MITSUBISHI ELECTRIC

CITY MULTI

Hybrid VRF Next Generation
2-Pipe Heat Recovery Systems

HYBRID CITY MULTI

The Hybrid VRF Advantage

"Water, rather than traditional refrigerant, is at the heart of the indoor units. This means there is no risk of refrigerant leaking into small confined spaces."

What is Hybrid VRF?

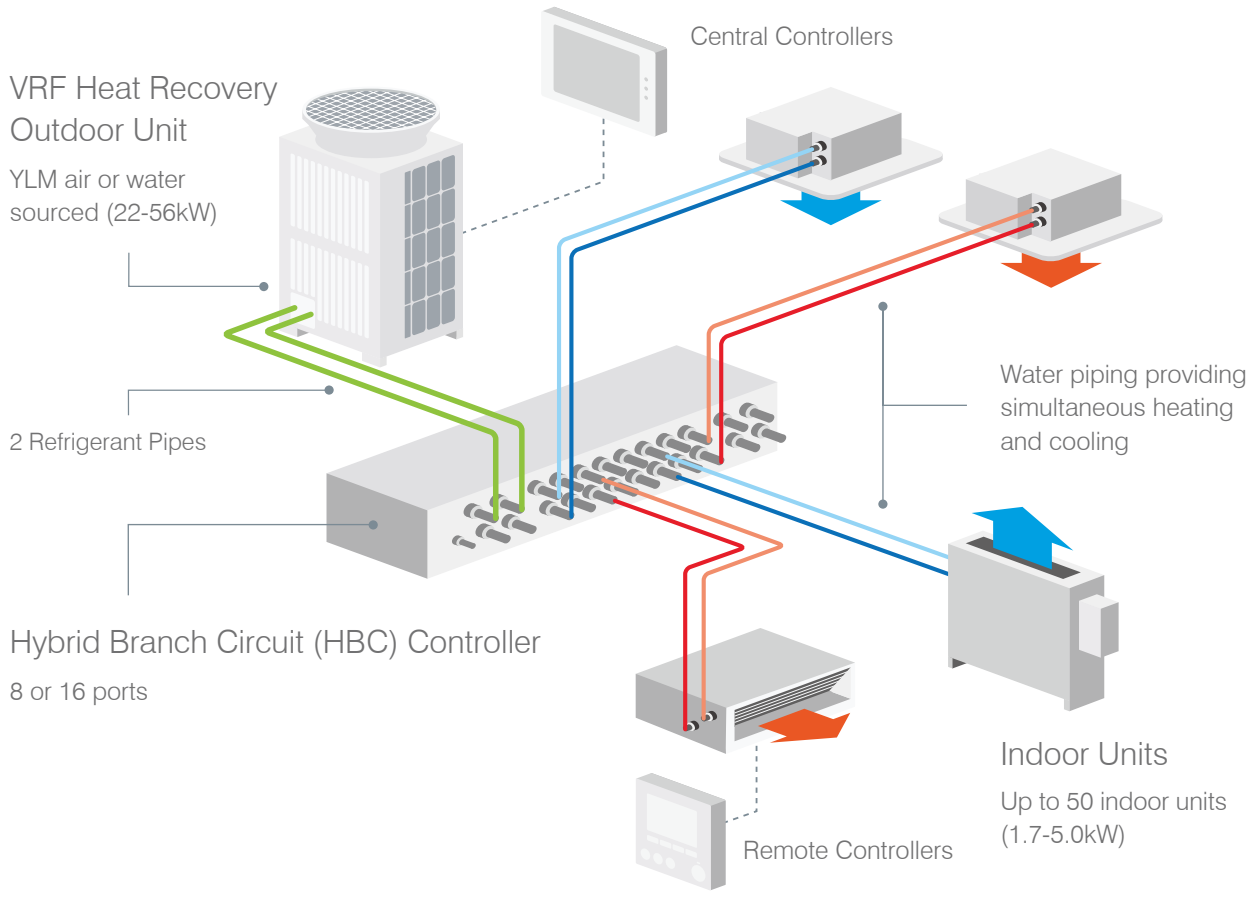
Hybrid VRF is next generation technology from Mitsubishi Electric, the world leader in VRF Solutions. This unique 2-Pipe Heat Recovery VRF System replaces refrigerant with water between the Branch Box Controller and the indoor units. This revolutionary design removes the need for expensive and on-going leak detection servicing and is specifically designed for occupied spaces where quiet, energy efficient, simultaneous heating and cooling is valued. Hybrid VRF provides a truly integrated solution for hotels, offices, hospitals and schools where occupant comfort is paramount.

Put simply, Hybrid VRF is a 2-Pipe Heat Recovery VRF with water between the Hybrid Branch Circuit (HBC) Controller and indoor units. You can install and design it as VRF whilst enjoying the features of a chiller system. This provides a complete modern solution for office buildings, hotels, medical centres, schools, high-rise buildings, shopping centres and other commercial premises.

Hybrid VRF is quick, easy and flexible to design and install using the same control and network as VRF systems. Furthermore, the decentralised system means phased installation is possible with the same high levels of seasonal efficiency expected with VRF.

With water at the indoor units, Hybrid VRF provides comfortable and stable air temperature control with no refrigerant in occupied spaces, removing the need for leak detection.

Hybrid VRF System Example



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The Hybrid VRF Advantage

"Hybrid VRF removes the need for leak detection, reducing the total cost of the system and on-going maintenance of the leak detection systems itself."

Where Can Hybrid VRF be Applied?

City Multi Hybrid VRF Systems allow for a flexible layout, making installation simple. With the use of Centralised Control, HVRF can be utilised in a wide variety of applications that require individual settings such as hotels, offices, hospitals, nursing homes and schools. Furthermore, HVRF minimises the potential hazards to people, property and the environment that could result from leakages of traditional refrigerant systems in confined occupied spaces.

Hotels

Customer comfort is paramount with legislation focusing attention on energy use and seeking to limit the use of refrigerant in occupied spaces. Hybrid VRF removes the need for leak detection thereby reducing the total cost of the system and ongoing maintenance of the leak detection systems itself.

Offices

Modern offices and commercial buildings need air conditioning systems that provide the highest levels of comfort, freshness and energy efficiency.

Hospitals

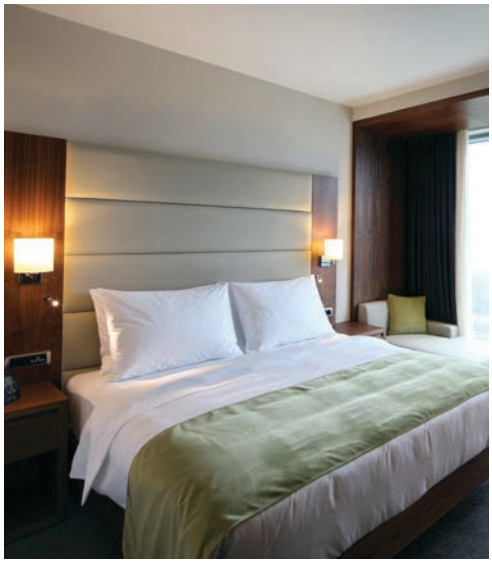
With regards to patients' health and safety, this system has no refrigerant in the indoor units and can deliver mild off-coil temperatures through the Water-Based Hybrid VRF Indoor Units.

Mixed-use buildings

As we look for ways to balance population growth in crowded city centres, more mixed-use properties are being developed; often combining retail, office, leisure and living spaces in the same building. Hybrid VRF provides a fully adaptable solution benefitting from air or water source options using an extensive range of controls to ensure optimum performance.

Education

Providing comfort through temperature stability, removal of refrigerant from the occupied space and reduced noise - Hybrid VRF provides a truly integrated solution.



Hybrid VRF Key Features & Benefits

No Refrigerant in Occupied and Confined Spaces

- Ideal for applications where the limitation of refrigerant in occupied spaces is desired. HVRF removes the need to implement leak detection systems that would have traditionally been required in spaces such as hotel bedrooms, hospitals, nursing homes or meeting rooms.

Mitigate the Effect of Ongoing Refrigerant Cost Increases

- The NZ ETS (Emissions Trading Scheme) puts a price on greenhouse gas emissions and provides an incentive to reduce emissions and promote strategies to absorb carbon dioxide. This is known as the SGG (Synthetic Greenhouse Gas) Levy. Due to the increasing cost of refrigerant associated with ETS Synthetic Greenhouse Gas Levy (NZ), building capital costs can be higher. HVRF reduces this as it uses less refrigerant in the total system.

Energy Saving

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

High Sensible Cooling and Stable Room Temperatures

- Typically 10% increase in sensible cooling vs. VRF.
- Providing superior levels of comfort.

Less Material/Equipment

- Mitsubishi Electric's unique 2-Pipe Heat Recovery System requires less pipes than a 4-Pipe Chiller System.
- The system does not require an external pump and control panel that are usually necessary for chillers.

Quiet Operation

- Water-Based Indoor Units: Ducted, Cassette and Concealed Floor Consoles - based on Mitsubishi Electric VRF Indoor Units.
- Low noise levels, variable airflow.

Fully Packaged Solution

- Valves, Pumps and Heat Exchangers are all contained within the HBC.
- Commissioning is simple; pipe sizes are all defined with minor third party items required.
- Uses the same controls and M-NET Network as VRF.

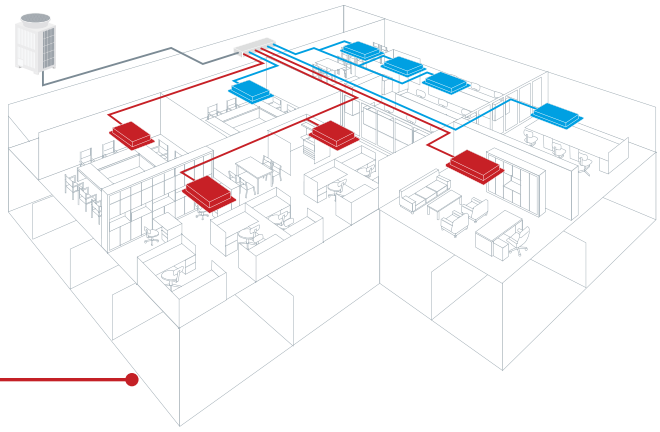
Flexible Application Options

- Air Source YLM (22-56kW) - using the latest City Multi VRF YLM Technology including an aluminium heat exchanger, reduced weight and improved seasonal efficiency.

Simultaneous Heating and Cooling with Full Heat Recovery

- Between fan coils and building zones.
- Optimises flexibility, operability, comfort and efficiency.

Ideal for a wide variety of applications



Hybrid VRF Key Features & Benefits

Manageable Phased Installation

- Modular, smaller footprint and low weight outdoor units.
- Flexible range of VRF options.

Simplified 2-Pipe Design and Installation

- 2 pipes throughout system - no complex 4-pipe design.
- Flexible design using up to 50 indoor units per system over 4 Hybrid Branch Controllers.
- Copper or plastic pipe on water side.

Heat Recovery Defrost Method

- Typical defrost times of 5 minutes with immediate return to heating.
- Improving comfort throughout the heating season, ideal for office applications.
- No defrost on Water Source VRF Models.

Intuitive Load Adjusting

- The latest YLM VRF refrigerant control plus water side optimisation: flow control valves, inverter driven pumps and heat recovery.
- Providing only the capacity needed, improving efficiency and comfort.

Energy Efficient R410A Refrigerant

- R410A refrigerant allows higher heat transfer than R22.
- The use of R410A in this system has achieved significantly higher COP.

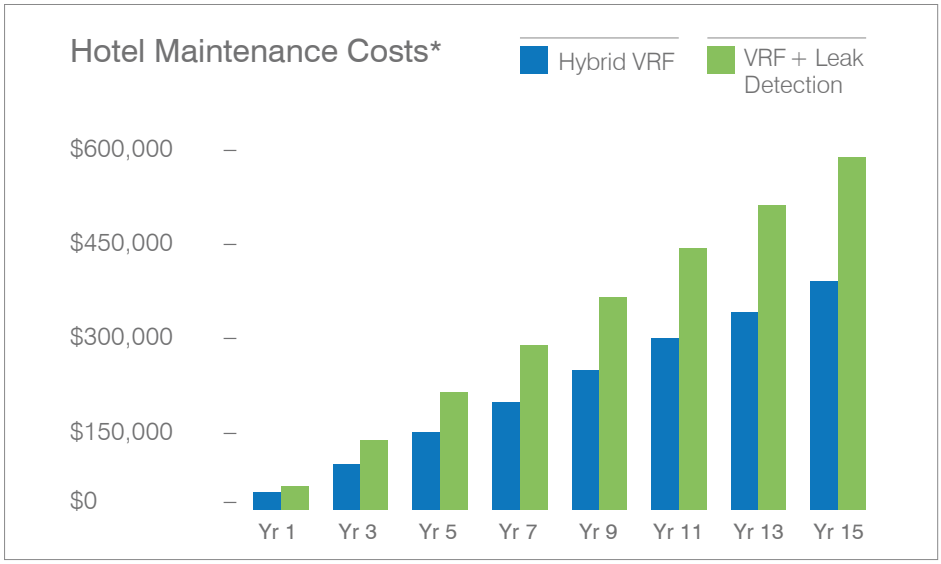
Eliminate the Need for Leak Detection

In commercial buildings, additional leak detection systems specific to air conditioning are often installed to safeguard occupants due to increasing safety regulations. This affects hotels in particular, where air conditioners are installed in the room space and occupants safety is critical.

