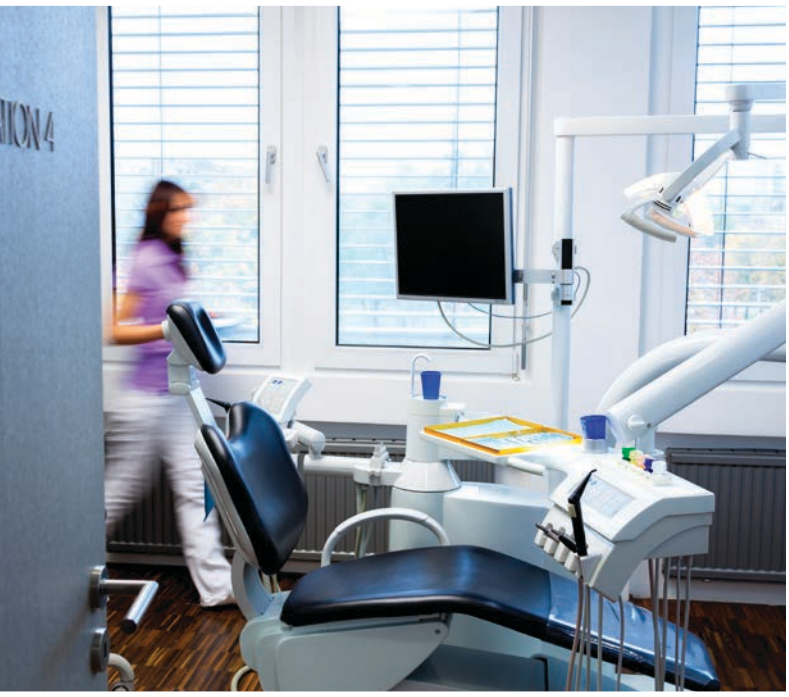
MITSUBISHI ELECTRIC

CITY MULTI

Hybrid VRF Next Generation
2-Pipe Heat Recovery Systems



HYBRID CITY MULTI

HVRF YNW Series AN4 - NZ

MITSUBISHI ELECTRIC

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?

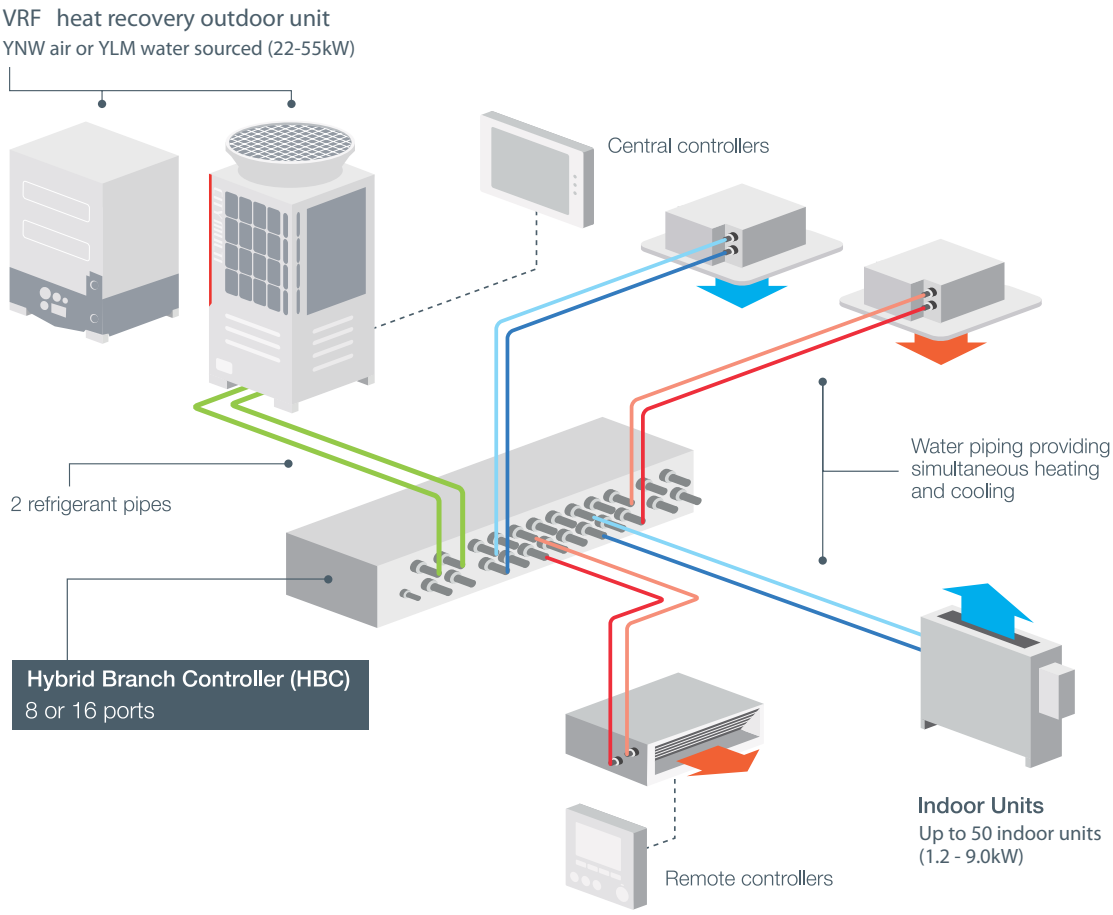
Hybrid VRF is next generation technology from Mitsubishi Electric, the world leader in VRF Solutions. This unique 2-Pipe Heat Recovery VRF System replaces refrigerant with water between the Hybrid Branch Circuit Controller and the indoor units. This revolutionary design removes the need for expensive 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



NB: Image for representation only

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 system 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 system itself.

Offices

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

Hospitals/Medical Centres

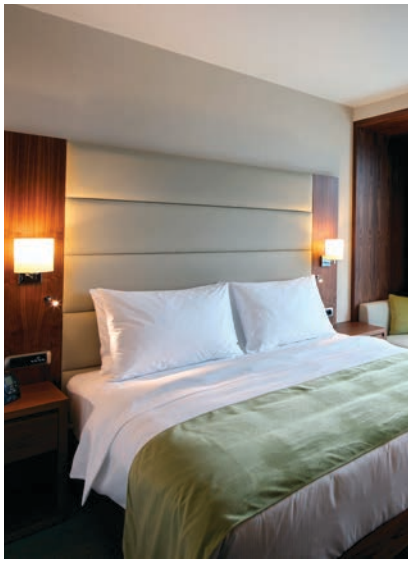
With regards to patient health and safety, this system has no refrigerant in the indoor units and can deliver mild off-coil temperatures through the Water-Based Hybrid VRF Indoor Units. HVRF mitigates the need for leak detectors in consulting rooms and provides a solution to critical refrigerant limits outlined in AS/NZS 5149. (1-4) 2016.

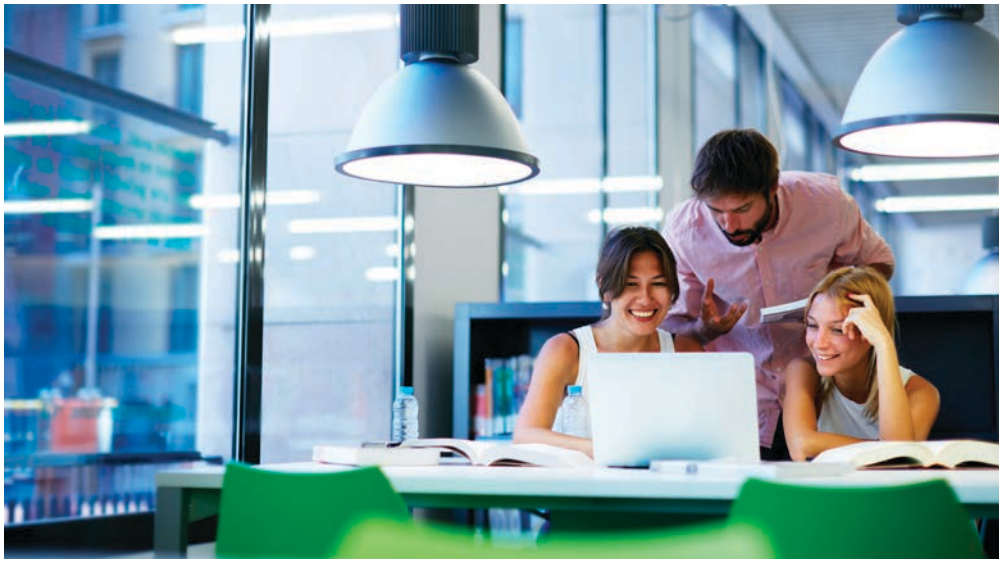
Mixed-use Buildings

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 benefiting 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.





Eliminate the Need for Leak Detection

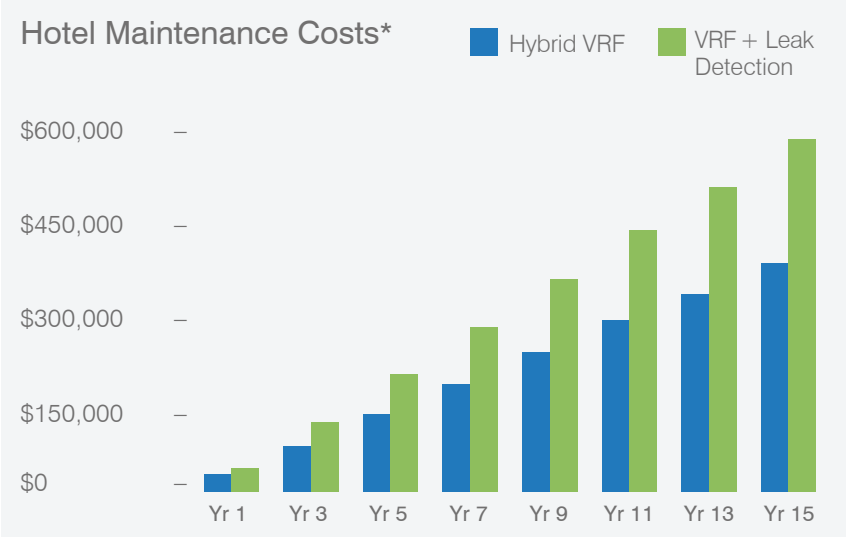
In commercial buildings, additional leak detection systems specific to air conditioning are often installed to safeguard occupants due to increasing safety regulations. This affects hotels in particular, where air conditioners are installed in the room space and occupant safety is critical.

