

AIR CONDITIONING SYSTEMS

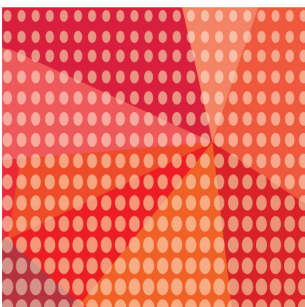
HYBRID
CITY MULTI



DATA BOOK

MODEL

PLFY-WL-VFM-E



PLFY-WL-VFM-E

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1. SPECIFICATIONS

Ceiling cassette (4-way flow type)

PLFY-WL-VFM-E

Model		PLFY-WL10VFM-E		PLFY-WL15VFM-E		PLFY-WL20VFM-E				
Power source		1-phase 220-230-240V 50Hz 1-phase 220V 60Hz								
Cooling capacity (Nominal)	*1	kW	1.2		1.7		2.2			
	*1	BTU/h	4,100		5,800		7,500			
		Power input	0.02		0.02		0.02			
		Current input	0.23		0.24		0.26			
Heating capacity (Nominal)	*2	kW	1.4		1.9		2.5			
	*2	BTU/h	4,800		6,500		8,500			
		Power input	0.02		0.02		0.02			
		Current input	0.17		0.18		0.20			
External finish		Galvanized steel sheet								
External dimension H × W × D		mm	208 × 570 × 570							
		in.	8-1/4 × 22-1/2 × 22-1/2							
Net weight		kg (lbs)	13(29)		13(29)		14(31)			
Decoration panel	Model		SLP-2FA(L)(E)							
	External finish		MUNSELL (1.0Y 9.2/0.2)							
	Dimension H × W × D		mm	10 × 625 × 625						
			in.	3/8 × 24-5/8 × 24-5/8						
	Net weight		kg (lbs)	3 (7)						
Heat exchanger		Cross fin (Aluminum fin and copper tube)								
	Water Volume	L	0.5		0.5		0.9			
FAN	Type × Quantity		Turbo Fan × 1							
	External static press.	Pa	0							
		mmH ₂ O	0							
	Motor type		DC motor							
	Motor output		kW	0.050						
	Driving mechanism		Direct-driven by motor							
	Airflow flow rate (Low-Mid-High)		m ³ /min	6.0-6.5-7.0		6.0-7.0-8.0		6.5-7.0-8.0		
L/s			100-108-117		100-117-133		108-117-133			
cfm			212-230-247		212-247-282		230-247-282			
Sound pressure level (measured in anechoic room) (Low-Mid-High)		dB <A>	25-26-27		25-26-29		27-29-31			
Insulation material		PS								
Air filter		PP honeycomb								
Protection device		Fuse								
Refrigerant control device		-								
Connectable HBC/Hydro unit		CMB-WM-V-AA, CMB-WM-F-AA, CMB-WM-V-BB/CMH-WM-V-A								
Water piping diameter *3 *4	Connection size	Inlet	mm O.D.	22		22		22		
		Outlet	mm O.D.	22		22		22		
	Field pipe size	Inlet	mm I.D.	20		20		20		
		Outlet	mm I.D.	20		20		20		
Field drain pipe size		mm (in.)	O.D. 32 (1-1/4)							
Drawing	External		RK01N261							
	Wiring		BH79N706							
	Refrigerant cycle		-							
Standard attachment	Document		Installation Manual, Instruction Book							
	Accessory		Insulation template, Washer, Drain socket, Tie band							
Optional parts	Decoration panel		*5	SLP-2FA/SLP-2FAE/SLP-2FAL/SLP-2FALE/SLP-2FALM2/SPL-2FALME2						
	3D i-see Sensor corner panel		PAC-SF1ME-E							
	Wireless signal receiver		PAR-SF9FA-E							
	Valve kit			*6	PAC-SK35VK-E					
		6m Lead wire		PAC-SK40LW-E						
		Attachment plate		PAC-SK39AP-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. * Due to continuing improvement, above specifications may be subject to change without notice.								

