MITSUBISHI ELECTRIC

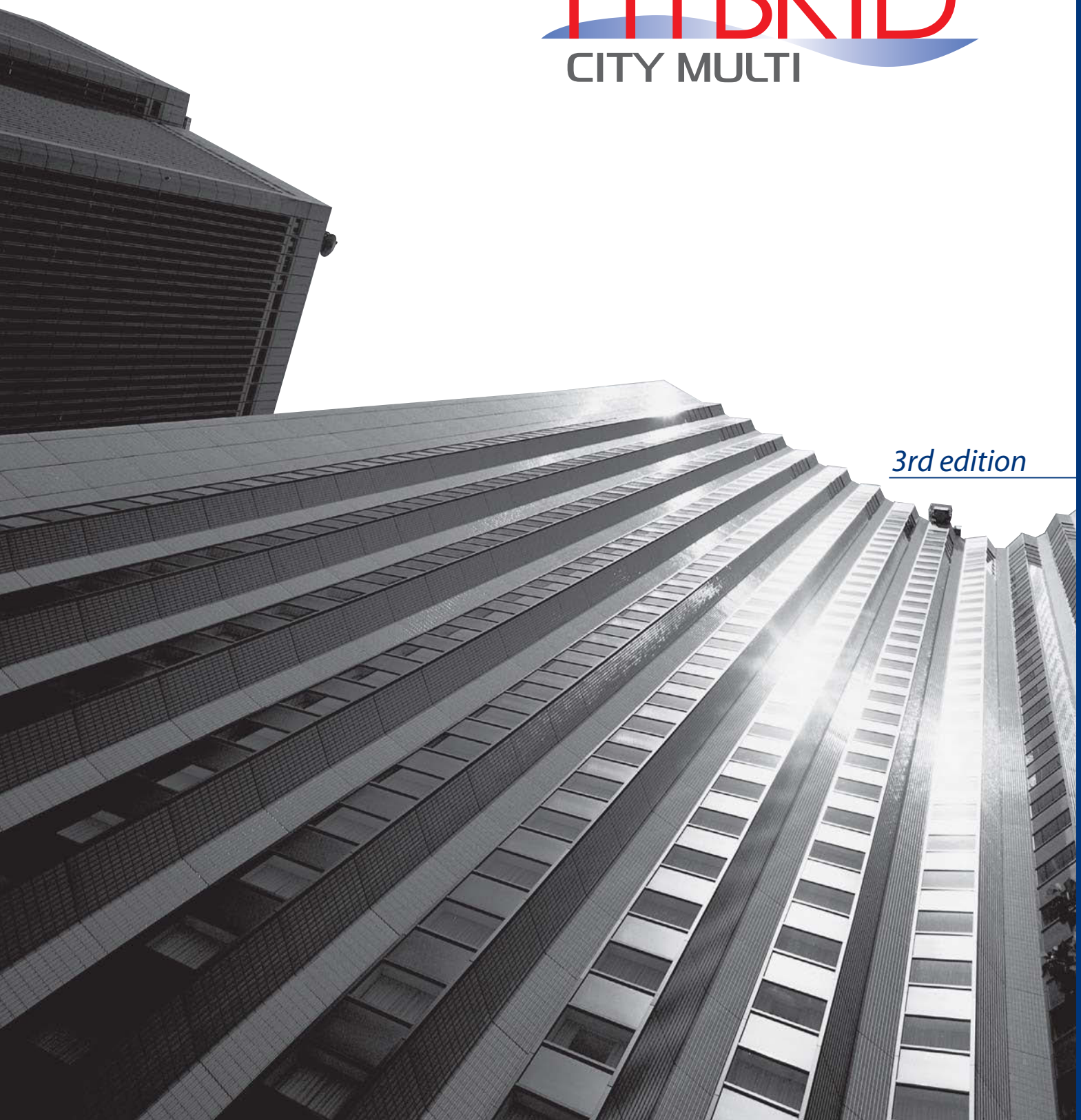
Changes for the Better

for a greener tomorrow

AIR CONDITIONING SYSTEMS

HYBRID

CITY MULTI



3rd edition

Mitsubishi Electric's HYBRID CITY MULTI

-The industry's first and only technology-

As a leading company in the industry, Mitsubishi Electric has developed the HYBRID CITY MULTI as a top-of-the-line CITY MULTI system by using the industry's first and only technology.

The HYBRID CITY MULTI contains the following three elements of HYBRID.

1 Ideal comfort

Providing more stable and mild air conditioning using water.

2 Energy saving

2-pipe heat recovery system is available with refrigerant and water circuit.

3 Less waste and easy installation

Easy installation compared with central air conditioning system with 4-pipe for heat recovery.

The HYBRID CITY MULTI is the industry's first system which uses refrigerant between the outdoor unit and the HBC (Hydro BC controller), and water between the HBC and the indoor units. HBC is the most unique part in this system and allows heat exchange between refrigerant and water.

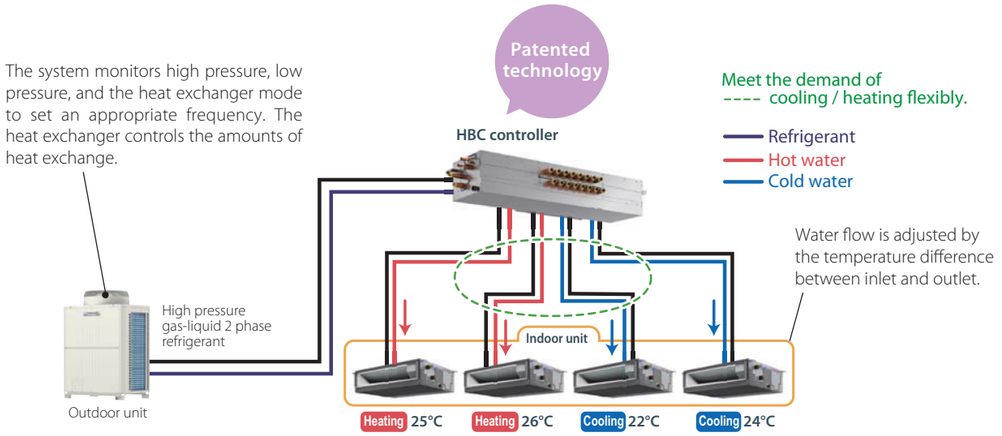
The HYBRID CITY MULTI system uses Mitsubishi Electric's original technology and provides mild air-conditioning. This system is suitable for a wide variety of installations by allowing centralized control, individual operation, and simultaneous cooling and heating with heat recovery just like our existing systems do.