Leak Detection System

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

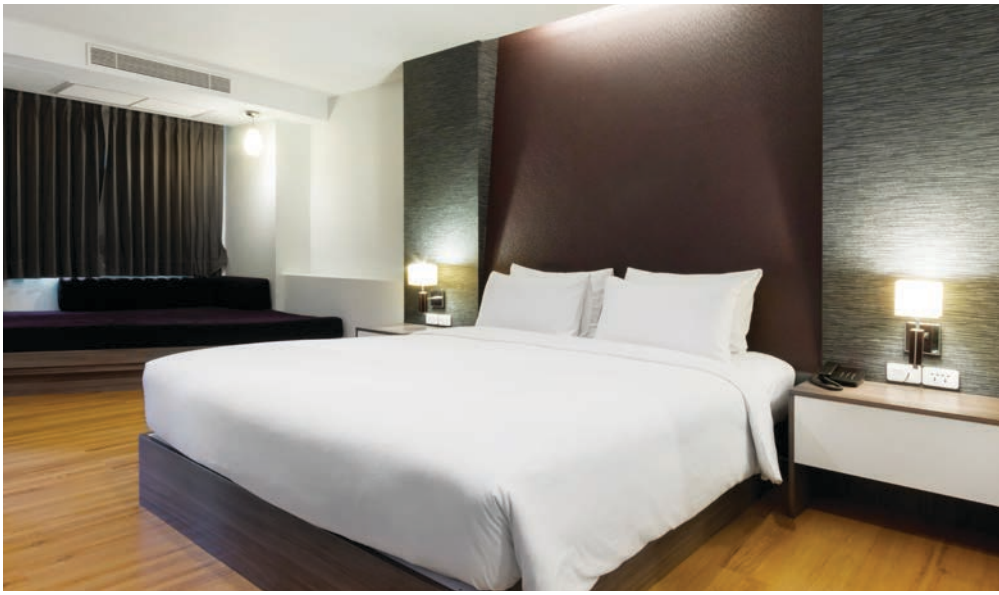
Hotel Solution

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 also 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 VRF Key Features & Benefits

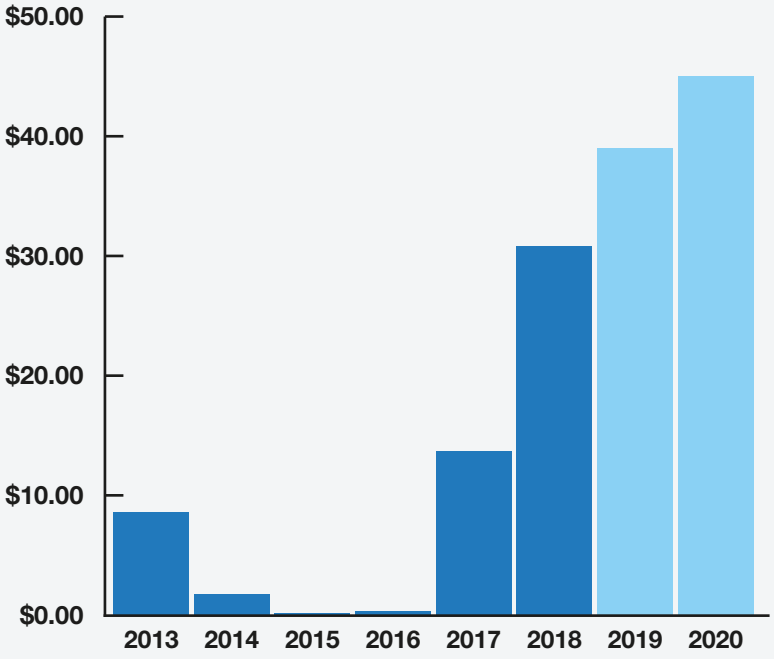
Emissions Trading Scheme

In New Zealand specifically, the ETS (Emissions Trading Scheme) has put 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 the ETS Synthetic Greenhouse Gas Levy (NZ), building capital costs will continue to climb using traditonal heating and cooling systems that utilise refrigerants such as R410A.

HVRF reduces this as it uses less refrigerant in the total system.



Year	Levy Rate – per kg Refrigerant (R410A)	
2013	$8.59	Actual
2014	$1.72	Actual
2015	$0.67	Actual
2016	$0.31	Actual
2017	$13.72	Actual
2018	$30.78	Actual
2019	$39.00	Prediction
2020	$45.00	Prediction

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 scheduled operation.

High Sensible Cooling and Stable Room Temperatures

- Typically offers a 10% increase in sensible cooling vs. traditional VRF.
- Provides superior levels of comfort.

Hybrid VRF Key Features & Benefits

Less Material/Equipment

- Mitsubishi Electric's unique 2-Pipe Heat Recovery System requires less piping 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.

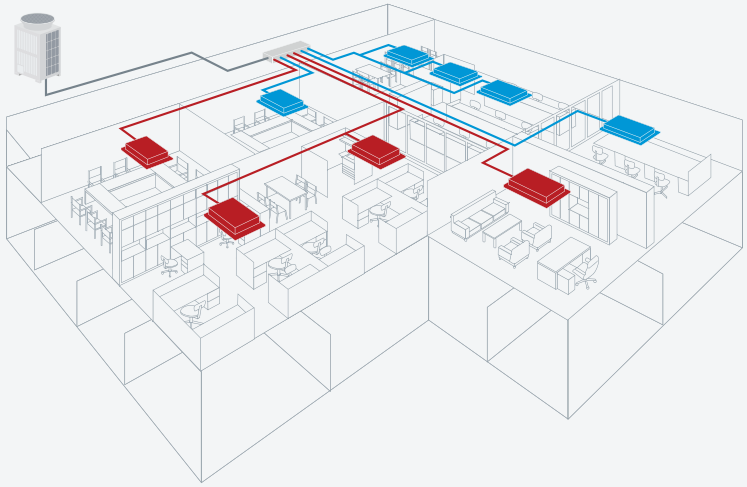
Flexible Application Options

- Air Source YNW (22-56kW) - using the latest City Multi VRF YNW 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



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

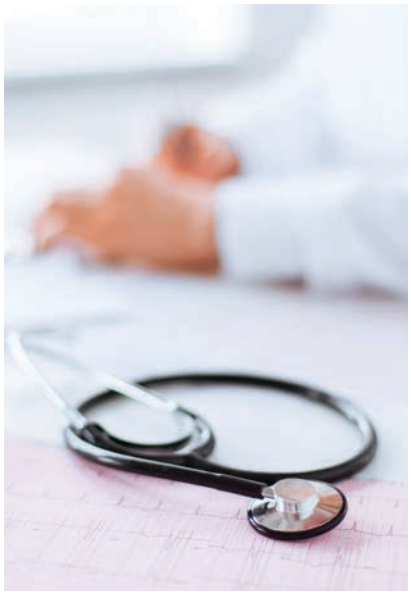
- Typical defrost times of 5 minutes with immediate return to heating.
- Improving comfort throughout the heating season, ideal for office applications.
- No defrost on Water Source VRF Models.

Intuitive Load Adjusting

- The latest YNW 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.



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.

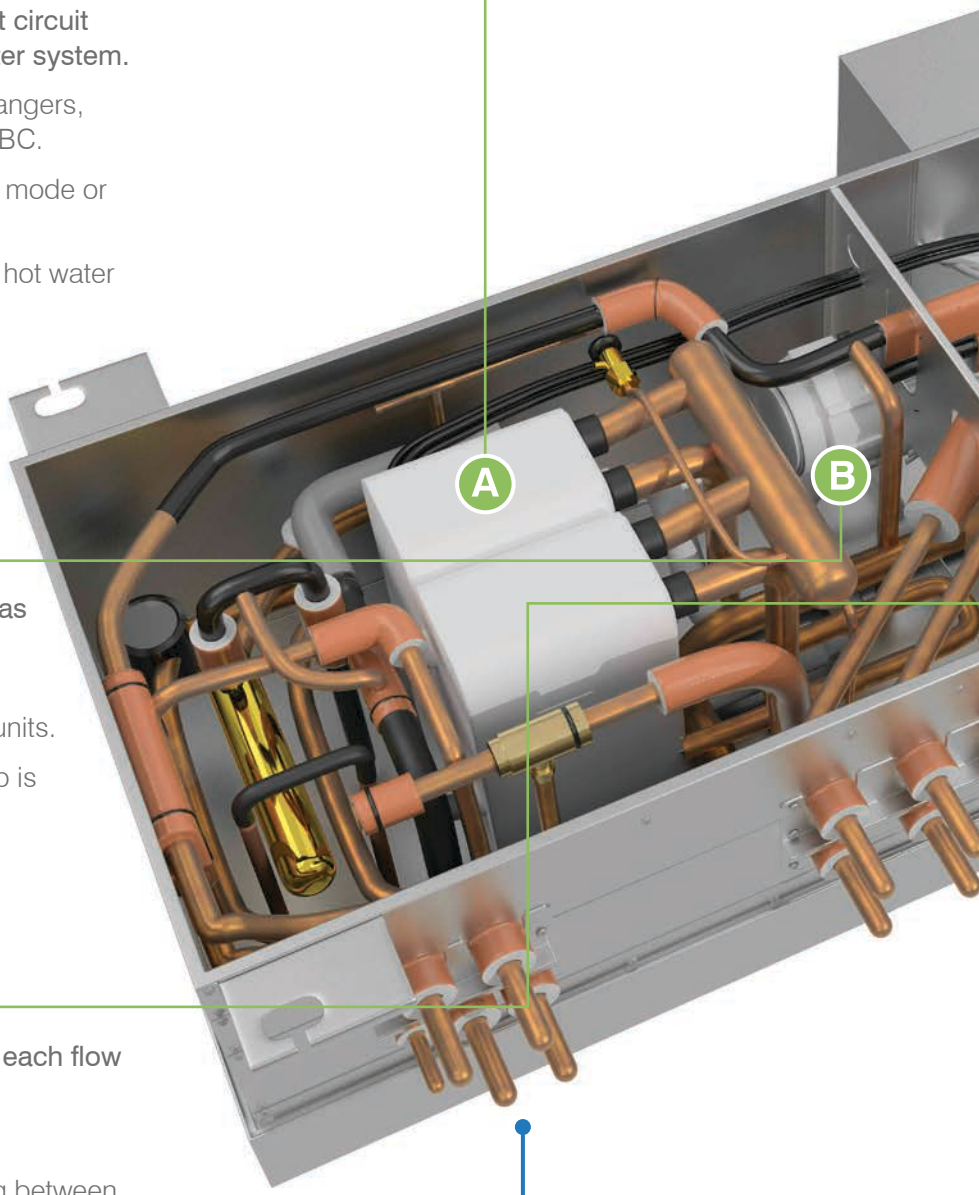
The discharge flow rate from the pump is controlled by the Valve Block.