Notes:	Unit converter
1. Nominal cooling conditions Indoor: 27°C D.B./19°C W.B. (81°F D.B./66°F W.B.), Outdoor: 35°C D.B. (95°F D.B.) Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)	BTU/h = kW × 3,412
2. Nominal heating conditions Indoor: 20°C D.B. (68°F D.B.), Outdoor: 7°C D.B./6°C W.B. (45°F D.B./43°F W.B.) Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)	cfm = m ³ /min × 35.31
3. Be sure to install a valve on the water outlet.	lbs = kg/0.4536
4. Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.	
5. PLY-WL-VFM-E should be used together with Decoration panel.	
6. Certain restrictions apply to indoor unit combinations. Refer to the section on the valve kit in the chapter "OPTIONAL PARTS" in the DATA BOOK for the restrictions. When the valve kit is installed farther away from the HBC than the distance between the HBC and the WL-model indoor unit, the maximum allowable height difference between the HBC and the valve kit is 15 meters. The maximum allowable piping length between the indoor unit and the valve kit is 5 meters. *Please group units that operate on 1 branch.	*Above specification data is subject to rounding variation.

1. SPECIFICATIONS

Ceiling cassette (4-way flow type)

Model			PLFY-WL25VFM-E	PLFY-WL32VFM-E	PLFY-WL40VFM-E	
Power source			1-phase 220-230-240V 50Hz 1-phase 220V 60Hz			
Cooling capacity (Nominal)	*1	kW	2.8	3.6	4.5	
	*1	BTU/h	9,600	12,300	15,400	
		Power input	kW	0.03	0.04	
		Current input	A	0.29	0.38	
Heating capacity (Nominal)	*2	kW	3.2	4.0	5.0	
	*2	BTU/h	10,900	13,600	17,100	
		Power input	kW	0.03	0.04	
		Current input	A	0.23	0.40	
External finish			Galvanized steel sheet			
External dimension H × W × D		mm	208 × 570 × 570			
		in.	8-1/4 × 22-1/2 × 22-1/2			
Net weight		kg (lbs)	14(31)	14(31)	14 (31)	
Decoration panel	Model		SLP-2FA(L)(E)			
	External finish		MUNSELL (1.0Y 9.2/0.2)			
	Dimension		mm	10 × 625 × 625		
	H × W × D		in.	3/8 × 24-5/8 × 24-5/8		
	Net weight		kg (lbs)	3 (7)		
Heat exchanger			Cross fin (Aluminum fin and copper tube)			
Water Volume		L	0.9	0.9	0.9	
FAN	Type × Quantity		Turbo Fan × 1			
	External static press.	Pa	0			
		mmH ₂ O	0			
	Motor type		DC motor			
	Motor output		kW	0.050		
	Driving mechanism		Direct-driven by motor			
	Airflow flow rate (Low-Mid-High)	m ³ /min	6.5-7.5-9.0	6.5-9.0-12.0	6.5-11.5-13.0	
		L/s	108-125-150	108-150-200	108-192-217	
cfm		230-265-318	230-318-424	230-406-459		
Sound pressure level (measured in anechoic room) (Low-Mid-High)		dB <A>	27-30-34	27-33-41	27-40-43	
Insulation material			PS			
Air filter			PP honeycomb			
Protection device			Fuse			
Refrigerant control device			-			
Connectable HBC/Hydro unit			CMB-WM-V-AA, CMB-WM-F-AA, CMB-WM-V-BB/CMH-WM-V-A			
Water piping diameter	Connection size	Inlet	mm O.D.	22	22	
		Outlet	mm O.D.	22	22	
	*3 *4 Field pipe size	Inlet	mm I.D.	20	20	
		Outlet	mm I.D.	20	20	
Field drain pipe size		mm (in.)	O.D. 32 (1-1/4)			
Drawing	External		RK01N261			
	Wiring		BH79N706			
	Refrigerant cycle		-			
Standard attachment	Document		Installation Manual, Instruction Book			
	Accessory		Insulation template, Washer, Drain socket, Tie band			
Optional parts	Decoration panel		*5	SLP-2FA/SLP-2FAE/SLP-2FAL/SLP-2FALE/SLP-2FALM2/SPL-2FALME2		
	3D i-see Sensor corner panel			PAC-SF1ME-E		
	Wireless signal receiver			PAR-SF9FA-E		
	Valve kit			*6	PAC-SK35VK-E	
		6m Lead wire			PAC-SK40LW-E	
Attachment plate			PAC-SK39AP-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. * Due to continuing improvement, above specifications may be subject to change without notice.			