CONTENTS

What is HYBRID CITY MULTI?

- System Structure -

HYBRID CITY MULTI is a system that uses both refrigerant and water, which was made reality by the development of the HBC. The refrigerant between the outdoor unit and the HBC and water between the HBC and the indoor units produce comfortable air conditioning.



HBC: the first and only technology
The HYBRID CITY MULTI was developed by using our own technology with the HBC.

Heat Recovery
The industry's first 2-pipe system allows energy-saving using simultaneous cooling/heating operation with heat recovery.

Heat exchange
The HBC is the most unique part in this system and allows the heat exchange between refrigerant and water.

The reason why HYBRID CITY MULTI is unbeatable

- Features -

Ideal comfort

●Simultaneous cooling/heating operation

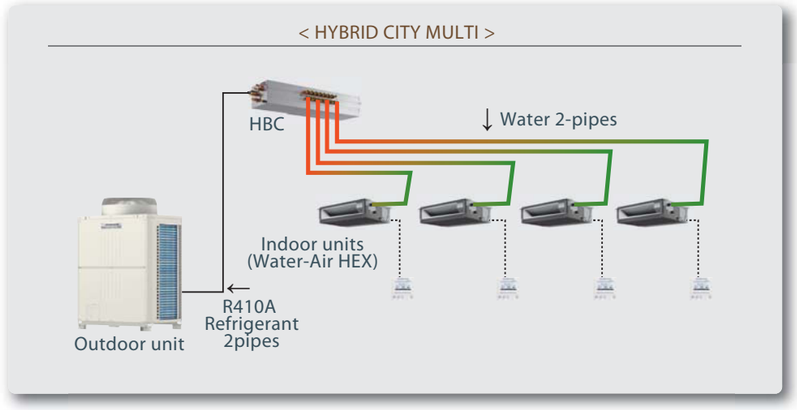
Provides air conditioning corresponding to various needs.
With the 2-pipe system, direction of refrigerant flow will not reverse when the mainly mode changes. The compressor does not need to stop when the mode changes. This allows comfortable air conditioning during mild ambient conditions.

●Mild air conditioning

Achieved by a water system between the HBC and the indoor units.
The water temperature is very stable all year around. The HYBRID CITY MULTI will supply milder off coil temperatures.

●Reduction in defrost time

No drastic change in room temperature during defrost.
Uses the heat of the hot water that circulates between the HBC and the indoor units.
The defrost time is shorter and the average capacity is higher.



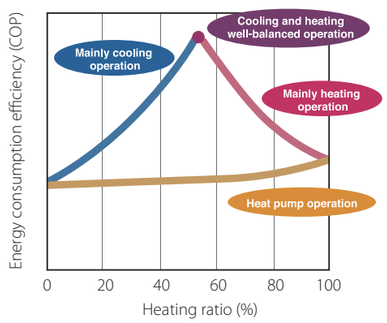
- Features -

Energy saving

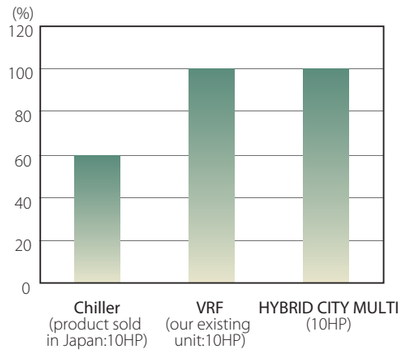
●Energy-saving

Save more energy by heat recovery operation if cooling and heating operation are required at the same time. The more frequently cooling and heating simultaneous operation occurs, the higher the energy-saving effect becomes.
Even higher efficiency operation is now possible by utilizing the centralized control and the scheduled operation.

COP in the heat recovery system



Comparison of COP (COP for the whole system)



●R410A refrigerant

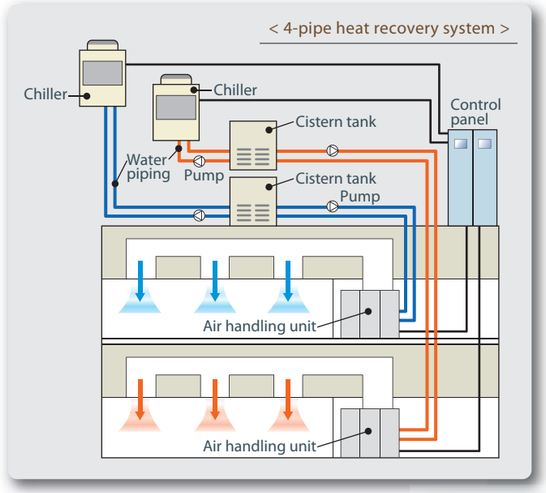
R410A refrigerant allows higher heat transfer than R22. The environmentally-friendly system has been made a reality by the significantly higher COP and the reduction of CO_2 emissions.

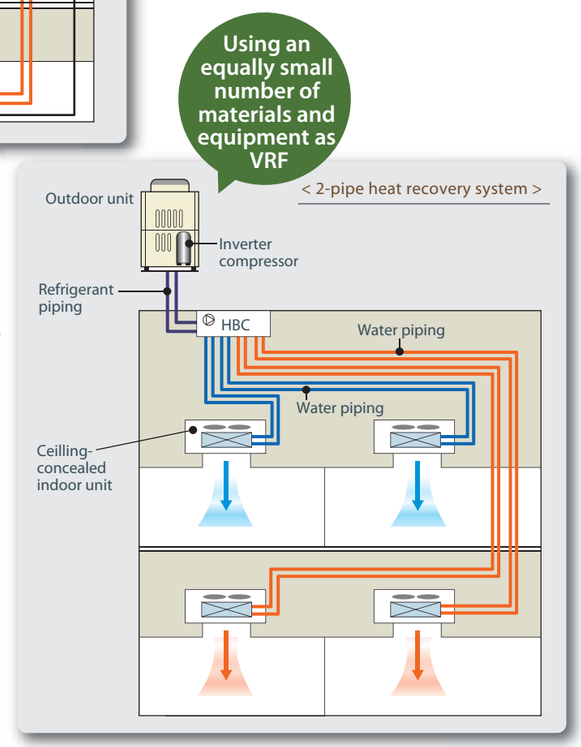
Comparison of COP in cooling/heating average (COP for outdoor unit only, not for the whole system)	8HP	10HP
R22 system PURY-Y(S)MF-B model	2.80	2.78
HYBRID CITY MULTI PURY-WP-YJM-A model	4.70	4.26
Comparison	**168%**	**153%**

Less waste and easy installation

●Less material/equipment

This is Mitsubishi Electric's unique 2-pipe heat recovery system, which requires less pipes than a 4-pipe heat recovery system. Also, this system does not need the pump, tank, and control panel that are necessary for Chillers.
A saving of natural resources in the entire system has been accomplished.





