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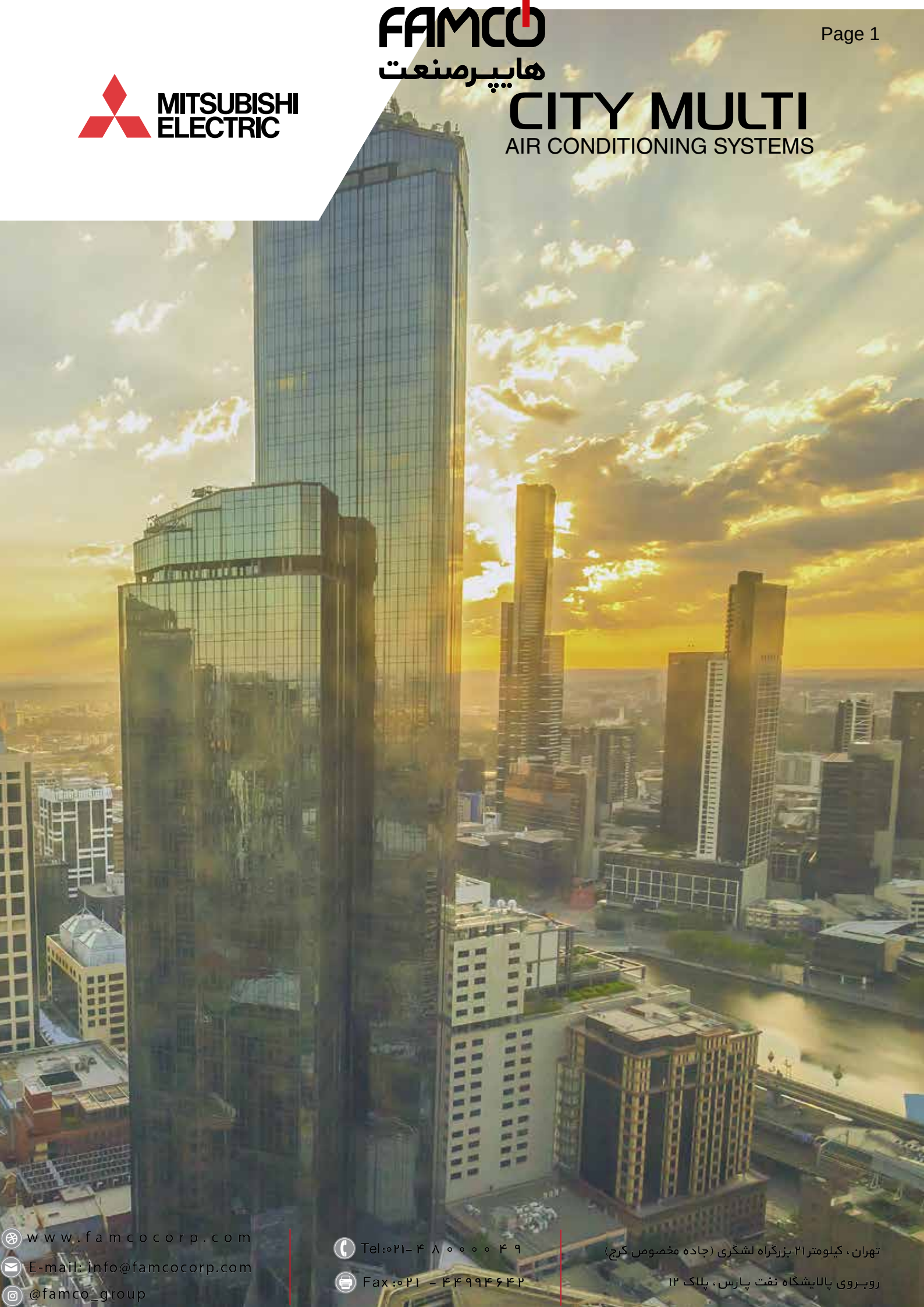
MITSUBISHI ELECTRIC

CITY MULTI
AIR CONDITIONING SYSTEMS



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روبروی پالایشگاه نفت پارس، پلاک ۱۲

Mitsubishi Electric is a global, market leading environmental technologies manufacturer. The Living Environment Group are continually pioneering solutions that cool, heat, ventilate and control our buildings in some of the most energy efficient ways possible.

We believe that global climate challenges need local solutions. We aim to help individuals and businesses reduce the energy consumption of their buildings and their running costs.

Providing accurate and controlled comfort all year round, our air conditioning range can work on their own or in conjunction with other systems in a hybrid solution. Whatever the requirement, we offer a solution that matches the needs of almost any building.

At Mitsubishi Electric we have evolved, and today we offer advanced environmental systems that really can make a world of difference.

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Contents

The ultimate heating and cooling solution for your building

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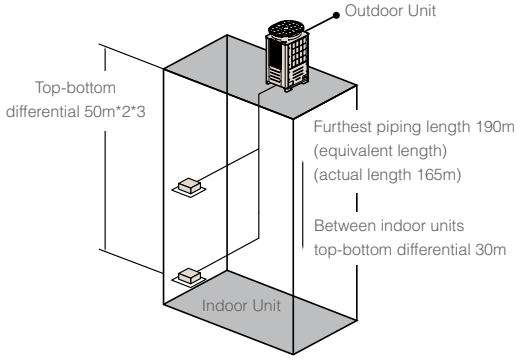
Line up of Air Cooled Outdoor Units

Y SERIES

*The numbers in the table indicate the kW and the combinations of S, L, XL modules.

AIR COOLED													
Heat Pump													
Model		PUHY-P YNW-A(-BS)			PUHY-P YSNW-A(-BS)			High Efficiency PUHY-EP YNW-A(-BS)			High Efficiency PUHY-EP YSNW-A(-BS)		
		 size S		 size L	 size XL			 size S		 size L	 size XL		
Model No.	kW	S	L	XL	S	L	XL	S	L	XL	S	L	XL
P112	12.5												
P125	14.0												
P140	15.5												
P200	22.4	22.4						22.4					
P250	28	28						28					
P300	33.5	33.5						33.5					
P350	40		40						40				
P400	45		45		22.4/22.4				45		22.4/22.4		
P450	50		50		22.4/28				50		22.4/28		
P500	56			56	28/28					56	28/28		
P550	63				28/33.5						28/33.5		
P600	69				33.5/33.5						33.5/33.5		
P650	73				28	45					28	45	
P700	80					40/40						40/40	
P750	85					40/45						40/45	
P800	90					40/50						40/13.5	
P850	96					45/50						45/13.5	
P900	101					50/50						50/50	
P950	108				28	40/40					28	40/40	
P1000	113				28	40/45					28	40/45	
P1050	118				28	45/45					28	45/45	
P1100	124					40/40/45						40/40/45	
P1150	130					40/45/45						40/45/45	
P1200	136					45/45/45						45/45/45	
P1250	140					45/45/50						45/45/50	
P1300	146					45/50/50						45/50/50	
P1350	150					50/50/50						50/50/50	



System Pipe Lengths [(P200-P1350 (Y Series)]

Refrigerant Piping Lengths	Maximum Metres	Vertical Differentials Between Units	Maximum Metres
Total Piping Length	1000	Indoor/Outdoor (Outdoor Higher)	50*2
Maximum Allowable Length	165 (190 equivalent)	Indoor/Outdoor (Outdoor Lower)	40*3
Farthest Indoor from First Branch	40*1	Indoor/BC Controller (Single/Main)	15*4

*1 90m is available. When the piping length exceeds 40m use one size larger liquid pipe starting with the section of piping where 40m exceeded and all piping after that point.
*2 90m is available depending on the model and installation conditions. For more detailed information, contact your local distributor.
*3 60m is available depending on the model and installation conditions. For more detailed information, contact your local distributor.
*4 30m is available. If the height difference between indoor unit exceeds 15m (but does not exceed 30m), use one size larger pipes for indoor unit liquid pipes.

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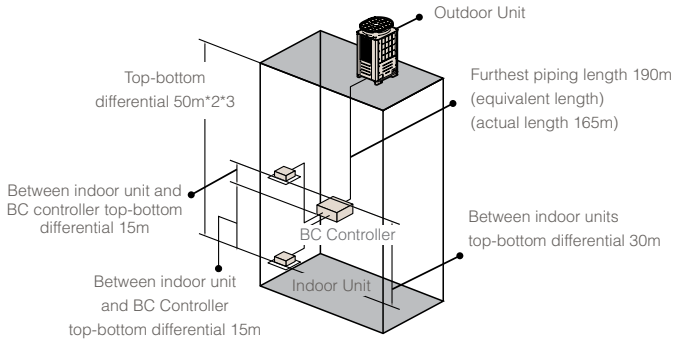
Line up of Air Cooled Outdoor Units

R2 SERIES

*The numbers in the table indicate the kW and the combinations of S, L, XL modules.

AIR COOLED													
Heat Recovery													
Model		PURY-P YNW-A(-BS)			PURY-P YSNW-A(-BS)			High Efficiency PURY-EP YNW-A(-BS)			High Efficiency PURY-EP YSNW-A(-BS)		
		 size S	 size L	 size XL				 size S	 size L	 size XL			
Model No.	kW	S	L	XL	S	L	XL	S	L	XL	S	L	XL
P200	22.4	22.4						22.4					
P250	28	28						28					
P300	33.5	33.5						33.5					
P350	40		40						40				
P400	45		45		22.4/22.4				45		22.4/22.4		
P450	50		50		22.4/28				50		22.4/28		
P500	56			56	28.0/28					56	28/28		
P550	63				28.0/33.5						28/33.5		
P600	69				33.5/33.5						33.5/33.5		
P650	73				33.5	40					33.5	40	
P700	80					40/40						40/40	
P750	85					40/45						40/45	
P800	90					45/45						45/45	
P850	96					45/50						45/50	
P900	101					50/50						50/50	
P950	108					50	56					50	56
P1000	113						56/56						56/56
P1050	118						56/63*1						56/63*1
P1100	124						63*/63*1						63*1/63*1

*1 63kW (P550) can be used only in combination with others.