Notes:

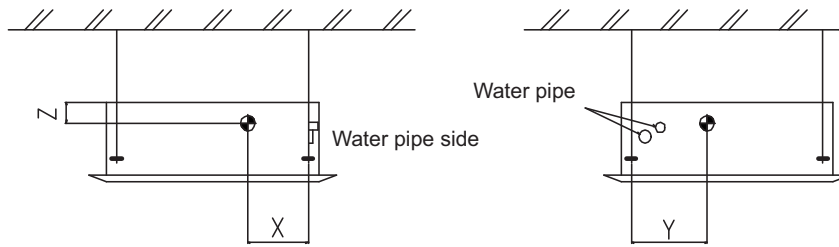
- Nominal cooling conditions
Indoor: 27°C D.B./19°C W.B. (81°F D.B./66°F W.B.), Outdoor: 35°C D.B. (95°F D.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
 - Nominal heating conditions
Indoor: 20°C D.B. (68°F D.B.), Outdoor: 7°C D.B./6°C W.B. (45°F D.B./43°F W.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
 - Be sure to install a valve on the water outlet.
 - Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.
 - PLFY-WL-VFM-E should be used together with Decoration panel.
 - Certain restrictions apply to indoor unit combinations.
Refer to the section on the valve kit in the chapter "OPTIONAL PARTS" in the DATA BOOK for the restrictions.
When the valve kit is installed farther away from the HBC than the distance between the HBC and the WL-model indoor unit, the maximum allowable height difference between the HBC and the valve kit is 15 meters.
The maximum allowable piping length between the indoor unit and the valve kit is 5 meters.
- *Please group units that operate on 1 branch.

Unit converter

BTU/h	=kW × 3.412
cfm	=m ³ /min × 35.31
lbs	=kg/0.4536

*Above specification data is subject to rounding variation.

PLFY-WL10, 15, 20, 25, 32, 40VFM-E

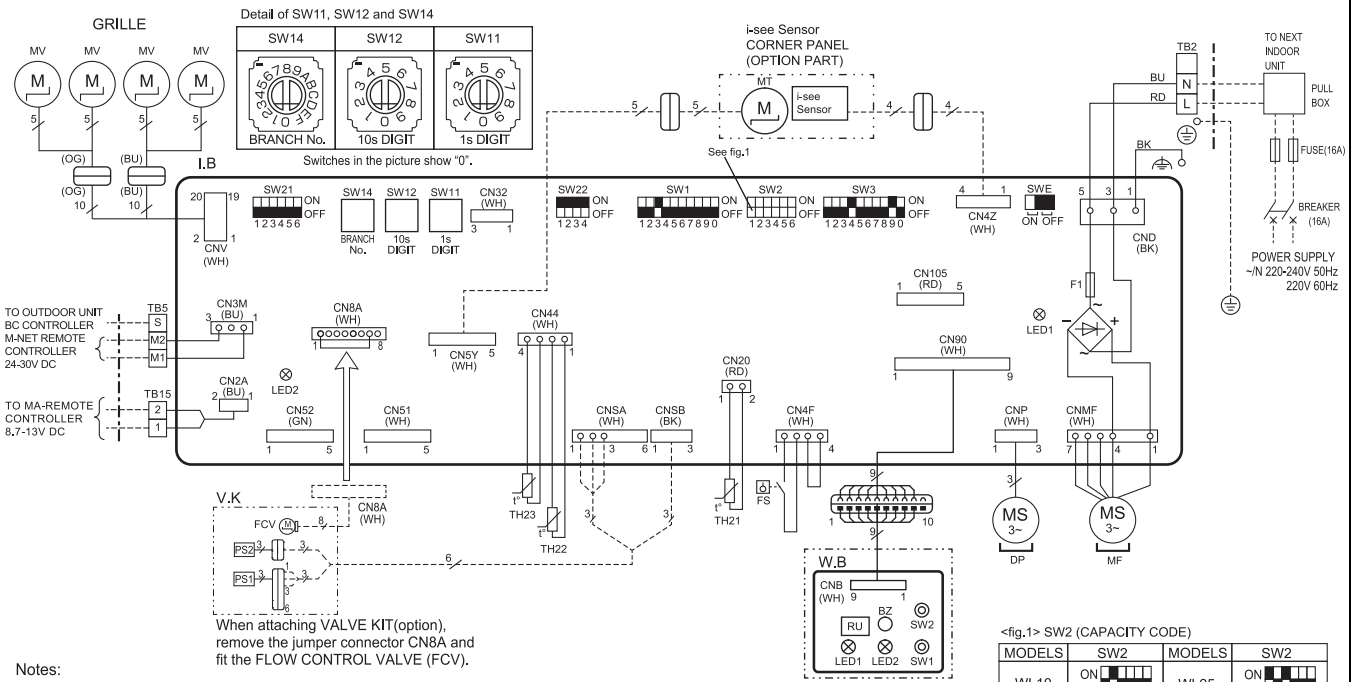


(mm) [in]