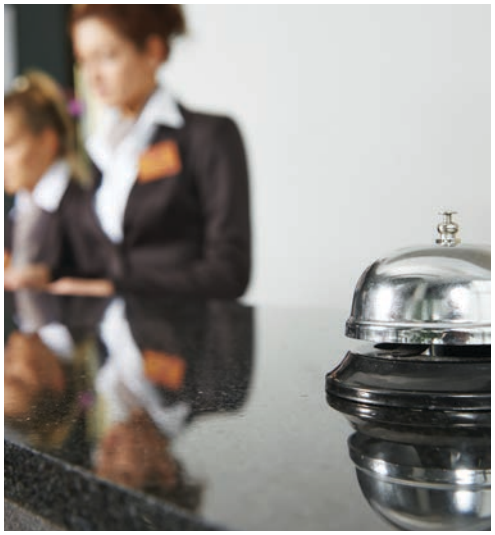
The leak detection system is designed to alarm if refrigerant was to leak into the room space and thus shut down the system to try and prevent harm to the occupants in the room space. These systems can be expensive and add to the cost of design, build and maintenance.

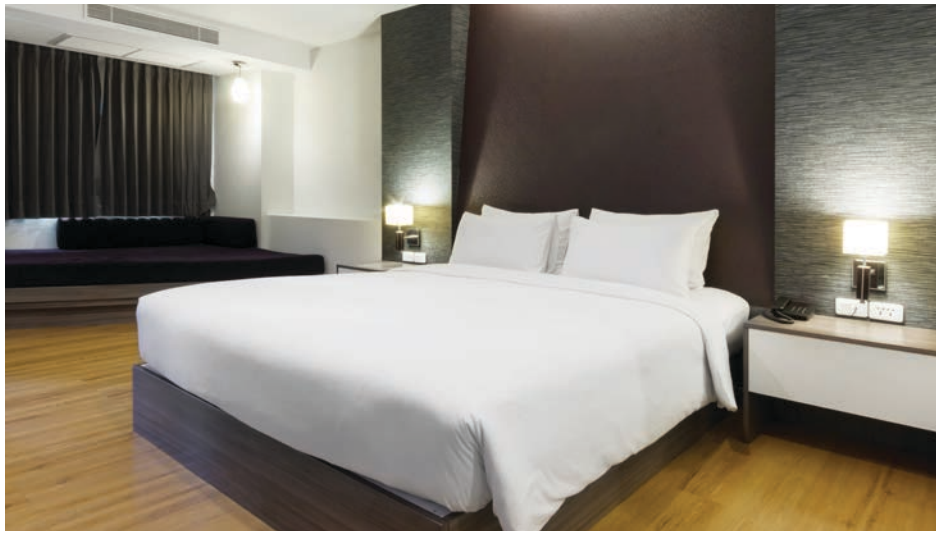
Hotel Solution

Hybrid VRF removes the need for leak detection in each room because there is no refrigerant piped into the room space, just water! This means there is no risk of refrigerant escaping into the room space. The Water-Based Fan Coil Units reduce draughts, improving comfort for guests, whilst providing overall savings in ongoing maintenance costs of the equipment for the hotelier.



Throughout a system's lifetime, annual testing and the recalibration of leak detection sensors adds significant cost to a VRF system. Using Hybrid VRF instead removes this need and could provide as much as 30% in maintenance savings over 15 years.





*Based on a real project using costs from a Mitsubishi Electric Business Solutions Partner, UK.

Hybrid Branch Circuit (HBC) Controller

A. Plate Heat Exchangers

This is the point where the refrigerant circuit transfers its energy to the sealed water system.

There are two sets of Plate Heat Exchangers, both placed at opposite ends in the HBC.

Both sets provide hot water in heating mode or cold water in cooling mode.

During mixed mode, one set provides hot water while the other provides cold water to its respective flow header.

B. Pumps

Each set of Plate Heat Exchangers has a DC Inverter Driven Water Pump.

This circulates the closed loop water system between the HBC and indoor units.

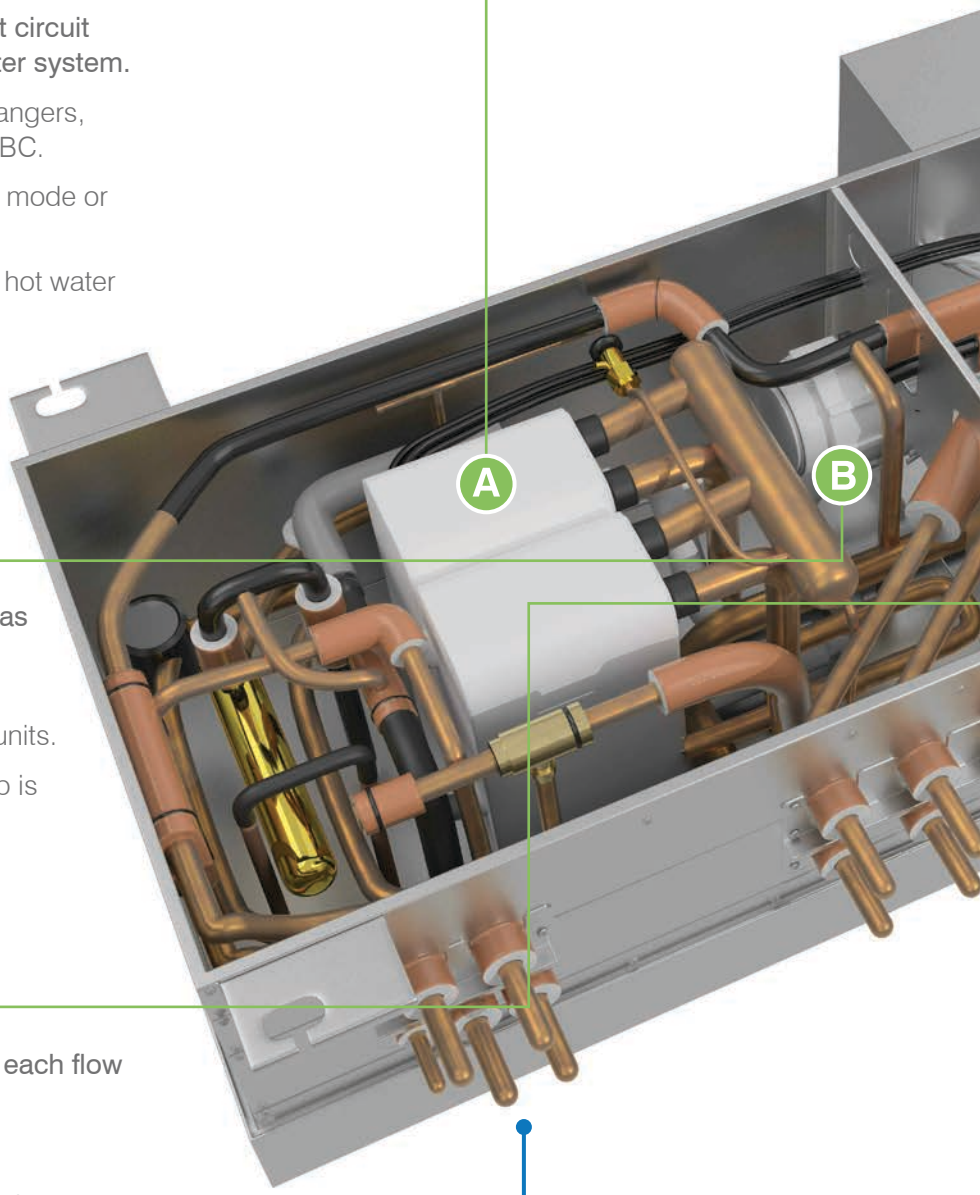
The discharge flow rate from the pump is controlled by the Valve Block.

C. Valve Block

A Valve Block is connected between each flow and return port of the HBC.

This Valve Block has two features;

- Firstly, it has the choice of selecting between the two flow headers.
- Secondly, it controls the flow of the water sent to the indoor unit, defining the capacity.

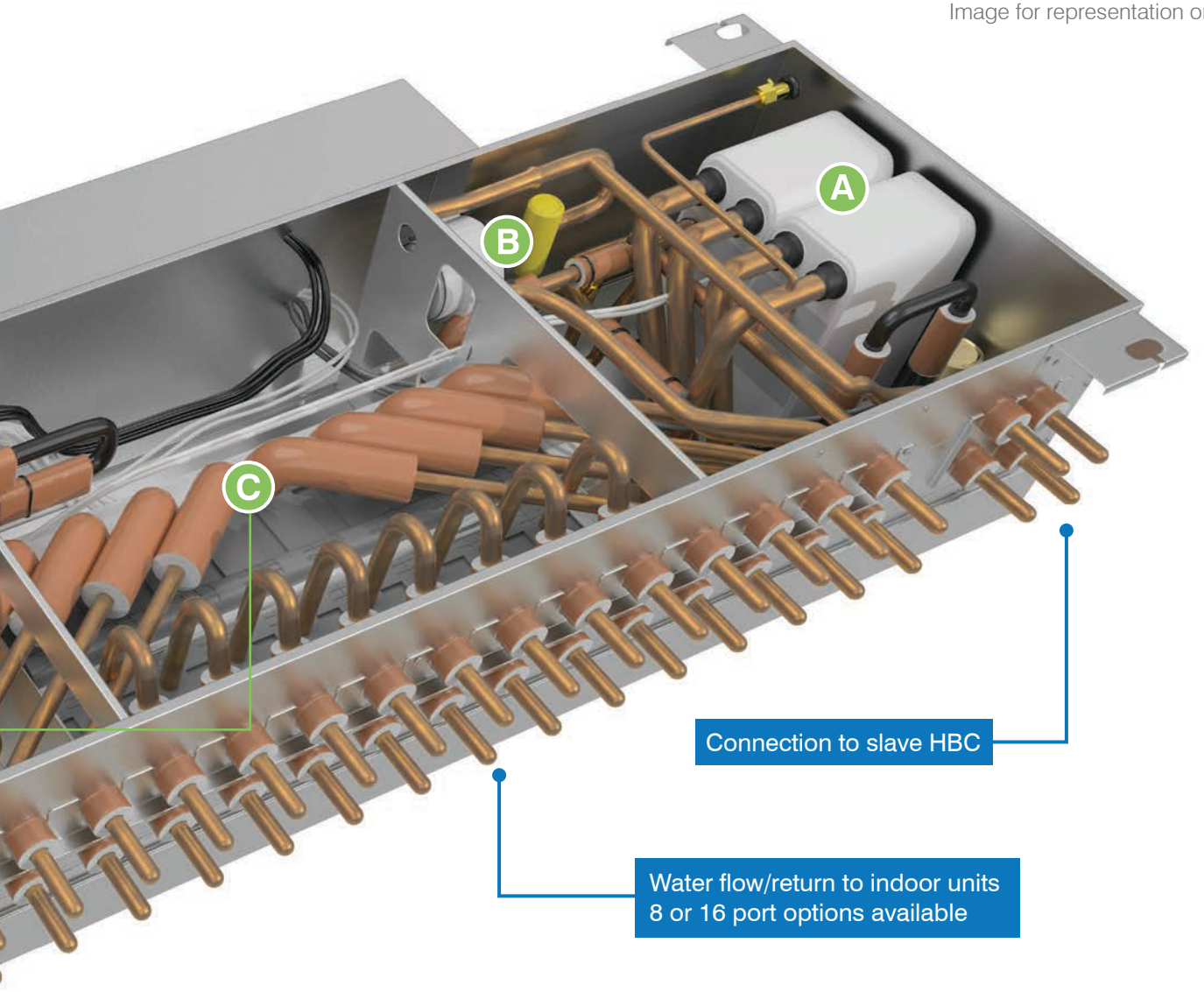


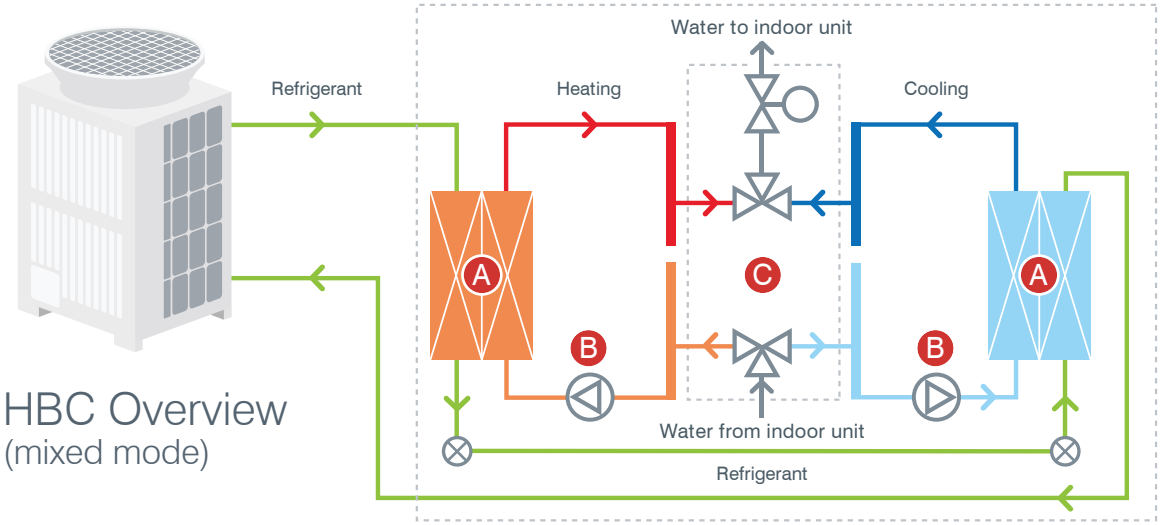
Refrigerant pipes to outdoor unit, expansion tank (field supplied) and water filling loop (field supplied)

