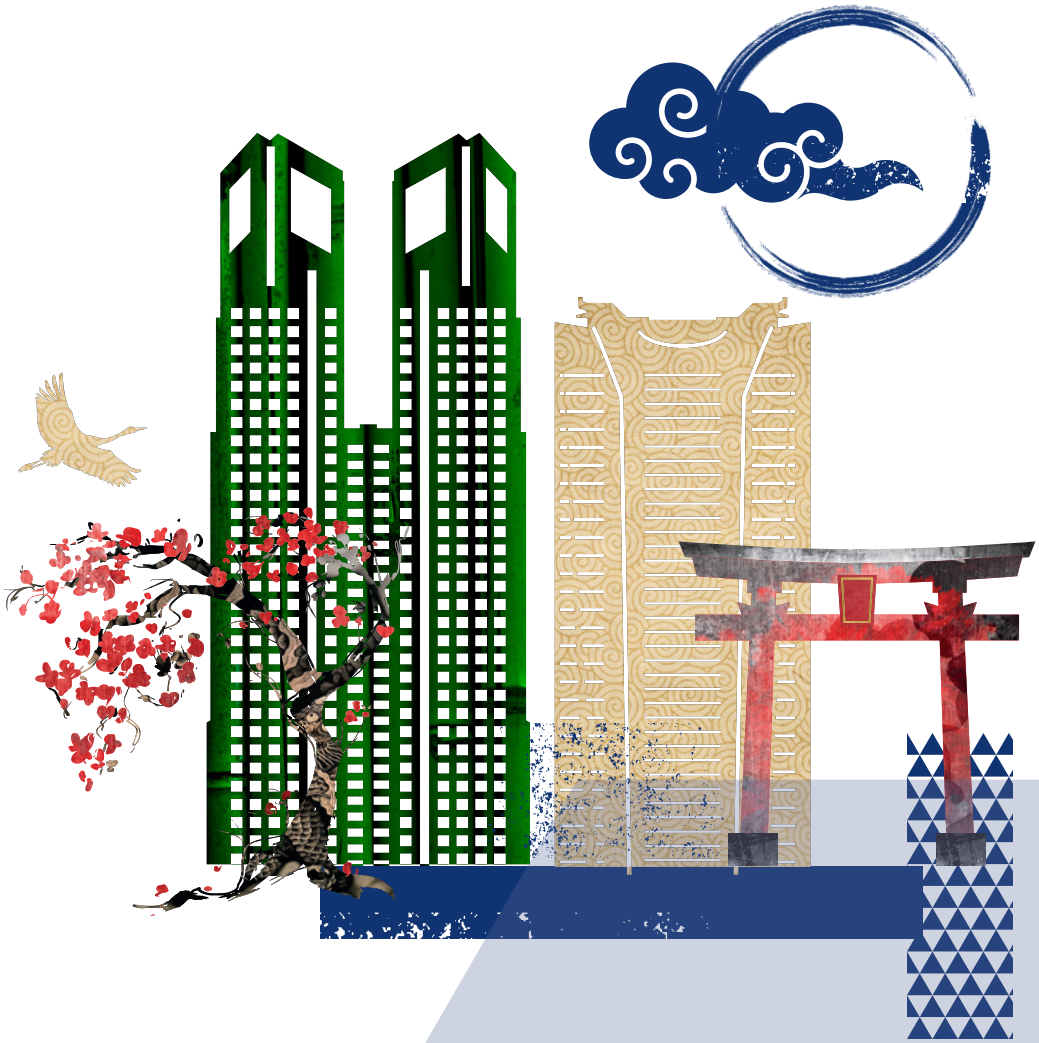
MITSUBISHI ELECTRIC

LIVING ENVIRONMENTAL SYSTEMS



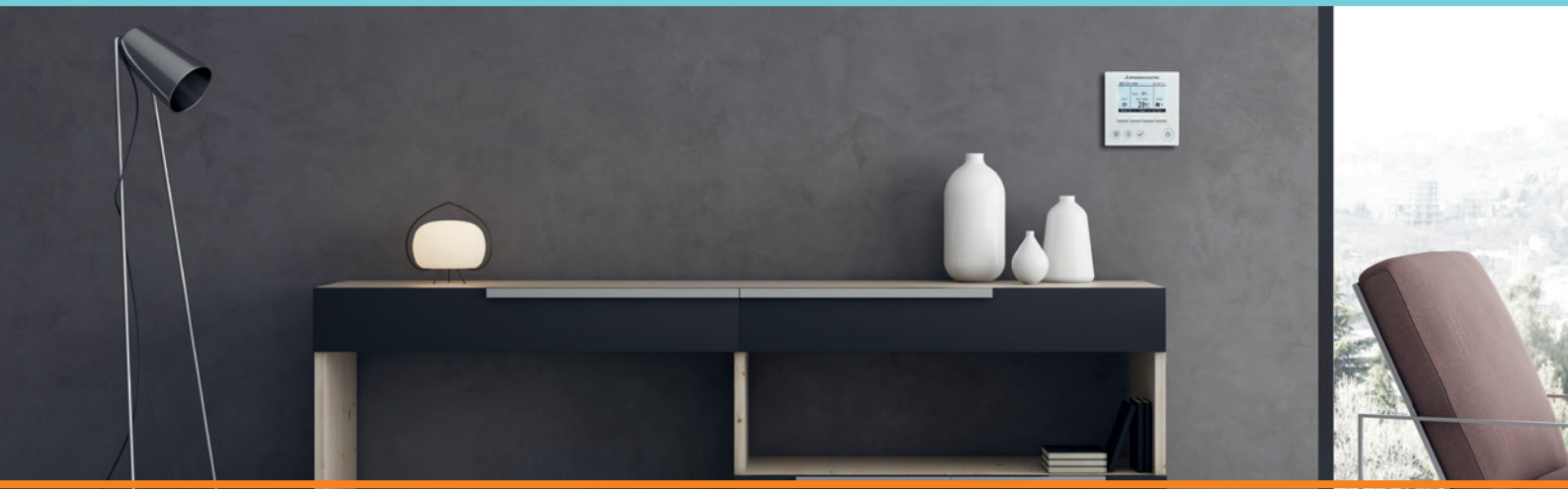
CITY MULTI VRF Systems

Ecostandard line-up catalogue 2023

VRF Systems, Heating, Ventilation and Control Systems


MITSUBISHI
ELECTRIC
LIVING ENVIRONMENTAL SYSTEMS

VRF Ecostandard line-up



NEW

VRF System CITY MULTI Ecostandard Line

Y Ecostandard Heat Pump Line PUHY P Y(S)KD

The new YKD Series - Ecostandard Heat Pump Line it's a New generation of Outdoor units that replace the conventional series (YKA) and surpass in rates and partial-load performance.

Y Ecostandard Cooling Only Line PUCY P Y(S)KD

The new YKD Series - Ecostandard Cooling Only Line it's a New generation of Outdoor units, optmizer for cooling operation, developped to have the best cooling performance.

Y Eco standard Heat pump LINE	Y Eco standard Cooling only LINE
PUHY P Y(S)KD	PUCY P Y(S)KD

Y Eco standard Cooling only LINE Y Eco standard Heat pump LINE	**CITY MULTI** **Y ECOSTANDARD SYSTEM**	Heat pump systems optimized for cooling operation

PUCY

S module

L module

XL module

	HP	8	10	12	14	16	18	20	22	24	26	28
	Model	**P200**	**P250**	**P300**	**P350**	**P400**	**P450**	**P500**	**P550**	**P600**	**P650**	**P700**
Ecostandard LINE Cooling Only	S	8	10	12					10 12	10	10	10
	L				14	16	18			14	16	18
	XL							20				

	HP	8	10	12	14	16	18	20	22	24	26	28
	Model	**P200**	**P250**	**P300**	**P350**	**P400**	**P450**	**P500**	**P550**	**P600**	**P650**	**P700**
Ecostandard LINE Heat Pump	S	8	10	12					10 12	10	10	10
	L				14	16	18			14	16	18
	XL							20				

COOLING ONLY
PUCY-P Y(S)KD(-BS)

HEAT PUMP
PUHY-P Y(S)KD(-BS)

PUHY

S module

L module

XL module

	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
	P750	P800	P850	P900	P950	P1000	P1050	P1100	P1150	P1200	P1250	P1300	P1350	P1400	P1450	P1500
	12						12 12	12								
	18	16 16	16 18	18 18	18		18	14 18	14 16 16	16 16 16	16 16 18	16 18 18	18 18 18	18 18	18	
					20	20 20								20	20 20	20 20 20

	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
	P750	P800	P850	P900	P950	P1000	P1050	P1100	P1150	P1200	P1250	P1300	P1350	P1400	P1450	P1500
	12						12 12	12								
	18	16 16	16 18	18 18	18		18	14 18	14 16 16	16 16 16	16 16 18	16 18 18	18 18 18	18 18	18	
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New Ecostandard Line
YKD Series

Enhanced Energy Saving

Saving energy is becoming ever more important all around the world. Mitsubishi Electric is at the forefront of this development, with advanced products that realize high-quality energy saving solutions for customers in all fields.

The new series not only realizes high energy savings and quality performance from Mitsubishi Electric, they also feature further improved reliability. This is especially important in the African climate which requires enhanced cooling capacity at high outside air temperatures.

High rated performance

Compared to conventional products (YKA series), the new YKD series achieves improved EER in all cooling-only models and heat pump models from 8 to 60HP. The 8HP model (PUCY-P200YKD) boasts 21% improvement.

High partial-load performance

The new models surpass the conventional series (YKA) not only in rated specifications but also in terms of partial-load performance. During mornings and evenings, when the temperature is lower and less cooling power is required, better efficiency also enables significant energy savings.

Energy saving assist function

The functions makes it possible to optimize energy saving performance by closely matching the requirements of the installation location. This makes it possible to achieve results that surpass the specifications of the product, contributing to truly energy-saving buildings.

Cooling capacity at high outdoor air temperatures

- Operation guaranteed up to an outside air temperature (intake temperature) of 52°C
- New assist function for enhanced cooling power at high outside air temperatures
- Rapid mode reduces startup time

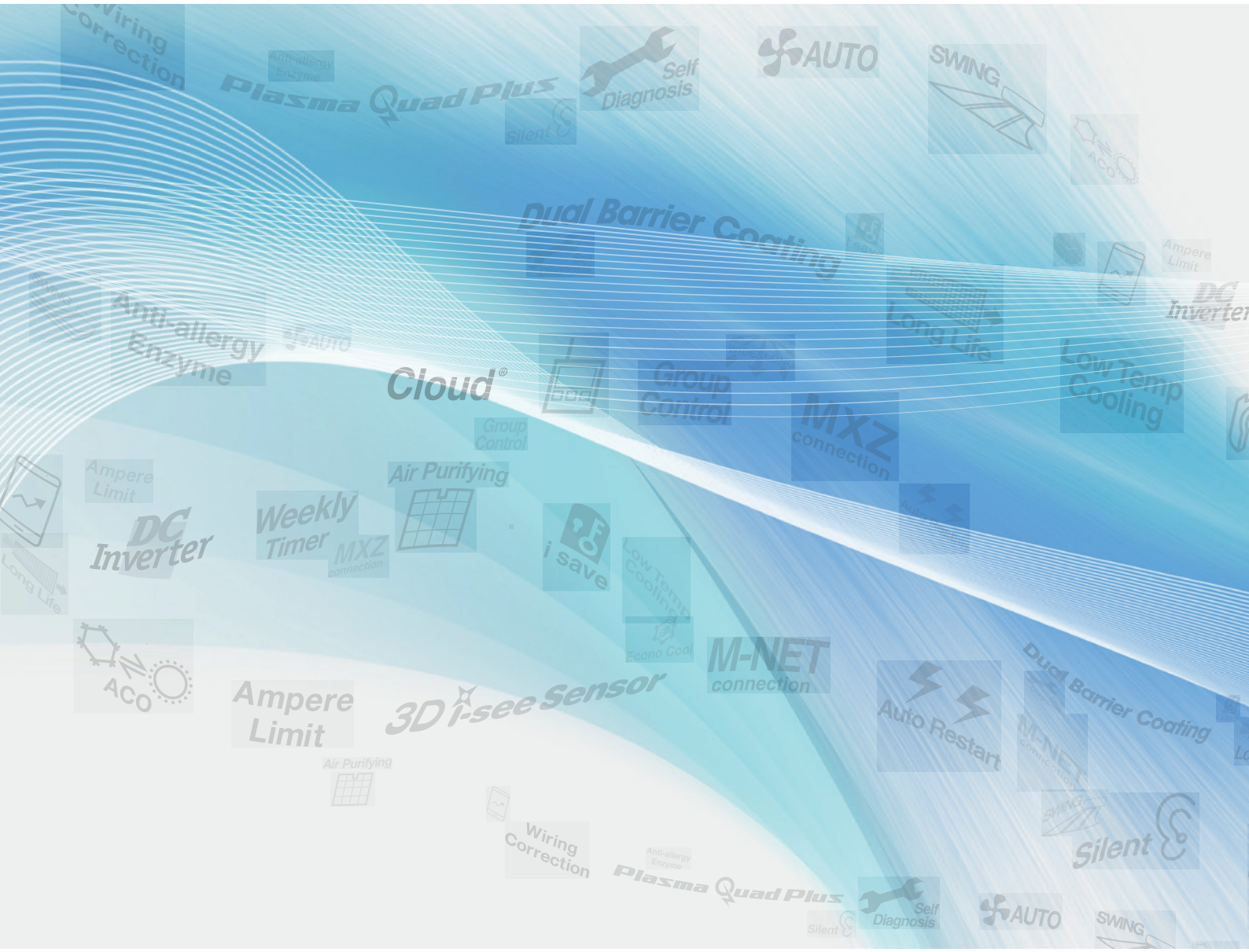
YKD-SERIES - S MODULE

YKD-SERIES - L MODULE

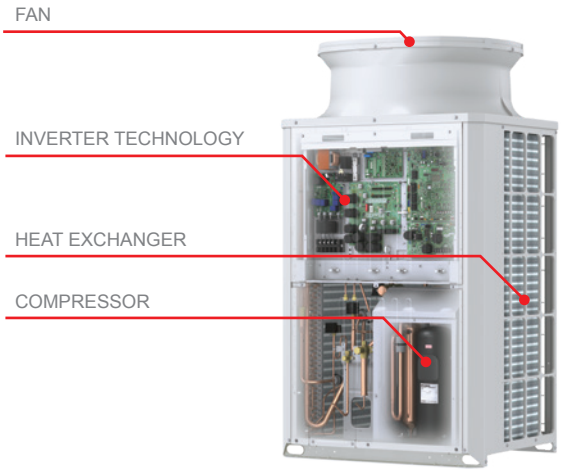
YKD-SERIES - XL MODULE

Key Technologies

Mitsubishi Electric: state of the art technology and continuous pursuit of improvement. Quality, innovation and performance of VRF CITY MULTI systems.



All major parts of YKD series products reflect technological excellence of Mitsubishi Electric. This results in high energy efficiency, enhanced cooling capacity at high outside air temperatures, and further improved reliability.



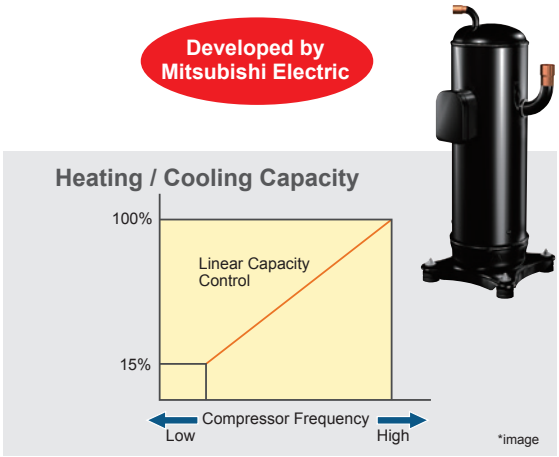
Tecnology

Inverter technology

As a manufacturer of general electric equipment, our inverter-related components are developed and manufactured using Mitsubishi Electric technology.

All compressors are inverter-driven type and develeoped and manufactured by Mitsubishi Electric

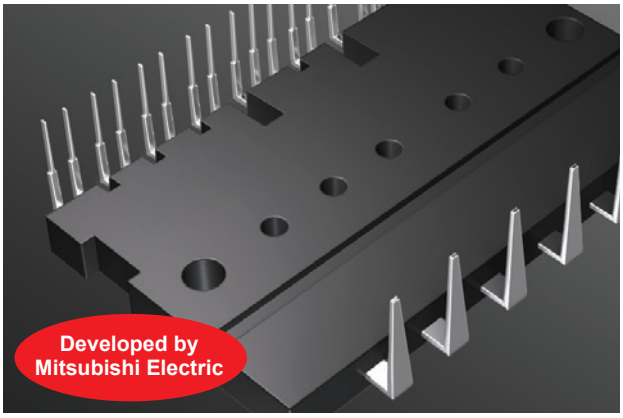
The compressor varies its speed to match the indoor cooling or heating demand, thus it only consumes the energy amount of energy required.
When an inverter driven system is operating at partial load, the energy efficiency of the system is significantly higher than that of a standard fixed speed, non inverter system. The fixed speed system can only operate at 100%, although full load condition is not prevailed all time. Therefore, fixed speed systems cannot match the annual efficiency of inverter driven systems.



* Values vary depending on actual conditions, such as ambient temperature.

Intelligent Power Module (IPM) manufactured by Mitsubishi Electric

Power modules manufactured by Mitsubishi Electric are installed in the compressor, which is the core component, as well as in the inverter circuit board that drives the fan. Furthermore, a specialized drive circuit that ensures excellent performance make a high-quality, high-performance inverter possible.
IPM technology ensures effective operation even at lower partial load and realizes automatic control to operate the air conditioners appropriately according to the situation, resulting in energy savings.



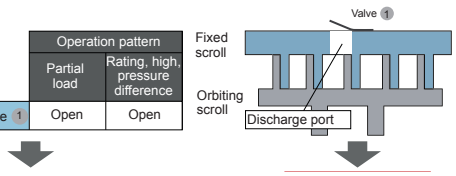
HIGH EFFICIENCY Compressor High Efficiency Compressor

Multi-port mechanism

Efficient partial load operation is realised by avoiding overcompession. With the scroll compressor, the distance of the compression process in the scroll is usually fixed, so over-compression occurs during low loads and low rotation. The new compressor is equipped two sub-ports in addition to the conventional discharge port to reduce this over-compression loss during low loads. In operation conditions having a low compression rate, the distance in the compression process is kept short by that successfully avoiding unnecessary compression, and contributing to efficient partial load operation.

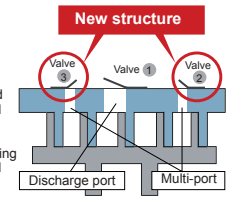
CONVENTIONAL STRUCTURE

		Operation pattern	
		Partial load	Rating, high, pressure difference
Main port	Valve ①	Open	Open



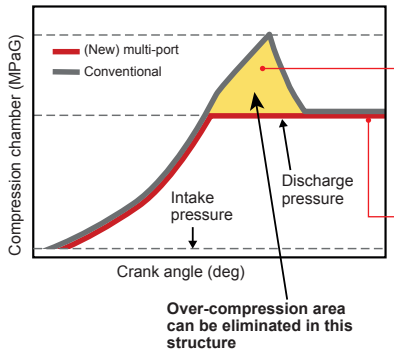
NEW STRUCTURE WITH MULTI-PORT DESIGN

		Operation pattern	
		Partial load	Rating, high, pressure difference
Main port	Valve ①	*Open	Open
Sub port	Valve ②	Open	Closed
	Valve ③	Open	Closed



*The sub-port is opened during partial load operation to discharge the over-compressed gas.

REDUCED OVER-COMPRESSION LOSS (MULTI-PORT)



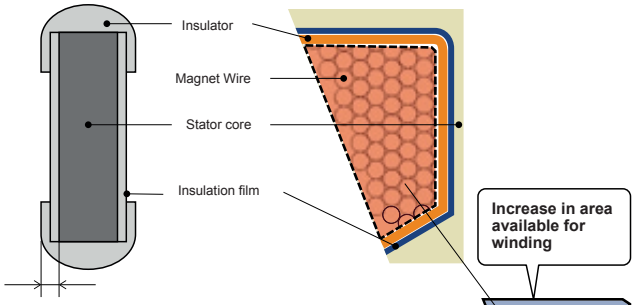
Conventional model
Conventionally, gas refrigerant is compressed to a set pressure, and then lowered to the target discharge pressure at which it is discharged. This causes drive losses from over-compression.

Multi-port
When the target discharge pressure is reached, the multiport opens, and the gas refrigerant is discharged. This reduces drive losses caused by over-compression.

Improved high-efficiency motor

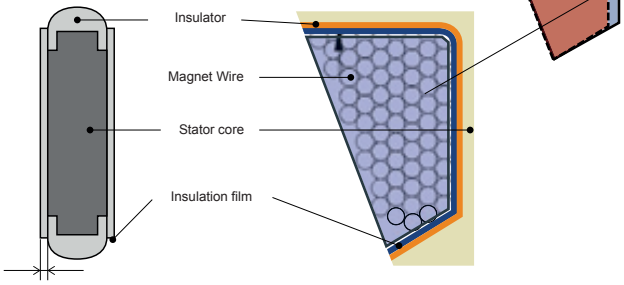
The insulator section that traditionally created a dead space is eliminated by insulating the motor's stator film. Since winding can be set in that section, the winding area can be increased by approx. 9%. The wire diameter has also been increased by two ranks, so the resistance between terminals is reduced, and the insulation distance is shorter. This improves the motor's operation performance and contributes to high-efficiency operation of the compressor.

CONVENTIONAL MODEL



The insulator section is large, and the area where the copper wire can be wound is small.

NEW MODEL



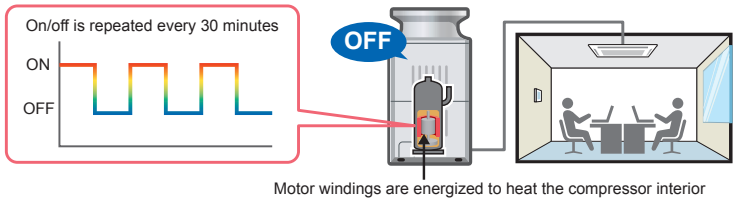
The motor can be wound in the section where the insulator was, and a larger wire diameter can be used.

IH (internal heater) power supply method

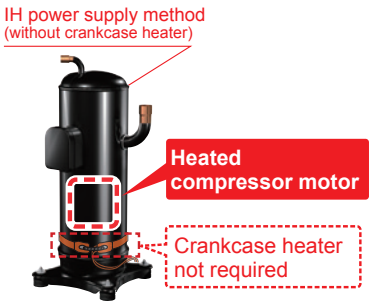
In order to prevent refrigerant and oil from mixing while the air conditioner is stopped, it is necessary to always warm the compressor. Mitsubishi Electric provides the required heating by energizing the windings of the compressor (using a voltage that does not drive the compressor motor) instead of a belt type heater that applies heat from the outside, result-ing in reduced loss and lower power consumption. In addition, remains on for 30 minutes after operation is stopped, and subsequently is switched on and off every 30 minutes. Standby power consumption therefore is lower than with a belt heater that is constantly powered.

* Normally, the compressor is heated while the outdoor unit is stopped to prevent liquid refrigerant from remaining in the compressor and to evaporate the liquid refrigerant in the compressor.

OPERATION DURING AIR CONDITIONER STOP



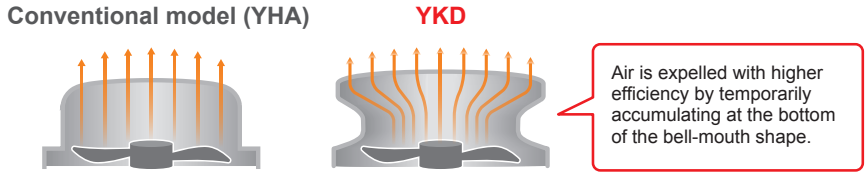
Internal heating reduces power consumption during standby.
This provides an advantage over designs that are constantly powered.

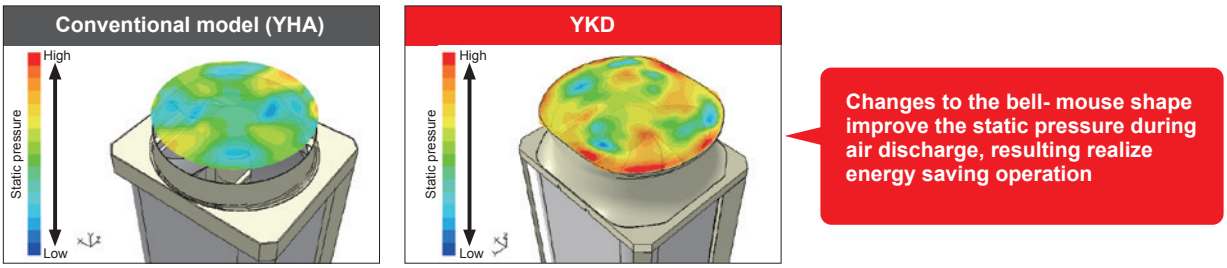


Fan

Bell-mouth shape design realizes higher air discharge efficiency

This design reduces the fan input value and contributes to energy savings. In addition, more efficient air discharge improves stability during operation at high outside air temperatures.

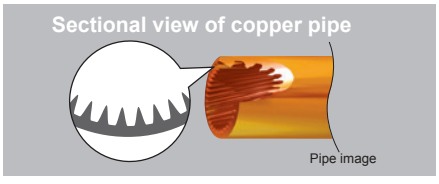




Heat exchanger

Grooves are formed in the copper pipe to improve the heat exchange performance.

The grooved structure in the copper pipe of the heat exchanger increases the heat exchange area to contact with refrigerant.



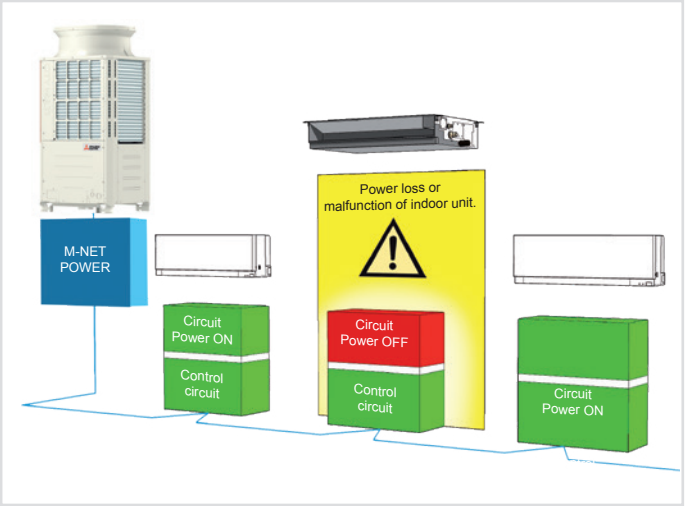
Functions

M-Net Power

With the M-Net transmission line and the use of separate power and control circuits for indoor units, the following states can be identified automatically:

- indoor unit malfunction
- power loss to indoor unit.

In the event of one of these conditions, the outdoor unit isolates the malfunctioning indoor unit or indoor unit receiving no power to ensure the continued electrical and refrigeration functionality of the system with no action required from a technician and/or a system administrator. This allows total flexibility in planning and laying out 220V AC power circuits, without the need for shared main lines and without requiring any additional devices to attain compliance with legislation for electrical systems. This circuit configuration is essential for situations where the system itself is shared by multiple owners or tenants, and where each must be able to electrically isolate their respective indoor terminal sections when required.



Extension of operating limit in Cooling to 52°C

Cooling operation possible up to intake temperature of 52°C

In built-up areas with a high density of buildings, winds may be blocked, causing an accumulation of warm air in the vicinity o the outdoor unit. Because the operation range of the YKD series has been guaranteed up to 52°C operation will remain stable even in such situations.

TEMPERATURE RANGE FOR COOLING

PUHY-P YKD

-5°C [23°F]

to

52°C [125°F]

* Cooling performance will drop at temperatures exceeding 35°C.

TEMPERATURE RANGE FOR COOLING

PUCY-P YKD

10°C [23°F]

to

52°C [125°F]

* Cooling performance will drop at temperatures exceeding 35°C.

Low Noise Mode

This mode reduces noise by limiting the compressor frequency and the number of rotations made by the outdoor fan. The user can select their preferred level.

PUHY-P200YKD

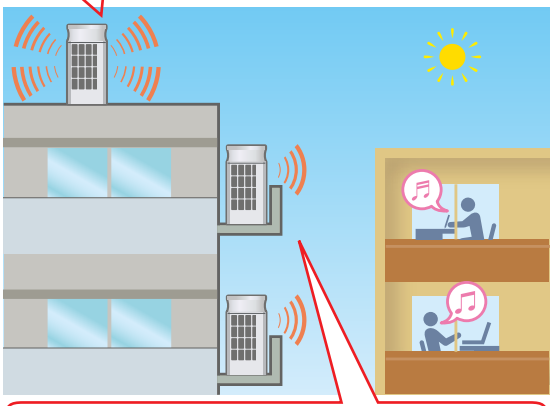
Standard 57dB

13dB down

Low noise mode 44dB

- Increased adaptability and model selection range for buildings where low noise is essential
- Low noise mode can also be selected after delivery using DIP switches
- Low noise mode can also be scheduled from AE-200E

Outdoor unit installed on roof operates in standard mode



Outdoor unit installed on balconies operate in low noise mode

Emergency backup function

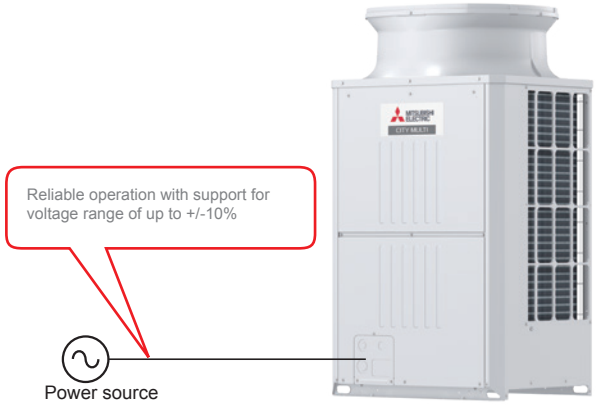
Emergency operation is possible with the indoor unit's remote control. With the combination model, if one outdoor unit is malfunctioning, the other outdoor unit performs emergency operation.
The backup function allows the system to continue operating in heating and cooling mode for an average period of 4 hours.

Rotation function

With the combination model, the outdoor units operate alternately. This reduces the operating load and leads to a longer service life. After operation for 2 hours or more, the next operation will be started from the outdoor unit "2." The unit to be started first is changed to equalize the operating time of the units.

Allowable operating up to ±10% voltage range

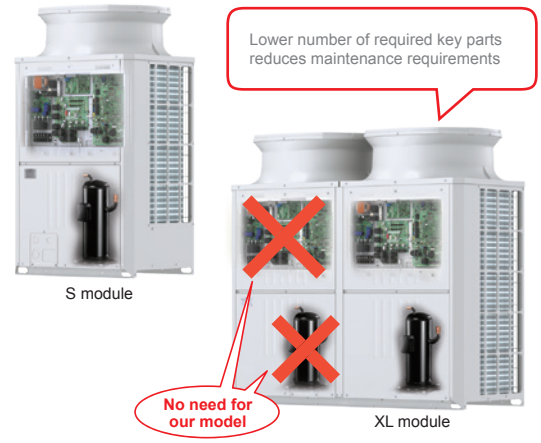
Operation of this model is guaranteed even for voltages up to 10% more or less than the indicated allowable voltage.



* When used 380V, operation is guaranteed even for voltages of up to maximum +20%

Operation with one compressor up to 20HP

Outdoor units can be operated by one compressor, which contributes to improve service with less refrigerant piping work and compornents.



Energy efficiency control

Evaporating temperature control (during cooling)

In a traditional system, the evaporation temperature is kept constant regardless of the system load conditions. In low load conditions (when thermal loads to be dealt with are limited) increasing the evaporation temperature of the system decreases the compressor's workload and consequently limits the electrical absorption of the outdoor unit without affecting the environmental comfort level.

EVAPORATING TEMPERATURE CONTROL (DURING COOLING) NORMAL MODE

The evaporating temperature is kept constant regardless of the load. Even at low loads, the normal evaporating temperature does not change, which leads to energy losses during partial load operation.

SMART EVAPORATING TEMPERATURE CONTROL MODE

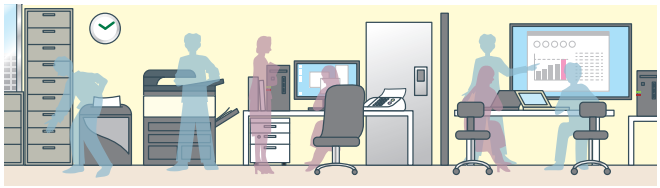
The evaporating temperature is increased and the compressor input is decreased according to the load, resulting in increased operating efficiency.
There are two patterns to control the evaporating temperature as follows.

1) The evaporating temperature is controlled to be constant, regardless of the ΔT. The evaporating temperature is set to a value that is higher than the normal evaporating temperature.

2) The evaporating temperature is controlled by shifting it according to the ΔT. The user can select from 4 control patterns.

* The availability of 1 and 2 varies depending on the model. Refer to the function table.
* Changing the evaporating temperature reduces latent heat capacity. Select an appropriate pattern according to the installation conditions.

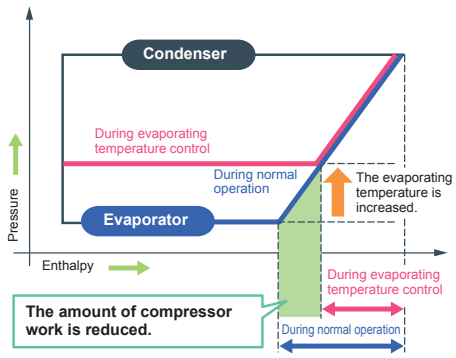
SUITABLE SITUATIONS



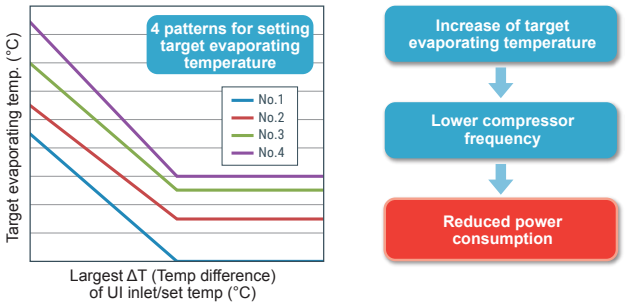
- Spaces with constant high temperatures from heat sources such as OA equipment
- When the load is low during periods when air conditioners are used for cooling (such as during the morning).

The new outdoor units are equipped with an evaporation temperature selection function, which automatically takes the system load conditions into account.

1) EVAPORATING TEMPERATURE CONTROL IMAGE



2) EVAPORATING TEMPERATURE CONTROL IMAGE (WITH 4 PATTERNS)

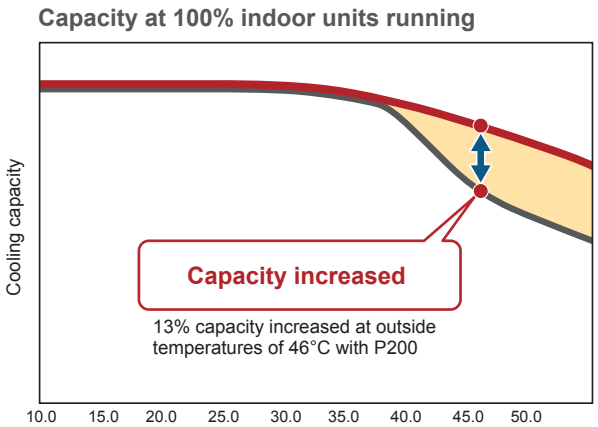


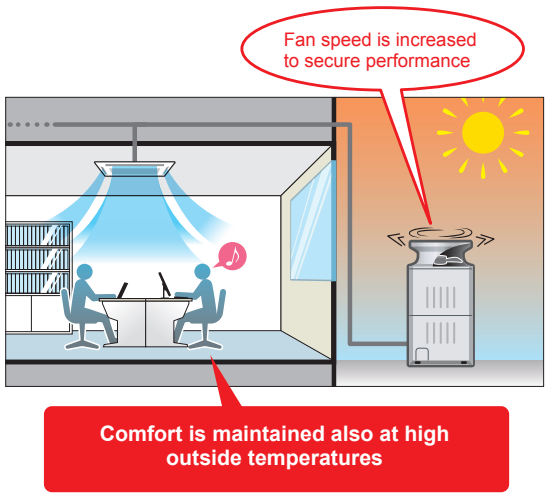
*1) To change the evaporating temperature setting, it is necessary to change the setting of the dip switch on the outdoor unit.
*2) When the difference between the indoor unit air-intake temperature and the actual temperature setting exceeds 1°C, the evaporating temperature based on this difference is constant.

Capacity assist mode

During cooling operation in high outside temperature, cooling capacity tends to be decreased. The new series provides a mode where the fan speed is automatically raised when the outside temperature reaches or exceeds around 38°C. This prevents a drop in cooling capacity during operation at high outside air temperatures. Comfort is improved, thanks to continued high performance of the unit.

* Requires a DIP switch setting
* This function will be disabled when the unit is set to the outdoor high static pressure setting or to the night mode setting.
The outdoor unit will make more noise due to an increased airflow. Choose the mode according to installation requirements.

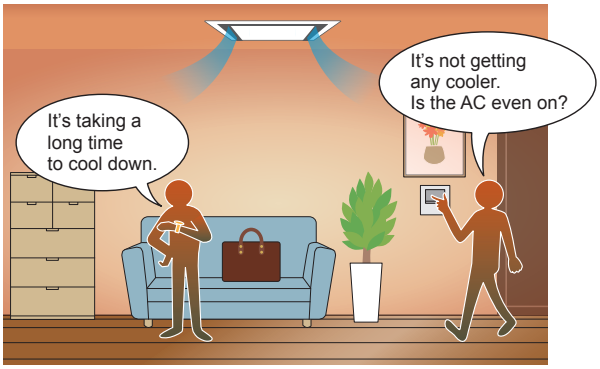




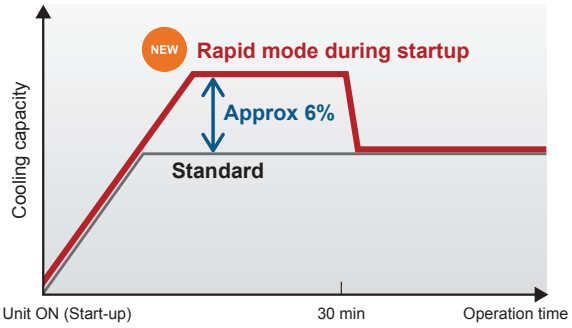
Rapid mode during startup (Quick-start up)

The rotation speed of the compressor can be raised during the first 30 minutes after cooling or heating startup, to quickly mode where the fan speed is automatically raised when the outside temperature reaches or exceeds around 38°C. This prevents a drop in cooling capacity during operation at high outside air temperatures. Comfort is improved, thanks to continued high performance of the unit.

* Requires a DIP switch setting
* Selecting this mode may increase operation noise. Choose the mode according to installation requirements.



The room does not cool off very quickly, and it takes a while before the room becomes comfortable.

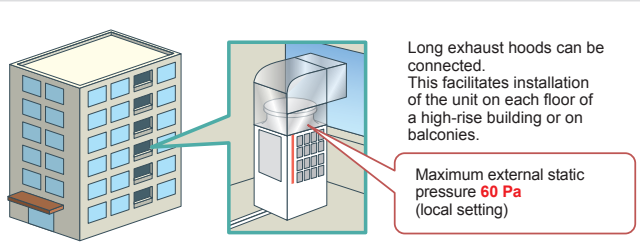


Installation and maintenance

Selectable external static pressure of the outdoor unit

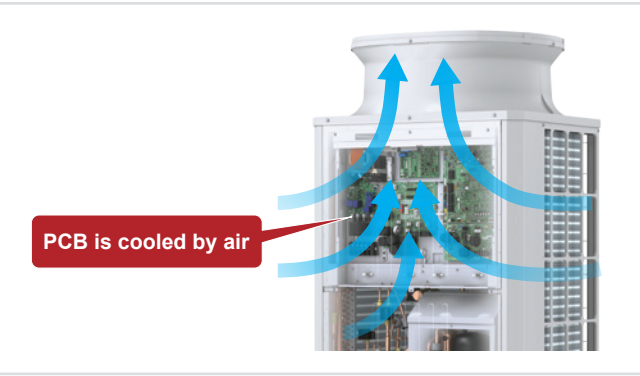
The static pressure specification of the outdoor unit can be selected (0, 30 or 60 Pa). This facilitates installation of the unit on each floor of a high-rise building or on balconies.

* The static pressure that can be set varies depending on the model.



Naturally cooled PCB (Print circuit board)

PCBs (printed circuit boards) carry a large number of electronic components. When operation load increases, suitable cooling measures are required. Mitsubishi Electric places PCBs in the natural air flow path which enables air cooling to maintain efficiency and improve reliability of each electronic component.



Access from front panel

Electrical parts are concentrated in the upper part of the panel which can be opened for easy replacement of PCBs if required.Because the compressor is located in the lower right when the panel is opened, the service technician can easily perform maintenance from the front.

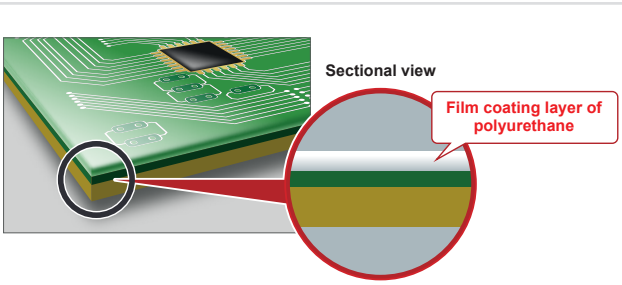
Corrosion resistance

Even in installation environments near coastal areas, Mitsubishi Electric products reduce the effects of corrosion due to salt damage by using a special coating designed for outdoor units.

* Effectiveness varies depending on the installation location.

Film coating on PCB (Print circuit board)

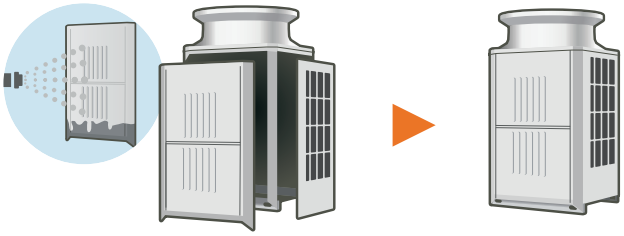
The printed circuit boards are protected by a film coating of polyurethane that covers the entire board to ensure resistance against salt corrosion.



* Standard model is only coated the part whose wiring clearance is narrow.

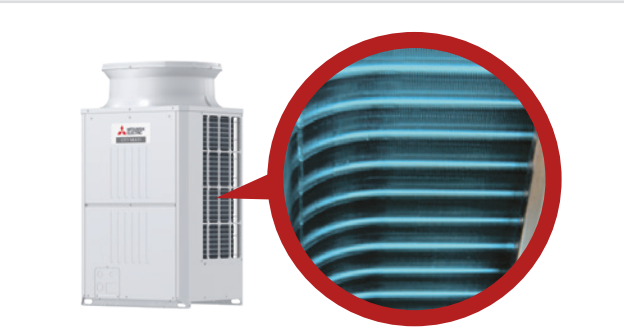
Polyester coated steet

To prevent corrosion of the unit even in locations subject to the influence of sea breezes, the outdoor units are made with polyester coated steel sheets compliant with the JRA 9002 standard. The panel coating is used both on standard models and BS models, while BS models also include a thicker coating.



Fin treatment on heat exchanger

The anti-corrosion Fin treatment on the heat exchanger is especially effective in urban environments where traffic pollutions can damage the aluminum fins, reducing the capacity and life expectancy of the unit. All YKD series feature this Fin treatment.



Mitsubishi Electric for sustainability

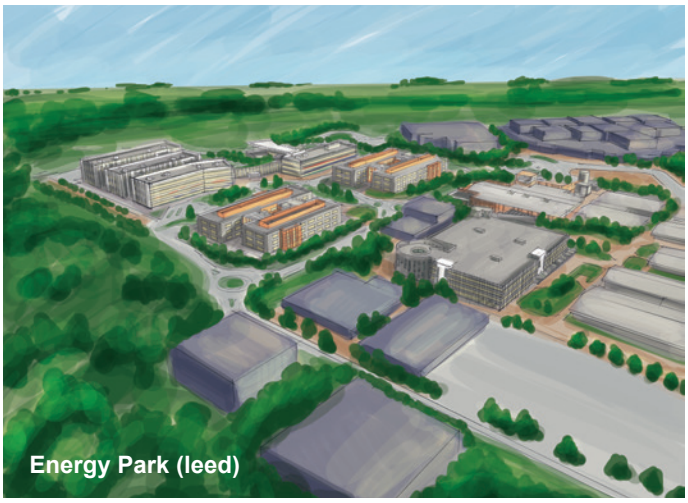
Thanks to our network of qualified professionals, we can contribute to obtain BREEAM and LEED certifications during the design stage.

Our sustainable solutions will help you improve your BREEAM and LEED rating. We at Mitsubishi Electric have carried out BREEM- and LEED-certified projects across Europe.

Environmental sustainability

CITY MULTI

BREEAM® **Launched in the 1990s, BREEAM is one of the best-known tools to assess and certify the sustainability performance of a building.**
BREEAM is based on a rating that is clear and transparent for both the client and the professionals operating in the construction industry. All this has a positive impact on the activities carried out from the design stage to when the building is used.


Energy Park (leed)

The LEED certification plays a primary role in energy and environmental design. It ensures the use of efficient and sustainable resources, as well as environmentally friendly management of the building.
The assessment criteria include sustainability of the site, energy, materials and resources used, quality of the air, internal environment, design and innovation.
There are four levels of certification: Basic, Silver, Gold, and Platinum.


Gioia 22 (leed)

Ecodesign - The ErP Directive

The European ecodesign directive on energy-related products (ErP) has become even more stringent to reduce greenhouse gas emissions resulting from the construction and real estate industries, overall energy consumption, and accelerate the transformation of this market with energy-efficient products.

An air conditioning system will change the performance with the changing of the seasons. That's why it's important to calculate its seasonal energy efficiency ratio (SEER) and the seasonal coefficient of performance (SCOP).
The ecodesign directive establishes the minimum efficiency requirements and a new method for measuring performance. The directive was implemented in the EU through the EN14825 standard, which establishes the seasonal performance factors of a climate control system.

Scan the QR code
to visit the website

Visit the website
erp.mitsubishielectric.eu/erp

BIM - Building information modelling

CITY MULTI

BIM is a collaborative way of working that allows the design team to share a virtual information model of a building and analyse its life cycle from design to demolition, highlighting any criticality of the technologies used.

This approach helps increase productivity and sustainability while improving risk management and reducing waste and costs.

BIM is not a tool. It's a method for working and sharing information that requires teamwork and collaboration, from when a building is first designed and commissioned to when it's used.

BIM can include any information about the building or parts of it. Usually, the information collected is about the geographic location, geometry, properties of the materials and technical elements, execution phases, and maintenance operations.

We at Mitsubishi Electric share our BIM files through the MEP content platform.

Click this link to access our BIM library
www.mepcontent.com/en/bim-files/

Are you a designer of HVAC systems?
Then MMESD (Mitsubishi Electric System Designer) for Revit and AutoCAD is the add-on you need.

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You can use CAD files and Mitsubishi Electric Revit families to design in BIM successfully. If you have any doubts, our video tutorials can help solve them.

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to watch the video tutorials

MEP content

VRF Systems

Outdoor units

Air condensed

ECOSTANDARD COOLING ONLY LINE

ECOSTANDARD HEAT PUMP LINE

		Line	Y Eco standard Cooling only LINE
		Model	PUCY-P Y(S)KD(-BS)
Technology		Inverter-driven compressor technology	•
		IH warmer	•
		Flat tube Heat exchanger	
Function	Operation mode	COP priority mode	•
		Low noise mode	50, 100%
		Auto-shift mode	
		Dual set point	•
	Energy efficiency control	Evaporating temperature control (Fixed temperature control irrespective of the ΔT)	+4 °C, +9°C, +14°C
		Evaporating temperature control (Automatic control shifting according to the ΔT)	4 patterns
		High sensible heat operation (during cooling)	
		Demand control	12 steps
	Defrosting	Continuous heating operation	
		Pre-heat defrost	
	External static pressure	Selectable external static pressure of outdoor unit	0, 30, 60 Pa
	High ambient temperature	Operation at high outside temperatures	52°C
	Piping lenght flexibility	Usable in an application with a large vertical separation of up to 90 meters	
	Maintenance	Rotation control	•
		Emergency operation mode	•
		Pump down function	•
		M-Net Power	•
		USB Data download	

		Line	Y Eco standard Heat pump LINE
		Model	PUHY-P Y(S)KD(-BS)
Technology		Inverter-driven compressor technology	•
		IH warmer	•
		Flat tube Heat exchanger	
Function	Operation mode	COP priority mode	•
		Low noise mode	50, 100%
		Auto-shift mode	
		Dual set point	•
	Energy efficiency control	Evaporating temperature control (Fixed temperature control irrespective of the ΔT)	+4 °C, +9°C, +14°C
		Evaporating temperature control (Automatic control shifting according to the ΔT)	4 patterns
		High sensible heat operation (during cooling)	
		Demand control	12 steps
	Defrosting	Continuous heating operation	
		Pre-heat defrost	
	External static pressure	Selectable external static pressure of outdoor unit	0, 30, 60 Pa
	High ambient temperature	Operation at high outside temperatures	52°C
	Piping lenght flexibility	Usable in an application with a large vertical separation of up to 90 meters	
	Maintenance	Rotation control	•
		Emergency operation mode	•
		Pump down function	•
		M-Net Power	•
		USB Data download	

ECOSTANDARD LINE NEW

OUTDOOR UNITS - COOLING ONLY - PUCY-P Y(S)KD(-BS)

OUTDOOR UNIT OPTIMISED FOR COOLING PERFORMANCE (EER)

SINGLE MODULE SYSTEM FOR INSTALLATIONS UP TO 20HP, FOR MINIMISED SPACE USAGE AND EXTREME SIMPLICITY OF INSTALLATION

EXTENDED OPERATING RANGE IN COOLING MODE, WITH MAXIMUM TEMPERATURES UP TO 52°C

MAX SIZE UP TO 60 HP

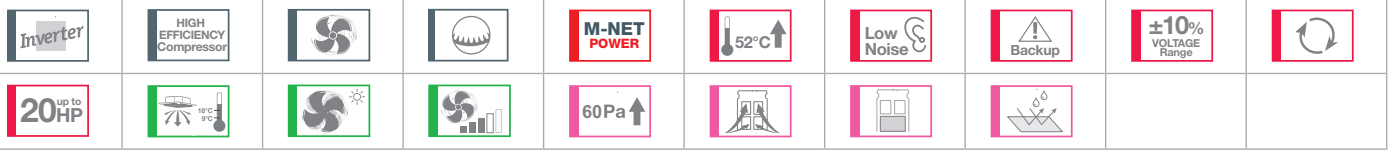
NEW FLANGED DUCT AND NEW DC INVERTER FAN MOTOR

CONVENTIONAL BI-METAL (COPPER/ ALUMINIUM) HEAT EXCHANGER

EXTERNAL STATIC PRESSURE UP TO 60PA

EVAPORATING TEMPERATURE CONTROL SYSTEM (E.T.C.)