*1 When you install a Sub-BC Controller, refer to DATABOOK for full details.
*2 When the outdoor unit is installed below the indoor unit, the top-bottom differential is 40m.
*3 Depending on the model and installation conditions, top-bottom variation 90m (o/u above) and 60m (o/u below) is available. For more detailed information, contact your nearest sales office or distributor.
*4 Distance of indoor sized P200, P250 from BC must be less than 10m, if any.
*5 Distance of indoor sized P200, P250 from BC must be less than 20m, if any.

System Pipe Lengths [P200-P1100 (R2 Series)]

Refrigerant Piping Lengths	Maximum Metres	Vertical Variations Between Units	Maximum Metres
Total Piping Length		Indoor/Outdoor (Outdoor Higher)	50*3
P200-300	550	Indoor/Outdoor (Outdoor Lower)	40*3
P350-P550 (Single Module)	600	Indoor/BC Controller (Single/Main)	15*4
P400-600	750	*Maximum length between single/main BC Controller and indoor is dependent upon the vertical variation between the single/main BC Controller and the indoor unit.	
P650	800		
P700-P1,100	1,000		
Maximum Allowable Length	165 (190 Equivalent)	Indoor/indoor	30*2*5
Maximum Length Between Outdoor and Single/Main BC Controller	110	Main BC Controller/Sub-BC Controller	15
*Maximum total length is dependent upon the distance between the outdoor unit and the single/main BC Controller.			
BC Controller, Indoor and Sub-BC Controller*1	40-90		

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S SERIES

AIR COOLED					
Heat Pump					
Model		PUMY-P VKM-A(-BS)	PUMY-P YKM-A(-BS)	PUMY-SP VKMD(-BS)	PUMY-SP YKMD(-BS)
					
Model No.	kW	Dimensions			
		1338 x 1050 x 370	1338 x 1050 x 370	981 x 1050 x 330 (+25)	981 x 1050 x 330 (+25)
SP80	9	-	-	9	9
P112	12.5	12.5	12.5	12.5	12.5
P125	14	14	14	14	14
P140	15.5	15.5	15.5	15.5	15.5
P200*	22.4	-	22.4	-	-

*Available for PUMY-P Series only.

Line up of Water Cooled Outdoor Units

*The numbers in the table indicate the kW and the combinations of S, L modules.

WATER COOLED									
Model		Heat Pump				Heat Recovery			
		PQHY-P YLM-A WY Series		PQHY-P YSLM-A WY Series		PQRY-P YLM-A WR2 Series		PQRY-P YSLM-A WR2 Series	
									
Model No.	kW	S	L	S	L	S	L	S	L
P200	22.4	22.4				22.4			
P250	28	28				28			
P300	33.5	33.5				33.5			
P350	40		40				40		
P400	45		45	22.4/22.4			45	22.4/22.4	
P450	50		50	22.4/28			50	22.4/28	
P500	56		56	28/28			56	28/28	
P550	63		63	28/33.5			63	28/33.5	
P600	69		69	33.5/33.5			69	33.5/33.5	
P700	80				40/40				40/40
P750	85				40/45				40/45
P800	90				45/45				45/45
P850	96				45/45				45/45
P900	101				45/45				45/45

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Outdoor/Heat Source Unit

Mitsubishi Electric offers a wide range of products in order to meet air conditioning needs for both new constructions and existing buildings.

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Technologies

INVERTER-DRIVEN COMPRESSOR TECHNOLOGY

Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

All CITY MULTI compressors are of the inverter-driven type, capable of precisely matching almost any building's cooling and heating needs.

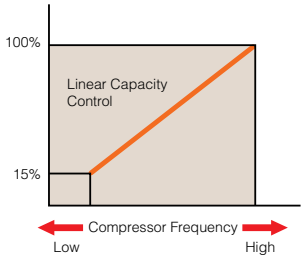
The compressor varies its speed to match the indoor cooling or heating demand and therefore only consumes the energy that is required.

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%; however partial load conditions prevail for the majority of the time. Therefore, fixed speed systems cannot match the annual efficiencies of inverter driven systems.

Using proven single inverter-driven compressor technology, the CITY MULTI range is favoured by the industry for low starting currents (just eight amps for a 56kW outdoor unit) and smooth transition across the range of compressor frequencies.

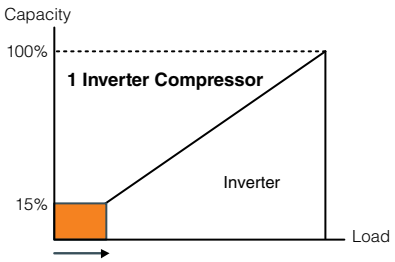
Heating / Cooling Capacity

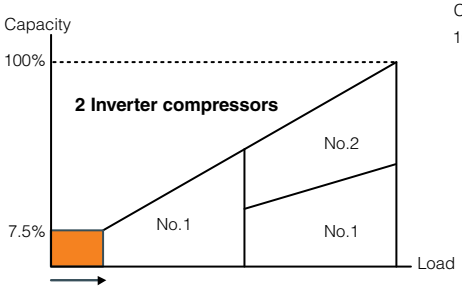


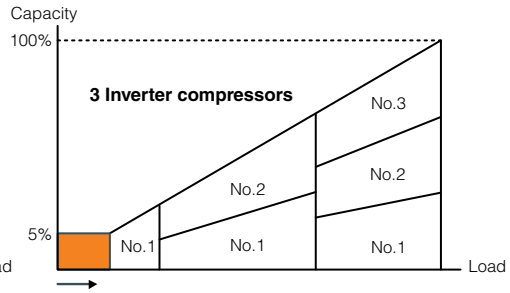
*Values vary depending on actual conditions, such as ambient temperature.

Stable and smooth operation





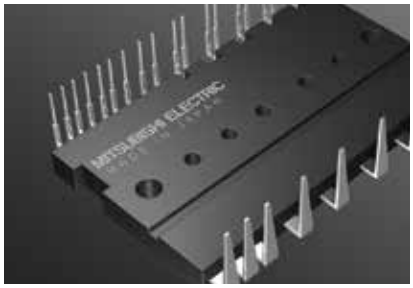




INTELLIGENT POWER MODULE (IPM) MANUFACTURED BY MITSUBISHI ELECTRIC IS USED

Y-Series EP*1 | R2-Series EP*2 | WY-Series*3
Y-Series P*1 | R2 Series P*2 | WR2-Series*3

Power modules manufactured by Mitsubishi Electric are installed in the condenser which is the core component, as well as in the inverter circuit board that drives the fan. SiC (silicon carbide) is used in the power module equipped with a voltage-boosting circuit that raises the output voltage of the inverter to expand the operating range. This greatly reduces the power loss of the voltage-boosting circuit and helps improve the energy efficiency of the unit (EER improvement).



*The 56kW YNW is equipped with a voltage boosting circuit that uses SiC.

*1 IPM (condenser) is installed on 40kW to 56kW (P350 to P500) single modules, 73kW to 150kW (P650 to P1350) combination modules.
SiC elements are used in some 56kW (P500) single module IPM.
*2 IPM (condenser) is installed on 40kW to 56kW (P350 to P500) single modules, 73kW to 124kW (P650 to P1100) combination modules.
SiC elements are used in some 56kW (P500) single module IPM.
*3 IPM (condenser) is installed on 40kW to 101kW (P350 to P900). (Excluding the 45kW to 56kW (P400 to P500) combination models.)

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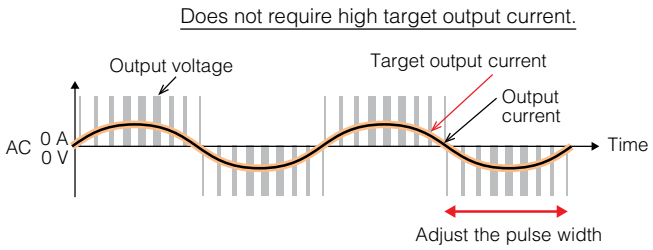
PWM CONTROL

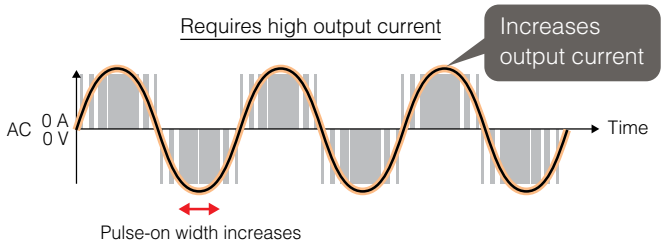
Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

PWM Control is used to control the number of motor revolutions according to the operational load, and it varies the inverter pulse width (electric signal wave occurring over a short period) to control the output. Control of the electrical current is required for optimal operation.



For low load

To accomplish the target output current, the intervals at which the "pulse" signal is turned on are controlled to adjust the output current. At the low-load time, the pulse-on width is minimised to save energy.



For high load

The increased pulse-on width increases both the duration that voltage is applied and the amount of electrical current compared to the low-load time, accelerating the compressor's rotation speed from 60 rps to 140 rps.*

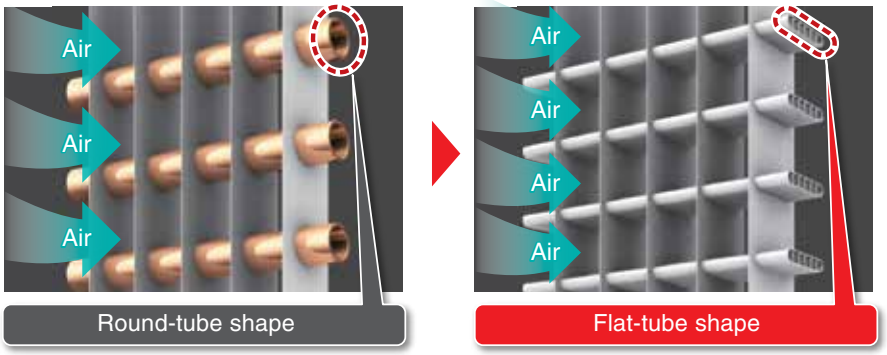
*Number of compressor rotations differs depending on the usage condition.