- Features -

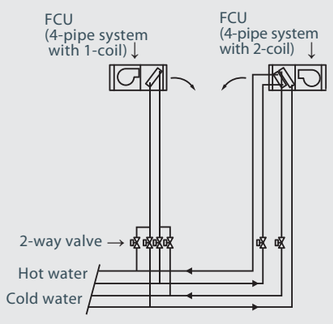
Less waste and easy installation

●Less installation work

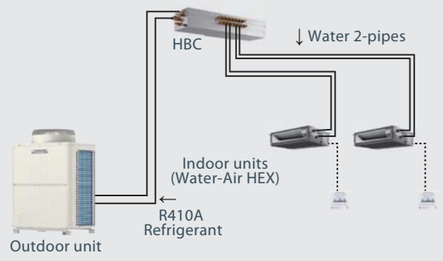
Achieved by the world's first and only 2-pipe system that allows easier installation than a central AC system. A central AC system requires 2 heat source pipes and 4 pipes. With this 2-pipe system, we have drastically reduced the number of piping connections compared to a standard VRF 3-pipe system. A smaller number of piping connections lead to an improvement in reliability and simpler piping installation. Also, brazing is not necessary if plastic water pipe is used between the HBC and the indoor units.

Comparison example of Central AC system and HYBRID CITY MULTI

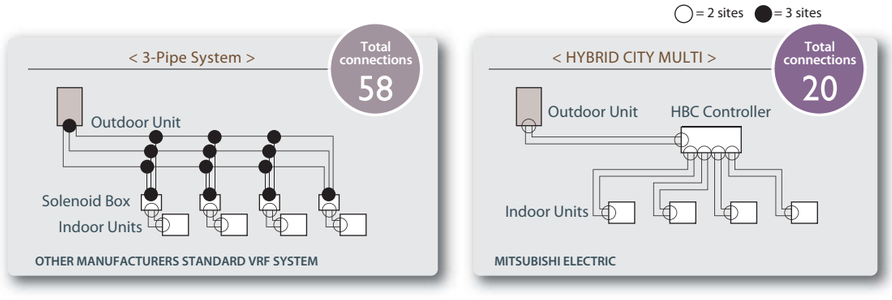
< Simultaneous cooling/heating operation in the central AC system >



< Simultaneous cooling/heating operation in the HYBRID CITY MULTI system >



Comparison example of piping connections



- Application example -

The HYBRID CITY MULTI is suitable for various places that require individual settings (e.g., offices/hotels/hospitals/nursing homes) by using a centralized control.
Easy Installation as well as VRF system allows easier layout.

for HOTELS

Individual settings and simultaneous cooling/heating operation allow free selection of the operation mode. Moreover, mild air-conditioning provides a comfortable environment throughout your stay.

for OFFICES

The requirement for simultaneous cooling and heating operation all year round is increasing along with the increase of electronic office equipment and diversification in use of space.
This system can supply this demand with heat recovery technology.

for HOSPITALS

The system can provide the appropriate levels of comfort simultaneously for the different air conditioning load requirements, such as medical offices, wards, rehabilitation rooms, and staff rooms.

Lineup

- OUTDOOR UNIT -

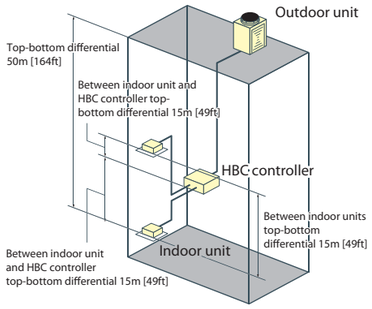
HYBRID CITY MULTI is a heat recovery unit with an inverter driven compressor and can provide cooling and heating simultaneously.

Inverter driven compressor

Lineup

Horse Power	8HP	10HP
Capacity	22.4kW	28.0kW

Piping length



Refrigerant Piping Lengths	Maximum meters [Feet]
Distance between outdoor and HBC	110 [360]
Farthest indoor from HBC controller	60 [196]

Vertical differentials between units	Maximum meters [Feet]
Outdoor/HBC controller	50 [164]
Indoor/outdoor (outdoor higher)	50 [164]
Indoor/outdoor (outdoor lower)	40 [131]
Indoor/HBC controller	15 (10) [49 (32)]*

* Maximum length between HBC controller and indoor is dependent upon the vertical differential between the HBC controller and the indoor unit.

Indoor/indoor	15 (10) [49 (32)]*

* Values in ( ) is applied when indoor total capacity exceeds 130% of outdoor unit capacity

- HBC CONTROLLER -

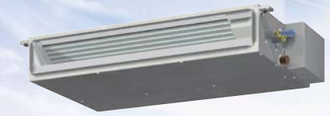
The HBC is used for the connection between the outdoor unit and the indoor units. The heat exchange for refrigerant and water is performed by using the industry's first and only technology.

Lineup

Model	CMB-WP108V-G
Number of branch	8

- INDOOR UNIT -

•A new slim ceiling-concealed type units
•A middle static pressure ceiling-concealed type units
These indoor units are exclusively for use with HYBRID CITY MULTI.



NEW

Lineup

Model size	WP15	WP20	WP25	WP32	WP40	WP50
PEFY-WP-VMS1-E	●	●	●	●	●	●
PEFY-WP-VMA-E		●	●	●	●	●
PFFY-WP-VLRMM-E		●	●	●	●	●
Capacity	1.7kW	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW

- CONTROLLER -

Remote Controller

[Advanced functions]
- Error information
- Timer
- Operation lock
- Temperature range restriction
- Language selection

PAR-31MAA

Centralized Controller

With the connection of an Expansion Controller PAC-YG50ECA, a maximum of 150 units/groups can be connected to an AG-150A.

AG-150A

[Advanced functions]
- Operation setting
- Temperature setting
- Fan speed setting
- Local operation setting
- Language selection

This system also allows the use of other CITY MULTI remote controllers such as PAC-YT52CRA or AT-50A.