INDUSTRY FIRST

Industry First Patented Technology

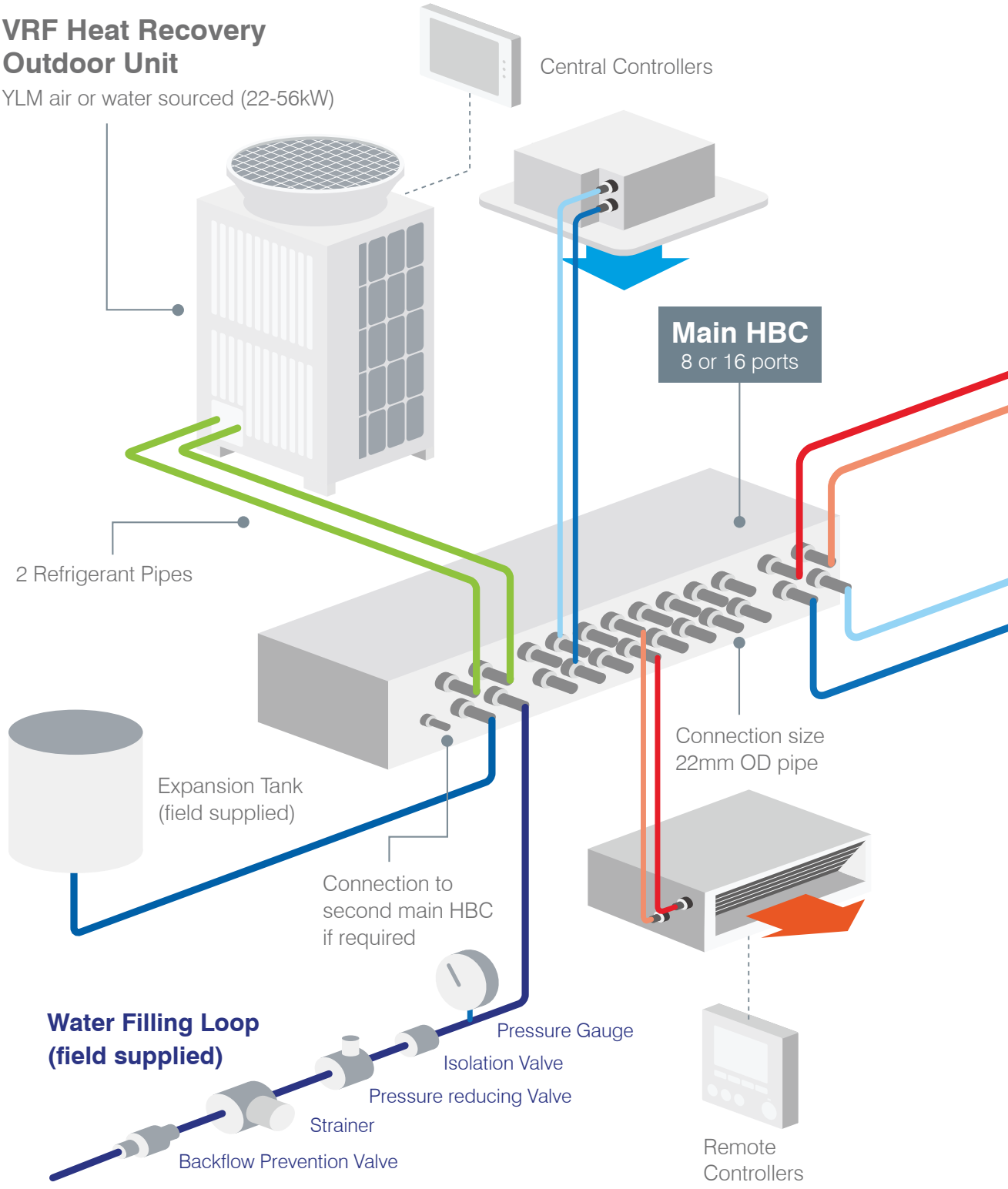
Image for representation only





HBC Overview
(mixed mode)

Hybrid VRF Technical System Overview



INDUSTRY FIRST

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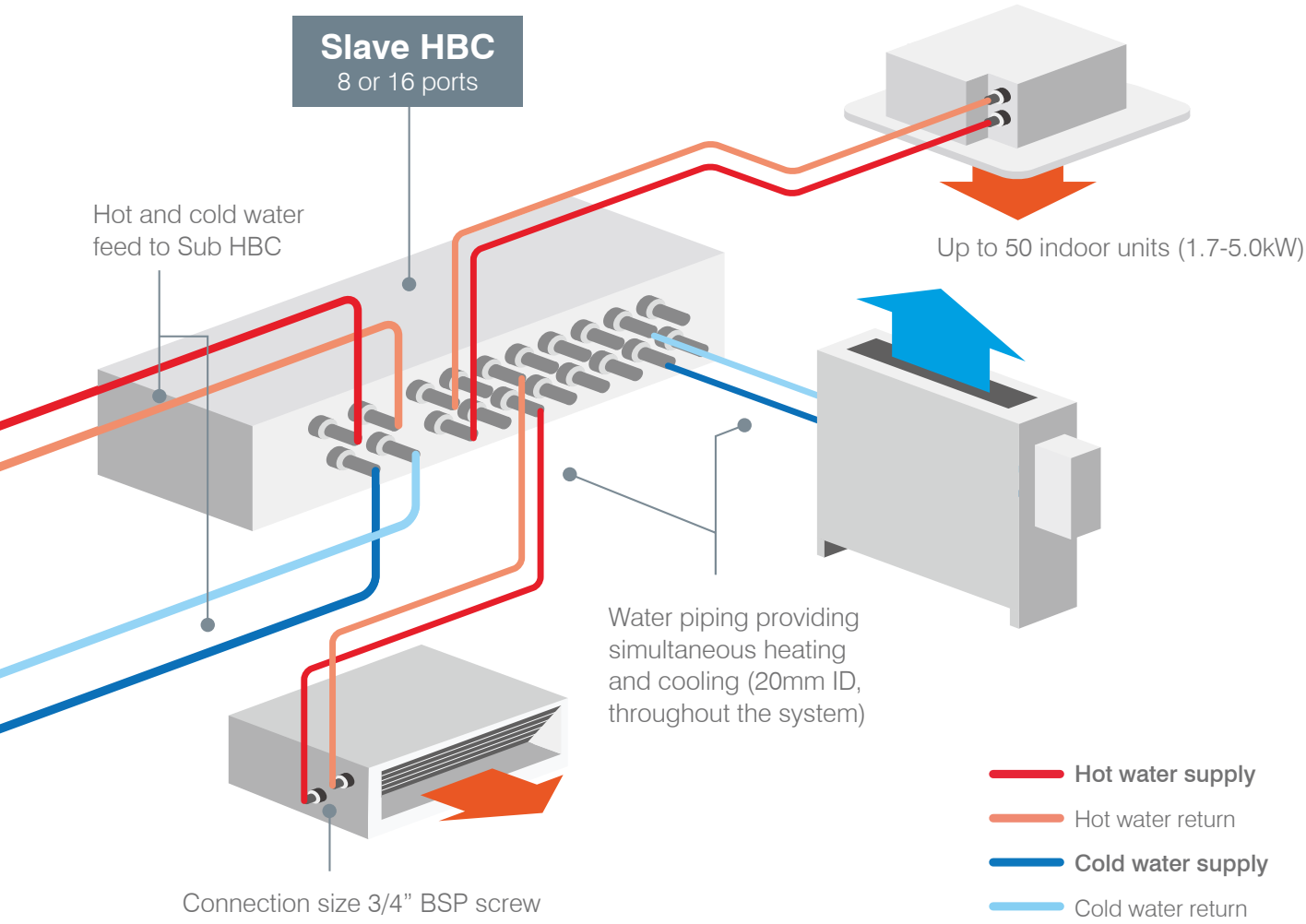


Additional Items Required:

• Isolation Valves • Automatic Air Vents at high points • Drain Cocks at low points

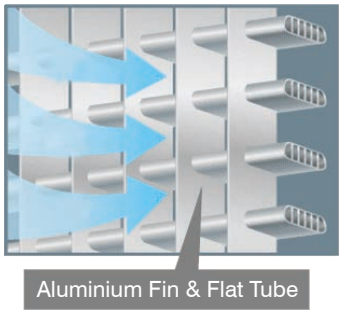
Configuration Setup

Outdoor Unit PURY/PQRY YLM	1st Main HBC	1st Slave HBC	2nd Main HBC	2nd Slave HBC
P200	✓	✓ (Optional)	X	X
P250	✓	✓ (Optional)	X	X
P300	✓	✓ (Optional)	✓ (Optional)	✓ (Optional)
P350	✓	✓ (Optional)	✓ (Optional)	✓ (Optional)
P400	✓	✓ (Optional)	✓	✓ (Optional)
P450	✓	✓ (Optional)	✓	✓ (Optional)
P500	✓	✓ (Optional)	✓	✓ (Optional)

HVRF Product Line Up

OUTDOOR UNIT - AIR SOURCE

Utilising the existing City Multi YLM Outdoor Unit makes HVRF easy to design. It benefits from heat recovery and an energy efficient inverter-driven compressor, providing simultaneous heating and cooling. The ultimate in heat exchange efficiency with aluminium flat tube heat exchanger technology!

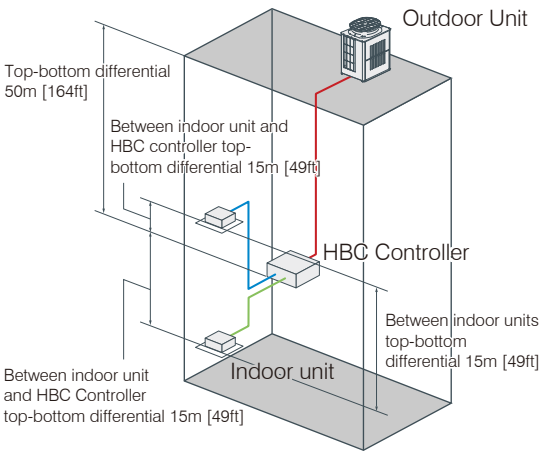


Available on EP High COP Models

Lineup

Horse Power	8HP	10HP	12HP	14HP	16HP	18HP	20HP
Cooling Capacity	22.4kW	28.0kW	33.5kW	40.0kW	45.0kW	50.0kW	56.0kW
Heating Capacity	25.0kW	31.5kW	37.5kW	45.0kW	45.0kW	56.0kW	58.0kW

Piping Length



R: Refrigerant Pipe W: Water Pipe

Refrigerant Piping Lengths	Maximum metres [Feet]
R Distance between outdoor and HBC	110 [360]
W Farthest indoor from HBC Controller	60 [196]

Vertical differentials between units	Maximum metres [Feet]
R HBC/outdoor (outdoor unit above HBC)	50 [164]
R HBC/outdoor (outdoor unit below HBC)	40 [131]
W Indoor/HBC Controller	15 (10) [49 (32)]*1
W Indoor/indoor	15 (10) [49 (32)]*1
R HBC/HBC Controller	15 (10) [49 (32)]*1

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

OUTDOOR UNIT - WATER SOURCE

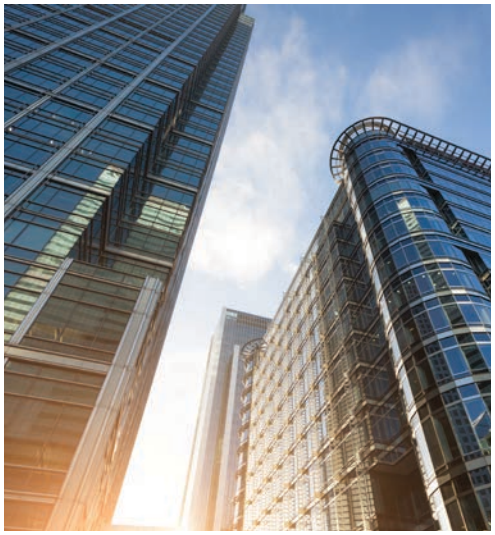
Ideal where outdoor space is limited, building heat recovery and efficiency is demanded and a water loop is available, City Multi PQRY Water Cooled Models provide the ultimate solution.

First developed 15 years ago, the City Multi Water Cooled System utilises water instead of air as an energy transfer medium, but benefits from all the same technology and flexibility of an Air Sourced VRF.

Available in Heat Pump (22-101kW) and Heat Recovery (22-69kW) Units.