Key Technologies



MODEL			PUCY-P200YKD (-BS)	PUCY-P250YKD (-BS)	PUCY-P300YKD (-BS)	PUCY-P350YKD (-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	3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	22.4	28.0	33.5	40.0
		kcal/h	20,000	25,000	30,000	35,000
		BTU/h	76,400	95,500	114,300	136,500
	Power input	kW	4.66	5.95	7.82	9.66
	Current input	A	7.8-7.4-7.2	10.0-9.5-9.1	13.2-12.5-12.0	16.3-15.4-14.9
	EER	kW/kW	4.80	4.70	4.28	4.14
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity	50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P250/1~17	P15~P250/1~21	P15~P250/1~26	P15~P400/1~30
Sound pressure level (measured in anechoic room)		dB <A>	57	58	61	61
Refrigerant piping diameter	Liquid pipe	mm (in.)	9.52 (3/8) Brazed	9.52 (3/8) Brazed (12.7 (1/2) Brazed, farthest length >= 90 m)	9.52 (3/8) Brazed (12.7 (1/2) Brazed, farthest length >= 40 m)	12.7 (1/2) Brazed
	Gas pipe	mm (in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	175	175	175	210
		L/s	2,917	2,917	2,917	3,500
		cfm	6,179	6,179	6,179	7,415
	Control, Driving mechanism		Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor
	Motor output	kW	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting method		Inverter	Inverter	Inverter	Inverter
	Motor output	kW	5.5	6.9	8.1	10.4
	Case heater	kW	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>
External dimension H x W x D		mm	1,650 x 920 x 740	1,650 x 920 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740
		in.	65 x 36-1/4 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	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	Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
Refrigerant	Type x original charge		R410A x 5.5 kg (13 lbs)	R410A x 6.5 kg (15 lbs)	R410A x 6.5 kg (15 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	174 (384)	183 (404)	200 (441)	236 (521)
Heat exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube
Optional parts			Joint: CMY-Y102SS/LS-G2 Header: CMY-Y104/108/1010-G	Joint: CMY-Y102SS/LS-G2 Header: CMY-Y104/108/1010-G	Joint: CMY-Y102SS/LS-G2 Header: CMY-Y104/108/1010-G	Joint: CMY-Y102SS/ LS-G2,CMY-Y202S-G2 Header: CMY-Y104/108/1010-G

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

MODEL			PUCY-P400YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P500YKD (-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	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	44.0	48.0	56.0
		kcal/h	39,000	43,000	50,000
		BTU/h	150,100	163,800	191,100
	Power input	kW	12.42	14.32	16.51
	Current input	A	20.9-19.9-19.1	24.1-22.9-22.1	27.8-26.4-25.5
	EER	kW/kW	3.54	3.35	3.39
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/1~34	P15~P500/1~39	P15~P500/1~43
Sound pressure level (measured in anechoic room)		dB <A>	63	63	65
Refrigerant piping diameter	Liquid pipe	mm (in.)	12.7 (1/2) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 2
	Air flow rate	m^3/min	210	210	320
		L/s	3,500	3,500	5,333
		cfm	7,415	7,415	11,299
	Control, Driving mechanism		Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor
	Motor output	kW	0.92 x 1	0.92 x 1	0.92 x 2
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting method		Inverter	Inverter	Inverter
	Motor output	kW	10.8	12.4	13.3
	Case heater	kW	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,750 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 68-15/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	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	Over-heat protection, Over-current protection
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.8 kg (27 lbs)
Net weight		kg (lbs)	236 (521)	236 (521)	304 (671)
Heat exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube
Optional parts			Joint: CMY-Y102SS/LS-G2,CMY-Y202S-G2 Header: CMY-Y104/108/1010-G	Joint: CMY-Y102SS/LS-G2,CMY-Y202S-G2 Header: CMY-Y104/108/1010-G	Joint: CMY-Y102SS/LS-G2,CMY-Y202S-G2 Header: CMY-Y104/108/1010-G

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

MODEL			PUCY-P550YSKD (-BS)	PUCY-P600YSKD (-BS)	PUCY-P650YSKD (-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	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	61.5	68.0	72.0
		kcal/h	52,900	58,500	61,900
		BTU/h	209,800	232,000	245,700
	Power input	kW	14.04	15.34	17.73
	Current input	A	23.7-22.5-21.7	25.8-24.6-23.7	29.9-28.4-27.4
	EER	kW/kW	4.38	4.43	4.06
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/1~47	P15~P500/1~50	P15~P500/1~50
Sound pressure level (measured in anechoic room)		dB <A>	63	63	64.5
Refrigerant piping diameter	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed

SET MODEL

MODEL			PUCY-P250YKD (-BS)	PUCY-P300YKD (-BS)	PUCY-P250YKD (-BS)	PUCY-P350YKD (-BS)	PUCY-P250YKD (-BS)	PUCY-P400YKD (-BS)
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	175	175	175	210	175	210
		L/s	2,917	2,917	2,917	3,500	2,917	3,500
		cfm	6,179	6,179	6,179	7,415	6,179	7,415
	Control, Driving mechanism		Inverter-control, Direct-driven by motor		Inverter-control, Direct-driven by motor		Inverter-control, Direct-driven by motor	
	Motor output	kW	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	6.9	8.1	6.9	10.4	6.9	10.8
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	
External dimension H x W x D		mm	1,650 x 920 x 740	1,650 x 920 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740
		in.	65 x 36-1/4 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		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		Over-heat protection, Over-current protection	
Refrigerant	Type x original charge		R410A x 6.5 kg (15 lbs)	R410A x 6.5 kg (15 lbs)	R410A x 6.5 kg (15 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 6.5 kg (15 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	183 (404)	200 (441)	183 (404)	236 (521)	183 (404)	236 (521)
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
Pipe between unit and distributor	Liquid pipe	mm (in.)	9.52 (3/8) Brazed	12.7 (1/2) Brazed	9.52 (3/8) Brazed	12.7 (1/2) Brazed	9.52 (3/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y100VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y100VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y100VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G	

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

MODEL			PUCY-P700YSKD (-BS)	PUCY-P750YSKD (-BS)	PUCY-P800YSKD (-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	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	76.0	81.5	88.0
		kcal/h	65,400	70,100	75,700
		BTU/h	259,300	278,100	300,300
	Power input	kW	19.24	21.79	25.00
	Current input	A	32.4-30.8-29.7	36.7-34.9-33.6	42.2-40.0-38.6
	EER	kW/kW	3.95	3.74	3.52
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/1~50	P15~P500/1~50	P15~P500/1~50
Sound pressure level (measured in anechoic room)		dB <A>	64.5	65.5	66
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	34.93 (1-3/8) Brazed	34.93 (1-3/8) Brazed	34.93 (1-3/8) Brazed

SET MODEL

MODEL			PUCY-P250YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P300YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P400YKD (-BS)	PUCY-P400YKD (-BS)
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	175	210	175	210	210	210
		L/s	2,917	3,500	2,917	3,500	3,500	3,500
		cfm	6,179	7,415	6,179	7,415	7,415	7,415
	Control, Driving mechanism		Inverter-control, Direct-driven by motor		Inverter-control, Direct-driven by motor		Inverter-control, Direct-driven by motor	
	Motor output	kW	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	6.9	12.4	8.1	12.4	10.8	10.8
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	
External dimension H x W x D		mm	1,650 x 920 x 740	1,650 x 1,220 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740
		in.	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		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		Over-heat protection, Over-current protection	
Refrigerant	Type x original charge		R410A x 6.5 kg (15 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 6.5 kg (15 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	183 (404)	236 (521)	200 (441)	236 (521)	236 (521)	236 (521)
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
Pipe between unit and distributor	Liquid pipe	mm (in.)	9.52 (3/8) Brazed	15.88 (5/8) Brazed	12.7 (1/2) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G	

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

MODEL			PUCY-P850YSKD (-BS)	PUCY-P900YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	92.0	96.0
		kcal/h	79,100	82,600
		BTU/h	313,900	327,600
	Power input	kW	26.97	29.00
	Current input	A	45.5-43.2-41.6	48.9-46.5-44.8
	EER	kW/kW	3.41	3.31
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/1~50	P15~P500/1~50
Sound pressure level (measured in anechoic room)		dB <A>	66	66
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUCY-P400YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P450YKD (-BS)
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	210	210	210	210
		L/s	3,500	3,500	3,500	3,500
		cfm	7,415	7,415	7,415	7,415
	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	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting method		Inverter	Inverter	Inverter	Inverter
	Motor output	kW	10.8	12.4	12.4	12.4
	Case heater	kW	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection		Over-heat protection, Over-current protection	
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	236 (521)	236 (521)	236 (521)	236 (521)
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
Pipe between unit and distributor	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G	

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

MODEL			PUCY-P950YSKD (-BS)	PUCY-P1000YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	104.0	112.0
		kcal/h	89,400	96,300
		BTU/h	354,800	382,100
	Power input	kW	31.51	34.04
	Current input	A	53.1-50.5-48.7	57.4-54.5-52.6
	EER	kW/kW	3.30	3.29
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/1~50	P15~P500/1~50
Sound pressure level (measured in anechoic room)		dB <A>	67.5	68
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUCY-P450YKD (-BS)	PUCY-P500YKD (-BS)	PUCY-P500YKD (-BS)	PUCY-P500YKD (-BS)
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 2	Propeller fan x 2	Propeller fan x 2
	Air flow rate	m^3/min	210	320	320	320
		L/s	3,500	5,333	5,333	5,333
		cfm	7,415	11,299	11,299	11,299
	Control, Driving mechanism		Inverter-control, Direct-driven by motor		Inverter-control, Direct-driven by motor	
	Motor output	kW	0.92 x 1	0.92 x 2	0.92 x 2	0.92 x 2
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting method		Inverter	Inverter	Inverter	Inverter
	Motor output	kW	12.4	13.3	13.3	13.3
	Case heater	kW	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection		Over-heat protection, Over-current protection	
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)
Net weight		kg (lbs)	236 (521)	304 (671)	304 (671)	304 (671)
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
Pipe between unit and distributor	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G	

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

MODEL			PUCY-P1050YSKD (-BS)	PUCY-P1100YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	115.0	121.5
		kcal/h	98,900	104,500
		BTU/h	392,400	414,600
	Power input	kW	29.63	30.99
	Current input	A	50.0-47.5-45.8	52.3-49.7-47.9
	EER	kW/kW	3.88	3.92
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/2~50	P15~P500/2~50
Sound pressure level (measured in anechoic room)		dB <A>	66.5	66.5
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUCY-P300YKD (-BS)	PUCY-P300YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P300YKD (-BS)	PUCY-P350YKD (-BS)	PUCY-P450YKD (-BS)
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	175	175	210	175	210	210
		L/s	2,917	2,917	3,500	2,917	3,500	3,500
		cfm	6,179	6,179	7,415	6,179	7,415	7,415
	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	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor			Inverter scroll hermetic compressor		
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	8.1	8.1	12.4	8.1	10.4	12.4
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		
External dimension H x W x D		mm	1,650 x 920 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740
		in.	65 x 36-1/4 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection			Over-heat protection, Over-current protection		
Refrigerant	Type x original charge		R410A x 6.5 kg (15 lbs)	R410A x 6.5 kg (15 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 6.5 kg (15 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	200 (441)	200 (441)	236 (521)	200 (441)	236 (521)	236 (521)
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
Pipe between unit and distributor	Liquid pipe	mm (in.)	12.7 (1/2) Brazed	12.7 (1/2) Brazed	15.88 (5/8) Brazed	12.7 (1/2) Brazed	12.7 (1/2) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

MODEL			PUCY-P1150YSKD (-BS)	PUCY-P1200YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	128.0	132.0
		kcal/h	110,100	113,500
		BTU/h	436,700	450,400
	Power input	kW	33.95	37.50
	Current input	A	57.3-54.4-52.4	63.3-60.1-57.9
	EER	kW/kW	3.77	3.52
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/2~50	P15~P500/2~50
Sound pressure level (measured in anechoic room)		dB <A>	67.5	68
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUCY-P350YKD (-BS)	PUCY-P400YKD (-BS)	PUCY-P400YKD (-BS)	PUCY-P400YKD (-BS)	PUCY-P400YKD (-BS)	PUCY-P400YKD (-BS)
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	210	210	210	210	210	210
		L/s	3,500	3,500	3,500	3,500	3,500	3,500
		cfm	7,415	7,415	7,415	7,415	7,415	7,415
	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	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor			Inverter scroll hermetic compressor		
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	10.4	10.8	10.8	10.8	10.8	10.8
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection			Over-heat protection, Over-current protection		
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	236 (521)	236 (521)	236 (521)	236 (521)	236 (521)	236 (521)
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
Pipe between unit and distributor	Liquid pipe	mm (in.)	12.7 (1/2) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

MODEL			PUCY-P1250YSKD (-BS)	PUCY-P1300YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	136.0	140.0
		kcal/h	117,000	120,400
		BTU/h	464,000	477,700
	Power input	kW	39.42	41.54
	Current input	A	66.5-63.2-60.9	70.1-66.6-64.2
	EER	kW/kW	3.45	3.37
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/2~50	P15~P500/2~50
Sound pressure level (measured in anechoic room)		dB <A>	68	68
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUCY-P400YKD (-BS)	PUCY-P400YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P400YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P450YKD (-BS)
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	210	210	210	210	210	210
		L/s	3,500	3,500	3,500	3,500	3,500	3,500
		cfm	7,415	7,415	7,415	7,415	7,415	7,415
	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	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor			Inverter scroll hermetic compressor		
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	10.8	10.8	12.4	10.8	12.4	12.4
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection			Over-heat protection, Over-current protection		
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	236 (521)	236 (521)	236 (521)	236 (521)	236 (521)	236 (521)
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
Pipe between unit and distributor	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

MODEL			PUCY-P1350YSKD (-BS)	PUCY-P1400YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	144.0	152.0
		kcal/h	123,800	130,700
		BTU/h	491,300	518,600
	Power input	kW	43.63	46.06
	Current input	A	73.6-69.9-67.4	77.7-73.8-71.1
	EER	kW/kW	3.30	3.30
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/2~50	P15~P500/2~50
Sound pressure level (measured in anechoic room)		dB <A>	68	68.5
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUCY-P450YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P450YKD (-BS)	PUCY-P500YKD (-BS)
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 2
	Air flow rate	m^3/min	210	210	210	210	210	320
		L/s	3,500	3,500	3,500	3,500	3,500	5,333
		cfm	7,415	7,415	7,415	7,415	7,415	11,299
	Control, Driving mechanism		Inverter-control, Direct-driven by motor			Inverter-control, Direct-driven by motor		
	Motor output	kW	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 2
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor			Inverter scroll hermetic compressor		
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	12.4	12.4	12.4	12.4	12.4	13.3
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,750 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 68-15/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection			Over-heat protection, Over-current protection		
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.8 kg (27 lbs)
Net weight		kg (lbs)	236 (521)	236 (521)	236 (521)	236 (521)	236 (521)	304 (671)
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
Pipe between unit and distributor	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

MODEL			PUCY-P1450YSKD (-BS)	PUCY-P1500YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	160.0	168.0
		kcal/h	137,600	144,500
		BTU/h	545,900	573,200
	Power input	kW	48.63	51.06
	Current input	A	82.0-77.9-75.1	86.1-81.8-78.9
	EER	kW/kW	3.29	3.29
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	10.0~52.0 °C (50~126 °F)	10.0~52.0 °C (50~126 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/2~50	P15~P500/2~50
Sound pressure level (measured in anechoic room)		dB <A>	69.5	70
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUCY-P450YKD (-BS)	PUCY-P500YKD (-BS)	PUCY-P500YKD (-BS)	PUCY-P500YKD (-BS)	PUCY-P500YKD (-BS)	PUCY-P500YKD (-BS)
Fan *2	Type x Quantity		Propeller fan x 1	Propeller fan x 2	Propeller fan x 2	Propeller fan x 2	Propeller fan x 2	Propeller fan x 2
	Air flow rate	m^3/min	210	320	320	320	320	320
		L/s	3,500	5,333	5,333	5,333	5,333	5,333
		cfm	7,415	11,299	11,299	11,299	11,299	11,299
	Control, Driving mechanism		Inverter-control, Direct-driven by motor			Inverter-control, Direct-driven by motor		
	Motor output	kW	0.92 x 1	0.92 x 2	0.92 x 2	0.92 x 2	0.92 x 2	0.92 x 2
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor			Inverter scroll hermetic compressor		
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	12.4	13.3	13.3	13.3	13.3	13.3
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection			Over-heat protection, Over-current protection		
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)
Net weight		kg (lbs)	236 (521)	304 (671)	304 (671)	304 (671)	304 (671)	304 (671)
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
Pipe between unit and distributor	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G		

Notes:
*1 Nominal cooling conditions (subject to JIS B8615-2)

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*2 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).

ECOSTANDARD LINE NEW

OUTDOOR UNITS - HEAT PUMP - PUHY-P Y(S)KD (-BS)

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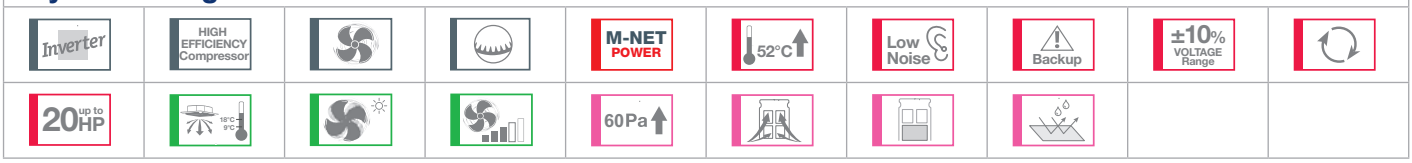


MODEL			PUHY-P200YKD (-BS)	PUHY-P250YKD (-BS)	PUHY-P300YKD (-BS)	PUHY-P350YKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz			
Cooling capacity *1 (Nominal)		kW	22.4	28.0	33.5	40.0
		kcal/h	20,000	25,000	30,000	35,000
		BTU/h	76,400	95,500	114,300	136,500
	Power input	kW	4.48	5.88	7.59	9.66
	Current input	A	7.5-7.1-6.9	9.9-9.4-9.0	12.8-12.1-11.7	16.3-15.4-14.9
	EER	kW/kW	5.00	4.76	4.41	4.14
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	22.4	28.0	33.5	40.0
		kcal/h	20,000	25,000	30,000	35,000
		BTU/h	76,400	95,500	114,300	136,500
	Power input	kW	5.05	6.33	8.11	9.61
	Current input	A	8.5-8.0-7.8	10.6-10.1-9.7	13.6-13.0-12.5	16.2-15.4-14.8
	COP	kW/kW	4.43	4.42	4.13	4.16
Temp. range of heating	Indoor	D.B.	15.0~27.0 °C (59~81 °F)	15.0~27.0 °C (59~81 °F)	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)	-20.0~15.5 °C (-4~60 °F)	-20.0~15.5 °C (-4~60 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity			
	Model/Quantity		P15~P250/1~17	P15~P250/1~21	P15~P250/1~26	P15~P400/1~30
Sound pressure level (measured in anechoic room)		dB <A>	57	58	61	61
Refrigerant piping diameter	Liquid pipe	mm (in.)	9.52 (3/8) Brazed	9.52 (3/8) Brazed (12.7 (1/2) Brazed, farthest length >= 90 m)	9.52 (3/8) Brazed (12.7 (1/2) Brazed, farthest length >= 40 m)	12.7 (1/2) Brazed
	Gas pipe	mm (in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m3/min	175	175	185	210
		L/s	2,917	2,917	3,083	3,500
		cfm	6,179	6,179	6,532	7,415
	Control, Driving mechanism		Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor
	Motor output	kW	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting method		Inverter	Inverter	Inverter	Inverter
	Motor output	kW	5.5	6.9	8.1	10.4
	Case heater	kW	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>
External dimension H x W x D		mm	1,650 x 920 x 740	1,650 x 920 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740
		in.	65 x 36-1/4 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	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	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)	R410A x 8.0 kg (18 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	191 (422)	191 (422)	204 (450)	243 (536)
Heat exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube	Salt-resistant cross fin & aluminium tube	Salt-resistant cross fin & copper tube
Optional parts			Joint: CMY-Y102SS/LS-G2 Header: CMY-Y104/108/1010-G	Joint: CMY-Y102SS/LS-G2 Header: CMY-Y104/108/1010-G	Joint: CMY-Y102SS/LS-G2 Header: CMY-Y104/108/1010-G	Joint: CMY-Y102SS/LS-G2, CMY-Y202S-G2 Header: CMY-Y104/108/1010-G

Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

MODEL			PUHY-P400YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P500YKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz		
Cooling capacity *1 (Nominal)		kW	45.0	48.0	55.0
		kcal/h	40,000	43,000	49,000
		BTU/h	153,500	163,800	187,700
	Power input	kW	12.71	14.32	16.22
	Current input	A	21.4-20.3-19.6	24.1-22.9-22.1	27.3-26.0-25.0
	EER	kW/kW	3.54	3.35	3.39
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	45.0	48.0	55.0
		kcal/h	40,000	43,000	49,000
		BTU/h	153,500	163,800	187,700
	Power input	kW	10.92	13.33	15.71
	Current input	A	18.4-17.5-16.8	22.5-21.3-20.6	26.5-25.1-24.2
	COP	kW/kW	4.12	3.60	3.50
Temp. range of heating	Indoor	D.B.	15.0~27.0 °C (59~81 °F)	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)	-20.0~15.5 °C (-4~60 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity		
	Model/Quantity		P15~P500/1~34	P15~P500/1~39	P15~P500/1~43
Sound pressure level (measured in anechoic room)		dB <A>	63	63	65
Refrigerant piping diameter	Liquid pipe	mm (in.)	12.7 (1/2) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 2
	Air flow rate	m3/min	210	210	360
		L/s	3,500	3,500	6,000
		cfm	7,415	7,415	12,712
	Control, Driving mechanism		Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor	Inverter-control, Direct-driven by motor
	Motor output	kW	0.92 x 1	0.92 x 1	0.92 x 2
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting method		Inverter	Inverter	Inverter
	Motor output	kW	10.8	12.4	13.3
	Case heater	kW	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,750 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 68-15/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	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	Over-heat protection, Over-current protection
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.8 kg (27 lbs)
Net weight		kg (lbs)	241 (532)	241 (532)	285 (629)
Heat exchanger			Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube	Salt-resistant cross fin & copper tube
Optional parts			Joint: CMY-Y102SS/LS-G2,CMY-Y202S-G2 Header: CMY-Y104/108/1010-G	Joint: CMY-Y102SS/LS-G2,CMY-Y202S-G2 Header: CMY-Y104/108/1010-G	Joint: CMY-Y102SS/LS-G2,CMY-Y202S-G2 Header: CMY-Y104/108/1010-G

Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

MODEL			PUHY-P550YSKD (-BS)	PUHY-P600YSKD (-BS)	PUHY-P650YSKD (-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	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	63.0	68.0	73.0
		kcal/h	55,000	60,000	65,000
		BTU/h	215,000	232,000	249,100
	Power input	kW	14.25	15.34	17.80
	Current input	A	24.0-22.8-22.0	25.8-24.6-23.7	30.0-28.5-27.5
	EER	kW/kW	4.42	4.43	4.10
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	63.0	68.0	73.0
		kcal/h	55,000	60,000	65,000
		BTU/h	215,000	232,000	249,100
	Power input	kW	15.51	16.70	18.02
	Current input	A	26.1-24.8-23.9	28.1-26.7-25.8	30.4-28.8-27.8
	COP	kW/kW	4.06	4.07	4.05
Temp. range of heating	Indoor	D.B.	15.0~27.0 °C (59~81 °F)	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)	-20.0~15.5 °C (-4~60 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/1~47	P15~P500/1~50	P15~P500/1~50
Sound pressure level (measured in anechoic room)		dB <A>	63	63	64.5
Refrigerant piping diameter	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed

SET MODEL

MODEL			PUHY-P250YKD (-BS)	PUHY-P300YKD (-BS)	PUHY-P250YKD (-BS)	PUHY-P350YKD (-BS)	PUHY-P250YKD (-BS)	PUHY-P400YKD (-BS)
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	175	185	175	210	175	210
		L/s	2,917	3,083	2,917	3,500	2,917	3,500
		cfm	6,179	6,532	6,179	7,415	6,179	7,415
	Control, Driving mechanism		Inverter-control, Direct-driven by motor		Inverter-control, Direct-driven by motor		Inverter-control, Direct-driven by motor	
	Motor output	kW	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	6.9	8.1	6.9	10.4	6.9	10.8
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	
External dimension H x W x D		mm	1,650 x 920 x 740	1,650 x 920 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740
		in.	65 x 36-1/4 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		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		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)	R410A x 8.0 kg (18 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 8.0 kg (18 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	191 (422)	204 (450)	191 (422)	243 (536)	191 (422)	241 (532)
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
Pipe between unit and distributor	Liquid pipe	mm (in.)	9.52 (3/8) Brazed	12.7 (1/2) Brazed	9.52 (3/8) Brazed	12.7 (1/2) Brazed	9.52 (3/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y100VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y100VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y100VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G	

Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

MODEL			PUHY-P700YSKD (-BS)	PUHY-P750YSKD (-BS)	PUHY-P800YSKD (-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	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	76.0	81.5	90.0
		kcal/h	68,000	73,000	80,000
		BTU/h	259,300	278,100	307,100
	Power input	kW	19.24	21.39	25.56
	Current input	A	32.4-30.8-29.7	36.1-34.3-33.0	43.1-40.9-39.5
	EER	kW/kW	3.95	3.81	3.52
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	76.0	81.5	90.0
		kcal/h	68,000	73,000	80,000
		BTU/h	259,300	278,100	307,100
	Power input	kW	20.00	22.20	23.01
	Current input	A	33.7-32.0-30.9	37.4-35.6-34.3	38.8-36.9-35.5
	COP	kW/kW	3.80	3.67	3.91
Temp. range of heating	Indoor	D.B.	15.0~27.0 °C (59~81 °F)	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)	-20.0~15.5 °C (-4~60 °F)
Indoor unit connectable	Total capacity		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/1~50	P15~P500/1~50	P15~P500/1~50
Sound pressure level (measured in anechoic room)		dB <A>	64.5	65.5	66
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	34.93 (1-3/8) Brazed	34.93 (1-3/8) Brazed	34.93 (1-3/8) Brazed

SET MODEL

MODEL			PUHY-P250YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P300YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P400YKD (-BS)	PUHY-P400YKD (-BS)
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	175	210	185	210	210	210
		L/s	2,917	3,500	3,083	3,500	3,500	3,500
		cfm	6,179	7,415	6,532	7,415	7,415	7,415
	Control, Driving mechanism		Inverter-control, Direct-driven by motor		Inverter-control, Direct-driven by motor		Inverter-control, Direct-driven by motor	
	Motor output	kW	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	6.9	12.4	8.1	12.4	10.8	10.8
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	
External dimension H x W x D		mm	1,650 x 920 x 740	1,650 x 1,220 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740
		in.	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		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		Over-heat protection, Over-current protection	
Refrigerant	Type x original charge		R410A x 8.0 kg (18 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 8.0 kg (18 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	191 (422)	241 (532)	204 (450)	241 (532)	241 (532)	241 (532)
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
Pipe between unit and distributor	Liquid pipe	mm (in.)	9.52 (3/8) Brazed	15.88 (5/8) Brazed	12.7 (1/2) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G	

Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

MODEL			PUHY-P850YSKD (-BS)	PUHY-P900YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	93.0	96.0
		kcal/h	83,000	86,000
		BTU/h	317,300	327,600
	Power input	kW	27.27	29.00
	Current input	A	46.0-43.7-42.1	48.9-46.5-44.8
	EER	kW/kW	3.41	3.31
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	93.0	96.0
		kcal/h	83,000	86,000
		BTU/h	317,300	327,600
	Power input	kW	25.40	28.07
	Current input	A	42.8-40.7-39.2	47.3-45.0-43.3
	COP	kW/kW	3.66	3.42
Temp. range of heating	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		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/1~50	P15~P500/1~50
Sound pressure level (measured in anechoic room)		dB <A>	66	66
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUHY-P400YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P450YKD (-BS)
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	210	210	210	210
		L/s	3,500	3,500	3,500	3,500
		cfm	7,415	7,415	7,415	7,415
	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	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting method		Inverter	Inverter	Inverter	Inverter
	Motor output	kW	10.8	12.4	12.4	12.4
	Case heater	kW	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection		Over-heat protection, Over-current protection	
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	241 (532)	241 (532)	241 (532)	241 (532)
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
Pipe between unit and distributor	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G	

Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

MODEL			PUHY-P950YSKD (-BS)	PUHY-P1000YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	103.0	110.0
		kcal/h	92,000	98,000
		BTU/h	351,400	375,300
	Power input	kW	31.30	33.63
	Current input	A	52.8-50.1-48.3	56.7-53.9-51.9
	EER	kW/kW	3.29	3.27
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	103.0	110.0
		kcal/h	92,000	98,000
		BTU/h	351,400	375,300
	Power input	kW	30.56	33.13
	Current input	A	51.5-49.0-47.2	55.9-53.1-51.2
	COP	kW/kW	3.37	3.32
Temp. range of heating	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		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/1~50	P15~P500/1~50
Sound pressure level (measured in anechoic room)		dB <A>	67.5	68
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUHY-P450YKD (-BS)	PUHY-P500YKD (-BS)	PUHY-P500YKD (-BS)	PUHY-P500YKD (-BS)
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 2	Propeller fan x 2	Propeller fan x 2
	Air flow rate	m^3/min	210	360	360	360
		L/s	3,500	6,000	6,000	6,000
		cfm	7,415	12,712	12,712	12,712
	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	0.92 x 2	0.92 x 2
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor		Inverter scroll hermetic compressor	
	Starting method		Inverter	Inverter	Inverter	Inverter
	Motor output	kW	12.4	13.3	13.3	13.3
	Case heater	kW	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>	
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)	
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection		Over-heat protection, Over-current protection	
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)
Net weight		kg (lbs)	241 (532)	285 (629)	285 (629)	285 (629)
Heat exchanger			Salt-resistant cross fin & copper tube		Salt-resistant cross fin & copper tube	
Pipe between unit and distributor	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		Outdoor Twinning kit: CMY-Y200VBK2 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G	

Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

MODEL			PUHY-P1050YSKD (-BS)	PUHY-P1100YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	115.0	121.5
		kcal/h	103,000	108,000
		BTU/h	392,400	414,600
	Power input	kW	29.26	30.83
	Current input	A	49.3-46.9-45.2	52.0-49.4-47.6
	EER	kW/kW	3.93	3.94
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	115.0	121.5
		kcal/h	103,000	108,000
		BTU/h	392,400	414,600
	Power input	kW	31.50	33.80
	Current input	A	53.1-50.5-48.6	57.0-54.2-52.2
	COP	kW/kW	3.65	3.59
Temp. range of heating	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		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/2~50	P15~P500/2~50
Sound pressure level (measured in anechoic room)		dB <A>	66.5	66.5
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUHY-P300YKD (-BS)	PUHY-P300YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P300YKD (-BS)	PUHY-P350YKD (-BS)	PUHY-P450YKD (-BS)
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	185	185	210	185	210	210
		L/s	3,083	3,083	3,500	3,083	3,500	3,500
		cfm	6,532	6,532	7,415	6,532	7,415	7,415
	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	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor			Inverter scroll hermetic compressor		
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	8.1	8.1	12.4	8.1	10.4	12.4
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		
External dimension H x W x D		mm	1,650 x 920 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740	1,650 x 920 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740
		in.	65 x 36-1/4 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 36-1/4 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection			Over-heat protection, Over-current protection		
Refrigerant	Type x original charge		R410A x 8.0 kg (18 lbs)	R410A x 8.0 kg (18 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 8.0 kg (18 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	204 (450)	204 (450)	241 (532)	204 (450)	243 (536)	241 (532)
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
Pipe between unit and distributor	Liquid pipe	mm (in.)	12.7 (1/2) Brazed	12.7 (1/2) Brazed	15.88 (5/8) Brazed	12.7 (1/2) Brazed	12.7 (1/2) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		

Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

MODEL			PUHY-P1150YSKD (-BS)	PUHY-P1200YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	130.0	135.0
		kcal/h	115,000	120,000
		BTU/h	443,600	460,600
	Power input	kW	34.12	38.35
	Current input	A	57.5-54.7-52.7	64.7-61.5-59.2
	EER	kW/kW	3.81	3.52
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	130.0	135.0
		kcal/h	115,000	120,000
		BTU/h	443,600	460,600
	Power input	kW	35.51	37.70
	Current input	A	59.9-56.9-54.8	63.6-60.4-58.2
	COP	kW/kW	3.66	3.58
Temp. range of heating	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		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/2~50	P15~P500/2~50
Sound pressure level (measured in anechoic room)		dB <A>	67.5	68
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUHY-P350YKD (-BS)	PUHY-P400YKD (-BS)	PUHY-P400YKD (-BS)	PUHY-P400YKD (-BS)	PUHY-P400YKD (-BS)	PUHY-P400YKD (-BS)
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	210	210	210	210	210	210
		L/s	3,500	3,500	3,500	3,500	3,500	3,500
		cfm	7,415	7,415	7,415	7,415	7,415	7,415
	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	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor			Inverter scroll hermetic compressor		
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	10.4	10.8	10.8	10.8	10.8	10.8
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection			Over-heat protection, Over-current protection		
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	243 (536)	241 (532)	241 (532)	241 (532)	241 (532)	241 (532)
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
Pipe between unit and distributor	Liquid pipe	mm (in.)	12.7 (1/2) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		

Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

MODEL			PUHY-P1250YSKD (-BS)	PUHY-P1300YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	138.0	141.0
		kcal/h	123,000	126,000
		BTU/h	470,900	481,100
	Power input	kW	40.00	41.83
	Current input	A	67.5-64.1-61.8	70.6-67.0-64.6
	EER	kW/kW	3.45	3.37
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	138.0	141.0
		kcal/h	123,000	126,000
		BTU/h	470,900	481,100
	Power input	kW	40.35	42.98
	Current input	A	68.1-64.7-62.3	72.5-68.9-66.4
	COP	kW/kW	3.42	3.28
Temp. range of heating	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		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/2~50	P15~P500/2~50
Sound pressure level (measured in anechoic room)		dB <A>	68	68
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUHY-P400YKD (-BS)	PUHY-P400YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P400YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P450YKD (-BS)
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1
	Air flow rate	m^3/min	210	210	210	210	210	210
		L/s	3,500	3,500	3,500	3,500	3,500	3,500
		cfm	7,415	7,415	7,415	7,415	7,415	7,415
	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	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 1
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor			Inverter scroll hermetic compressor		
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	10.8	10.8	12.4	10.8	12.4	12.4
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection			Over-heat protection, Over-current protection		
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)
Net weight		kg (lbs)	241 (532)	241 (532)	241 (532)	241 (532)	241 (532)	241 (532)
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
Pipe between unit and distributor	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		

Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

MODEL			PUHY-P1350YSKD (-BS)	PUHY-P1400YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	144.0	151.0
		kcal/h	129,000	135,000
		BTU/h	491,300	515,200
	Power input	kW	43.63	45.89
	Current input	A	73.6-69.9-67.4	77.4-73.5-70.9
	EER	kW/kW	3.30	3.29
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	144.0	151.0
		kcal/h	129,000	135,000
		BTU/h	491,300	515,200
	Power input	kW	46.15	49.50
	Current input	A	77.9-74.0-71.3	83.5-79.3-76.5
	COP	kW/kW	3.12	3.05
Temp. range of heating	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		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/2~50	P15~P500/2~50
Sound pressure level (measured in anechoic room)		dB <A>	68	68.5
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUHY-P450YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P450YKD (-BS)	PUHY-P500YKD (-BS)
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 1	Propeller fan x 2
	Air flow rate	m^3/min	210	210	210	210	210	360
		L/s	3,500	3,500	3,500	3,500	3,500	6,000
		cfm	7,415	7,415	7,415	7,415	7,415	12,712
	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	0.92 x 1	0.92 x 1	0.92 x 1	0.92 x 2
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor			Inverter scroll hermetic compressor		
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	12.4	12.4	12.4	12.4	12.4	13.3
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,220 x 740	1,650 x 1,750 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 48-1/16 x 29-3/16	65 x 68-15/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection			Over-heat protection, Over-current protection		
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.5 kg (26 lbs)	R410A x 11.8 kg (27 lbs)
Net weight		kg (lbs)	241 (532)	241 (532)	241 (532)	241 (532)	241 (532)	285 (629)
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
Pipe between unit and distributor	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		

Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

MODEL			PUHY-P1450YSKD (-BS)	PUHY-P1500YSKD (-BS)
Power source			3-phase 4-wire 380-400-415 V 50/60 Hz	3-phase 4-wire 380-400-415 V 50/60 Hz
Cooling capacity *1 (Nominal)		kW	158.0	165.0
		kcal/h	141,000	147,000
		BTU/h	539,100	563,000
	Power input	kW	48.17	50.45
	Current input	A	81.3-77.2-74.4	85.1-80.9-77.9
	EER	kW/kW	3.28	3.27
Temp. range of cooling	Indoor	W.B.	15.0~24.0 °C (59~75 °F)	15.0~24.0 °C (59~75 °F)
	Outdoor	D.B.	-5.0~52.0 °C (23~126 °F)	-5.0~52.0 °C (23~126 °F)
Heating capacity *2 (Nominal)		kW	158.0	165.0
		kcal/h	141,000	147,000
		BTU/h	539,100	563,000
	Power input	kW	52.49	56.12
	Current input	A	88.6-84.1-81.1	94.7-90.0-86.7
	COP	kW/kW	3.01	2.94
Temp. range of heating	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		50~130% of outdoor unit capacity	50~130% of outdoor unit capacity
	Model/Quantity		P15~P500/2~50	P15~P500/2~50
Sound pressure level (measured in anechoic room)		dB <A>	69.5	70
Refrigerant piping diameter	Liquid pipe	mm (in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed
	Gas pipe	mm (in.)	41.28 (1-5/8) Brazed	41.28 (1-5/8) Brazed

SET MODEL

MODEL			PUHY-P450YKD (-BS)	PUHY-P500YKD (-BS)	PUHY-P500YKD (-BS)	PUHY-P500YKD (-BS)	PUHY-P500YKD (-BS)	PUHY-P500YKD (-BS)
Fan *3	Type x Quantity		Propeller fan x 1	Propeller fan x 2	Propeller fan x 2	Propeller fan x 2	Propeller fan x 2	Propeller fan x 2
	Air flow rate	m^3/min	210	360	360	360	360	360
		L/s	3,500	6,000	6,000	6,000	6,000	6,000
		cfm	7,415	12,712	12,712	12,712	12,712	12,712
	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	0.92 x 2	0.92 x 2	0.92 x 2	0.92 x 2
	External static press.		0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)	0 Pa (0 mmH2O)
Compressor	Type		Inverter scroll hermetic compressor			Inverter scroll hermetic compressor		
	Starting method		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	Motor output	kW	12.4	13.3	13.3	13.3	13.3	13.3
	Case heater	kW	–	–	–	–	–	–
External finish			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>			Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 3Y 7.8/1.1 or similar>		
External dimension H x W x D		mm	1,650 x 1,220 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740	1,650 x 1,750 x 740
		in.	65 x 48-1/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16	65 x 68-15/16 x 29-3/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			High pressure sensor, High pressure switch at 4.15 MPa (601 psi)		
	Inverter circuit (COMP./FAN)		Over-heat protection, Over-current protection			Over-heat protection, Over-current protection		
Refrigerant	Type x original charge		R410A x 11.5 kg (26 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)	R410A x 11.8 kg (27 lbs)
Net weight		kg (lbs)	241 (532)	285 (629)	285 (629)	285 (629)	285 (629)	285 (629)
Heat exchanger			Salt-resistant cross fin & copper tube			Salt-resistant cross fin & copper tube		
Pipe between unit and distributor	Liquid pipe	mm (in.)	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed	15.88 (5/8) Brazed
	Gas pipe	mm (in.)	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed	28.58 (1-1/8) Brazed
Optional parts			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G			Outdoor Twinning kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202S/302S-G2 Header: CMY-Y104/108/1010-G		

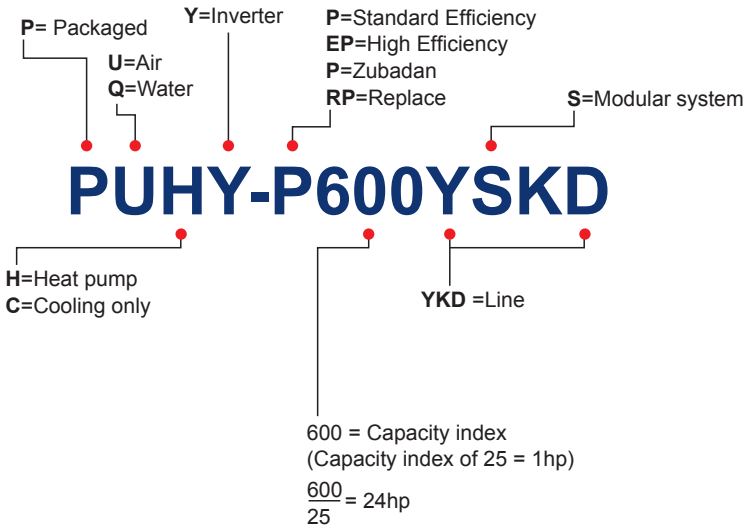
Notes:
*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27 °CD.B./19 °CW.B. (81 °FD.B./66 °FW.B.)	35 °CD.B. (95 °FD.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)
Heating	20 °CD.B. (68°FD.B.)	7 °CD.B./6 °CW.B. (45 °FD.B./43 °FW.B.)	7.5 m (24-9/16 ft.)	0 m (0 ft.)

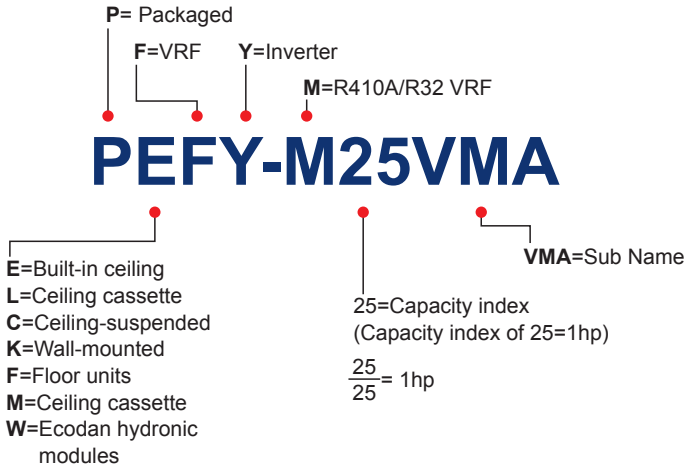
*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH2O, 6.1mmH2O).
*Nominal condition *1,*2 are subject to JIS B8615-2.

Model code

CITY MULTI outdoor units



CITY MULTI indoor units



Refrigerant piping lenght

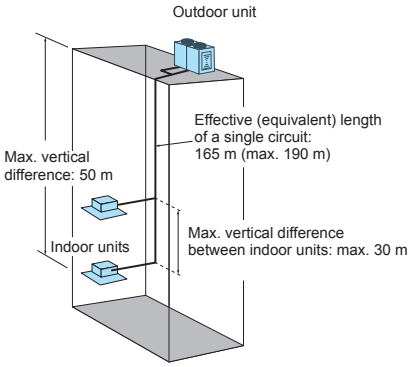
PUCY-P200-1500Y(S)KD

Y ECOSTANDARD LINE

GEOMETRIC PIPING LIMITATIONS WITH ONE OR MORE BC CONTROLLERS	
Total effective length	1000 m max.
Effective length of a single circuit	165 m max.
Equivalent length of a single circuit	190 m max.
Effective length after first branch	90 m max.
Effective length between outdoor unit	10 m max.

VERTICAL DIFFERENCE BETWEEN UNITS	
Indoor/outdoor (outdoor unit in higher position)	50 m max.
Indoor/outdoor (indoor unit in higher position)	40 m max.
Indoor/Indoor	30 m max.

Indicative values only – See technical handbook for installation details.



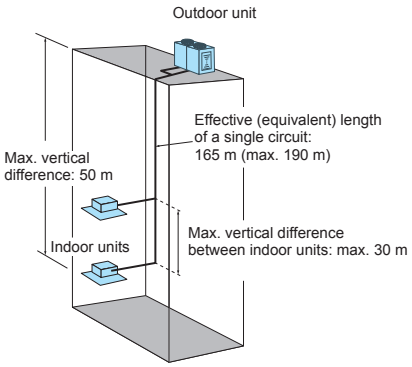
PUHY-P200-1500Y(S)KD

Y ECOSTANDARD LINE

GEOMETRIC PIPING LIMITATIONS WITH ONE OR MORE BC CONTROLLERS	
Total effective length	1000 m max.
Effective length of a single circuit	165 m max.
Equivalent length of a single circuit	190 m max.
Effective length after first branch	90 m max.
Effective length between outdoor unit	10 m max.

VERTICAL DIFFERENCE BETWEEN UNITS	
Indoor/outdoor (outdoor unit in higher position)	50 m max.
Indoor/outdoor (indoor unit in higher position)	40 m max.
Indoor/Indoor	30 m max.

Indicative values only – See technical handbook for installation details.



VRF Systems

Indoor units

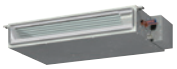
Ceiling cassette

Ceiling concealed

Ceiling suspended

Wall mounted

Floor standing

Type		Model		P10	P15	P20	P25	P32
				1.2 kW*1	1.7 kW*1	2.2 kW*1	2.8 kW*1	3.6 kW*1
Ceiling cassette	4 way flow	PLFY-P VFM-E1			•	•	•	•
		PLFY-M VEM6-E				•	•	•
	2 way cassette	PLFY-P VLMD-E				•	•	•
	1 way cassette	PMFY-P VBM-E				•	•	•
Ceiling concealed indoor units	Middle-high static pressure	PEFY-P VMS1-E			•	•	•	•
	Middle-high static pressure	PEFY-M VMA-A1				•	•	•
	High static pressure	PEFY-P VMHS-E						
	High static pressure	PEFY-P VMHS-E						
Ceiling Suspended Indoor units		PCFY-P VKM-E						
Wall mounted indoor units		PKFY-P VLM		•	•	•	•	•
		PKFY-P VKM						
	Wall mounted design with LEV-KIT	LEV KIT MSZ-EF			•	•	•	•
		LEV KIT MSZ-LN					•	•
Floor standing indoor units		PFFY-P VKM-E				•	•	•
		PFFY-P VLEM-E				•	•	•
	Concealed type	PFFY-P VCM-E				•	•	•

*Nominal cooling capacity

	P40	P50	P63	P71	P80	P100	P125	P140	P200	P250
	4.5 kW*1	5.6 kW*1	7.1 kW*1	8.0 kW*1	9.0 kW*1	11.2 kW*1	14.0 kW*1	16.0 kW*1	22.4 kW*1	28.0 kW*1
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Key Technologies

Mitsubishi Electric innovation allowed the development of functions and technologies at the service of comfort and energy efficiency.

Style

"Pure white" colour

This is the colour adopted by Mitsubishi Electric for many of its indoor units. It is a colour suitable for virtually all interior spaces.

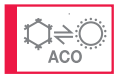
Automatic vane

The vane adjusts automatically to the optimum angle in relation to operating mode and output air temperature.

Functions

Timer

Annual, weekly, daily or simplified timer functions may be used to switch the unit on and off as desired.



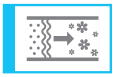
Automatic mode switching

The indoor unit automatically (AUTO) switches operating mode (COOL/HEAT) in relation to the temperature setting.

Ultra silent

These indoor units produce extraordinarily low sound pressure levels.