Model name	X	Y	Z
PLFY-WL10VFM-E	200 [7-7/8]	260 [10-1/4]	85 [3-3/8]
PLFY-WL15VFM-E	200 [7-7/8]	260 [10-1/4]	85 [3-3/8]
PLFY-WL20VFM-E	200 [7-7/8]	260 [10-1/4]	85 [3-3/8]
PLFY-WL25VFM-E	200 [7-7/8]	260 [10-1/4]	85 [3-3/8]
PLFY-WL32VFM-E	200 [7-7/8]	260 [10-1/4]	85 [3-3/8]
PLFY-WL40VFM-E	200 [7-7/8]	260 [10-1/4]	85 [3-3/8]

PLFY-WL-VFM-E

PLFY-WL10, 15, 20, 25, 32, 40VFM-E



<fig.1> SW2 (CAPACITY CODE)

MODELS	SW2	MODELS	SW2
WL10	ON OFF 123456	WL25	ON OFF 123456
WL15	ON OFF 123456	WL32	ON OFF 123456
WL20	ON OFF 123456	WL40	ON OFF 123456

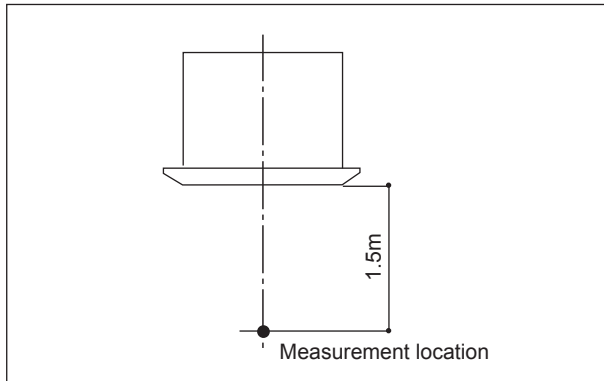
- Notes:
1. At servicing for outdoor unit, always follow the wiring diagram of outdoor unit.
 2. In case of using MA-Remote controller, please connect to TB15. (Remote controller wire is non-polar.)
 3. In case of using ME-Remote controller, please connect to TB5. (Transmission line is non-polar.)
 4. Symbol [S] of TB5 is the shield wire connection.
 5. Symbols used in wiring diagram above are, [] : terminal block, [] : connector.
 6. The setting of the SW2 differs in the capacity. For the detail, refer to the fig.1.
 7. Make sure to turn off the indoor and the outdoor units before replacing indoor controller board.
 8. ■ is the switch position.

[LEGEND]

SYMBOL	NAME
I.B.	INDOOR CONTROLLER BOARD
CN32	REMOTE SWITCH
CN51	CENTRALLY CONTROL
CN52	REMOTE INDICATION
CN105	IT TERMINAL
F1	FUSE(T6.3AL 250V)
LED1	POWER SUPPLY (LB)
LED2	POWER SUPPLY (MA-REMOTE CONTROLLER)
SW1	MODE SELECTION
SW2	CAPACITY CODE
SW3	MODE SELECTION
SW11	ADDRESS SETTING 1s DIGIT
SW12	ADDRESS SETTING 10s DIGIT
SW14	BRANCH No.
SW21	CEILING HEIGHT SELECTOR
SW22	PAIR NO. SETTING
SWE	DRAIN PUMP(TEST MODE)
DP	DRAIN PUMP
MF	FAN MOTOR
MV	VANE MOTOR
FS	FLOAT SWITCH
TB2	TERMINAL POWER SUPPLY
TB5	BLOCK TRANSMISSION
TB15	MA-REMOTE CONTROLLER
TH21	ROOM TEMP. THERMISTOR
TH22	PIPE TEMP. THERMISTOR (INLET)
TH23	PIPE TEMP. THERMISTOR (OUTLET)
OPTION PART	
W.B	WIRELESS REMOTE CONTROLLER BOARD
BZ	BUZZER
LED1	OPERATION (GREEN)
LED2	STAND BY (ORANGE)
RU	RECEIVING UNIT
SW1	EMERGENCY OPERATION(HEAT)
SW2	EMERGENCY OPERATION(COOL)
MT	i-see Sensor MOTOR
V.K	VALVE KIT
PS1	PRESSURE SENSOR 1 (INLET)
PS2	PRESSURE SENSOR 2 (OUTLET)
FCV	FLOW CONTROL VALVE