A sustainable and flexible solution for tall buildings:

1. Apply and network the energy through a water loop, within the building and between buildings - optimising efficiency
2. Utilise geothermal, rivers or lakes, landlord loops, waste heat from server cooling or other processes
3. Units located indoors on each floor, ensuring design flexibility with pipework. Compact and quiet unit, minimising outdoor plant space and maximising occupied space.
4. City Multi water cooled models offer double heat recovery through refrigerant and water, no defrost and a refrigerant cooled inverter with no heat rejection to the internal space.

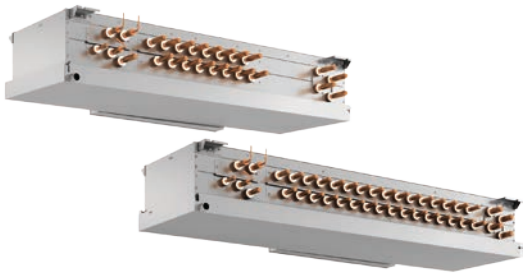


HVRF Product Line Up

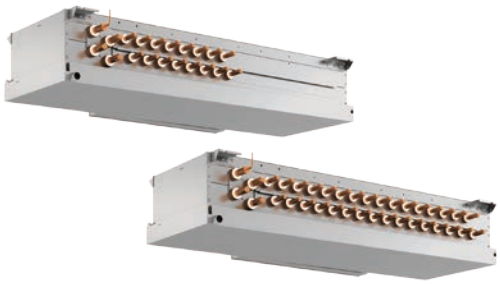
HYBRID BRANCH CIRCUIT (HBC) CONTROLLER

The HBC is used for the connection between the outdoor unit and the indoor units. The heat exchange for refrigerant and water is performed simultaneously using the industry's first and patented Hybrid VRF Technology.

Main-HBC



Sub-HBC



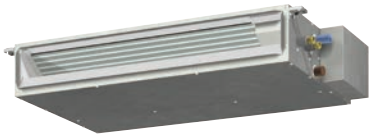
Lineup

Type	Main		Sub	
Model	CMB-WP108V-GA1	CMB-WP1016V-GA1	CMB-WP108V-GB1	CMB-WP1016V-GB1
Total branches	8	16	8	16

INDOOR MODELS

The following indoor units are exclusive for use with Hybrid City Multi:

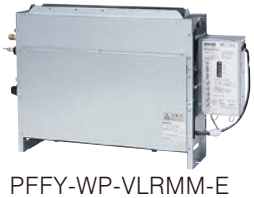
- Slim ceiling-concealed type units
- Middle static pressure ceiling-concealed type units
- 4-way flow ceiling cassette type units
- Floor standing concealed type units



PEFY-WP-VMS1-E

PEFY-WP-VMA-E

PLFY-WP-VBM-E



PFFY-WP-VLRMM-E

Lineup

Model size	WP15	WP20	WP25	WP32	WP40	WP50
PEFY-WP-VMS1-E	●	●	●	●	●	●
PEFY-WP-VMA-E		●	●	●	●	●
PLFY-WP-VBM-E				●	●	●
PFFY-WP-VLRMM-E		●	●	●	●	●
Cooling Capacity	1.7kW	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW
Heating Capacity	1.9kW	2.5kW	3.2kW	4.0kW	5.0kW	6.3kW

CONTROLLER RANGE

Remote Controllers

Standard Controller PAR-31MAA

- Dual set point option
- Energy saving
- Backlit LCD screen
- Error information
- Operation lock
- Weekly schedule
- Temperature range setting

Simplified Controller PAC-YT52CRA

- On-off
- Temperature control
- Fan speed
- Mode

Advanced M-NET Controller PAR-U02MEDA

- Dual set point option
- Occupancy sensor
- Brightness sensor
- Energy saving
- Touch panel and backlit LCD
- LED indicator
- Temperature and humidity sensor
- Weekly schedule
- Error information

Centralised Controllers

AE-200E

- 10.4 inch LCD touchscreen display
- Web access – central control available via web browser
- 365-day time scheduler
- Energy consumption monitoring
- Programmable floor plan
- BACnet BMS Interface compatible

With the connection of three Expansion Controllers (AE-50E/EW-50E), a maximum of 200 units/groups can be connected to an AE-200E.

AT-50B

- Stand-alone centralised control
- Backlit LCD touchscreen
- Weekly and daily schedule

BMS Interface

BAC-HD150

- BACnet BMS Interface
- Connects directly to M-NET

Specifications

OUTDOOR UNIT

Model			22.4kW PURY-P200YLM-A (-BS)	28kW PURY-P250YLM-A (-BS)
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 *1		kW	22.4	28.0
(Nominal) *1		BTU / h	76,400	95,500
	Power Input	kW	7.00	9.92
	Current Input	A	11.8-11.2-10.8	16.7-15.9-15.3
	EER	kW / kW	3.20	2.82
Temp. Range of Cooling *3	Indoor	W.B.	15.0~24.0°C (59~75°F)	15.0~24.0°C (59~75°F)
	Outdoor	D.B.	-5.0~46.0°C (23~115°F)	-5.0~46.0°C (23~115°F)
Heating Capacity *2		kW	25.0	31.5
(Nominal) *2		BTU / h	85,300	107,500
	Power Input	kW	7.08	10.06
	Current Input	A	11.9-11.3-10.9	16.9-16.1-15.5
	COP	kW / kW	3.53	3.13
Temp. Range of Heating *3	Indoor	D.B.	15.0~27.0°C (59~81°F)	15.0~27.0°C (59~81°F)
	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)	-20.0~15.5°C (-4~60°F)
Indoor Unit Connectable	Total Capacity		50~150% of outdoor unit capacity	50~150% of outdoor unit capacity
	Model/Quantity		WP15~WP50/2~20	WP15~WP50/3~25
Sound Pressure Level (Measured in Anechoic Room)		dBA	59	60
Sound Power Level (Measured in Anechoic Room)		dBA	82.5	83.5
Refrigerant Piping Diameter	High Pressure	mm (in.)	15.88 (5/8) Brazed	19.05 (3/4) Brazed
	Low Pressure	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	185	185
		L/s	3,083	3,083
		cfm	6,532	6,532
	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
*4	External Static Pressure		0 Pa (0 mmH_2O)	0 Pa (0 mmH_2O)
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting Method		Inverter	Inverter
	Motor Output	kW	5.6	6.9
	Case Heater	kW	–	–
External Finish			Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External Dimension H x W x D		mm	1,710 (1,650 without legs) x 920 x 740	1,710 (1,650 without legs) x 920 x 740
		in.	67-3/8 (65 without legs) x 36-1/4 x 29-3/16	67-3/8 (65 without legs) x 36-1/4 x 29-3/16
Protection Devices	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)
	Inverter Circuit (COMP/FAN)		Over-heat protection, over-current protection	Over-heat protection, over-current protection
	Compressor		–	–
	Fan Motor		–	–
Refrigerant	Type x Original Charge		R410A x 9.5 kg (21 lbs)	R410A x 9.5 kg (21 lbs)
Net Weight		kg (lbs)	205 (452)	205 (452)
Heat Exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube
Defrosting Method			Auto-defrost mode (reversed refrigerant cycle, hot gas)	Auto-defrost mode (reversed refrigerant cycle, hot gas)
Optional Parts			Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1	Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
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. Nominal heating conditions (subject to JIS B8615-2)
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.)

*3. -5°CD.B. (23°FD.B.)/-6°CW.B. (21°FW.B.) to 21°CD.B. (70°FD.B.)/15.5°CW.B. (60°FW.B.)
with cooling/heating mixed operation.

*4. External static pressure option is available (30 Pa, 60 Pa/3.1 mmH_2O, 6.1 mmH_2O).

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.

*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.

Model			33.5kW PURY-P300YLM-A (-BS)		40kW PURY-P350YLM-A (-BS)	
Number of HBC Controller			Single HBC	Double HBC	Single HBC	Double HBC
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 (Nominal)	*1	kW	33.5		40.0	
	*1	BTU / h	114,300		136,500	
	Power Input	kW	13.34	11.31	17.93	14.59
	Current Input	A	22.5-21.3-20.6	19.0-18.1-17.4	30.2-28.7-27.7	24.6-23.3-22.5
	EER	kW / kW	2.51	2.96	2.23	2.74
Temp. range of cooling *3	Indoor	W.B.	15.0~24.0°C (59~75°F)		15.0~24.0°C (59~75°F)	
	Outdoor	D.B.	-5.0~46.0°C (23~115°F)		-5.0~46.0°C (23~115°F)	
Heating Capacity (Nominal)	*2	kW	37.5		45.0	
	*2	BTU / h	128,000		153,500	
	Power Input	kW	12.71	11.94	15.51	14.35
	Current Input	A	21.4-20.3-19.6	20.1-19.1-18.4	26.1-24.8-23.9	24.2-23.0-22.1
	COP	kW / kW	2.95	3.14	2.90	3.13
Temp. Range of Heating *3	Indoor	D.B.	15.0~27.0°C (59~81°F)		15.0~27.0°C (59~81°F)	
	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)		-20.0~15.5°C (-4~60°F)	
Indoor Unit Connectable	Total Capacity		50~150% of outdoor unit capacity		50~150% of outdoor unit capacity	
	Model/Quantity		WP15~WP50/3~30		WP15~WP50/4~35	
Sound Pressure Level (Measured in Anechoic Room)		dBA	62.5		62.5	
Sound Power Level (Measured in Anechoic Room)		dBA	86		86	
Refrigerant Piping Diameter	High Pressure	mm (in.)	19.05 (3/4) Brazed		19.05 (3/4) Brazed	
	Low Pressure	mm (in.)	22.2 (7/8) Brazed		28.58 (1-1/8) Brazed	
FAN	Type x Quantity		Propeller fan x 1		Propeller fan x 1	
	Air Flow Rate	m^3/min	230		230	
		L/s	3,833		3,833	
		cfm	8,121		8,121	
	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	
*4	External Static Pressure		0 Pa (0 mmH_2O)		0 Pa (0 mmH_2O)	
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting Method		Inverter		Inverter	
	Motor Output	kW	8.1		10.5	
	Case Heater	kW	–		–	
External Finish			Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>		Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	
External Dimension H x W x D		mm	1,710 (1,650 without legs) x 1,220 x 740		1,710 (1,650 without legs) x 1,220 x 740	
		in.	67-3/8 (65 without legs) x 48-1/16 x 29-3/16		67-3/8 (65 without legs) x 48-1/16 x 29-3/16	
Protection Devices	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)	
	Inverter Circuit (COMP./FAN)		Over-heat protection, over-current protection		Over-heat protection, over-current protection	
	Compressor		–		–	
	Fan Motor		–		–	
Refrigerant	Type x Original Charge		R410A x 10.3 kg (23 lbs)		R410A x 10.3 kg (23 lbs)	
Net Weight		kg (lbs)	248 (547)		248 (547)	
Heat Exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
Defrosting Method			Auto-defrost mode (reversed refrigerant cycle, hot gas)		Auto-defrost mode (reversed refrigerant cycle, hot gas)	
Optional Parts			Main HBC controller: CMB-WP108, 1016V-GA1 Sub HBC controller: CMB-WP108, 1016V-GB1		Main HBC controller: CMB-WP108, 1016V-GA1 Sub HBC controller: CMB-WP108, 1016V-GB1	

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
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. Nominal heating conditions (subject to JIS B8615-2)
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.)

*3. -5°CD.B. (23°FD.B.)/-6°CW.B. (21°FW.B.) to 21°CD.B. (70°FD.B.)/15.5°CW.B. (60°FW.B.) with cooling/heating mixed operation.

*4. External static pressure option is available (30 Pa, 60 Pa/3.1 mmH_2O, 6.1 mmH_2O).

*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.

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.

OUTDOOR UNIT

Model			45kW PURY-P400YLM-A (-BS)	50kW PURY-P450YLM-A (-BS)
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 (Nominal)	*1	kW	45.0	50.0
	*1	BTU / h	153,500	170,600
	Power Input	kW	16.65	17.92
	Current Input	A	28.1-26.7-25.7	30.2-28.7-27.7
	EER	kW / kW	2.70	2.79
Temp. Range of Cooling *3	Indoor	W.B.	15.0~24.0°C (59~75°F)	15.0~24.0°C (59~75°F)
	Outdoor	D.B.	-5.0~46.0°C (23~115°F)	-5.0~46.0°C (23~115°F)
Heating Capacity (Nominal)	*2	kW	45.0	56.0
	*2	BTU / h	153,500	191,100
	Power Input	kW	13.39	17.39
	Current Input	A	22.6-21.4-20.6	29.3-27.8-26.8
	COP	kW / kW	3.36	3.22
Temp. Range of Heating *3	Indoor	D.B.	15.0~27.0°C (59~81°F)	15.0~27.0°C (59~81°F)
	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)	-20.0~15.5°C (-4~60°F)
Indoor Unit Connectable	Total Capacity		50~150% of outdoor unit capacity	50~150% of outdoor unit capacity
	Model/Quantity		WP15~WP50/4~40	WP15~WP50/5~45
Sound Pressure Level (Measured in Anechoic Room)		dBA	62.5	62.5
Sound Power Level (Measured in Anechoic Room)		dBA	86	86
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
FAN	Type x Quantity		Propeller fan x 1	Propeller fan x 2
	Air Flow Rate	m^3/min	230	320
		L/s	3,833	5,333
		cfm	8,121	11,299
	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 2
*4	External Static Pressure		0 Pa (0 mmH_2O)	0 Pa (0 mmH_2O)
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting Method		Inverter	Inverter
	Motor Output	kW	10.9	12.4
	Case Heater	kW	–	–
External Finish			Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External Dimension H x W x D		mm	1,710 (1,650 without legs) x 1,220 x 740	1,710 (1,650 without legs) x 1,750 x 740
		in.	67-3/8 (65 without legs) x 48-1/16 x 29-3/16	67-3/8 (65 without legs) x 68-15/16 x 29-3/16
Protection Devices	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)
	Inverter Circuit (COMP/FAN)		Over-heat protection, over-current protection	Over-heat protection, over-current protection
	Compressor		–	–
	Fan Motor		–	–
Refrigerant	Type x Original Charge		R410A x 10.3 kg (23 lbs)	R410A x 11.8 kg (27 lbs)
Net Weight		kg (lbs)	246 (543)	321 (708)
Heat Exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube
Defrosting Method			Auto-defrost mode (reversed refrigerant cycle, hot gas)	Auto-defrost mode (reversed refrigerant cycle, hot gas)
Optional Parts			Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1	Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
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. Nominal heating conditions (subject to JIS B8615-2)
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.)