Air quality

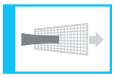


Deodorizing filter

The bad smells present in the environment are captured from the deodorizing filter and then be eliminated by the technology plasma. Extremely low deodorization time makes this function even more effective against the odors of animals or of cooking.

Outdoor air intake

The air quality in the indoor space may be improved using the outdoor fresh air intake.



Standard filter

A honeycomb or synthetic fibre filter with high dust holding capacity.

Long-life filter

The special surface of the long-life filter requires less maintenance than a conventional filter.

"Dirty filters" indicator signal

Filter usage is monitored to indicate when maintenance is necessary.

Air purifyng filter

The filter has a large capture area and deodourise the circulating air.

Air distribution

Vane positions

Number of possible positions for the air deflector vane.

Swing vane

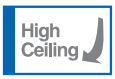
A continuous swinging motion of the vane ensures that air is distributed ideally throughout the room.

Fan speed

Number of fan speeds available.

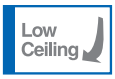
Automatic fan

La velocità del ventilatore viene regolata in automatico per soddisfare il grado di comfort richiesto.



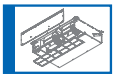
High ceiling

For installations on high ceilings, the air flow may be augmented to improve air distribution.



Low ceiling

For installations on low ceilings, the air flow may be reduced to prevent unpleasant draughts.



Air intake on underside

As an option during installation, the unit may be configured with the air intake on the underside.

Installation and maintenance

Condensate drain pump

The condensate drain pump facilitates installation.

Self-diagnostic

A self-diagnostic system makes troubleshooting and correcting malfunctions easier by recording a log of faults.

Special functions

Auto-restart

The auto restart function may be used to configure the indoor units to restart automatically after a power outage, minimising interruptions in the operation of the system to maintain thermal comfort levels in the air conditioned spaces. This function must be enabled as an option as it is not enabled by default. A choice of two automatic start configurations is available:

- restart only the indoor units which were on before the power outage;
- restart all indoor units, irrespective of on/off state before the power outage.

Stratification compensation

The automatic heat stratification compensation function in HEAT mode is implemented by adjusting the ambient temperature read by a probe on the indoor unit, to obtain a value that more closely reflects the true temperature of the air conditioned space.
An offset of -4°C is applied, so that, for instance, if the inlet temperature measured is 24°C, the system automatically displays an adjusted value of 20°C, which should more closely reflect the true ambient temperature. The Mitsubishi Electric CITY MULTI VRF system bases the thermal power actually delivered on this value.
The stratification compensation function is available on all Mitsubishi Electric indoor unit types with the exception of floor-standing units and certain specific cases (such as with units with underside air intakes), and may be disabled on request.

Low temperature cooling

This function extends the operating temperature range in cooling mode to offer a lowest settable temperature of 14°C. Where the ability to cool to temperatures lower than the standard lowest comfort value of 19°C (typically for sports centres, laboratories etc.) is necessary, the settable temperature range in cooling mode may be extended to offer a lowest temperature of 14°C.
Contact your local distributor for more details on the types of compatible Indoor units.
The indoor unit fan is run at a higher speed in this configuration (except with the SMALL Y model outdoor unit of the PUMY series).

		Cassette							
									
		PLFY-P VFM-E1	PLFY-M VEM6-E	PLFY-P VLMD-E	PMFY-P VBM-E	PEFY-P VMS1-E	PEFY-M VMA-A1	PEFY-P VMHS-E	
Style	Pure White	•	•	•	•				
	AUTO VANE	•	•	•	•				
Functions		•	•		•	•	•	•	
	ACO	•	•	•	•	•	•	•	
	Ultra Silent	•	•	•		•			
Air quality	Fresh-air Intake	•	•	•					
			•		•				
	Long life	•	•	•					
	Catechin								
	Check!	•	•	•	•				
	Air Purifying								
Air distribution		5	5	4	4				
	SWING	•	•	•	•				
		3	4	3 4(P125)	4	3	3	2	
	AUTO	•	•			•			
	High Ceiling	•	•						
	Low Ceiling	•	•						
							•		
Install. and mainten.	Drain Lift Up	•	•	•	•	•*	•	•*	
	Self Diagnosis	•	•	•	•	•	•	•	
Special functions	Auto Restart	•	•	•	•	•	•	•	
	Offset -4°	•	•		•	•	•	•	
	Low Temp Cooling			•		•	•	•	

* Optional

							Floor standing	
								
	PEFY-P VMHS-E	PCFY-P VKM-E	PKFY-P VKM-E	PKFY-P VLM	LEV KIT MSZ-EF	LEV KIT MSZ-LN	PFFY-P VLEM-E	PFFY-P VCM-E
		•	•	•				
		•	•	•	•	•		
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PLFY-P VFM-E1

INDOOR UNITS - 4-way cassette 600x600

CITY MULTI

Ideal for...

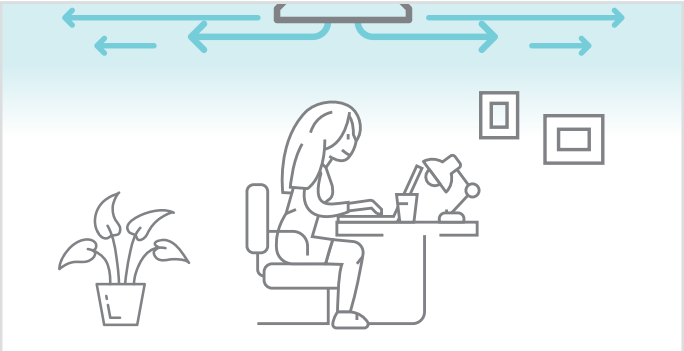
The **straight-line shape** introduced has resulted in a stylish and modern square design. Its high affinity ensures the ability to blend in seamlessly with any interior. The indoor unit is an ideal match for office or store use.

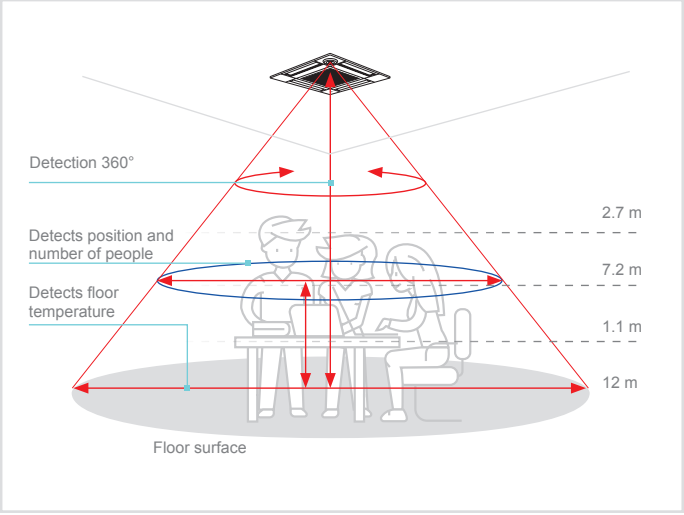
3D i-see Sensor

New advanced 3D i-see sensor detects people's position and number. Once a person is detected, the angle of the vane is automatically adjusted. Each vane can be indenpendently set to "Direct Airflow" or "Indirect Airflow" according to taste.
The 3D i-see Sensor detects the number of people in the room and adjusts the power accordingly. This makes automatic power-saving operation possible in places where the number of people changes frequently.
Additionally, when the area is continuously unoccupied, the system switches to a more enhanced power-saving mode. Depending on the setting, it can also stop the operation.

Horizontal flow

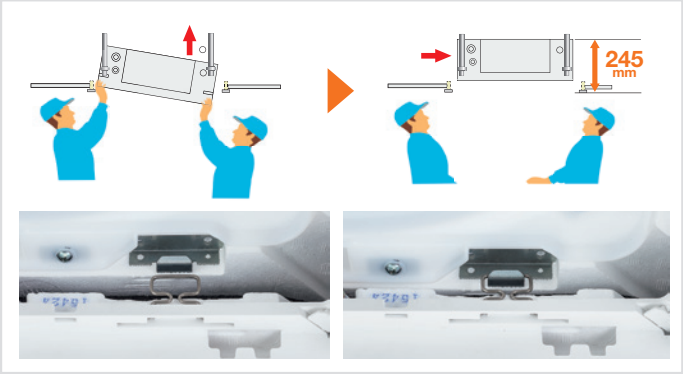
The new airflow control completely eliminates that uncomfortable drafty-feeling with the introduction of a **horizontal airflow** that spreads across the ceiling, maximizing the Coanda effect. Furthermore, 5 patterns for vane position (on previous VCM was 4) and individual settable vane and ways ensure higher comfort. The ideal airflow for offices and restaurants.





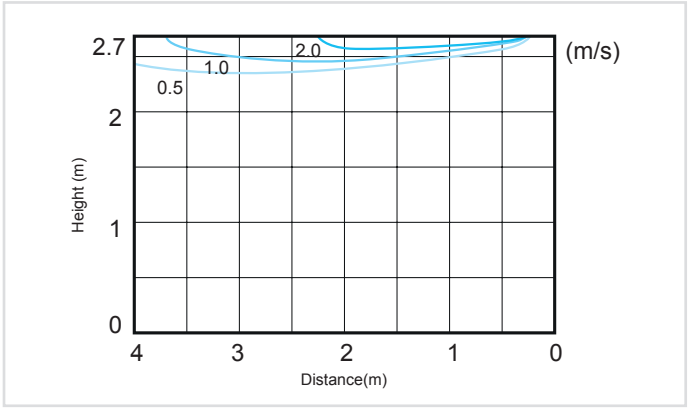
Simplified installation

The height above ceiling of 245 mm is top class in the industry.
The height above ceiling of 245 mm enables fitting into narrow ceiling space. Installation is simple, even when the ceiling spaces are narrow to make the ceilings higher. Light weight (max 15kg) and temporary hanging hooks for grille allow to make installation easier and quicker.



Panel and control

The unit is supplied with SLP-2FAL panel which includes signal receiver. Is available as optional the SLP-2FALM panel combined with the new PAR-SL101A-E wireless remote control with weekly timer, backlight, temperature setting in 0.5 °C steps and individual control of the 4 deflectors.



Key Technologies

DC Inverter · Pure White · AUTO VANE · ACO · Ultra Silent · Fresh-air Intake · Long life · Check! · SWING · Drain Lift Up · Self Diagnosis · Auto Restart · Offset -4°

Technical specifications

MODEL			PLFY-P15VFM-E1	PLFY-P20VFM-E1	PLFY-P25VFM-E1	PLFY-P32VFM-E1	PLFY-P40VFM-E1	PLFY-P50VFM-E1
Default panel			SLP-2FAL					
Power			Single phase, 220-240V 50Hz					
Capacity in cooling mode*1		kW	1.7	2.2	2.8	3.6	4.5	5.6
		Btu/h	5800	7500	9600	12300	15400	19100
Capacity in heating mode*1		kW	1.9	2.5	3.2	4	5	6.3
		Btu/h	6500	8500	10900	13600	17100	21500
Power consumption	Cooling	kW	0.02	0.02	0.02	0.02	0.03	0.04
	Heating	kW	0.02	0.02	0.02	0.02	0.03	0.04
Current	Cooling	A	0.19	0.21	0.22	0.23	0.28	0.4
	Heating	A	0.14	0.16	0.17	0.18	0.23	0.35
External finish	Unit		Galvanised steel sheet with uncoated thermal insulation					
	Grille		Pure White					
Dimensions AxLxP	Unit	mm	245x570x570	245x570x570	245x570x570	245x570x570	245x570x570	245x570x570
	Grille	mm	10x625x625	10x625x625	10x625x625	10x625x625	10x625x625	10x625x625
Net weight	Unit	kg	14	14	14	15	15	15
	Grille	kg	3	3	3	3	3	3
Heat exchanger			Cross fins					
Fan	Type x Quantity		3D Turbo fan x 1					
	Air flow*2	m^3/min	6.5 - 7.5 - 8	6.5 - 7.5 - 8.5	6.5 - 8 - 9	7 - 8 - 9.5	7.5 - 9 - 11	9 - 11 - 13
	Ext. Static pressure	Pa	0	0	0	0	0	0
Air filter			Polypropylen honeycomb (long life)					
Refrigerant pipe diameter	Gas (swaged)	mm	12.7	12.7	12.7	12.7	12.7	12.7
	Liquid (swaged)	mm	6.35	6.35	6.35	6.35	6.35	6.35
Sound pressure*2*3		dB(A)	26 - 28 - 30	26 - 29 - 31	26 - 30 - 33	26 - 30 - 34	28 - 33 - 39	33 - 39 - 43

* Default panel. SLP-2FAL panel is equipped by Signal reicever
*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 Air flow/noise levels given for operation in low-medium-high modes.
*3 Measured in anechoic chamber with 230V mains power.

Optional parts	DESCRIPTION
PAC-SF1ME-E	Corner 3D I-see Sensor for PLFY-P VFM-E1

PLFY-M VEM6-E

NEW

INDOOR UNITS - 4-way cassette 900x900

CITY MULTI

Ideal for...

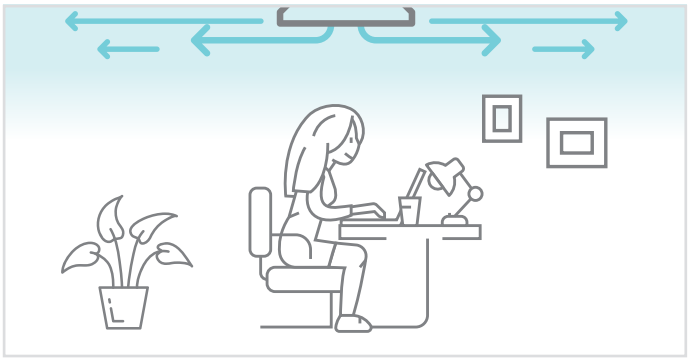
New design of 4-way cassette VEM model suits most commercial applications thanks to its elegance and syle. Its peculiar features are horizontal flow function, individually settable vanes and possibility to install 3D i-see sensor for top environment comfort control.

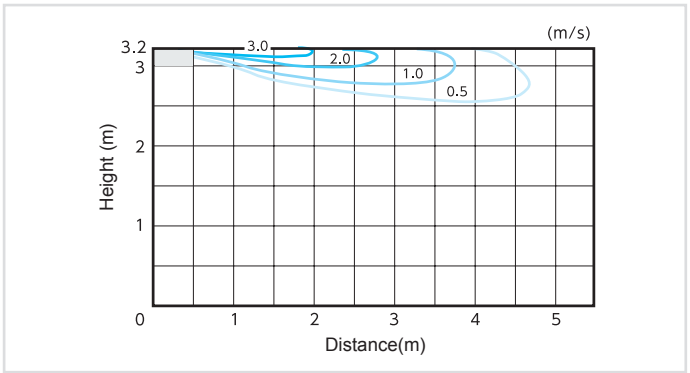
3D i-see sensor: Temperature sensor

3D i-see sensor is able to detect temperature distribution inside the room, making it possible to direct airflow to those areas which generally receive less air, making them more uncomfortable (too cold or too hot) for users.

Horizontal flow

This new indoor unit is capable of handling five vane positions, making it possible to achieve horizontal flow that spreads across the ceiling, maximizing the Coanda effect. This allows to avoid, if needed, direct airflow to users in the room, which can sometimes be uncomfortable.



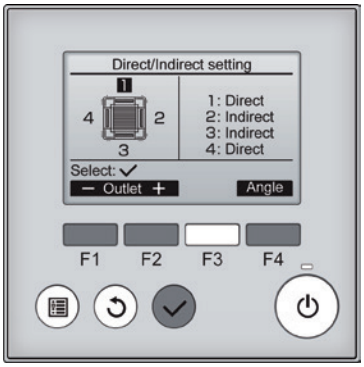


Key Technologies

DC Inverter	Pure White	AUTO VANE		ACO	Ultra Silent	Fresh-air Intake	Long life	Check!	
SWING		Drain Lift Up	Self Diagnosis	Auto Restart	Offset -4°	Plasma Quad Connect			

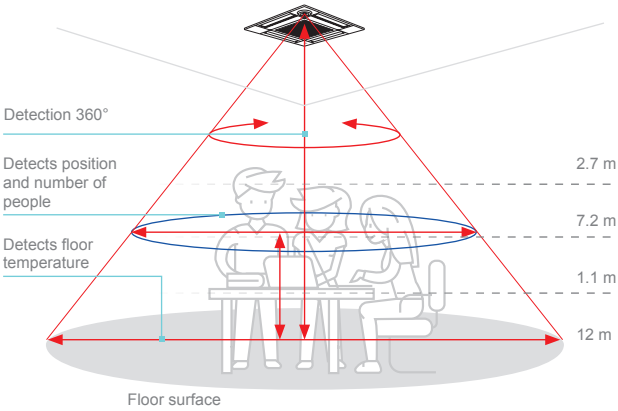
3D i-see sensor: Direct/Indirect flow function

Optional 3D i-see sensor allows to detect and count users in the environment and their position. User can set either Direct or Indirect flow to occupied areas, with single control on four vanes.



3D i-see sensor: Energy saving

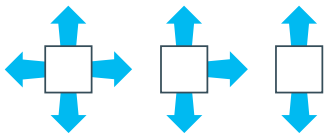
3D i-see sensor features allow to optimize comfort conditions and at the same time achieve energy saving. Thanks to the occupancy sensor the unit is able to automatically handle and reduce power output accordingly to users actually being present in the room or in certain areas of it. This feature is particularly helpful in those environments in which occupancy varies significantly during the day.



Optimum airflow

2-, 3-, 4-way airflow pattern selection
Three outlet options are available--bidirectional, three-way, and four-way--to suit different types of installation. Select, for example, the four-way pattern for installation in the center of the room and three-way pattern for installation in the corner.

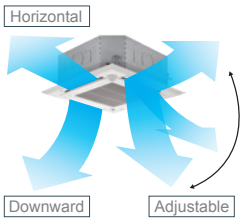
2-, 3-, 4-WAY AIRFLOW PATTERN SELECTION



* Optional shuffle placement is required for 2- and 3-way patterns.

Individual vane angle settings
Vane direction can be changed or fixed from the remote controller to direct the supply air at or away from objects or occupants in the room.

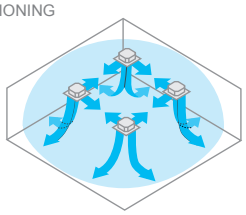
The airflow direction of each vane can be set using the wired remote controller or wireless remote controller (PAR-SL101A-E).



* Optional shuffle placement is required for 2- and 3-way patterns.

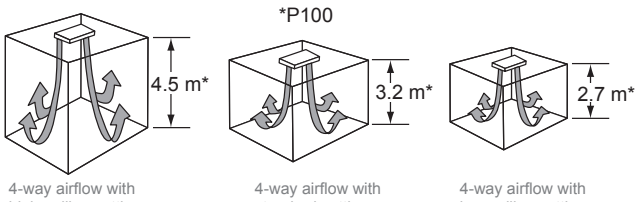
2-, 3-, 4-way airflow pattern selection
+
Individual vane angle settings
Combinations with individual vane settings enable an optimal outlet setting for each room layout to ensure even temperature distribution throughout each room. The result is uniformly comfortable air conditioning.

MULTI-DIRECTIONAL AIR CONDITIONING



Equipped with high- and low-ceiling modes

Units are equipped with high- and low-ceiling operation modes that make it possible to switch the airflow volume to match the height of the room. Being able to choose the optimum airflow volume helps optimize the breezy sensation felt throughout the room.



4-way airflow with high-ceiling setting | 4-way airflow with standard setting | 4-way airflow with low-ceiling setting

Airflow range

Model / Airflow pattern	M20-M80			M100/M125		
	High-ceiling setting	Standard setting	**Low-ceiling setting**	**High-ceiling setting**	Standard setting	**Low-ceiling setting**
4-way	**3.5 m**	2.7 m	**2.5 m**	**4.5 m**	3.2 m	**2.7 m**
3-way	**3.5 m**	3.0 m	**2.7 m**	**4.5 m**	3.6 m	**3.0 m**
2-way	**3.5 m**	3.3 m	**3.0 m**	**4.5 m**	4.0 m	**3.3 m**

Automatic air-speed adjustment

An automatic air-speed mode automatically adjusts airflow speed to maintain comfortable room conditions at all times. This setting automatically adjusts the air speed to conditions that match the room environment.

At the start of the heating/cooling operation, airflow is set to high speed to quickly heat/cool the room.

When the room temperature reaches the desired setting, the airflow speed is automatically decreased for stable and comfortable heating/cooling operation.

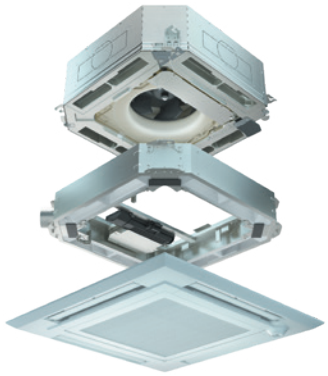
Panel and control

The unit is supplied with PLP-6EA panel which does not include signal receiver. This component (PAR-SE9FA-E) can be installed as a corner accessory, as well as 3D i-See Sensor (PAC-SE1ME-E). The unit is compatible with all wired MA and ME remote controls and, if equipped with signal receiver, wireless remote controls. New PAR-SL101A-E is compatible with PLFY-M VEM, and presents numerous new features, such as weekly timer, backlit display, 0,5°C temperature setting and monitoring, as well as functions for 3D i-see sensor (optional).

Wireless signal receivee (PAR-SE9FA-E)

3D i-see sensor (PAC-SE1ME-E)

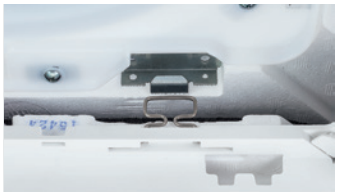
Connectable to Plasma Quad Connect
The optional Plasma Quad Connect PAC-SK51FT-E can be installed on the indoor units.

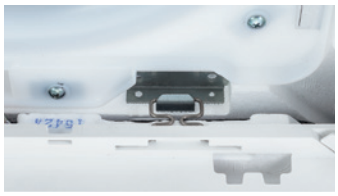


* Plasma Quad Connect (PAC-SK51FT-E) cannot be used with Auto elevation panel (PLP-6EAJ, PLP-6EAJE), Multi functional casement (PAC-SJ41TM-E) and High-efficiency filter element (PAC-SH59KF-E).

Simplified installation

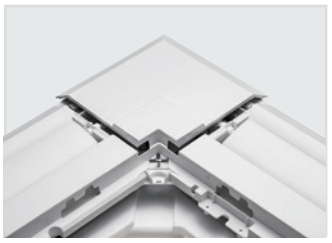
Thanks to new temporary panel supports maintenance and installation operation are now easier for field technicians.





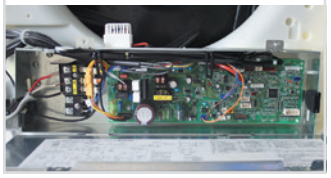
Also, panel weight has been reduced by 20% thanks to a new design.

A simple loosening of support screws allows the removal of the control box and corner accessories.



Electrical box wiring
After reviewing the power supply terminal position in the electrical box, the structure has been redesigned to improve connectivity. This makes complex wiring work easier.

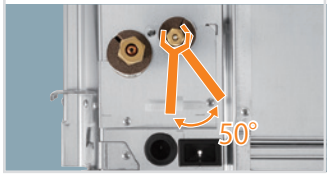
CONVENTIONAL MODEL



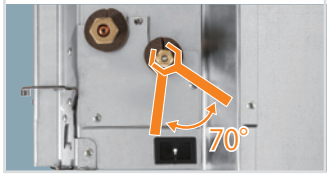
LATEST MODEL

Increased space for plumbing work
The top and bottom positions of the liquid and gas pipes have been reversed to allow the gas pipe work, which requires more effort, to be completed first. Further, through structural innovations related to the space around the pipes, the area for the spanner has been increased, thus improving liquid piping work and enabling it to be completed smoothly.

CONVENTIONAL MODEL



LATEST MODEL



Technical specifications

MODEL			PLFY-M20VEM6-E	PLFY-M25VEM6-E	PLFY-M32VEM6-E	PLFY-M40VEM6-E	PLFY-M50VEM6-E
Power			1-phase 220–240V 50Hz, 1-phase 220V 60Hz				
Capacity in cooling mode*1		kW	2.2	2.8	3.6	4.5	5.6
		Btu/h	7500	9600	12300	15400	19100
Capacity in heating mode*1		kW	2.5	3.2	4.0	5.0	6.3
		Btu/h	8500	10900	13600	17100	21500
Power consumption	Cooling	kW	0.03	0.03	0.03	0.03	0.06
	Heating	kW	0.03	0.03	0.03	0.03	0.07
Current	Cooling	A	0.31	0.31	0.32	0.32	0.52
	Heating	A	0.24	0.24	0.25	0.25	0.60
External finish(Munsel No.)	Unit		Galvanized steel plate				
	Grille		MUNSELL (1.0Y 9.2/0.2)				
Dimensions (HxLxW)	Unit	mm	258x840x840				298 x 840 x 840
	Grille	mm	40x950x950				
Net weight	Unit	kg	19	19	19	19	24
	Grille	kg	5	5	5	5	5
Heat exchanger			Cross fin (Aluminium fin and copper tube)				
Fan	Type x Quantity		Turbo fan x 1				
	Air flow*2	m^3/min	12-13-14-15	12-13-14-15	13-14-15-16	13-14-15-17	16 - 17 - 18 - 25 (Cooling) 16 - 17 - 18 - 28 (Heating)
		l/s	200-217-233-250	200-217-233-250	217-233-250-267	217-233-250-283	267 - 283 - 300 - 417 (Cooling) 267 - 283 - 300 - 467 (Heating)
	Static ext.l pressure	Pa	0	0	0	0	0
Motor	Type		DC Motor				
	Power output	kW	0.050	0.050	0.050	0.050	0.120
Air filter			Polypropilene honeycomb fabric				
Refrigerant pipe diameter	Gas (swaged)	mm	Ø 12.7	Ø 12.7	Ø 12.7	Ø 12.7	Ø 12.7
	Liquid (swaged)	mm	Ø 6.35	Ø 6.35	Ø 6.35	Ø 6.35	Ø 6.35
Local drain pipe diameter	Grille		O.D.32	O.D.32	O.D.32	O.D.32	O.D.32
Sound pressure*2*3		dB(A)	24-26-27-29	24-26-27-29	26-27-29-31	26-27-29-31	27 - 29 - 31 - 38(Cooling) 27 - 29 - 31 - 41(Heating)

*1 Cooling/Heating capacity is the maximum value measured in the following conditions.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) BS. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 High-mid1-mid2-low setting
*3 Measured in anechoic chamber with 230V power supply.

Optional parts	DESCRIPTION
PAC-SK51FT-E	Plasma Quad Connect
PAC-SE1ME-E	Corner 3D I-see Sensor for PLFY-M VEM-E
PLP-6EALM	Panel with wireless remote controller

Technical specifications

MODEL			PLFY-M63VEM6-E	PLFY-M71VEM6-E	PLFY-M80VEM6-E	PLFY-M100VEM6-E	PLFY-M125VEM6-E
Power			1-phase 220–240V 50Hz, 1-phase 220V 60Hz				
Capacity in cooling mode*1		kW	7.1	8.0	9.0	11.2	14.0
		Btu/h	24200	27300	30700	38200	47800
Capacity in heating mode*1		kW	8.0	9.0	10.0	12.5	16.0
		Btu/h	27300	30700	34100	42700	54600
Power consumption	Cooling	kW	0.09	0.12	0.12	0.12	0.12
	Heating	kW	0.12	0.12	0.12	0.12	0.12
Current	Cooling	A	0.74	0.97	0.97	0.97	0.97
	Heating	A	0.90	0.94	0.94	0.94	0.94
External finish(Munsel No.)	Unit		Galvanized steel plate				
	Grille		MUNSELL (1.0Y 9.2/0.2)				
Dimensions (HxLxW)	Unit	mm	298x840x840	298x840x840	298x840x840	298x840x840	298x840x840
	Grille	mm	40x950x950	40x950x950	40x950x950	40x950x950	40x950x950
Net weight	Unit	kg	24	27	27	27	27
	Grille	kg	5	5	5	5	5
Heat exchanger			Cross fin (Aluminium fin and copper tube)				
Fan	Type x Quantity		Turbo fan x 1				
	Air flow*2	m^3/min	16 - 18 - 20- 32 (Cooling) 16 - 18 - 20 - 35 (Heating)	16 - 18 - 20 - 35	16 - 20 - 23 - 35	17 - 22 - 28 - 35	17 - 24 - 31 - 35
		l/s	267 - 300 - 333 - 533 (Cooling) 267 - 300 - 333 - 583 (Heating)	267 - 300 - 333 - 583	267 - 333 - 383 - 583	283 - 367 - 467 - 583	283 - 400 - 517 - 583
	Static ext.l pressure	Pa	0	0	0	0	0
Motor	Type		DC Motor				
	Power output	kW	0.120	0.120	0.120	0.120	0.120
Air filter			Polypropilene honeycomb fabric				
Refrigerant pipe diameter	Gas (swaged)	mm	Ø 15.88	Ø 15.88	Ø 15.88	Ø 15.88	Ø 15.88
	Liquid (swaged)	mm	Ø 9.52	Ø 9.52	Ø 9.52	Ø 9.52	Ø 9.52
Local drain pipe diameter	Grille		O.D.32	O.D.32	O.D.32	O.D.32	O.D.32
Sound pressure*2*3		dB(A)	27 - 30 - 32 - 43(Cooling) 27 - 30 - 32 - 46(Heating)	28 - 31 - 35 - 46	28 - 33 - 37 - 46	29 - 35 - 41 - 46	30 - 37 - 45 - 46

*1 Cooling/Heating capacity is the maximum value measured in the following conditions.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) BS. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 High-mid1-mid2-low setting
*3 Measured in anechoic chamber with 230V power supply.

Optional parts	DESCRIPTION
PAC-SK51FT-E	Plasma Quad Connect
PAC-SE1ME-E	Corner 3D I-see Sensor for PLFY-M VEM-E
PLP-6EALM	Panel with wireless remote controller

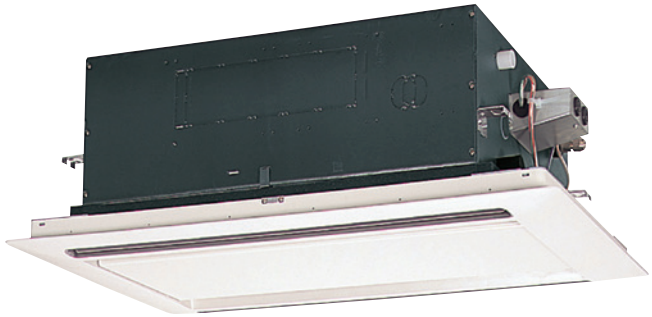
WHAT's NEW

What has changed on PLFY-M VEM6-E Cassette Units?

- The physical dimensions of the size 50,63 & 80 has been changed
- High Fan speed airflow has been increased, hence the new Mid1 can be used instead. However, this also depends on the capacity & sound rating of the required space
- Cooling and heating airflow rate on High Fan speed is different on size 50 & 63.
- The optional Plasma Quad Connect PAC-SK51FT-E can be installed on the indoor units

PLFY-P VLMD-E

INDOOR UNITS - 2-way cassette



Ideal for...

The slimline housing is ideal for installation in small ceiling spaces and for replacing obsolete equipment in old buildings. In fact, the unit is just 290 mm high.

General characteristics

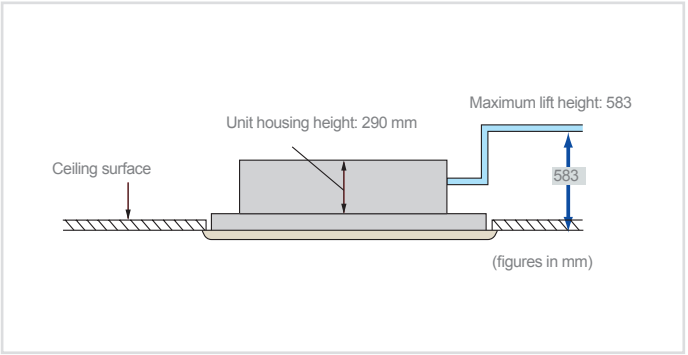
Terminal block
The terminal block is positioned on the outside of the main unit for easier wiring.
Direct external air intake
Clean air can enter the main unit directly (optional accessories required).
Long-life filter supplied as standard
The long-life antibacterial filter requires no maintenance for approximately one year.
Compact unit and low noise levels
15Pa noise levels (standard static pressure).

Noise level dB(A)

Capacity		P20	P25	P32	P40	P50	P63	P80	P100	P125
Fan speed	High	33			36	37	39	39	42	46
	Medium	30			33	34	37	36	39	42/44
	Low	27			29	31	32	33	36	40

Condensate lift pump

The standard version is equipped with a mechanism with condensate lift pump. The drain can be positioned anywhere up to 583mm from the ceiling surface, allowing greater freedom of movement due to long transverse pipes and greater pipe layout versatility.



Easy installation

Installation and maintenance are made easier by the use of a lighter panel and the positioning of the switchboard close to the panel. In addition, the heat exchanger can be flushed by moving the central panel, filter and fan within the pipe layouts themselves.

Key Technologies

Technical specifications

MODEL			PLFY-P20VLMD-E	PLFY-P25VLMD-E	PLFY-P32VLMD-E	PLFY-P40VLMD-E
Power			Single phase, 220-240V 50Hz			
Capacity in cooling mode*1		kW	2.2	2.8	3.6	4.5
		Btu/h	7500	9600	12300	15400
Capacity in heating mode*1		kW	2.5	3.2	4.0	5.0
		Btu/h	8500	10900	13600	17100
Power consumption	Cooling	kW	0.072	0.072	0.072	0.081
	Heating	kW	0.065	0.065	0.065	0.074
Current	Cooling	A	0.36	0.36	0.36	0.40
	Heating	A	0.30	0.30	0.30	0.34
External finish	Unit		Galvanized steel plate			
	Grille		Nr. Munsel 6.4Y 8.9/0.4 (white)			
Dimensions AxLxP	Unit	mm	290x776x634	290x776x634	290x776x634	290x776x634
	Grille	mm	20x1080x710	20x1080x710	20x1080x710	20x1080x710
Net weight	Unit	kg	23	23	24	24
	Grille	kg	6.5	6.5	6.5	6.5
Heat exchanger			Cross fin (Al/Cu)			
Fan	Type x Quantity		Turbo fan x 1			
	Air flow*2	m^3/min	6.5-8.0-9.5	6.5-8.0-9.5	6.5-8.0-9.5	7.0-8.5-10.5
		l/s	108-133-158	108-133-158	108-133-158	117-142-175
		cfm	230-283-335	230-283-335	230-283-335	247-300-371
	Ext. Static pressure	Pa	0	0	0	0
Motor	Type		1-phase induction motor			
	Ext. Static pressure	kW	0.015 (a 240V)	0.015 (a 240V)	0.015 (a 240V)	0.015 (a 240V)
Air filter			Polypropylen honeycomb (long life)			
Refrigerant pipe diameter	Gas (swaged)	mm	ø12.7	ø12.7	ø12.7	ø12.7
	Liquid (swaged)	mm	ø6.35	ø6.35	ø6.35	ø6.35
Local drain pipe diameter		mm	O.D. 32	O.D. 32	O.D. 32	O.D. 32
Sound pressure*2*3		dB(A)	28-31-34	28-31-34	28-31-34	30-34-37

*1 The heating/cooling capacity indicates the maximum values during operation under the following conditions.
Cooling: indoor 27°C (81 °F) DB/19°C(66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45'F) DB/6°C (43°F) WB.
*2 Airflow rate/noise levels are expressed as (low-middle1-middle2-high).
*3 Measured in an anechoic chamber.

Technical specifications

MODEL			PLFY-P50VLMD-E	PLFY-P63VLMD-E	PLFY-P80VLMD-E	PLFY-P100VLMD-E
Power			Single phase, 220-240V 50Hz			
Capacity in cooling mode*1		kW	5,6	7,1	9,0	11,2
		Btu/h	19100	24200	30700	38200
Capacity in heating mode*1		kW	6,3	8,0	10,0	12,5
		Btu/h	21500	27300	34100	42700
Power consumption	Cooling	kW	0,082	0,101	0,147	0,157
	Heating	kW	0,075	0,094	0,140	0,150
Current	Cooling	A	0,41	0,49	0,72	0,75
	Heating	A	0,35	0,43	0,66	0,69
External finish	Unit		Galvanized steel plate			
	Grille		Nr. Munsel 6.4Y 8.9/0.4 (white)			
Dimensions AxLxP	Unit	mm	290x946x634	290x946x634	290x1446x634	290x1446x634
	Grille	mm	20x1250x710	20x1250x710	20x1750x710	20x1750x710
Net weight	Unit	kg	23	28	44	47
	Grille	kg	7.5	7.5	12.5	12.5
Heat exchanger			Cross fin			
Fan	Type x Quantity		Turbo fan x 1	Turbo fan x 1	Turbo fan x 2	Turbo fan x 2
	Air flow*2	m^3/min	6,5-8,0-9,5	11,0-13,0-15,5	15,5-18,5-22,0	17,5-21,0-25,0
		l/s	108-133-158	167-217-258	258-308-367	292-350-417
		cfm	230-283-335	353-459-547	547-653-777	618-742-883
	Ext. Static pressure	Pa	0	0	0	0
Motor	Type		1-phase induction motor			
	Ext. Static pressure	kW	0,020 (a 240V)	0,020 (a 240V)	0,020 (a 240V)	0,030 (a 240V)
Air filter			Polypropylen honeycomb (long life)			
Refrigerant pipe diameter	Gas (swaged)	mm	ø12,7	ø15,88	ø15,88	ø15,88
	Liquid (swaged)	mm	ø6,35	ø9,52	ø9,52	ø9,52
Local drain pipe diameter		mm	O.D.32	O.D.32	O.D.32	O.D.32
Sound pressure*2*3		dB(A)	32-35-38	33-38-40	34-37-40	37-41-43

*1 The heating/cooling capacity indicates the maximum values during operation under the following conditions.
Cooling: indoor 27°C (81°F) DB/19°C(66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68° F) DB, outdoor 7°C (45° F) DB/6°C (43°F) WB.
*2 Airflow rate/noise levels are expressed as (low-middle1-middle2-high).
*3 Measured in an anechoic chamber.

PMFY-P VBM-E

INDOOR UNITS - 1-way cassette

Ideal for...

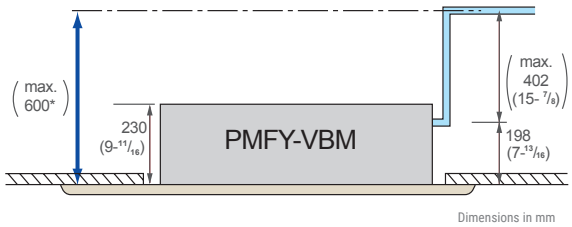
Compact and light housing, perfect for applications in premises with a limited ceiling space.

Easy installation and maintenance

The dimensions of the unit housing have been standardised for all models at 854 mm to facilitate installation. The weight of the body is only 14 kg for the main unit and 3 kg for the panel, making this unit one of the lightest on the market.

Condensate lift pump

The condensate drain can be positioned anywhere up to 600 mm from the ceiling surface.

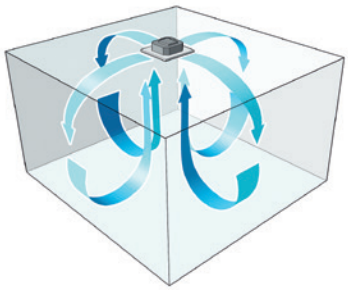


Silent operation

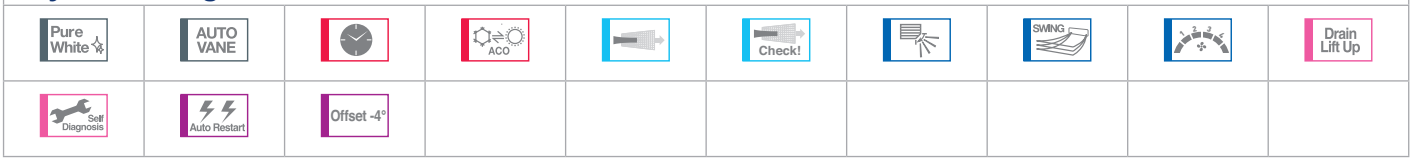
New airflow control technology reduces noise levels to just 27dB (P20VBM) for industry-leading quiet performance.

Improved Coanda effect

Thanks to this effect, the air tends to follow a trajectory that allows it to circulate more evenly in the air-conditioned environment.



Key Technologies



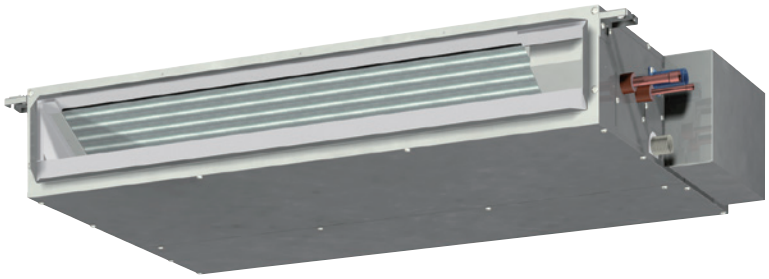
Technical specifications

MODEL			PMFY-P20VBM-E	PMFY-P25VBM-E	PMFY-P32VBM-E	PMFY-P40VBM-E
Power			Single phase, 220-240V 50Hz			
Capacity in cooling mode*1		kW	2,2	2,8	3,6	4,5
		Btu/h	7500	9600	12300	15400
Capacity in heating mode*1		kW	2,5	3,2	4,0	5,0
		Btu/h	8500	10900	13600	17100
Power consumption	Cooling	kW	0,042	0,044	0,044	0,054
	Heating	kW	0,042	0,044	0,044	0,054
Current	Cooling	A	0,20	0,21	0,21	0,26
	Heating	A	0,20	0,21	0,21	0,26
External finish	Unit		Galvanized steel plate			
	Grille		Nr. Munsel 0.98Y 8.99/0.63			
Dimensions AxLxP	Unit	mm	230x812x395	230x812x395	230x812x395	230x812x395
	Grille	mm	30x1000x470	30x1000x470	30x1000x470	30x1000x470
Net weight	Unit	kg	14	14	14	14
	Grille	kg	3	3	3	3
Heat exchanger			Cross fin			
Fan	Type x Quantity		Linear Flow fan x 1			
	Air flow*2	m^3/min	6,5-7,2-8,0-8,7	7,3-8,0-8,6-9,3	7,3-8,0-8,6-9,3	7,7-8,7-9,7-10,7
		l/s	108-120-133-145	122-133-143-155	122-133-143-155	128-145-162-178
		cfm	230-254-283-307	258-283-304-328	258-283-304-328	272-307-343-378
	Ext. Static pressure	Pa	0	0	0	0
Motor	Type		Single-phase induction motor			
	Ext. Static pressure	kW	0,028	0,028	0,028	0,028
Air filter			Polypropylen honeycomb (long life)			
Refrigerant pipe diameter	Gas (swaged)	mm	ø12,7	ø12,7	ø12,7	ø12,7
	Liquid (swaged)	mm	ø6,35	ø6,35	ø6,35	ø6,35
Local drain pipe diameter		mm	O.D. 26	O.D. 26	O.D. 26	O.D. 26
Sound pressure*2*3		dB(A)	27-30-33-35	32-34-36-37	32-34-36-37	33-35-37-39

*1 The heating/cooling capacity indicates the maximum values during operation under the following conditions.
Cooling: indoor 27°C (81 °F) DB/19°C(66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43° F) WB.
*2 Airflow rate/noise levels are expressed as (low-middle1-middle2-high).
*3 Measured in an anechoic chamber.

PEFY-P VMS1-E

INDOOR UNITS - Ceiling concealed medium to low static pressure



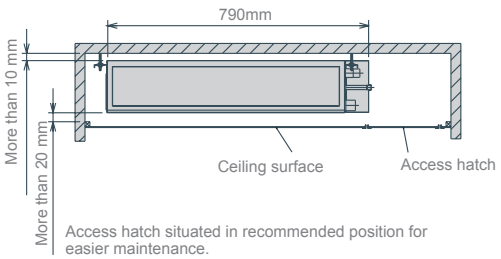
CITY MULTI

Ideal for...

This **ultra-slim 200 mm** unit offers extraordinary flexibility and is particularly suitable for use in rooms where low noise and compact vertical dimensions are essential.

Ultra-slim

These units are extremely thin, at just 200 mm in height.
Extremely compact width and lengths of:
7790 mm for P15 and P32 models
990 mm for P40 and P50 models
1190 mm for P63 models
May be installed easily in cramped spaces such as ceiling recesses or double ceilings.



Condensate lift pump

The VMS1 is equipped with a condensate lift pump as standard.

Adjustable static pressure

L'unità è adatta per diverse applicazioni, grazie alle sue 4 impostazioni di presWith 4 selectable static pressure settings (5, 15, 25 and 50Pa), this unit is ideal for a variety of different applications.

Adjustable air flow

Three different fan speed settings - "low", "medium" and "high" – ensure the desired levels of comfort.

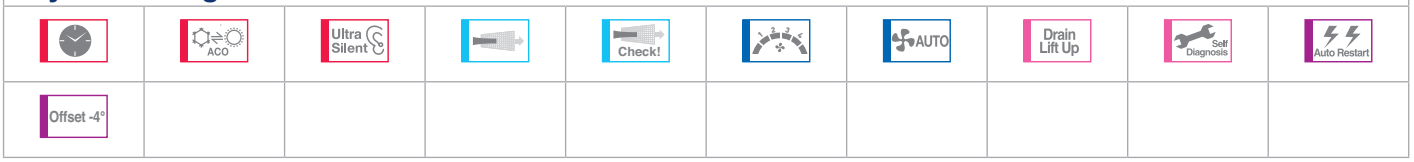
Low noise

The new design of the centrifugal fan and coil reduces noise levels.

Noise level dB(A)

Capacity		P15	P20	P25	P32	P40	P50	P63
Fan speed	High	28			32	33	35	36
	Medium	24			27	30	32	33
	Low	22			24	28	30	30

Key Technologies



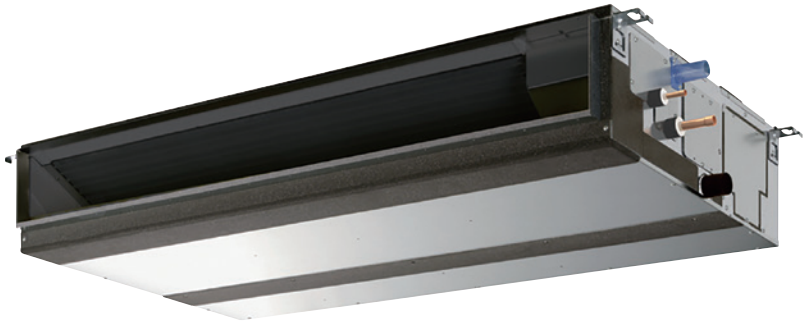
Technical specifications

MODEL			PEFY-P15VMS1-E	PEFY-P20VMS1-E	PEFY-P25VMS1-E	PEFY-P32VMS1-E	PEFY-P40VMS1-E	PEFY-P50VMS1-E	PEFY-P63VMS1-E
Power			A single-phase, 220-240V 50Hz / a 1 fase, 220-240V 60Hz						
Capacity in cooling mode*1		kW	1.7	2.2	2.8	3.6	4.5	5.6	7.1
		Btu/h	5800	7500	9600	12300	15400	19100	24200
Capacity in heating mode*1		kW	1.9	2.5	3.2	4.0	5.0	6.3	8.0
		Btu/h	6500	8500	10900	13600	17100	21500	27300
Power consumption	Cooling	kW	0.05 [0.03]	0.05 [0.03]	0.06 [0.04]	0.07 [0.05]	0.07 [0.05]	0.09 [0.07]	0.09 [0.07]
	Heating	kW	0.03 [0.03]	0.03 [0.03]	0.04 [0.04]	0.05 [0.05]	0.05 [0.05]	0.07 [0.07]	0.07 [0.07]
Current	Cooling	A	0.42 [0.31]	0.47 [0.36]	0.50 [0.39]	0.50 [0.39]	0.56 [0.45]	0.67 [0.56]	0.72 [0.61]
	Heating	A	0.31 [0.31]	0.36 [0.36]	0.39 [0.39]	0.39 [0.39]	0.45 [0.45]	0.56 [0.56]	0.61 [0.61]
External finish			Galvanised						
Dimensions HxLxW		mm	200x790x700	200x790x700	200x790x700	200x790x700	200x990x700	200x990x700	200x1190x700
Net weight		kg	19 [18]	19 [18]	19 [18]	20 [19]	24 [23]	24 [23]	28 [27]
Heat exchanger			Cross fins (sheet aluminium fins and copper piping)						
Fan	Type x Quantity		Sirocco x 2				Sirocco x 3		Sirocco x 4
	Air flow (low-medium-high)	m^3/min	5-6-7	5.5-6.5-8	5.5-7-9	6-8-10	8-9.5-11	9.5-11-13	12-14-16.5
	Static external press	Pa	5-15-35-50	5-15-35-50	5-15-35-50	5-15-35-50	5-15-35-50	5-15-35-50	5-15-35-50
Motor	Type		Brushless DC motor						
	Power output	kW	0.096	0.096	0.096	0.096	0.096	0.096	0.096
Air filter			Polypropylene honeycomb fabric (washable)						
Refrigerant pipe diameter	Gas (swaged)	mm	ø12.7 brazed	ø12.7 brazed	ø12.7 brazed	ø12.7 brazed	ø12.7 brazed	ø12.7 brazed	ø15.88 brazed
	Liquid (swaged)	mm	ø6.35 brazed	ø6.35 brazed	ø6.35 brazed	ø6.35 brazed	ø6.35 brazed	ø6.35 brazed	ø9.52 brazed
Local drain pipe diameter			O.D. 32	O.D. 32	O.D. 32	O.D. 32	O.D. 32	O.D. 32	O.D. 32
Sound pressure (low-medium-high)		dB(A)	22-24-28	23-25-29	24-26-30	24-27-32	28-30-33	30-32-35	30-33-36

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C DB/19°C WB, outdoor 35°C DB.
Heating: indoor 20°C DB (68°F DB), outdoor 7°C DB (45°F DB/43°F WB). Pipe length: 7.5 m (24-9/16 feet).
Height difference: 0 m (0 feet).
*2 Static external pressure is set to 15 Pa by default.
*3 [ ] in case of PEFY-P15-63VMS1L-E.