5-1. Sound levels

PLFY-WL-VFM-E

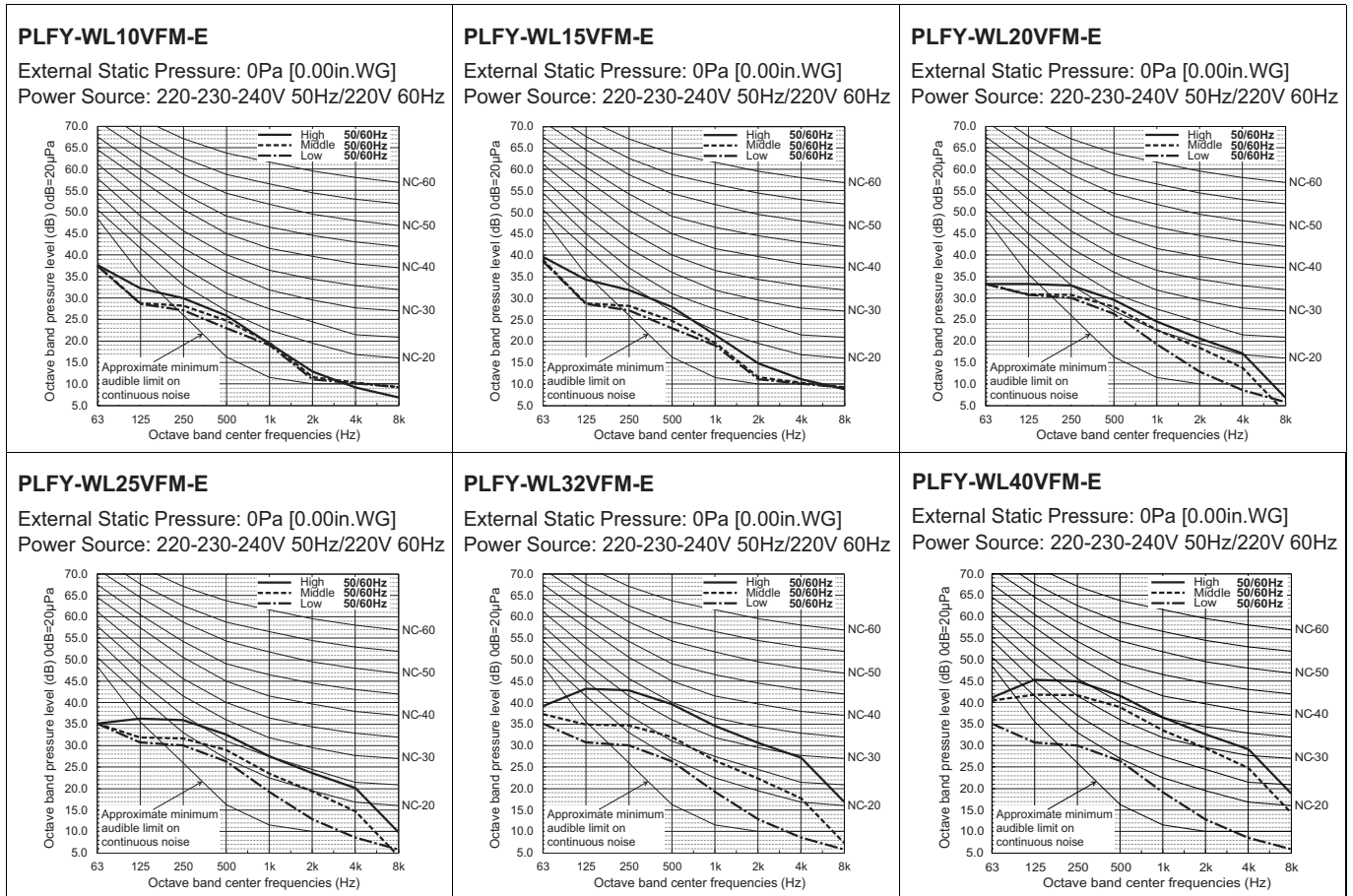


* Measured in anechoic room.