*3. -5°CD.B. (23°FD.B.)/-6°CW.B. (21°FW.B.) to 21°CD.B. (70°FD.B.)/15.5°CW.B. (60°FW.B.) with cooling/heating mixed operation.

*4. External static pressure option is available (30 Pa, 60 Pa/3.1 mmH_2O, 6.1 mmH_2O).

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.

*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.

Model			56kW PURY-P500YLM-A1 (-BS)
Power Source			3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling Capacity (Nominal)	*1	kW	56.0
	*1	BTU / h	191,100
	Power Input	kW	22.67
	Current Input	A	38.2-36.3-35.0
	EER	kW / kW	2.47
Temp. Range of Cooling *3	Indoor	W.B.	15.0~24.0°C (59~75°F)
	Outdoor	D.B.	-5.0~46.0°C (23~115°F)
Heating Capacity (Nominal)	*2	kW	58.0
	*2	BTU / h	197,900
	Power Input	kW	17.53
	Current Input	A	29.5-28.1-27.0
	COP	kW / kW	3.30
Temp. Range of Heating *3	Indoor	D.B.	15.0~27.0°C (59~81°F)
	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)
Indoor Unit Connectable	Total Capacity		50~150% of outdoor unit capacity
	Model/Quantity		WP15~WP50/5~50
Sound Pressure Level (Measured in Anechoic Room)		dBA	63.5
Sound Power Level (Measured in Anechoic Room)		dBA	87
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed
FAN	Type x Quantity		Propeller fan x 2
	Air Flow Rate	m^3/min	380
		L/s	6,333
		cfm	13,418
	Control, Driving Mechanism		Inverter-control, direct-driven by motor
	Motor Output	kW	0.92 x 2
*4	External Static Pressure		0 Pa (0 mmH_2O)
Compressor	Type		Inverter scroll hermetic compressor
	Starting Method		Inverter
	Motor Output	kW	13.4
	Case Heater	kW	–
External Finish			Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External Dimension H x W x D		mm	1,710 (1,650 without legs) x 1,750 x 740
		in.	67-3/8 (65 without legs) x 68-15/16 x 29-3/16
Protection Devices	High Pressure Protection		High pressure sensor, high pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (COMP./FAN)		Over-heat protection, over-current protection
	Compressor		–
	Fan Motor		–
Refrigerant	Type x Original Charge		R410A x 11.8 kg (27 lbs)
Net Weight		kg (lbs)	321 (708)
Heat Exchanger			Salt-resistant cross fin & copper tube
Defrosting Method			Auto-defrost mode (reversed refrigerant cycle, hot gas)
Optional Parts			Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
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. Nominal heating conditions (subject to JIS B8615-2)
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.)

*3. -5°CD.B. (23°FD.B.)/-6°CW.B. (21°FW.B.) to 21°CD.B. (70°FD.B.)/15.5°CW.B. (60°FW.B.) with cooling/heating mixed operation.

*4. External static pressure option is available (30 Pa, 60 Pa/3.1 mmH_2O, 6.1 mmH_2O).

*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.

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.

HIGH COP

OUTDOOR UNIT

Model			22.4kW PURY-EP200YLM-A1 (-BS)	28kW PURY-EP250YLM-A1 (-BS)
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 (Nominal)	*1	kW	22.4	28.0
	*1	BTU / h	76,400	95,500
	Power Input	kW	6.27	8.77
	Current Input	A	10.5-10.0-9.6	14.8-14.0-13.5
	EER	kW / kW	3.57	3.19
Temp. Range of Cooling *3	Indoor	W.B.	15.0~24.0°C (59~75°F)	15.0~24.0°C (59~75°F)
	Outdoor	D.B.	-5.0~46.0°C (23~115°F)	-5.0~46.0°C (23~115°F)
Heating Capacity (Nominal)	*2	kW	25.0	31.5
	*2	BTU / h	85,300	107,500
	Power Input	kW	6.92	9.84
	Current Input	A	11.6-11.0-10.6	16.6-15.7-15.2
	COP	kW / kW	3.61	3.20
Temp. Range of Heating *3	Indoor	D.B.	15.0~27.0°C (59~81°F)	15.0~27.0°C (59~81°F)
	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)	-20.0~15.5°C (-4~60°F)
Indoor Unit Connectable	Total Capacity		50~150% of outdoor unit capacity	50~150% of outdoor unit capacity
	Model/Quantity		WP15~WP50/2~20	WP15~WP50/3~25
Sound Pressure Level (Measured in Anechoic Room)		dBA	59	60
Sound Power Level (Measured in Anechoic Room)		dBA	82.5	83.5
Refrigerant Piping Diameter	High Pressure	mm (in.)	15.88 (5/8) Brazed	19.05 (3/4) Brazed
	Low Pressure	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	185	185
		L/s	3,083	3,083
		cfm	6,532	6,532
	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
*4	External Static Pressure		0 Pa (0 mmH_2O)	0 Pa (0 mmH_2O)
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting Method		Inverter	Inverter
	Motor Output	kW	5.6	6.9
	Case Heater	kW	–	–
External Finish			Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External Dimension H x W x D		mm	1,710 (1,650 without legs) x 920 x 740	1,710 (1,650 without legs) x 920 x 740
		in.	67-3/8 (65 without legs) x 36-1/4 x 29-3/16	67-3/8 (65 without legs) x 36-1/4 x 29-3/16
Protection Devices	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)
	Inverter Circuit (COMP/FAN)		Over-heat protection, over-current protection	Over-heat protection, over-current protection
	Compressor		–	–
	Fan Motor		–	–
Refrigerant	Type x Original Charge		R410A x 6.0 kg (14 lbs)	R410A x 6.0 kg (14 lbs)
Net Weight		kg (lbs)	202 (446)	202 (446)
Heat Exchanger			Salt-resistant cross fin & aluminium tube	Salt-resistant cross fin & aluminium tube
Defrosting Method			Auto-defrost mode (reversed refrigerant cycle, hot gas)	Auto-defrost mode (reversed refrigerant cycle, hot gas)
Optional Parts			Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1	Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Outdoor: 35°CD.B./24°CW.B. (95°FD.B./75°FW.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)

*2. Nominal heating conditions (subject to JIS B8615-2)
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.)

*3. -5°CD.B. (23°FD.B.)/-6°CW.B. (21°FW.B.) to 21°CD.B. (70°FD.B.)/15.5°CW.B. (60°FW.B.) with cooling/heating mixed operation.

*4. External static pressure option is available (30 Pa, 60 Pa/3.1 mmH_2O, 6.1 mmH_2O).

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.

*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.

HIGH COP

Model			33.5kW PURY-EP300YLM-A1 (-BS)		40kW PURY-EP350YLM-A1 (-BS)	
Number of HBC Controller			Single HBC	Double HBC	Single HBC	Double HBC
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 (Nominal)	*1	kW	33.5		40.0	
	*1	BTU / h	114,300		136,500	
	Power Input	kW	12.05	10.24	17.16	13.98
	Current Input	A	20.3-19.3-18.6	17.2-16.4-15.8	28.9-27.5-26.5	23.6-22.4-21.6
	EER	kW / kW	2.78	3.27	2.33	2.86
Temp. Range of Cooling *3	Indoor	W.B.	15.0~24.0°C (59~75°F)		15.0~24.0°C (59~75°F)	
	Outdoor	D.B.	-5.0~46.0°C (23~115°F)		-5.0~46.0°C (23~115°F)	
Heating Capacity (Nominal)	*2	kW	37.5		45.0	
	*2	BTU / h	128,000		153,500	
	Power Input	kW	11.71	11.12	15.38	14.28
	Current Input	A	19.7-18.7-18.1	18.7-17.8-17.1	25.9-24.6-23.7	24.1-22.9-22.0
	COP	kW / kW	3.20	3.37	2.92	3.15
Temp. Range of Heating *3	Indoor	D.B.	15.0~27.0°C (59~81°F)		15.0~27.0°C (59~81°F)	
	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)		-20.0~15.5°C (-4~60°F)	
Indoor Unit Connectable	Total Capacity		50~150% of outdoor unit capacity		50~150% of outdoor unit capacity	
	Model/Quantity		WP15~WP50/3~30		WP15~WP50/4~35	
Sound Pressure Level (Measured in Anechoic Room)		dBA	62.5		62.5	
Sound Power Level (Measured in Anechoic Room)		dBA	86		86	
Refrigerant Piping Diameter	High Pressure	mm (in.)	19.05 (3/4) Brazed		19.05 (3/4) Brazed	
	Low Pressure	mm (in.)	22.2 (7/8) Brazed		28.58 (1-1/8) Brazed	
FAN	Type x Quantity		Propeller fan x 1		Propeller fan x 1	
	Air Flow Rate	m^3/min	230		230	
		L/s	3,833		3,833	
		cfm	8,121		8,121	
	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	
*4	External Static Pressure		0 Pa (0 mmH_2O)		0 Pa (0 mmH_2O)	
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting Method		Inverter		Inverter	
	Motor Output	kW	8.1		10.5	
	Case Heater	kW	–		–	
External Finish			Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>		Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	
External Dimension H x W x D		mm	1,710 (1,650 without legs) x 1,220 x 740		1,710 (1,650 without legs) x 1,220 x 740	
		in.	67-3/8 (65 without legs) x 48-1/16 x 29-3/16		67-3/8 (65 without legs) x 48-1/16 x 29-3/16	
Protection Devices	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)	
	Inverter Circuit (COMP./FAN)		Over-heat protection, over-current protection		Over-heat protection, over-current protection	
	Compressor		–		–	
	Fan Motor		–		–	
Refrigerant	Type x Original Charge		R410A x 8.0 kg (18 lbs)		R410A x 8.0 kg (18 lbs)	
Net Weight		kg (lbs)	244 (538)		244 (538)	
Heat Exchanger			Salt-resistant cross fin & aluminium tube		Salt-resistant cross fin & aluminium tube	
Defrosting Method			Auto-defrost mode (reversed refrigerant cycle, hot gas)		Auto-defrost mode (reversed refrigerant cycle, hot gas)	
Optional Parts			Main HBC controller: CMB-WP108, 1016V-GA1 Sub HBC controller: CMB-WP108, 1016V-GB1		Main HBC controller: CMB-WP108, 1016V-GA1 Sub HBC controller: CMB-WP108, 1016V-GB1	

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
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. Nominal heating conditions (subject to JIS B8615-2)
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.)

*3. -5°CD.B. (23°FD.B.)/-6°CW.B. (21°FW.B.) to 21°CD.B. (70°FD.B.)/15.5°CW.B. (60°FW.B.) with cooling/heating mixed operation.

*4. External static pressure option is available (30 Pa, 60 Pa/3.1 mmH_2O, 6.1 mmH_2O).

*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.

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.