PEFY-M VMA-A1 NEW

INDOOR UNITS - Ceiling concealed medium to high static pressure



CITY MULTI

Five levels of external static pressure settings

Five-stage external static pressure settings provide flexibility for duct extension, branching, and air outlet configuration and are adjustable to meet different application conditions. Settings range to a maximum of 150Pa.

External static pressure setting

Series	20	25	32	40	50	63	71	80	100	125	140
PEFY-M VMA-A1	35/50/70/100/150 Pa						40/50/70/100/150 Pa				

Four fan speeds to choose from

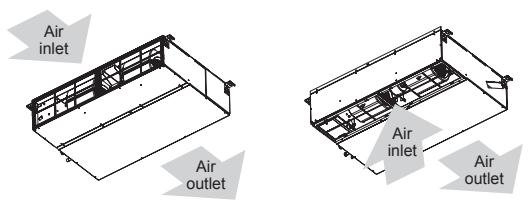
The conventional models had three levels of fan speed, but the new models offer four levels (Low/Mid2/Mid1/High). Combined with a wider selection of external static pressure levels, the new models offer optimal operation settings to suit the air-conditioning load of the installation space.

Air inlet direction can be easily changed

By simply switching the closing board and air filter, the inlet layout can be changed from the rear inlet to the bottom inlet. (At factory shipment: Rear inlet)

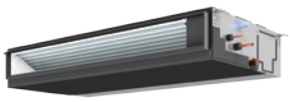
CONVENTIONAL MODEL

HORIZONTAL AIRFLOW

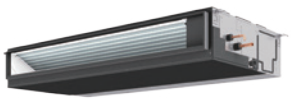


Optional drain pump

The lineup consists of two types of models, with or without a built-in drain pump, for more flexibility in piping layout design.

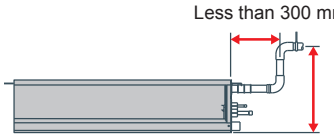


Built-in drain pump
PEFY-M VMA-A1



No drain pump
PEFY-M VMAL-A1

*Units with an "L" at the end of the model name are not equipped with a drain pump.



Connectable to Plasma Quad Connect

The optional Plasma Quad Connect MAC-100FT-E can be installed on the indoor unit's air inlet side. For installation, PQ attachment or PQ box is required.

Key Technologies





Technical specifications

MODEL			PEFY-M20VMA-A1	PEFY-M25VMA-A1	PEFY-M32VMA-A1	PEFY-M40VMA-A1
Power			1-phase 220-230-240 V 50 Hz			
Capacity in cooling mode *1		kW	2.2	2.8	3.6	4.5
		Btu/h	7,500	9,600	12,300	15,400
Capacity in heating mode*1		kW	2.5	3.2	4.0	5.0
		Btu/h	8,500	10,900	13,600	17,100
Power consumption	Cooling	kW	0.039	0.039	0.060	0.087
	Heating	kW	0.037	0.037	0.058	0.085
Current	Cooling	A	0.34-0.33-0.32	0.34-0.33-0.32	0.50-0.48-0.46	0.70-0.67-0.64
	Heating	A	0.34-0.33-0.32	0.34-0.33-0.32	0.50-0.48-0.46	0.70-0.67-0.64
External finish			Galvanized steel plate			
Dimensions HxLxW		mm	250 x 700 x 732	250 x 700 x 732	250 x 700 x 732	250 x 900 x 732
Net weight		kg	21	21	21	25
Heat exchanger			Cross fin (Aluminum fin and copper tube)			
Fan	Type x Quantity		Sirocco fan x 1	Sirocco fan x 1	Sirocco fan x 1	Sirocco fan x 2
	Air flow (low-medium-high)	m^3/min	6.0 - 7.5 - 8.5 -10.0	6.0 - 7.5 - 8.5 - 10	7.4 - 9.0 - 10.5 - 12.5	10.0 - 11.5 - 13.5 - 19.0
		l/s	100 - 125 - 142 - 166	100 - 125 - 142 - 166	123 - 150 - 175 - 208	166 - 191 - 225 - 316
		cfm	212 - 265 - 300 - 353	212 - 265 - 300- 353	261 - 317 - 370 - 441	353 - 406 - 476 - 670
	External static press *2	Pa	35 - <50> - <70> - <100> - <150>	35 - <50> - <70> - <100> - <150>	35 - <50> - <70> - <100> - <150>	35 - <50> - <70> - <100> - <150>
Motor	Type		DC Motor			
	Power output	kW	0.085	0.085	0.085	0.121
Air filter			Polypropylene honeycomb fabric (washable)			
Refrigerant pipe diameter	Gas (brazed)	mm	12.7	12.7	12.7	12.7
	Liquid (brazed)	mm	6.35	6.35	6.35	6.35
Local drain pipe diameter			O.D.32 (1-1/4")	O.D.32 (1-1/4")	O.D.32 (1-1/4")	O.D.32 (1-1/4")
Sound pressure (Low-Mid2-Mid1-High)*3	Cooling	dB(A)	21.5 - 23.0 - 26.5 - 30.0	21.5 - 23.0 - 26.5 - 30.0	23.0 - 26.5 - 29.5 - 33.5	23.5-25.5-28.5-37.0
	Heating	dB(A)	21.5 - 23.0 - 26.5 - 30.0	21.5 - 23.0 - 26.5 - 30.0	23.0 - 26.5 - 29.5 - 33.5	23.5-25.5-28.5-37.0

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 The factory setting of airflow mode and external static pressure mode is shown without < >.
*3 Measured in anechoic chamber with 230V mains power and at the factory setting of external static pressure.

Technical specifications

MODEL			PEFY-M50VMA-A1	PEFY-M63VMA-A1	PEFY-M71VMA-A1	PEFY-M80VMA-A1
Power			1-phase 220-230-240 V 50 Hz			
Capacity in cooling mode *1		kW	5.6	7.1	8.0	9.0
		Btu/h	19,100	24,200	27,300	30,700
Capacity in heating mode*1		kW	6.3	8.0	9.0	10.0
		Btu/h	21,500	27,300	30,700	34,100
Power consumption	Cooling	kW	0.131	0.139	0.165	0.165
	Heating	kW	0.129	0.231	0.216	0.216
Current	Cooling	A	0.94-0.90-0.86	0.99-0.95-0.91	1.16-1.11-1.06	1.16-1.11-1.06
	Heating	A	0.94-0.90-0.86	1.55-1.48-1.42	1.47-1.41-1.35	1.47-1.41-1.35
External finish			Galvanized steel plate			
Dimensions HxLxW		mm	250 x 1100 x 732	250 x 1100 x 732	250 x 1400 x 732	250 x 1400 x 732
Net weight		kg	30	30	37	37
Heat exchanger			Cross fin (Aluminum fin and copper tube)			
Fan	Type x Quantity		Sirocco fan x 2	Sirocco fan x 2	Sirocco fan x 3	Sirocco fan x 3
	Air flow (low-medium-high)	m^3/min	12.0 - 14.5 - 16.5 - 25.6	13.5 - 16.0 - 19.2 - 26.2	14.5 - 18.0 - 21.0 - 33.1	14.5 - 18.0 - 21.0 - 33.1
		l/s	208 - 241 - 275 - 426	225 - 266- 320 - 436	241 - 300 - 350 - 518	241 - 300 - 350 - 518
		cfm	441 - 511 - 582 - 903	476 - 564 - 677 - 925	511 - 635 - 741 - 1098	511 - 635 - 741 - 1098
	External static press*2	Pa	35 - <50> - <70> - <100> - <150>	35 - <50> - <70> - <100> - <150>	40 - <50> - <70> - <100> - <150>	40 - <50> - <70> - <100> - <150>
Motor	Type		DC Motor			
	Power output	kW	0.121	0.121	0.300	0.300
Air filter			Polypropylene honeycomb fabric (washable)			
Refrigerant pipe diameter	Gas (brazed)	mm	12.7	15.88	15.88	15.88
	Liquid (brazed)	mm	6.35	9.52	9.52	9.52
Local drain pipe diameter			O.D.32 (1-1/4")	O.D.32 (1-1/4")	O.D.32 (1-1/4")	O.D.32 (1-1/4")
Sound pressure (Low-Mid2-Mid1-High)*3	Cooling	dB(A)	22.0-24.0-26.5-37.0	23.0-26.0-30.0-37.5	22.0-25.0-27.5-38.5	22.0-25.0-27.5-38.5
	Heating	dB(A)	22.0-24.0-26.5-37.0	23.0-26.0-30.0-41.5	22.0-25.0-27.5-40.5	22.0-25.0-27.5-40.5

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 The factory setting of airflow mode and external static pressure mode is shown without < >.
*3 Measured in anechoic chamber with 230V mains power

Technical specifications

MODEL			PEFY-M100VMA-A1	PEFY-M125VMA-A1	PEFY-M140VMA-A1
Power			1-phase 220-230-240 V 50 Hz		
Capacity in cooling mode *1		kW	11.2	14.0	16.0
		Btu/h	38,200	47,800	54,600
Capacity in heating mode*1		kW	12.5	16.0	18.0
		Btu/h	42,700	54,600	61,400
Power consumption	Cooling	kW	0.211	0.218	0.282
	Heating	kW	0.140	0.197	0.206
Current	Cooling	A	1.44-1.38-1.32	1.40-1.33-1.28	1.84 - 1.76 - 1.69
	Heating	A	1.44-1.38-1.32	1.40-1.33-1.28	1.84 - 1.76 - 1.69
External finish			Galvanized steel plate		
Dimensions HxLxW		mm	250 x 1400 x 732	250 x 1400 x 732	250 x 1600 x 732
Net weight		kg	37	38	42
Heat exchanger			Cross fin (Aluminum fin and copper tube)		
Fan	Type x Quantity		Sirocco fan x 3	Sirocco fan x 3	Sirocco fan x 3
	Air flow (low-medium-high)	m^3/min	23.0 - 28.0 - 32.0 - 37.0	25.5 - 31.0 - 34.0 - 37.0	29.5 - 35.5 - 40.0 - 44.0
		l/s	383 - 466 - 533 - 616	425 - 516 - 566 - 616	491 - 591 - 666 - 733
		cfm	812 - 988 - 1129 - 1306	900 - 1094 - 1200 - 1306	1041 - 1253 - 1412 - 1553
	External static press*2	Pa	40 - <50> - <70> - <100> - <150>	40 - <50> - <70> - <100> - <150>	40 - <50> - <70> - <100> - <150>
Motor	Type		DC Motor		
	Power output	kW	0.300	0.300	0.300
Air filter			Polypropylene honeycomb fabric (washable)		
Refrigerant pipe diameter	Gas (swaged)	mm	15.88	15.88	15.88
	Liquid (swaged)	mm	9.52	9.52	9.52
Local drain pipe diameter			O.D.32 (1-1/4")	O.D.32 (1-1/4")	O.D.32 (1-1/4")
Sound pressure (Low-Mid2-Mid1-High)*3	Cooling	dB(A)	29.5 - 34.0 - 37.5 - 40.0	31.5 - 36.5 - 38.5 - 40.5	34.0 - 38.0 - 40.5 - 43.0
	Heating	dB(A)	29.5 - 34.0 - 37.5 - 40.0	31.5 - 36.5 - 38.5 - 40.5	34.0 - 38.0 - 40.5 - 43.0

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 The factory setting of airflow mode and external static pressure mode is shown without < >.
*3 Measured in anechoic chamber with 230V mains power

WHAT's NEW

What has changed on PEFY-M VMA Ducted Units?

- The physical dimensions of the size 50,63 & 80 has been changed
- The SHC (Sensible Capacity) of these new units have been improved
- Fan speed have been divided into 4 stages: High, Mid1, Mid2, low. Hence providing more flexibility on static and sounds rating depending on the installed space.
- High Fan speed airflow has been increased, hence the new Mid1 can be used instead. However, this also depends on the capacity & sound rating of the required space
- Cooling and Heating airflow rate on high Fan speed is different on size 63 & 80

PEFY-P VMHS-E

INDOOR UNITS - Ceiling concealed high static pressure

CITY MULTI

Four levels of external static pressure settings

Although the conventional models only had three levels of external static pressure, the new models offer four levels of external static pressure. The additional external static pressure capacity provides flexibility for duct extension, branching and air outlet configuration.

PEFY-P VMHS-E	P40	P50	P63	P71	P80	P100	P125	P140
External static pressure (Pa)	50-<100>-<150>-<200>							

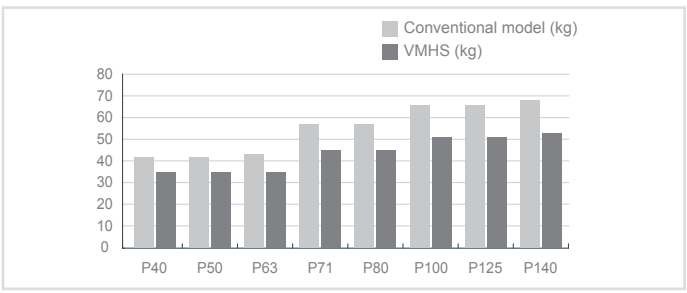
The factory setting of external static pressure is shown without < >.
Refer to "Fan characteristics curves", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.

Three fan speeds (Low/Mid/High) to choose from

The conventional models had two levels of fan speed, the new models offer three levels of fan speed (Low/Mid/High). Combined with a wider selection of external static pressure levels, the new models offer optimal operation settings to suit the air-conditioning load of an Installation space.

Reduction weight

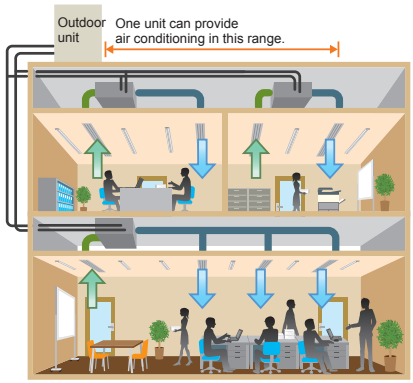
Downsizing of the motor helped reduce unit weight, offering easier installation.



The use of DC motor

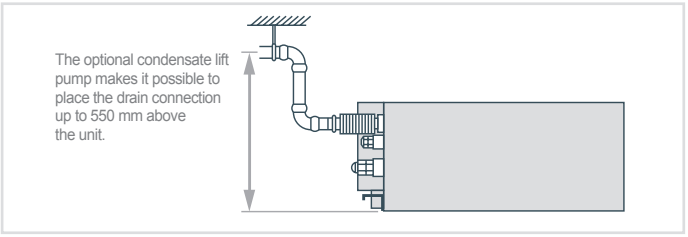
The new models are equipped with high-efficiency DC motors as compared to the AC motors on older models, which reduced power consumption. On the P80 models, power consumption is reduced by 59%*.

*Comparison made at 50 Hz, 220 V, 100 Pa Low fan speed



Optional drain pump

Use of high-efficiency DC motor for the drain pump motor on the new models reduces power consumption by 90%, in comparison to that on the conventional models. The pump head height of 550 mm provides for greater piping design flexibility.



Key Technologies

DC Inverter | ACO | AUTO | Drain Lift Up | Self Diagnosis | Auto Restart | Offset -4° | Low Temp Cooling

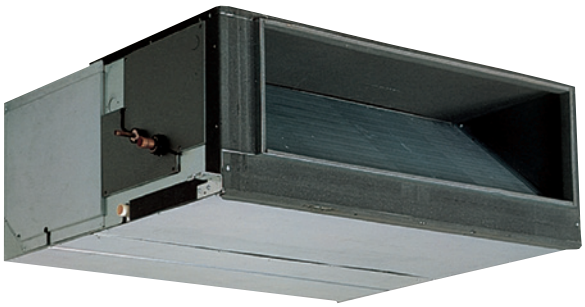
Technical specifications

MODEL			PEFY-P40VMHS-E	PEFY-P50VMHS-E	PEFY-P63VMHS-E	PEFY-P71VMHS-E	PEFY-P80VMHS-E	PEFY-P100VMHS-E	PEFY-P125VMHS-E	PEFY-P140VMHS-E
Power			A single-phase, 220-230-240V 50/60 Hz							
Capacity in cooling mode *1		kW	4,5	5,6	7,1	8,0	9,0	11,2	14,0	16,0
		Btu/h	15,400	19,100	24,200	27,300	30,700	38,200	47,800	54,600
Capacity in heating mode*1		kW	5,0	6,3	8,0	9,0	10,0	12,5	16,0	18,0
		Btu/h	17,100	21,500	27,300	30,700	34,100	42,700	54,600	61,400
Power consumption	Cooling	kW	0,055	0,055	0,090	0,075	0,090	0,160	0,160	0,190
	Heating	kW	0,055	0,055	0,090	0,075	0,090	0,160	0,160	0,190
Current	Cooling	A	0,41-0,39-0,38	0,41-0,39-0,38	0,64-0,62-0,59	0,54-0,52-0,50	0,63-0,61-0,58	1,05-1,01-0,96	1,05-1,01-0,96	1,24-1,19-1,14
	Heating	A	0,41-0,39-0,38	0,41-0,39-0,38	0,64-0,62-0,59	0,54-0,52-0,50	0,63-0,61-0,58	1,05-1,01-0,96	1,05-1,01-0,96	1,24-1,19-1,14
External finish			Galvanized							
Dimensions HxLxW		mm	380x745x900	380x745x900	380x745x900	380x1030x900	380x1030x900	380x1195x900	380x1195x900	380x1195x900
Net weight		kg	35	35	35	45	45	51	51	53
Heat exchanger			Cross fins (aluminium fins and copper piping)							
Fan	Type x Quantity		Sirocco x 1	Sirocco x 1	Sirocco x 1	Sirocco x 2	Sirocco x 2	Sirocco x 2	Sirocco x 2	Sirocco x 2
	Air flow (low-medium-high)	m^3/min	10,0-12,0-14,0	10,0-12,0-14,0	13,5-16,0-19,0	15,5-18,0-22,0	18,0-21,5-25,0	26,5-32,0-38,0	26,5-32,0-38,0	28,0-34,0-40,0
		l/s	167-200-233	167-200-233	225-267-317	258-300-367	300-358-417	442-533-633	442-533-633	467-567-667
		cfm	353-424-494	353-424-494	477-565-671	547-636-777	636-759-883	936-1130-1342	936-1130-1342	989-1201-1412
	Static external press	Pa	50 - 100 -150 - 200	50 - 100 -150 - 200	50 - 100 -150 - 200	50 - 100 -150 - 200	50 - 100 -150 - 200	50 - 100 -150 - 200	50 - 100 -150 - 200	50 - 100 -150 - 200
Motor	Type		Motor DC							
	Power output	kW	0,121	0,121	0,121	0,244	0,244	0,375	0,375	0,375
Air filter			-	-	-	-	-	-	-	-
Refrigerant pipe diameter	Gas (swaged)	mm	12,7	12,7	15,88	15,88	15,88	15,88	15,88	15,88
	Liquid (swaged)	mm	6,35	6,35	9,52	9,52	9,52	9,52	9,52	9,52
Local drain pipe diameter			O.D 32	O.D 32	O.D 32	O.D 32	O.D 32	O.D 32	O.D 32	O.D 32
Sound pressure (low-medium-high)*2		dB(A)	20-23-27	20-23-27	24-27-32	24-26-30	25-27-30	27-31-34	27-31-34	27-32-36

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given:
Cooling: 27°C DB / 19°C WB, outdoor 35°C DB.
Heating: 27°C DB, outdoor 7°C DB / 6°C WB.
*2 Static pressure is set to 50 Pa by default.
*3 Measured in anechoic chamber.

PEFY-P VMHS-E

INDOOR UNITS - Ceiling concealed high static pressure



CITY MULTI

Ideal for...

The new VMHS series: improved **installation flexibility** and superior performance.

DC Inverter motor

The new VMHS ducted indoor units are equipped with a single-phase DC Inverter electric motor, a solution that offers more precise electronic control and less noise.

Remotely settable static overpressure

The static overpressure may be modified from a remote control.
In addition to a dip switch on the unit, the PAR-41MAA remote control may also be used to modify static external pressure, making installation significantly simpler.
A choice of up to five different settings is available: 50, 100, 150, 200 or 250 Pa.

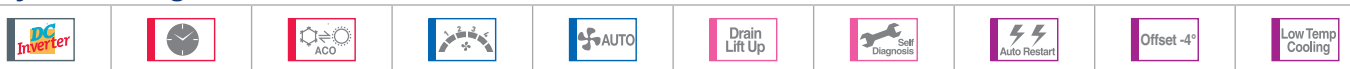
Automatic fan speed adjustment

The automatic fan speed adjustment mode ensures fast, comfortable heating as soon as heating mode is activated. Automatic fan speed control is included in the three standard modes “Low”, “Medium” and “High”, and ensures faster, comfortable air conditioning by increasing the air flow speed on activation and then reducing speed once stable comfort levels are attained.

Quieter

The VMHS series is 15% quieter than the previous VMH model.

Key Technologies



Technical specifications

MODEL			PEFY-P200VMHS-E	PEFY-P250VMHS-E
Power			A single-phase, 220-240V, 50Hz	
Capacity in cooling mode *1		kW	22.4	28.0
		Btu/h	76,000	95,500
Capacity in heating mode*1		kW	25.0	31.5
		Btu/h	72,300	90,400
Power consumption	Cooling	kW	0.63/0.63/0.63	0.82/0.82/0.82
	Heating	kW	0.63/0.63/0.63	0.82/0.82/0.82
Current	Cooling	A	3.47/3.32/3.18	4.72/4.43/4.14
	Heating	A	3.47/3.32/3.18	4.72/4.43/4.14
External finish			Galvanised	
Dimensions HxLxW		mm	470 x 1250 x 1120	470 x 1250 x 1120
Net weight		kg	97	100
Heat exchanger			Cross Fin	
Fan	Type x Quantity		Sirocco x 2	
	Air flow (low-medium-high)	m^3/min	50-61-72	58-71-84
	Static external press*2	Pa	(50)/(100)/150/(200)/(250)	
Motor	Type		Single-phase induction motor	
	Power output	kW	0.87	0.87
Air filter			-	-
Refrigerant pipe diameter	Gas (swaged)	mm	19.05	22.2
	Liquid (swaged)	mm	9.52	9.52
Local drain pipe diameter			32	32
Sound pressure (low-medium-high)*3		dB(A)	36-39-43	39-42-46

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given:
Cooling: 27°C DB / 19°C WB, outdoor 35°C DB.
Heating: 27°C DB, outdoor 7°C DB / 6°C WB.
*2 Static pressure is set to 150 Pa by default.
*3 Measured in anechoic chamber.

PCFY-P VKM-E

INDOOR UNITS - Ceiling-suspended

CITY MULTI

Ideal for...

Designed and built for quiet operation and simple maintenance, these units deliver efficient, comfortable air conditioning performance.

Optimised air flow

Air flow speed is optimised for the height of the ceiling. The ideal air flow setting may be selected for ceilings up to 4.2m in height, maximising both air conditioning efficacy and comfort.

Extremely simple installation

With the direct mount system, it is not necessary to remove the mounting from the main unit, cutting installation times.
The condensate drain pipes may be connected on the left or right of the unit.

Automatic fan speed adjustment

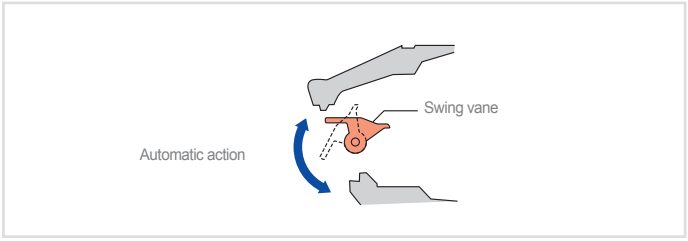
As well as the 4 manual fan speed settings, the PCFY series may also be set to automatically adjust fan speed in relation to ambient conditions: the fan speed is always set to the highest setting when the unit is switched on, to reach the desired conditions more quickly, and is reduced automatically near the setpoint for stable comfort.

Extra slim

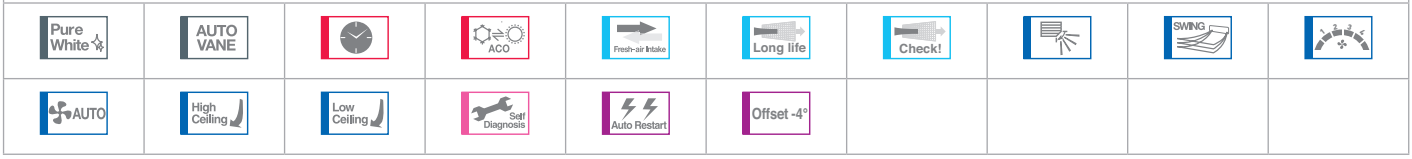
Extremely slim and with elegant curves, the PCFY series is perfectly suited to any interior. The unit also features a single air outlet, meaning that the automatic swing vane also doubles as a shutter when the unit is off.

Automatic swing vane

The automatic swing vane mode distributes air more uniformly.
The vane swings upwards and downwards automatically to distribute air effectively into every corner of the room.



Key Technologies



Technical specifications

MODEL			PCFY-P40VKM-E	PCFY-P63VKM-E	PCFY-P100VKM-E	PCFY-P125VKM-E
Power			A single-phase, 220-230-240VAC 50Hz			
Capacity in cooling mode*1		kW	4.5	7.1	11.2	14.0
		Btu/h	15400	24200	38200	47800
Capacity in heating mode*1		kW	5.0	8.0	12.5	16.0
		Btu/h	17100	27300	42700	54600
Power consumption	Cooling	kW	0.04	0.05	0.09	0.11
	Heating	kW	0.04	0.05	0.09	0.11
Current	Cooling	A	0.28	0.33	0.65	0.76
	Heating	A	0.28	0.33	0.65	0.76
External finish			Munsell 6.4Y 8.9/ 0.4			
Dimensions HxLxW		mm	230x960x680	230x1280x680	230x1600x680	230x1600x680
Net weight		kg	24	32	36	38
Heat exchanger			Cross fins (aluminium fins and copper piping)			
Fan	Type x Quantity		Sirocco x 2	Sirocco x 3	Sirocco x 4	Sirocco x 4
	Air flow (low-medium-high)	m^3/min	10-11-12-13	14-15-16-18	21-24-26-28	21-24-27-31
		l/s	167-183-200-217	233-250-267-300	350-400-433-467	350-400-450-517
		cfm	353-388-424-459	494-530-565-636	742-847-918-989	742-847-953-1095
	Static external press	Pa	0	0	0	0
Motor	Type		Single-phase DC motor			
	Power output	kW	0.090	0.095	0.160	0.160
Air filter			Polypropylene honeycomb fabric (long life)			
Refrigerant pipe diameter	Gas (swaged)	mm	ø12.7	ø15.88	ø15.88 / ø19.05 (compatibile)	ø15.88 / ø19.05 (compatibile)
	Liquid (swaged)	mm	ø6.35	ø9.52	ø9.52	ø9.52
Local drain pipe diameter			O.D. 26 (1)	O.D. 26 (1)	O.D. 26 (1)	O.D. 26 (1)
Sound pressure (low-medium-high)*2		dB(A)	29-32-34-36	31-33-35-37	36-38-41-43	36-39-42-44

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 Air flow/noise levels given for operation in low-medium1-medium2-high modes.
*3 Measured in anechoic chamber.

PKFY-P VLM-E

INDOOR UNITS - Wall-mounted

CITY MULTI

New design

A sharp and simple form that combines beauty and function. The simple square design harmonizes beautifully with the straight lines created by the intersection of the walls, floor and ceiling of the space. With a new white body color, it is the ideal solution for residential applications, offices and large stores.

New line-up

New exclusive P10 model is added in wall mounted lineup. P10 size allows to respond to the needs of narrow spaces conditioning them finely. In addition, miniaturization of conventional P32 model has been realized. It contributes to space saving of installation area.

Capacity	P10	P15	P20	P25	P32	P40	P50	P63	P100
VLM	NEW	•	•	•	•	•	•		

Horizontal airflow

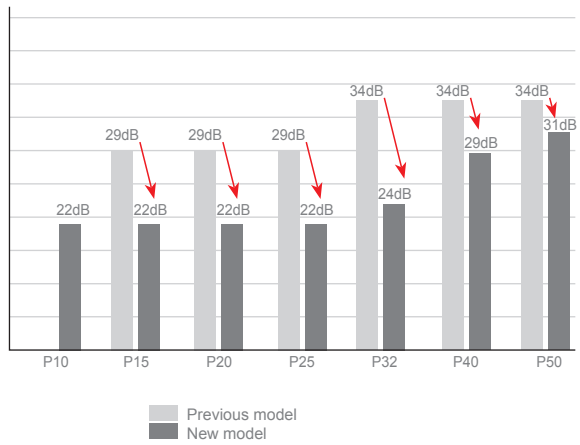
The vane angle can be set to five steps, including the one that allows horizontal air flow, reducing the feeling of draft. Besides, 4 steps of air speed are available.

		Fan Speed	Vane Control	
			Vane Angle	Swing mode
Conventional	PKFY-P** VBM	4 speeds	4 steps	---
	PKFY-P** VHM	3 speeds + AUTO	5 steps	✓
NEW	PKFY-P** VLM-E	4 speeds + AUTO	5 steps	✓

Quietness...

The noise level has been significantly reduced compared to the conventional model by reviewing the unit structure and improving the line flow fan.

PKFY-P VLM SPL (Lo)



Key Technologies




Technical specifications

MODEL			PKFY-P10VLM-E	PKFY-P15VLM-E	PKFY-P20VLM-E	PKFY-P25VLM-E	PKFY-P32VLM-E	PKFY-P40VLM-E	PKFY-P50VLM-E
Power			A single-phase, 220-240V 50Hz, A single-phase, 220-230V 60Hz						
Capacity in cooling mode*1		kW	1.2	1.7	2.2	2.8	3.6	4.5	5.6
		Btu/h	4100	5800	7500	9600	12300	15400	19100
Capacity in heating mode*1		kW	1.4	1.9	2.5	3.2	4.0	5.0	6.3
		Btu/h	4800	6500	8500	10900	13600	17100	21500
Power consumption	Cooling	kW	0.02	0.02	0.02	0.03	0.04	0.04	0.05
	Heating	kW	0.01	0.01	0.01	0.02	0.03	0.03	0.04
Current	Cooling	A	0.20	0.20	0.20	0.25	0.35	0.35	0.45
	Heating	A	0.15	0.15	0.15	0.20	0.30	0.30	0.40
External finish			Plastic (0.7PB 9.2/0,4)						
Dimensions HxLxW		mm	299 x 773 x 237					299 x 898 x 237	
Net weight		kg	11 (25)					13 (29)	
Heat exchanger			Cross fin (Aluminium fin and copper tube)						
Fan	Type x Quantity		Line flow fan x 1						
	Air flow *2	m^3/min	3.3-3.5-3.8-4.2	4.0-4.2-4.4-4.7	4.0-4.4-4.9-5.4	4.0-4.6-5.4-6.7	4.3-5.4-6.9-8.4	6.3-7.4-8.6-10.0	6.8-8.3-10.2-12.4
		l/s	55-58-63-70	67-70-73-78	67-73-82-90	67-77-90-112	72-90-115-140	105-123-143-167	113-138-170-207
		cfm	117-124-134-148	141-148-155-166	141-155-173-191	141-162-191-237	152-191-244-297	222-261-304-353	240-293-360-438
	Static external press	Pa	0 (0)						
Motor	Type		DC motor						
	Power output	kW	0.03						
Air filter			PP Honeycomb						
Refrigerant pipe diameter	Gas (swaged)	mm	Ø 12.7 (Ø1/2)						
	Liquid (swaged)	mm	Ø 6.35 (Ø1/4)						
Local drain pipe diameter			I.D. 16 (5/8)						
Sound pressure *2 *3		dB(A)	22-24-26-28	22-24-26-28	22-26-29-31	22-27-31-35	24-31-37-41	29-34-37-40	31-36-41-46

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 Air flow/noise levels given for operation in low-medium1-medium2-high modes.
*3 Measured in anechoic chamber.

PKFY-P VKM-E

INDOOR UNITS - Wall-mounted

CITY MULTI

Ideal for...

An elegant design with simple, clean lines, compact dimensions and a distinctly recognisable family look: **the ideal solution for residential applications, offices and large stores.**

Smooth front panel with pure white finish

All the models of the PKFY series now feature a smooth front panel instead of the mesh used on the previous version. The units themselves are now finished in pure white instead of standard appliance white to fit in perfectly with the style of practically any interior space.

Capacity	P15	P20	P25	P32	P40	P50	P63	P100
VKM							•	•

Key Technologies VKM (P63-P100)

Pure White	AUTO VANE		ACO		Check!		SWING		Self Diagnosis
Auto Restart	Offset -4°								

Technical specifications

MODEL			PKFY-P63VKM-E	PKFY-P100VKM-E
Power			A single-phase, 220-230-240VAC 50Hz	
Capacity in cooling mode*1		kW	7.1	11.2
		Btu/h	24200	38200
Capacity in heating mode*1		kW	8.0	12.5
		Btu/h	27300	42600
Power consumption	Cooling	kW	0.05	0.08
	Heating	kW	0.04	0.07
Current	Cooling	A	0.37	0.58
	Heating	A	0.30	0.51
External finish			Munsell plastic 1.0Y 9.2/0.2	
Dimensions HxLxW		mm	365x1170x295	365x1170x295
Net weight		kg	21	21
Heat exchanger			Cross fins (aluminium fins and copper piping)	
Fan	Type x Quantity		Linear flow fan x 1	
	Air flow (low-medium-high)	m^3/min	16-20	20-26
		l/s	267-333	333-433
		cfm	565-706	706-918
	Static external press	Pa	0	0
Motor	Type			
	Power output	kW	0.056	0.056
Air filter			Polypropylene honeycomb fabric (washable)	
Refrigerant pipe diameter	Gas (swaged)	mm	ø15.88	ø15.88 / 19.05
	Liquid (swaged)	mm	ø9.52	ø9.52
Local drain pipe diameter			I.D. 16 (5/8)	I.D. 16 (5/8)
Sound pressure (low-medium-high)*2		dB(A)	39-45	41-49

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 Air flow/noise levels given for operation in low-medium1-medium2-high modes, in low-medium-high modes or in low-high modes, depending on model.
Measured in anechoic chamber.

PAC-LV11-E

INDOOR UNITS - Wall-mounted design indoor unit LEV Kit

CITY MULTI

Ideal for...

The new LEV Kit may be used to connect both standard VRF indoor units and Residential line indoor units in the same CITY MULTI VRF system.

The new LEV Kit makes it possible to connect stylish residential indoor units, with looks that are perfectly suited for large installations in applications such as residential buildings and hotels, where design is a decisive factor in the choice of indoor units.

Easy installation and maintenance

The new LEV Kit is easy to install in double ceilings or dedicated niches not only because of its compact size (183 mm H x 355 mm L x 142 mm W), but also and especially because it can be installed vertically or horizontally with no condensate drain.
Additionally, a maximum permissible piping length of 15 m between indoor units and the LEV Kit offers the freedom to install the kit in the most effective position possible.

Residential indoor units

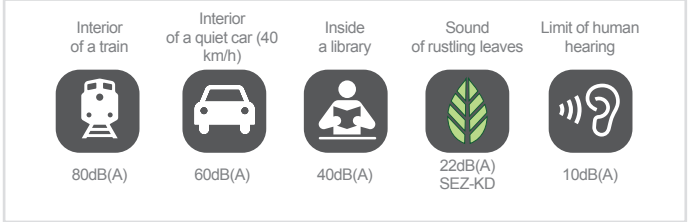
The following residential indoor units may be connected to the LEV Kit:

Types and Sizes available Residential indoor units	15	18	20	22	25	35	42	50
MSZ-LN_VG(2)		•			•	•		•
MSZ-AP_VG(K)	•		•		•	•	•	•
MSZ-EF_VE/VG		•		•	•	•	•	•
MSZ-SF_VA/VE3	•		•	•	•	•	•	•
MFZ-KJ_VE					•	•		•
MFZ-KT_VG					•	•		•

ATTENTION !!
FOR DETAILS ON COMPATIBILITY BETWEEN EACH MODEL OF INDOOR UNITS AND OUTDOOR UNITS PLEASE CONTACT YOUR LOCAL DISTRIBUTOR

Unparalleled comfort and air quality

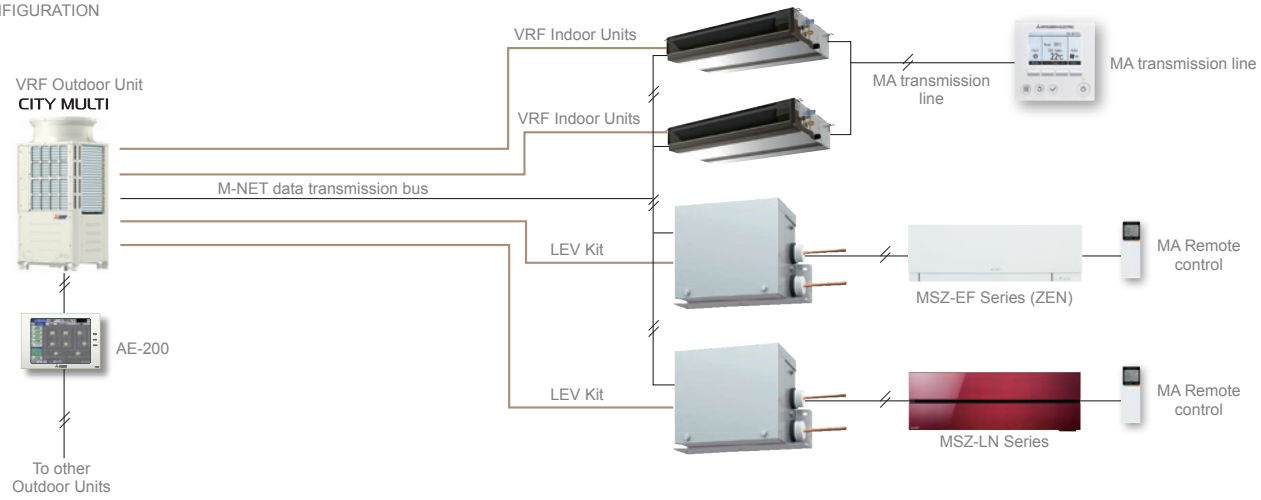
The quality of an environment also depends on perceived noise levels. Mitsubishi Electric air conditioners connected to a VRF CITY MULTI system using the LEV Kit offer the highest levels of acoustic comfort available today on the market.



The residential indoor units also contribute to higher air quality levels with the superior filtration power of air filters with nanoplatinum treatment.

Key Technologies


SYSTEM CONFIGURATION



Technical specifications

MODEL			PAC-LV11-E
Power			A single-phase, 220-240VAC 50Hz
Compatible Family series residential indoor units			MSZ-EF, MSZ-LN, MSZ-SF, MSZ-KJ
Number of branches			1 way
Maximum distance between indoor unit and LEV Kit		m	15
Compatible CITY MULTI outdoor units			Small Y Line - Small Y Compact Line - Y Lines (Ecostandard/ Standard Efficiency/High Efficiency) - Y Line Zubadan (YHM) - Y Line Replace Multi (YJM), R2 Lines (Standard Efficiency/High Efficiency) - R2 Line Replace Multi (YJM), WY Line (YHM) - WR2 Line (YHM)
Dimensions (HxLxW)		mm	180x355x142
Net weight		kg	3.5
Condensate drain			Not necessary
Installation			Vertical Horizontal
Refrigeration pipe diameter	Liquid	mm	6.35 (brazed)
	Gas	mm	-
Compatible remote controls			Standard: Remote control included with optional residential indoor units (purchased separately): 1. MA wired remote control interfaced via MAC-397IF board (optional, for installation in indoor units - purchased separately). 2. ME wired remote control, interfaced via LEV Kit terminal board.

PFFY-P VKM-E

INDOOR UNITS - Design floor-standing unit

CITY MULTI

Ideal for...

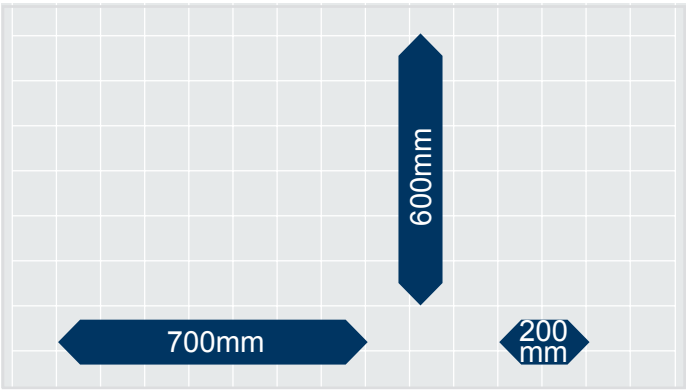
A high performance floor-standing air conditioner unit with an **elegant design** for lounges, bedrooms or offices where style is imperative.

Sophisticated design

A floor-standing air conditioner unit by Mitsubishi Electric boasting an innovative design and combining simple, linear lines with a wide choice of functions. Conceived to leave the walls free, a unit that delivers comfortable cooling performance in summer and pleasant heat in winter. The gloss pure white finish lends the unit a premium look suitable for any interior space. Both the upper and lower air vents are closed when the air conditioner is switched off, giving the unit an elegantly stylish feel. A beautifully stylish and innovative air conditioner from Mitsubishi that suits your most elegant interior spaces to perfection.

Slim but powerful

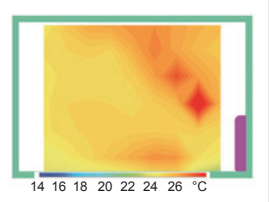
The slimline housing of the unit expresses the essence of compactness. The ideal size for a lounge, bedroom and many other rooms. The front panel is removable and washable, making the unit extremely simple to clean. Cleaning your air conditioner simply and regularly will keep it looking great and working perfectly for maximum energy efficiency.



Ideal air distribution

Air is distributed powerfully and effectively via the upper and lower air vents, ensuring a comfortable temperature throughout the room. The angle of the upper vent is settable into 5 different positions (+ swing and automatic modes) from a remote control, while 4 different air speed settings are available. Setting the vane to an almost vertical position prevents undesirable draughts, for even greater comfort.

The air delivered from the upper and lower vents is controlled for optimum comfort and distributed evenly into every corner of the room. In heating mode, the warm air flow is controlled intelligently to reach floor level, making cold feet a thing of the past!



Key Technologies

Pure White | AUTO VANE | ACO | Catechin | Check! | SWING | Self Diagnosis | Auto Restart

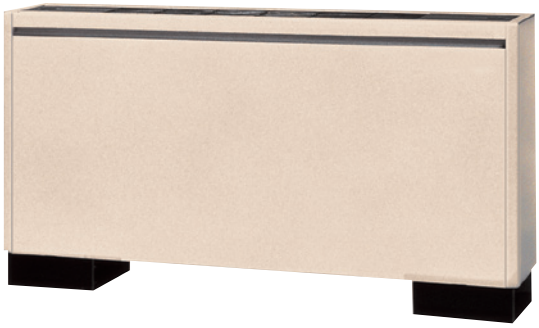
Technical specifications

MODEL			PFFY-P20VKM-E	PFFY-P25VKM-E	PFFY-P32VKM-E	PFFY-P40VKM-E
Power			A single-phase, 220-240V 50Hz			
Capacity in cooling mode*1		kW	2.2	2.8	3.6	4.5
		Btu/h	7500	9600	12300	15400
Capacity in heating mode*1		kW	2.5	3.2	4.0	5.0
		Btu/h	8500	10900	13600	17100
Power consumption	Cooling	kW	0.025	0.025	0.025	0.028
	Heating	kW	0.025	0.025	0.025	0.028
Current	Cooling	A	0.20	0.20	0.20	0.24
	Heating	A	0.20	0.20	0.20	0.24
External finish			Plastic (pure white)			
Dimensions HxLxW		mm	600x700x200	600x700x200	600x700x200	600x700x200
Net weight		kg	15	15	15	15
Heat exchanger			Cross fins (aluminium fins and copper piping)			
Fan	Type x Quantity		Linear flow fan x 2			
	Air flow (low-medium-high-extra high)	m^3/min	5.9-6.8-7.6-8.7	6.1-7.0-8.0-9.1	6.1-7.0-8.0-9.1	8.0-9.0-9.5-10.7
	Static external pres.	Pa	0	0	0	0
Motor	Type		DC motor			
	Power output	kW	0.03x2	0.03x2	0.03x2	0.03x2
Air filter			Polypropylene honeycomb fabric (catechin filter)			
Refrigerant pipe diameter	Gas (swaged)	mm	ø12.7	ø12.7	ø12.7	ø12.7
	Liquid (swaged)	mm	ø6.35	ø6.35	ø6.35	ø6.35
Local drain pipe diameter			D.I. 16 (PVC pipe connectable to VP-16)			
Sound pressure (low-medium-high)*2		dB(A)	27-31-34-37	28-32-35-38	28-32-35-38	35-38-42-44

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 Measured in anechoic chamber.

PFFY-P VLEM-E

INDOOR UNITS - Floor standing unit



CITY MULTI

Ideal for...

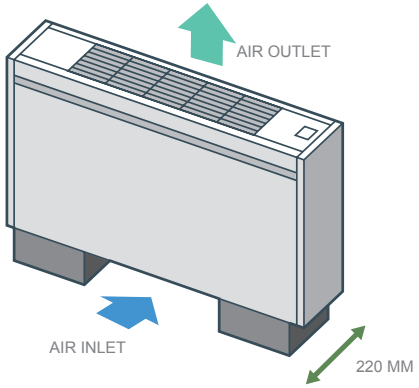
A free floor standing **unit ideal for perimeter zones**. A compact unit for easy conditioning even in the perimeter area. The 220mm deep body (8-11 / 16in.)
Can be easily installed in the perimeter area to achieve effective conditioning in this area as well.

Compact unit

A compact unit offering a simple solution for conditioning perimeter zones. The compact unit, measuring just 220 mm in depth (8-11/16”), is easily installable in perimeter areas to ensure effective conditioning performance in these zones too.

Cooling dehumidification function

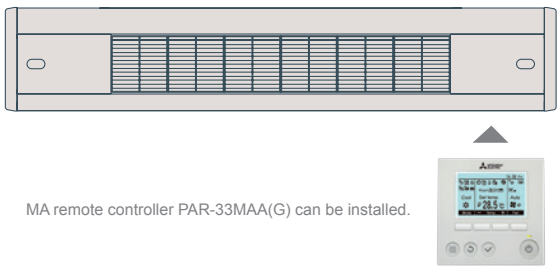
The electronic dehumidifier function uses cooling to dehumidify the air. The compact unit, measuring just 220 mm in depth, is easily installable in perimeter areas to ensure effective conditioning performance in these zones too.



Characteristics of PFFY-P VLEM-E

- Standardised design with simple lines.
- Suitable for all spaces, from offices and shops to hospitals.
- May be equipped with a water vapour impermeable membrane humidifier system.
- Features a specific concealed housing for stowing a remote control unit out of sight.

REMOTE CONTROLLER CAN BE BUILT-IN



MA remote controller PAR-33MAA(G) can be installed.

Key Technologies





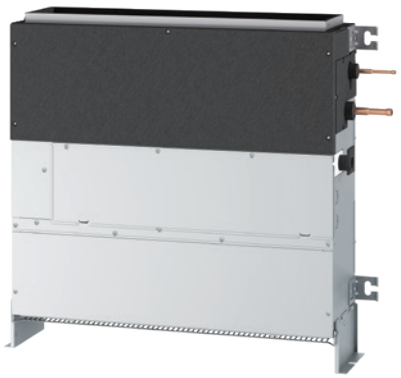
Technical specifications

MODEL			PFFY-P20VLEM-E	PFFY-P25VLEM-E	PFFY-P32VLEM-E	PFFY-P40VLEM-E	PFFY-P50VLEM-E	PFFY-P63VLEM-E
Power			A single-phase, 220-240V, 50Hz / a single-phase, 208-230V, 60Hz					
Capacity in cooling mode*1		kW	2.2	2.8	3.6	4.5	5.6	7.1
		Btu/h	7500	9600	12300	15400	19100	24200
Capacity in heating mode*1		kW	2.5	3.2	4.0	5.0	6.3	8.0
		Btu/h	8500	10900	13600	17100	21500	27300
Power consumption	Cooling	kW	0.04 / 0.06	0.04 / 0.06	0.06 / 0.07	0.065 / 0.075	0.085 / 0.09	0.1 / 0.11
	Heating	kW	0.04 / 0.06	0.04 / 0.06	0.06 / 0.07	0.065 / 0.075	0.085 / 0.09	0.1 / 0.11
Current	Cooling	A	0.19 / 0.25	0.19 / 0.25	0.29 / 0.30	0.32 / 0.33	0.40 / 0.41	0.46 / 0.47
	Heating	A	0.19 / 0.25	0.19 / 0.25	0.29 / 0.30	0.32 / 0.33	0.40 / 0.41	0.46 / 0.47
External finish			Acrylic paint (5Y 8/1)					
Dimensions HxLxW		mm	630x1050x220	630x1050x220	630x1170x220	630x1170x220	630x1410x220	630x1410x220
Net weight		kg	23	23	25	26	30	32
Heat exchanger			Cross fins (aluminium fins and copper piping)					
Fan	Type x Quantity		Sirocco x 1	Sirocco x 1	Sirocco x 1	Sirocco x 2	Sirocco x 2	Sirocco x 2
	Air flow	m^3/min	5.5-6.5	5.5-6.5	7.0-9.0	9.0-11.0	12.0-14.0	12.0-15.5
		l/s	92-108	92-108	117-150	150-183	200-233	200-258
		cfm	194-230	194-230	247-318	318-388	424-494	424-547
	Static external pres.	Pa	0	0	0	0	0	0
Motor	Type		Single-phase induction motor					
	Power output	kW	0.015	0.015	0.018	0.030	0.035	0.050
Air filter			Polypropylene honeycomb fabric (washable)					
Refrigerant pipe diameter	Gas (swaged)	mm	ø12.7	ø12.7	ø12.7	ø12.7	ø12.7	ø15.88
	Liquid (swaged)	mm	ø6.35	ø6.35	ø6.35	ø6.35	ø6.35	ø9.52
Local drain pipe diameter			D.I. 26 (1) <Accessory pipe O.D. 27 (upper end: O.D. 20)>					
Sound pressure*2*3*4		dB(A)	34-40	34-40	35-40	38-43		40-46

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB.
*2 Air flow/noise levels given for operation in low-high modes.
*3 Measurement point: 1m x 1m, Power: 240V AC/50Hz:
1dB(A) less with 230V AC/50Hz.
2dB(A) less with 220V AC/50Hz.
3dB(A) less with measurement point at 1.5 m x 1.5 m.
*4 Measured in anechoic chamber.