Adjustment of pulse range and output current to suit a given load increases the operating ability range of the unit.

FLAT-TUBE HEAT EXCHANGER

Y-Series EP | R2-Series EP

The heat exchanger is a flat-tube heat exchanger with improved heat-exchanger efficiency. The use of flat tubes increases the number of piping stages while maintaining the same size heat exchanger. The inside of the tube is divided into thin compartments, which increases the area of contact between refrigerant and air, thereby increasing heat-exchange effectiveness and significantly improving energy-saving performance. The flat-tube heat exchanger improves heat-exchange efficiency by approximately 30% compared to round-tube heat exchangers.



Approximately 30% increase in heat-exchange efficiency (compared to round-tube)

Surface area 220% increase (compared to round-tube)

HEAT INTER-CHANGER (HIC) CIRCUIT

Y-Series EP | Y-Series P | WY-Series

The HIC circuit increases cooling efficiency. This technology raises the degree of sub-cooling, increasing both cooling capacity and cooling efficiency.

The HIC circuit is installed before the point at which the high-pressure liquid refrigerant, which has passed through the heat exchanger of the outdoor unit, flows into the indoor unit. The temperature of the liquid refrigerant, to which heat has been discharged from the outdoor unit's heat exchanger, is further lowered before the refrigerant enters the expansion valve, allowing the evaporator to absorb a large amount of heat to increase cooling efficiency.

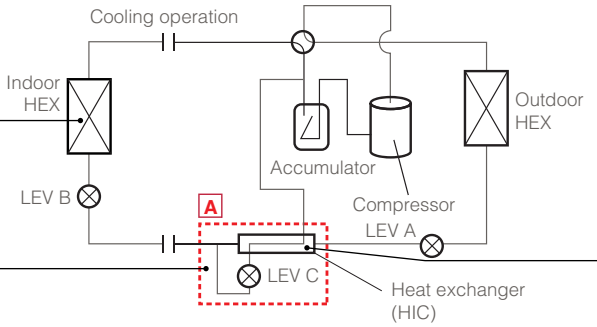
HIC mechanism

Some of the high-pressure liquid refrigerant has passed through the outdoor unit's heat exchanger flows into the indoor unit directly, and the rest passes through linear expansion valve (LEV) "C" to decrease both the temperature and pressure. The heat is exchanged between the low-temperature, low-pressure liquid refrigerant that has passed through LEV "C" and the moderate-temperature liquid refrigerant from the outdoor unit's heat exchanger. This further lowers the temperature of the liquid refrigerant before it enters LEV "B". This heat exchange system uses a "double-pipe" heat exchanger.

HIC circuit diagram

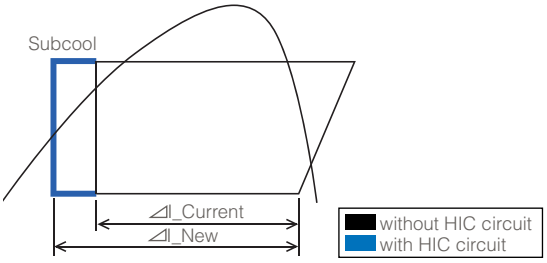
The evaporator absorbs a large amount of heat, increasing the cooling effect.

The refrigerant is separated; some flows into the indoor unit and some passes through LEV "C".

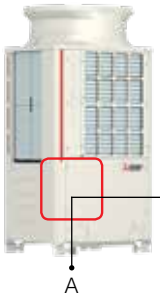


The double-pipe heat exchanger exchanges the heat between the low-temperature, the low-pressure liquid refrigerant that has passed through LEV "C" and the moderate temperature liquid refrigerant from the outdoor heat exchanger. This allows the refrigerant to cool down to a lower temperature and flow through the indoor unit.

HIC circuit effect: (image using a Mollier diagram)

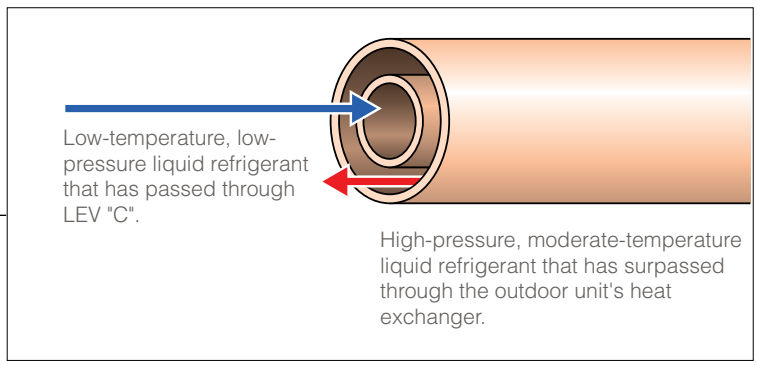


HIC circuit: double-pipe heat exchange cross section (high performance grooved pipe)



A

Heat Inter-Changer (HIC) Circuit



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IH CRANKCASE HEATER

Y-Series EP | R2-Series EP | WY-Series*1
Y-Series P | R2 Series P | WR2-Series*1

Induction heating (IH) is used to heat the refrigerant. This method differs from the conventional crankcase heater method (in which a belt heater is wrapped around the outside of the compressor) in that heat is not applied from the outside; the refrigerant is heated from the the inside, eliminating wasted heat.

*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.

*1 Power supplied to the heater only for 63kW and 69kW (P550 and P600) single modules.

Crankcase heater power supply method

Crankcase heater

IH power supply method (without crankcase heater)

Heated compressor motor

METAL PLATE COMPRESSOR ENCLOSURE

Y-Series EP | R2-Series EP
Y-Series P | R2 Series P

The compressor is enclosed in metal plates to reduce noise. On some models, sound absorbing materials are applied to the metal plates to further reduce noise.

Compressor is enclosed in metal casing to reduce noise.

Functions

COP PRIORITY MODE

Y-Series EP | R2-Series EP
Y-Series P | R2 Series P

The operation pattern under low ambient temperature conditions can be selected and the priority mode setting ("Capacity priority mode" and "COP priority mode") can be switched with the dip switches. Each mode is activated when the ambient temperature is below the specified temperature. For factory settings, refer to the Data Book.

LOW NOISE MODE*

Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

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 on installation via dip switch.

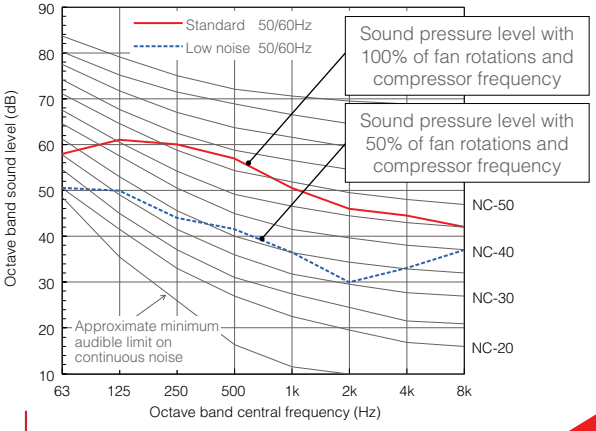
*Cooling/heating capacity drops during low-noise mode operation.

		63	125	250	500	1k	2k	4k	8k	Db(A)
Standard	50/60Hz	58.0	61.0	60.0	57.0	50.5	46.0	44.5	42.0	58.0
Low Noise Mode	50/60Hz	50.5	50.0	44.0	41.5	36.5	30.0	33.0	37.0	44.0

When low noise mode is set, "Performance-priority mode" and "Quiet-priority mode" can be selected. When "Performance-priority mode" is selected, the system may automatically return to normal operation from low noise mode in cases of heavy operating conditions.

Sound level of PUHY-P200YNW-A(-BS)

Examples of sound pressure levels in low noise mode (PUHY-P200YNW-A <cooling>)



SYSTEM CHANGEOVER (FOR HEAT PUMP ONLY)

Y-Series EP | Y-Series P | WY-Series

Normal switching between cooling and heating

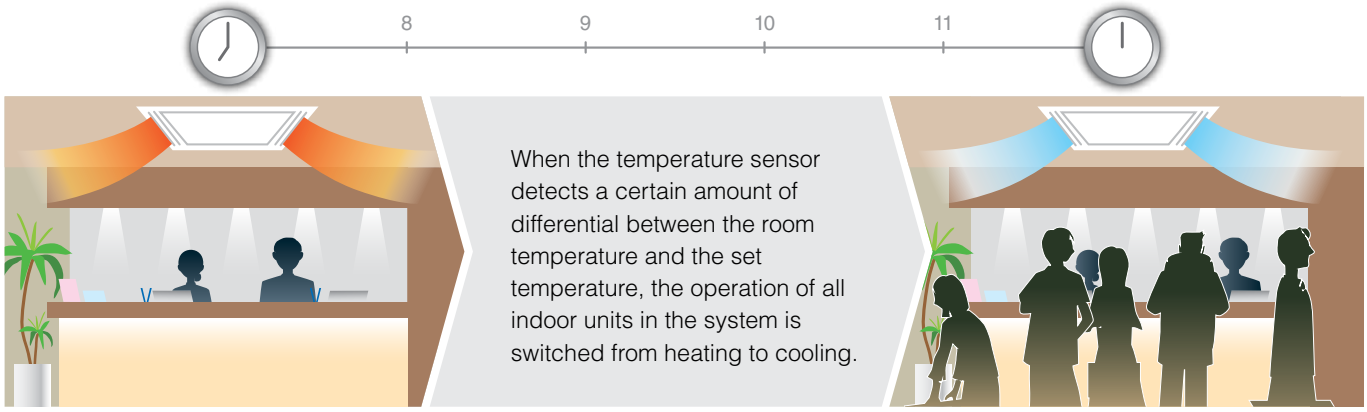
With CITY MULTI's switchable cooling/heating models, in order to switch from cooling to heating, the operation mode of all indoor units performing cooling operation needs to be manually switched.