C. Valve Block

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

This Valve Block has two features;

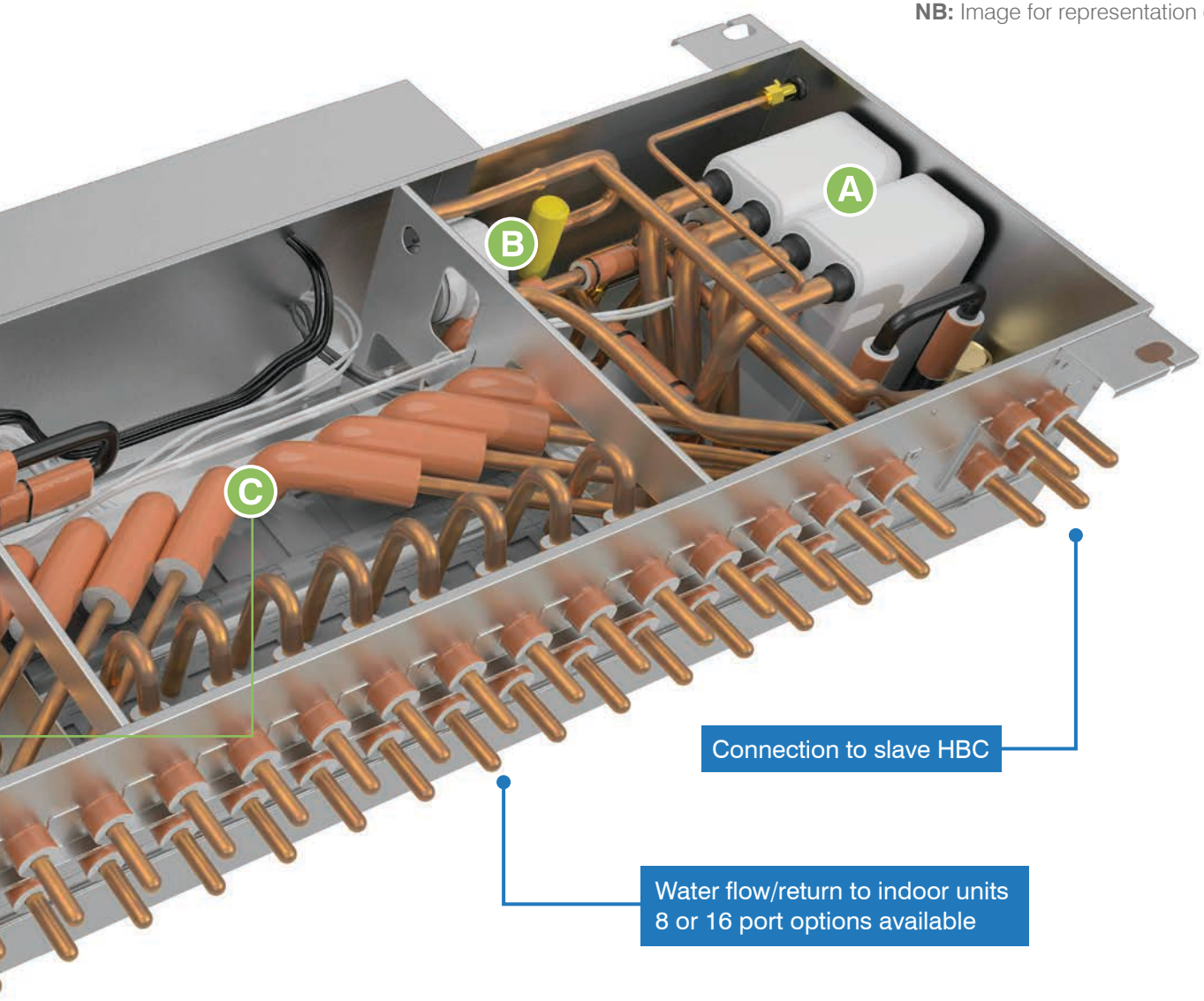
- Firstly, it has the choice of selecting between the two flow headers.
- Secondly, it controls the flow of the water sent to the indoor unit, defining the capacity.

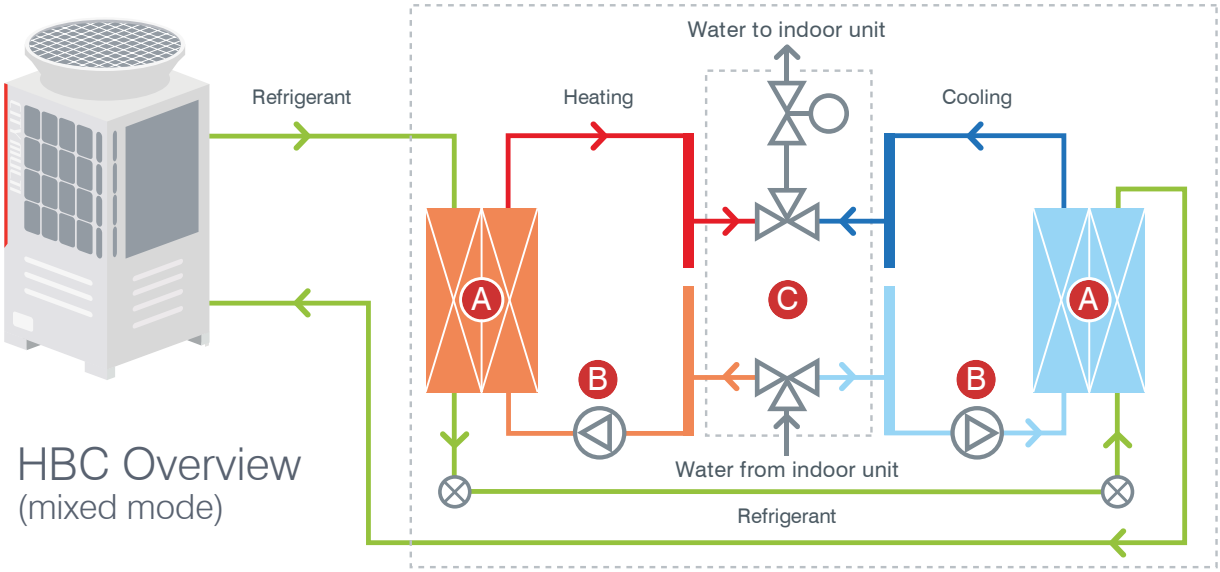


Refrigerant pipes to outdoor unit, expansion tank (field supplied) and water filling loop (field supplied)