PFFY-P VCM-E

INDOOR UNITS - Floor standing concealed



CITY MULTI

Ideal for...

Built-in floor units: simplified installation for effective air **conditioning performance**.

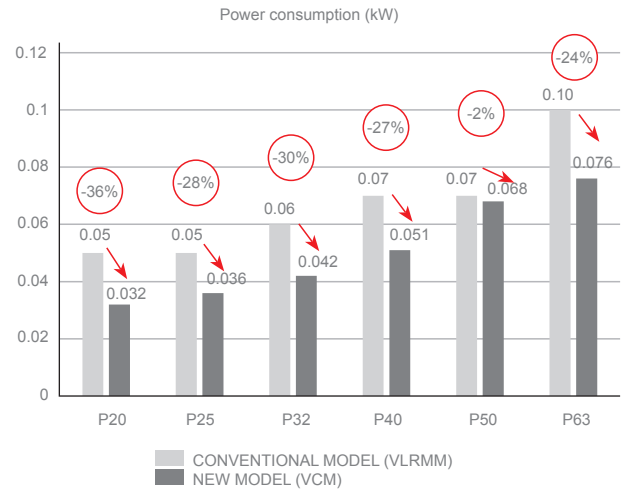
Flexible air-flow and external static pressure setting

The VCM series may be configured with a choice of four different static external pressure settings: 0, 10, 40 and 60 Pa. Besides airflow rate can be selected from 3 patterns (Low-Mid-High).

Reduced power consumption and noise

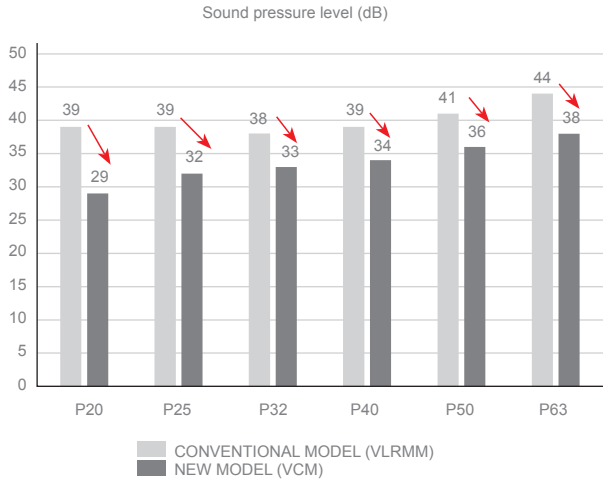
New structure realizes smoother airflow to reduce pressure loss in air pathway. The combination of an improved air pathway structure and components contributes to reduce power consumption and operation noise.

REDUCTION IN POWER CONSUMPTION



*Measurement condition (External static pressure: 40Pa Fan speed: High)
*The unit consumes the same power in both cooling and heating modes.

REDUCTION IN NOISE



* The sound pressure level in operation is measured at 1.5 m apart from the front side and bottom side of the unit in anechoic room.

Key Technologies VCM

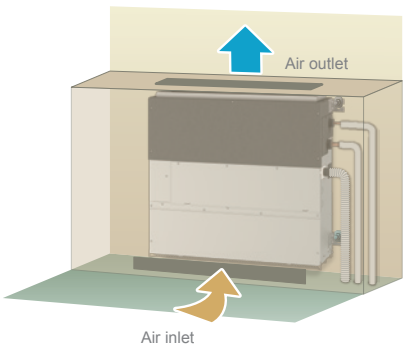




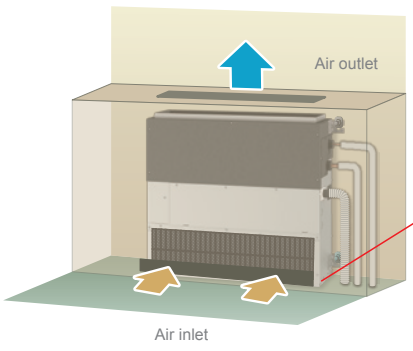
FLEXIBLE INSTALLATION

Selectable air inlet pattern
It is selectable bottom suction or front suction by changing panel, fan guard and filter.

Bottom suction *1



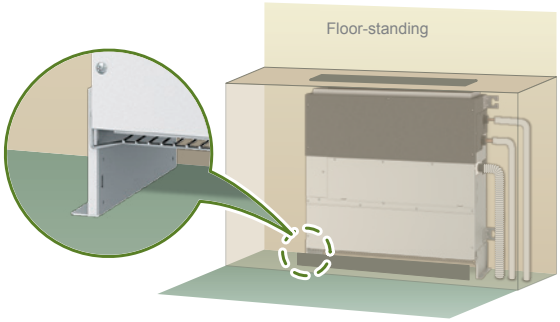
Front suction *1



Front suction allows the unit to be placed directly on the floor.

*1 Select a site where the flow of supply and air is not blocked. This unit cannot be placed directly on the floor with bottom suction.
*2 Unit with front suction makes noise than that with bottom suction. It is recommended that the bottom suction to be selected when installing the units in rooms that should be quiet, such as bedrooms.

Floor-standing with legs
The unit can be placed on the floor with the supplied legs.



*Height of unit (with legs) is 690 mm.

Technical specifications

MODEL			PFFY-P20VCM-E	PFFY-P25VCM-E	PFFY-P32VCM-E	PFFY-P40VCM-E	PFFY-P50VCM-E	PFFY-P63VCM-E
Power			A single-phase, 220-240V, 50Hz / a single-phase, 208-230V, 60Hz					
Capacity in cooling mode*1		kW	2.2	2.8	3.6	4.5	5.6	7.1
		Btu/h	7,500	9,600	12,300	15,400	19,100	24,200
Capacity in heating mode*1		kW	2.5	3.2	4.0	5.0	6.3	8.0
		Btu/h	8,500	10,900	13,600	17,100	21,500	27,300
Power consumption*2	Cooling	kW	0.022	0.026	0.031	0.038	0.052	0.058
	Heating	kW	0.022	0.026	0.031	0.038	0.052	0.058
Current*2	Cooling	A	0.25	0.30	0.34	0.38	0.50	0.49
	Heating	A	0.25	0.30	0.34	0.38	0.50	0.49
External finish			Galvanized steel plate					
Dimensions HxLxW*3		mm	615(690)x700x200	615(690)x700x200	615(690)x700x200	615(690)x900x200	615(690)x900x200	615(690)x1,100x200
Net weight		kg	18	18	18.5	22.5	22.5	25.5
Heat exchanger			Cross fin (aluminium fin and copper piping)					
Fan	Type x Quantity		Sirocco x 2	Sirocco x 2	Sirocco x 2	Sirocco x 3	Sirocco x 3	Sirocco x 4
	Air flow		(Low-Mid-High)					
		m^3/min	5.5-6.0-7.0	5.5-6.5-8.0	5.5-7.0-8.5	8.0-9.5-11.0	10.0-11.5-13.5	12.0-14.0-16.5
		l/s	83-100-117	92-108-133	92-117-142	133-158-183	167-192-225	200-233-275
		cfm	177-212-247	194-230-282	194-247-300	282-335-388	353-406-477	424-494-583
	Static external pres.	Pa	<0> - 10 - <40> - <60>	<0> - 10 - <40> - <60>	<0> - 10 - <40> - <60>	<0> - 10 - <40> - <60>	<0> - 10 - <40> - <60>	<0> - 10 - <40> - <60>
Motor	Type		DC motor					
	Power output	kW	0.096	0.096	0.096	0.096	0.096	0.096
Air filter			Polypropylene honeycomb fabric (washable)					
Refrigerant pipe diameter	Gas (brazed)	mm	ø12.7	ø12.7	ø12.7	ø12.7	ø12.7	ø15.88
	Liquid (brazed)	mm	ø6.35	ø6.35	ø6.35	ø6.35	ø6.35	ø9.52
Field drainpipe diameter			O.D. 32 (1-1/4)					
Sound pressure*2		dB(A)	21-23-26	22-25-29	23-26-30	25-27-30	28-31-34	28-32-35

*1 For heating/cooling capacity, the maximum value with the unit operating in the following conditions is given.
Cooling: indoor 27°C (81°F) DB/19°C (66°F) WB, outdoor 35°C (95°F) DB. Heating: indoor 20°C (68°F) DB, outdoor 7°C (45°F) DB/6°C (43°F) WB.
*2 The values are measured at the factory setting of external static pressure (10 Pa).
*3 The values in ( ) show the height of unit with leg.

Heating

Hydronic heat pumps

Hybrid systems

			Capacity				
			Heating kW	Cooling kW	Domestic hot water	Hot water heating	
Hybrid systems							
HWS	VRF HWS (Hot Water Supply)		12.5	-	•	•	
ATW	VRF ATW (Air To Water)		12.5	11.2		•	

Supply				Functions		Applications and solutions
	Water cooling	Air heating	Air cooling	Heat recovery	Cascade systems automatic control	
		•	•	•		**CENTRALIZED SOLUTIONS** • Residential (villas, appartments) • Offices • Hotel **INDUSTRY** **SHOPPING CENTER** **SPA/GYM**
	•	•	•	•		

VRF HWS & ATW

HYBRID SYSTEM - Heating/Cooling/Domestic hot water

CITY MULTI

WATER HEATING | DOMESTIC HOT WATER | ENERGY RECOVERY | AIR COOLING | AIR HEATING

The scalability, flexibility and modularity of the Ecodan® – VRF HWS & ATW system represents the state of the art in Mitsubishi Electric technology. This solution makes it possible to use a single producer – the VRF outdoor unit – to deliver heating water, cooling water and domestic hot water simultaneously.

Hydronic modules for VRF CITY MULTI systems.

Ecodan® heat pump technology has been used in conjunction with hydronic modules to create systems for the production of domestic hot water (HWS) and heating water for radiator panels (ATW) which are perfectly compatible with the inclusion of both thermal and photovoltaic solar panels in the installation. Systems with electric heat pumps may be used all year round, as their use is not restricted by legislation.
The added comfort of being able to use the air conditioning system in spring and autumn is yet another advantage of these VRF systems. The indoor units of the VRF CITY MULTI system gently cool and dehumidify the interior space in spring, cool and dehumidify in summer, transferring the extracted heat to both the HWS and ATW hydronic modules, and heat the interior gently at cooler times of day in autumns.
HWS hydronic modules are ideal for the production of domestic hot water all year round. They make use of the energy drawn from indoor spaces by the VRF indoor units, as well as supplementary energy provided by solar panels in summer and spring.
ATW hydronic modules provide hot water for radiant panel heating in winter and deliver warm water to heat a pool in summer, contributing to maintaining comfortable temperature conditions and making use of the energy drawn from the indoor space by the VRF indoor units supplemented by heat supplied by thermal solar panels.
In systems with this capability, ATW hydronic modules may also be used to deliver refrigerated water to radiant panels in summer.

TYPICAL APPLICATIONS: HOTEL (ROOMS)

TYPICAL APPLICATIONS: CENTRALIZED RESIDENTIAL SYSTEMS

SOLUTION FOR CLIMATIZATION, HEATING AND DOMESTIC HOT WATER PRODUCTION

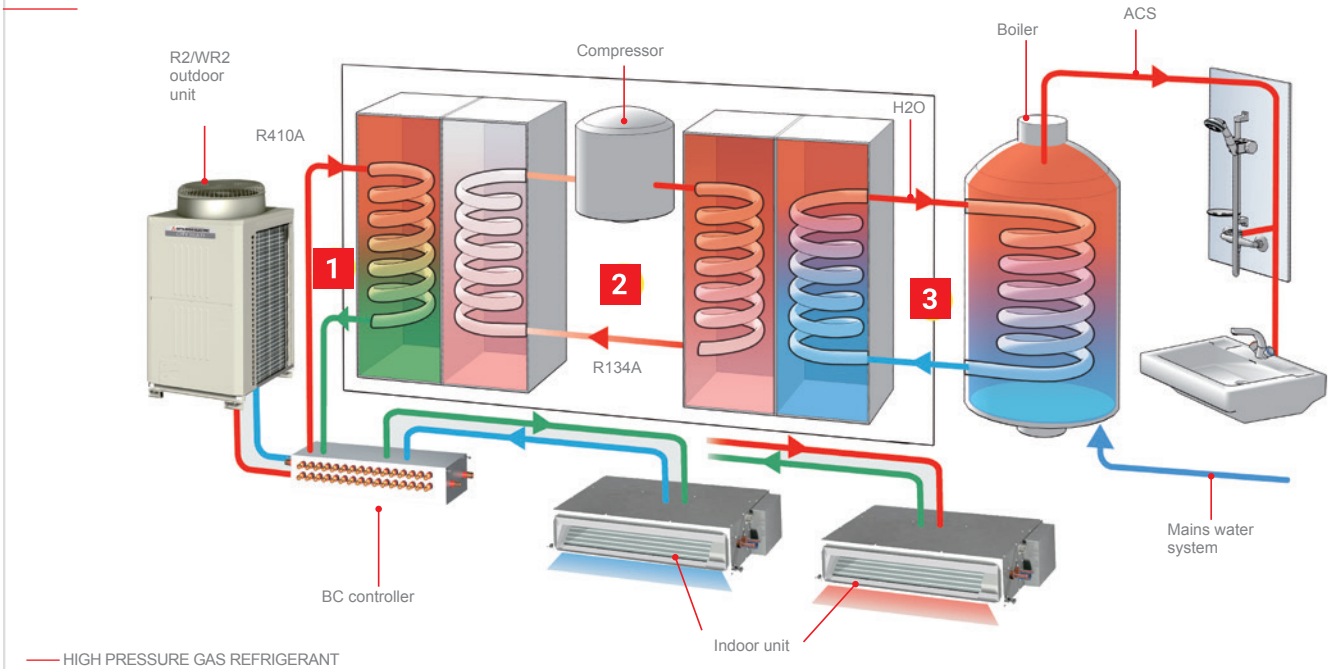
1 R2 Outdoor Units
2 Photovoltaic solar panels
3 BC controller
4 HWS Hydronic Module
5 ATW Hydronic Module
6 Domestic hot water accumulator tank fed from HWS
7 Hot water inertial accumulator tank fed by ATW

GREEN REFRIGERANT CIRCUIT
RED DOMESTIC HOT WATER CIRCUIT
ORANGE HEATING HOT WATER CIRCUIT
BLACK POWER CIRCUIT

HWS hydronic module – Hot water supply

Mitsubishi Electric was the first to introduce VRF systems for the production of high temperature hot water (up to 70°C), usable for domestic hot water production. The HWS hydronic module represents a significant, innovative technological breakthrough that uses the most advanced refrigeration technology, and has been conceived to be easily integrable with R2/WR2 series VRF CITY MULTI simultaneous cooling / heating systems.
Heat recovery plays a crucial role in these systems, as the HWS hydronic module may be used to extract heat from rooms where cooling is required, which would otherwise be vented into the outdoor atmosphere, and then use this heat to contribute to hot water production, adding only the supplementary heat necessary to reach the desired temperature.
The HWS hydronic module can produce hot water at temperatures up to 70°C in the return line, with a heating capacity of up to 12.5 kW per module which, however, is scalable in relation to internal demand.

HWS HYDRONIC MODULE – HOT WATER SUPPLY



HIGH PRESSURE GAS REFRIGERANT
HIGH PRESSURE FLUID REFRIGERANT TWO-PHASE
HIGH PRESSURE LIQUID REFRIGERANT
LOW PRESSURE GAS REFRIGERANT

Operating principle of two-stage technology

The HWS hydronic module employs a variant of the two-stage compression principle – a principle that has been known and used for many years, but which, until now, has only been applied in refrigeration systems to reach very low temperatures (as low as -60°C). Mitsubishi Electric has redesigned the two-stage circuit to achieve the opposite effect, for units intended to produce heating power at medium to high temperatures, from 30°C to 70°C. This solution combines superior energy efficiency with high hot water temperatures that are not attainable with the conventional heat pumps currently on the market. As illustrated previously, the HWS hydronic module uses the "free" heat extracted from the air conditioned interior by the heat recovery circuit of the CITY MULTI R2 outdoor units and raises the temperature to the desired value to deliver usable hot water. This double process recovers energy from the system, increasing its overall efficiency, and raises the temperature of the water with minimal energy expenditure.

Advantages of two-stage technology

The two-stage technology employed in the HWS hydronic module offers a number of significant advantages:

- R134a refrigerant in high temperature stage. R134a is a pure HFC refrigerant which is harmless for the stratospheric ozone layer and contributes only marginally to the greenhouse effect. This refrigerant is particularly suitable for high temperature applications.
- R410A refrigerant in low temperature stage. This is also an HFC refrigerant that is harmless to stratospheric ozone, which offers extraordinary efficiency in air conditioning applications.
- Minimal external energy demand, even when the system is operating in air conditioning mode. The heat drawn from the air is used to heat water.
- When the system functions predominantly in air conditioning mode – in summer, for example – hot water is produced with extremely low energy consumption. This makes it possible for the system to attain very high COP values.
- Continuously variable heating power in relation to demand, made possible by the inverter motor scroll compressor, which reduces energy consumption proportionally.
- Compact dimensions and very light weight. These modules may be mounted on walls, even in intermediate positions. Practically zero floor space usage.
- Individual thermal energy consumption billing with field devices.

TWO-STAGE TECHNOLOGY

Hybrid systems

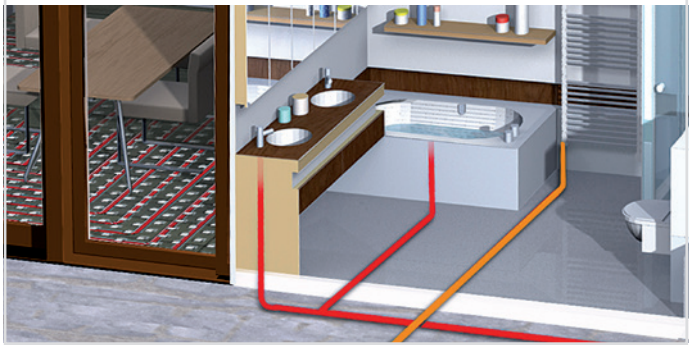
The HWS hydronic module may be used to create hybrid systems, with both hydronic modules and VRF direct expansion units. For instance, this makes it possible for the system to produce domestic hot water and heat or cool the air in the indoor space using the most suitable indoor units of the Mitsubishi Electric range (cassette units, ceiling-suspended units, ducted units etc.).
As well as superior energy efficiency, a hybrid system also offers the extraordinary flexibility needed to cater for very diverse situations, which a conventional air conditioner system simply does not.

Control and adjustment system

The HWS hydronic module can be configured for the following operating modes and hot water temperatures:

OPERATING MODE	TEMPERATURE RANGE
Hot water	30 - 70°C
Heating	30 - 50°C
ECO heating	30 - 45°C
Antifreeze	10 - 45°C

HWS HYDRONIC MODULE



Technical specifications HWS HYDRONIC MODULE

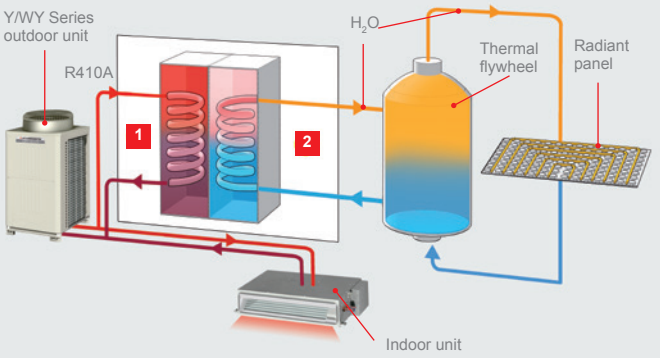
MODEL			PWFY-P100VM-E-BU
Power			Single-phase, 220-230-240V, 50 Hz/60Hz
Heating power output (nominal)		kW *1	12,5
		kcal/h *1	10,800
		Btu/h *1	42,700
	Power absorption	kW	2,48
	Current consumption	A	11,63 - 11,12 - 10,66
Temp. range in heating mode	PURY Series	Outdoor temp. DB	-20~32°C
	PQRY Series	Water temp. in circuit	10~45°C
	PQRY Series	Temp. in water/glycol circuit (for geothermal applications)	-5~45°C
	PWFY-P VM-E1-BU	Return line water temp.	10~70°C
Connectable outdoor units	Total capacity		50-100% of external unit capacity
	Series		R2 (E)P, WR2
Sound pressure in anechoic chamber	dB <A>		44
Refrigerant circuit piping diameter	Liquid	mm (inches)	ø 9,52 (ø 3/8") brazed
	Gas	mm (inches)	ø 15,88 (ø 5/8") brazed
Water piping diameter	Inlet	mm (inches)	ø 19,05 (R 3/4") screw-on connection
	Delivery	mm (inches)	ø 19,05 (R 3/4") screw-on connection
Drain pipe diameter		mm (inches)	ø 32 (1-1/4")
External finish			Galvanised sheet steel
External dimensions HxLxW		mm	800 (785 without feet) x 450 x 300
Dry weight		kg	60
Compressor	Type		Hermetic scroll compressor with inverter
	Manufacturer		MITSUBISHI ELECTRIC CORPORATION
	Starter method		Inverter
	Power	kW	1
	Lubricant		NEO22
Water in circuit	Nominal	m^3/h	0,6 ~ 2,15
	(entire operating volume)		
Internal circuit protection (R134a)	Overpressure protection		Overpressure sensor, pressure switch calibrated to 3.60 Mpa (601 psi)
	Inverter circuit (COMP)		Overcurrent protection, overheat protection
	Compressor		Outlet temperature protection, overheat protection
Refrigerant	Type / original charge		R134a x1.1kg (0,50lb)
	Controller		LEV
Rated pressure	R410a	MPa	4,15
	R134A	MPa	3,60
	Water	MPa	1
Standard equipment	Manuals		Installation manual, Instruction manuals
	Accessory		Water filter, insulating material

Note:
* Nominal conditions *1 are subject to EN14511-2:2004(E)
* Install the module in an environment with a wet bulb temperature not exceeding 32°C
* Due to continuous improvements made to these products, the specifications given above are subject to modification without prior notification.
* The module is not designed to be installed outdoors.
*1 Nominal heating conditions Outdoor temp.: 7°C DB/6°C WB
Nominal heating conditions Outdoor temp.: 7°C DB/6°C WB (45°F DB/43°F WB)
Pipe Length 7.5 m (24-9/16 feet) – Vertical difference: 0 m (0 feet)

ATW hydronic module – Air to water

Mitsubishi Electric has developed the ATW reversible air-water heat pump hydronic module specifically for hydronic heating and air conditioning systems. The refrigeration side of the module may be connected to VRF CITY MULTI SMALL Y and Y Series outdoor heat pump units, or to R2 heat recovery units. The hydronic side of the module may feed heated underfloor systems or other similar utilities, to provide heating in winter in heat pump mode, or cooling in summer in conditioning mode.
Connecting these modules to R2 Series VRF CITY MULTI heat recovery outdoor units offers extraordinarily levels of efficiency, especially in spring and autumn, with extremely high COP values. The HWS hydronic module can produce hot water at temperatures up to 40°C in the return line (45°C in delivery line), with a heating capacity of up to 12.5 kW per module which, however, is scalable in relation to internal demand.

ATW HYDRONIC MODULE – AIR TO WATER



Hybrid systems

Like the HWS module, the ATW hydronic module may be used to create hybrid systems, with both hydronic modules and VRF direct expansion units. For instance, this makes it possible to create a system that can heat certain rooms with radiant panels (a heating solution that is now very popular, as it offers uniform temperatures and quietness) and heat other rooms using appropriate Mitsubishi Electric indoor units (cassette units, wall-mounted units, ducted units etc.). Similarly, conditioning in summer may be performed with a heated underfloor system in rooms where this is installed, and with cooled air in other rooms, via standard VRF indoor units.
This makes it possible to use the most effective treatment solution possible for each interior space, catering for both the requisites of the specific application and the preferences of the user. As well as superior energy efficiency, a hybrid system also offers the extraordinary flexibility needed to cater for very diverse situations, which a conventional conditioning system simply does not.

TYPICAL APPLICATIONS: HOTEL (COMMON AREAS)

TYPICAL APPLICATIONS: CENTRALIZED RESIDENTIAL SYSTEMS (RADIANT PANEL HEATING)

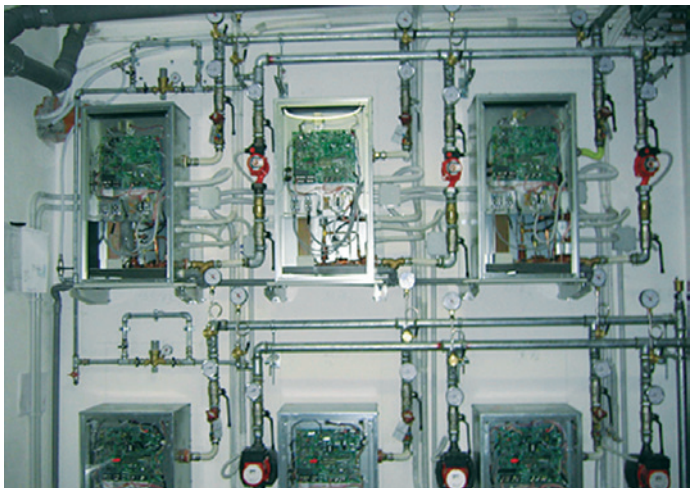
Main features

The functional characteristics of the ATW hydronic module cater for the needs of a very wide variety of different installations:

- nominal heating capacity: 12.5 kW;
- nominal cooling capacity: 11.2 kW;
- outdoor operating temperature range, heating mode: -20°C to +32°C (R2 heat recovery series); -20 to +15.5°C (Y heat pump series);
- outdoor operating temperature range, conditioning mode: -5°C to +46°C (R2 and Y series);
- return hot water temperature range: 10°C to 40°C;
- mains power: single-phase, 230V AC;
- individual thermal energy consumption billing with field devices.

Operating principle

The ATW reversible heat pump hydronic module consists essentially of a brazed plate stainless steel refrigerant-water heat exchanger connected to the VRF CITY MULTI outdoor unit on the refrigeration side, and to the hydronic circuit of the system (radiant panels, radiator units etc.) on the water side. The module is equipped with an electronic expansion valve which modulates the flow of refrigerant in the heat exchanger in response to heating or cooling demand and the demand required by the electronic management and control circuit. The entire system is encased in a housing with compact dimensions and very limited weight comparable to a wall-mounted boiler. The high COP value attained by the ATW hydronic module means that it delivers superior comfort with minimal operating costs, contributing to reducing the CO2 emissions produced for energy production at the power plant. This offers a two-sided advantage as emissions are not only reduced, but also delocalised away from populated areas.



Control and adjustment system

Like the HWS module, the ATW hydronic module is equipped with a sophisticated control system offering a wide choice of functions, selectable in relation to the needs of the installation and the preferences of the user.
The ATW module may be associated with its own independent remote controller (PAR-W21MAA), allowing the user to configure all operating settings, including water temperature, which may be displayed either for the delivery circuit or for the return circuit.
The water temperature reading displayed depends on the type of installation and on the auxiliary controller devices used. The return circuit reading configuration is the most widely used of the two, and allows precise control over the water temperature in the inertial accumulator tank (which is recommended) as a means to balance flows. Once the set temperature is reached, the ATW continues to operate to maintain a constant value.
Note that with this configuration, the delivery temperature is normally higher (max. 45°C) than the set temperature until the set temperature itself is reached.
In installations operating in summer, the ATW produces cold water at a temperature regulated with the same method, based on the primary delivery circuit reading or the return circuit reading.
As the cooling action of the radiant panels only reduces the sensible heat of the interior space, suitable dehumidification systems may also be included in the installation.
The ATW hydronic module can be configured for the following operating modes and hot water temperatures:

MODE	TEMPERATURE RANGE
Heating	30 - 45°C
ECO heating	30 - 45°C
Antifreeze	10 - 45°C
Cooling	10 - 30°C

Technical specifications HWS HYDRONIC MODULE

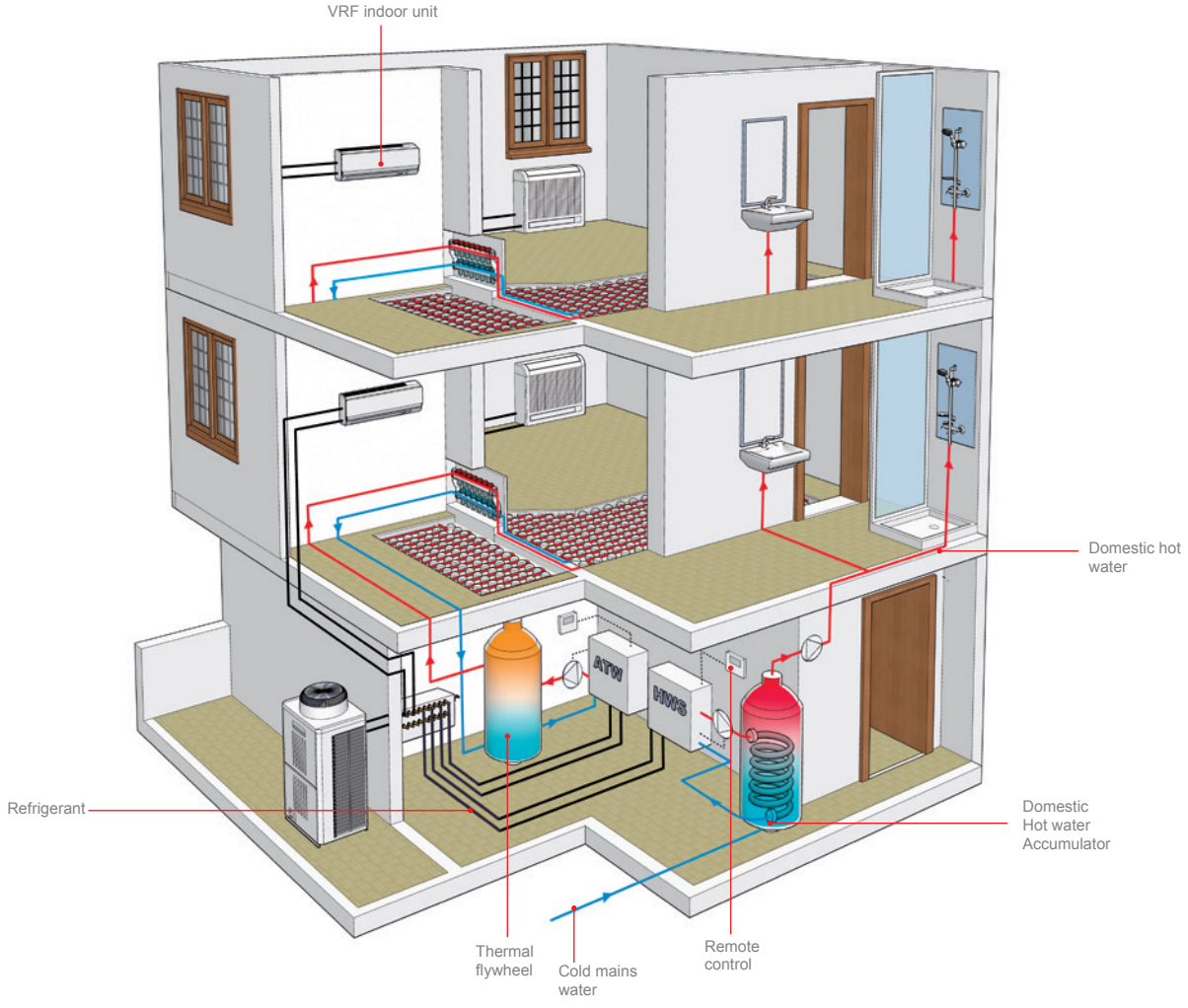
MODEL			PWFY-EP100VM-E2-AU
Power			Single-phase, 220-230-240V 50/60Hz
Heating power output (nominal)		kW *1	12,5
		kcal/h *1	10,800
		Btu/h *1	42,700
	Power absorption	kW	0,025
	Current consumption	A	0,138
Temp. range in heating mode	Serie PUMY	Outdoor temp. DB	-
	Serie PUHY	Outdoor temp. DB	-20~15,5°C
	Serie PURY	Outdoor temp. DB	-20~32°C
	Serie PQHY - PQRY	Water temp. in circuit	10~45°C
	Serie PQHY - PQRY	Temp. in water/glycol circuit	-5~45°C
		(for geothermal applications)	
		Return line water temp	10~40°C
Cooling output (nominal)		kW *2	11,2
		kcal/h *2	9,600
		Btu/h *2	38,200
	Power absorption	kW	0,025
	Current consumption	A	0,138
Temp. range in cooling mode	PUMY Series	Outdoor temp. B.S.	-
	PUHY Series	Outdoor temp. B.S.	-5~46°C
	PURY Series	Outdoor temp. B.S.	-5~46°C
	PQHY - PQRY Series	Water temp. in circuit	10~45°C
	PQHY - PQRY Series	Temp. in water/glycol circuit	-5~45°C
		(for geothermal applications)	
		Return line water temp	10~35°C
Connectable outdoor units	Total capacity		50-100% of capacity of OU
	Series		Y (Ecostandard (P), Standard Efficiencyl (P),High Efficiency (EP)), Zubadan Y, WY, R2 (Standard Efficency (P), High Efficiency (EP)), WR2
			29
			ø 9,52 (ø 3/8") brazed
Sound pressure in anechoic chamber	dB <A>		ø 15,88 (ø 5/8") brazed
Refrigerant circuit piping diameter	Liquid	mm (inches)	ø 19,05 (R 3/4") screw-on connection
	Gas	mm (inches)	ø 19,05 (R 3/4") screw-on connection
Water piping diameter	Inlet	mm (inches)	ø 32 (1-1/4")
	Delivery	mm (inches)	Galvanised sheet steel
Drain pipe diameter		mm (inches)	800 (785 without feet) x 450 x 300
External finish			36
External dimensions HxLxW		mm	1,8-4,30
Dry weight		kg	
Water in circuit	Nominal	m^3/h	4,15
	(entire operating volume)		1
Rated pressure	R410A	MPa	Installation manual, Instruction manuals
	Water	MPa	
Standard equipment	Manuals		Water filter, insulating material, 2x external signal connectors, plumbing fittings for filter, flow regulator
	Accessory		

Note:
* Nominal conditions *1 and 2* are subject to EN14511-2:2004(E)
* Install the module in an environment with a wet bulb temperature not exceeding 32°C
* Due to continuous improvements made to these products, the specifications given above are subject to modification without prior notification.
* The module is not designed to be installed outdoors.

*1 Nominal heating conditions
Outdoor temp.: 7°C DB/6°C WB (45°F DB/43°F WB)
Pipe length: 7.5 m (24-9/16 feet)
Vertical difference: 0 m (0 feet)
Intake water temp.: 30°C
Water flow rate: 2.15 m^3/h (P100)
4.30 m^3/h (P200)

*2 Nominal cooling conditions:
External temp: 35°C DB/(95°F DB)
Pipe length 7.5 m (24-9/16 feet)
Vertical difference: 0 m (0 feet)
Intake water temp.: 23°C
Water flow rate: 1.93 m^3/h (P100)
3.86 m^3/h (P200)

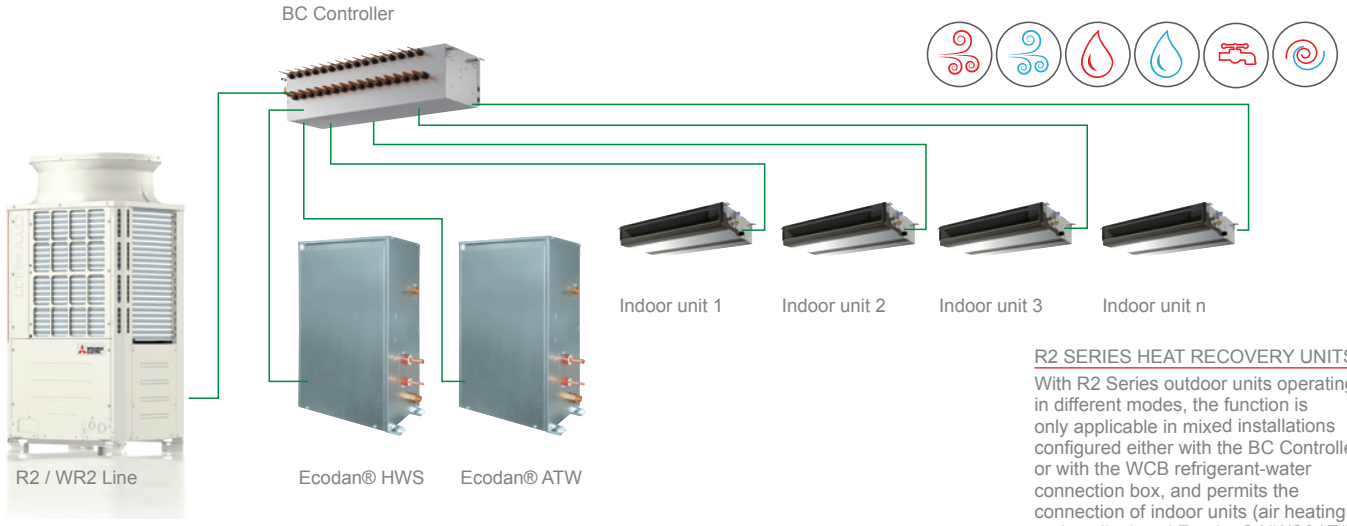
SCHEMATIC: ECODAN® VRF HWS & ATW (SIMULTANEOUS HEATING, COOLING AND DOMESTIC HOT WATER PRODUCTION)



200% EXTENDED CONNECTIVITY FUNCTION

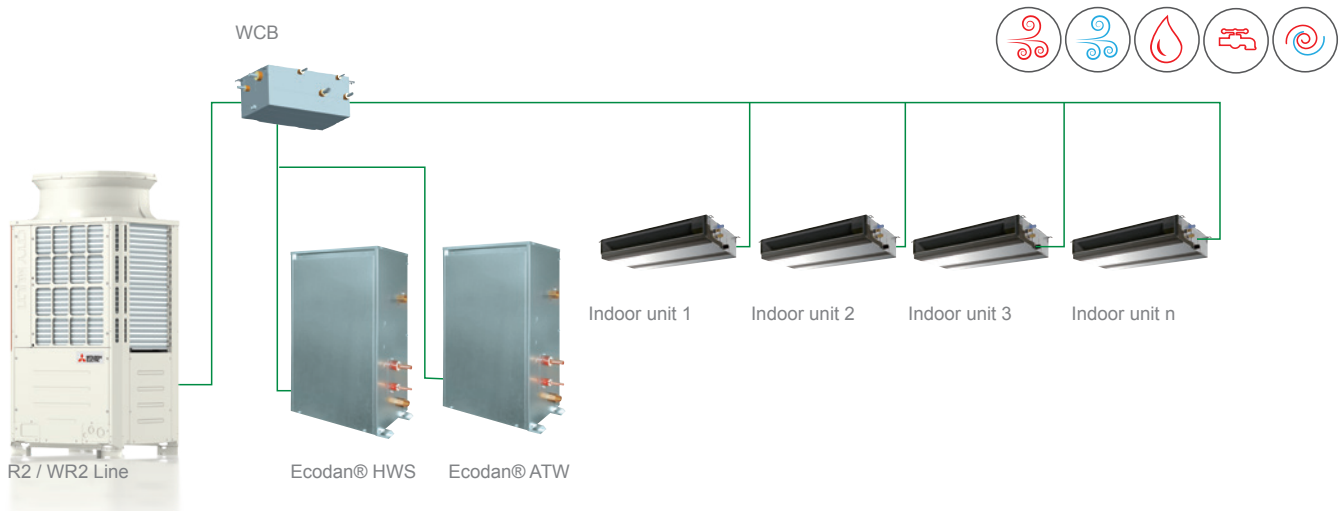
Y SERIES HEAT PUMP UNITS

With Y Series outdoor units, this function is only applicable in mixed installations and allows the connection of indoor units (air heating or cooling) and an Ecodan® ATW hydronic module (water heating) with a total capacity index up to 200% of the capacity of the outdoor unit.*



R2 SERIES HEAT RECOVERY UNITS

With R2 Series outdoor units operating in different modes, the function is only applicable in mixed installations configured either with the BC Controller or with the WCB refrigerant-water connection box, and permits the connection of indoor units (air heating and cooling) and Ecodan® HWS&ATW hydronic modules (DHW production and water heating) with a total capacity index up to 200% of the capacity of the outdoor unit.*



*For detailed informations, please contact your representative

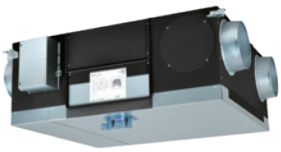
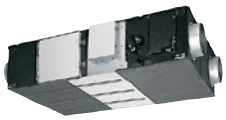

EXIT

Ventilation

All fresh air (AFA)

Lossnay enthalpy heat recovery (LGH)

Outdoor air treatment indoor units (GUF)

TYPE	MODEL NAME	MODEL
All fresh air (AFA)	**PEFY-P125VMHS-E-F** **PEFY-P200VMHS-E-F** **PEFY-P250VMHS-E-F**	
Lossnay Enthalpy heat recovery (LGH)	**LGH-RVS-E**	
	LGH-50RVX-E **LGH-65RVX-E** **LGH-80RVX-E** **LGH-100RVX-E**	
	LGH-150RVX-E **LGH-200RVX-E**	
	LGH-150RVXT-E **LGH-200RVXT-E** **LGH-250RVXT-E**	
Outdoor air treatment indoor units (GUF)	**GUF-50RD(H)4** **GUF-100RD(H)4**	

	Air flow (mc/h)						
	500	600	800	1000	1500	2000	2500
				•	•	•	
	•		•	•			
	•	•	•	•			
					•	•	
					•	•	•
	•			•			

PEFY-P VMHS-E-F

OUTDOOR FRESH AIR INTAKE UNIT (AFA)

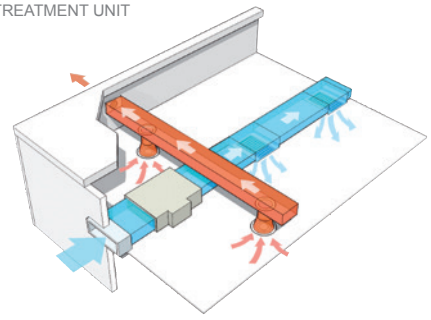
Ideal for...

...feeding temperature-controlled fresh outdoor air into building. The ideal solution for offices, large stores and restaurants.

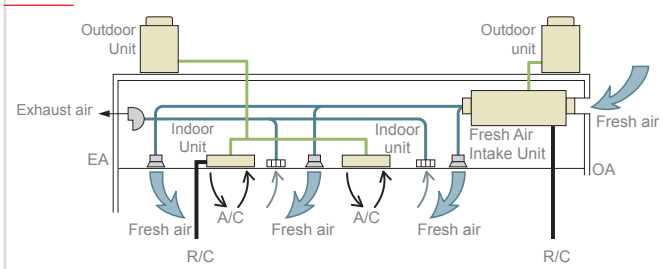
Enables intake of outside air

The indoor purified air delivery unit may be installed anywhere. The purified air delivery unit may be used to feed fresh, purified outdoor air into any building, in any place and at any time.

INSTALLATION OF INDOOR FRESH OUTDOOR AIR TREATMENT UNIT



OPERATING SCHEME - EXAMPLE



Controllable outlet air temperature

With new PEFY-P VMHS-E-F is possible to operate **Supply Air** temperature control.

OPERATION MODE	TEMPERATURE RANGE SETTABLE
COOL mode	14°C - 30°C
HEAT mode	17°C - 28°C
AUTO mode (single set point)	17°C - 28°C
FAN	Not settable

* In some cases the temperature of the air introduced into the ambient may be subject to fluctuations due to the conditions of the external air and to the operating conditions of the system.

Equipped with new DC fan motor

Fan motor has been changed to higher efficiency DC motor. Power source has been changed from three-phase power supply to **single-phase** power supply for all sizes.

Maximum connectable indoor units capacity to outdoor unit

Max. 110% of outdoor unit capacity (100% in case of heating below -5°C).

Flexible air-flow setting

4 levels of external static pressure to choose. External static pressure can be set also by remote controller (PAR-33/40MAA, PAR-U02MEDA and PAR-CT01MA).

MODEL	P125	P200	P250
External Static Pressure (Pa)	<100>-<150>-200-<250>		

* The factory setting of external static pressure is shown without chevrons "< >;".

Two types of air-flow modes are available, each of which has three air-flow rates to choose from:
- Normal Airflow rate
- High Airflow rate

Air-flow rates are accesible from the remote controller (PAR-33/40MAA, PAR-U02MEDA and PAR-CT01MA).

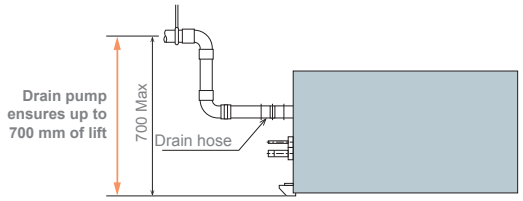
Mode	Normal-airflow rate	High-airflow rate
Air-flow rate	Low-Medium-High	Low-Medium-High

Drain pump (optional)

Greater design flexibility made possible by the increased head height (700 mm max).

UNIT MODEL	DRAIN PUMP MODEL
PEFY-P125 VMHS-E-F	PAC-DRP10DP-E2
PEFY-P200 VMHS-E-F	PAC-KE06DM-F
PEFY-P250 VMHS-E-F	PAC-KE06DM-F

DRAIN PUMP (OPTIONAL)



Specifications

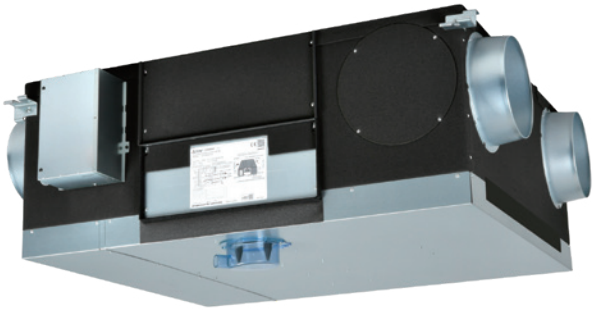
MODEL			PEFY-P125VMHS-E-F		PEFY-P200VMHS-E-F		PEFY-P250VMHS-E-F	
Power source	V/phase/Hz		1 phase, 220-230-240V 50/60 Hz					
Cooling capacity *1		kW	14.0		22.4		28.0	
		Btu/h	47,800		76,400		95,500	
Heating capacity *2		kW	8.9		13.9		17.4	
		Btu/h	30,400		47,400		59,400	
Temperature range	Cooling		17°C D.B./15.5°C W.B. ÷ 43°C D.B./35°C W.B. Thermo-off (FAN-mode) automatically starts if the outdoor temperature is lower than 17°CD.B.					
	Heating		'-10°C D.B. ÷ 20°C D.B. Thermo-off (FAN-mode) automatically starts if the outdoor temperature is higher than 20°CD.B.					
Power input *3	Cooling	kW	0.220		0.260		0.350	
	Heating	kW	0.230		0.270		0.360	
Current input *3	Cooling	A	1.43		1.66		2.16	
	Heating	A	1.52		1.85		2.38	
External finish			Galvanized					
External dimension HxWxD		mm	380x1195x900		470x1250x1120		470x1250x1120	
Net weight		kg	49		78		81	
Heat exchanger			Cross fin (aluminum fin and copper tube)					
Motor	Type		DC Motor					
	Output	kW	0.244		0.375		0.375	
Refrigerant piping diameter	Gas (brazed)	mm	15.88		19.05		22.22	
	Liquid (brazed)	mm	9.52		9.52		9.52	
Field drain pipe size		mm	O.D. 32		O.D. 32		O.D. 32	
Fan	Type x Quantity		Sirocco fan x 1		Sirocco fan x 2		Sirocco fan x 2	
	External static press.*4	Pa	<100> - <150> - 200 - <250>					
	Air flow rate *5		Normal Airflow rate mode	High Airflow	Normal Airflow	High Airflow	Normal Airflow	High Airflow
		m^3/min	14.0 - 15.5 - 18.0	15.5 - 18.0 - 20.0	22.5 - 25.0 - 28.0	25.0 - 28.0 - 32.0	28.0 - 31.0 - 35.0	31.0 - 35.0 - 40.0
		L/s	233 - 258 - 300	258 - 300 - 333	375 - 417 - 467	417 - 467 - 533	467 - 517 - 583	517 - 583 - 667
		cfm	494 - 547 - 636	547 - 636 - 706	794 - 883 - 898	883 - 989 - 1,130	989 - 1,095 - 1,236	1,095 - 1,236 - 1,412
Sound pressure level *2 (Low-Mid-High)			Normal Airflow	High Airflow	Normal Airflow	High Airflow	Normal Airflow	High Airflow
		dB(A)	34-37-41	36-40-42	35-38-41	36-39-42	38-40-44	38-41-45

*1 Cooling capacity indicates the maximum value at operation under the following condition. Cooling: Indoor 33°CDB/28°CWB, Outdoor 33°CDB. The set temperature of the remote controller is 18°C.
*2 Heating capacity indicates the maximum value at operation under the following condition. Heating: Indoor 0°CDB/-2.9°CWB, Outdoor 0°CDB/-2.9°CWB. The set temperature of the remote controller is 25°C.
*3 The value are measured at the factory setting of airflow mode and external static pressure.
*4 The factory setting of airflow mode and external static pressure mode 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 If the airflow rate is over the usable range, dew drop can be caused from the air outlet and the air flow rate is changed automatically because of the output down by the fan motor control. If the air flow rate is less than the usable range, condensation from the unit surface can be caused.

