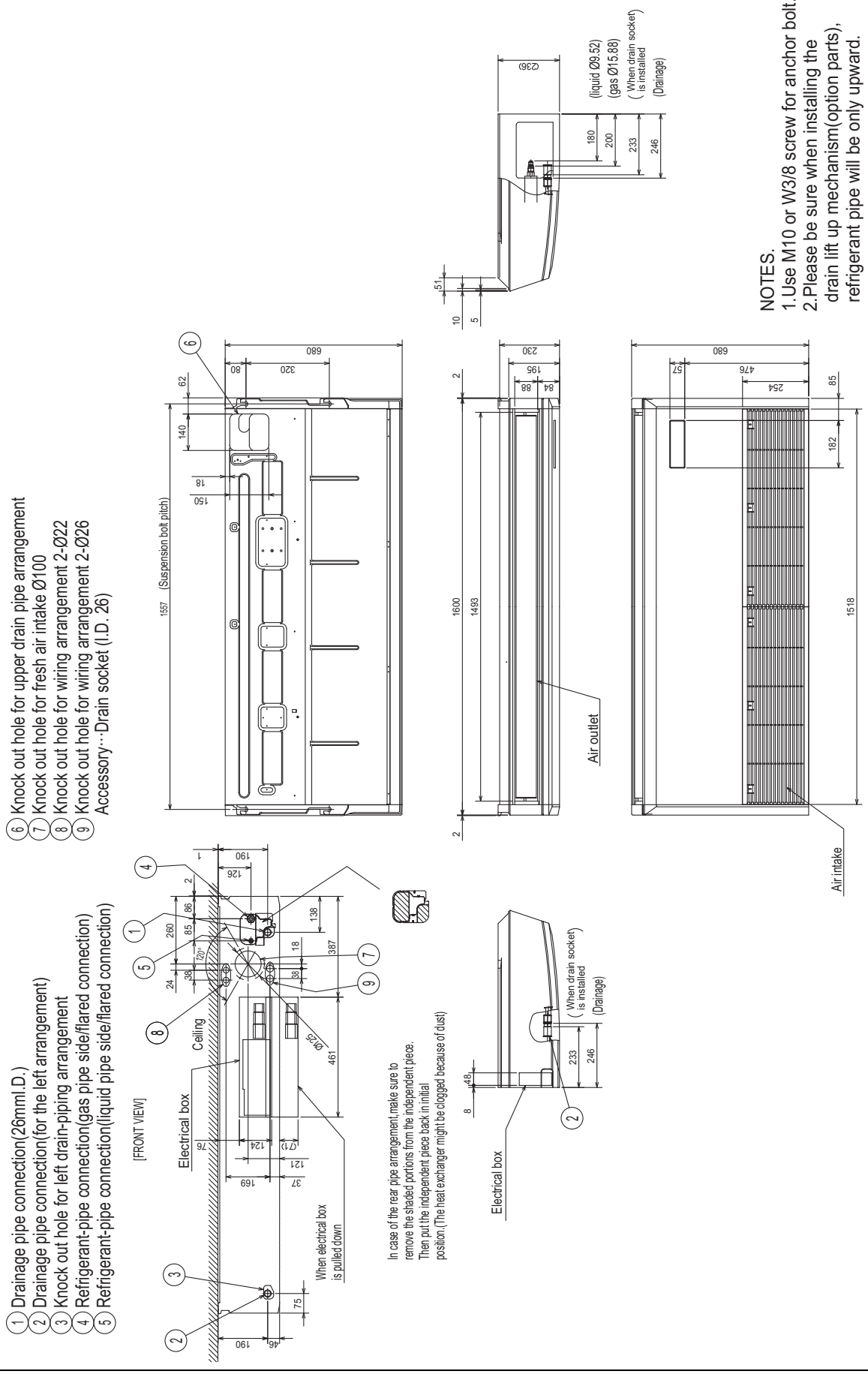
AVAILABLE PIPE SIZE

⑥ LIQUID SIDE	φ6.35	
	φ9.52 ○	
④ GAS SIDE	φ15.88○	

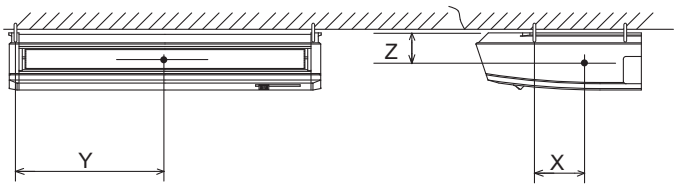
○: FACTORY FLARE NUT ATTACHMENT TO THE HEAT-EXCHANGER.

PCFY-MS100, 125VKM2-E

Unit: mm