HIGH COP

OUTDOOR UNIT

Model				45kW PURY-EP400YLM-A1 (-BS)	50kW PURY-EP450YLM-A1 (-BS)
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 (Nominal)	*1		kW	45.0	50.0
	*1		BTU / h	153,500	170,600
		Power Input	kW	13.88	16.83
		Current Input	A	23.4-22.2-21.4	28.4-26.9-26.0
		EER	kW / kW	3.24	2.97
Temp. Range of Cooling	*3	Indoor	W.B.	15.0~24.0°C (59~75°F)	15.0~24.0°C (59~75°F)
	*3	Outdoor	D.B.	-5.0~46.0°C (23~115°F)	-5.0~46.0°C (23~115°F)
Heating Capacity (Nominal)	*2		kW	50.0	56.0
	*2		BTU / h	170,600	191,100
		Power Input	kW	14.12	16.86
		Current Input	A	23.8-22.6-21.8	28.4-27.0-26.0
		COP	kW / kW	3.54	3.32
Temp. Range of Heating	*3	Indoor	D.B.	15.0~27.0°C (59~81°F)	15.0~27.0°C (59~81°F)
	*3	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)	-20.0~15.5°C (-4~60°F)
Indoor Unit Connectable		Total Capacity		50~150% of outdoor unit capacity	50~150% of outdoor unit capacity
		Model/Quantity		WP15~WP50/4~40	WP15~WP50/5~45
Sound Pressure Level (Measured in Anechoic Room)			dBA	62.5	62.5
Sound Power Level (Measured in Anechoic Room)			dBA	86	86
Refrigerant Piping Diameter		High Pressure	mm (in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed
		Low Pressure	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
FAN		Type x Quantity		Propeller fan x 2	Propeller fan x 2
		Air Flow Rate	m^3/min	320	320
			L/s	5,333	5,333
			cfm	11,299	11,299
		Control, Driving Mechanism		Inverter-control, direct-driven by motor	Inverter-control, direct-driven by motor
		Motor Output	kW	0.92 x 2	0.92 x 2
	*4	External Static Pressure		0 Pa (0 mmH_2O)	0 Pa (0 mmH_2O)
Compressor		Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
		Starting Method		Inverter	Inverter
		Motor Output	kW	10.9	12.4
		Case Heater	kW	–	–
External Finish				Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>	Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External Dimension H x W x D			mm	1,710 (1,650 without legs) x 1,750 x 740	1,710 (1,650 without legs) x 1,750 x 740
			in.	67-3/8 (65 without legs) x 68-15/16 x 29-3/16	67-3/8 (65 without legs) x 68-15/16 x 29-3/16
Protection Devices		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)
		Inverter Circuit (COMP/FAN)		Over-heat protection, over-current protection	Over-heat protection, over-current protection
		Compressor		–	–
		Fan Motor		–	–
Refrigerant		Type x Original Charge		R410A x 10.5 kg (24 lbs)	R410A x 11.8 kg (27 lbs)
Net Weight			kg (lbs)	315 (695)	336 (741)
Heat Exchanger				Salt-resistant cross fin & aluminium tube	Salt-resistant cross fin & aluminium tube
Defrosting Method				Auto-defrost mode (reversed refrigerant cycle, hot gas)	Auto-defrost mode (reversed refrigerant cycle, hot gas)
Optional Parts				Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1	Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Outdoor: 35°CD.B./24°CW.B. (95°FD.B./75°FW.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)

*2. Nominal heating conditions (subject to JIS B8615-2)
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.)

*3. -5°CD.B. (23°FD.B.)/-6°CW.B. (21°FW.B.) to 21°CD.B. (70°FD.B.)/15.5°CW.B. (60°FW.B.) with cooling/heating mixed operation.

*4. External static pressure option is available (30 Pa, 60 Pa/3.1 mmH_2O, 6.1 mmH_2O).

*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.

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.

HIGH COP

Model			56kW PURY-EP500YLM-A1 (-BS)
Power Source			3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling Capacity (Nominal)	*1	kW	56.0
	*1	BTU / h	191,100
	Power Input	kW	21.22
	Current Input	A	35.8-34.0-32.8
	EER	kW / kW	2.63
Temp. Range of Cooling *3	Indoor	W.B.	15.0~24.0°C (59~75°F)
	Outdoor	D.B.	-5.0~46.0°C (23~115°F)
Heating Capacity (Nominal)	*2	kW	63.0
	*2	BTU / h	215,000
	Power Input	kW	21.67
	Current Input	A	36.5-34.7-33.4
	COP	kW / kW	2.90
Temp. Range of Heating *3	Indoor	D.B.	15.0~27.0°C (59~81°F)
	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)
Indoor Unit Connectable	Total Capacity		50~150% of outdoor unit capacity
	Model/Quantity		WP15~WP50/5~50
Sound Pressure Level (Measured in Anechoic Room)		dBA	63.5
Sound Power Level (Measured in Anechoic Room)		dBA	87
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed
FAN	Type x Quantity		Propeller fan x 2
	Air Flow Rate	m^3/min	380
		L/s	6,333
		cfm	13,418
	Control, Driving Mechanism		Inverter-control, direct-driven by motor
	Motor Output	kW	0.92 x 2
*4	External Static Pressure		0 Pa (0 mmH_2O)
Compressor	Type		Inverter scroll hermetic compressor
	Starting Method		Inverter
	Motor Output	kW	13.4
	Case Heater	kW	0.045 (240 V)
External Finish			Pre-coated galvanised steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>
External Dimension H x W x D		mm	1,710 (1,650 without legs) x 1,750 x 740
		in.	67-3/8 (65 without legs) x 68-15/16 x 29-3/16
Protection Devices	High Pressure Protection		High pressure sensor, high pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (COMP./FAN)		Over-heat protection, over-current protection
	Compressor		–
	Fan Motor		–
Refrigerant	Type x Original Charge		R410A x 11.8 kg (27 lbs)
Net Weight		kg (lbs)	349 (770)
Heat Exchanger			Salt-resistant cross fin & aluminium tube
Defrosting Method			Auto-defrost mode (reversed refrigerant cycle, hot gas)
Optional Parts			Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Outdoor: 35°CD.B./24°CW.B. (95°FD.B./75°FW.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)

*2. Nominal heating conditions (subject to JIS B8615-2)
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.)

*3. -5°CD.B. (23°FD.B.)/-6°CW.B. (21°FW.B.) to 21°CD.B. (70°FD.B.)/15.5°CW.B. (60°FW.B.)
with cooling/heating mixed operation.

*4. External static pressure option is available (30 Pa, 60 Pa/3.1 mmH_2O, 6.1 mmH_2O).

*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.

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.

NEW

WATER SOURCE UNIT

Model			22.4kW PQRY-P200YLM-A	28kW PQRY-P250YLM-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 (Nominal)	*1	kW	22.4	28.0
	*1	BTU / h	76,400	95,500
	Power Input	kW	3.97	5.44
	Current Input	A	6.7-6.3-6.1	9.1-8.7-8.4
	EER	kW / kW	5.64	5.14
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C (59~75°F)	15.0~24.0°C (59~75°F)
	Circulating Water	°C	10.0~45.0°C (50~113°F)	10.0~45.0°C (50~113°F)
Heating Capacity (Nominal)	*2	kW	25.0	31.5
	*2	BTU / h	85,300	107,500
	Power Input	kW	4.04	5.41
	Current Input	A	6.8-6.4-6.2	9.1-8.6-8.3
	COP	kW / kW	6.18	5.82
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C (59~81°F)	15.0~27.0°C (59~81°F)
	Circulating Water	°C	10.0~45.0°C (50~113°F)	10.0~45.0°C (50~113°F)
Indoor Unit Connectable	Total Capacity		50~150% of heat source unit capacity	50~150% of heat source unit capacity
	Model/Quantity		WP15~WP50/2~20	WP15~WP50/3~25
Sound Pressure Level (Measured in Anechoic Room)		dBA	46	48
Refrigerant Piping Diameter	High Pressure	mm (in.)	15.88 (5/8) Brazed	19.05 (3/4) Brazed
	Low Pressure	mm (in.)	19.05 (3/4) Brazed	22.2 (7/8) Brazed
Circulating Water	Water Flow Rate	m^3/h	5.76	5.76
		L/min	96	96
		cfm	3.4	3.4
	Pressure Drop	kPa	24	24
	Operating Volume Range	m^3/h	3.0 ~ 7.2	3.0 ~ 7.2
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting Method		Inverter	Inverter
	Motor Output	kW	4.8	6.2
	Case Heater	kW	–	–
External Finish			Galvanised steel sheets	Galvanised steel sheets
External Dimension H x W x D		mm	1,100 x 880 x 550	1,100 x 880 x 550
		in.	43-5/16 x 34-11/16 x 21-11/16	43-5/16 x 34-11/16 x 21-11/16
Protection Devices	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)
	Inverter Circuit (COMP.)		Over-heat protection, over-current protection	Over-heat protection, over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x Original Charge		R410A x 5.0 kg (12 lbs)	R410A x 5.0 kg (12 lbs)
Net Weight		kg (lbs)	172 (380)	172 (380)
Heat Exchanger			Plate type	Plate type
	Water Volume in Plate	L	5.0	5.0
	Water Pressure Max.	MPa	2.0	2.0
Optional Parts			Main HBC controller: CMB-WP108,1016-GA1 Sub HBC controller: CMB-WP108,1016-GB1	Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Water temperature: 30°C (86°F)
Pipe length: 7.5 m (24-9/16 ft.), Level diff erence: 0 m (0 ft.)

*2. Nominal heating conditions (subject to JIS B8615-2)
Indoor: 20°CD.B. (68°FD.B.), Water temperature: 20°C (68°FD.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)

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.

Model			33.5kW PQRY-P300YLM-A		40.0kW PQRY-P350YLM-A	
Number of HBC Controller			Single HBC	Double HBC	Single HBC	Double HBC
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 (Nominal)	*1	kW	33.5		40.0	
	*1	BTU / h	114,300		136,500	
	Power Input	kW	7.55	6.71	9.98	8.72
	Current Input	A	12.7-12.1-11.6	11.3-10.7-10.3	16.8-16.0-15.4	14.7-13.9-13.4
	EER	kW / kW	4.43	4.99	4.00	4.58
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C (59~75°F)		15.0~24.0°C (59~75°F)	
	Circulating Water	°C	10.0~45.0°C (50~113°F)		10.0~45.0°C (50~113°F)	
Heating Capacity (Nominal)	*2	kW	37.5		45.0	
	*2	BTU / h	128,000		153,500	
	Power Input	kW	7.13	6.79	8.87	8.25
	Current Input	A	12.0-11.4-11.0	11.4-10.8-10.4	14.9-14.2-13.7	13.9-13.2-12.7
	COP	kW / kW	5.25	5.52	5.07	5.45
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C (59~81°F)		15.0~27.0°C (59~81°F)	
	Circulating Water	°C	10.0~45.0°C (50~113°F)		10.0~45.0°C (50~113°F)	
Indoor Unit Connectable	Total Capacity		50~150% of heat source unit capacity		50~150% of heat source unit capacity	
	Model/Quantity		WP15~WP50/3~30		WP15~WP50/4~35	
Sound Pressure Level (Measured in Anechoic Room)		dBA	54		52	
Refrigerant Piping Diameter	High Pressure	mm (in.)	19.05 (3/4) Brazed		22.2 (7/8) Brazed	
	Low Pressure	mm (in.)	22.2 (7/8) Brazed		28.58 (1-1/8) Brazed	
Circulating Water	Water Flow Rate	m^3/h	5.76		7.20	
		L/min	96		120	
		cfm	3.4		4.2	
	Pressure Drop	kPa	24		44	
	Operating Volume Range	m^3/h	3.0 ~ 7.2		4.5 ~ 11.6	
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting Method		Inverter		Inverter	
	Motor Output	kW	7.7		9.5	
	Case Heater	kW	–		–	
External Finish			Galvanized steel sheets		Galvanized steel sheets	
External Dimension H x W x D		mm	1,100 x 880 x 550		1,450 x 880 x 550	
		in.	43-5/16 x 34-11/16 x 21-11/16		57-1/8 x 34-11/16 x 21-11/16	
Protection Devices	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)	
	Inverter Circuit (COMP.)		Over-heat protection, over-current protection		Over-heat protection, over-current protection	
	Compressor		Over-heat protection		Over-heat protection	
Refrigerant	Type x Original Charge		R410A x 5.0 kg (12 lbs)		R410A x 6.0 kg (14 lbs)	
Net Weight		kg (lbs)	172 (380)		216 (477)	
Heat Exchanger			Plate type		Plate type	
	Water Volume in Plate	L	5.0		5.0	
	Water Pressure Max.	MPa	2.0		2.0	
Optional Parts			Main HBC controller: CMB-WP108, 1016V-GA1 Sub HBC controller: CMB-WP108, 1016V-GB1		Main HBC controller: CMB-WP108, 1016V-GA1 Sub HBC controller: CMB-WP108, 1016V-GB1	

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Water temperature: 30°C (86°F)
Pipe length: 7.5 m (24-9/16 ft.), Level diff erence: 0 m (0 ft.)

*2. Nominal heating conditions (subject to JIS B8615-2)
Indoor: 20°CD.B. (68°FD.B.), Water temperature: 20°C (68°FD.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)

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.