PAC-YT52CRA

AT-50A

Specifications

- OUTDOOR UNIT -

Model			PURY-WP200YJM-A	PURY-WP250YJM-A
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity			Cooling 100%	Cooling 100%
(Nominal)	*1	kW	22.4	28.0
	*1	kcal / h	19,300	24,100
	*1	BTU / h	76,400	95,500
	Power input	kW	4.79	6.99
	Current input	A	8.0-7.6-7.4	11.8-11.2-10.8
	COP	kW/kW	4.67	4.00
Temp. range	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
of cooling	Outdoor	D.B.	-5.0~46.0 °C (23~115 °F)	-5.0~46.0 °C (23~115 °F)
Heating capacity			Heating 100%	Heating 100%
(Nominal)	*2	kW	25.0	31.5
	*2	kcal / h	21,500	27,100
	*2	BTU / h	85,300	107,500
	Power input	kW	5.28	6.98
	Current input	A	8.9-8.4-8.1	11.7-11.1-10.7
	COP	kW/kW	4.73	4.51
Temp. range	Indoor	D.B.	15.0~27.0 °C (59~81 °F)	15.0~27.0 °C (59~81 °F)
of heating	Outdoor	W.B.	-20.0~15.5 °C (-4~60 °F)	-20.0~15.5 °C (-4~60 °F)
Indoor unit	Total capacity		50~150%	50~150%
connectable	Model / Quantity		WP15~WP50/1~20	WP15~WP50/1~24
Sound pressure level (measured in anechoic room)		dB<A>	60	60
Power pressure level (measured in anechoic room)		dB<A>	80	80
Refrigerant	Liquid pipe	mm(in.)	15.88 (5/8) Brazed	19.05 (3/4) Brazed
piping diameter	Gas pipe	mm(in.)	19.05 (3/4) Brazed	22.2 (7/8) Brazed
FAN	Type x Quantity		Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3 /min	225	225
		L/s	3,750	3,750
		cfm	7,945	7,945
	Control, Driving mechanism		Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor
	Motor output	kW	0.92 x 1	0.92 x 1
*3	External static press.		0 Pa (0 mmH_2O)	0 Pa (0 mmH_2O)
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	5.4	6.8
	Case heater	kW	0.045 (240 V)	0.045 (240 V)
	Lubricant		MEL32	MEL32
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External dimension HxWxD		mm	1,710 (1,650 without legs) x 1,220 x 760	1,710 (1,650 without legs) x 1,220 x 760
		in.	67-3/8 (65 without legs) x 48-1/16 x 29-15/16	67-3/8 (65 without legs) x 48-1/16 x 29-15/16
Protection	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
devices	Inverter circuit (COMP. / FAN)		Over-current protection	Over-current protection
	Fan motor		Thermal switch	Thermal switch
Refrigerant	Type x original charge		R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)
	Control		LEV and HIC circuit	LEV and HIC circuit
Net weight		kg(lbs)	270 (596)	270 (596)
Heat exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube
Defrosting method			Auto-defrost mode (Reversed refrigerant cycle)	Auto-defrost mode (Reversed refrigerant cycle)
Standard attachment	Accessory		Refrigerant conn. pipe	Refrigerant conn. pipe

Notes:
1. Nominal cooling conditions
   Indoor: 27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.), Outside: 35 °CD.B. (95 °FD.B.)
   Water pipe length: 5 m (16-3/8 ft.), Refrigerant pipe length: 2.5 m (8-3/16 ft.), Level deference: 0 m (0 ft.)
2. Nominal heating conditions
   Indoor: 20 °CD.B. (68 °FD.B.), Outside: 7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)
   Water pipe length: 5 m (16-3/8 ft.), Refrigerant pipe length: 2.5 m (8-3/16 ft.), Level deference: 0 m (0 ft.)
3. External static pressure option is available (30 Pa, 60 Pa/3.1 mmH_2O, 6.1 mmH_2O).

Unit converter

kcal =kW × 860
BTU / h =kW × 3,412
cfm =m^3 / min × 35.31
lbs =kg / 0.4536

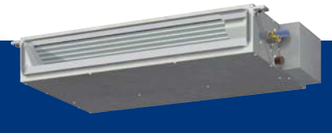
* Above specification data is subject to rounding variation.

- HBC CONTROLLER -

Model			CMB-WP108V-G	
Number of branch			8	
Power source			220-230-240 V	
			50 Hz	60 Hz
Power input	Cooling	kW	0.450/0.460/0.470	0.450/0.460/0.470
(220/230/240)	Heating	kW	0.450/0.460/0.470	0.450/0.460/0.470
Current input	Cooling	A	2.89/2.83/2.79	2.89/2.83/2.79
(220/230/240)	Heating	A	2.89/2.83/2.79	2.89/2.83/2.79
Sound pressure level (measured in anechoice room)		dB<A>	41	
Applicable temperature range of installation site		°C(D.B.)	0~32	
External finish			Galvanized steel plate (Lower part drain pan: Pre-coated galvanized sheets + powder coating)	
Connectable outdoor unit			PURY-WP200/250YJM-A (-BS)	
Indoor unit capacity connectable to 1 branch			Model P80 or smaller	
External dimension HxWxD		mm	300 x 1,600 x 540	
		in.	11-13/16 x 63 x 21-5/16	
Refrigerant piping diameter (To outdoor unit)	Connectable outdoor unit capacity		To WP200	To WP250
	High press. Pipe	mm(in.) O.D.	15.88 (5/8) Brazed	19.05 (3/4) Brazed
	Low press. Pipe	mm(in.) O.D.	19.05 (3/4) Brazed	22.2 (7/8) Brazed
Water piping diameter (To indoor unit)	Inlet Pipe	mm(in.) I.D.	20 (3/4)	
	Outlet Pipe	mm(in.) I.D.	20 (3/4)	
Field drain pipe size		mm(in.)	O.D. 32 (1-1/4)	
Net weight		kg(lbs)	92 (203) [102 (225) with water]	
Standard attachment	Accessory		1. Reducer 2. Drain Connection pipe (with flexible hose and insulation)	
Optional parts			Sub drainpan: PAC-HBC01DP-E	