PCFY-MS40, 63, 100, 125VKM2-E

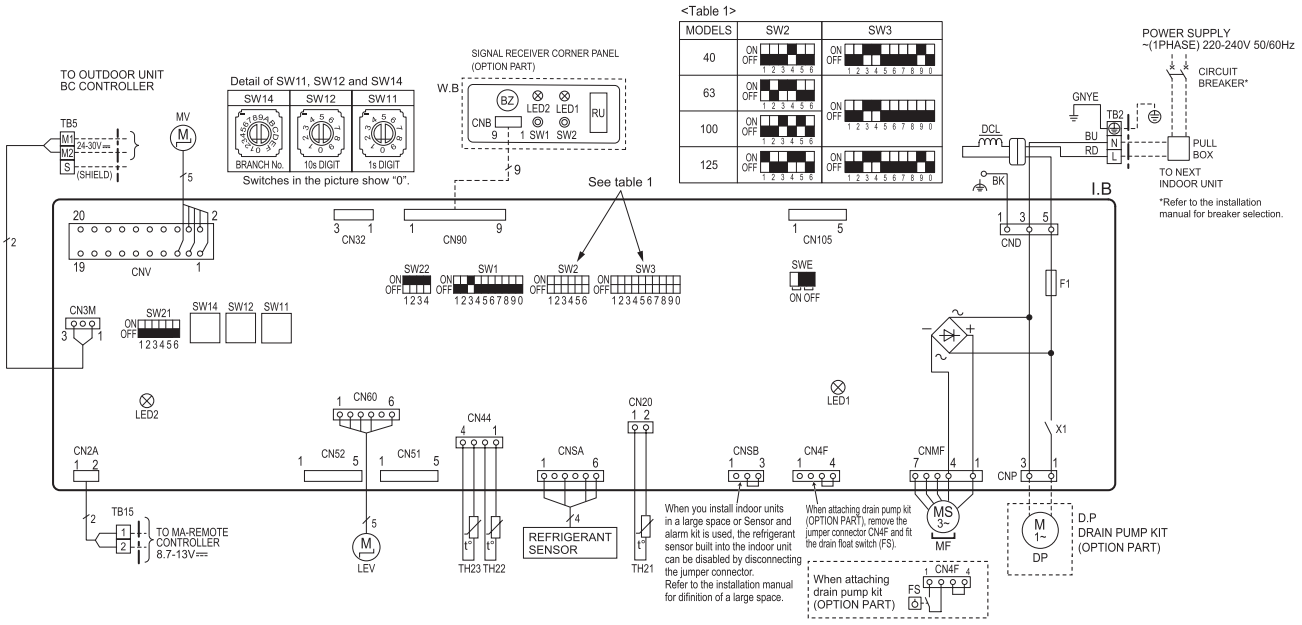


Model name	X	Y	Z
PCFY-MS40VKM2-E	110	450	115
PCFY-MS63VKM2-E	110	610	115
PCFY-MS100VKM2-E	110	770	115
PCFY-MS125VKM2-E	110	770	115

PLFY-MS40, 63, 100, 125VKM2-E

[LEGEND]