INDUSTRY FIRST Industry First Patented Technology

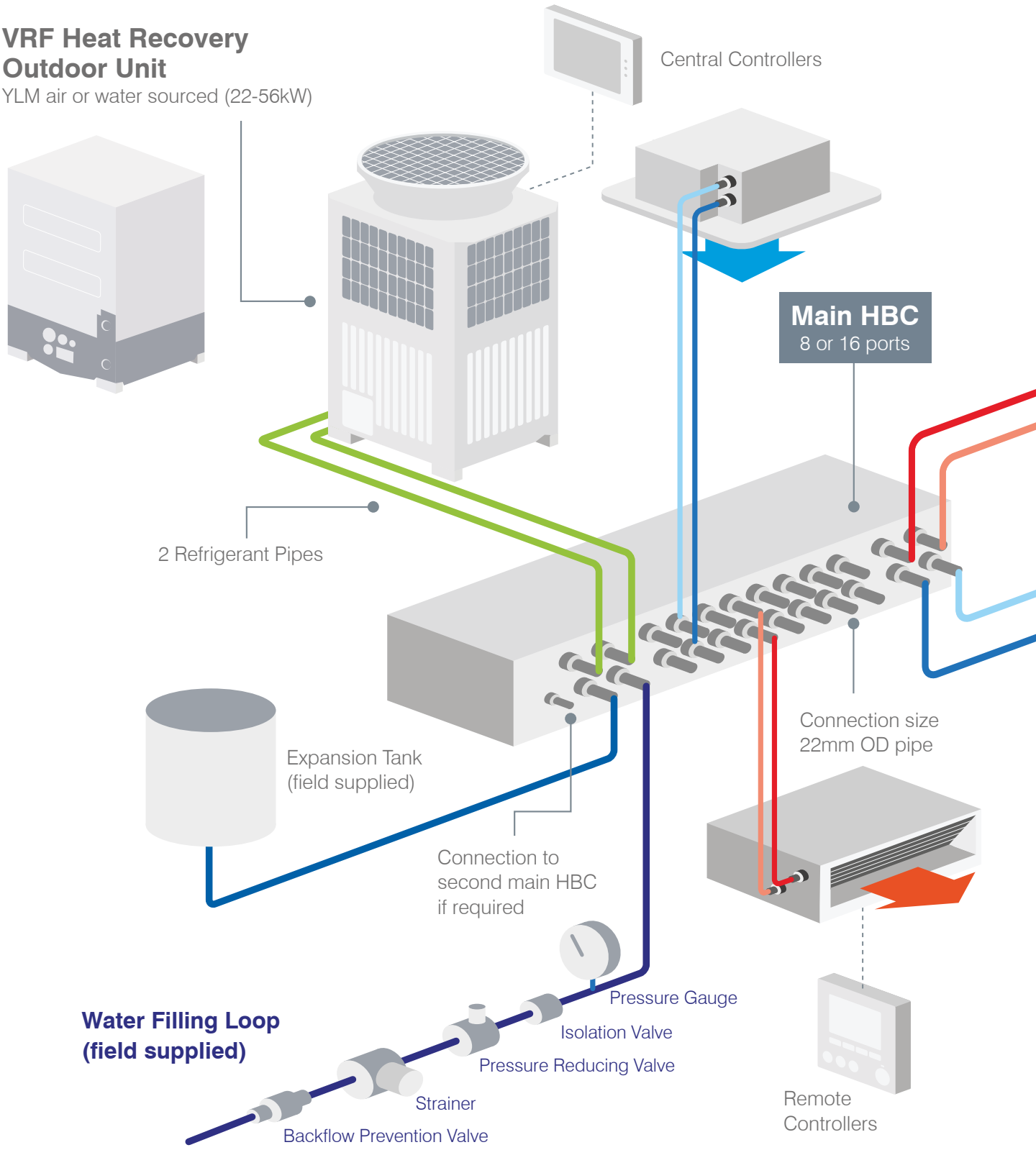
NB: Image for representation only



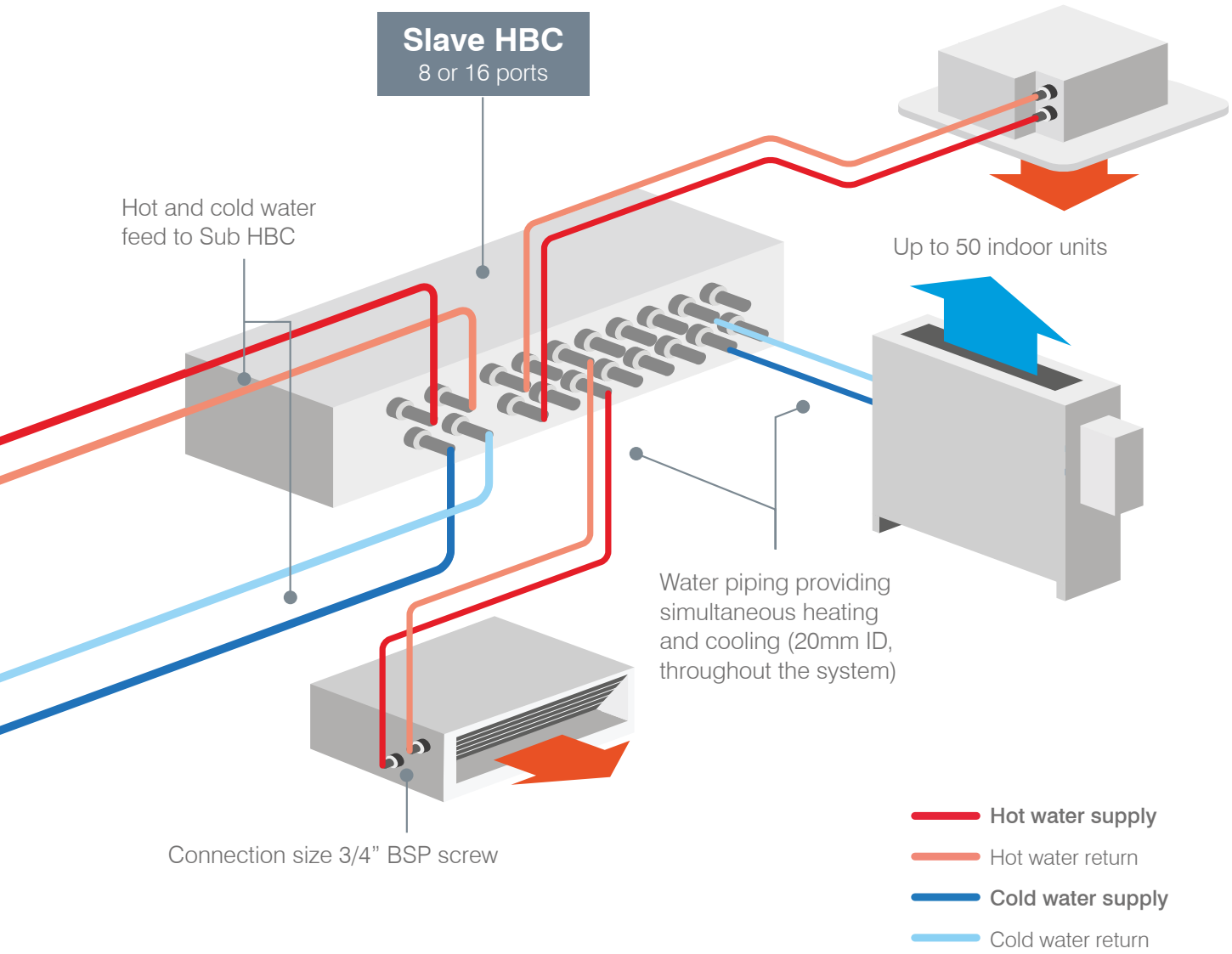


HBC Overview
(mixed mode)

Hybrid VRF Technical System Overview



INDUSTRY FIRST Industry First Patented Technology



Additional Items Required:

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

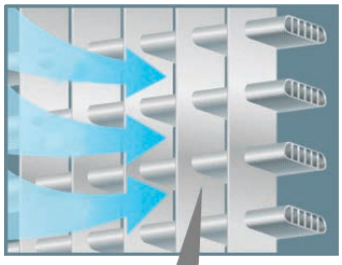
Configuration Setup

Outdoor Unit PURY-YNW/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 PURY-EP-YNW High COP Outdoor Unit range 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!

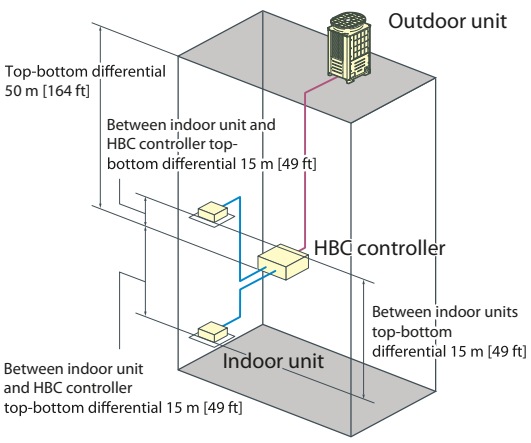


Available on EP High COP Models Only

Lineup

Horse Power	8HP	10HP	12HP	14HP	16HP	18HP	20HP
Capacity	22.4kW	28.0kW	33.5kW	40.0kW	45.0kW	50.0kW	56.0kW

Piping Length



Ⓡ: Refrigerant Pipe Ⓦ: Water Pipe

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

Vertical Differentials Between Units	Maximum Metres [Feet]
Ⓡ Outdoor/HBC controller	50 [164]
Ⓡ HBC/outdoor (outdoor unit above HBC)	50 [164]
Ⓡ HBC/outdoor (outdoor unit below HBC)	40 [131]
Ⓦ Indoor/HBC Controller	15 (10) [49 (32)]*1
Ⓦ Indoor/indoor	15 (10) [49 (32)]*1
Ⓡ 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.

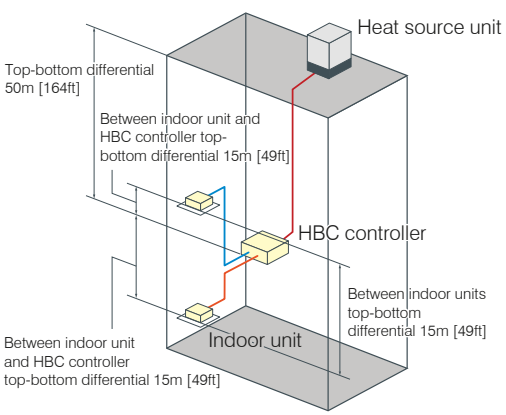
A sustainable and flexible solution for tall buildings:

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, 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.

■ Lineup

Horse Power	8HP	10HP	12HP	14HP	16HP	18HP	20HP
Capacity	22.4kW	28.0kW	33.5kW	40.0kW	45.0kW	50.0kW	56.0kW

■ Piping Length



R: Refrigerant Pipe W: Water Pipe

Refrigerant Piping Lengths	Maximum Meters [Feet]
R Distance between heat source and HBC	110 [360]
W Farthest indoor from HBC controller	60 [196]

Vertical Differentials Between Units	Maximum Meters [Feet]
R HBC/heat source (heat source unit above HBC)	50 [164]
R HBC/heat source (heat source 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

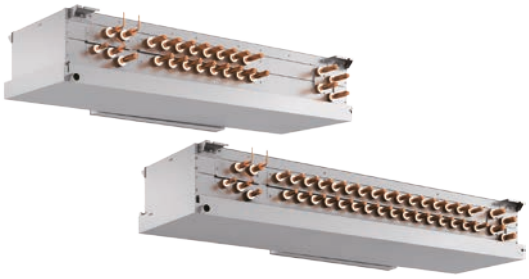
*1. Values in ( ) are applied when indoor total capacity exceeds 130% of outdoor unit capacity.

HVRF Product Line Up

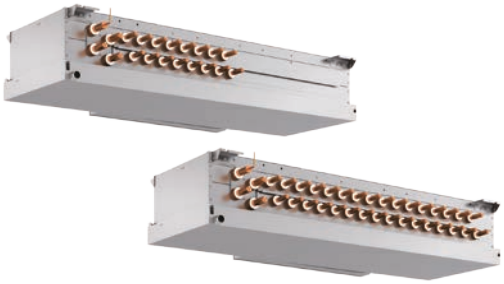
HYBRID BRANCH CIRCUIT (HBC) CONTROLLER

The HBC is used for the connection of 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

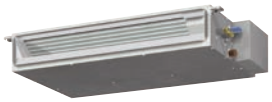
Type	Main		Sub	
Model	CMB-WP108V-GA1	CMB-WP1016V-GA1	CMB-WP108V-GB1	CMB-WP1016V-GB1
Total Branches	8	16	8	16

INDOOR MODELS

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

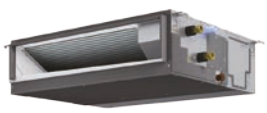
- Slim ceiling-concealed type units
- Middle static pressure ceiling-concealed type units
- 4-way airflow ceiling cassette type units
- Floor standing concealed type units

PLFY-WP-VFM-E



PEFY-WP-VMS1-E

PLFY-WP-VBM-E



PEFY-WP-VMA-E

PFFY-WP-VLRMM-E

Lineup

	Model Size	NEW WP10	WP15	WP20	WP25	WP32	WP40	WP50	NEW WP63	NEW WP71	NEW WP80	NEW WP100	NEW WP125
	PEFY-WP-VMS1-E	●	●	●	●	●	●	●					
	PEFY-WP-VMA-E			●	●	●	●	●	●	●	●	●	●
	PLFY-WP-VBM-E					●	●	●					
NEW	PLFY-WP-VFM-E	●	●	●	●	●							
	PFFY-WP-VLRMM-E			●	●	●	●	●					
	Cooling Capacity	1.2kW	1.7kW	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW	7.1kW	8.0kW	9.0kW	11.2kW	14.0kW
	Heating Capacity	1.4kW	1.9kW	2.5kW	3.2kW	4.0kW	5.0kW	6.3kW	8.0kW	9.0kW	10.0kW	12.5kW	16.0kW

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

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

Simplified Controller PAC-YT52CRA

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

Centralised Controllers & BMS Interface

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

AT-50B

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

MelcoBEMS Mini BMS Interface

- MODBUS
- BACnet MS/TP

BAC-HD150 BMS Interface

- BACnet
- Connects directly to M-NET

NEW

MA Touch Remote

PAR-CT01MAA-SB

PAR-CT01MAA-PB

3.5” Touch Panel

Featuring a 3.5” HVGA Full Colour LCD Touchscreen.

Bluetooth Functionality

The controller can communicate with a smart phone or tablet device via Bluetooth. Operation and Setting App is available on the App Store.