Notes:
1. Works not included:
   Installation / foundation work, electrical connection work, duct work, insulation work, power source switch, and other items are not specified in this specification.
2. The equipment is for R410A refrigerant.
3. Install this product in a location where noise (refrigerant and water noise) emitted by the unit will not disturb the neighbours.
   For use in quiet environments with low background noise, position the HBC controller at least 5 m away from any indoor units.
4. Install the HBC controller in a place where noise will not be an issue.
5. Attach an expansion tank (field supply).
6. Use copper or plastic pipes for the water circuit. Do not use steel or stainless steel pipework.
   Furthermore, when using copper pipe-work use a non-oxidative brazing method.
   Oxidation of the pipe-work will reduce the pump life.
7. Install an air purge valve where air will gather in the water circuit.
8. Install a pressure reducing valve and a strainer on the water supply to the HBC controller. Also consider installing a non-return valve (check local regulations).
9. Refer to the databook or the installation manual for the specified water quality.
10. This unit is not designed for outside installation.
11. Always leave the power on or remove the circulation water completely when the power is off for an extended period.
    *Do not use the circuit water as drinking water.
12. Do not use ground water or well water.
13. When installing the HBC unit in an environment which may drop below 0 °C, please add antifreeze to the circulating water.
    (Refer to the data-book and the installation manual.)
14. Use cover caps (field supply, dezincification resistant brass (DZR) or bronze only) on unused branches.
15. Install a sub drain pan (sold separately, PAC-HBC01DP-E). If leakage from underneath the HBC would cause no problem in the installed location, installation of the sub drain pan is not necessary.
16. The system must be serviced at least once a year.

- INDOOR UNIT -



Model				PEFY-WP15VMS1-E	PEFY-WP20VMS1-E	PEFY-WP25VMS1-E
Power source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling capacity		*1	kW	1.7	2.2	2.8
(Nominal)		*1	kcal/h	1,500	1,900	2,400
		*1	BTU/h	5,800	7,500	9,600
	*2 Power input		kW	0.050	0.051	0.060
	*2 Current input		A	0.44	0.49	0.51
Heating capacity		*3	kW	1.9	2.5	3.2
(Nominal)		*3	kcal/h	1,600	2,200	2,800
		*3	BTU/h	6,500	8,500	10,900
	*2 Power input		kW	0.030	0.031	0.040
	*2 Current input		A	0.33	0.38	0.40
External finish				Galvanized steel plate	Galvanized steel plate	Galvanized steel plate
External dimension H x W x D			mm	200 x 790 x 700	200 x 790 x 700	200 x 790 x 700
			in.	7-7/8 x 31-1/8 x 27-9/16	7-7/8 x 31-1/8 x 27-9/16	7-7/8 x 31-1/8 x 27-9/16
Net weight			kg(lbs)	19 (42)	20 (45)	20 (45)
Heat exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume		L	0.7	0.9	0.9
FAN	Type x Quantity			Sirocco fan x 2	Sirocco fan x 2	Sirocco fan x 2
*4	External		Pa	<5> - 15 - <35> - <50>	<5> - 15 - <35> - <50>	<5> - 15 - <35> - <50>
	static press.		mmH_2O	<0.5> - 1.5 - <3.6> - <5.1>	<0.5> - 1.5 - <3.6> - <5.1>	<0.5> - 1.5 - <3.6> - <5.1>
	Motor Type			DC motor	DC motor	DC motor
	Motor output		kW	0.096	0.096	0.096
	Driving mechanism			Direct-driven by motor	Direct-driven by motor	Direct-driven by motor
	Air flow rate		m^3/min	5.0 - 6.0 - 7.0	5.5 - 6.5 - 8.0	5.5 - 7.0 - 9.0
			L/s	83 - 100 - 117	92 - 108 - 133	92 - 117 - 150
			cfm	177 - 212 - 247	194 - 230 - 282	194 - 247 - 318
Sound pressure level				(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
(measured in anechoic room)		*2	dB <A>	22-24-28	23-25-29	23-26-30
Insulation material				EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam
Air filter				PP honeycomb fabric.	PP honeycomb fabric.	PP honeycomb fabric.
Protection device				Fuse	Fuse	Fuse
Connectable outdoor unit / HBC controller				HYBRID CITY MULTI/CMB-WP-V-G	HYBRID CITY MULTI/CMB-WP-V-G	HYBRID CITY MULTI/CMB-WP-V-G
Water piping	Inlet		in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
diameter	*5,6 Outlet		in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
Field drain pipe size			mm(in.)	O.D.32 (1-1/4)	O.D.32 (1-1/4)	O.D.32 (1-1/4)
Standard attachment	Accessory			Insulation pipe for water pipe, Washer, Drain hose, Tie band	Insulation pipe for water pipe, Washer, Drain hose, Tie band	Insulation pipe for water pipe, Washer, Drain hose, Tie band
Optional parts	Control Box Replace kit			PAC-KE70HS-E	PAC-KE70HS-E	PAC-KE70HS-E

Notes :
1.Nominal cooling conditions
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Outdoor: 35°CD.B. (95°FD.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
2.The values are measured at the factory setting of external static pressure.
3.Nominal heating conditions
Indoor: 20°CD.B. (68°FD.B.), Outdoor: 7°CD.B./6°CW.B. (45°FD.B./43°FW.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
4.The factory setting of external static pressure is shown without < >.
Refer to "Fan characteristics curves", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.
5.Be sure to install a valve on the water outlet.
6.Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.
7.Please group units that operate on 1 branch.

Unit converter

kcal =kW × 860
BTU / h =kW × 3,412
cfm =m^3 / min × 35.31
lbs =kg / 0.4536

*Above specification data is subject to rounding variation.