SYMBOL		NAME		SYMBOL		NAME
I. B		INDOOR CONTROLLER BOARD		TB2	TERMINAL BLOCK	POWER SUPPLY
	CN32	CONNECTOR	REMOTE SWITCH	TB5		TRANSMISSION
	CN51		CENTRALLY CONTROL	TB15		MA-REMOTE CONTROLLER
	CN52		REMOTE INDICATION	TH21	THERMISTOR	ROOM TEMP. DETECTION (0°C / 15kΩ, 25°C / 5.4kΩ)
	CN105		IT TERMINAL			
	F1	FUSE (T6.3AL250V)		TH22		PIPE TEMP. DETECTION / LIQUID (0°C / 15kΩ, 25°C / 5.4kΩ)
	SW1	SWITCH	MODE SELECTION			
	SW2		CAPACITY CODE	TH23		PIPE TEMP. DETECTION / GAS (0°C / 15kΩ, 25°C / 5.4kΩ)
	SW3		MODE SELECTION			
	SW11		ADDRESS SETTING 1s DIGIT	OPTIONAL PARTS		
	SW12		ADDRESS SETTING 10s DIGIT	W.B		PCB FOR WIRELESS REMOTE CONTROLLER
	SW14		BRANCH No.	BZ		BUZZER
	SW21		CEILING HEIGHT SELECTOR OPTION SELECTOR	LED1		LED (OPERATION INDICATION : GREEN)
				LED2		LED (PREPARATION FOR HEATING : ORANGE)
	SW22		PAIR NO. SETTING	RU		RECEIVING UNIT
	SWE		DRAIN PUMP (TEST MODE)	SW1		EMERGENCY OPERATION (HEAT)
	X1	AUX. RELAY	DRAIN PUMP (OPTIONAL PARTS)	SW2		EMERGENCY OPERATION (COOL)
LEV		LINEAR EXPANSION VALVE		D.P		DRAIN PUMP KIT
DCL		REACTOR		DP		DRAIN PUMP
MF		FAN MOTOR		FS		DRAIN FLOAT SWITCH
MV		VANE MOTOR				



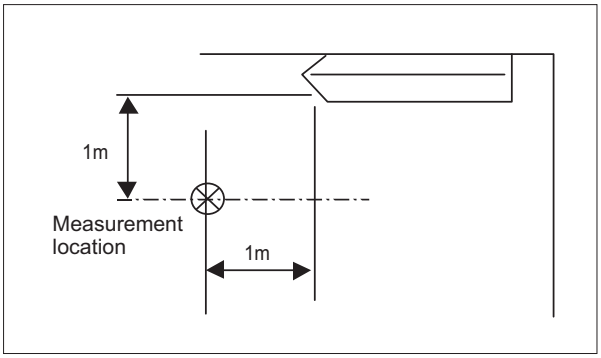
NOTES:
1. At servicing for outdoor unit, always follow the wiring diagram of outdoor unit.
2. In case of using MA-Remote controller, please connect to TB15.
   (Remote controller wire is non-polar.)
3. In case of using M-NET, please connect to TB5. (Transmission line is non-polar.)
4. Symbol [S] of TB5 is the shield wire connection.
5. Symbols used in wiring diagram are, □□□ : terminal block, ○ ○ ○ , ▭ : connector.
6. The setting of the SW2, SW3 differs in the capacity. For the detail, see table 1.
7. The black square (■) in the wiring diagram indicates a switch position.

LED on indoor board for service

Mark	Meaning	Function
LED1	Main power supply	Main Power supply (Indoor unit) power on → lamp is lit
LED2	Power supply for MA-Remote controller	Power supply for MA-Remote controller on → lamp is lit

5-1. Sound levels

Ceiling suspended



Sound level at anechoic room: Low-Middle2-Middle1-High

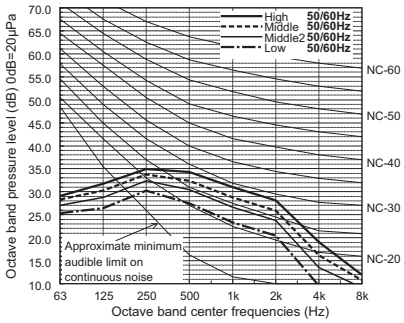
Model	Sound level dB (A)
PCFY-MS40VKM2-E	29-32-34-36
PCFY-MS63VKM2-E	31-33-35-37
PCFY-MS100VKM2-E	36-38-41-43
PCFY-MS125VKM2-E	36-39-42-44

* Measured in anechoic room.