Hotel Setting

A simple operation panel is available to display only ON/OFF, set temperature and fan speed – ideal for hotels.

Logo Customisation

Your company logo or image can be displayed on the screen.

Customisable Colour Options

180 different colour patterns can be selected for control parameters or background. Available in White and Premium Black.

Case Studies

A School Gets NZ's First Hybrid VRF System

Recently Rototuna Junior High School was one of 23 new schools to open since January 2016. As with most schools it had an extensive list of requirements, which restricted how the building could be heated and cooled. Rototuna needed an HVAC solution suitable for the wide variety of offices, classrooms, and music rooms in the Junior High School building. Plus, the music practice rooms in particular were small, and were required to be air-conditioned, yet remain totally soundproof.

Mitsubishi Electric 22.4kW Hybrid VRF

The client enlisted Opus Consultants to design a mechanical system to resolve these unique requirements, which they did by utilising a Mitsubishi Electric Hybrid VRF System. This system was the first of its kind in New Zealand!

A Mitsubishi Electric Hybrid VRF 22.4kW System was installed to serve several music practice rooms, where noise control was the determining factor. As water is used instead of refrigerant throughout the indoor units, not only are they quiet operating, the Mitsubishi Electric Hybrid VRF indoor units enabled the music rooms to be fully sealed and soundproofed, without the client needing to install costly refrigerant leak detection systems.

A Mitsubishi Electric VRF Heat Recovery System and an AHU System were also installed to serve the heating, air conditioning, and ventilation requirements of the other areas of the building. All equipment selected was then wired to a BAC-HD150 to enable high-level control of all AC equipment via the BMS System.

AUT NorthMed

The NorthMed Clinic is a new building situated at Auckland University of Technology's (AUT) North Shore Campus. This innovative facility which opened in July 2017, is comprised of modern medical offices and teaching space for Physiotherapy, Psychotherapy, Podiatry, Oral Health, and Student Health Services.

The Challenge

The use of such small quarters for medical examination rooms meant that high refrigerant concentration levels in these spaces became a primary concern. This coupled with patient/ doctor privacy being of utmost importance meant that door grilles could not be used for this project. Therefore a traditional VRF System (without refrigerant monitoring) would not suit this particular application.

The Solution

Three Mitsubishi Electric HVRF Systems were selected by the mechanical consultant to serve the smaller medical consulting rooms, along with one other standard Mitsubishi Electric VRF System to serve the common meeting and office areas.

The unique architecture of Mitsubishi Electric HVRF Systems use water in the primary loop between the branch controller and indoor units, enabling the client's refrigerant concentration concerns to be completely mitigated. This allowed total privacy in consultation rooms to be maintained, without the need to install door grilles as refrigerant piping did not run anywhere near the confined spaces.

AUT NorthMed pictured above.

Rotorua Children's Health Hub and Library

The vision to upgrade the existing Rotorua Library building into a new state of the art, centrally located, shared community facility comprising of the Rotorua Library, Children's Health Clinic and DHB offices.

The Challenge

The key challenge for this building was to cater for two tenants with very different layouts on each of the four floors.

Adding to this initial challenge was the desire to provide an efficient and comfortable HVAC solution that best fit within the scope of the pre-existing building structure.

The Solution

The best solution to meet the challenges was to select HVRF systems that provide heating and cooling to many of the mixed-use library and health hub areas. The HVRF systems were selected by the consultant for the principle reason of having less extreme air-off temperatures, and slower temperature change responses across the fan coil units. This was particularly important in areas of the building with lower than usual internal ceilings.

With a wide variety of small capacity indoor model options available in the HVRF range, specific indoor types were selected to suit each of the individual spaces. For example the external wall was extended out onto what was previously a balcony area. Several PFFY-WP50VLRMM-E floor concealed models were then selected to best suit this long, newly created open plan area, to be easily boxed out once the external wall had been constructed.

Specifications

OUTDOOR UNIT

Model				22.4kW PURY-P200YNW-A (-BS)	28kW PURY-P250YNW-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	22.4	28.0
		*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 (Nominal)		*2	kW	25.0	31.5
		*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			WP10~WP125/1~30	WP10~WP125/1~37
Sound Pressure Level (Measured in Anechoic Room)			dBA	59/59	60.5/61
Sound Power Level (Measured in Anechoic Room)			dBA	76/78	78.5/80
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	170	185
			L/s	2,833	3,083
			cfm	6,003	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	1,858(1,798without legs) x 920 x 740	1,858 (1,798 without legs) x 920 x 740
			in.	73-3/16 (70-13/16 without legs) x 36-1/4 x 29-3/16	73-3/16 (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
Refrigerant	Type/GWP			R410A x 9.5 kg (21 lbs)	R410A x 9.5 kg (21 lbs)
	Factory Charged	Weight	kg	5.2	5.2
	Maximum Additional Charge	Weight	kg	31.8	37.8
	Total Charge	Weight	kg	37.0	43.0
Net Weight			kg (lbs)	229 (505)	229 (505)
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-P300YNW-A (-BS)		40kW PURY-P350YNW-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			WP10~WP125/2~45		WP10~WP125/2~50	
Sound Pressure Level (Measured in Anechoic Room)			dBA	61/67		62.5/64	
Sound Power Level (Measured in Anechoic Room)			dBA	80/86.5		81/83	
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	240		250	
			L/s	4,000		4,167	
			cfm	8,474		8,828	
	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	1,858 (1,798 without legs) x 920 x 740		1,858 (1,798 without legs) x 1,240 x 740	
			in.	73-3/16 (70-13/16 without legs) x 36-1/4 x 29-3/16		73-3/16 (70-13/16 without legs) x 48-7/8 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	
Refrigerant	Type x Original Charge			R410A x 10.3 kg (23 lbs)		R410A x 10.3 kg (23 lbs)	
	Factory Charged	Weight	kg	5.2		8.0	
	Maximum Additional Charge	Weight	kg	37.8		41.3	
	Total Charge	Weight	kg	43.0		49.3	
Net Weight			kg (lbs)	231 (510)		273 (602)	
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-P400YNW-A (-BS)	50kW PURY-P450YNW-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	2.82
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 (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			WP10~WP125/2~50	WP10~WP125/2~50
Sound Pressure Level (Measured in Anechoic Room)			dBA	65/69	65.5/70
Sound Power Level (Measured in Anechoic Room)			dBA	83/88	83/89
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	315	315
			L/s	5,250	5,250
			cfm	11,123	11,123
	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	1,858 (1,798 without legs) x 1,240 x 740	1,858 (1,798 without legs) x 1,240 x 740
			in.	73-3/16 (70-13/16 without legs) x 48-1/16 x 29-3/16	73-3/16 (70-13/16 without legs) x 48-7/8 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
Refrigerant	Type/GWP			R410A x 10.3 kg (23 lbs)	R410A x 11.8 kg (27 lbs)
	Factory Charged	Weight	kg	8.0	10.8
	Maximum Additional Charge	Weight	kg	47.3	44.5
	Total Charge	Weight	kg	55.3	55.3
Net Weight			kg (lbs)	273 (602)	293 (646)
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-P500YNW-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			WP10~WP125/2~50
Sound Pressure Level (Measured in Anechoic Room)			dBA	63.5/64.5
Sound Power Level (Measured in Anechoic Room)			dBA	82/84
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	295
			L/s	4,917
			cfm	10,416
	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	1,858 (1,798 without legs) x 1,750 x 740
			in.	73-3/16 (70-13/16 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
Refrigerant	Type/GWP			R410A x 11.8 kg (27 lbs)
	Factory Charged	Weight	kg	10.8
	Maximum additional charge	Weight	kg	45.2
	Total charge	Weight	kg	56.0
Net Weight			kg (lbs)	337 (743)
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).

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

OUTDOOR UNIT

Model				22.4kW PURY-EP200YNW-A1 (-BS)	28kW PURY-EP250YNW-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			WP10~WP125/1~30	WP10~WP125/1~37
Sound Pressure Level (Measured in Anechoic Room)			dBA	59/59	60.5/61
Sound Power Level (Measured in Anechoic Room)			dBA	73/78	78.5/80
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	170	185
			L/s	2,883	3,083
			cfm	6,003	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	1,858(1,798 without legs) x 920 x 740	1,858(1,798 without legs) x 920 x 740
			in.	73-3/16 (70-13/16 without legs) x 36-1/4 x 29-3/16	73-3/16 (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
Refrigerant	Type/GWP			R410A x 6.0 kg (14 lbs)	R410A x 6.0 kg (14 lbs)
	Factory Charged	Weight	kg	5.2	5.2
	Maximum Additional Charge	Weight	kg	28.3	34.3
	Total Charge	Weight	kg	33.5	39.5
Net Weight			kg (lbs)	234 (516)	234 (516)
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-EP300YNW-A1 (-BS)		40kW PURY-EP350YNW-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			WP10~WP125/2~45		WP10~WP125/2~50	
Sound Pressure Level (Measured in Anechoic Room)			dBA	61/67		62.5/64	
Sound Power Level (Measured in Anechoic Room)			dBA	80/86.5		81/83	
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	240		250	
			L/s	4,000		4,167	
			cfm	8,474		8,828	
	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	1,858(1,798 without legs) x 920 x 740		1,858(1,798 without legs) x 1,240 x 740	
			in.	73-3/16 (70-13/16 without legs) x 36-1/4 x 29-3/16		73-3/16(70-13/16 without legs) x 48-7/8 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	
Refrigerant	Type x Original Charge			R410A x 8.0 kg (18 lbs)		R410A x 8.0 kg (18 lbs)	
	Factory Charged	Weight	kg	5.2		8.0	
	Maximum Additional Charge	Weight	kg	34.3		39	
	Total Charge	Weight	kg	39.5		47.0	
Net Weight			kg (lbs)	236 (521)		279 (616)	
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).