Model				PEFY-WP32VMS1-E	PEFY-WP40VMS1-E	PEFY-WP50VMS1-E
Power source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling capacity		*1	kW	3.6	4.5	5.6
(Nominal)		*1	kcal/h	3,100	3,900	4,800
		*1	BTU/h	12,300	15,400	19,100
	*2 Power input		kW	0.071	0.090	0.090
	*2 Current input		A	0.61	0.73	0.77
Heating capacity		*3	kW	4.0	5.0	6.3
(Nominal)		*3	kcal/h	3,400	4,300	5,400
		*3	BTU/h	13,600	17,100	21,500
	*2 Power input		kW	0.051	0.070	0.070
	*2 Current input		A	0.50	0.62	0.66
External finish				Galvanized steel plate	Galvanized steel plate	Galvanized steel plate
External dimension H x W x D			mm	200 x 990 x 700	200 x 990 x 700	200 x 1,190 x 700
			in.	7-7/8 x 39 x 27-9/16	7-7/8 x 39 x 27-9/16	7-7/8 x 46-7/8 x 27-9/16
Net weight			kg(lbs)	25 (56)	25 (56)	27 (60)
Heat exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume		L	1.0	1.0	1.7
FAN	Type x Quantity			Sirocco fan x 3	Sirocco fan x 3	Sirocco fan x 4
*4	External		Pa	<5> - 15 - <35> - <50>	<5> - 15 - <35> - <50>	<5> - 15 - <35> - <50>
	static press.		mmH_2O	<0.5> - 1.5 - <3.6> - <5.1>	<0.5> - 1.5 - <3.6> - <5.1>	<0.5> - 1.5 - <3.6> - <5.1>
	Motor Type			DC motor	DC motor	DC motor
	Motor output		kW	0.096	0.096	0.096
	Driving mechanism			Direct-driven by motor	Direct-driven by motor	Direct-driven by motor
	Air flow rate		m^3/min	8.0 - 9.0 - 11.0	9.5 - 11.0 - 13.0	12.0 - 14.0 - 16.5
			L/s	133 - 150 - 183	158 - 183 - 217	200 - 233 - 275
			cfm	282 - 318 - 388	335 - 388 - 459	424 - 494 - 583
Sound pressure level				(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
(measured in anechoic room)		*2	dB <A>	28-30-33	30-32-35	30-33-36
Insulation material				EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam
Air filter				PP honeycomb fabric.	PP honeycomb fabric.	PP honeycomb fabric.
Protection device				Fuse	Fuse	Fuse
Connectable outdoor unit / HBC controller				HYBRID CITY MULTI/CMB-WP-V-G	HYBRID CITY MULTI/CMB-WP-V-G	HYBRID CITY MULTI/CMB-WP-V-G
Water piping	Inlet		in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
diameter	*5,6 Outlet		in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
Field drain pipe size			mm(in.)	O.D.32 (1-1/4)	O.D.32 (1-1/4)	O.D.32 (1-1/4)
Standard attachment	Accessory			Insulation pipe for water pipe, Washer, Drain hose, Tie band	Insulation pipe for water pipe, Washer, Drain hose, Tie band	Insulation pipe for water pipe, Washer, Drain hose, Tie band
Optional parts	Control Box Replace kit			PAC-KE70HS-E	PAC-KE70HS-E	PAC-KE70HS-E

Notes :
1.Nominal cooling conditions
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Outdoor: 35°CD.B. (95°FD.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
2.The values are measured at the factory setting of external static pressure.
3.Nominal heating conditions
Indoor: 20°CD.B. (68°FD.B.), Outdoor: 7°CD.B./6°CW.B. (45°FD.B./43°FW.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
4.The factory setting of external static pressure is shown without < >.
Refer to "Fan characteristics curves", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.
5.Be sure to install a valve on the water outlet.
6.Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.
7.Please group units that operate on 1 branch.

Unit converter

kcal =kW × 860
BTU / h =kW × 3,412
cfm =m^3 / min × 35.31
lbs =kg / 0.4536

*Above specification data is subject to rounding variation.

- INDOOR UNIT -

Model				PEFY-WP20VMA-E	PEFY-WP25VMA-E
Power source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling capacity		*1	kW	2.2	2.8
(Nominal)		*1	kcal / h	1,900	2,400
		*1	BTU / h	7,500	9,600
	*2 Power input		kW	0.07	0.09
	*2 Current input		A	0.55	0.64
Heating capacity		*3	kW	2.5	3.2
(Nominal)		*3	kcal / h	2,200	2,800
		*3	BTU / h	8,500	10,900
	*2 Power input		kW	0.05	0.07
	*2 Current input		A	0.44	0.53
External finish				Galvanized steel plate	Galvanized steel plate
External dimension HxWxD			mm	250 x 700 x 732	250 x 900 x 732
			in.	9-7/8 x 27-9/16 x 28-7/8	9-7/8 x 35-7/16 x 28-7/8
Net weight			kg(lbs)	21 (47)	26 (58)
Heat exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume		L	0.7	1.0
FAN	Type x Quantity			Sirocco fan x 1	Sirocco fan x 1
*4	External static press.		Pa	<35> - 50 - <70> - <100> - <150>	<35> - 50 - <70> - <100> - <150>
			mmH_2O	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>
	Motor Type			DC motor	DC motor
	Motor output		kW	0.085	0.085
	Driving mechanism			Direct-driven by motor	Direct-driven by motor
	Air flow rate			(Low-Mid-High)	(Low-Mid-High)
			m^3 /min	7.5 - 9.0 - 10.5	10.0 - 12.0 - 14.0
			L/s	125 - 150 - 175	167 - 200 - 233
			cfm	265 - 318 - 371	353 - 424 - 494
Sound pressure level				(Low-Mid-High)	(Low-Mid-High)
(measured in anechoic room)		*2	dB<A>	23-26-29	23-27-30
Insulation material				EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam
Air filter				PP honeycomb fabric.	PP honeycomb fabric.
Protection devices				Fuse	Fuse
Connectable outdoor unit / HBC controller				HYBRID CITY MULTI/CMB-WP-V-G	HYBRID CITY MULTI/CMB-WP-V-G
Water piping	Inlet		in.	Rc 3/4 screw	Rc 3/4 screw
diameter	Outlet	*5, 6	in.	Rc 3/4 screw	Rc 3/4 screw
Field drain pipe size			mm(in.)	O.D.32 (1-1/4)	O.D.32 (1-1/4)
Standard attachment	Accessory			Insulation pipe for water pipe, Washer, Drain hose, Tie band	Insulation pipe for water pipe, Washer, Drain hose, Tie band
Optional parts	Filter box			PAC-KE91TB-E	PAC-KE92TB-E

Notes:
1. Nominal cooling conditions
   Indoor: 27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.), Outdoor: 35 °CD.B. (95 °FD.B.)
   Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
2. The values are measured at the factory setting of external static pressure.
3. Nominal heating conditions
   Indoor: 20 °CD.B. (68 °FD.B.), Outdoor: 7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)
   Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
4. The factory setting of external static pressure is shown without < >.
   Refer to "Fan characteristics curves", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.
5. Be sure to install a valve on the water outlet.
6. Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.
7. Group units that operate on 1 branch.

Unit converter

kcal =kW × 860
BTU / h =kW × 3,412
cfm =m^3 / min × 35.31
lbs =kg / 0.4536

* Above specification data is subject to rounding variation.