5-2. NC curves

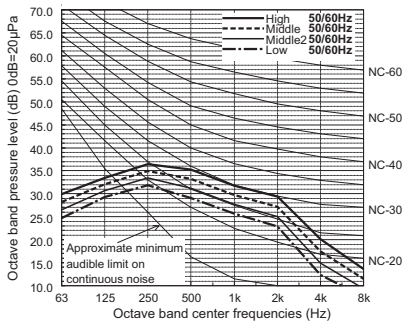
PCFY-MS40VKM2

External Static Pressure: 0Pa
Power Source: 220-240V 50Hz/60Hz



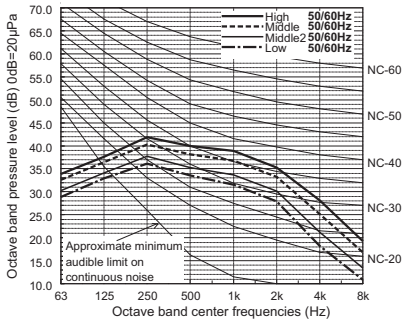
PCFY-MS63VKM2

External Static Pressure: 0Pa
Power Source: 220-240V 50Hz/60Hz



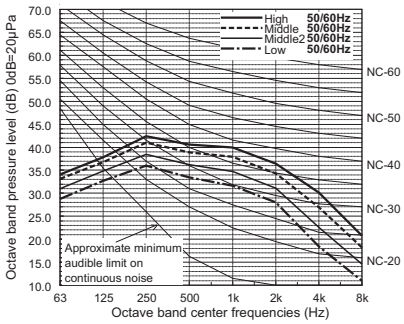
PCFY-MS100VKM2

External Static Pressure: 0Pa
Power Source: 220-240V 50Hz/60Hz



PCFY-MS125VKM2

External Static Pressure: 0Pa
Power Source: 220-240V 50Hz/60Hz



■ PCFY-MS40VKM2-E



■ PCFY-MS63VKM2-E



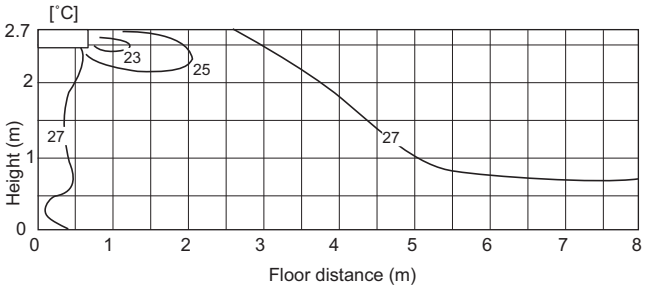
■ PCFY-MS100, 125VKM2-E



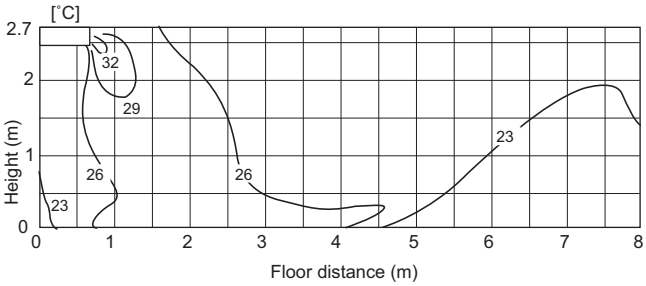
7-1. Temperature distributions

Temperature distributions
PCFY-MS40, 63VKM2-E

<Cooling mode>
Flow angle : 10˚
Temperature setting : 27˚C
High notch

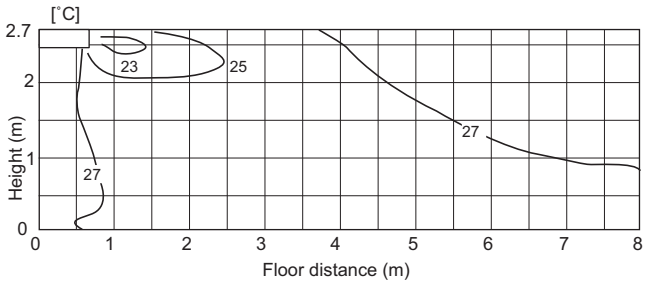


<Heating mode>
Flow angle : 60˚
Temperature setting : 20˚C