Using System changeover to switch between cooling and heating

Depending on the dip switch system settings, all indoor units can automatically switch their operation mode according to the operation mode of a specific indoor unit (the unit with the smallest M-NET address). Operation can be automatically switched between cooling and heating according to the temperature difference between the preset temperature on a specific indoor unit and room temperature.

Suitable situations

When both cooling and heating operations are required in a single day due to an extreme difference between the hottest and coldest parts of the day.

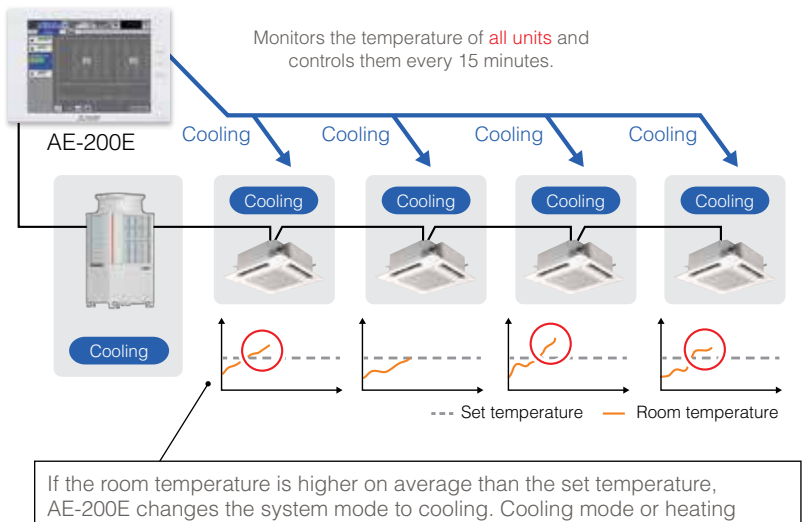


When using the AE-200E/AE-50E

It is possible to automatically switch between cooling and heating without setting the dip switches on outdoor units. The user can select from the two types of switching patterns shown below.

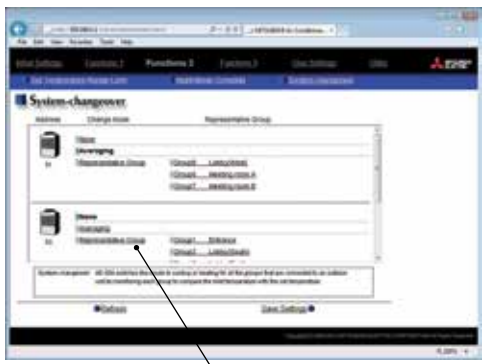
1. Averaging
   The operation mode (cooling or heating) will be determined and switched every 15 minutes based on the demands of the majority of all groups connected to the outdoor unit, taking into consideration the capacity of each indoor unit and the temperature differences between the set temperatures and room temperatures.
2. Representative Group
   The operation mode (cooling or heating) will be switched based on the temperature difference between the set temperature and the room temperature of the representative group.

Averaging method image



If the room temperature is higher on average than the set temperature, AE-200E changes the system mode to cooling. Cooling mode or heating mode is decided by the average weighted return air temperature, the set temperature and capacity.

Settings for AE-200E



Select from "None", "Averaging", and "Representative Group".

*To activate system changeover, the Web Browser for initial Settings is required.

DUAL SET POINT

Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

Normally, the desired room temperature is set to the same value for cooling and heating. However, the dual set point function makes it possible to set different temperatures for cooling and heating. When operation switches from cooling to heating or vice versa, the preset temperature changes accordingly.

Setting dual set points for the Auto mode on R2 and WR2 helps improve energy efficiency, compared to setting a single set point.

When the operation mode is set to the Auto (dual set point) mode*, two preset temperatures (one each for cooling and heating) can be set. Depending on the room temperature, the indoor unit automatically operates in either the Cool or Heat mode and keep the room temperature within the preset range. The outdoor unit does not operate in the dead band defined by two temperature points where the thermostat is off. This cuts down on unnecessary operation of the air conditioning system.

*This function is supported only when all the indoor units, remote controllers and system controllers that are connected to a given group feature the function.

Operation pattern during auto (dual set point) mode

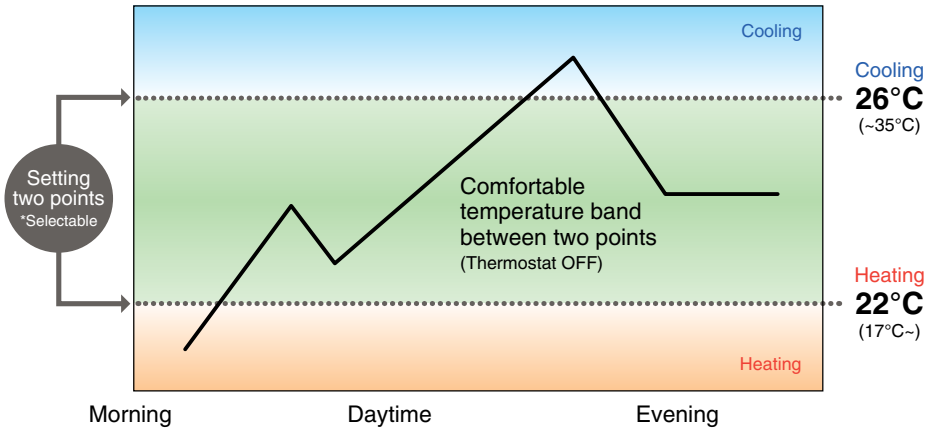


Image showing operation in Auto (single set point) mode

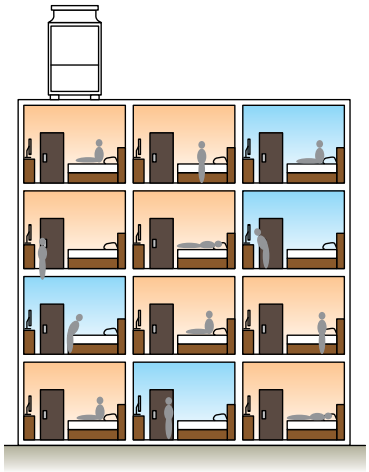
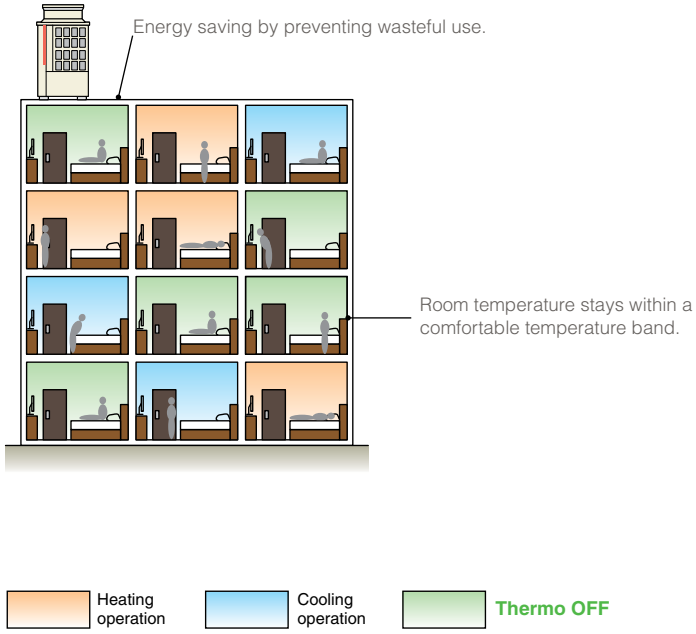


Image showing operation in Auto (dual set point) mode

Turning off the thermostat saves energy as the refrigerant stops circulating.



EVAPORATING TEMPERATURE CONTROL (DURING COOLING)

Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

During cooling, the temperature of the refrigerant is controlled according to the air conditioning load.
This helps to ensure energy-efficient operation.

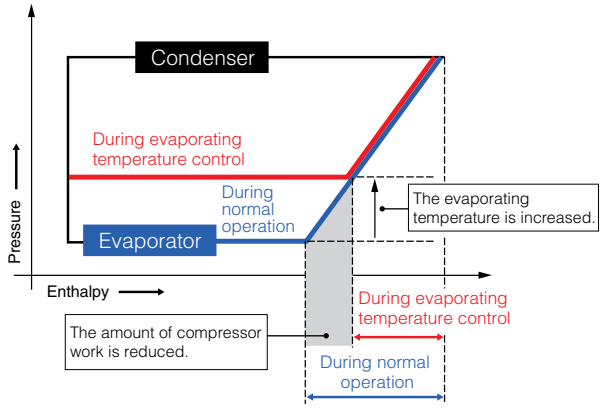
Normal mode
Image showing operation in Auto (single set point) mode. The evaporating temperature is kept constant regardless of the load. Even at low loads, the normal evaporating temperature does not change, which leads to energy losses during partial load operation.

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.

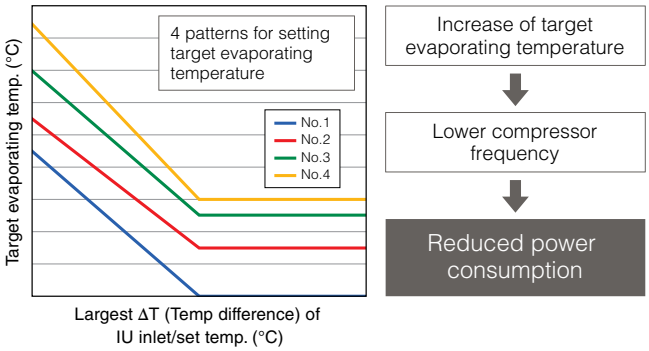
1. The evaporating temperature is set to a value that is higher than the normal evaporating temperature.
2. The evaporating temperature is controlled by shifting it according to the ΔT. The user can select from 4 control patterns.