Model				PEFY-WP32VMA-E	PEFY-WP40VMA-E	PEFY-WP50VMA-E
Power source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling capacity		*1	kW	3.6	4.5	5.6
(Nominal)		*1	kcal / h	3,100	3,900	4,800
		*1	BTU / h	12,300	15,400	19,100
	*2 Power input		kW	0.11	0.14	0.14
	*2 Current input		A	0.74	1.15	1.15
Heating capacity		*3	kW	4.0	5.0	6.3
(Nominal)		*3	kcal / h	3,400	4,300	5,400
		*3	BTU / h	13,600	17,100	21,500
	*2 Power input		kW	0.09	0.12	0.12
	*2 Current input		A	0.63	1.04	1.04
External finish				Galvanized steel plate	Galvanized steel plate	Galvanized steel plate
External dimension HxWxD			mm	250 x 900 x 732	250 x 1,100 x 732	250 x 1,100 x 732
			in.	9-7/8 x 35-7/16 x 28-7/8	9-7/8 x 43-5/16 x 28-7/8	9-7/8 x 43-5/16 x 28-7/8
Net weight			kg(lbs)	26 (58)	31 (69)	31 (69)
Heat exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume		L	1.0	1.8	1.8
FAN	Type x Quantity			Sirocco fan x 1	Sirocco fan x 2	Sirocco fan x 2
*4	External static press.		Pa	<35> - 50 - <70> - <100> - <150>	<35> - 50 - <70> - <100> - <150>	<35> - 50 - <70> - <100> - <150>
			mmH_2O	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>
	Motor Type			DC motor	DC motor	DC motor
	Motor output		kW	0.085	0.121	0.121
	Driving mechanism			Direct-driven by motor	Direct-driven by motor	Direct-driven by motor
	Air flow rate			(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
			m^3 /min	12.0 - 14.5 - 17.0	14.5 - 18.0 - 21.0	14.5 - 18.0 - 21.0
			L/s	200 - 242 - 283	242 - 300 - 350	242 - 300 - 350
			cfm	424 - 512 - 600	512 - 636 - 742	512 - 636 - 742
Sound pressure level				(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
(measured in anechoic room)		*2	dB<A>	25-29-32	26-29-34	26-29-34
Insulation material				EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam
Air filter				PP honeycomb fabric.	PP honeycomb fabric.	PP honeycomb fabric.
Protection devices				Fuse	Fuse	Fuse
Connectable outdoor unit / HBC controller				HYBRID CITY MULTI/CMB-WP-V-G	HYBRID CITY MULTI/CMB-WP-V-G	HYBRID CITY MULTI/CMB-WP-V-G
Water piping	Inlet		in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
diameter	Outlet	*5, 6	in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
Field drain pipe size			mm(in.)	O.D.32 (1-1/4)	O.D.32 (1-1/4)	O.D.32 (1-1/4)
Standard attachment	Accessory			Insulation pipe for water pipe, Washer, Drain hose, Tie band	Insulation pipe for water pipe, Washer, Drain hose, Tie band	Insulation pipe for water pipe, Washer, Drain hose, Tie band
Optional parts	Filter box			PAC-KE92TB-E	PAC-KE93TB-E	PAC-KE93TB-E

Notes:
1. Nominal cooling conditions
   Indoor: 27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.), Outdoor: 35 °CD.B. (95 °FD.B.)
   Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
2. The values are measured at the factory setting of external static pressure.
3. Nominal heating conditions
   Indoor: 20 °CD.B. (68 °FD.B.), Outdoor: 7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)
   Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
4. The factory setting of external static pressure is shown without < >.
   Refer to "Fan characteristics curves", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.
5. Be sure to install a valve on the water outlet.
6. Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.
7. Group units that operate on 1 branch.

Unit converter

kcal =kW × 860
BTU / h =kW × 3,412
cfm =m^3 / min × 35.31
lbs =kg / 0.4536

* Above specification data is subject to rounding variation.

NEW

- INDOOR UNIT -

Model				PFFY-WP20VLRMM-E	PFFY-WP25VLRMM-E	PFFY-WP32VLRMM-E
Power source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling capacity		*1	kW	2.2	2.8	3.6
(Nominal)		*1	kcal/h	1,900	2,400	3,100
		*1	BTU/h	7,500	9,600	12,300
	*2	Power input	kW	0.040	0.040	0.050
	*2	Current input	A	0.35	0.35	0.47
Heating capacity		*3	kW	2.5	3.2	4.0
(Nominal)		*3	kcal/h	2,200	2,800	3,400
		*3	BTU/h	8,500	10,900	13,600
	*2	Power input	kW	0.040	0.040	0.050
	*2	Current input	A	0.35	0.35	0.47
External finish				Galvanized steel plate	Galvanized steel plate	Galvanized steel plate
External dimension H x W x D			mm	639 x 886 x 220	639 x 1,006 x 220	639 x 1,006 x 220
			in.	25-3/16 x 34-15/16 x 8-11/16	25-3/16 x 39-5/8 x 8-11/16	25-3/16 x 39-5/8 x 8-11/16
Net weight			kg(lbs)	22 (49)	25 (56)	25 (56)
Heat exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume		L	0.9	1.3	1.3
FAN	Type x Quantity			Sirocco fan x 1	Sirocco fan x 2	Sirocco fan x 2
*4	External		Pa	20 - <40> - <60>	20 - <40> - <60>	20 - <40> - <60>
	static press.		mmH_2O	2.0 - <4.1> - <6.1>	2.0 - <4.1> - <6.1>	2.0 - <4.1> - <6.1>
	Motor Type			DC motor	DC motor	DC motor
	Motor output		kW	0.096	0.096	0.096
	Driving mechanism			Direct-driven by motor	Direct-driven by motor	Direct-driven by motor
	Air flow rate			(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
			m^3/min	4.5 - 5.0 - 6.0	6.0 - 7.0 - 8.0	7.5 - 9.0 - 10.5
			L/s	75 - 83 - 100	100 - 117 - 133	125 - 150 - 175
			cfm	159 - 177 - 212	212 - 247 - 282	265 - 318 - 371
Sound pressure level				(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
(measured in anechoic room)		*2	dB <A>	31-33-38	31-33-38	31-35-38
Insulation material				Polyethylene foam, Urethane foam	Polyethylene foam, Urethane foam	Polyethylene foam, Urethane foam
Air filter				PP honeycomb fabric.	PP honeycomb fabric.	PP honeycomb fabric.
Protection device				Fuse	Fuse	Fuse
Connectable outdoor unit/HBC controller				HYBRID CITY MULTI/CMB-WP-V-G	HYBRID CITY MULTI/CMB-WP-V-G	HYBRID CITY MULTI/CMB-WP-V-G
Water piping	Inlet		in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
diameter	Outlet	*5,6	in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
Field drain pipe size			mm(in.)	I.D.26 (1) <Accessory hose O.D.27 (1-3/32) (top end: O.D.20 (13/16))>	I.D.26 (1) <Accessory hose O.D.27 (1-3/32) (top end: O.D.20 (13/16))>	I.D.26 (1) <Accessory hose O.D.27 (1-3/32) (top end: O.D.20 (13/16))>
Standard attachment	Accessory			Insulation pipe for water pipe, Drain hose (flexible joint), Screw plate, Level adjusting screw, Hose band	Insulation pipe for water pipe, Drain hose (flexible joint), Screw plate, Level adjusting screw, Hose band	Insulation pipe for water pipe, Drain hose (flexible joint), Screw plate, Level adjusting screw, Hose band