High notch

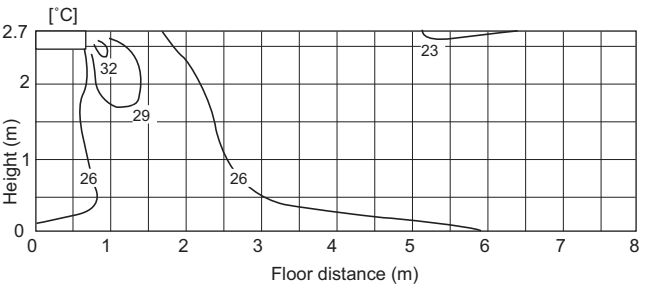


PCFY-MS100, 125VKM2-E

<Cooling mode>
Flow angle : 10˚
Temperature setting : 27˚C
High notch



<Heating mode>
Flow angle : 60˚
Temperature setting : 20˚C
High notch

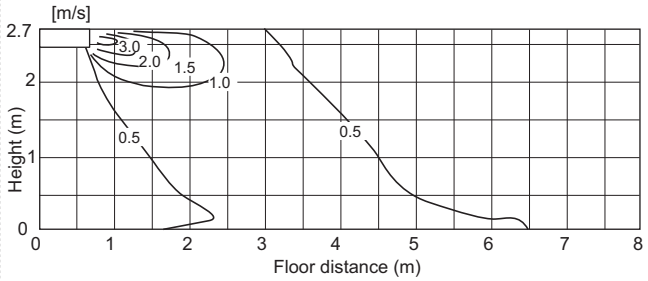


Note : These figures show typical airflow distributions in the conditions above. In the actual installation, they may differ from these figures under the influence of air temperature conditions, ceiling height, cooling/heating load, obstacles, etc.

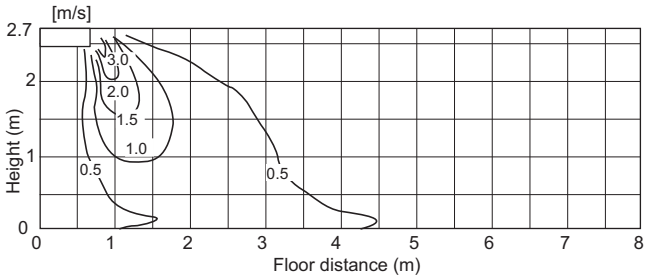
7-2. Airflow distributions

Airflow distributions
PCFY-MS40, 63VKM2-E

<Cooling mode>
Flow angle : 10˚
Temperature setting : 27˚C
High notch
Ceiling height : 2.7m

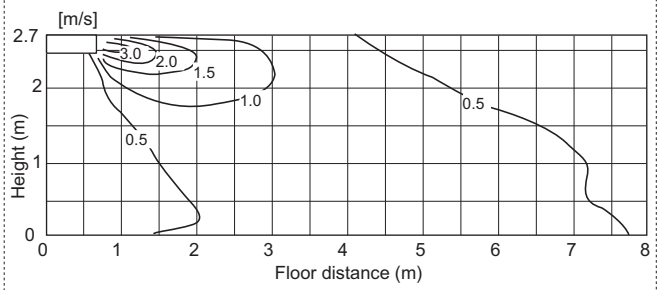


<Heating mode>
Flow angle : 60˚
Temperature setting : 27˚C
High notch
Ceiling height : 2.7m