NEW

WATER SOURCE UNIT

Model			45kW PQRY-P400YLM-A	50kW PQRY-P450YLM-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 (Nominal)	*1	kW	45.0	50
	*1	BTU / h	153,500	170,600
	Power Input	kW	10.05	12.05
	Current Input	A	16.9-16.1-15.5	20.3-19.3-18.6
	EER	kW / kW	4.47	4.14
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C (59~75°F)	15.0~24.0°C (59~75°F)
	Circulating Water	°C	10.0~45.0°C (50~113°F)	10.0~45.0°C (50~113°F)
Heating Capacity (Nominal)	*2	kW	50.0	56.0
	*2	BTU / h	170,600	191,100
	Power Input	kW	9.45	11.11
	Current Input	A	15.9-15.1-14.6	18.7-17.8-17.1
	COP	kW / kW	5.29	5.04
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C (59~81°F)	15.0~27.0°C (59~81°F)
	Circulating Water	°C	10.0~45.0°C (50~113°F)	10.0~45.0°C (50~113°F)
Indoor Unit Connectable	Total Capacity		50~150% of heat source unit capacity	50~150% of heat source unit capacity
	Model/Quantity		WP15~WP50/4~40	WP15~WP50/5~45
Sound Pressure Level (Measured in Anechoic Room)		dBA	52	54
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Circulating Water	Water Flow Rate	m^3/h	7.2	7.2
		L/min	120	120
		cfm	4.2	4.2
	Pressure Drop	kPa	44	44
	Operating Volume Range	m^3/h	4.5 ~ 11.6	4.5 ~ 11.6
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting Method		Inverter	Inverter
	Motor Output	kW	10.7	11.6
	Case Heater	kW	–	–
External Finish			Galvanised steel sheets	Galvanised steel sheets
External Dimension H x W x D		mm	1,450 x 880 x 550	1,450 x 880 x 550
		in.	57-1/8 x 34-11/16 x 21-11/16	57-1/8 x 34-11/16 x 21-11/16
Protection Devices	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)
	Inverter Circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x Original Charge		R410A x 6.0 kg (14 lbs)	R410A x 6.0 kg (14 lbs)
Net Weight		kg (lbs)	216 (477)	216 (477)
Heat Exchanger			Plate type	Plate type
	Water Volume in Plate	L	5.0	5.0
	Water Pressure Max.	MPa	2.0	2.0
Optional Parts			Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1	Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Water temperature: 30°C (86°F)
Pipe length: 7.5 m (24-9/16 ft.), Level diff erence: 0 m (0 ft.)

*2. Nominal heating conditions (subject to JIS B8615-2)
Indoor: 20°CD.B. (68°FD.B.), Water temperature: 20°C (68°FD.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)

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.

Model			56kW PQRY-P500YLM-A
Power Source			3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling Capacity (Nominal)	*1	kW	56.0
	*1	BTU / h	191,100
	Power Input	kW	14.58
	Current Input	A	24.6-23.3-22.5
	EER	kW / kW	3.84
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C (59~75°F)
	Circulating Water	°C	10.0~45.0°C (50~113°F)
Heating Capacity (Nominal)	*2	kW	63.0
	*2	BTU / h	215,000
	Power Input	kW	13.07
	Current Input	A	22.0-20.9-20.2
	COP	kW / kW	4.82
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C (59~81°F)
	Circulating Water	°C	10.0~45.0°C (50~113°F)
Indoor Unit Connectable	Total Capacity		50~150% of heat source unit capacity
	Model/Quantity		WP15~WP50/5~50
Sound Pressure Level (Measured in Anechoic Room)		dBA	54
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed
Circulating Water	Water Flow Rate	m^3/h	7.2
		L/min	120
		cfm	4.2
	Pressure Drop	kPa	44
	Operating Volume Range	m^3/h	4.5 ~ 11.6
Compressor	Type		Inverter scroll hermetic compressor
	Starting Method		Inverter
	Motor Output	kW	13.0
	Case Heater	kW	–
External Finish			Galvanised steel sheets
External Dimension H x W x D		mm	1,450 x 880 x 550
		in.	57-1/8 x 34-11/16 x 21-11/16
Protection Devices	High Pressure Protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)
	Inverter Circuit (COMP.)		Over-heat protection, Over-current protection
	Compressor		Over-heat protection
Refrigerant	Type x Original Charge		R410A x 6.0 kg (14 lbs)
Net Weight		kg (lbs)	216 (477)
Heat Exchanger			Plate type
	Water Volume in Plate	L	5.0
	Water Pressure Max.	MPa	2.0
Optional Parts			Main HBC controller: CMB-WP108,1016V-GA1 Sub HBC controller: CMB-WP108,1016V-GB1

Notes:

*1. Nominal cooling conditions (subject to JIS B8615-2)
Indoor: 27°CD.B./19°CW.B. (81°FD.B./66°FW.B.), Water temperature: 30°C (86°F)
Pipe length: 7.5 m (24-9/16 ft.), Level diff erence: 0 m (0 ft.)

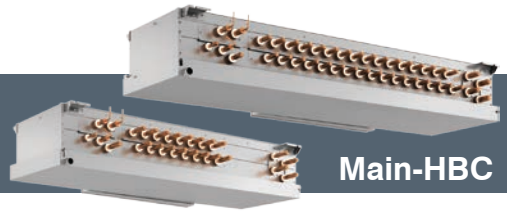
*2. Nominal heating conditions (subject to JIS B8615-2)
Indoor: 20°CD.B. (68°FD.B.), Water temperature: 20°C (68°FD.B.)
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)

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.

HBC CONTROLLER



Main-HBC

Model			8 Port CMB-WP108V-GA1		16 Port CMB-WP1016V-GA1	
Number of Branch			8		16	
Power Source			1-phase 220-230-240 V		1-phase 220-230-240 V	
			50 Hz	60 Hz	50 Hz	60 Hz
Power Input (220/230/240)	Cooling	kW	0.45/0.46/0.47	0.45/0.46/0.47	0.45/0.46/0.47	0.45/0.46/0.47
	Heating	kW	0.45/0.46/0.47	0.45/0.46/0.47	0.45/0.46/0.47	0.45/0.46/0.47
Current Input (220/230/240)	Cooling	A	2.89/2.83/2.79	2.89/2.83/2.79	2.89/2.83/2.79	2.89/2.83/2.79
	Heating	A	2.89/2.83/2.79	2.89/2.83/2.79	2.89/2.83/2.79	2.89/2.83/2.79
Sound Pressure Level (Measured in Anechoic Room)		dBA	41		41	
Applicable Temperature Range of Installation Site		°C (D.B.)	0~32		0~32	
External Finish			Galvanised steel plate (Lower part drain pan: pre-coated galvanised sheets + powder coating)		Galvanised steel plate (Lower part drain pan: pre-coated galvanised sheets + powder coating)	
Connectable Outdoor/Heat Source Unit			PURY-P200~500YLM-A(1)(-BS)/PURY-EP200~500YLM-A1(-BS)/PQRY-P200~500YLM-A		PURY-P200~500YLM-A(1)(-BS)/PURY-EP200~500YLM-A1(-BS)/PQRY-P200~500YLM-A	
Indoor Unit Capacity Connectable to 1 Branch			Model P80 or smaller (Use optional joint pipe combining 2 branches when the total unit capacity exceeds P81)		Model P80 or smaller (Use optional joint pipe combining 2 branches when the total unit capacity exceeds P81)	
External Dimension H x W x D		mm	300 x 1,520 x 630		300 x 1,800 x 630	
		in.	11-13/16 x 59-7/8 x 24-13/16		11-13/16 x 70-7/8 x 24-13/16	
Refrigerant Piping Diameter	To Outdoor/Heat Source Unit		Connectable outdoor unit capacity		Connectable outdoor unit capacity	
			To P200 / To P250/300 / To P350 / To P400 for each / To P450/500 for each		To P200 / To P250/300 / To P350 / To P400 for each / To P450/500 for each	
	High Press. Pipe (O.D.)	mm (in.)	15.88 (5/8) Brazed / 19.05 (3/4) Brazed / 19.05 (3/4) Brazed / 15.88 (5/8) Brazed / 19.05 (3/4) Brazed		15.88 (5/8) Brazed / 19.05 (3/4) Brazed / 19.05 (3/4) Brazed / 15.88 (5/8) Brazed / 19.05 (3/4) Brazed	
	Low Press. Pipe (O.D.)	mm (in.)	19.05 (3/4) Brazed / 22.2 (7/8) Brazed / 28.58 (1-1/8) Brazed / 19.05 (3/4) Brazed / 22.2 (7/8) Brazed		19.05 (3/4) Brazed / 22.2 (7/8) Brazed / 28.58 (1-1/8) Brazed / 19.05 (3/4) Brazed / 22.2 (7/8) Brazed	
Water Piping Diameter	To Indoor Unit					
	Inlet Pipe (I.D.)	mm (in.)	20 (3/4)		20 (3/4)	
	Outlet Pipe (I.D.)	mm (in.)	20 (3/4)		20 (3/4)	
Field Drain Pipe Size		mm (in.)	O.D. 32 (1-1/4)		O.D. 32 (1-1/4)	
Net Weight		kg (lbs)	86 (190) [96 (212) with water]		98 (217) [111 (245) with water]	
Standard Attachment	Accessory		Drain connection pipe (with flexible hose and insulation)		Drain connection pipe (with flexible hose and insulation)	
Optional Parts			–		–	

Note: When P400/P450/500 outdoor is utilised 2x master HBC's must be installed.

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 specifications.
2. The equipment is for R410A refrigerant.
3. Install this product in a location where noise (refrigerant 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 5m away from any indoor units.)
4. Please install the HBC controller in a place where noise will not be an issue.
5. Please attach an expansion vessel (field supply).
6. Please use copper or plastic pipes for the water circuit. Do not use steel or stainless steel pipework.
   Furthermore, when using copper pipework, use a non-oxidative brazing method.
   Oxidation of the pipework will reduce the pump life.
7. When brazing the pipes, be sure to braze after covering a wet cloth to the insulation pipes of the units in order to prevent it from burning and shrinking by heat.
8. Please install an air purge valve where air will gather in the water circuit.
9. Please install a pressure reducing valve and a strainer on the water supply to the HBC controller.
10. Please refer to the databook or the installation manual for the specified water quality.
11. This unit is not designed for outside installations.
12. Please always make water circulate or pull out the circulation water completely when not using it.
    *Please do not use it as a drinking water.
13. Please do not use ground water and well water.
14. When installing the HBC unit in an environment which may drop below 0 °C, please add anti-freeze to the circulating water. (Refer to the data book and the installation manual).

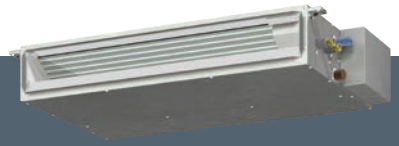
Sub-HBC

Model			8 Port CMB-WP108V-GB1		16 Port CMB-WP1016V-GB1	
Number of Branch			8		16	
Power Source			1-phase 220-230-240 V		1-phase 220-230-240 V	
			50 Hz	60 Hz	50 Hz	60 Hz
Power Input (220/230/240)	Cooling	kW	0.01/0.01/0.01	0.01/0.01/0.01	0.01/0.01/0.01	0.01/0.01/0.01
	Heating	kW	0.01/0.01/0.01	0.01/0.01/0.01	0.01/0.01/0.01	0.01/0.01/0.01
Current Input (220/230/240)	Cooling	A	0.05/0.05/0.05	0.05/0.05/0.05	0.05/0.05/0.05	0.05/0.05/0.05
	Heating	A	0.05/0.05/0.05	0.05/0.05/0.05	0.05/0.05/0.05	0.05/0.05/0.05
Sound Pressure Level (Measured in Anechoic Room)		dBA	–		–	
Applicable Temperature Range of Installation Site		°C (D.B.)	0~32		0~32	
External Finish			Galvanised steel plate (Lower part drain pan: pre-coated galvanised sheets + powder coating)		Galvanised steel plate (Lower part drain pan: pre-coated galvanised sheets + powder coating)	
Connectable Outdoor/Heat Source Unit			–		–	
Indoor Unit Capacity Connectable to 1 Branch			Model P80 or smaller (Use optional joint pipe combining 2 branches when the total unit capacity exceeds P81)		Model P80 or smaller (Use optional joint pipe combining 2 branches when the total unit capacity exceeds P81)	
External Dimension H x W x D		mm	300 x 1,520 x 630		300 x 1,520 x 630	
		in.	11-13/16 x 59-7/8 x 24-13/16		11-13/16 x 70-7/8 x 24-13/16	
Water Piping Diameter	To Main HBC Controller					
	Inlet Pipe (I.D.)	mm (in.)	20 (3/4)		20 (3/4)	
	Outlet Pipe (I.D.)	mm (in.)	20 (3/4)		20 (3/4)	
	To Indoor Unit					
	Inlet Pipe (I.D.)	mm (in.)	20 (3/4)		20 (3/4)	
	Outlet Pipe (I.D.)	mm (in.)	20 (3/4)		20 (3/4)	
Field Drain Pipe Size		mm (in.)	O.D. 32 (1-1/4)		O.D. 32 (1-1/4)	
Net Weight		kg (lbs)	44 (98) [49 (109) with water]		53 (117) [62 (137) with water]	
Standard Attachment	Accessory		Drain connection pipe (with flexible hose and insulation)		Drain connection pipe (with flexible hose and insulation)	
Optional Parts			–		–	

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 specifications.
2. The equipment is for water.
3. Install this product in a location where noise (refrigerant noise) emitted by the unit will not disturb the neighbours.
   (For use in quiet environments with low background noise, position the Sub HBC CONTROLLER at least 5m away from any indoor units.)
4. Please install the Sub HBC controller in a place where noise will not be an issue.
5. Please attach an expansion vessel (field supply).
6. Please use copper or plastic pipes for the water circuit. Do not use steel or stainless steel pipework.
   Furthermore, when using copper pipework, use a non-oxidative brazing method.
   Oxidation of the pipework will reduce the pump life.
7. When brazing the pipes, be sure to braze after covering a wet cloth to the insulation pipes of the units in order to prevent it from burning and shrinking by heat.
8. Please install an air purge valve where air will gather in the water circuit.
9. Please refer to the databook or the installation manual for the specified water quality.
10. This unit is not designed for outside installations.
11. Please always make water circulate or pull out the circulation water completely when not using it.
    *Please do not use it as a drinking water.
12. Please do not use ground water and well water.
13. When installing the Sub HBC unit in an environment which may drop below 0°C, please add anti-freeze to the circulating water. (Refer to the data book and the installation manual).
14. Can't use singularly. (MAIN HBC CONTROLLER is necessary.)