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

OUTDOOR UNIT

Model				45kW PURY-EP400YNW-A1 (-BS)	50kW PURY-EP450YNW-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)
	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)
	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			WP10~WP125/2~50	WP10~WP125/2~50
Sound Pressure Level (Measured in Anechoic Room)			dBA	65/69	65.5/70
Sound Power Level (Measured in Anechoic Room)			dBA	83/88	83/89
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	315	315
			L/s	5,250	5,250
			cfm	11,123	11,123
	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	1,858 (1,798 without legs) x 1,240 x 740	1,858 (1,798 without legs) x 1,240 x 740
			in.	73-3/16 (70-13/16 without legs) x 48-7/8 x 29-3/16	73-3/16 (70-13/16 without legs) x 48-7/8 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
Refrigerant	Type x Original Charge			R410A x 10.5 kg (24 lbs)	R410A x 11.8 kg (27 lbs)
	Factory Charged	Weight	kg	8.0	10.8
	Maximum Additional Charge	Weight	kg	39.0	44.7
	Total Charge	Weight	kg	47.0	55.5
Net Weight			kg (lbs)	282 (622)	306 (675)
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				56kW PURY-EP500YNW-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			WP10~WP125/2~50
Sound Pressure Level (Measured in Anechoic Room)			dBA	63.5/64.5
Sound Power Level (Measured in Anechoic Room)			dBA	82/84
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	295
			L/s	4,917
			cfm	10,416
	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	1,858 (1,798 without legs) x 1,750 x 740
			in.	73-3/16 (70-13/16 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
Refrigerant	Type x Original Charge			R410A x 11.8 kg (27 lbs)
	Factory Charged	Weight	kg	10.8
	Maximum Additional Charge	Weight	kg	45.2
	Total Charge	Weight	kg	56.0
Net Weight			kg (lbs)	345 (761)
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				22.4 PQRY-P200YLM-A1	28.0 PQRY-P250YLM-A1
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 *3	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 *3	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			WP10~WP125/1~30	WP10~WP125/1~37
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		m3 / h	5.76	5.76
			L/min	96	96
			cfm	3.4	3.4
	Pressure Drop		kPa	24	24
	Operating Volume Range		m3 / 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				Galvanized steel sheets	Galvanized 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/2088	R410A/2088
	Factory Charged	Weight	kg	5.0	5.0
	Maximum Additional Charge	Weight	kg	27.0	32.0
	Total Charge	Weight	kg	32.0	37.0
Net Weight			kg (lbs)	170 (375)	170 (375)
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-GA1Sub HBC controller: CMB-WP108, 1016-GB1	Main HBC controller: CMB-WP108, 1016V-GA1Sub 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 difference: 0m (0ft)

*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: 0m (0ft)

*3. This table is based on Regulation (EU) No517/2014.

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				33.5 PQRY-P300YLM-A1		40.0 PQRY-P350YLM-A1	
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	*3	W.B.	15.0~24.0°C (59~75°F)		15.0~24.0°C (59~75°F)	
	Circulating Water	*3	°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	*3	D.B.	15.0~27.0°C (59~81°F)		15.0~27.0°C (59~81°F)	
	Circulating Water	*3	°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			WP10~WP125/2~45		WP10~WP125/2~50	
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		m3 / h	5.76		7.20	
			L/min	96		120	
			cfm	3.4		4.2	
	Pressure Drop		kPa	24		44	
	Operating Volume Range		m3 / 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		6.2	
	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 21-11/16-11/16	
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/2088		R410A/2088	
	Factory Charged	Weight	kg	5.0		6.0	
	Maximum Additional Charge	Weight	kg	33.0		52.0	
	Total Charge	Weight	kg	38.0		52.0	
Net Weight			kg (lbs)	170 (375)		58.0	
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-GA1Sub HBC controller: CMB-WP108, 1016V-GB1		Main HBC controller: CMB-WP108, 1016V-GA1Sub 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 difference: 0m (0ft)

*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: 0m (0ft)

*3. This table is based on Regulation (EU) No517/2014.

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				45.0 PQRY-P400YLM-A1	50.0 PQRY-P450YLM-A1
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	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 *3	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 *3	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			WP10~WP125/2~50	WP10~WP125/1~37
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		m3 / h	7.20	7.20
			L/min	120	120
			cfm	4.2	4.2
	Pressure Drop		kPa	44	44
	Operating Volume Range		m3 / 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				Galvanized steel sheets	Galvanized 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/2088	R410A/2088
	Factory Charged	Weight	kg	6.0	6.0
	Maximum Additional Charge	Weight	kg	52.0	53.0
	Total Charge	Weight	kg	58.0	59.0
Net Weight			kg (lbs)	214 (472)	214 (472)
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-GA1Sub HBC controller: CMB-WP108, 1016-GB1	Main HBC controller: CMB-WP108, 1016V-GA1Sub 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 difference: 0m (0ft)

*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: 0m (0ft)

*3. This table is based on Regulation (EU) No517/2014.

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				56.0 PQRY-P500YLM-A1
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 *3	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 *3	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			WP10~WP125/2~50
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		m3 / h	7.20
			L/min	120
			cfm	4.2
	Pressure Drop		kPa	44
	Operating Volume Range		m3 / h	4.5 ~ 11.6
Compressor	Type			Inverter scroll hermetic compressor
	Starting Method			Inverter
	Motor Output		kW	13.0
	Case Heater		kW	–
External Finish				Galvanized 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/2088
	Factory Charged	Weight	kg	6.0
	Maximum Additional Charge	Weight	kg	55.0
	Total Charge	Weight	kg	61.0
Net Weight			kg (lbs)	214 (472)
Heat Exchanger				plate type
	Water volume in plate		L	5.0
	Water pressure Max.		MPa	2.0
Optional Parts				Main HBC controller: CMB-WP108, 1016-GA1Sub HBC controller: CMB-WP108, 1016-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 difference: 0m (0ft)

*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: 0m (0ft)

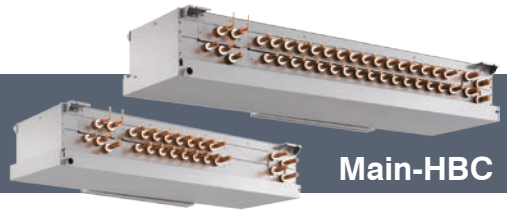
*3. This table is based on Regulation (EU) No517/2014.

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-P200~500YNW-A(-BS)/PURY-EP200~500YNW-A(-BS)/PURY-P200~500YLM-A(1)(-BS)/PURY-EP200~500YLM-A1(-BS)/PQRY-P200~500YLM-A1		PURY-P200~500YNW-A(-BS)/PURY-EP200~500YNW-A(-BS)/PURY-P200~500YLM-A(1)(-BS)/PURY-EP200~500YLM-A1(-BS)/ PQRY-P200~500YLM-A1	
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.)

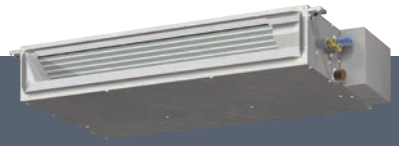
Sub-HBC

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				NEW PEFY-WP10VMS1-E	PEFY-WP15VMS1-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	1.2	1.7
		*1	kcal/h	1,000	1,500
		*1	BTU/h	4,100	5,800
	*2	Power Input	kW	0.030	0.050
	*2	Current Input	A	0.21	0.44
Heating Capacity (Nominal)		*3	kW	1.4	1.9
		*3	kcal/h	1,200	1,600
		*3	BTU/h	4,800	6,500
	*2	Power Input	kW	0.030	0.030
	*2	Current Input	A	0.21	0.33
External Finish				Galvanized steel plate	Galvanized steel plate
External Dimension H x W x D			mm	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
Net Weight			kg (lbs)	19 (42)	19 (42)
Heat Exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume		L	0.4	0.7
FAN	Type x Quantity			Sirocco fan x 2	Sirocco fan x 2
*4	External Static Press.		Pa	<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>
	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	4.0 - 4.5 - 5.0	5.0 - 6.0 - 7.0
			L/s	67 - 75 - 83	83 - 100 - 117
			cfm	141 - 159 - 177	177 - 212 - 247
Sound Pressure Level (Measured in Anechoic Room)*2			dB <A>	(Low-Mid-High) 20-23-25	(Low-Mid-High) 22-24-28
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				HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1
Water Piping Diameter *5,6	Inlet		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.)	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 Part	Control Box Replace Kit			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.

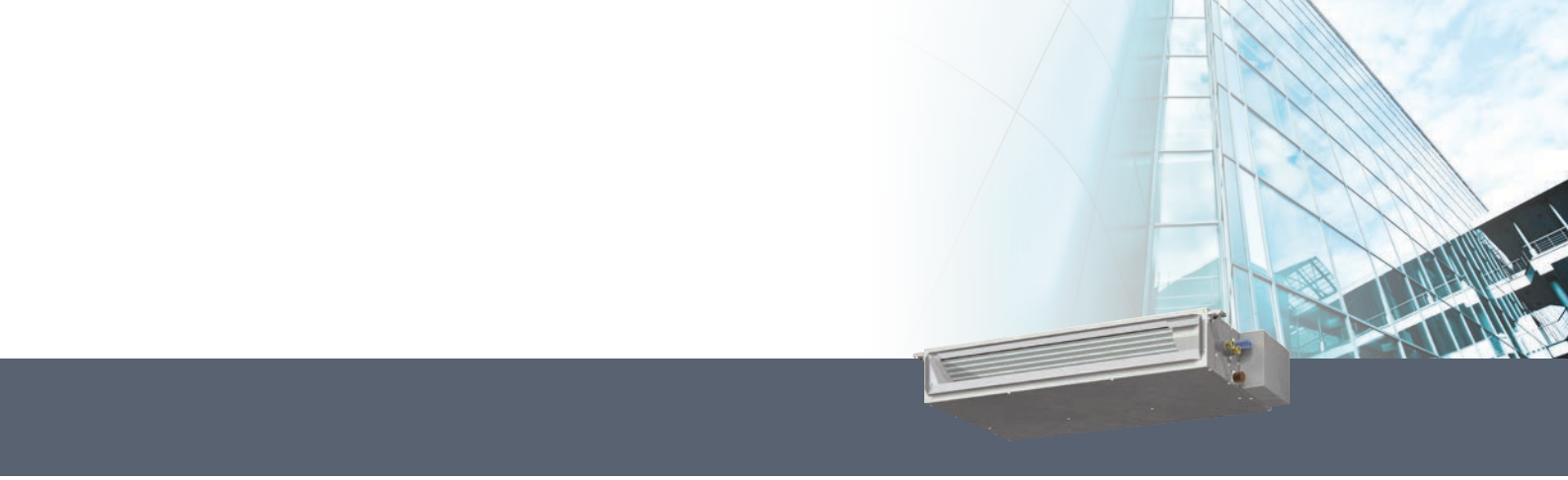
6.Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.

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				PEFY-WP20VMS1-E	PEFY-WP25VMS1-E
Power Source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
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	0.051	0.060
	*2	Current Input	A	0.49	0.51
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	0.031	0.040
	*2	Current Input	A	0.38	0.40
External Finish				Galvanized steel plate	Galvanized steel plate
External Dimension H x W x D			mm	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
Net Weight			kg (lbs)	20 (45)	20 (45)
Heat Exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
		Water Volume	L	0.9	0.9
FAN		Type x Quantity		Sirocco fan x 2	Sirocco fan x 2
	*4	External Static Press.	Pa	<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>
		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	5.5 - 6.5 - 8.0	5.5 - 7.0 - 9.0
			L/s	92 - 108 - 133	92 - 117 - 150
			cfm	194 - 230 - 282	194 - 247 - 318
Sound Pressure Level (Measured in Anechoic Room)*2				(Low-Mid-High)	(Low-Mid-High)
			dB <A>	23-25-29	23-26-30
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				HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1
Water Piping Diameter	*5,6	Inlet	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.)	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		Control Box Replace Kit		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.