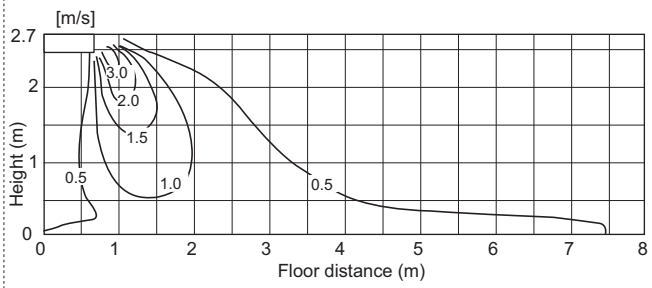


PCFY-MS100, 125VKM2-E

<Fan mode>
Flow angle : 10˚
Temperature setting : 27˚C
High notch
Ceiling height : 2.7m



<Fan mode>
Flow angle : 60˚
Temperature setting : 27˚C
High notch
Ceiling height : 2.7m



Note : These figures show typical airflow distributions in the conditions above. In the actual installation, they may differ from these figures under the influence of air temperature conditions, ceiling height, cooling/heating load, obstacles, etc.

Symbols: MCA (Max.Circuit Amps =1.25xFLA), FLA (Full Load Amps)
IFM (Indoor Fan Motor), Output (Fan motor rated output)

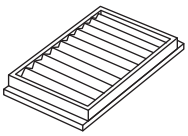
Model name	Power supply			IFM	
	Volts/Hz	Range +-10%	MCA(A)	Output (kW)	FLA(A)
PCFY-MS40VKM2-E	220-240V/50Hz 220-240V/60Hz	Max.: 264V Min.: 198V	0.35	0.090	0.28
PCFY-MS63VKM2-E			0.41	0.095	0.33
PCFY-MS100VKM2-E			0.81	0.160	0.65
PCFY-MS125VKM2-E			0.95	0.160	0.76

9-1. Optional parts line up for the Indoor unit

	PCFY-MS40VKM2-E	PCFY-MS63VKM2-E	PCFY-MS100, 125VKM2-E
High efficiency filter	PAC-SH88KF-E	PAC-SH89KF-E	PAC-SH90KF-E
Drain pump	PAC-SJ92DM-E	PAC-SJ94DM-E	PAC-SJ93DM-E
Wireless remote controller kit	PAR-FL32MA, PAR-SL103A-E	PAR-FL32MA, PAR-SL103A-E	PAR-FL32MA, PAR-SL103A-E
Air cleaning filter	PAC-SK48KF-E	PAC-SK49KF-E	PAC-SK50KF-E
V blocking filter	PAC-SK55KF-E	PAC-SK56KF-E	PAC-SK57KF-E
Sensor and alarm kit	PAC-SL72SA-E	PAC-SL72SA-E	PAC-SL72SA-E
Power supply interface for alarm kit	PAC-SL73IFL-E	PAC-SL73IFL-E	PAC-SL73IFL-E

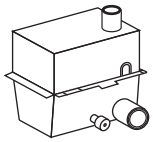
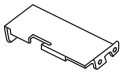
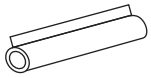
9-2. High efficiency filter

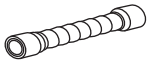
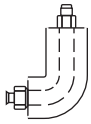
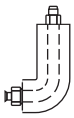
Material: PP honeycomb
Gravimetric method: 70%

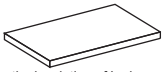
Item	PAC-SH88KF-E	PAC-SH89KF-E	PAC-SH90KF-E
Quantity	2 (Small)	1 (Small), 2 (Large)	2 (Large)
Shape			

9-3. Drain pump

If drain water can not flow out the Indoor unit by gravity and gradient, a Drain-pump for draining is needed.
Drain pump PAC-SJ-DM-E can pump water up to 600 mm high from the ceiling.