*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.
*The fixed temperature control function and the automatic control shifting function cannot both be used simultaneously.

1 Evaporating temperature control image (Fixed temperature control)



2 Evaporating temperature control image (Automatic control shifting with 4 patterns)

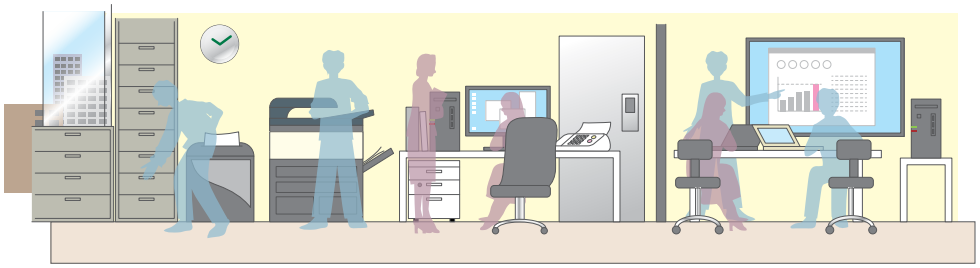


*1 To change the evaporating temperature setting, it is necessary to change the setting of the dip switch on the outdoor unit.

*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.

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).

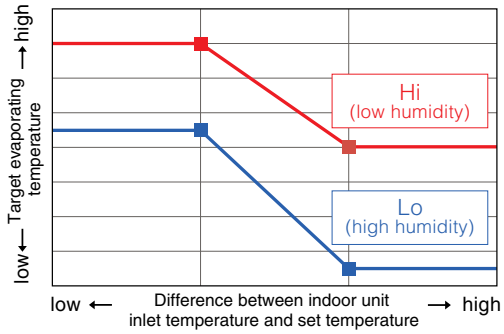


HIGH SENSIBLE HEAT OPERATION (DURING COOLING)

Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

The evaporating temperature is controlled according to room temperature and humidity and refrigerant pressure.

Image of evaporating temperature control during high sensible heat operation in full cooling mode

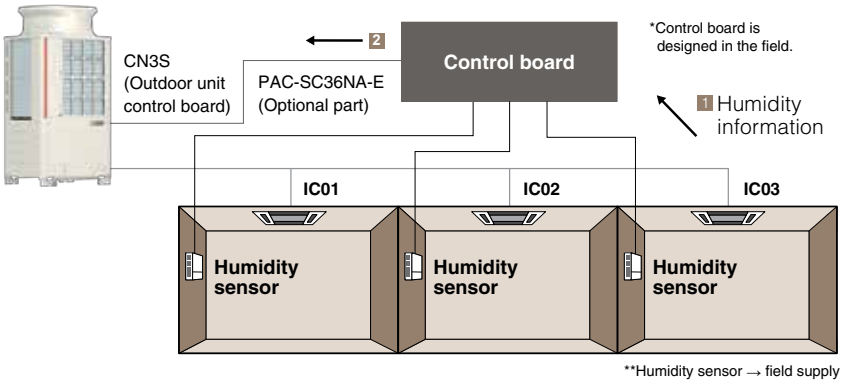


With high sensible heat operation mode activated, air conditioners consume less energy, thereby realising cost savings.

If locally-procured humidity sensor is installed, the evaporating temperature of the outdoor unit can be controlled optimally as shown below according to the difference between the indoor unit inlet temperature and set temperature.

A wide range of temperature settings are available from a low evaporating temperature close to the temperature for normal operation to a high evaporating temperature to realise energy savings.

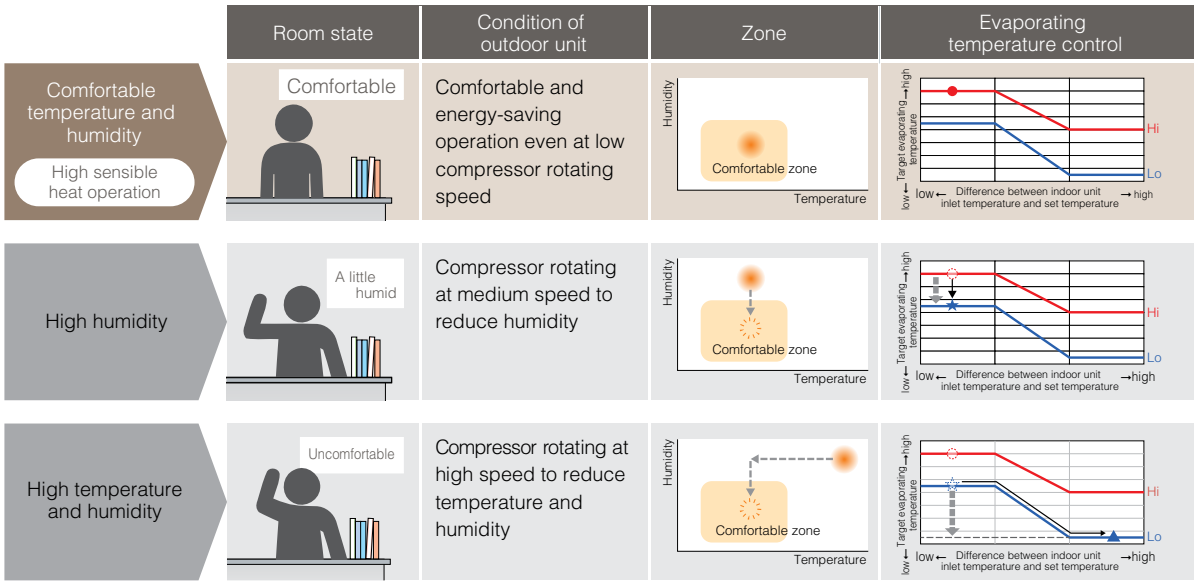
Locally procured humidity sensor installation image



1 Humidity information is sent to the control board.

2 The control board judges the humidity information and sends a HIGH/LOW signal to the outdoor unit through CN3S. The outdoor unit shifts the evaporating temperature depending on the information from the control board.

Locally procured humidity sensor installation image



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روبروی پالایشگاه نفت پارس، پلاک ۱۲

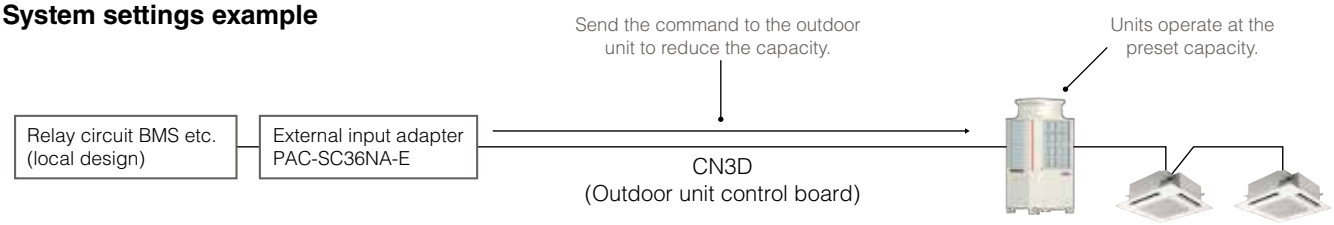
DEMAND CONTROL

Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

This function can reduce the capacity of the outdoor unit used by way of the external input to the outdoor unit. The required capacity of the outdoor unit can be reduced in steps, with patterns ranging from 2 to 12 control steps. The number of steps that can be set and the corresponding capacity are shown below.
» 2 steps (0 - 100%)
» 4 steps (0 - 50 - 75 - 100%)
» 8 steps (0 - 25 - 38 - 50 63 - 75 - 88 - 100%)
» 12 steps (0 - 17 - 25 - 34 - 42 - 50 - 59 - 67 - 75 - 84 - 92 - 100%)

Possible usage: when power consumption is centrally-controlled within a building, the system can be forced to operate in the capacity-save mode by receiving external signals.

System settings example

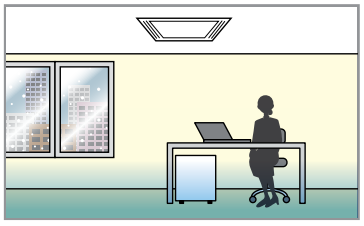


CONTINUOUS HEATING OPERATION

Y-Series EP | R2-Series EP
Y-Series P | R2 Series P

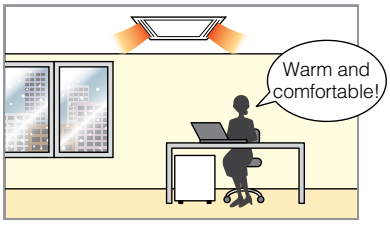
Normally, it is necessary to stop the heating operation during defrosting. However, the continuous heating operation method makes it possible to perform defrosting while the heating operation continues. Reduction in the stoppage time of the heating operation reduces drops in room temperature. Use a dip switch on the outdoor unit to switch between the continuous heating operation method and the conventional defrosting method.

During normal defrosting operation



Heating is stopped during the defrosting operation, so the room temperature drops.

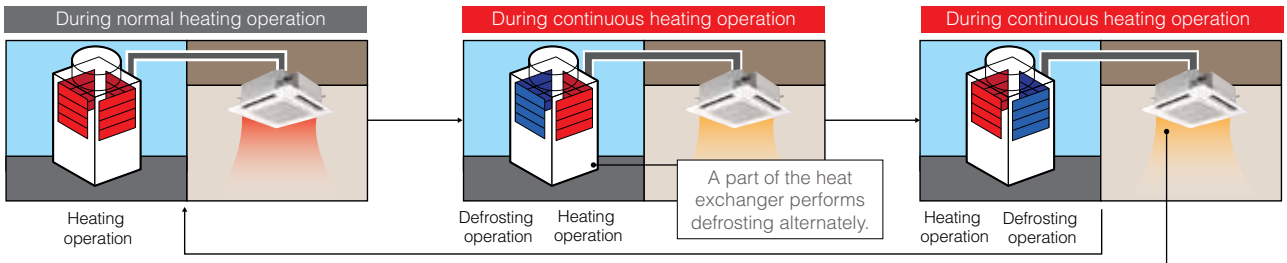
During continuous heating operation



You can enjoy a comfortable environment where the heating operation doesn't stop.