- The combination of fresh air intake type indoor units with other types of indoor units to handle internal thermal load which may cause the conflict of operation mode. It is not recommended when fresh air intake type indoor unit is connected to the Y or WY series.
- Depending on the air conditioning load, outside temperature, and due to the activation of protection functions, the desired preset temperature may not always be achieved and the discharge temperature may swing. Note that untreated outside air may be delivered directly into the room upon the activation of protection functions.
- Fresh air intake type indoor units cannot be connected to PUMY and cannot be connected to an outdoor unit together with PWFY series.
- The maximum connectable indoor units to 1 outdoor unit are 110% (100% in case of heating below -5°C).
- When fresh air intake type indoor units connect to an outdoor unit together with other types of indoor unit, the total capacity of fresh air intake type indoor units needs to be 30% or less of the connected outdoor unit capacity.
- The AUTO mode on the local remote controller is available only when fresh air intake type indoor unit is connected to the R2 or WR2 series of outdoor unit.
- The system changeover function is available only when all the connected indoor units are fresh air intake type indoor units.
- The fan temporary stops during defrost.
- The cooling and heating capacities are the maximum capacities that were obtained by operating in the above air conditions and with a refrigerant pipe of about 7.5 m and a level difference of 0 m.
- The actual capacity characteristics vary with the combination of indoor and outdoor units. See the technical information in DATA BOOK for the details.
- Thermo off (Fan) operation automatically starts either when temperature is lower than 17°CDB in cooling mode or when the temperature exceeds 20°CDB in heating mode.
- Dry mode is not available.
- When this unit is used as sole A/C system, be careful about the dew in air outlet grilles in cooling mode.
- Un-conditioned outdoor air such as humid air or cold air blows to the indoor during thermo off operation. Please be careful when positioning indoor unit air outlet grilles, ie take the necessary precautions for cold air, and also insulate rooms for dew condensation prevention as required.
- Air filter must be installed in the air intake side. The filter should be attached where easy maintenance is possible in case of usage of field supply filters.

LGH-RVS

DUCTED SENSIBLE HEAT RECOVERY UNIT



SIZES	
LGH-50RVS	500 mc/h @ 150 Pa
LGH-80RVS	800 mc/h @ 170 Pa
LGH-1000RVS	1000 mc/h @ 190 Pa

Standard filter (provided with the unit)	Optional filter
G3 (Coarse 50%)	F8 (ePM1 65%)

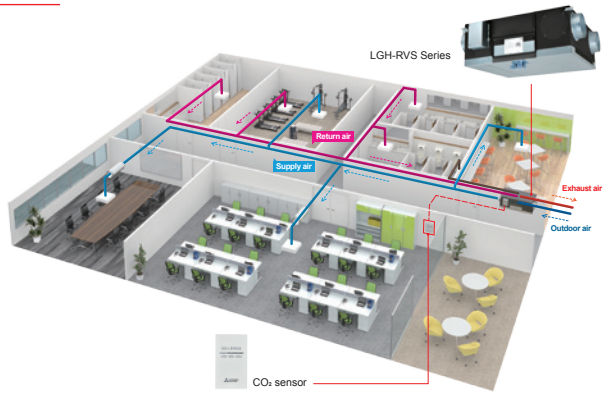
Ideal for...

Ducted indoor unit equipped with fresh air intake fan, exhaust fan, filtering system, Lossnay sensitive heat recovery system and bypass damper.

Sensible heat recovery unit

The new Lossnay LGH-RVS sensible heat recovery unit caters to different needs thanks to its features and accessories.
Ease of installation, ultra-quiet operation and recovery efficiency are the three key features of this model.

DUCTABLE SENSIBLE HEAT RECOVERY UNIT



CO_2 sensor (optional)

A CO_2 sensor connected directly to the unit means that the airflow rate can be optimised according to the level of carbon dioxide detected in the room, improving heat exchange efficiency and contributing to energy saving.

AIRFLOW MODULATION WITH CO_2 SENSOR

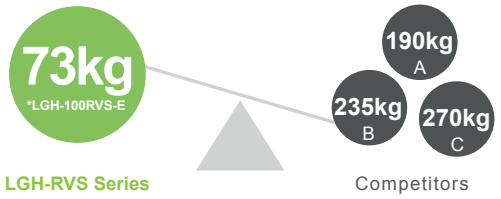
OPTIONAL CO_2 SENSOR

PZ-70CSW-E (sensor for wall-mounted installation). The CO2 levels are indicated by the LEDs on the sensor.

PZ-70CSB-E (sensor built into the unit)

Easy installation

Lighter weight
Being lightweight is one of the most important factors in installation. The lightweight frame of the LGH-RVS series can provide a huge advantage in terms of installation cost and safety.

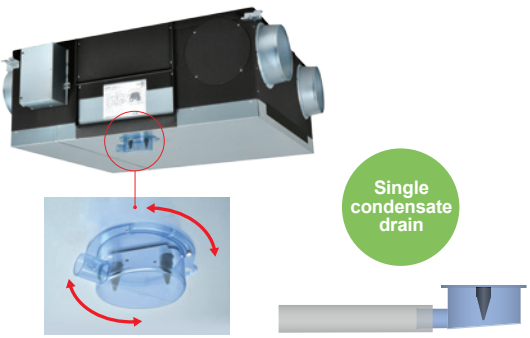


Silent and efficient operation

The new LGH-RVS recovery unit has extremely low noise emissions thanks to the special sirocco fan produced by Mitsubishi Electric coupled with a high-efficiency motor.

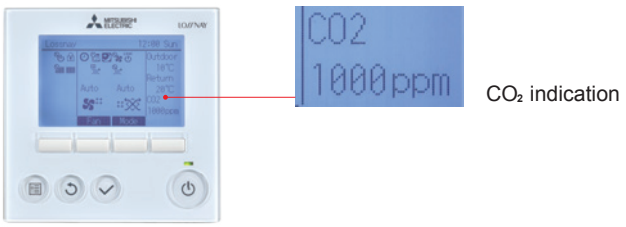
Single condensate drain

The LGH-RVS unit is equipped with a special condensate drain that allows the connection of a single condensate evacuation pipe. Connection to the pipeline is made easy thanks to the rotating connection system. Furthermore, thanks to the special design of the new drainage system, there is no need for an external siphon.



Dedicated PZ-62DR-EB wired controller

The new PZ-62DR-EB controller can be used to control all the functions of the LGH-RVS unit.
If the PZ-70CSW-E (optional) or PZ-70CSB-E (optional) CO_2 sensor is used, the carbon dioxide concentration in the room can be displayed on the control unit's display.



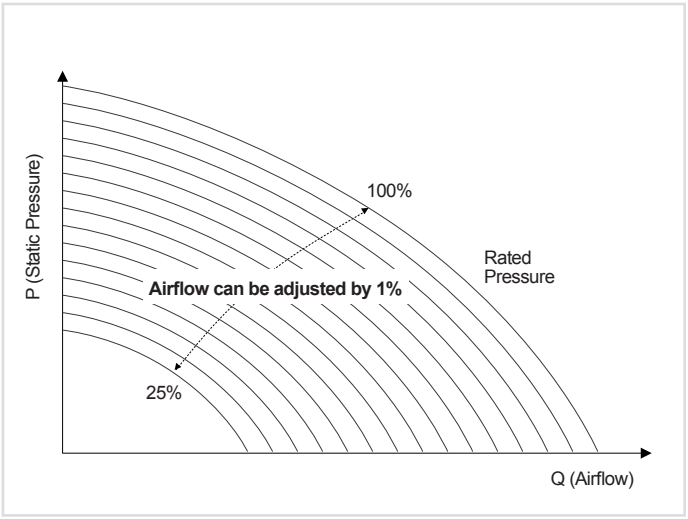
Customisable filtration level

The new LGH-RVS is fitted with G3 filters (Coarse 50%) as standard. F8 filters can be used for higher performance filtration

Filter Model	Class. EN779:2012	Class. ISO16890:2016	No. filters per set	Compatible VL model	Filter position	Maintenance	Filter life*
PZ-S50RF-E	**G3**	**Coarse 55%**	2	LGH-50RVS-E	**RA, OA**	Clean the air filter once a year	Approx. 5 years with periodic cleaning/maintenance
PZ-S80RF-E				LGH-80RVS-E			
PZ-S100RF-E				LGH-100RVS-E			
PZ-S50RFH-E	**F8**	**ePM1 65%**	2	LGH-50RVS-E	**SA**	Disposable filter. No cleaning/washing	Approximately one year or when blocked
PZ-S80RFH-E				LGH-80RVS-E			
PZ-S100RFH-E				LGH-100RVS-E			

Airflow modulation

The fan inverter motor, designed and manufactured directly by Mitsubishi Electric, guarantees maximum performance with minimum energy consumption and allows **inlet and outlet ventilation speed modulation from 25% to 100%** (+/- 5% increments/decrements).



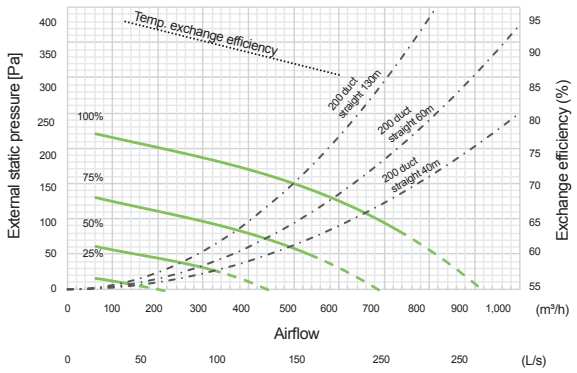
MELCloud connection (optional)

The unit can be controlled and monitored remotely via the **MelCloud** platform. This requires the installation of the optional **MAC-587IF-E** interface card.

Technical data LGH-50RVS-E

MODEL			LGH-50RVS-E			
Electrical power supply	V/Phase/Hz		220-240/MONOFASE /50			
Fan speed			100%	75%	50%	25%
Input power		W	190	110	60	25
Air volume		m³/h	500	375	250	125
		L/s	139	104	69	35
External static pressure		Pa	150	84	38	9
Sensible heat exchange efficiency		%	87	89	91	93
Standard filter	EN 779 (ISO 16890)		G3 (Coarse 35%)			
Noise		dB(A)	33	27	22	18
Weight		kg	55			
Dimensions	HxLxD	mm	529 x 974 x 946			
Guaranteed field of operation (continuous operation)*	Outdoor temp.	°C	0 ~ +40			
	Max. indoor temp.	%	40			
	Max. indoor RU	°C	90			
	Max. indoor AH	%	0.0139			

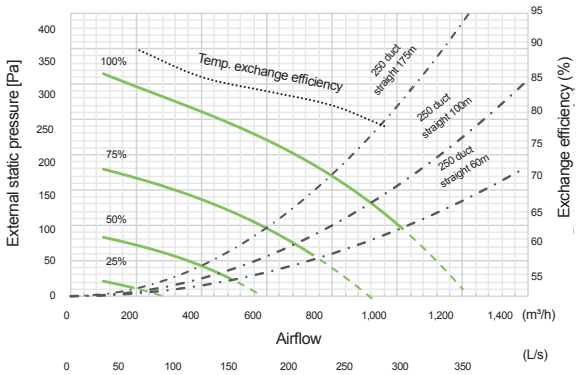
DIAGRAM LGH-50RVS-E



Technical data LGH-80RVS-E

MODEL			LGH-80RVS-E			
Electrical power supply	V/Phase/Hz		220-240/MONOFASE /50			
Fan speed			100%	75%	50%	25%
Input power		W	325	175	85	32
Air volume		m³/h	800	600	400	200
		L/s	222	167	111	56
External static pressure		Pa	170	96	43	11
Sensible heat exchange efficiency		%	82	84	86	90
Standard filter	EN 779 (ISO 16890)		G3 (Coarse 35%)			
Noise		dB(A)	36	30	25	18
Weight		kg	63			
Dimensions	HxLxD	mm	529 x 1185 x 997			
Guaranteed field of operation (continuous operation)*	Outdoor temp.	°C	0 ~ +40			
	Max. indoor temp.	%	40			
	Max. indoor RU	°C	90			
	Max. indoor AH	%	0.0139			

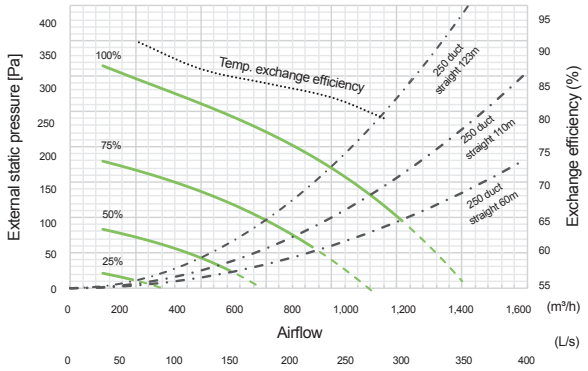
DIAGRAM LGH-80RVS-E



Technical data LGH-100RVS-E

MODEL			LGH-100RVS-E			
Electrical power supply	V/Phase/Hz		220-240/MONOFASE /50			
Fan speed			100%	75%	50%	25%
Input power		W	445	225	100	35
Air volume		m³/h	1000	750	500	250
		L/s	278	208	139	69
External static pressure		Pa	190	107	48	12
Sensible heat exchange efficiency		%	82	84	86	90
Standard filter	EN 779 (ISO 16890)		G3 (Coarse 35%)			
Noise		dB(A)	37	32	24	18
Weight		kg	73			
Dimensions	HxLxD	mm	529 x 1185 x 1224			
Guaranteed field of operation (continuous operation)*	Outdoor temp.	°C	0 ~ +40			
	Max. indoor temp.	%	40			
	Max. indoor RU	°C	90			
	Max. indoor AH	%	0.0139			

DIAGRAM LGH-100RVS-E



LGH-RVX(T)

LOSSNAY - Heat recovery ventilation unit

Standard filter (provided with the unit)	Optional filter
Standard filter G3 - Coarse 35%	High efficiency filter M6 - ePM10 75%
	High efficiency filter ePM1 75% (equivalent to F8)

Lossnay – Heat recovery ventilation units

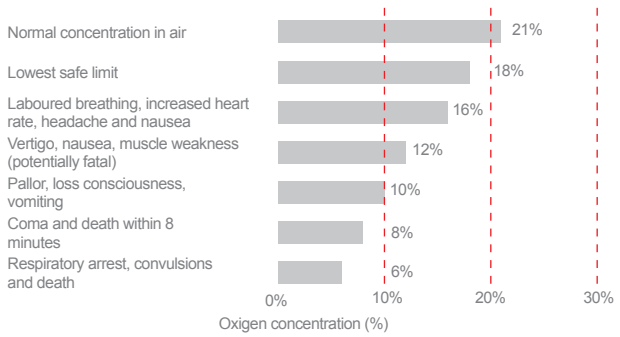
The importance of adequate air exchange

Air quality is a primary parameter for comfort.Poor air quality in the office or at home has been proven to have a significantly detrimental influence on productivity and on the healthiness of the environment, and contribute to fatigue. This is due to increasing concentrations of CO2 caused by inadequate air exchange. To live comfortably, **every individual needs 400l of fresh air per hour.**Ensuring **adequate ventilation** in residential and commercial buildings is necessary **to offer a healthy, comfortable environment for all occupants.**

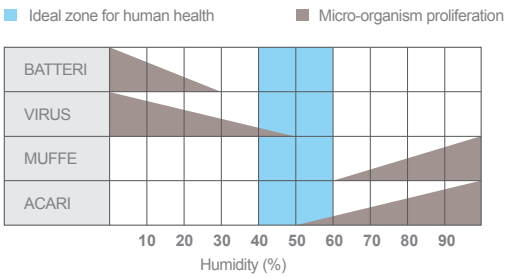
The importance of correctly controlled humidity

A dry environment offers the ideal conditions for the proliferation of **bacteria and viruses**, and the survival rate of these micro-organisms drops rapidly at relative humidity levels above 50%. **Excessively humid environments**, on the other hand, encourage the proliferation of **mould and mites**. Precise humidity control is therefore an important factor in maintaining ideal, healthy conditions.

OXYGEN CONCENTRATIONS AND THE EFFECTS OF INADEQUATE OXYGEN LEVELS



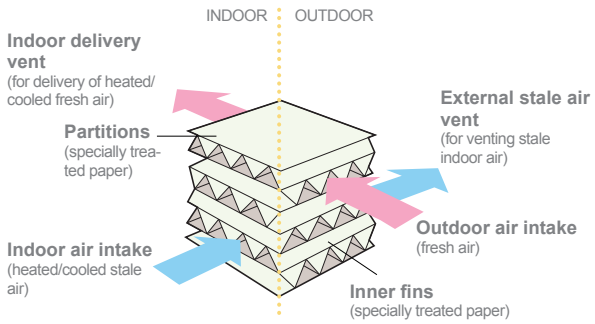
ACTIVITY OF MICRO-ORGANISMS IN RELATION TO HUMIDITY



Source: ASHRAE Trans. 91 - 1B (1985)

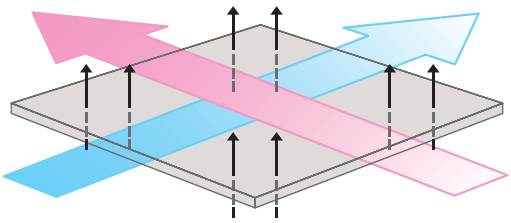
Simple construction

As shown in the figure, the Lossnay exchanger consists of a structure in special treated paper allowing two different air flows to cross one another and exchange thermal energy. Partitions separating the inlet and outlet channels prevent incoming fresh air from ever mixing with outgoing air.



Operating principle

The Lossnay exchanger performs a highly effective total exchange action for both temperature (sensible heat) and humidity (latent heat) – the system uses moisture permeable partitions in specially treated paper to allow stale air to be vented externally and fresh outdoor air to be fed to the indoor space with absolutely no mixing between the two air flows.



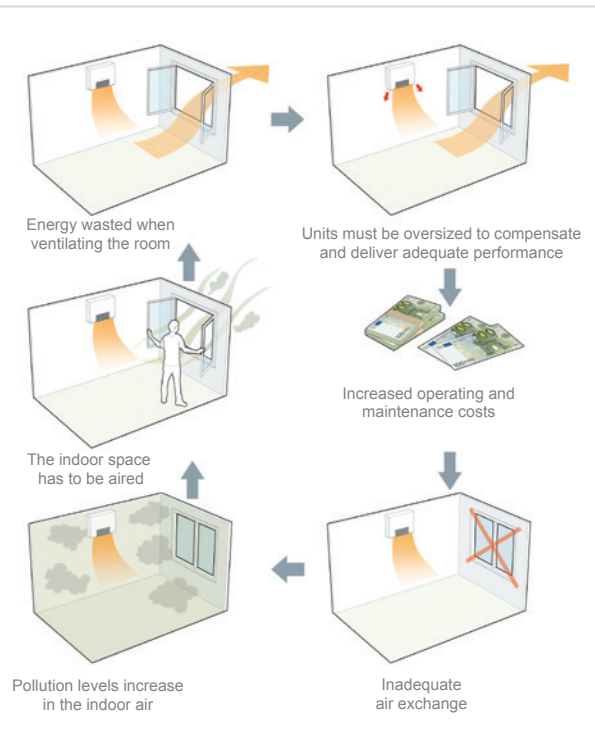
Energy recovery

Comfort and energy savings

With universally recognised efficiency, Lossnay heat exchanger ventilation units use energy recovery to offer significant energy savings.

A conventional ventilation system vents treated indoor air into the outdoor environment and replaces this air with outdoor air, causing the room to lose heat in winter and heat up in summer. This loss of heated/cooled air means that energy must be expended to restore comfortable temperature conditions in the indoor space. The result of this is notably higher air conditioning costs. To solve this problem while still ensuring the necessary air exchange, Mitsubishi Electric offers a range of thermal energy recovery ventilation systems, which minimise air conditioning costs.

All Lossnay units are equipped with class "G3" air filter as standard (Coarse 35% based on ISO 16890). LGH-RVX models may also be equipped with a class "M6" high efficiency filter (ePM10 75% based on ISO 16890).



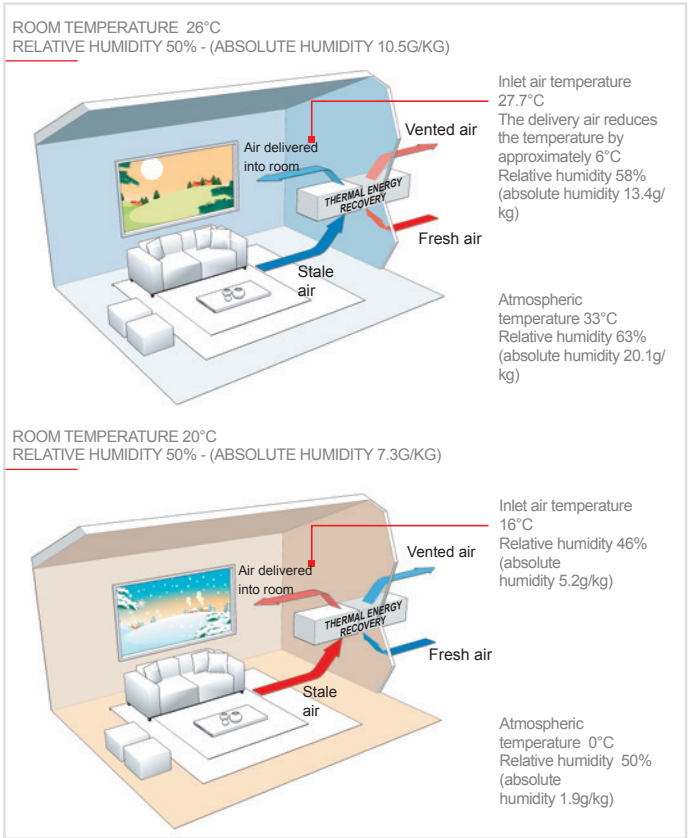
Comfortable air exchange action, in either cold or hot outdoor conditions

Summer - Difference in temperature between new fresh air and air already in room of only 1.7°C.

- Incoming fresh air is brought to the same conditions as the cooled (and dehumidified) air in the room.

Winter - 4 kg/h humidity recovered

- Incoming fresh air is brought to the same conditions as the warmed (and humidified) air in the room.



Low noise

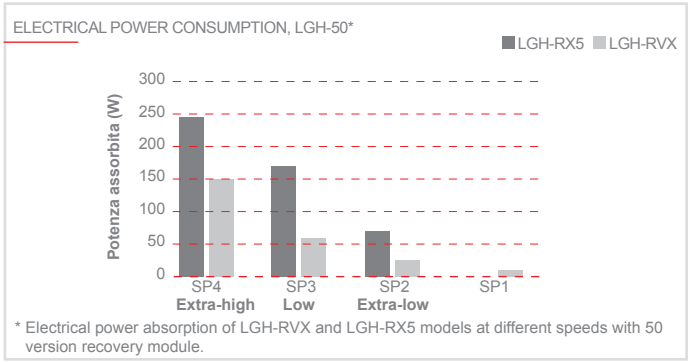
Precise control over the flow of treated air significantly reduces the sound pressure values of the LOSSNAY unit by up to 18 dB(A). All LGH-RVX units ensure ideal acoustic comfort, including for residential applications, libraries, offices etc.

Lossnay for energy savings

New DC FAN Motor

The new **DC motor** used throughout the new LGH-RVX series offers a number of advantages:

- **Very low electric power consumption**, especially at low speeds
- Lower noise emissions
- Increased flexibility and fine air flow adjustment from remote control.



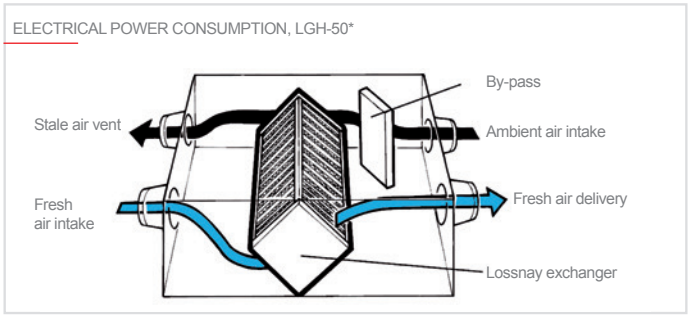
* Electrical power absorption of LGH-RVX and LGH-RX5 models at different speeds with 50 version recovery module.

Bypass shutter

The LGH-RVX series is equipped with a bypass shutter:

When the shutter is open, fresh air is fed to the interior space with no heat recovery, passing through the filter only.

The bypass shutter may be activated manually from the remote control, or automatically in specific thermal conditions (Free-Cooling).



New PZ-62DR-E dedicated remote control

The new wired remote control unit specifically for LGH-RVX heat recovery units boasts a fresh new look and new features.

- Possibility of managing a group of up to 15 units
- Simple and intuitive
- Backlit LCD screen
- Internal weekly timer
- Custom ventilation strategies for mode switching (Auto/recovery/bypass)
- Night purge function for active night-time ventilation in summer.

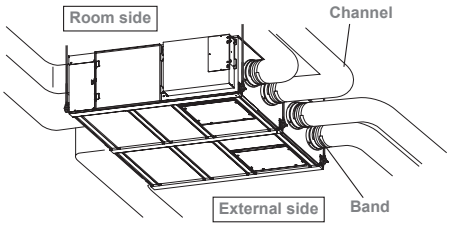
Easy installation

High air volumes and low height.

Three new models with important innovations have supplemented the LGH enthalpic recuperators line.

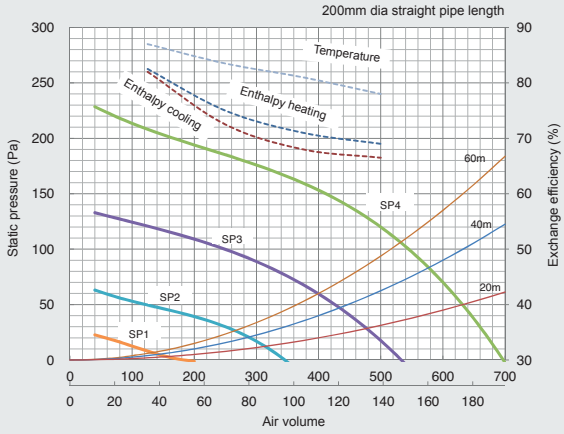
The RVXT models treat high volumes of air (up to 250m3/h) and are extremely low in height (only 500mm), a feature that makes them exceptionally flexible during installation, especially where the height of the false ceiling does not allow the use of RVX models.

The RVXT models are also equipped with an enthalpy exchange package in treated paper and are fitted with "G3" filters as standard (Coarse 35% based on ISO 16890).



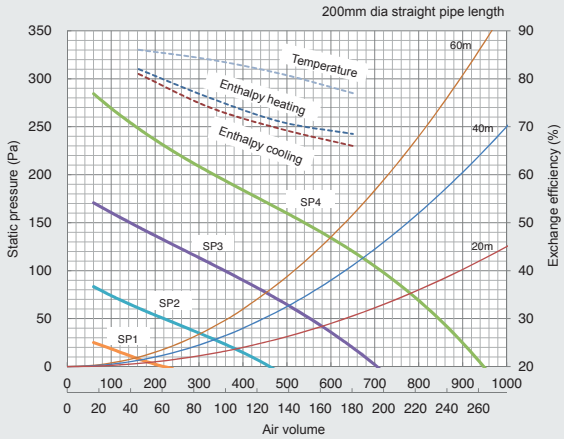
Technical specifications

MODEL			LGH-50RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	1.15	0.59	0.26-0.27	0.13
Power input		W	165-173	78-81	32-35	12-14
Air volume		m³/h	500	375	250	125
		L/s	138.9	104.2	69.4	34.7
External static pressure		mmH_2O	12.24	6.93	3.06	0.82
		Pa	120	68	30	8
Temp. heat exch. Efficiency		%	78.0	81.0	83.5	87.0
Total heat exch. Efficiency	Cooling	%	66.5	68.0	72.5	82.0
	Heating	%	69.0	71.0	75.0	82.5
Sound pressure level		dB(A)	34-35	28-29	19-20	18
Duct qty x diameter		mm	4 x 200	4 x 200	4 x 200	4 x 200
Wheight		kg	33	33	33	33
Dimensions	HxLxD	mm	331x1016 x888	331x1016 x888	331x1016 x888	331x1016 x888
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



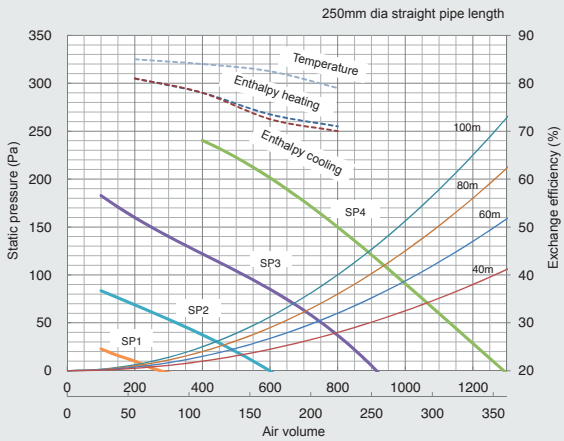
Technical specifications

MODEL			LGH-65RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	.65-1.72	0.90-0.86	0.39-0.38	0.15-0.16
Power input		W	252-262	131	49-47	15-17
Air volume		m³/h	650	488	325	163
		L/s	180.6	135.4	90.3	45.1
External static pressure		mmH_2O	12.24	6.93	3.06	0.82
		Pa	120	68	30	8
Temp. heat exch. Efficiency		%	77.0	81.0	84.0	86.0
Total heat exch. Efficiency	Cooling	%	66.0	69.5	74.0	81.0
	Heating	%	68.5	71.0	76.0	82.0
Sound pressure level		dB(A)	34.5-35.5	29	22	18
Duct qty x diameter		mm	4 x 200	4 x 200	4 x 200	4 x 200
Wheight		kg	38	38	38	38
Dimensions	HxLxD	mm	404x954 x908	404x954 x908	404x954 x908	404x954 x908
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



Technical specifications

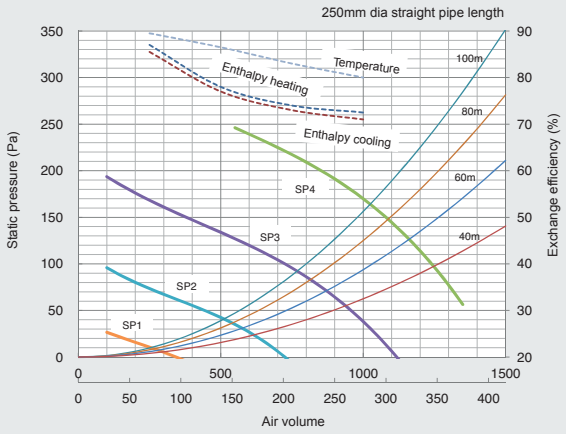
MODEL			LGH-80RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	1.82-1.97	0.83-0.86	0.36-0.40	0.15-0.16
Power input		W	335-340	151	60-64	18-20
Air volume		m³/h	800	600	400	200
		L/s	222.2	166.7	111.1	55.6
External static pressure		mmH_2O	15.30	8.67	3.82	1.02
		Pa	150	85	37.5	10
Temp. heat exch. Efficiency		%	79.0	82.5	84.0	85.0
Total heat exch. Efficiency	Cooling	%	70.0	72.5	78.0	81.0
	Heating	%	71.0	73.5	78.0	81.0
Sound pressure level		dB(A)	34.5-36.0	30.0	23	18
Duct qty x diameter		mm	4 x 250	4 x 250	4 x 250	4 x 250
Wheight		kg	48	48	48	48
Dimensions	HxLxD	mm	404x1004 x1144	404x1004 x1144	404x1004 x1144	404x1004 x1144
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



* In case of temperature < -10°C fan will work discontinuously. Lossnay controlled heat generator is recommanded in this condition.

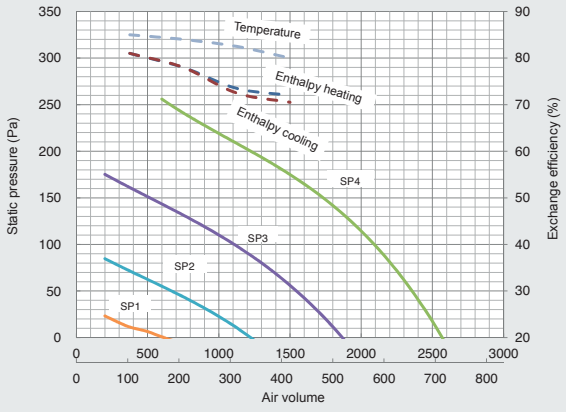
Technical specifications

MODEL			LGH-100RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	2.50	1.20	0.50-0.51	0.17-0.19
Power input		W	420	200	75	21
Air volume		m^3/h	1000	750	500	250
		L/s	277.8	208.3	138.9	69.4
External static pressure		mmH_2O	17.34	9.75	4.33	1.08
		Pa	170	95.6	42.5	10.6
Temp. heat exch. Efficiency		%	80.0	83.0	86.5	89.5
Total heat exch. Efficiency	Cooling	%	71.0	73.0	77.0	85.5
	Heating	%	72.5	74.0	78.0	87.0
Sound pressure level		dB(A)	37-38	31-32	23-24	18
Duct qty x diameter		mm	4 x 250	4 x 250	4 x 250	4 x 250
Wheight		kg	54	54	54	54
Dimensions	HxLxD	mm	404x1231 x1144	404x1231 x1144	404x1231 x1144	404x1231 x1144
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



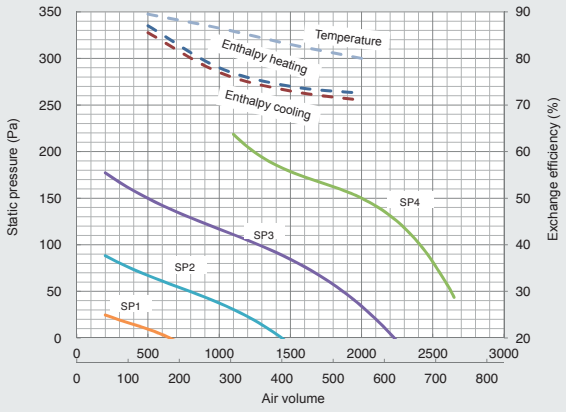
Technical specifications

MODEL			LGH-150RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	3.71-3.85	1.75-1.78	0.70-0.78	0.29-0.30
Power input		W	670-698	311	123-124	38-44
Air volume		m^3/h	1500	1125	750	375
		L/s	416.7	312.5	208.3	104.2
External static pressure		mmH_2O	17.85	10.03	4.47	1.11
		Pa	175	98.4	43.8	10.9
Temp. heat exch. Efficiency		%	80.0	82.5	84.0	85.0
Total heat exch. Efficiency	Cooling	%	70.5	72.5	78.0	81.0
	Heating	%	72.0	73.5	78.0	81.0
Sound pressure level		dB(A)	39.0-40.5	32-33	24-26	18
Duct qty x diameter		mm	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)
Wheight		kg	98	98	98	98
Dimensions	HxLxD	mm	808x1004x 1144	808x1004x 1144	808x1004x 1144	808x1004x 1144
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



Technical specifications

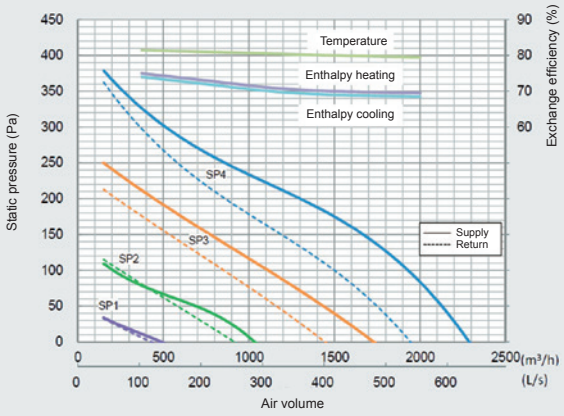
MODEL			LGH-200RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	4.88-4.54	2.20-2.06	0.88-0.87	0.33-0.35
Power input		W	850-853	400-372	153-150	42-49
Air volume		m^3/h	2000	1500	1000	500
		L/s	555.6	416.7	277.8	138.9
External static pressure		mmH_2O	15.30	8.61	3.82	0.97
		Pa	150	84.4	37.5	9.5
Temp. heat exch. Efficiency		%	80.0	83.0	86.5	89.5
Total heat exch. Efficiency	Cooling	%	71.0	73.0	77.0	85.5
	Heating	%	72.5	74.0	78.0	87.0
Sound pressure level		dB(A)	40-41	40-41	40-41	40-41
Duct qty x diameter		mm	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)
Wheight		kg	110	110	110	110
Dimensions	HxLxD	mm	808x1231 x1144	808x1231 x1144	808x1231 x1144	808x1231 x1144
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



* In case of temperature < -10°C fan will work discontinuously. Lossnay controlled heat generator is recommanded in this condition.

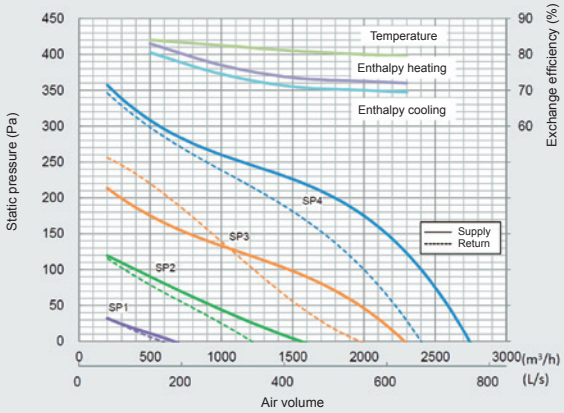
Technical specifications

MODEL			LGH-150RVXT-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	4.30 - 3.40	2.40 - 1.80	1.10 - 0.77	0.36 - 0.31
Power input		W	792 - 625	421 - 334	176 - 134	48 - 37
Air volume		m^3/h	1500	1125	750	375
		L/s	417	313	208	104
External static pressure		mmH_2O	175	98	44	11
		Pa	100	56	25	6
Temp. heat exch. Efficiency		%	80.0	80.5	81.0	81.5
Total heat exch. Efficiency	Cooling	%	69.0	70.0	72.0	74.0
	Heating	%	70.0	71.0	73.0	75.0
Sound pressure level		dB(A)	39.5	35.5	29.5	22.0
Duct qty x diameter		mm	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)
Wheight		kg	156	156	156	156
Dimensions	HxLxD	mm	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



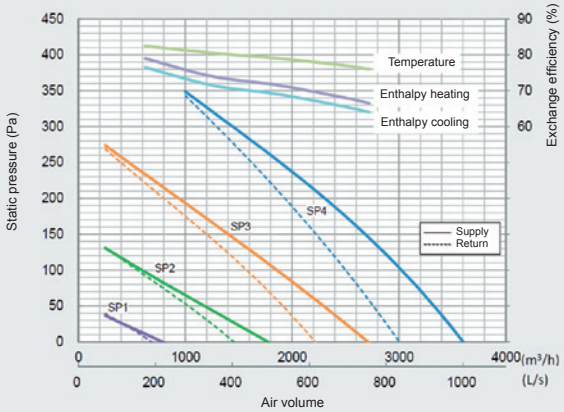
Technical specifications

MODEL			LGH-200RVXT-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	5.40 - 5.00	2.70 - 2.20	1.10 - 0.85	0.39 - 0.34
Power input		W	1000 - 916	494 - 407	197 - 150	56 - 45
Air volume		m^3/h	2000	1500	1000	500
		L/s	556	417	278	139
External static pressure		mmH_2O	175	98	44	11
		Pa	100	56	25	6
Temp. heat exch. Efficiency		%	80.0	81.0	82.5	84.0
Total heat exch. Efficiency	Cooling	%	70.0	71.0	74.5	80.5
	Heating	%	72.5	73.5	77.0	83.0
Sound pressure level		dB(A)	39.5	35.5	28.0	22.0
Duct qty x diameter		mm	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)
Wheight		kg	159	159	159	159
Dimensions	HxLxD	mm	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



Technical specifications

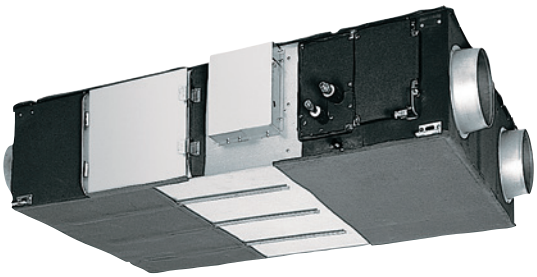
MODEL			LGH-250RVXT-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	7.60 - 6.90	3.60 - 3.10	1.40 - 1.30	0.57 - 0.49
Power input		W	1446 - 1298	687 - 587	244 - 212	82 - 69
Air volume		m^3/h	2500	1875	1250	625
		L/s	694	521	347	174
External static pressure		mmH_2O	175	98	44	11
		Pa	100	56	25	6
Temp. heat exch. Efficiency		%	77.0	79.0	80.5	82.5
Total heat exch. Efficiency	Cooling	%	65.5	69.0	71.5	76.5
	Heating	%	68.0	71.5	74.0	79.0
Sound pressure level		dB(A)	43.0	39.0	32.0	24.0
Duct qty x diameter		mm	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)
Wheight		kg	198	198	198	198
Dimensions	HxLxD	mm	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



* In case of temperature < -10°C fan will work discontinuously. Lossnay controlled heat generator is recommanded in this condition.

GUF-RD(H)4

MONOBLOCK INDOOR UNIT WITH FRESH AIR INTAKE FAN



Standard filter (provided with the unit)	Optional filter
Standard filter G3 - Coarse 35%	High efficiency filter M6 - ePM10 75%
	High efficiency filter ePM1 75% (equivalent to F8)

Monoblock indoor unit with fresh air intake fan, stale air exhaust fan, filtration system, Lossnay total heat recovery module, bypass shutter, permeable film humidifier (only for RDH4 version) and direct expansion coil.

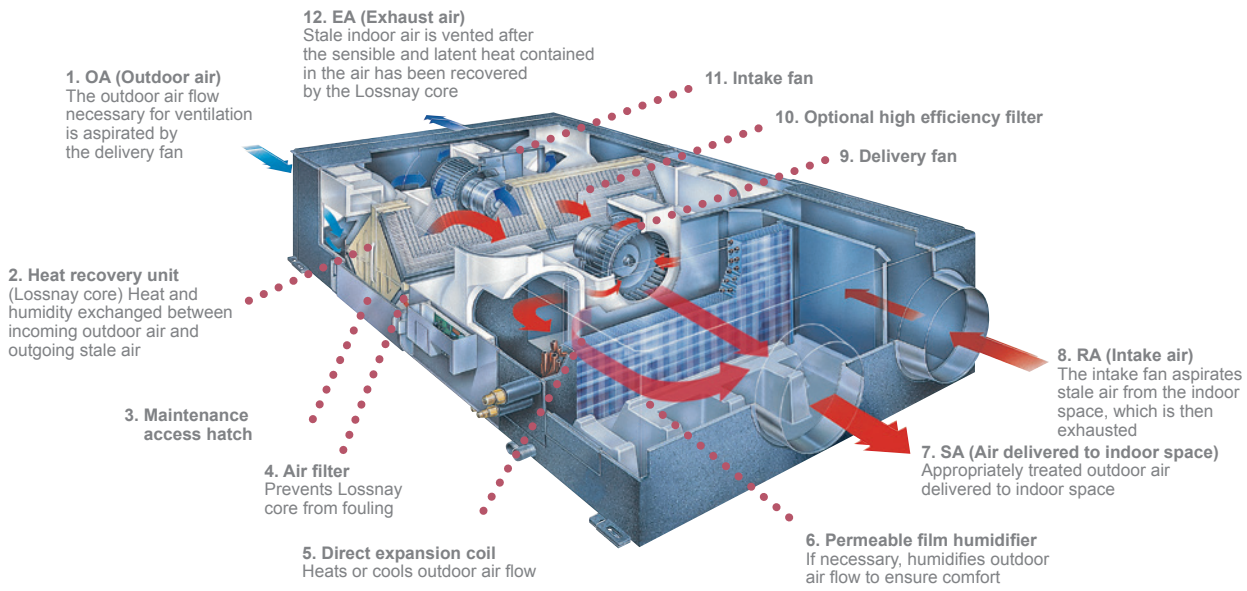
Serie RD(H)4

GUF-50RD(H)4

Cooling capacity 5.57 (DX coil: 3.63, Lossnay core: 1.94) kW Heating capacity 6.18 (DX coil: 6.21, Lossnay core: 2.04) kW 500 m³/h 220-240V 50Hz single-phase

GUF-100RD(H)4

Cooling capacity 11.44 (DX coil: 3.63, Lossnay core: 3.85) kW Heating capacity 12.56 (DX coil: 8.30, Lossnay core: 4.26) kW 500 m³/h 220-240V 50Hz single-phase



Lossnay technology

The Lossnay total heat recovery module has a cross-flow plate fin structure and heat transfer diaphragms in special treated paper. The excellent thermal transfer properties and permeability to moisture of this special paper ensure the highly efficient exchange of both sensible and latent heat between the two air flows passing through the recovery core. The result is a ventilation system with outstanding characteristics ensuring extremely high levels of comfort and wellbeing in the environment treated, which can also cut operating costs substantially.

The incoming fresh air and outgoing stale air cannot mix within the core. The diaphragm pores, which were already microscopic in previous generations, have been further reduced in size to reduce the possibility of the passage of waterborne soluble gases such as ammonia and hydrogen. To increase heat and moisture exchange, a special treatment is applied to the paper used for the diaphragms. These improvements have increased moisture permeability while reducing permeability to harmful gases, resulting in an overall increase in recovery efficiency and a more effective barrier action against the transfer of these gases.

IN GENERAL
GUF – For optimum indoor air quality
GUF = (Lossnay) + (heating & cooling)

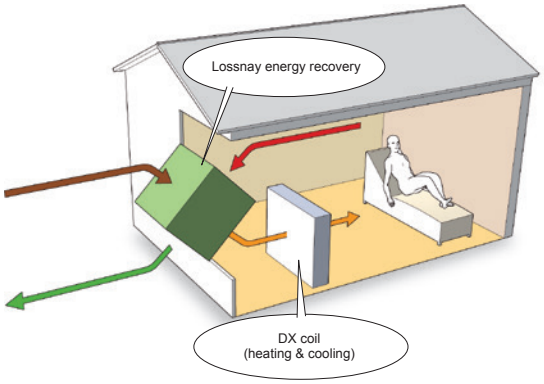
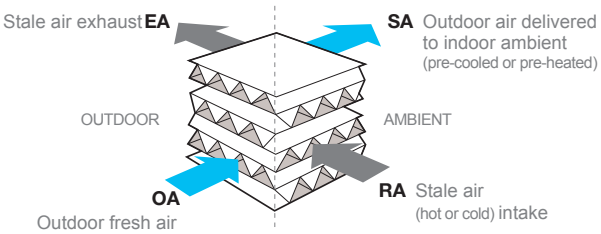


IMAGE OF GUF MODEL

CONSTRUCTION AND OPERATING PRINCIPLE OF LOSSNAY UNIT



Heat exchanger

A direct expansion coil incorporated in the unit makes it possible to cover approximately 25% of the load of the system with the GUF unit. This also means that the terminal units installed in the indoor space can be smaller. Moreover, as the GUF unit covers the entire thermal load attributable to ventilation, this means that this load and the ambient load can be managed completely separately, simplifying the design process of the installation. The treated air heats the humidifier as it passes through it, further increasing humidification efficiency.

Total comfort

Maintaining the correct humidity levels in an indoor space ensures the ideal conditions for comfort and prevents the unpleasant side-effects typical of an environment with insufficient humidity such as dry eyes and throat.

The evaporation surface area is approximately 8.5 times larger than in a comparably sized natural evaporation humidifier, while performance is 6 times greater.

Humidification - RDH4 version

The innovative permeable film humidification system, which uses a natural evaporation process, is a particularly intelligent solution.

The efficiency with which the air is humidified has been significantly increased by reducing the resistance of the material used. A three-layer film ensures that only the necessary moisture is transferred to the air without any limescale dust release – a problem of certain conventional humidifiers.