Unit converter

kcal =kW × 860
BTU / h =kW × 3,412
cfm =m^3 / min × 35.31
lbs =kg / 0.4536

*Above specification data is subject to rounding variation.

Notes :
1.Nominal cooling conditions
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Outdoor: 35°CD.B. (95°FD.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
2.The values are measured at the factory setting of external static pressure.
3.Nominal heating conditions
Indoor: 20°CD.B. (68°FD.B.), Outdoor: 7°CD.B./6°CW.B. (45°FD.B./43°FW.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
4.The factory setting of external static pressure is shown without < >.
Refer to "Fan characteristics curves", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.
5.Be sure to install a valve on the water outlet.
6.Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.
7.Please group units that operate on 1 branch.

Model				PFFY-WP40VLRMM-E	PFFY-WP50VLRMM-E
Power source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling capacity		*1	kW	4.5	5.6
(Nominal)		*1	kcal/h	3,900	4,800
		*1	BTU/h	15,400	19,100
	*2	Power input	kW	0.050	0.070
	*2	Current input	A	0.47	0.65
Heating capacity		*3	kW	5.0	6.3
(Nominal)		*3	kcal/h	4,300	5,400
		*3	BTU/h	17,100	21,500
	*2	Power input	kW	0.050	0.070
	*2	Current input	A	0.47	0.65
External finish				Galvanized steel plate	Galvanized steel plate
External dimension H x W x D			mm	639 x 1,246 x 220	639 x 1,246 x 220
			in.	25-3/16 x 49-1/16 x 8-11/16	25-3/16 x 49-1/16 x 8-11/16
Net weight			kg(lbs)	29 (64)	29 (64)
Heat exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume		L	1.5	1.5
FAN	Type x Quantity			Sirocco fan x 2	Sirocco fan x 2
*4	External		Pa	20 - <40> - <60>	20 - <40> - <60>
	static press.		mmH_2O	2.0 - <4.1> - <6.1>	2.0 - <4.1> - <6.1>
	Motor Type			DC motor	DC motor
	Motor output		kW	0.096	0.096
	Driving mechanism			Direct-driven by motor	Direct-driven by motor
	Air flow rate			(Low-Mid-High)	(Low-Mid-High)
			m^3/min	8.0 - 10.0 - 11.5	10.5 - 13.0 - 15.0
			L/s	133 - 167 - 192	175 - 217 - 250
			cfm	282 - 353 - 406	371 - 459 - 530
Sound pressure level				(Low-Mid-High)	(Low-Mid-High)
(measured in anechoic room)		*2	dB <A>	34-37-40	37-42-45
Insulation material				Polyethylene foam, Urethane foam	Polyethylene foam, Urethane foam
Air filter				PP honeycomb fabric.	PP honeycomb fabric.
Protection device				Fuse	Fuse
Connectable outdoor unit/HBC controller				HYBRID CITY MULTI/CMB-WP-V-G	HYBRID CITY MULTI/CMB-WP-V-G
Water piping	Inlet		in.	Rc 3/4 screw	Rc 3/4 screw
diameter	Outlet	*5,6	in.	Rc 3/4 screw	Rc 3/4 screw
Field drain pipe size			mm(in.)	I.D.26 (1) <Accessory hose O.D.27 (1-3/32) (top end: O.D.20 (13/16))>	I.D.26 (1) <Accessory hose O.D.27 (1-3/32) (top end: O.D.20 (13/16))>
Standard attachment	Accessory			Insulation pipe for water pipe, Drain hose (flexible joint), Screw plate, Level adjusting screw, Hose band	Insulation pipe for water pipe, Drain hose (flexible joint), Screw plate, Level adjusting screw, Hose band

Unit converter

kcal =kW × 860
BTU / h =kW × 3,412
cfm =m^3 / min × 35.31
lbs =kg / 0.4536

*Above specification data is subject to rounding variation.

Notes :
1.Nominal cooling conditions
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Outdoor: 35°CD.B. (95°FD.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
2.The values are measured at the factory setting of external static pressure.
3.Nominal heating conditions
Indoor: 20°CD.B. (68°FD.B.), Outdoor: 7°CD.B./6°CW.B. (45°FD.B./43°FW.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
4.The factory setting of external static pressure is shown without < >.
Refer to "Fan characteristics curves", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.
5.Be sure to install a valve on the water outlet.
6.Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.
7.Please group units that operate on 1 branch.

for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

FM33568 / ISO 9001;2008

The Air Conditioning & Refrigeration Systems Works acquired ISO 9001 certification under Series 9000 of the International Standard Organization (ISO) based on a review of Quality management for the production of refrigeration and air conditioning equipment.

ISO Authorization System
The ISO 9000 series is a plant authorization system relating to quality management as stipulated by the ISO. ISO 9001 certifies quality management based on the "design, development, production, installation and auxiliary services" for products built at an authorized plant.

EC97J1227 051

The Air Conditioning & Refrigeration Systems Works acquired environmental management system standard ISO 14001 certification.

The ISO 14000 series is a set of standards applying to environmental protection set by the International Standard Organization (ISO).
Registered on March 10, 1998.

⚠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, during 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.

MITSUBISHI ELECTRIC CORPORATION

MEE13K002

New publication effective May 2013
Specifications subject to change without notice