Sound level at anechoic room: Low-Mid-High

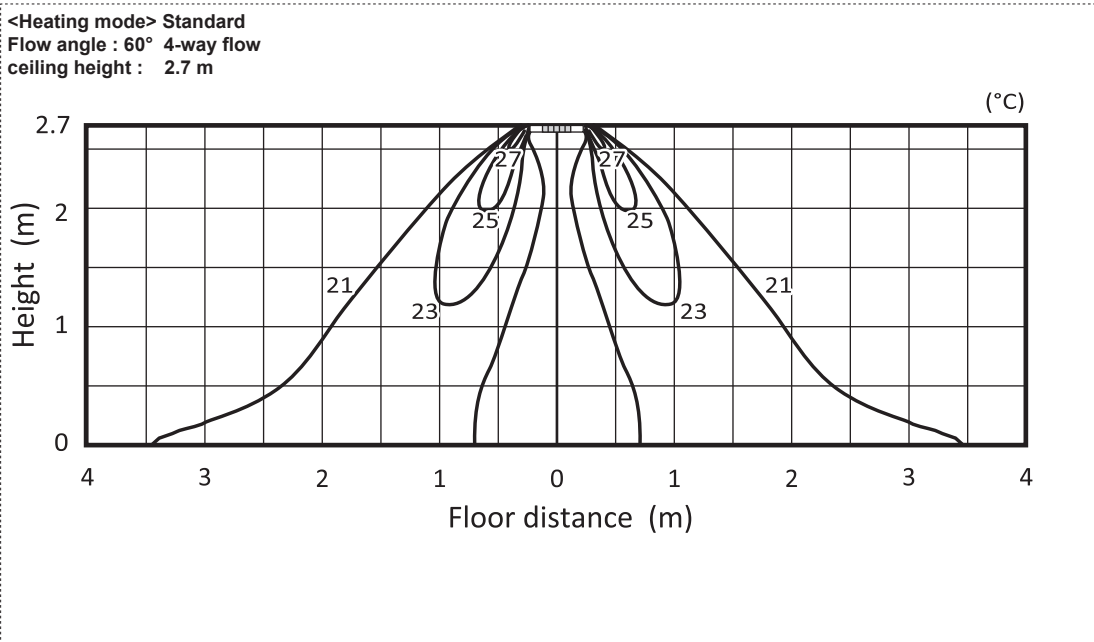
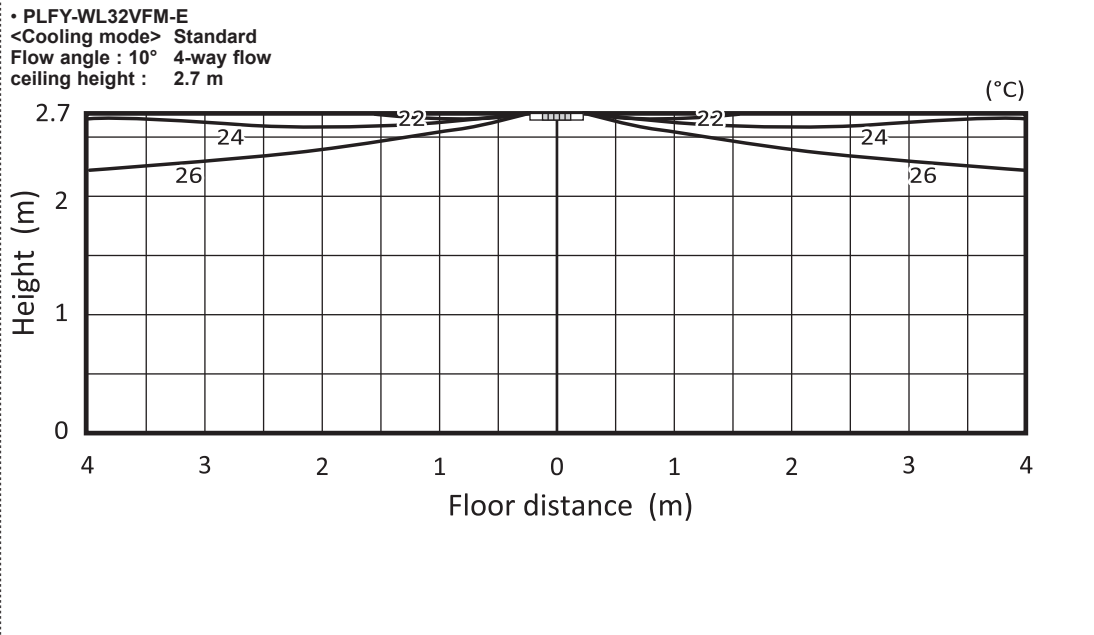
	Sound level dB (A)
PLFY-WL10VFM-E	25-26-27
PLFY-WL15VFM-E	25-26-29
PLFY-WL20VFM-E	27-29-31
PLFY-WL25VFM-E	27-30-34
PLFY-WL32VFM-E	27-33-41
PLFY-WL40VFM-E	27-40-43