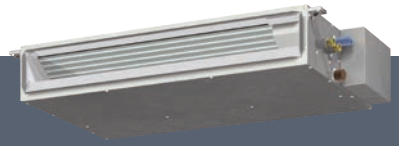
7.Please group units that operate on 1 branch.

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.

SLIM CEILING CONCEALED



Model				PEFY-WP32VMS1-E	PEFY-WP40VMS1-E	PEFY-WP50VMS1-E
Power Source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling Capacity		*1	kW	3.6	4.5	5.6
(Nominal)		*1	kcal/h	3,100	3,900	4,800
		*1	BTU/h	12,300	15,400	19,100
	*2	Power Input	kW	0.071	0.090	0.090
	*2	Current Input	A	0.61	0.73	0.77
Heating Capacity		*3	kW	4.0	5.0	6.3
(Nominal)		*3	kcal/h	3,400	4,300	5,400
		*3	BTU/h	13,600	17,100	21,500
	*2	Power Input	kW	0.051	0.070	0.070
	*2	Current Input	A	0.50	0.62	0.66
External Finish				Galvanized steel plate	Galvanized steel plate	Galvanized steel plate
External Dimension H x W x D			mm	200 x 990 x 700	200 x 990 x 700	200 x 1,190 x 700
			in.	7-7/8 x 39 x 27-9/16	7-7/8 x 39 x 27-9/16	7-7/8 x 46-7/8 x 27-9/16
Net Weight			kg (lbs)	25 (56)	25 (56)	27 (60)
Heat Exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume		L	1.0	1.0	1.7
FAN	Type x Quantity			Sirocco fan x 3	Sirocco fan x 3	Sirocco fan x 4
*4	External Static Press.		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				(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
(Measured in Anechoic Room)*2			dB <A>	28-30-33	30-32-35	30-33-36
Insulation Material				EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam
Air Filter				PP honeycomb fabric.	PP honeycomb fabric.	PP honeycomb fabric.
Protection Device				Fuse	Fuse	Fuse
Connectable Outdoor Unit / HBC Controller				HYBRID CITY MULTI/ CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/ CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/ 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.

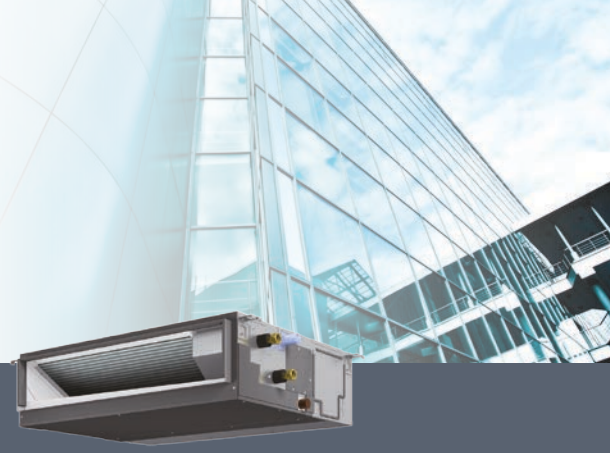
6.Install a strainer (40 mesh or more) on the pipe next to the valve to remove the foreign matters.

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				PEFY-WP20VMA-E	PEFY-WP25VMA-E
Power Source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling Capacity		*1	kW	2.2	2.8
(Nominal)		*1	kcal / h	1,900	2,400
		*1	BTU / h	7,500	9,600
	*2	Power Input	kW	0.07	0.09
	*2	Current Input	A	0.55	0.64
Heating Capacity		*3	kW	2.5	3.2
(Nominal)		*3	kcal / h	2,200	2,800
		*3	BTU / h	8,500	10,900
	*2	Power Input	kW	0.05	0.07
	*2	Current Input	A	0.44	0.53
External Finish				Galvanized steel plate	Galvanized steel plate
External Dimension 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 (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume		L	0.7	1.0
FAN	Type x Quantity			Sirocco fan x 1	Sirocco fan x 1
*4	External Static Press.		Pa	<35> - 50 - <70> - <100> - <150>	<35> - 50 - <70> - <100> - <150>
			mmH_2O	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>
	Motor Type			DC motor	DC motor
	Motor Output		kW	0.085	0.085
	Driving Mechanism			Direct-driven by motor	Direct-driven by motor
	Air Flow Rate			(Low-Mid-High)	(Low-Mid-High)
			m^3/min	7.5 - 9.0 - 10.5	10.0 - 12.0 - 14.0
			L/s	125 - 150 - 175	167 - 200 - 233
			cfm	265 - 318 - 371	353 - 424 - 494
Sound Pressure Level (Measured in Anechoic Room)		*2	dB <A>	(Low-Mid-High)	(Low-Mid-High)
				23-26-29	23-27-30
Insulation Material				EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam
Air Filter				PP honeycomb fabric.	PP honeycomb fabric.
Protection Devices				Fuse	Fuse
Connectable Outdoor Unit / HBC Controller				HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/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.)	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

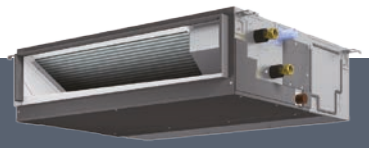
Notes:
1. Nominal cooling conditions
   Indoor: 27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.), Outdoor: 35 °CD.B. (95 °FD.B.)
   Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
2. The values are measured at the factory setting of external static pressure.
3. Nominal heating conditions
   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.

CEILING CONCEALED



Model			PEFY-WP32VMA-E	PEFY-WP40VMA-E	PEFY-WP50VMA-E
Power Source			1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling Capacity	*1	kW	3.6	4.5	5.6
(Nominal)	*1	kcal / h	3,100	3,900	4,800
	*1	BTU / h	12,300	15,400	19,100
*2	Power Input	kW	0.11	0.14	0.14
*2	Current Input	A	0.74	1.15	1.15
Heating Capacity	*3	kW	4.0	5.0	6.3
(Nominal)	*3	kcal / h	3,400	4,300	5,400
	*3	BTU / h	13,600	17,100	21,500
*2	Power Input	kW	0.09	0.12	0.12
*2	Current Input	A	0.63	1.04	1.04
External Finish			Galvanized steel plate	Galvanized steel plate	Galvanized steel plate
External Dimension 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 (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume	L	1.0	1.8	1.8
FAN	Type x Quantity		Sirocco fan x 1	Sirocco fan x 2	Sirocco fan x 2
*4	External Static Press.	Pa	<35> - 50 - <70> - <100> - <150>	<35> - 50 - <70> - <100> - <150>	<35> - 50 - <70> - <100> - <150>
		mmH_2O	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>
	Motor Type		DC motor	DC motor	DC motor
	Motor Output	kW	0.085	0.121	0.121
	Driving Mechanism		Direct-driven by motor	Direct-driven by motor	Direct-driven by motor
	Air Flow Rate		(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
		m^3/min	12.0 - 14.5 - 17.0	14.5 - 18.0 - 21.0	14.5 - 18.0 - 21.0
		L/s	200 - 242 - 283	242 - 300 - 350	242 - 300 - 350
		cfm	424 - 512 - 600	512 - 636 - 742	512 - 636 - 742
Sound Pressure Level (Measured in Anechoic Room)*2		dB <A>	(Low-Mid-High) 25-29-32	(Low-Mid-High) 26-29-34	(Low-Mid-High) 26-29-34
Insulation Material			EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam
Air Filter			PP honeycomb fabric.	PP honeycomb fabric.	PP honeycomb fabric.
Protection Devices			Fuse	Fuse	Fuse
Connectable Outdoor Unit / HBC Controller			HYBRID CITY MULTI/ CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/ CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/ 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	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.

Model			NEW PEFY-WP63VMA-E	NEW PEFY-WP71VMA-E	NEW PEFY-WP80VMA-E
Power Source			1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling Capacity	*1	kW	7.1	8.0	9.0
(Nominal)	*1	kcal/h	6,100	6,900	7,700
	*1	BTU/h	24,200	27,300	30,700
*2	Power Input	kW	0.14	0.24	0.24
*2	Current Input	A	1.15	1.47	1.47
Heating Capacity	*3	kW	8.0	9.0	10.0
(Nominal)	*3	kcal/h	6,900	7,700	8,600
	*3	BTU/h	27,300	30,700	34,100
*2	Power Input	kW	0.12	0.22	0.22
*2	Current Input	A	1.04	1.36	1.36
External Finish			Galvanized steel plate	Galvanized steel plate	Galvanized steel plate
External Dimension H x W x D		mm	250 x 1,100 x 732	250 x 1,400 x 732	250 x 1,400 x 732
		in.	9-7/8 x 43-5/16 x 28-7/8	9-7/8 x 55-1/8 x 28-7/8	9-7/8 x 55-1/8 x 28-7/8
Net Weight		kg (lbs)	31 (69)	40 (89)	40 (89)
Heat Exchanger			Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume	L	2.0	2.6	2.6
FAN	Type x Quantity		Sirocco fan x 2	Sirocco fan x 2	Sirocco fan x 2
*4	External Static Press.	Pa	<35> - 50 - <70> - <100> - <150>	<35> - 50 - <70> - <100> - <150>	<35> - 50 - <70> - <100> - <150>
		mmH_2O	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>
	Motor Type		DC motor	DC motor	DC motor
	Motor Output	kW	0.121	0.244	0.244
	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	14.5 - 18.0 - 21.0	23.0 - 28.0 - 33.0	23.0 - 28.0 - 33.0
		L/s	242 - 300 - 350	383 - 467 - 550	383 - 467 - 550
		cfm	512 - 636 - 742	812 - 989 - 1,165	812 - 989 - 1,165
Sound Pressure Level			(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
(Measured in Anechoic Room)*2		dB <A>	26-29-34	28-33-37	28-33-37
Insulation Material			EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam	EPS, Polyethylene foam, Urethane foam
Air Filter			PP honeycomb fabric.	PP honeycomb fabric.	PP honeycomb fabric.
Protection Device			Fuse	Fuse	Fuse
Connectable Outdoor Unit / HBC Controller			HYBRID CITY MULTI/ CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/ CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/ CMB-WP-V-GA1, CMB-WP-V-GB1
Water Piping Diameter *5,6	Inlet	in.	Rc 1-1/4 screw	Rc 1-1/4 screw	Rc 1-1/4 screw
	Outlet	in.	Rc 1-1/4 screw	Rc 1-1/4 screw	Rc 1-1/4 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-KE93TB-E	PAC-KE94TB-E	PAC-KE94TB-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.