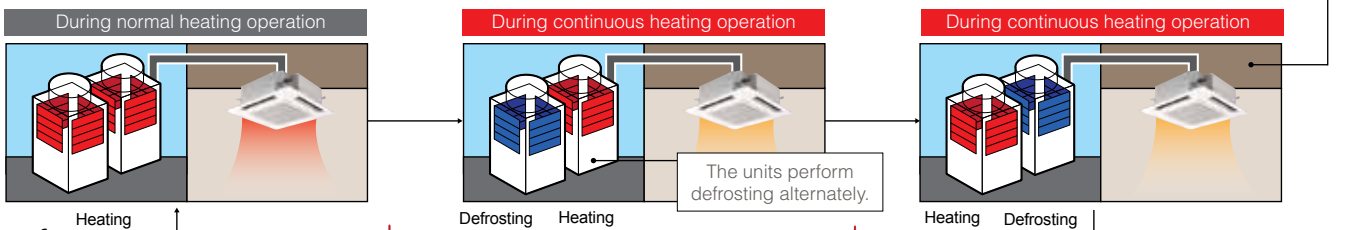
Continuous heating operation image (single unit)

The heat exchanger of the outdoor unit is split into parts. Even when defrosting is necessary, the heating operation is continued with a part of the heat exchangers.



Continuous heating operation image (combination)

With the combination model, units perform defrosting alternately. While one unit is performing defrosting, the other continues heating.

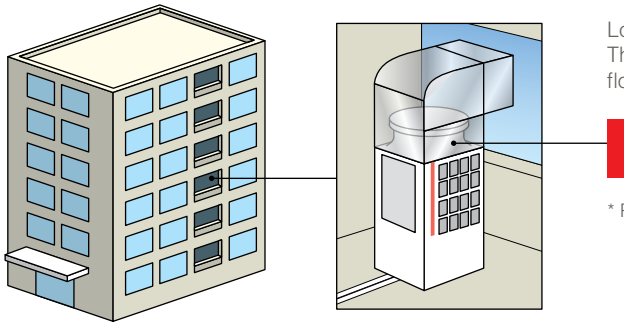


SELECTABLE EXTERNAL STATIC PRESSURE OF THE OUTDOOR UNIT

Y-Series EP | R2-Series EP
Y-Series P | R2 Series P

The static pressure specification of the outdoor unit can be selected (0, 30, 60, or 80 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.



Long exhaust hoods can be connected.
This facilitates installation of the unit on each floor of a high-rise building or on balconies.

Maximum external static pressure
80 Pa (local setting)

* PUHY-(E)P-Y(S)NW-A, PURY-(E)P-Y(S)NW-A

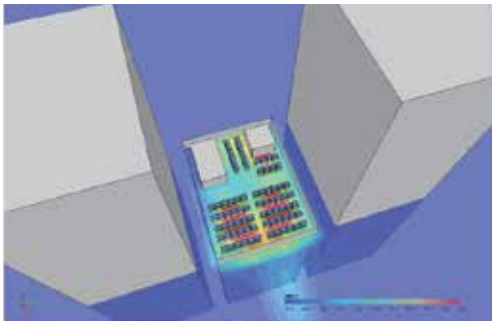
OPERATION AT HIGH OUTSIDE TEMPERATURES

Y-Series EP | R2-Series EP
Y-Series P | R2 Series P

In certain cases, the passage of air is restricted in built-up areas. Discharged warm air that is kept around the outdoor units may cause a temperature increase around the units. The YNW series has an expanded guaranteed operation range of up to 52°C and can be used reliably even if the outdoor air temperature abnormally rises in hot summer daytime.

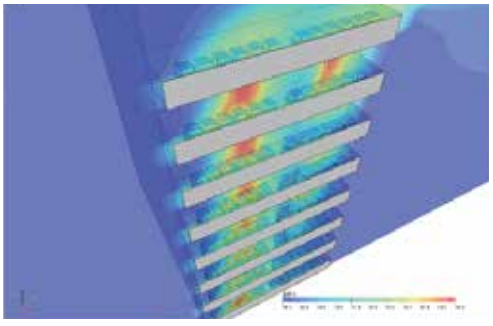
Example of flow analysis Conditions: Outdoor air temperature = 35°C (DB), Room temperature = 27°C (DB)

Built-up area with buildings and outdoor units



If the passage of air is restricted in a built-up area, the high-temperature air discharged from the outdoor units may be kept around the units.

Installation on each floor a high-rise building



When the outdoor units are installed on balconies, the high-temperature air discharged from the units may be kept in by upper balconies.

Models for use in outside temperature of up to 52°C

PUHY-(E)P-Y(S)NW-A
PURY-(E)P-Y(S)NW-A

* These images show the R2 High Efficiency type.

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ROTATIONAL CONTROL

Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

With the combination model, the outdoor units operate alternately. This reduces the operating load and helps create a longer service life.

EMERGENCY OPERATION MODE

Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

Emergency operation is possible with indoor unit's remote control. With the combination model, if one outdoor unit is malfunctioning, the other outdoor unit can be set to perform an emergency operation.

Emergency operation in case of unit failure

An emergency operation can be performed easily with a local remote controller.

PUMP DOWN FUNCTION

Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

This function collects the refrigerant that remains in the indoor unit and in the field piping, allowing the system to be worked on, such as when the air conditioner is relocated.
This function can also be used to stop the operation of the indoor unit and return the refrigerant to the outdoor unit in the event that a refrigerant leak is detected.*

* To detect a refrigerant leak, a circuit that includes a refrigerant leak detection sensor must be installed and calibrated.

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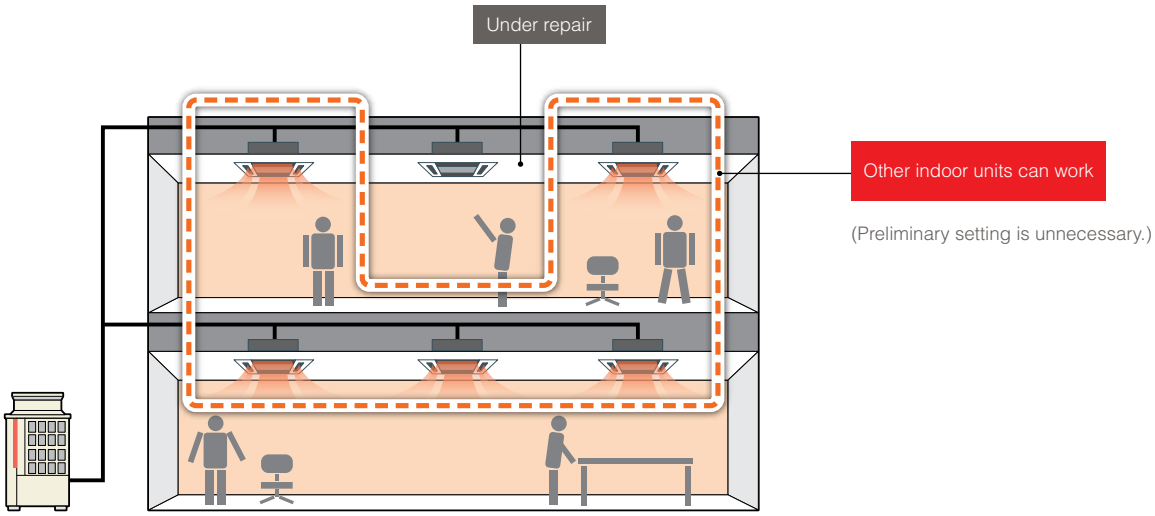
روبروی پالایشگاه نفت پارس، پلاک ۱۲

INDIVIDUAL LEV CONTROL

Y-Series EP | R2-Series EP | WY-Series
Y-Series P | R2 Series P | WR2-Series

Even if one of the indoor units is powered down for repair, the LEV of the indoor unit closes, and the other indoor units remain functional. (Preliminary setting is unnecessary.)



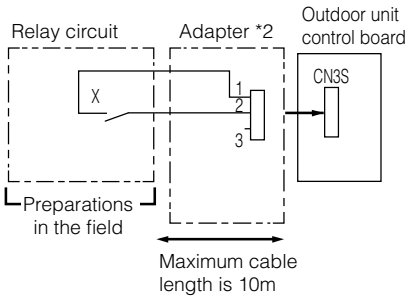
SNOW SENSOR SETTING

Y-Series EP | R2-Series EP
Y-Series P | R2 Series P

When a snow buildup signal is received from the snow sensor (procured locally) or when the ambient temperature drops below 5°C (detected with TH7), the outdoor unit is forcibly switched to ventilation operation. This activates the outdoor unit's fan to prevent snow from building up on the unit.

Snow sensor setting example

Snow sensor (CN3S)



X : Relay Contact rating voltage >= 15VDC
Contact rating current >= 0.1A
Minimum applicable load =< 1mA at DC

*2. Optional part : PAC-SC36NA-E or field supply.
Snow sensor : The outdoor fan runs when X is closed in stop mode or thermostat mode.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

Function Table

Mitsubishi Electric's outdoor units and heat source units utilise the latest technology and offer a wide variety of functions. See the preceding pages for details of each technology and function.