SLIM CEILING CONCEALED



Model				1.7kW PEFY-WP15VMS1-E	2.2kW PEFY-WP20VMS1-E	2.8kW 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 (Nominal)		*1	kW	1.7	2.2	2.8
		*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 (Nominal)		*3	kW	1.9	2.5	3.2
		*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				Galvanised steel plate	Galvanised steel plate	Galvanised 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 (aluminium fin and copper tube)	Cross fin (aluminium fin and copper tube)	Cross fin (aluminium 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 Static Pressure		Pa	<5> - 15 - <35> - <50>	<5> - 15 - <35> - <50>	<5> - 15 - <35> - <50>
			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			(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
			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 (Measured in Anechoic Room)		*2	dBA	(Low-Mid-High) 22-24-28	(Low-Mid-High) 23-25-29	(Low-Mid-High) 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				CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1	CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1	CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1
Water Piping Diameter *5,6	Inlet		in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
	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.

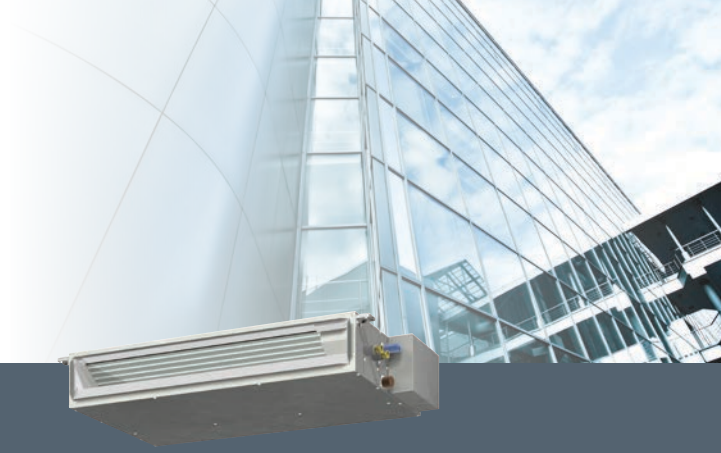
*6. Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.

7. Please group units that operate on 1 branch.

Unit converter

kcal / h = 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				3.6kW PEFY-WP32VMS1-E	4.5kW PEFY-WP40VMS1-E	5.6kW 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 (Nominal)		*1	kW	3.6	4.5	5.6
		*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 (Nominal)		*3	kW	4.0	5.0	6.3
		*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				Galvanised steel plate	Galvanised steel plate	Galvanised 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 (aluminium fin and copper tube)	Cross fin (aluminium fin and copper tube)	Cross fin (aluminium 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 Static Pressure		Pa	<5> - 15 - <35> - <50>	<5> - 15 - <35> - <50>	<5> - 15 - <35> - <50>
			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			(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
			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 (Measured in Anechoic Room)		*2	dBA	(Low-Mid-High) 28-30-33	(Low-Mid-High) 30-32-35	(Low-Mid-High) 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				CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1	CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1	CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1
Water Piping Diameter *5,6	Inlet		in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
	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.

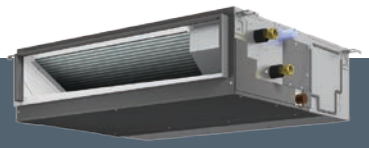
7. Please group units that operate on 1 branch.

Unit converter

kcal / h = 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.

CEILING CONCEALED



Model				2.2kW PEFY-WP20VMA-E	2.8kW 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 (Nominal)		*1	kW	2.2	2.8
		*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 (Nominal)		*3	kW	2.5	3.2
		*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				Galvanised steel plate	Galvanised steel plate
External Dimension H x W x D			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 (aluminium fin and copper tube)	Cross fin (aluminium fin and copper tube)
	Water Volume		L	0.7	1
FAN	Type x Quantity			Sirocco fan x 1	Sirocco fan x 1
*4	External Static Pressure		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 (Measured in Anechoic Room)		*2		(Low-Mid-High)	(Low-Mid-High)
		*2	dBA	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 Device				Fuse	Fuse
Connectable Outdoor Unit/HBC Controller				CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1	CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1
Water Piping Diameter	Inlet	*5,6	in.	Rc 3/4 screw	Rc 3/4 screw
	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.

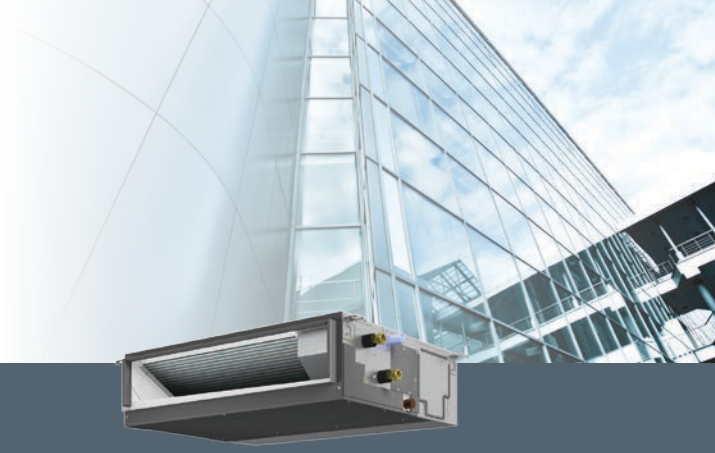
*6. Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.

7. Group units that operate on 1 branch.

Unit converter

kcal / h = 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				3.6kW PEFY-WP32VMA-E	4.5kW PEFY-WP40VMA-E	5.6kW 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 (Nominal)		*1	kW	3.6	4.5	5.6
		*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 (Nominal)		*3	kW	4	5	6.3
		*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				Galvanised steel plate	Galvanised steel plate	Galvanised steel plate
External Dimension H x W x D			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 (aluminium fin and copper tube)	Cross fin (aluminium fin and copper tube)	Cross fin (aluminium fin and copper tube)
	Water Volume		L	1	1.8	1.8
FAN	Type x Quantity			Sirocco fan x 1	Sirocco fan x 2	Sirocco fan x 2
*4	External Static Pressure		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 (Measured in Anechoic Room)		*2		(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
		*2	dBA	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 Device				Fuse	Fuse	Fuse
Connectable Outdoor Unit/HBC Controller				CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1	CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1	CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1
Water Piping Diameter	Inlet	*5,6	in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
	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 / h = 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.

CASSETTE OPTIONS

Model				3.6kW PLFY-WP32VBM-E	4.5kW PLFY-WP40VBM-E	5.6kW PLFY-WP50VBM-E
Power Source				1-phase 220-230-240 V 50/60Hz	1-phase 220-230-240 V 50/60Hz	1-phase 220-230-240 V 50/60Hz
Cooling Capacity		*1	kW	3.6	4.5	5.6
		*1	kcal/h	3,100	3,900	4,800
		*1	BTU/h	12,300	15,400	19,100
	Power Input		kW	0.04	0.04	0.05
	Current Input		A	0.35	0.35	0.45
Heating Capacity		*2	kW	4.0	5.0	6.3
		*2	kcal/h	3,400	4,300	5,400
		*2	BTU/h	13,600	17,100	21,500
	Power Input		kW	0.03	0.03	0.04
	Current Input		A	0.28	0.28	0.38
External Finish				Galvanised steel sheet	Galvanised steel sheet	Galvanised steel sheet
External Dimension H x W x D			mm	258 x 840 x 840	258 x 840 x 840	258 x 840 x 840
			in.	10-3/16 x 33-3/32 x 33-3/32	10-3/16 x 33-3/32 x 33-3/32	10-3/16 x 33-3/32 x 33-3/32
Net Weight			kg (lbs)	22(49)	22(49)	22(49)
Heat Exchanger				Cross fin (aluminium fin and copper tube)	Cross fin (aluminium fin and copper tube)	Cross fin (aluminium fin and copper tube)
	Water Volume		L	1.5	1.5	1.5
FAN	Type x Quantity			Turbo Fan × 1	Turbo Fan × 1	Turbo Fan × 1
*4	External Static Pressure		Pa	0	0	0
	Motor Type			DC motor	DC motor	DC motor
	Motor Output		kW	0.05	0.05	0.05
	Driving Mechanism			Direct-driven by motor	Direct-driven by motor	Direct-driven by motor
	Air Flow Rate			(Low-Mid1-Mid2-High)	(Low-Mid1-Mid2-High)	(Low-Mid1-Mid2-High)
			m^3/min	13 - 14 - 15 - 16	13 - 14 - 15 - 16	13 - 15 - 17 - 19
			L/s	217 - 233 - 250 - 267	217 - 233 - 250 - 267	217 - 250 - 283 - 317
			cfm	459 - 494 - 530 - 565	459 - 494 - 530 - 565	459 - 530 - 601 - 671
Sound Pressure Level				(Low-Mid1-Mid2-High)	(Low-Mid1-Mid2-High)	(Low-Mid1-Mid2-High)
(Measured in Anechoic Room)			dBA	27 - 29 - 30 - 31	27 - 29 - 30 - 31	27 - 30 - 32 - 34
Insulation Material				PS	PS	PS
Air Filter				PP honeycomb	PP honeycomb	PP honeycomb
Protection Device				Fuse	Fuse	Fuse
Refrigerant Control Device				–	–	–
Connectable Outdoor Unit/HBC Controller				CITY MULTI YLM series/CMB-WP-V-GA1/CMB-WP-V-GB1		
Water Piping Diameter	Inlet	*3,4	in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
	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)
Optional Parts	Decoration Panel	*5		PLP-6BA	PLP-6BA	PLP-6BA
	Automatic Filter Elevation Panel	*5		PLP-6BAJ	PLP-6BAJ	PLP-6BAJ
	Space Panel			PAC-SH48AS-E	PAC-SH48AS-E	PAC-SH48AS-E
	Air Outlet Shutter Plate			PAC-SH51SP-E	PAC-SH51SP-E	PAC-SH51SP-E
	High Efficiency Filter Element	*6		PAC-SH59KF-E	PAC-SH59KF-E	PAC-SH59KF-E
	Multi-Function Casement			PAC-SH53TM-E	PAC-SH53TM-E	PAC-SH53TM-E
	i-See Sensor Corner Panel			PAC-SA1ME-E	PAC-SA1ME-E	PAC-SA1ME-E
	Flange for Fresh Air Intake			PAC-SH65OF-E	PAC-SH65OF-E	PAC-SH65OF-E
	Wireless Signal Receiver			PAR-SF9FA-E	PAR-SF9FA-E	PAR-SF9FA-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. 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.)

*3. Be sure to install a valve on the water outlet.

*4. Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.

*5. PLFY-WP-VBM-E should use together with PLP-6BA(J).

*6. PAC-SH53TM-E is necessary to use with filter PAC-SH59KF-E.

7. Please group units that operate on 1 branch.

Unit converter

kcal / h =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.

FLOOR STANDING CONCEALED

Model				2.2kW PFFY-WP20VLRMM-E	2.8kW PFFY-WP25VLRMM-E	3.6kW 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 (Nominal)		*1	kW	2.2	2.8	3.6
		*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 (Nominal)		*3	kW	2.5	3.2	4.0
		*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				Galvanised steel plate	Galvanised steel plate	Galvanised 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 (aluminium fin and copper tube)	Cross fin (aluminium fin and copper tube)	Cross fin (aluminium 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 Static Pressure		Pa	20 - <40> - <60>	20 - <40> - <60>	20 - <40> - <60>
			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 (Measured in Anechoic Room)		*2	dBA	(Low-Mid-High) 31-33-38	(Low-Mid-High) 31-33-38	(Low-Mid-High) 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				CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1	CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1	CITY MULTI YLM series/ CMB-WP-V-GA1/CMB-WP-V-GB1
Water Piping Diameter	Inlet	*5,6	in.	Rc 3/4 screw	Rc 3/4 screw	Rc 3/4 screw
	Outlet		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

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 / h =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.

FLOOR STANDING CONCEALED

Model				4.5kW PFFY-WP40VLRMM-E	5.6kW 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 (Nominal)		*1	kW	4.5	5.6
		*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 (Nominal)		*3	kW	5.0	6.3
		*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				Galvanised steel plate	Galvanised 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 (aluminium fin and copper tube)	Cross fin (aluminium 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 Static Pressure		Pa	20 - <40> - <60>	20 - <40> - <60>
			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 (Measured in Anechoic Room)		*2	dBA	(Low-Mid-High) 34-37-40	(Low-Mid-High) 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				CITY MULTI YLM series/CMB-WP-V-GA1/CMB-WP-V-GB1	CITY MULTI YLM series/CMB-WP-V-GA1/CMB-WP-V-GB1
Water Piping Diameter	Inlet	*5,6	in.	Rc 3/4 screw	Rc 3/4 screw
	Outlet		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

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 / h = 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.

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