5-2. NC curves



6-1. Temperature distributions

PLFY-WL-VFM-E



Note : These figures show typical temperature 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.

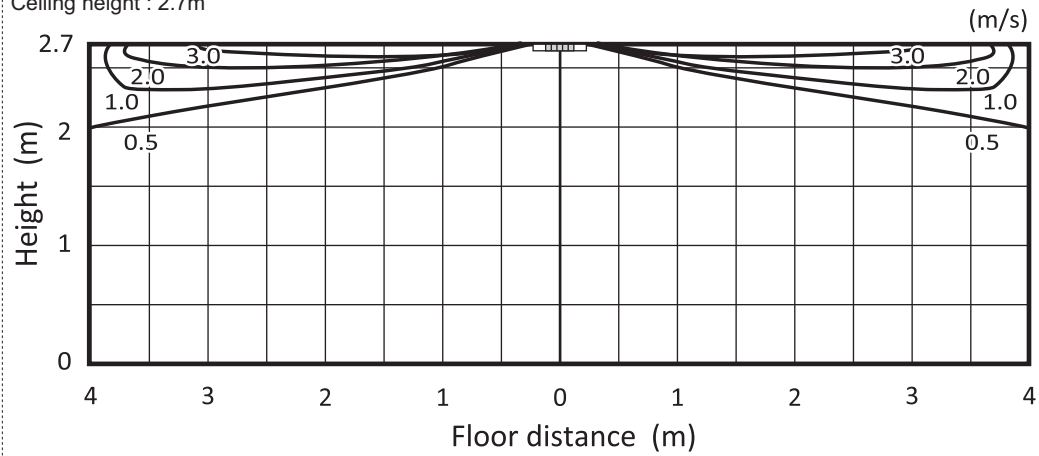
6-2. Airflow distributions

PLFY-WL32VFM-E

<Cooling mode> Standard

Flow angle : 10° 4-way flow

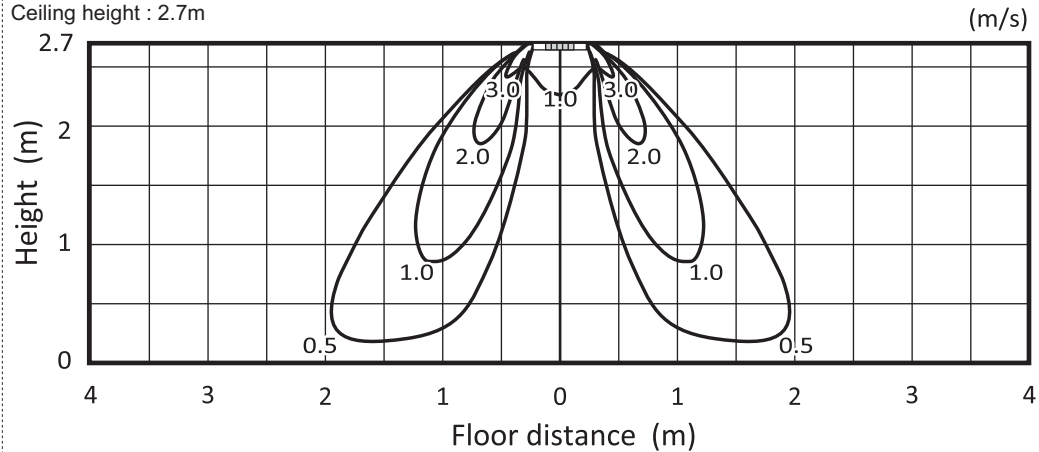
Ceiling height : 2.7m



<Heating mode> Standard

Flow angle : 60° 4-way flow

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.