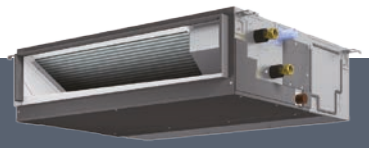
7.Please group units that operate on 1 branch.

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			NEW PEFY-WP100VMA-E	NEW PEFY-WP125VMA-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	11.2	14.0
	*1	kcal/h	9,600	12,000
	*1	BTU/h	38,200	47,800
*2	Power Input	kW	0.24	0.36
*2	Current Input	A	1.47	2.21
Heating Capacity (Nominal)	*3	kW	12.5	16.0
	*3	kcal/h	10,800	13,800
	*3	BTU/h	42,700	54,600
*2	Power Input	kW	0.22	0.34
*2	Current Input	A	1.36	2.10
External Finish			Galvanized steel plate	Galvanized steel plate
External Dimension H x W x D		mm	250 x 1,400 x 732	250 x 1,600 x 732
		in.	9-7/8 x 55-1/8 x 28-7/8	9-7/8 x 63 x 28-7/8
Net Weight		kg (lbs)	40 (89)	42 (93)
Heat Exchanger			Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume	L	2.6	3.0
FAN	Type x Quantity		Sirocco fan x 2	Sirocco fan x 2
*4	External Static Press.	Pa	<35> - 50 - <70> - <100> - <150>	<35> - 50 - <70> - <100> - <150>
		mmH_2O	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>	<3.6> - 5.1 - <7.1> - <10.2> - <15.3>
	Motor Type		DC motor	DC motor
	Motor Output	kW	0.244	0.244
	Driving Mechanism		Direct-driven by motor	Direct-driven by motor
	Air Flow Rate		(Low-Mid-High)	(Low-Mid-High)
		m^3/min	23.0 - 28.0 - 33.0	29.5 - 35.5 - 42.0
		L/s	383 - 467 - 550	492 - 592 - 700
		cfm	812 - 989 - 1,165	1,042 - 1,254 - 1,483
Sound Pressure Level (Measured in Anechoic Room)*2		dB <A>	(Low-Mid-High)	(Low-Mid-High)
			28-33-37	32-36-40
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			HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB	HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1
Water Piping Diameter *5,6	Inlet	in.	Rc 1-1/4 screw	Rc 1-1/4 screw
	Outlet	in.	Rc 1-1/4 screw	Rc 1-1/4 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-KE94TB-E	PAC-KE95TB-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 CASSETTE

Model				PLFY-WP32VBM-E	PLFY-WP40VBM-E	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				Galvanized steel sheet	Galvanized steel sheet	Galvanized 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 (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum 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
	External Static Press		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)
			dB <A>	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				HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1		
Water Piping Diameter *3,4	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)
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.

COMPACT CEILING CASSETTE

Model			NEW PLFY-WP10VFM-E	NEW PLFY-WP15VFM-E	NEW PLFY-WP20VFM-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	1.2	1.7	2.2
	*1	kcal/h	1,000	1,500	1,900
	*1	BTU/h	4,100	5,800	7,500
Power Input		kW	0.02	0.02	0.02
Current Input		A	0.18	0.19	0.22
Heating Capacity	*2	kW	1.4	1.9	2.5
	*2	kcal/h	1,200	1,600	2,200
	*2	BTU/h	4,800	6,500	8,500
Power Input		kW	0.02	0.02	0.02
Current Input		A	0.13	0.14	0.17
External Finish			Galvanized steel sheet	Galvanized steel sheet	Galvanized steel sheet
External Dimension H x W x D		mm	208 x 570 x 570	208 x 570 x 570	208 x 570 x 570
		in.			
Net Weight		kg (lbs)	13(29)	13(29)	14(31)
Heat Exchanger			Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
Water Volume		L	0.5	0.5	0.9
FAN	Type x Quantity		Turbo Fan × 1	Turbo Fan × 1	Turbo Fan × 1
External Static Press		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-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
		m³/min	6.0 - 6.5 - 7.0	6.0 - 7.0 - 8.0	6.5 - 7.0 - 8.0
		L/s	100 - 110 - 115	100 - 115 - 135	110 - 115 - 135
		cfm	210 - 230 - 245	210 - 245 - 280	230 - 245 - 280
Sound Pressure Level			(Low-Mid-High)	(Low-Mid-High)	(Low-Mid-High)
		dB <A>	25 - 26 - 27	25 - 26 - 29	27 - 29 - 31
Insulation Material			PS	PS	PS
Air Filter			PP honeycomb	PP honeycomb	PP honeycomb
Protection Device			Fuse	Fuse	Fuse
Connectable Outdoor Unit/HBC Controller			HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1		
Water Piping Diameter *3,4	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)
Optional parts	Decoration Panel	*5	SLP-2FA/SLP-2FAE/SLP-2FAL/SLP-2FALE	SLP-2FA/SLP-2FAE/SLP-2FAL/SLP-2FALE	SLP-2FA/SLP-2FAE/SLP-2FAL/SLP-2FALE
	i-See Sensor corner panel		PAC-SF1ME-E	PAC-SF1ME-E	PAC-SF1ME-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-VFM-E should be used together with Decoration panel.

Unit converter

kcal / h =kW × 860
BTU / h =kW × 3,412
cfm =m³ / min × 35.31
lbs =kg / 0.4536

*Above specification data is subject to rounding variation.

NEW PLFY-WP25VFM-E	NEW PLFY-WP32VFM-E
1-phase 220-230-240 V 50/60Hz	1-phase 220-230-240 V 50/60Hz
2.8	3.6
2,400	3,100
9,600	12,000
0.03	0.04
0.24	0.38
3.2	4.0
2,800	3,440
11,000	14,000
0.02	0.04
0.19	0.33
Galvanized steel sheet	Galvanized steel sheet
208 x 570 x 570	208 x 570 x 570
14(31)	14(31)
Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
0.9	0.9
Turbo Fan × 1	Turbo Fan × 1
0	0
DC motor	DC motor
0.05	0.05
Direct-driven by motor	Direct-driven by motor
(Low-Mid-High)	(Low-Mid-High)
6.5 - 7.5 - 9.0	6.5 - 9.0 - 12.0
110 - 125 - 150	110 - 150 - 200
230 - 265 - 320	230 - 320 - 425
(Low-Mid-High)	(Low-Mid-High)
27 - 30 - 34	27 - 33 - 41
PS	PS
PP honeycomb	PP honeycomb
Fuse	Fuse
HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1	
Rc 3/4 screw	Rc 3/4 screw
Rc 3/4 screw	Rc 3/4 screw
O.D.32 (1-1/4)	O.D.32 (1-1/4)
SLP-2FA/SLP-2FAE/SLP-2FAL/SLP-2FALE	SLP-2FA/SLP-2FAE/SLP-2FAL/SLP-2FALE
PAC-SF1ME-E	PAC-SF1ME-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-VFM-E should be used together with Decoration panel.

Unit converter

kcal / h	=kW × 860
BTU / h	=kW × 3,412
cfm	=m³ / min × 35.31
lbs	=kg / 0.4536

*Above specification data is subject to rounding variation.

FLOOR STANDING CONCEALED

Model				PFFY-WP20VLRMM-E	PFFY-WP25VLRMM-E	PFFY-WP32VLRMM-E
Power Source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling Capacity (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				Galvanized steel plate	Galvanized steel plate	Galvanized steel plate
External Dimension H x W x D			mm	639 x 886 x 220	639 x 1,006 x 220	639 x 1,006 x 220
			in.	25-3/16 x 34-15/16 x 8-11/16	25-3/16 x 39-5/8 x 8-11/16	25-3/16 x 39-5/8 x 8-11/16
Net Weight			kg (lbs)	22 (49)	25 (56)	25 (56)
Heat Exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
		Water Volume	L	0.9	1.3	1.3
FAN		Type x Quantity		Sirocco fan x 1	Sirocco fan x 2	Sirocco fan x 2
	*4	External Static Press.	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	dB <A>	(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				HYBRID CITY MULTI/ CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/ CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/ 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.)	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.

Model				PFFY-WP40VLRMM-E	PFFY-WP50VLRMM-E
Power Source				1-phase 220-230-240 V 50/60 Hz	1-phase 220-230-240 V 50/60 Hz
Cooling Capacity (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				Galvanized steel plate	Galvanized steel plate
External Dimension H x W x D			mm	639 x 1,246 x 220	639 x 1,246 x 220
			in.	25-3/16 x 49-1/16 x 8-11/16	25-3/16 x 49-1/16 x 8-11/16
Net Weight			kg (lbs)	29 (64)	29 (64)
Heat Exchanger				Cross fin (Aluminum fin and copper tube)	Cross fin (Aluminum fin and copper tube)
	Water Volume		L	1.5	1.5
FAN	Type x Quantity			Sirocco fan x 2	Sirocco fan x 2
*4	External Static Press.		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				(Low-Mid-High)	(Low-Mid-High)
			dB <A>	34-37-40	37-42-45
Insulation Material				Polyethylene foam, Urethane foam	Polyethylene foam, Urethane foam
Air Filter				PP honeycomb fabric.	PP honeycomb fabric.
Protection Device				Fuse	Fuse
Connectable Outdoor Unit/HBC Controller				HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1	HYBRID CITY MULTI/CMB-WP-V-GA1, CMB-WP-V-GB1
Water Piping Diameter *5,6	Inlet		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.

Patented Hybrid VRF Technology

"True flexibility is achieved as the system is modular for a manageable phased installation."

Notes

for a greener tomorrow

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

For more information on Mitsubishi Electric Heat Pumps, please call our customer service team on **0800 784 382**

MITSUBISHI ELECTRIC

www.mitsubishi-electric.co.nz

Black Diamond Technologies

Exclusive distributor of Mitsubishi Electric products in New Zealand.

WELLINGTON
HEAD OFFICE

1 Parliament Street
PO Box 30772
Lower Hutt 5040

Phone (04) 560 9147
Fax (04) 560 9133

AUCKLAND
BRANCH

Unit 1, 4 Walls Road
PO Box 12726
Penrose, Auckland 1642

Phone (09) 526 9347

CHRISTCHURCH
BRANCH

44 Halwyn Drive
PO Box 16904
Hornby, Christchurch 8441

Phone (03) 341 2837