Item	① Drain lift up mechanism	② Attachment	③ Screws (4×10)	④ VP-20 pipe	⑤ Pipe cover
Quantity	1	1	6	1	1
Shape		 1 Drain lift up mechanism fixture	 For the installation of drain lift up mechanism 1		 For insulation of VP20 pipe4

Item	⑥ Flexible hose	⑦ Fastener	⑧ L-shaped pipe (gas pipe)	⑨ L-shaped pipe (liquid pipe)	⑩ Insulator A
Quantity	1	1	1	1	2
Shape					6t×220×80 (For internal insulation)  For the insulation of L-shaped pipes ⑧ and ⑨ and the refrigerant pipes.

Item	⑪ Insulator B
Quantity	2
Shape	3t×250×120 (For external insulation)  For the insulation of L-shaped pipes ⑧ and ⑨ and the refrigerant pipes.

For detailed installation information, refer to the Installation Manual.

9-4. Wireless remote controller kit

Wireless remote controller receiver is built-in type.

Item	① Wireless remote controller	② Remote control holder	③ "AAA" LR3 alkanine batterise	④ 4.1 x 16 wood screw	⑤ Instruction book
Quantity	1	1	2	2	1

For detailed installation information, refer to the Installation Manual.

9-5. Air cleaning filter

Removes fine dust particles from the air by means of static electricity.

Item	PAC-SK48KF-E	PAC-SK49KF-E		PAC-SK50KF-E
Quantity	2	1	1	2
Filter size	433×207 (mm)	433×207 (mm)	753×207 (mm)	753×207 (mm)

For detailed installation information, refer to the Installation Manual.

9-6. V blocking filter

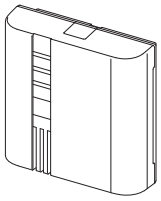
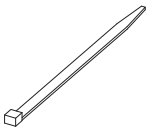
V Blocking Filter with antiviral effect inhibits 99% of adhered virus, and other harmful substances, such as bacteria, mold and allergen.
Two-layered filter with non-woven fabric and electrostatic filter can effectively capture and remove small particles from the air in your room.

Item	PAC-SK55KF-E	PAC-SK56KF-E		PAC-SK57KF-E
Quantity	2	1	1	2
Filter size	433×207 (mm)	433×207 (mm)	753×207 (mm)	753×207 (mm)

For detailed installation information, refer to the Installation Manual.

9-7. Sensor and alarm kit

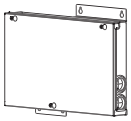
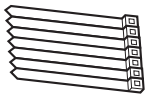
This sensor and alarm kit is a semiconductor based refrigerant leak detector.
- Connected from Power supply interface
- Sensor and alarm in the device
- Have 3 types of LED (operation, detection, error)
- Detection of refrigerant leakage, a kit alerts and LED flashes in red
- Alarm can be stopped only by a kit in a room that refrigerant leakage occurred

Item	Sensor and alarm kit	Fixing screw	Fastener	
Quantity	1	2	1	
Shape				

For detailed installation information, refer to the Installation Manual.

9-8. Power supply interface for alarm kit

Independent power supply to S&A kit.
Detection of refrigerant leakage and error in S&A kit, an IF outputs information to an outdoor unit and a branch box.
PCB board and a box for protection.

Item	Power supply interface for alarm kit	Band	Washer	Metal fitting	Screw
Quantity	1	7	4	2	4
Shape					

For detailed installation information, refer to the Installation Manual.

⚠Warning

■ Do not use refrigerant other than the type indicated in the manuals provided with the unit and on the nameplate.
- Doing so may cause the unit or pipes to burst, or result in explosion or fire during use, repair, or at the time of disposal of the unit.
- It may also be in violation of applicable laws.
- MITSUBISHI ELECTRIC CORPORATION cannot be held responsible for malfunctions or accidents resulting from the use of the wrong type of refrigerant.

■ Our air conditioning equipment and heat pumps contain a fluorinated greenhouse gas, R32 or R410A.

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