7. ELECTRICAL CHARACTERISTICS

Ceiling cassette (4-way flow type)

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



PLFY-WL-VFM-E	Power supply			IFM	
	Volts Hz	Range +-10%	MCA(A)	Output (kW)	FLA(A)
PLFY-WL10VFM-E	220-240V 50Hz 220V 60Hz	Max.: 264V Min.: 198V	0.29	0.05	0.23
PLFY-WL15VFM-E			0.30	0.05	0.24
PLFY-WL20VFM-E			0.33	0.05	0.26
PLFY-WL25VFM-E			0.37	0.05	0.29
PLFY-WL32VFM-E			0.48	0.05	0.38
PLFY-WL40VFM-E			0.58	0.05	0.46

PLFY-WL-VFM-E

8-1. Optional parts line up for the Indoor unit

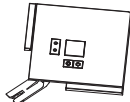
	Description	Model
PLFY-WL-VFM-E	3D i-see Sensor corner panel	PAC-SF1ME-E
	Wireless signal receiver	PAR-SF9FA-E
	Valve kit	PAC-SK35VK-E
	Attachment plate	PAC-SK39AP-E
	6m Lead wire	PAC-SK40LW-E

8-2. 3D i-see Sensor corner panel

<p>3D i-see Sensor provides comfortable space as it detects the floor temperature to prevent spotty temperature. And that enables the unit to save energy. Attention Make sure that there are no gaps between the unit and the grille, and the grille and ceiling. * It may cause dew dripping.</p>			
Item	3D i-see Sensor corner panel	Plastic fastener	
Quantity	1	2	
Shape			

Detailed installation information should be referred to its Installation Manual.

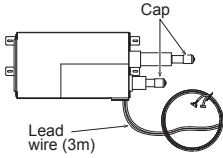
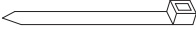
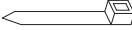

8-3. Wireless signal receiver

<p>Wireless signal receiver PAR-SF9FA-E is necessary for using wireless remote controller PAR-SF9FA-E is a corner panel with the signal receiver for wireless remote controller.</p>		
Item	Wireless signal receiver	
Quantity	1	
Shape		

Detailed installation information should be referred to its Installation Manual.

8-4. Valve kit

Valve kit is necessary for using HVRF-Y system
 In an HVRF-R2 system, if a valve kit is connected to any of the WL indoor units, all other indoor units must also have a valve.
 The table below summarizes the connectability of different combinations of indoor units.

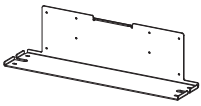

Item	VALVE KIT	Band (large)	Band (small)	Screw
Quantity	1	1	1	8
Shape				

Outdoor Unit	Indoor Unit			Connection
	A	B	C	
HVRF-R2 System	WLV	WLV	-	Connectable
	WLV	W	-	Connectable
	WLV	WL	-	Not connectable
	WLV	WP	-	Not connectable
	WLV	WL	W	Not connectable
	WLV	WL	WP	Not connectable
	WLV	W	WP	Not connectable
	WL	WL	-	Connectable
	WL	WP	-	Connectable
	WL	W	-	Not connectable
	WL	WP	W	Not connectable
	W	WP	-	Not connectable

WLV = (E)WL-Type (With an optional valve kit)
 WL = (E)WL-Type (Without an optional valve kit)
 WP = WP-Type (Without a built-in valve and not compatible with the optional valve kit)
 W = W-Type (With a built-in valve)

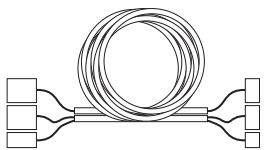
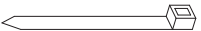
8-5. Attachment plate

When installing the valve kit on the ceiling plate or hanging it from the ceiling, the use of an attachment plate (PAC-SK39AP-E) is recommended.

Item	Attachment-1	Attachment-2
Quantity	1	1
Shape		

8-6. 6m Lead wire

The lead wire attached to the valve kit is 3 meters. If a longer lead wire is needed, use an optional part PAC-SK40LW-E (6m). Note that the maximum allowable piping distance between the valve kit and the indoor unit is 5 meters.

Item	Lead wire (6m)	Band (large)
Quantity	1	
Shape		

⚠ 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, R410A/R32.

MITSUBISHI ELECTRIC CORPORATION

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