Maintaining the correct humidity levels in an indoor space ensures the ideal conditions for comfort and prevents the unpleasant side-effects typical of an environment with insufficient humidity such as dry eyes and throat.

The evaporation surface area is approximately 8.5 times larger than in a comparably sized natural evaporation humidifier, while performance is 6 times greater.

Note: Use a demineraliser if residual total salt levels exceed 100 mg/l.

Increased efficiency of humidification process - RDH4 version

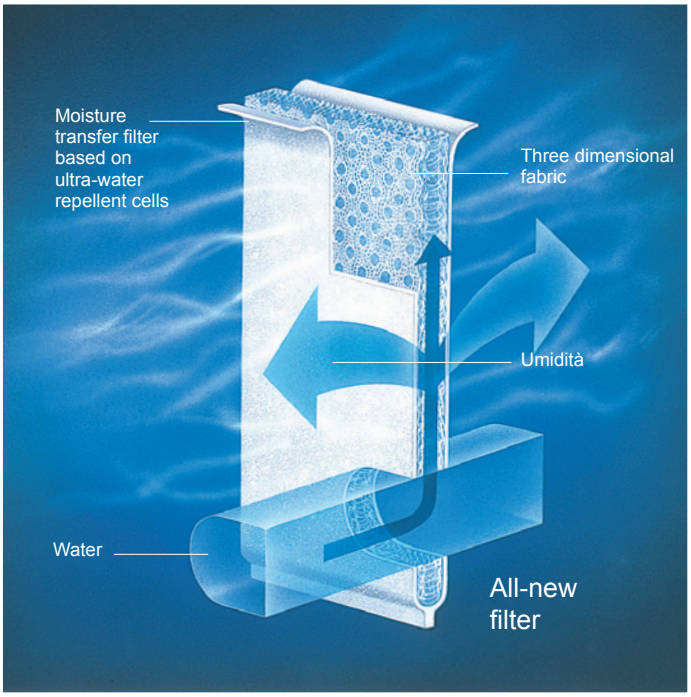
Optimised air flows within the unit together with a water injection system have significantly increased the efficiency of the humidification process. The system also controls the humidity in the outgoing stale air to effectively improve the air quality of the outdoor environment as well. This solution prevents limescale and silica dust from being carried in the air, so purer, less dusty air is vented into the outdoor environment.

Automatic free cooling

When the air conditioning is operating in cooling mode and the outdoor temperature is lower than the indoor ambient temperature (as normally occurs at night-time in summer), the GUF indoor unit recognises this condition and automatically bypasses the recovery core. The cooler outdoor air fed into the indoor space contributes to reducing the cooling demand sustained by the system.

Dust suppression

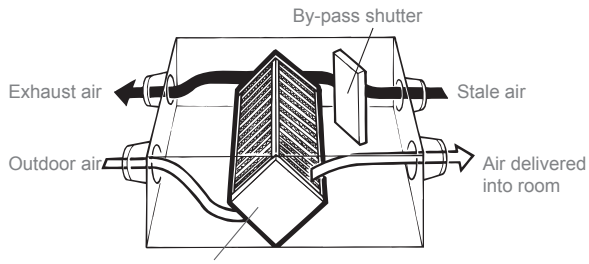
An optional high efficiency filter may be used for up to 3,000 hours while maintaining a filtration efficiency (evaluated with colorimetric testing) of over 65%. The filter may also be fitted in the GUF unit after initial installation and takes up no additional precious space.



Automatic regulation

GUF ventilation and recovery units may be integrated into a Melans control and regulation system for Mitsubishi Electric air conditioner installations, as they use the same bus used for connecting indoor units.

BY-PASS

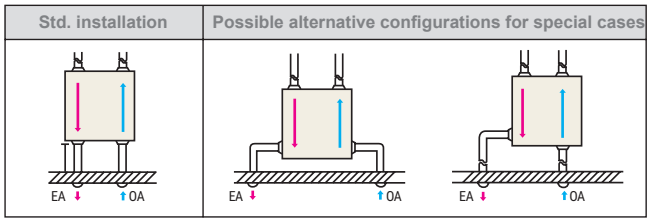


Advantages

- Reduced energy consumption
- Reduced thermal power necessary to treat outdoor air, equating to lower rated power
- Healthier environment
- Quieter operation (noise baffles in inlet and outlet)
- Free Cooling function using exclusively external air
- Humidification with film permeable to water vapour only
- Total air treatment (neutral air returned to outdoor environment)
- Custom temperature and humidity control
- Compact dimensions
- Installable in double ceilings with limited vertical space.

Flexible installation

The positions of air duct connections may be changed as needed to cater for different installation requirements.



* Changing the installation configuration causes no any additional pressure loss.

Technical specifications

MODEL			GUF-50RDH4	GUF-100RDH4	GUF-50RD4	GUF-100RD4
Power supply			1-phase 220-240V 50Hz			
Comunication system			In serie tramite rete M-NET: Mitsubishi Electric Air Conditioners Network System			
Lossnay	Mode		Air to Air Total heat recovery system			
	Material		Partition, Cross-flow structure, Special preserved paper-plate.			
Cooling capacity*1		kW	5,57 (1,94)	11,4 (4,12)	5,57 (1,94)	11,44 (4,12)
	Power input	W	235-265	480-505	235-265	480-505
	Curren	A	1,15	2,2	1,15	2,2
Heating capacity*1		kW	6,21 (2,04)	12,56 (4,26)	6,21 (2,04)	12,56 (4,26)
	Power input	W	235-265	480-505	235-265	480-505
	Current	A	1,15	2,2	1,15	2,2
Temperature heat recovery efficiency		%	77,5/80	79,5/81,5	77,5/80	79,5/81,5
Total heat recovery efficiency*2	Heating	%	68/71	71/74	68/71	71/74
	Cooling	%	65/67	69/71	65/67	69/71
Capacity index			P32	P63	P32	P63
Humidifier capacity		kg/h	2,7	5,4	-	-
Fan	Type x qty		SA: Centrifugal fan (Sirocco FAN) x 1 - EA: Centrifugal fan (Sirocco FAN) x 1			
	Static pressure	Pa	125	135	140	140
		mmH_2	12,7	13,8	14,3	14,3
	Motor		Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 2 units			
	Flow rate (High speed)	m^3/h	500	1000	500	1000
		L/s	139	278	139	278
SPL (Low-High)		dB(A)	33,5-34,5	38-39	33,5-34,5	38-39
Ref. Piping diameter	Liquid	mm(in.)	Ø6,35(Ø1/4)	Ø9,52(Ø3/8)	Ø6,35(Ø1/4)	Ø9,52(Ø3/8)
	Gas	mm(in.)	Ø12,7(Ø1/2)	Ø15,88(Ø5/8)	Ø12,7(Ø1/2)	Ø15,88(Ø5/8)

*1 () value from Lossnay heat recovery.
*2 High/Low speed values.

Control Systems

Remote control

Wireless remote control

Remote control

Centralized control

Interface for hotel simplified application

Remote monitoring and control system

External signal integration

Control Systems

PAC-YT52CRA

DESIGN REMOTE CONTROL

PAR-FL32MA
PAR-SL101A-E

WIRELESS REMOTE CONTROL

PAR-41MAA

DELUXE REMOTE CONTROL

PZ-62DR-EB

LOSSNAY REMOTE CONTROL

PAR-CT01MA

PRISMA REMOTE CONTROL

PAR-W21MAA
PAR-W31MAA

ECODAN REMOTE CONTROL

PAR-U02MEDA

ADVANCED REMOTE CONTROL

AT-50B

SYSTEM CENTRALIZED CONTROL

AE-200E

3D TOUCH Controller
WEB SERVER CENTRALIZED CONTROL

EW-50

3D BLIND Controller
WEB SERVER CENTRALIZED CONTROL

3D TABLET CONTROLLER

WI-FI REMOTE MANAGEMENT SYSTEM

MELCloud® CITY MULTI

MELCloud CITY MULTI

CLOUD REMOTE MANAGEMENT SYSTEM

MELCOTEL

INTERFACE FOR HOTEL SIMPLIFIED APPLICATION

RMI REMOTE MONITORING INTERFACE
Available on the App Store
ANDROID APP ON Google play

RMI

Remote Monitoring Interface
CLOUD REMOTE MANAGEMENT SYSTEM

M-NET-AHC-24VDC

INTEGRATION OF EXTERNAL SIGNALS

B.M.S. INTERFACE

B.M.S. INTEGRATION

PAC-YT52CRA

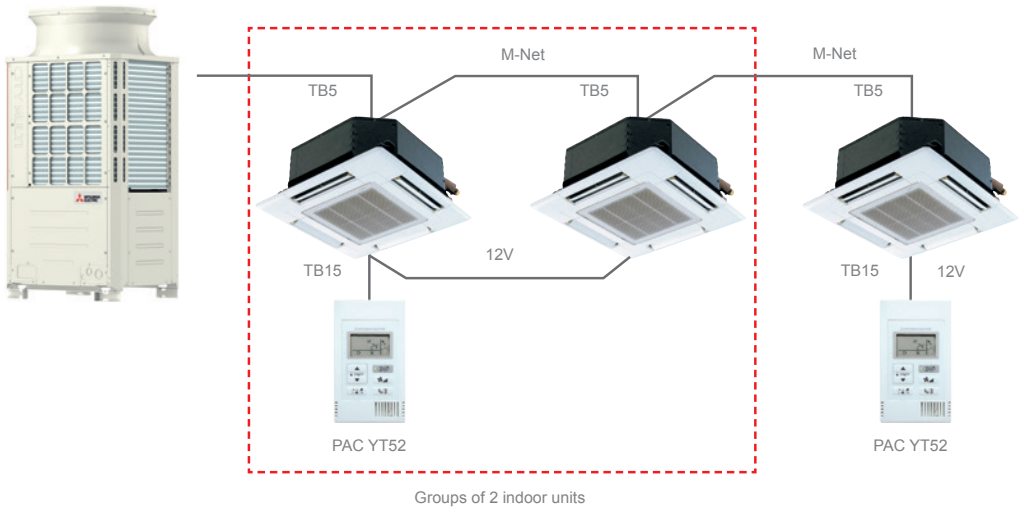
DESIGN REMOTE CONTROL

PAC-YT52CRA Design remote control

- Display with white backlighting.
- Simple wall-mounted installation.
- Easy and intuitive with icon-based interface.
- Operating mode selection function.
- Vane position selection function (for compatible indoor units).
- Usable to manage 1 group of up to 16 indoor units.
- Simple connection with single non-polarised two-core wire.
- **MA** self-addressing technology.
- Suitable for all types of indoor unit.
- Recommended for hotels and public spaces, as ambient air temperature display can be disabled.
- Integrated temperature sensor usable instead of indoor unit sensor.
- Configurable temperature range settable from local keypad.

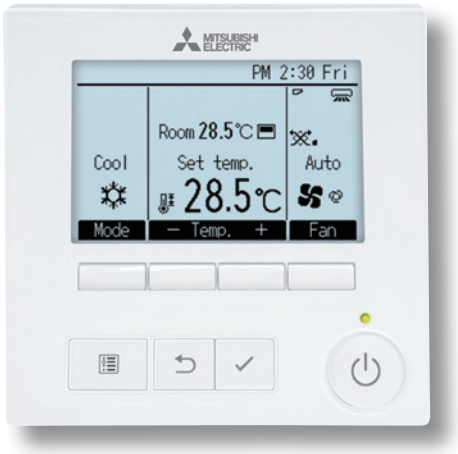
Key Technologies

dual Setpoint				



PAR-41MAA

DELUXE REMOTE CONTROL UNIT

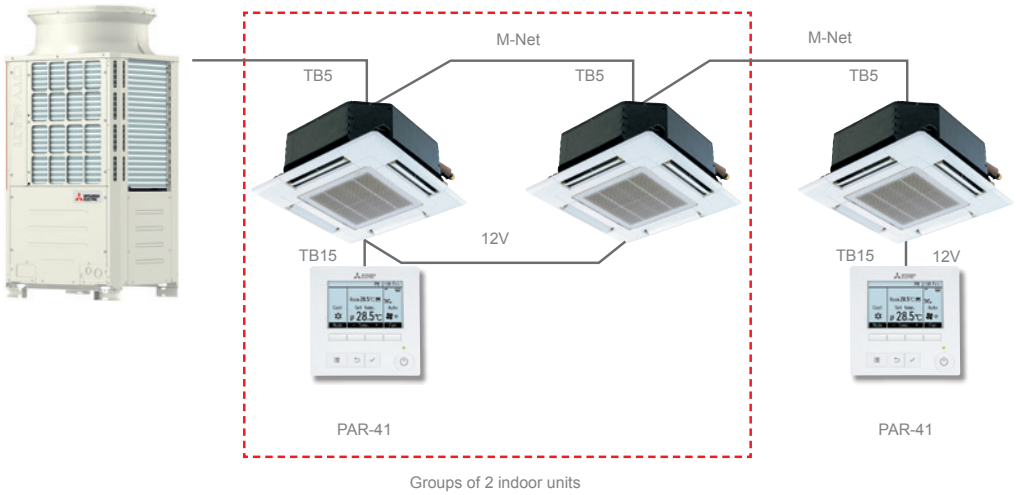


PAR-41MAA Deluxe remote control unit

- Display with white (factory setting) or black backlighting and adjustable contrast.
- Simple wall-mounted installation.
- Night Set-back function for setting minimum winter temperature or maximum summer temperature in temperature maintenance mode.
- Effective static overpressure selection function for ducted indoor units (PEFY-P VMHS only).
- Internal weekly timer function and simplified internal timers (Auto-off, etc.).
- Usable to manage 1 group of up to 16 indoor units.
- Easy and intuitive, with icon based graphic interface, direct control buttons and function buttons.
- Simple connection with single non-polarised two-core wire.
- **MA** self-addressing technology.
- Suitable for all types of indoor unit, including GUF.
- Integrated temperature sensor usable instead of indoor unit sensor.
- Configurable temperature range settable from local keypad.
- **View and set setpoint temperatures in 0.5°C increments.**
- Supports 3D i-see sensor functions
- **14 languages available** (English, French, Spanish, German, Italian, Dutch, Portuguese, Greek, Russian, Czech, Turkish, Polish, Hungarian, Swedish).
- Draft reduction *
  "Close" has been added to the manual vane angle selection.
  The air outlet can be closed to reduce drafts from the air conditioner.

Key Technologies

dual Setpoint				



PAR-CT01MA

PRISMA REMOTE CONTROL

PAR-CT01MAA-SB

PAR-CT01MAA-PB

PAR-CT01MA prisma remote control

- Full color touch panel display
- 180 color patterns can be selected for control parameters or background on the display
- Easy wall mounted installation
- Night Set-back function for setting minimum winter temperature or maximum summer temperature in temperature maintenance mode.
- Effective static overpressure selection function for ducted indoor units (PEFY-P VMHS only).
- Internal weekly timer function and simplified internal timers (Auto-off, etc.).
- Usable to manage 1 group of up to 16 indoor units.
- Easy and intuitive, with icon based graphic interface, direct control buttons and function buttons.
- Simple connection with single non-polarised two-core wire.
- MA self-addressing technology.
- Suitable for all types of indoor unit, including GUF.
- Recommended for groups with only one indoor unit.
- Integrated temperature sensor usable instead of indoor unit sensor.
- Configurable temperature range settable from local keypad.
- **View and set setpoint temperatures in 0.5°C increments.**
- **Supports 3D i-see sensor functions for 60 x 60 PLFY-P VFM-E1 cassette and 90 x 90 PLFY-P(M) VEM-E cassette**

Key Technologies

dual Setpoint				

Multiple color pattern

180 MULTIPLE COLOR PATTERNS

Multilingual support

The smartphone app can be displayed in the language that the guest's smartphone is set to.

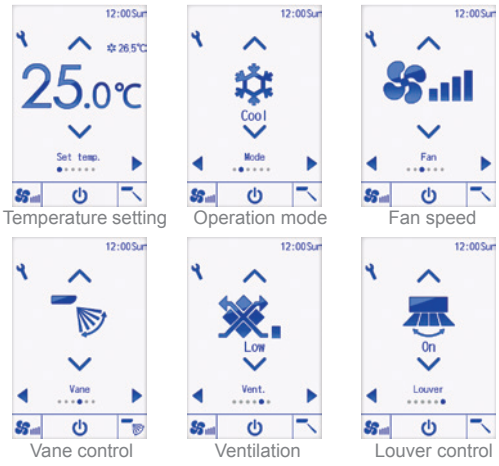
Large color backlit touch display

New PRISMA remote control is equipped by 3.5 inch/HVGA Full Color LCD Touch screen,

TOUCH PANEL

3,5 Inch/HVGA Full Color LCD

OPERATION PANEL



Temperature setting | Operation mode | Fan speed

Vane control | Ventilation | Louver control

Display customization

Customized display, color on parameter and background, editable parameter, logo image on the initial display.

Hotel setting

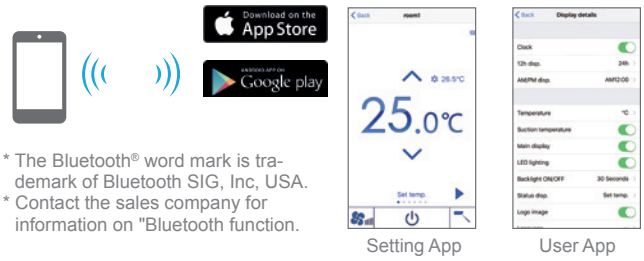
Simple operation panel is liked by users, especially in hotels. It is available to display only ON/OFF, set temp., fan speed.

Bluetooth connection

PAR-CT01MA remote control is equipped with Low Energy Bluetooth connection. Thanks to two dedicated Apps (one for installers and one for users) it is possible to connect your smartphone or tablet the the remote control. User App allows to control the air conditioning system connected to PAR-CT, with a simple and intuitive interface.

Installer App allows to easily configure the remote control during maintenance and commissioning. Thanks to this App it is possible to save a settings pattern on mobile device and easily transfer it to the remote control, shortening service and commissioning timing.

APP SCREEN IMAGE



* The Bluetooth® word mark is tra-demark of Bluetooth SIG, Inc, USA.
* Contact the sales company for information on "Bluetooth function.

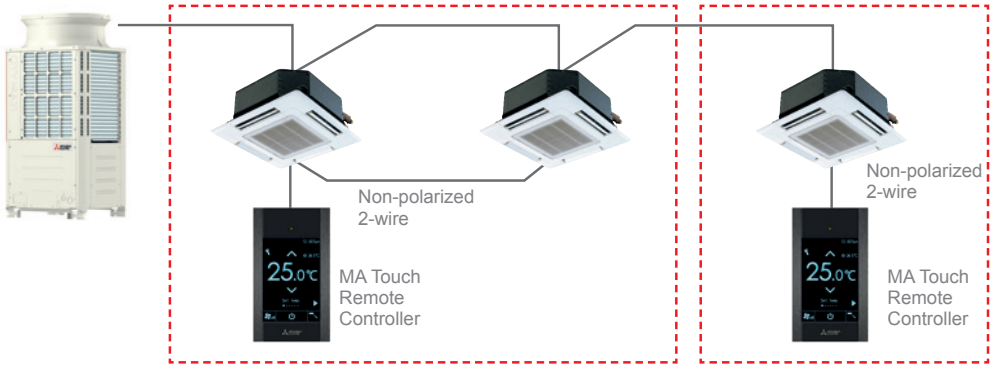
Setting App | User App

Logo image customization

Logo image can be displayed on the initial screen.

LOGO IMAGE CUSTOMIZATION

SYSTEM EXAMPLE



*When a PAR-CT01MAA is connected to a group, no other MA remote controllers can be connected to the same group.

PAR-U02MEDA

ADVANCED REMOTE CONTROL

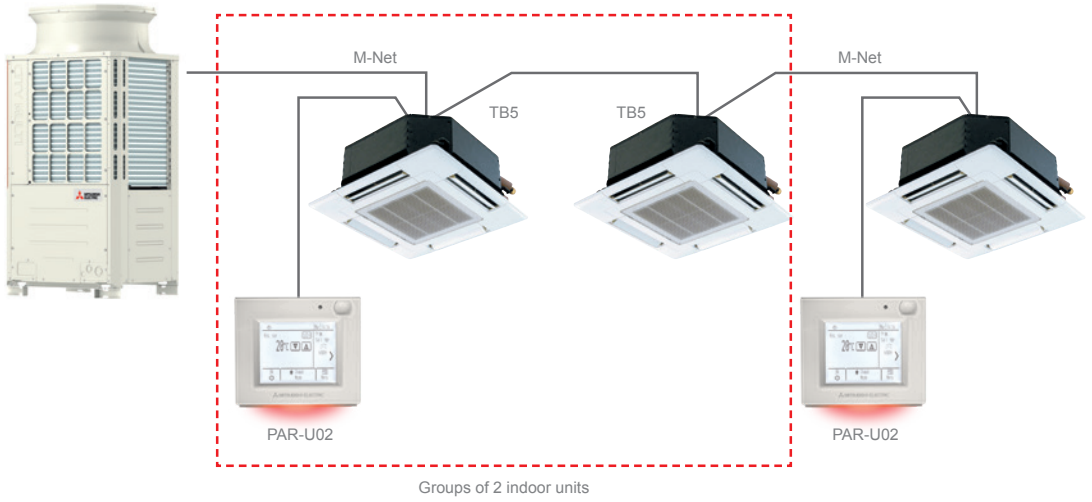
PAR-U02MEDA advanced remote control

The Mitsubishi Electric Advanced remote control may be used to control up to 16 indoor units. While advanced, this controller also offers basic functions such as monitoring and controlling the status of the units in the system, and a weekly hour timer. Four integrated sensors (temperature, humidity, occupancy and light) allow a series of advanced adjustment and control functions. For example, the occupancy sensor can be used to save energy by configuring different modes based on the occupied/ vacant status of each room.

- Large monochrome LCD touch screen display with white backlighting.
- Usable to manage 1 group of up to 16 indoor units.
- **Integrated temperature, humidity, occupancy and light sensors.**
- SMART energy saving and comfort functions.
- Contextual colour LED indicating operating status of indoor units.
- **View and set setpoint temperatures in 0.5°C increments**
- **Dual Setpoint** function.
- Internal weekly timer.
- **ME M-Net** addressing technology.
- Extended setting ranges for setpoints (Cool: 19-35°C; Heat: 5-28°C).
- New functions for use in conjunction with AHC Programmable Controller (PLC M-Net), for creating operating strategies with generic devices.

Key Technologies

dual Setpoint				

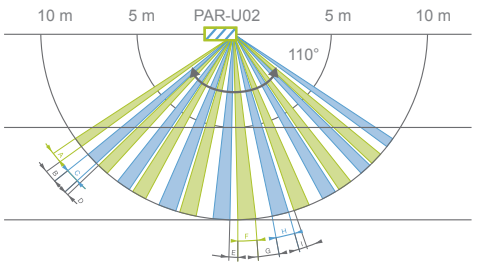


Occupancy sensor

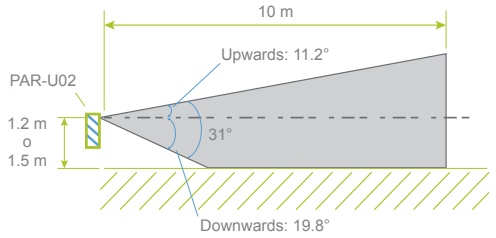
The occupancy sensor detects if a room is vacant and enables automatic control of the indoor units to implement energy saving strategies based on the effective occupancy of each room. The occupancy sensor enables the following energy saving functions:

- Switch indoor units ON/OFF based on occupied/vacant state of room;
- Fan speed control;
- Switch indoor unit from Thermo ON to Thermo OFF state;
- Configure temperature deviation based on occupied/vacant status.

RADIAL MEASUREMENT UP TO 10 M



EXTENDED SPATIAL MEASUREMENT



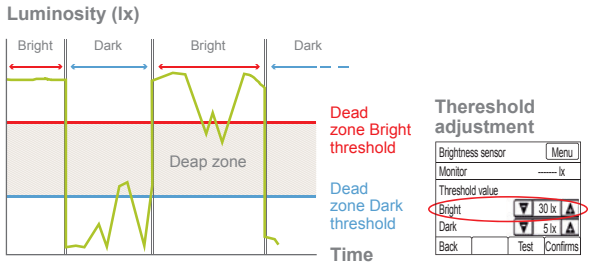
Light sensor

The light sensor measures the light levels in the conditioned room and adjusts the brightness of the remote control display accordingly.

Bright/dark thresholds may be set directly from the remote control over an extended luminosity range (1 to 65535 lx).

The light sensor is also used in low light conditions to confirm the occupied/vacant status of the room.

LIGHT SENSOR



Temperature and humidity sensor

The integrated temperature and humidity sensor may be used to increase perceived comfort levels,

while the ability to adjust the temperature with a precision of 0.5°C gives the user an even greater sense of control. The relative humidity sensor, combined with the ability to interlock the remote control with a programmable AHC controller, makes it possible to control humidity with external devices connected to the system via the AHC.

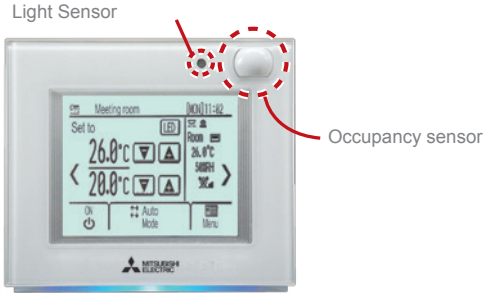
LED status indicator

The LED status indicator indicates the status of active functions on the remote control. Each colour is associated with a status or function:

e.g. Red=Heating, Blue=Cooling etc.

The LED indicator may be temporarily or permanently disabled.

LED STATUS INDICATOR



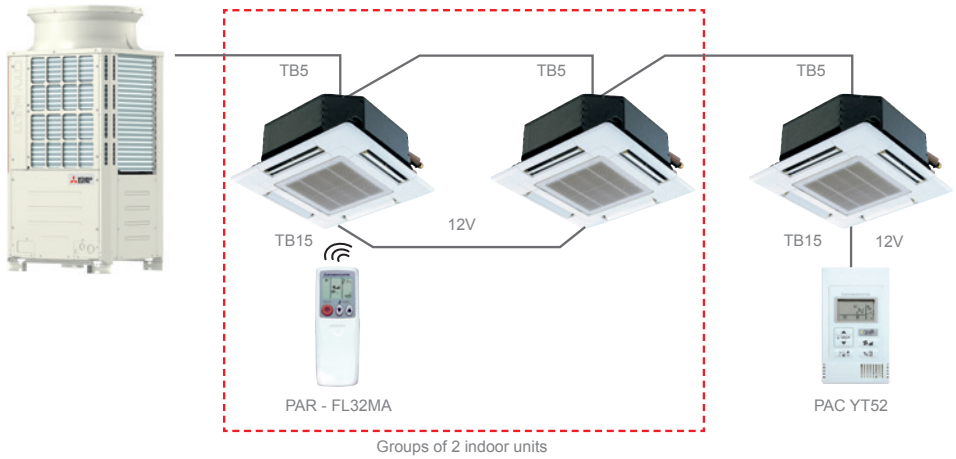
PAR-FL32MA

WIRELESS REMOTE CONTROL

PAR-FL32MA PAR-FA32MA PAR-SE9FA

PAR-FL32MA wireless remote control

- Usable to manage 1 group of up to 16 indoor units.
- Easy and intuitive with icon-based interface.
- Receiver connected simply with single non-polarised two-core wire.
- MA self-addressing technology.
- Suitable for all types of indoor unit.
- Recommended for groups with only one indoor unit.
- Generic receiver for all indoor unit types: PAR-FA32MA.
- Specific corner receiver for 4-way PLFY-P(M) VEM-E cassette units: PAR-SE9FA.



Groups of 2 indoor units

Compatibility table		
	Wireless signal receiver	Wireless remote control
PMFY-P VBM PLFY-P VLMD PEFY-P VMR/VMH PEFY-P VMS1 PEFY-M VMA PEFY-P VMA3 PEFY-P VMHS PFFY-P VLEM/VKM/VCM PCFY-P*VKM	**PAR-FA32MA**	**PAR-FL32MA**
PLFY-P/M VEM PLFY-P VFM-E1	**PAR-FA32MA**	**PAR-FL32MA**

Compatibility table		
	Wireless signal receiver	Wireless remote control
PKFY-P VLM PKFY-P VKM	**Built in**	**PAR-FL32MA**

PAR-SL101A-E

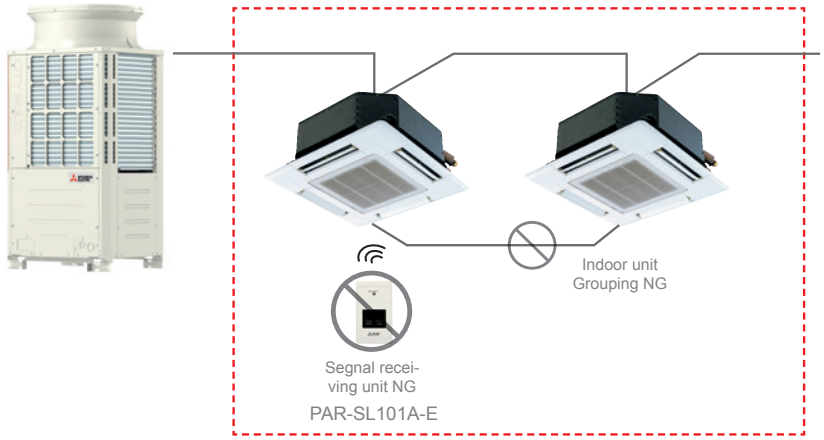
WIRELESS REMOTE CONTROL

Wireless remote control PAR-SL101A-E

- Compatible with PLFY-VFM and PLFY-VEM
- **Backlighting**
- Group with up to 16 units
- **Direct/Indirect function** with corner PAC-SF1ME-E (3D i-see sensor)
- **Single vane control**
- Temperature view and setting 0,5°C
- **3D i-see sensor compatible**

Key Technologies

dual Setpoint				



Compatibility table		
	Wireless signal receiver	Wireless remote control
PLFY-P/M VEM-E	**PAR-SE9FA-E**	**PAR-SL101A-E**
PLFY-P*VFM-E1	**SLP-2FAL**	

PZ-62DR-EB

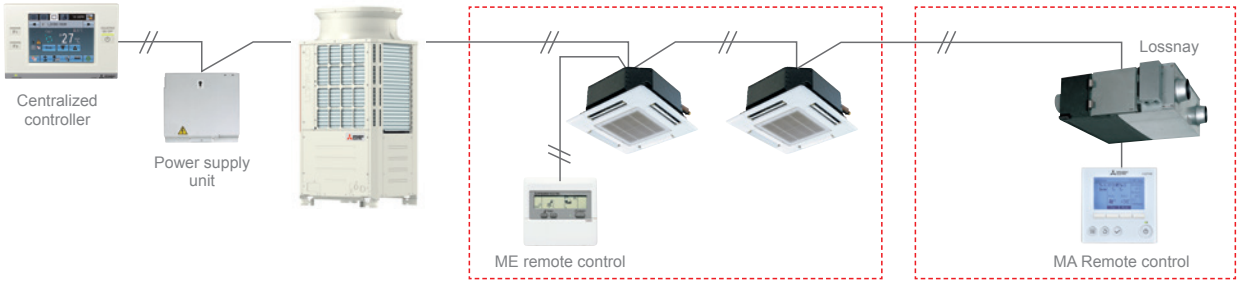
LOSSNAY REMOTE CONTROL

PZ-62DR-EB remote control for Lossnay

- Specific remote control for Lossnay heat recovery units.
- Usable to manage one group of up to 15 Lossnay units.
- Easy and intuitive with icon-based interface.
- Simple connection with single non-polarised two-core wire.
- Internal weekly timer.
- Custom ventilation strategies for mode switching (Auto/recovery/bypass).
- Night purge function for active night-time ventilation in summer.
- On-display service messages.
- Backlit LCD screen.
- Energy managemen

3 Languages are added
Greek,Slovenian, Denmark

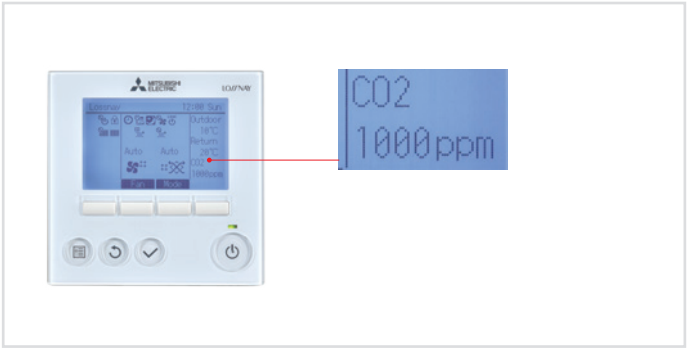
Compatibility
PZ-62DR-EB are compatible with both RVX and RVS.



*Not compatible with LGF

Dedicated PZ-62DR-EB wired controller

The new PZ-62DR-EB controller can be used to control all the functions of the LGH-RVS unit.
If the PZ-70CSW-E (optional) or PZ-70CSB-E (optional) CO_2 sensor is used, the carbon dioxide concentration in the room can be displayed on the control unit's display.

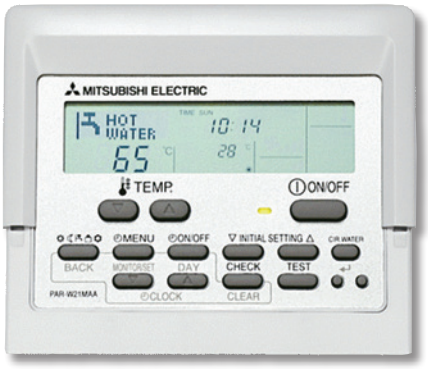


Function	PZ-62DR-E
Fan speed selection	4 fan speeds and Auto (Auto is available when using a CO2 sensor)
Control with a CO2 sensor	Yes (Fan speed automatically changes from 25% to 100% depending on the CO2 concentration*)
Ventilation mode selection	Energy recovery/Bypass/Auto
Night-purge	Yes
Function setting from remote controller	Yes
Bypass temp. free setting	Yes
Multi-stage air ow control	Yes (Both supply and exhaust fan speeds can be set separately from 25% to 100% in 5% pitches)
ON/OFF timer	Yes
Auto-off timer	Yes
Weekly timer	Yes
Fan speed timer	Yes
Operation restrictions (ON/OFF, ventilation mode, fan speed)	Yes
Operation restrictions (fan speed skip setting)	Yes
Screen contrast adjustment	Yes
Language selection	Yes
CO2 concentration indication	Yes (available when using a CO2 sensor)
Filter cleaning sign	Yes (maintenance interval can be changed)
Error indication	Yes (displays model name, serial number, contact information if they are input)
Error history	Yes
OA/RA/SA temp. display	Yes

* When using a CO_2 sensor. Upper and lower limits may be changed.

PAR-W21MAA / PAR-W31MAA

ECODAN REMOTE CONTROL



PAR-W21MAA / PAR-W31MAA remote control for hydronic modules and HWHP units / E-SERIES

- (PAR-W21MAA) Remote control for hydronic modules, HWS and ATW units and Hot Water Heat Pump package systems (HWHP) CAHV&CRHV.
- Usable to manage 1 group of up to 16 indoor units.
- Easy and intuitive with icon-based interface.
- Simple connection with single non-polarised two-core wire.
- MA self-addressing technology.
- Operating mode selection (Heating, Heating ECO, Hot water, etc.).
- Internal weekly timer.
- Customisable water temperature ranges for switching operating mode from local keypad.
- On-display service messages.
- PAR-W31MAA specific for E-SERIES

AT-50B

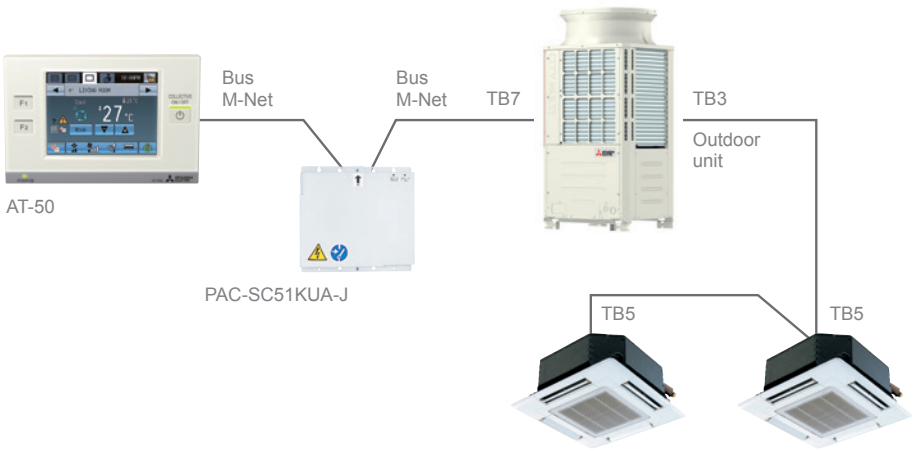
SYSTEM CONTROLLER

AT-50B system controller

- **5”** backlit **LCD touch screen.**
- Usable to manage 50 groups of up to 50 indoor units.
- Individual or collective group control, with groups displayed in grid, list or group format.
- **Dual-Setpoint** function.
- **View and set setpoint temperatures in 0.5°C increments.**
- Two weekly timers (for seasonal switching) and one daily timer.
- Simple connection with single non-polarised two-core wire.
- ME M-Net addressing technology.
- Two function buttons programmable to access any of a choice of functions (Night Set-back, weekly hour timer setting, switch operating mode, adjustable temperature range restriction, local restrictions).
- Recommended for controlling a single system.

Key Technologies

dual Setpoint				



AE-200E

WEB SERVER CENTRALIZED CONTROLLER

3D TOUCH controller

- Generously sized backlit 10.4” SVGA touch screen with graphic layout display function.
- Built-in 240 V AC 50 / 60 Hz power supply.
- Standalone configuration: management of up to 50 indoor units.
- Extended configuration: management of up to 200 indoor units (with 3 expansion controllers EW-50).
- Individual or collective control of groups, blocks or zones.
- Ethernet interface for connection to BMS supervisor systems.
- Integrated WEB server software for management using Internet Explorer®.
- Integrated 2 GB SD memory card for storing system data.
- Direct management of 4 impulse meters with no external interface.
- Power consumption data for billing downloadable via internet connection.
- Complete support for all advanced RMI platform functions for energy consumption monitoring and for multi-installation and multi-user management.
- Temperature setpoints settable and viewable with a precision of 0.5°C.
- Energy saving functions: Maintenance temperature, Sliding temperature, Optimised start, Dual Setpoint.
- M-Net interfacing with Ecodan package Hot Water Heat Pump systems (CAHV and CRHV).
- **Allows direct connection to BMS BACnet NEW**

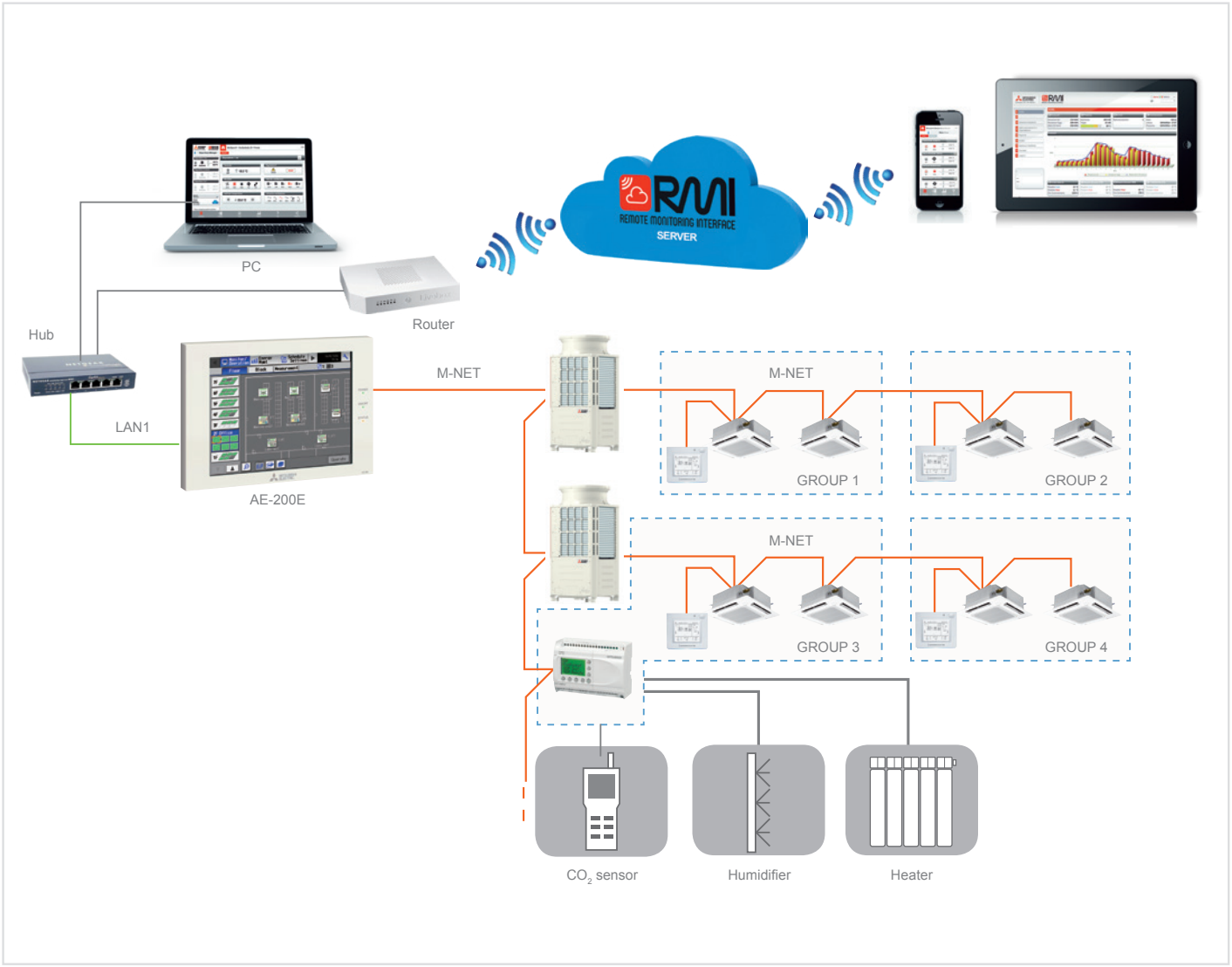
Key Technologies

dual Setpoint				

Superior management, functional and monitoring capabilities with new Mitsubishi Electric controller systems

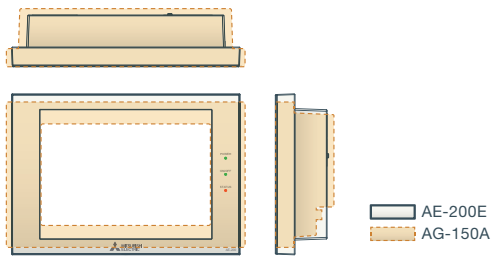
The 3D TOUCH Controller supports the management, operational and monitoring capabilities of all the new functions offered by the new **ADVANCED remote control.**

Information concerning **occupancy, light levels**, relative humidity in the **indoor space and dual setpoints** is accessible directly from the display and via the WEB.



Power and flexibility in a compact device

While measuring practically the same as the previous AG-150, the new 3D TOUCH Controller WEB Server centralized controller offers a larger screen area, greater processing power and expandable flexibility for future applications.



RMI Ready

The **3D TOUCH Controller** WEB Server centralized controller performs the crucial role of acquiring and monitoring data via the M-Net data transmission bus linking all the components of the VRF CITY MULTI, Mr. Slim or Residential system.

A router (available as wired ADSL or 3G Mobile versions) creates a secure, protected communication channel with the RMI Server. The modular flexibility of the RMI Server makes it possible to store enormous volumes of data, which is acquired, processed and archived for access from portable devices.

This infrastructural complexity, combined with superior processing, management and security capabilities, is encapsulated in an extremely user friendly concept, to help users optimise the energy usage of their systems.

EW-50

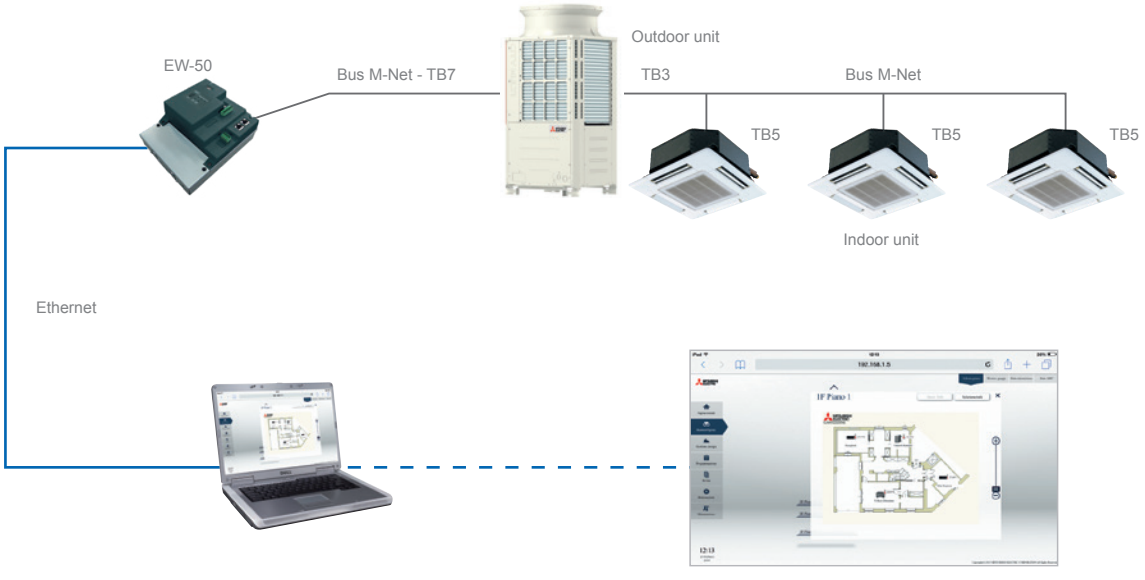
WEB SERVER CENTRALIZED CONTROLLER

3D blind controller

- “Black Box” version (no display).
- Compact dimensions (external 230V AC power supply).
- Usable to manage 50 groups for a total of up to 50 indoor units.
- Individual or collective group control.
- Ethernet interface for connection to supervisor systems.
- Integrated WEB server software for management using Internet Explorer®.
- Simplified connection, with single non-polarised two-core wire, using ME technology.
- Integrated 2 GB SD memory card for storing system data.
- Direct management of 4 impulse meters with no external interface.
- Status indicator LED indicating data transmission status and/or errors.
- Consumption data for billing downloadable via internet connection.
- A wide choice of energy saving functions offered as standard, with additional optional functions accessible with PIN code licenses.
- Complete support for all advanced RMI platform functions for energy consumption monitoring and for multi-installation and multi-user management.
- **Expansion controller for AE-200.**
- Allows direct connection to BMS BACnet NEW

Key Technologies

dual Setpoint				



CHARGE

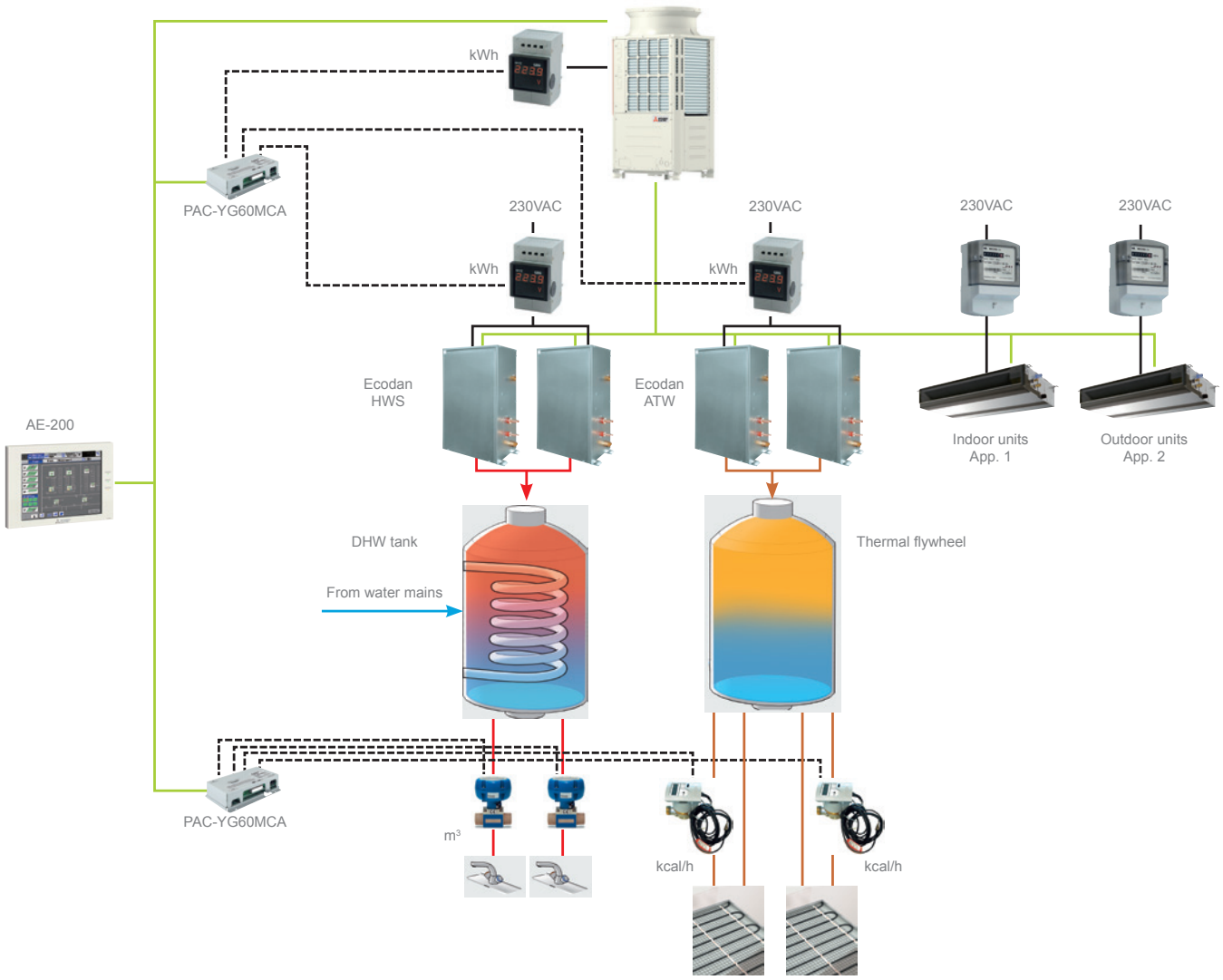
"CHARGE" SYSTEM FOR CENTRALIZED WEB SERVER CONTROLS

Apportioning system by web server centralized controllers

The Charge consumption monitoring and apportioning system may be used to meter the consumption of electric power, thermal power and water for air conditioning, air and/or water heating and domestic hot water production with a Mitsubishi Electric VRF CITY MULTI system, and calculate individual usage values.