System	Air Cooled				Water Cooled	
Type	Heat Pump		Heat Recovery		Heat Pump	Heat Recovery
Series	Y-Series		R2-Series		WY-Series	WR2-Series
	Standard	High Efficiency	Standard	High Efficiency		
Model	PUHY-P Y(S)NW-A	PUHY-EP Y(S)NW-A	PURY-P Y(S)NW-A	PURY-EP Y(S)NSW-A	PQHY-P Y(S)LM-A1	PQRY-P Y(S)LM-A1
						

Operation mode

COP Priority Mode	✓	✓	✓	✓		
Low Noise Mode	50, 60, 70, 85, 100%	50, 60, 70, 85, 100%	50, 60, 70, 85, 100%	50, 60, 70, 85, 100%	50, 100%	50, 100%
System Changeover (for heat pump)	✓	✓			✓	
Auto Mode			✓	✓		✓
Dual Set Point	✓*	✓*	✓*	✓*	✓*	✓*

Energy efficiency control

Evaporating Temperature Control (fixed temperature control)	+6°C, +9°C, +14°C	+6°C, +9°C, +14°C	+6°C, +9°C, +14°C	+6°C, +9°C, +14°C	+6°C, +9°C, +14°C	+6°C, +9°C, +14°C
Evaporating Temperature Control (automatic control shifting)	4 Patterns	4 Patterns	4 Patterns	4 Patterns	4 Patterns	4 Patterns
High Sensible Heat Operation (during cooling)	✓	✓	✓	✓	✓	✓
Demand Control	12 Steps	12 Steps	8 Steps	8 Steps	8 Steps	8 Steps
Continuous Heating Operation During Defrost	✓	✓	✓	✓		
Selectable External Static Pressure of Outdoor Unit	0, 30, 60, 80, Pa	0, 30, 60, 80, Pa	0, 30, 60, 80, Pa	0, 30, 60, 80, Pa		
Operation at High Outside Temperatures	52°C	52°C	52°C	52°C		

Maintenance functions

Rotation Control	✓	✓	✓	✓	✓	✓
Emergency Operation mode	✓	✓	✓	✓	✓	✓
Pump Down Function	✓	✓	✓	✓	✓	✓
Individual LEV Control	✓	✓	✓	✓	✓	✓
Snow Sensor Setting	✓	✓	✓	✓		

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

Y-Series

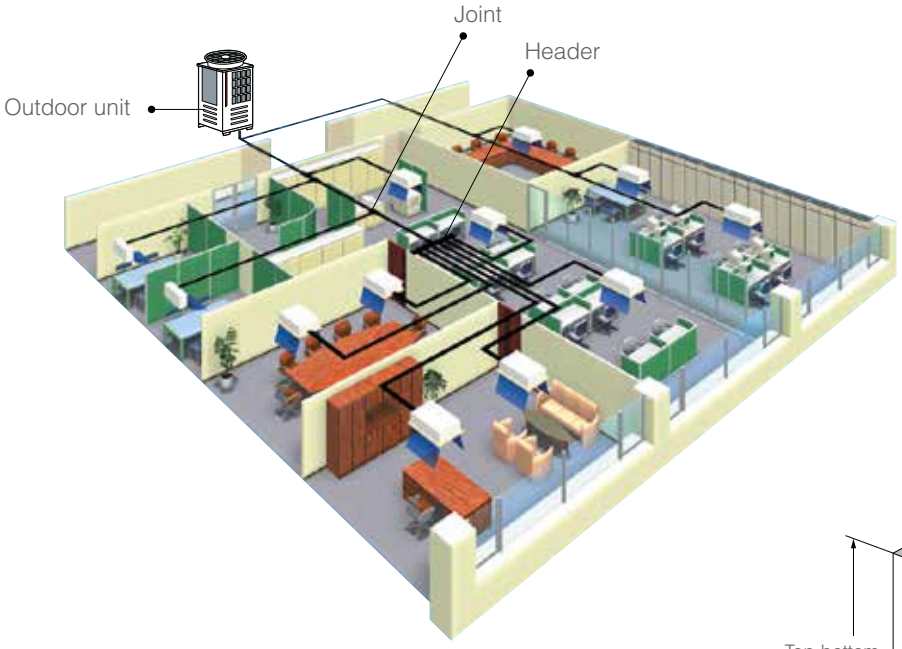
Cooling or Heating HEAT PUMP

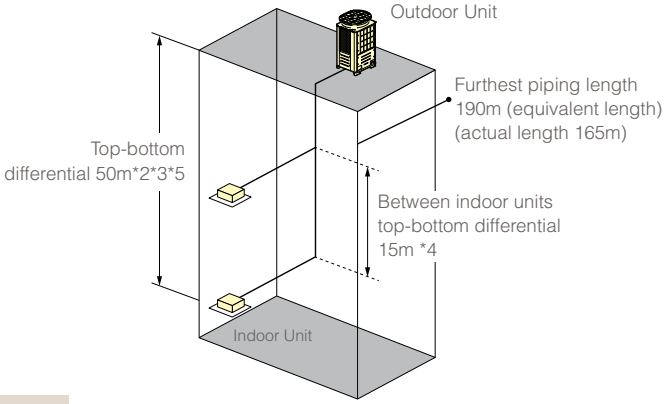
THE TWO-PIPE ZONED SYSTEM DESIGNED FOR HEAT PUMP OPERATION

*This image shows the High Efficiency type.

The CITY MULTI Y-Series (for large applications) makes use of a two-pipe refrigerant system, which allows for system changeover from cooling to heating, helping the indoor climate to be maintained in all zones. The compact outdoor unit utilises R410A refrigerant and an INVERTER-driven compressor to use energy effectively.

With a wide lineup of indoor units in connection with a flexible piping system, the CITY MULTI Series can be configured for all applications. Up to 50 (Y-Series) indoor units can be connected with up to 130% connected capacity to maximise engineering design options. This feature allows easy air conditioning in each area with convenient individual controllers.





SYSTEM PIPE LENGTHS

(E)P200-(E)P1350

Refrigerant Piping Lengths	Maximum Units
Total Length	1000
Maximum Allowable Length	165 (190 equivalent)
Farthest Indoor from First Branch	40*1
Vertical Variations Between Units	**Maximum Units**
Indoor/Outdoor (Outdoor Higher)	50*2
Indoor/Outdoor (Outdoor Lower)	40*3
Indoor/Indoor	15*4

*1 90m is available. When the piping length exceeds 40m, use one size larger liquid pipe starting with the section of piping where 40m is exceeded and all piping after that point.
*2 90m is available depending on the model and installation conditions. For more detailed information, contact your local distributor.
*3 60m is available depending on the model and installation conditions. For more detailed information, contact your local distributor.
*4 30m is available. If the height difference between indoor units exceeds 15m (but does not exceed 30m), use one size larger pipes for indoor unit liquid pipes.
*5 When the outdoor unit is installed below the indoor unit, top-bottom differential is 40m.

All values in metres

R2-Series

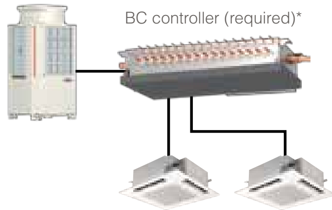
Simultaneous heating and cooling HEAT RECOVERY

*This image shows the High Efficiency type.

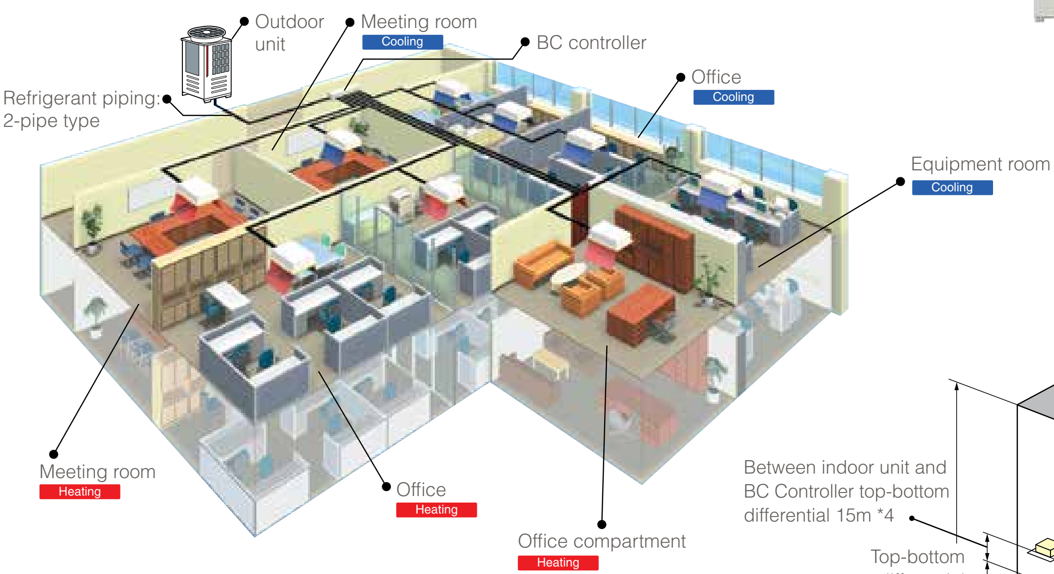
THE WORLD'S FIRST* TWO-PIPE SYSTEM THAT SIMULTANEOUSLY COOLS AND HEATS

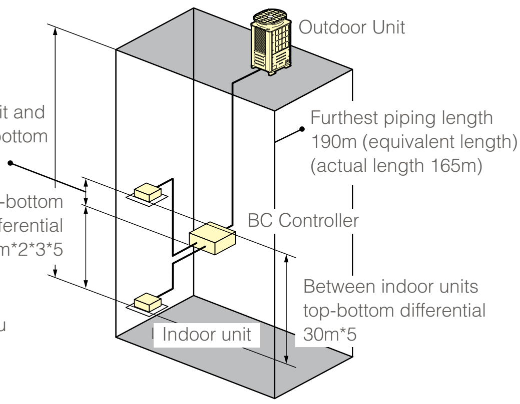
*As of 1992 (according to our own survey).

The CITY MULTI R2-Series offers the ultimate in freedom and flexibility. Cool one zone while heating another. Our exclusive BC controller makes two-pipe simultaneous cooling and heating possible. The BC controller is the technological heart of the CITY MULTI R2-Series. It houses a liquid and gas separator, allowing the outdoor unit to deliver a mixture of hot gas for heating and liquid for cooling, all through the same pipe. This innovation results in reduced energy wasted. Depending on capacity, up to 50 indoor units can be connected with up to 150% connected capacity.