The AE-200 and EW-50 CHARGE systems use proprietary Mitsubishi Electric calculation and apportioning methods. This consumption apportioning method indicates the consumption parameters of each user as percentages of the total consumption of the system. Consumption values, as percentages and kWh, may be calculated separately for:

- Outdoor Units
- Indoor Units
- Ecodan HWS Hydronic Modules
- Ecodan ATW Hydronic Modules



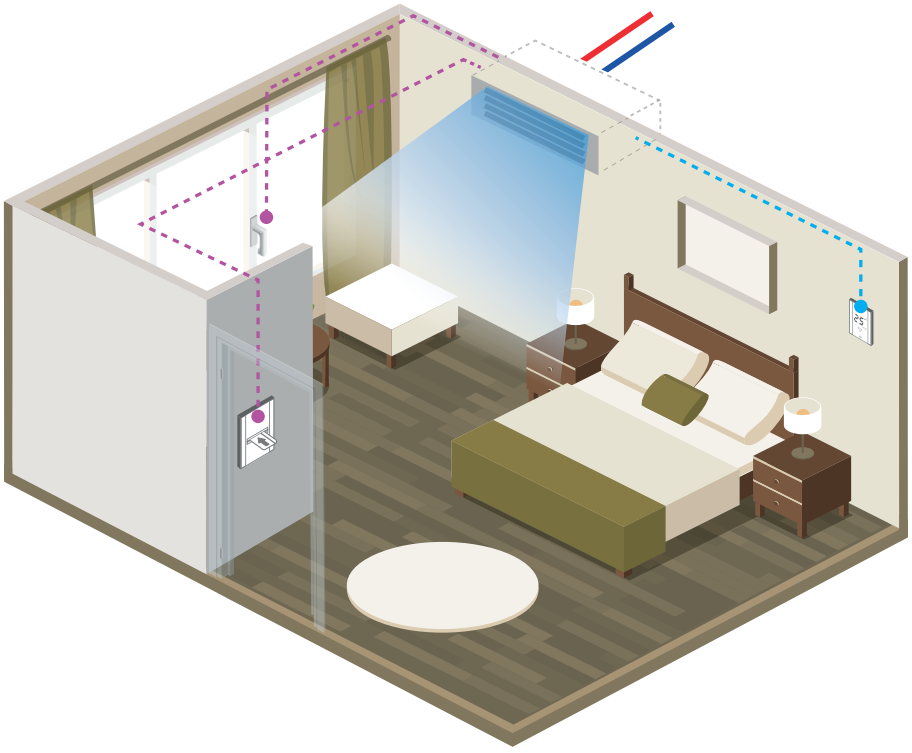
MELCOTEL

INTERFACE FOR HOTEL SIMPLIFIED APPLICATION

MELCOTEL

- Integrated solution interface for small-medium hotels;
- Centralized solution;
- Higher level of control and therefore greater energy saving and a substantial reduction in running costs;
- Key Card contact and Window contact management (1 PAC-SE55RA for each indoor unit is required)
- It works in combination with 1 AE-200 and up to 3 more Web Server Centralized Controllers AE-200/EW-50 (up to 200 Indoor Units).

HOTEL ROOM MANAGEMENT

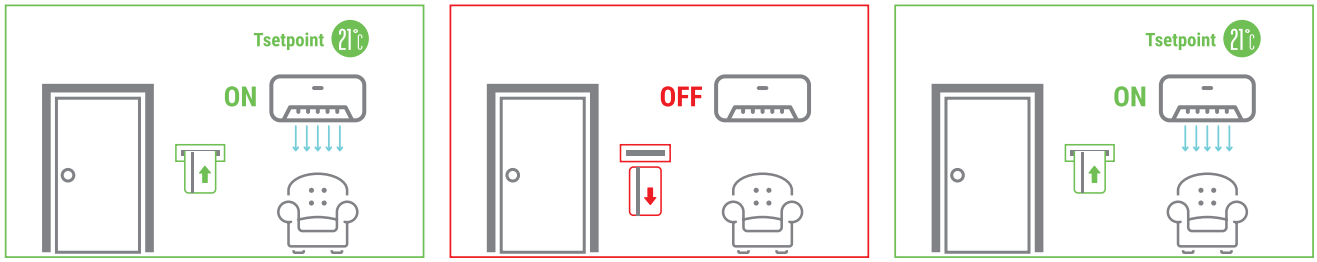


Key card contact and window contact management

The Melcotel Interface allows a hotel to have more accurate control over its air conditioning and can be used to control and monitor up to 200 bedrooms.

KEY CARD CONTACT MANAGEMENT

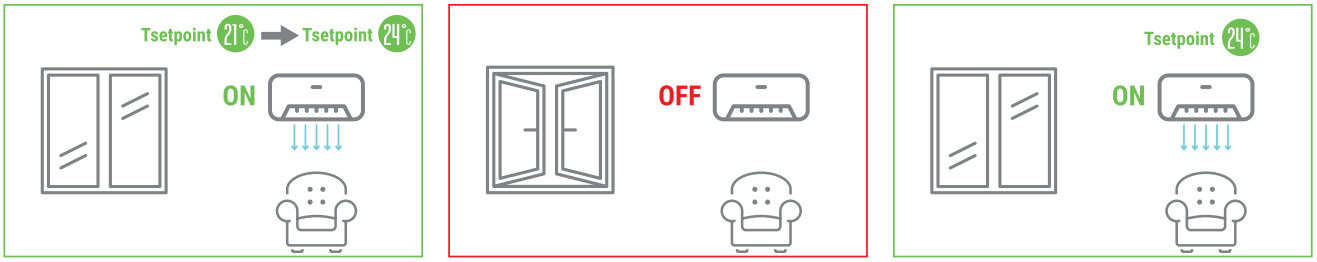
It allows the resetting of the status (Setpoint Temperature) set by Melcotel when key card is reinserted



Application example:
When key card is inserted, the indoor unit switches on with the setpoint temperature set by MELCOTEL, for example 21°C. The chamber customer changes the setpoint to 24°C. When key card is removed the indoor unit switches off and remote control is disabled. When key card is reinserted, the indoor unit switches to ON with the setpoint of 21 °C, the one set by MELCOTEL, in order to guarantee energy savings.

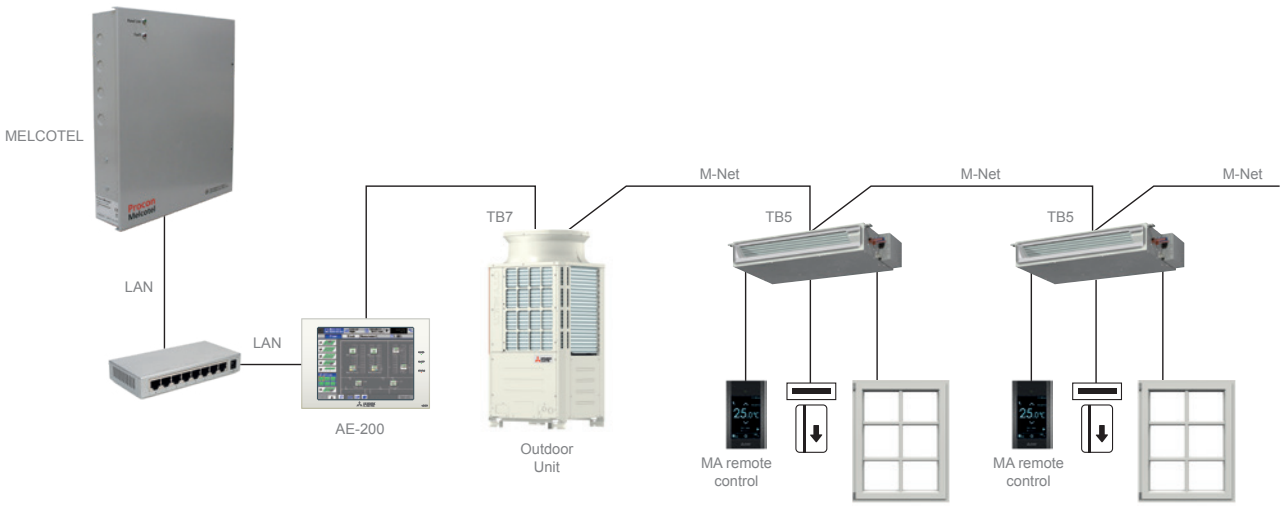
WINDOW CONTACT MANAGEMENT

It allows restoring the previous state (ON / OFF status, Setpoint Temperature) when the window is reclosed;



Application Example:
The indoor unit is on and with a setpoint temperature equal to that set by MELCOTEL, for example 21°C. The chamber customer changes the setpoint to 24°C. When the window is opened, the indoor unit switches off and remote control is disabled in order to avoid energy waste. When the window is reclosed, the state prior to opening is restored, i.e. the indoor unit returns to ON and to the setpoint previously set by the customer chamber, i.e. 24 ° C.

ARCHITECTURE



First Centralized Controller HAVE to be necessarily AE-200;
In order to implement the window and/or key card contact system it is necessary to provide one PAC-SE55RA for each indoor unit.

Remote monitoring and control system

3D Tablet Controller

3D Tablet Controller is the new solution by Mitsubishi Electric allowing portable system management from Smartphone and Tablet **inside the building**. User configuration, with restrictions and privileges, makes it the ideal solution in those application serving different environments, such as offices or appartments. Thanks to its simple and intuitive interface the user is able to control and monitor **air conditioning** and **hot water production** units on **mobile device**, just as easily as he would on a traditional remote control.
This is possible thanks to WEB Server 3D centralized control installed on site, connected to the building Wi-Fi router*1.

*1 Not supplied by Mitsubishi Electric.

INSIDE THE BUILDING

MELCloud

- Cloud remote **monitoring and control** system.
- Born for residential aplications, it's now being expanded to VRF CITY MULTI.
- **Complete and intuitive** solution with all main control and monitoring functions.
- Does not require WEB Server 3D centralized control (AE-200, EW-50).

RMI

- Cloud remote monitoring and control system **for professional use.**
- Allows all main remote control and monitoring functions.
- **Advanced energy monitoring** features are available, such as hourly cunsumption view, custom charts and data collection and display.
- Geo-localized **multi-site** management.
- **Multi-user** management for centralized systems.
- Energy **consumption apportioning**[*2].

	3D TABLET CONTROLLER	MELCloud CITY MULTI	RMI REMOTE MONITORING INTERFACE
Group/Individual simplified management[*2]	•	•	•
Available for Smartphone and Tablet	•	•	•
Dedicated App		•	•
User restrictions	•	•	•
Outside the building (Cloud)		•	•
Internet connection needed		•	•
WEB Server centralized control needed	•		•
Advanced energy monitoring			•
Monthly/Custom charts and reports			•
Multi-site management			•
Energy consumption apportioning			•

[*2] For compatible product lines please refer to catalogues or contact headoffice

OUTSIDE THE BUILDING

3D TABLET CONTROLLER

WI-FI REMOTE MANAGEMENT SYSTEM

New Wi-Fi management system by Mitsubishi Electric

3D Tablet Controller allows system management and control through Smartphone and Tablet under LAN Wi-Fi coverage.

Simple and intuitive interface

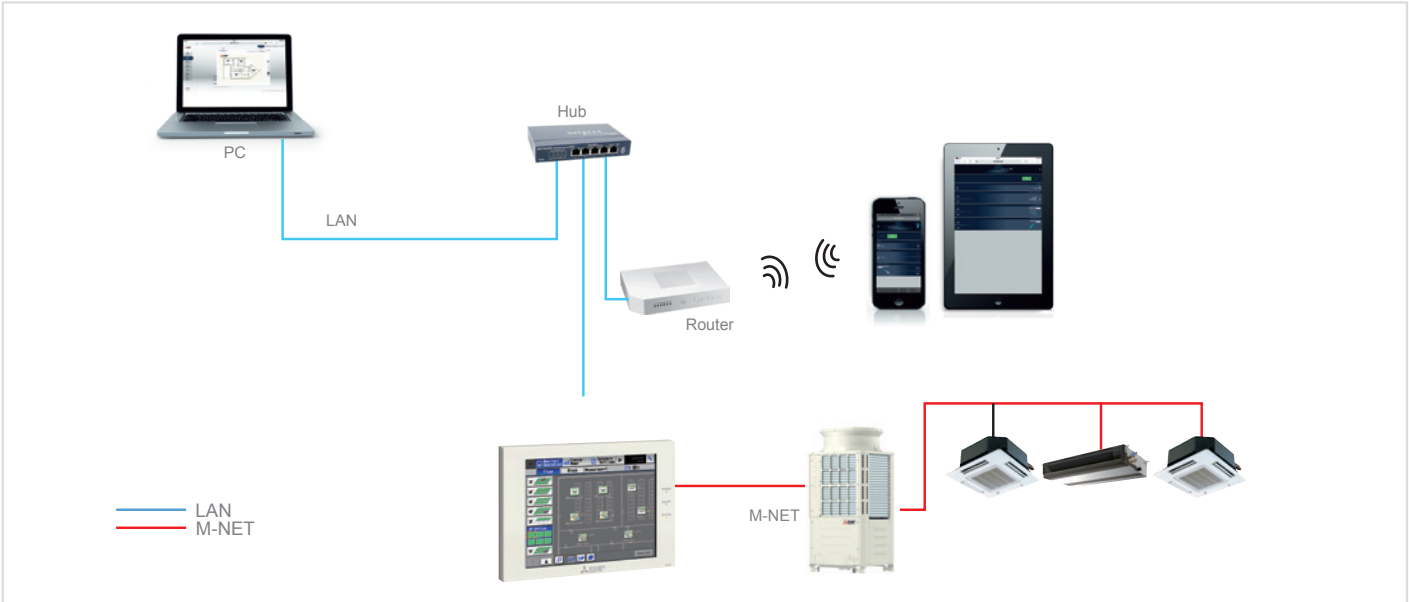
Thanks to its simple and intuitive interface the user is able to freely control air conditioning and water production units from mobile device, inside the building.
This interface has been designed to have the look&feel of a typical App for Smartphone, with immediate feedback from units and fast setting of operating parameters.

Access and components

WEB Server centralized control connected to Wi-Fi router is needed.
3D Tablet Controller is compatible with all Smartphone and Tablets, thank to access through internet browser.

The user can login at the address:

http://[AE-200/EW-50 IP address]/mobile



Mobile interface

The web interface has been designed following the modern style of App for Smartphone and Tablet, maximizing easy of use and intuitiveness for mobile use.

Advantages

- Compatible with all Smartphone and Tablet mobile devices, regardless of the brand and operating system.
- No need for internet connection, communication is direct between device, router and centralized controller.
- Possibility to replace the wired remote controls
- Possibility of configuring different users with privileges/restrictions on the available functions

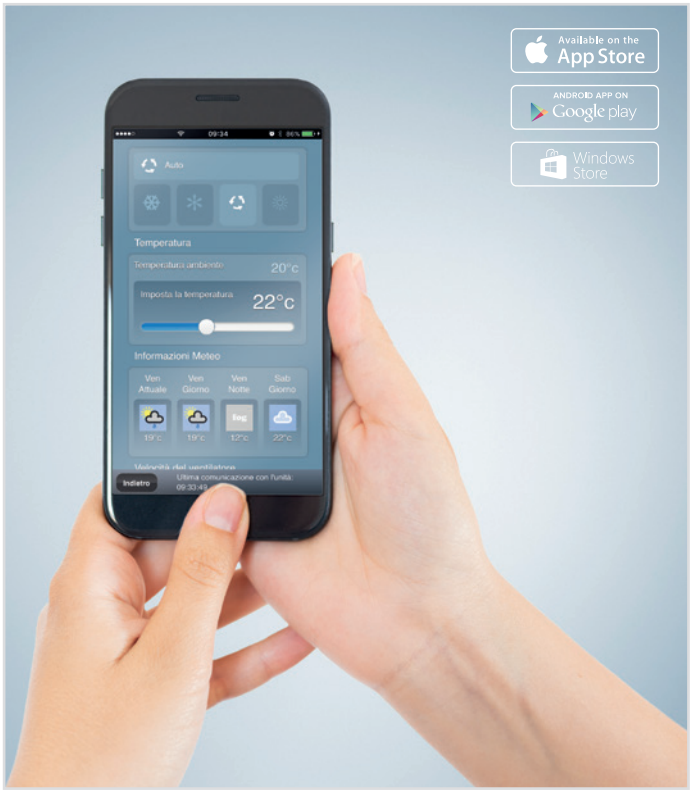
MELCLOUD CITY MULTI

CLOUD-BASED REMOTE MANAGEMENT AND SUPERVISOR SYSTEM

MELCloud, the Wi-Fi controller for VRF CITY MULTI systems.

MELCloud, the new Wi-Fi controller for your Mitsubishi Electric VRF system. By using the cloud for sending and receiving information and the dedicated Wi-Fi interface (MAC-567IF-E), you can now control your VRF system easily wherever you are from any PC, tablet or smartphone with an internet connection.
The MELCloud service has been designed to ensure complete compatibility with PCs, tablets and smartphones via dedicated apps or via a web browser

Registering the system
The system must be registered to activate the MELCloud service.
Once the interface is connected to the indoor unit and paired with the router, the system itself may be registered. To activate Wi-Fi control capability, simply access the website www.melcloud.com, sign up as a user and register the interface used. After registering, you will be able to take full advantage of the potential offered by the MELCloud service and manage your VRF system from any location over the internet.



Control functions for CITY MULTI indoor units

Main functions:

- On / Off
- Mode (Auto/Heat./Cool./Ventilation)
- Fan speed
- Programmable weekly timer
- Louvre angle setting
- View and set ambient temperature
- Local weather information

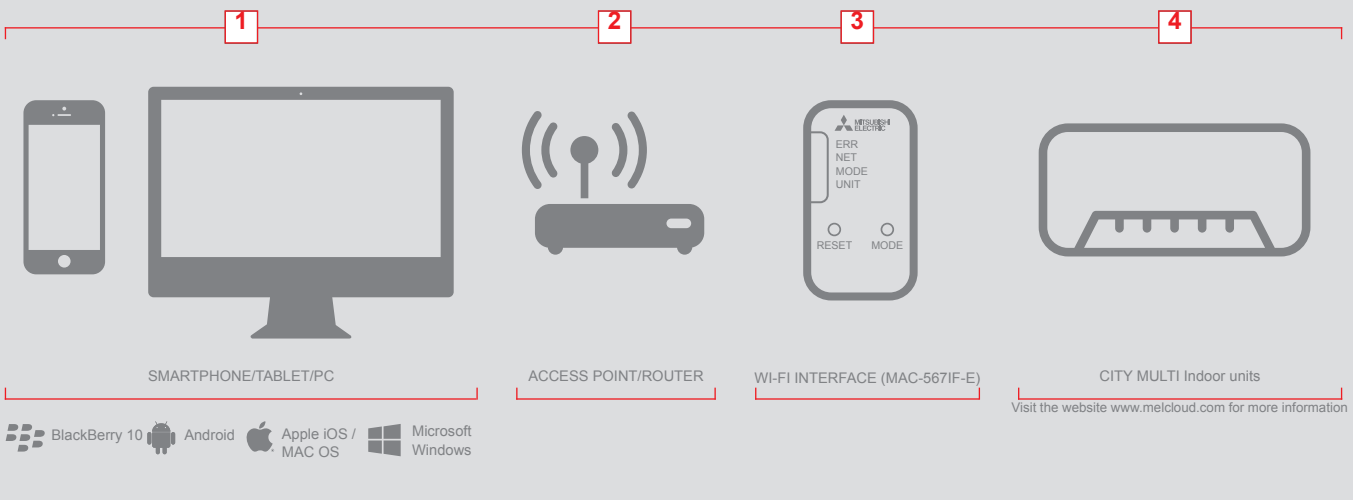
(availability of functions depends on the model of indoor unit connected to the controller)

Control functions for Lossnay ventilation systems

Main functions:

- On / Off
- Ventilation mode
- Fan speed
- Timer

MELCloud® CITY MULTI - SYSTEM ELEMENTS WWW.MELCLOUD.COM



REMOTE MONITORING INTERFACE

CLOUD REMOTE MANAGEMENT SYSTEM

The Cloud system by Mitsubishi Electric for large installations

The RMI system lets you control your air conditioning, heating and domestic hot water production system remotely from a smartphone, tablet or PC. The system may be used to monitor the performance of your appliances, programme functions, check consumption and view operating states to optimise the efficiency of the system.

Your perfect climate in an App!

Control your air conditioner, adjust temperature and air flow settings, view and manage hot and cold water production status and check for system faults.

ALL FROM AN APP ON YOUR SMAR-TPHONE OR TABLET.

Simplified control for all of your systems

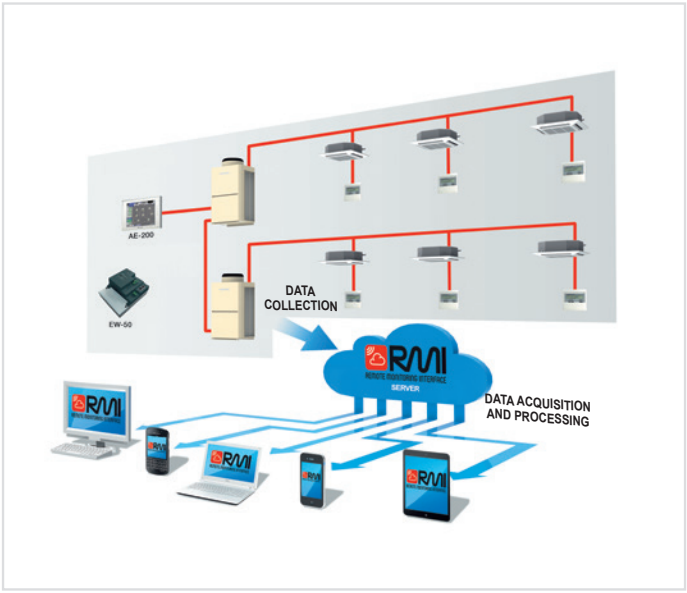
Set weekly programmes and special events, and view and analyse the operating parameters of your system remotely from a mobile device with a graphic interface that lets you change settings instantaneously when needed.

Manage your systems with detailed information and analytical functions

Manage multiple installations with different sizes and architectures conveniently from the application on your PC, view function parameters in a summarised dashboard interface, and analyse specifically created reports to make your installation work even more efficiently.
RMI is also the ideal solution for the centralized management and supervision of multiple installations in different locations.

System architecture

The 3D TOUCH Controller WEB Server centralized controller performs the crucial role of acquiring and monitoring data via the M-Net data transmission bus linking all the components of the VRF CITY MULTI, Mr. Slim or Residential system.
A router (available as wired ADSL or 3G Mobile versions) creates a secure, protected communication channel with the RMI Server. The modular flexibility of the RMI Server makes it possible to store enormous volumes of data, which is acquired, processed and archived for access from portable devices. This infrastructural complexity, combined with superior processing, management and security capabilities, is encapsulated in an extremely user friendly concept, to help users optimise the energy usage of their systems.



The project

The RMI project is the result of a forward thinking idea by Mitsubishi Electric to offer its customers the capability of managing their installations from portable devices, adding a significant new advantage offered by these systems. The all-new **RMI** system is the FIRST system of its kind based on **Cloud Computing** technology, which lets you interface with your system via a simple yet secure internet connection. RMI makes it possible to manage Mitsubishi Electric air conditioning solutions, with **energy consumption monitoring and maintenance functions**, from **smartphone** and **tablet** apps for the iOS and **Android** operating systems, and via a private **WEB Client** area **from a PC**. The RMI system is based on a dedicated infrastructure (RMI Server), which may be described as a container for installation data that is collected and made accessible **simply and intuitively**, and filtered and represented appropriately for the type of user analysing and using the data.
The project was designed from the start with security in mind, to protect the installation and the client against unauthorised access with a secure VPN connection (Virtual Private Network).

Who can use RMI?

Because of its many different functions, the RMI system is suitable for all types of installation, from centralized residential systems to commercial applications and large scale installations.
The remote management and monitoring functions are intended for end users (e.g. tenants), owners, administrators, energy/building managers, global service providers and installing and maintenance technicians.

RMI Service packages

RMI can also be applied to an existing VRF CITY MULTI system, by interfacing through the installation's existing WEB Server centralized controllers. Contact head office to check compatibility between hardware and available functions

See DEMO RMI at:

http://demo-it.rmi.cloud

RMI IS AVAILABLE IN THE FOLLOWING PACKAGES

RMI SMART
REMOTE MONITORING INTERFACE

RMI ADVANCED
REMOTE MONITORING INTERFACE

RMI MULTI-TENANT
REMOTE MONITORING INTERFACE

RMI PLAN
REMOTE MONITORING INTERFACE

RMI CHARGE
REMOTE MONITORING INTERFACE

ADVANCED HVAC CONTROLLER

EXTERNAL SIGNAL INTEGRATION

AHC – Advanced HVAC controller

- Solution consists of an ALPHA2 PLC and an M-Net interface, both by Mitsubishi Electric.
- Intuitive object-based graphic programming function.
- Create control strategies using either physical signals (inputs and outputs) or logical signals (via M-Net data transmission bus).
- Receive signals from 2 Groups for a total of up to 32 indoor units for each PLC.
- Programme synchronised energy saving strategies between power consuming utilities (such as lighting) and the air conditioning system.
- 15 inputs and 9 outputs.
- Number of physical inputs and outputs may be increased with dedicated expansion modules.
- Large backlit LCD display for programming functions and viewing graphics, text and values.
- Direct programming with 8 function keys on front control panel without using auxiliary devices.
- Superior installation flexibility with integrated DIN rail adapter.
- System may be password-protected.
- Possibilità di proteggere il sistema mediante password.

Total integration

The AHC programmable controller uses Mitsubishi Electric know-how acquired in industrial automation applications to integrate air conditioning, heating and domestic hot water production systems with third party systems, such as access control, security, lighting control systems etc., allowing communication between the systems via the M-Net data communication bus.
This makes it possible, for example, to use data acquired via the M-Net communication bus to control external devices instead of interlocking the operation of air conditioner units and external systems connected to the AHC Programmable Controller, or using other similar measures.

Flexible programming…

Up to 200 function blocks can be used in a single application (Set/Reset, Timer, Service messages etc.), offering extraordinary scope for controlling the entire installation.

… and safe data!

The application is stored permanently in an EEPROM memory module. This means that active data (such as meter counts) are backed up without requiring power.

Extensive operating temperature range

Designed to operate in a temperature range from 25°C to 55°C and with an IP20 protection rating, these devices are ideal for both indoor and outdoor installation.

Digital and analogue expansion modules

Dedicated expansion modules offer the possibility of increasing the number of both analogue and digital inputs and outputs.

Digital

AL2-4EX:

offers 4 digital inputs

AL2-4EYT:

offers 4 digital outputs

Analogue

AL2-2PT-ADP:

offers 2 analogue inputs

AL2-2DA:

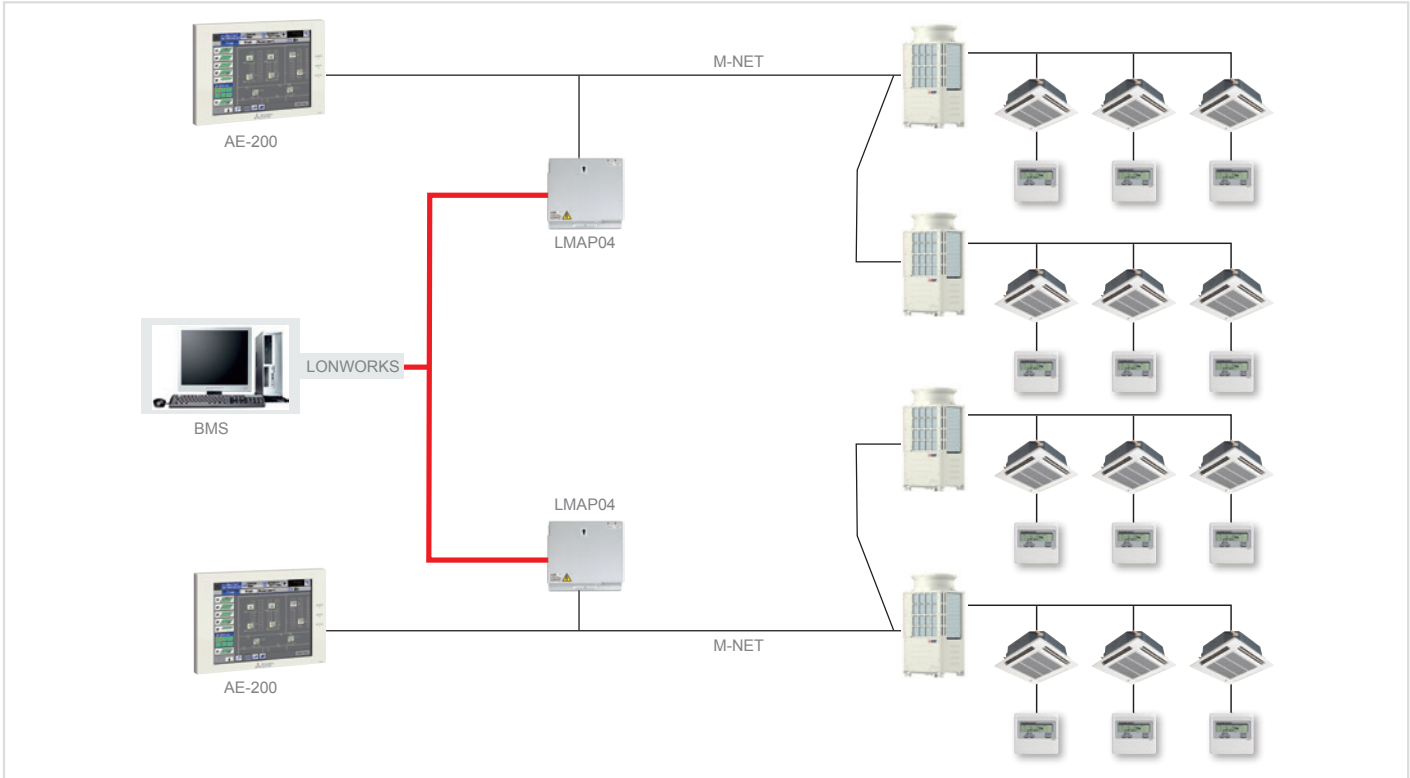
offers 2 analogue outputs

LMAP04

BMS INTERFACE FOR LONWORKS® NETWORKS

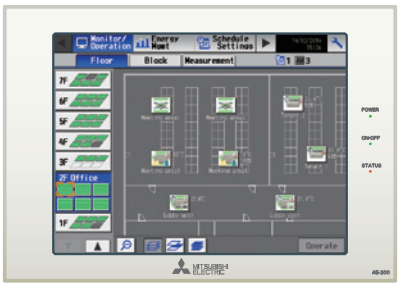
LMAP04 BMS interface for LonWorks® networks

The LMAP04 interface allows Mitsubishi Electric air conditioners to communicate with third party BMS supervisor and management systems through the LonWorks® network system. The hardware of the interface consists of an electronic board with software integrated in the board itself which needs no configuration.
The LMAP04 interface may be installed with any remote control or centralized controller of the Mitsubishi Electric range. The LMAP04 interface can also be used in a mixed system, which also includes the TG-2000A supervisor. Each LMAP04 interface can control up to 50 indoor units, each with its own unique address. In installations with AE-200E or EW-50 WEB Server centralized controllers, the LMAP04 interface offers the same modularity as the controllers themselves. In these cases, a separate interface must be installed for each centralized controller.



XML

BMS INTERFACE FOR ETHERNET NETWORKS

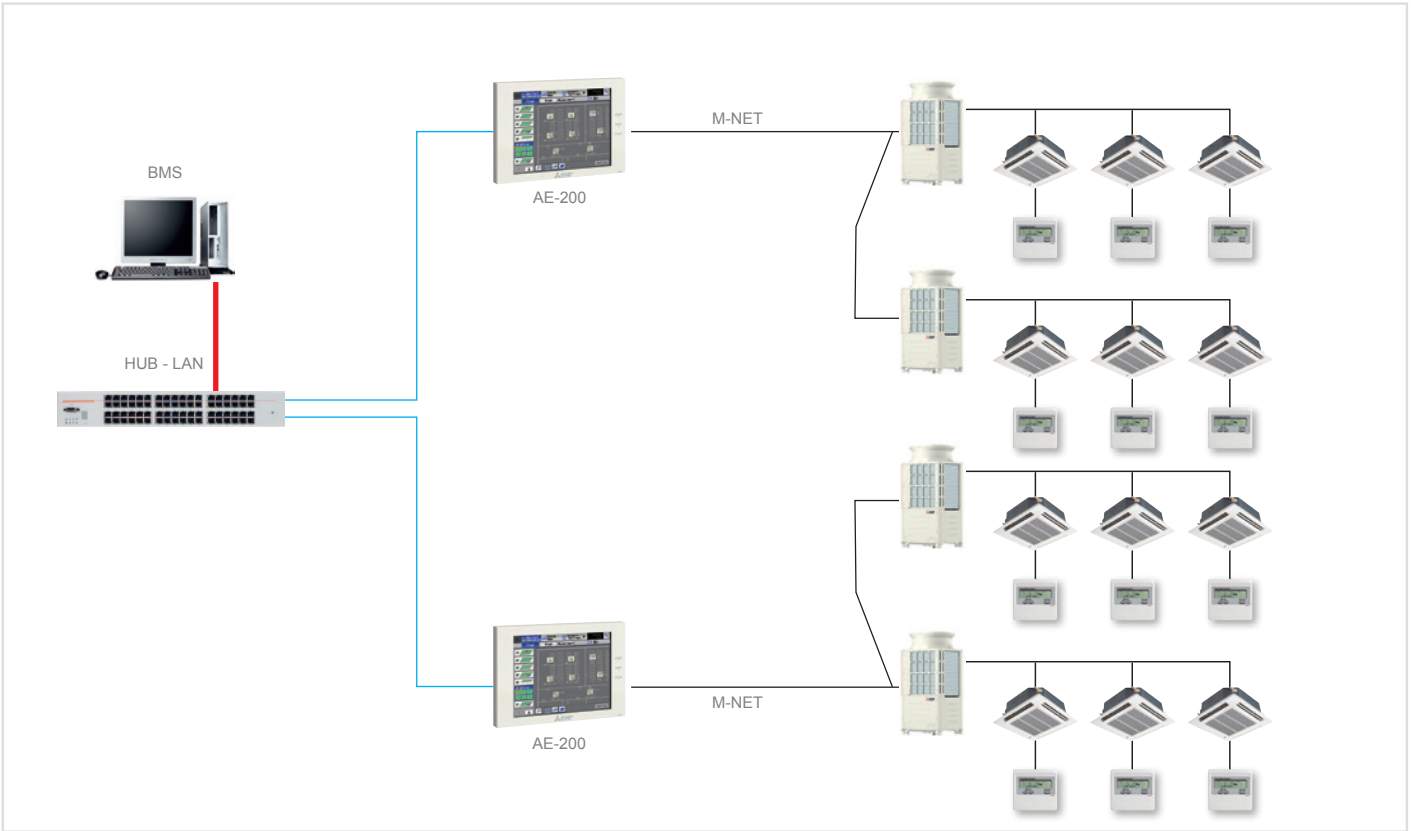


AE-200

EW-50

XML BMS interface for ethernet networks

XML is an innovative new communication system developed specifically for exchanging data over the web. XML makes it possible to create custom software extremely simply, which can even be used with a standard internet browser. The XML protocol makes it possible to integrate with a BMS system using the AE-200E or EW-50 WEB Server centralized controllers, with no additional dedicated hardware interfaces. As all the information necessary for the BMS system is available in XML format directly over the Ethernet communication port of the AE-200E / EW-50 controller, all that needs to be done is to connect both the AE-200E / EW-50 WEB Server centralized controllers and the BMS computer system to the same network. Connecting to a BMS system with the XML protocol is extremely simple, as the Ethernet network platform is used. No dedicated conversion or interface hardware is needed, as shown in the typical layout schematic.



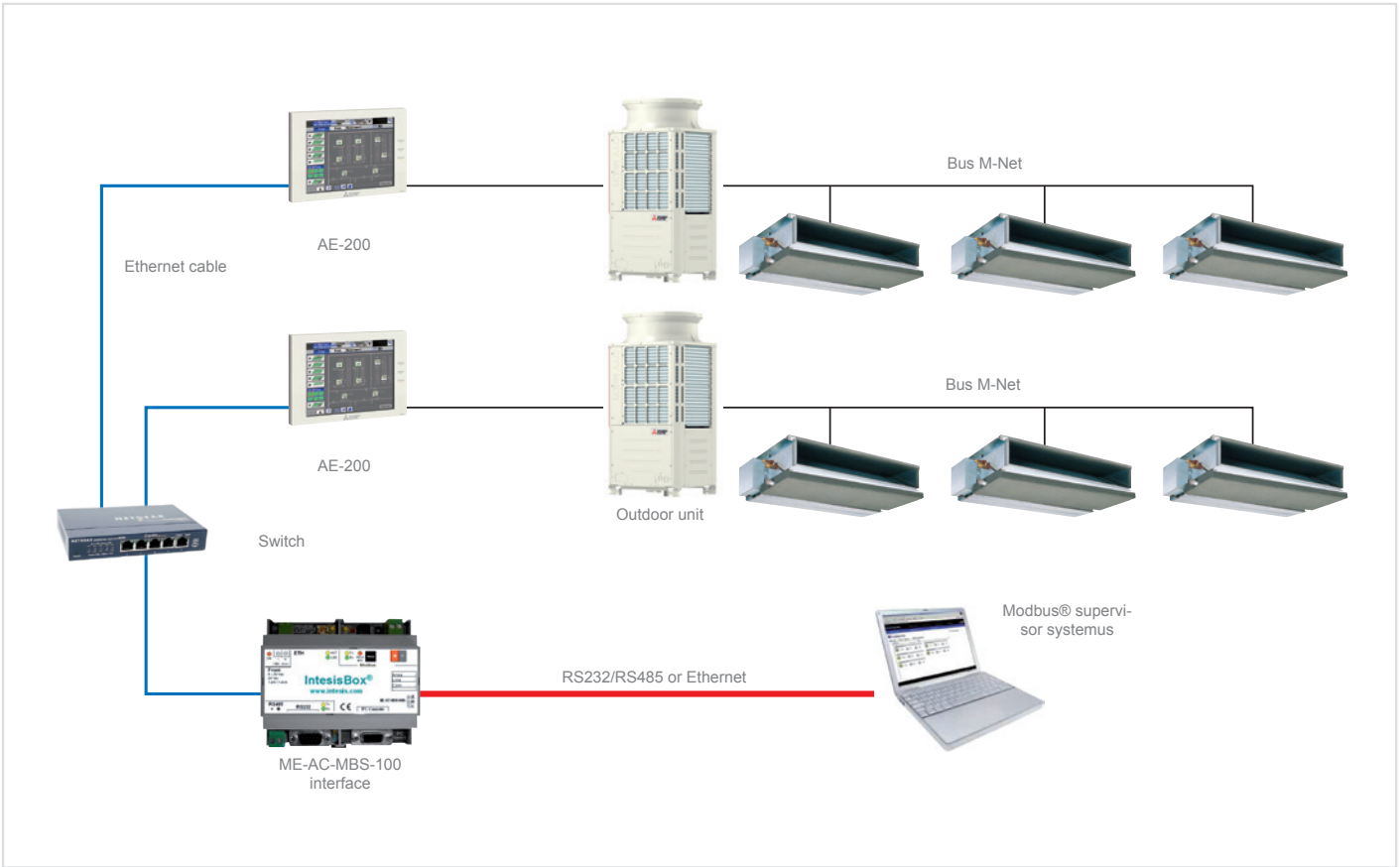
ME-AC-MBS-100

BMS INTERFACE FOR MODBUS® NETWORKS

ME-AC-MBS-100 – BMS interface for Modbus® networks

The Modbus communication protocol was initially used for PLC networks. Mitsubishi Electric offers an interface capable of controlling up to 100 indoor units (ME-AC-MBS-100) for managing a VRF CITY MULTI installation with a BMS system.

The interface is connected to the Modbus supervisor system either by an RS232/RS485 serial connection or a TCP/IP over Ethernet connection, and is connected to the Mitsubishi Electric VRF CITY MULTI installation by Ethernet.

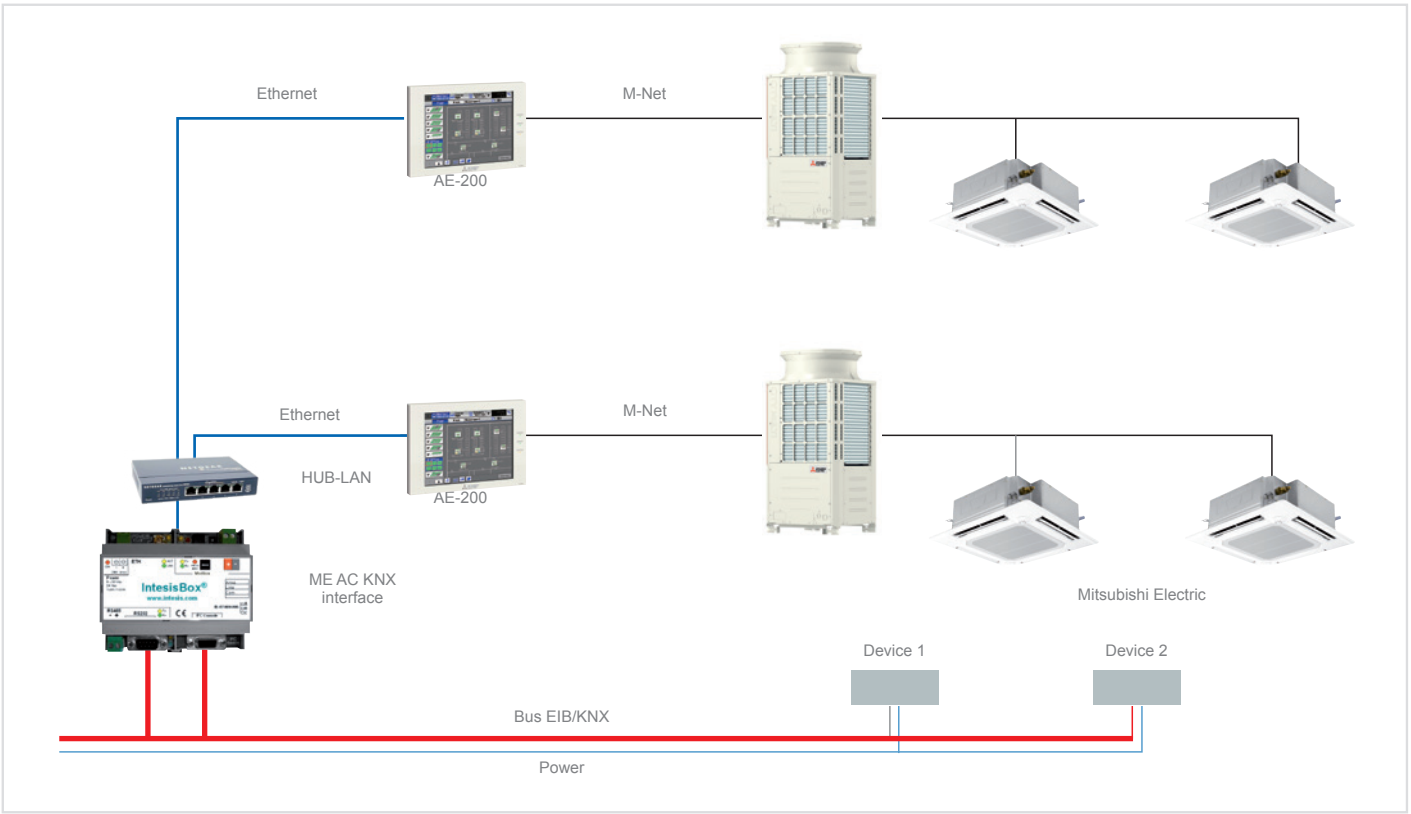


ME-AC-KNX-100

BMS INTERFACE FOR KNX® NETWORKS

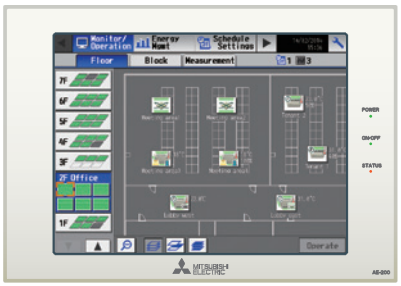
ME-AC-KNX-100 – BMS interface for KNX® networks

KNX is one of the global standards for automated household and building control. This open protocol ensures cross-compatibility between products from different manufacturers. Mitsubishi Electric offers an interface capable of controlling up to 100 indoor units (ME AC KNX – 100) for managing a VRF CITY MULTI installation with a BMS system.
The interface is connected directly to the EIB bus linked to the KNX network, and to the Mitsubishi Electric VRF CITY MULTI installation by Ethernet.



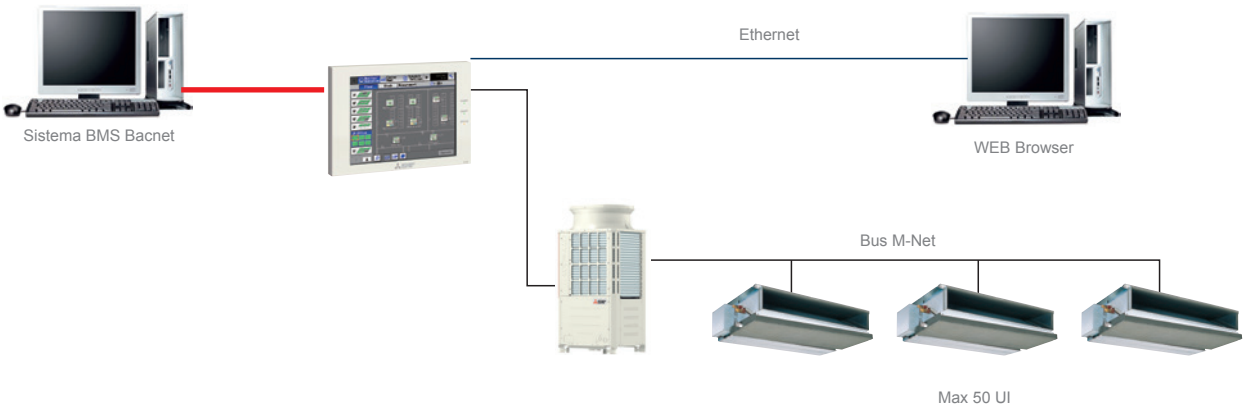
BACnet® PIN CODE

BMS INTERFACE FOR BACNET® NETWORKS



BACnet® PIN code

The BACnet® protocol was originally developed by ASHRAE in North America specifically for HVAC applications (Heat, Ventilation, Air Conditioning). It was subsequently also adopted in Europe as one of the standard communication solutions for air conditioning systems, together with LonWorks® and other protocols. One of the greatest advantages of this protocol is the extraordinary degree of cross-compatibility it offers, allowing systems from different manufacturers to be integrated with each other. New BACnet PIN code allows communication between Mitsubishi Electric system and BACnet BMS network with the same monitoring information and settings which were available with BAC-HD150. **BACnet PIN code is available only for WEB Server 3D centralized controls** (AE-200, EW-50). Physical connection is via Ethernet cable through a dedicated port on centralized control. Thanks to new BACnet PIN code it is possible to remove one hardware component (BAC-HD150) from the system, simplifying its structure and removing one potential source of malfunction. Each centralized control equipped with BACnet PIN code is able to handle up to 50 indoor units and 50 groups.




MITSUBISHI
ELECTRIC
LIVING ENVIRONMENTAL SYSTEMS

MITSUBISHI ELECTRIC

LIVING ENVIRONMENTAL SYSTEMS

Mitsubishi Electric Europe B.V. Italian Branch
Via Energy Park, 14
20871 Vimercate (MB)
Phone: +39 039 60531
Fax: +39 039 6057694
e-mail: clima@it.mee.com

The equipment described in this catalogue contain fluorinated gasses such as HFC-32 (GWP 675), HFC-410A (GWP 2088). Installation of those equipment must be executed by professional installer based on EU reg. 303/2008 and 517/2014

CITY MULTI VRF SYSTEMS ECOSTANDARD LINE-UP
CATALOGUE 2023
E-2210275 (17531)

Specifications are subject to change without notice

E-2210275

les.mitsubishielectric.it/en/products/