*R2-Series systems require the use of BC controllers.





*1 When you install a sub-BC controller, please refer to DATABOOK for full details.
*2 When the outdoor unit is installed below the indoor unit, top-bottom differential is 40m.
*3 Depending on the model and installation conditions, top-bottom differential 90m (o/u above) and 60m (o/u below) is available. For more detailed information, please contact your nearest sales office or distributor.
*4 Distance of Indoor sized P200, P250 from BC must be less than 10m.
*5 Distance of Indoor sized P200, P250 from BC must be less than 20m.

SYSTEM PIPE LENGTHS

(E)P200-(E)P1350

Refrigerant Piping Lengths	Maximum Units	Vertical Variations Between Units	Maximum Units
Total Length		Indoor/Outdoor (Outdoor Higher)	50*3
(E)P200 - (E)P300	550	Indoor/Outdoor (Outdoow Lower)	40*3
(E)P350 - (E)P550 (single module)	600	Indoor/BC Controller (Single/Main)	15*4
(E)P400 - (E)P600	750	*Maximum lenth between single/main BC Controller and indoor is dependent upon the vertical differential between the single/main BC controller and the indoor unit.	
(E)P650	800	Indoor/Indoor	30*5
(E)P700 - (E)P1100	1000	Main BC Controller/Sub-Controller	15
Maximum Allowable Length	165 (190 equivalent)		
Maximum length between outdoor and single/main BC controller			110

*Maximum total length is dependent upon the distance between the outdoor unit and the single/main BC Controller

Maximum length between single/main BC Controller and indoor and sub-BC Controller*1	40-90

All values in metres

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

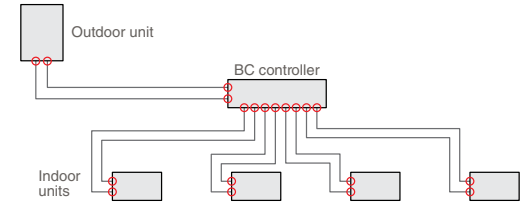
Benefits of the R2 System

Mitsubishi Electric's world's first heat recovery technology uses just two pipes, as opposed to the market conventional three. Our R2 system, designed for effective simultaneous heating and cooling, offers substantial savings on installation and annual running costs.

MITSUBISHI ELECTRIC 2-PIPE R2 SYSTEM: LESS PIPING/CONNECTIONS COMPARED WITH 3-PIPE

Comparison example of piping connections

2 pipes **CITY MULTI R2**

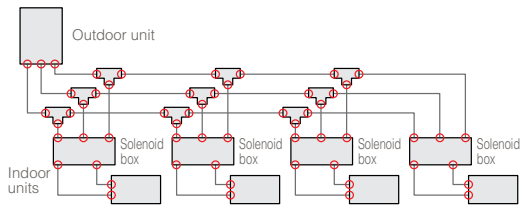


Total Connections **20**

Drastically reduced the amount of piping

= Piping connections

3 pipes



Total Connections **58**

= Piping connections

MAIN MODE OF COOLING/HEATING CAN BE SWITCHED OVER WITHOUT STOPPING OPERATION

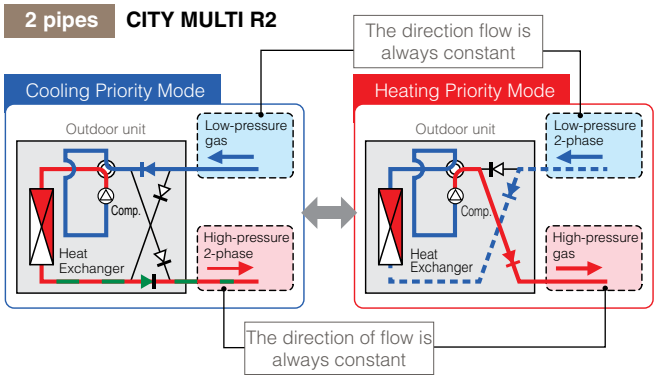
When cooling/heating mode switches

» There is no need to stop the compressor.
» Refrigerant noise generated when the refrigerant flow is switched can be lowered.

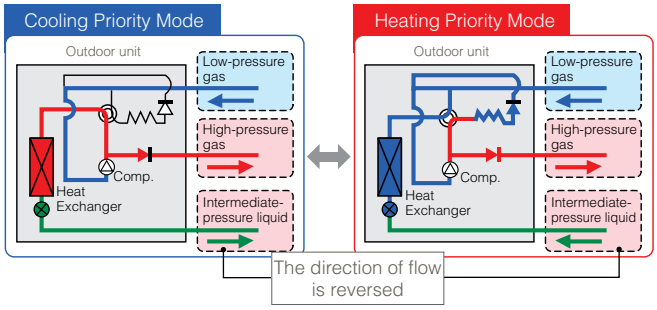
When cooling/heating mode switches

» Compressor shuts down.
» All indoor units stop for a few minutes.

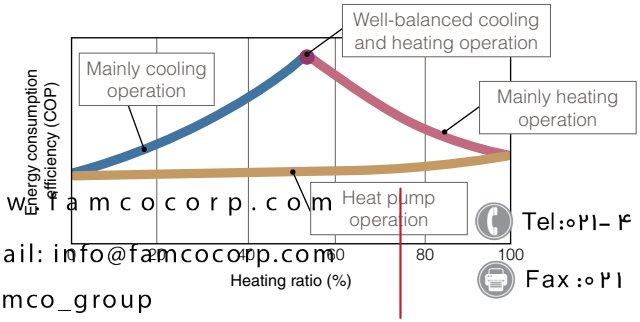
2 pipes **CITY MULTI R2**



3 pipes



HEAT RECOVERY OPERATION FOR GREATER ENERGY SAVING



COP UP

COP in the heat recovery system

The more frequently cooling and heating are performed simultaneously, the greater the energy saving effect.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

The Next Stage of Air Conditioning

YNW SERIES

Introducing a new series of air conditioners with improved essential functions, advanced compressor and a streamline fan that meets energy-saving requirements. Mitsubishi Electric continues to improve air conditioning quality and provide its customers with next-stage solutions.

The new structural design has a 4-face air induction design and improved core components, such as compressor and fan, improving energy-saving performance.

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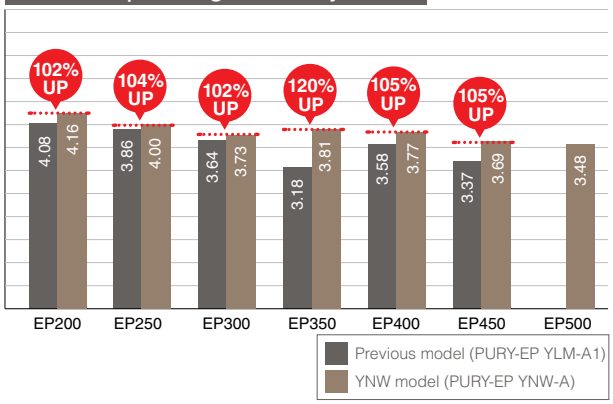
روبروی پالایشگاه نفت پارس، پلاک ۱۲

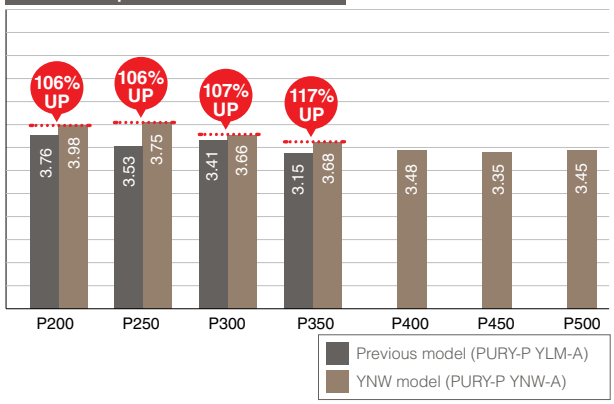
ENERGY SAVING

Compared to the existing models, the all single modules (Y-Series) in YNW Series have improved EER and COP. EER of the 40kW model (PUHY-EP350YNW-A) is higher by approximately 12%. All these models ensure improved energy saving.

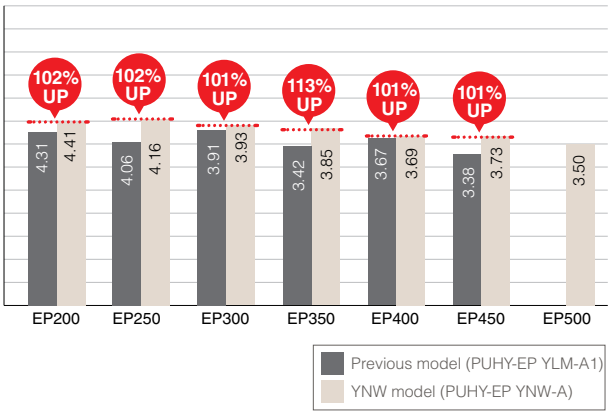
R2 Series | EER High Efficiency Model



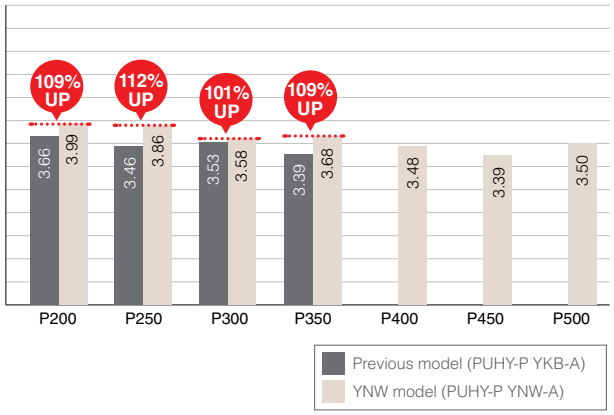
R2 Series | EER Standerd Model



Y Series | EER High Efficiency Model



Y Series | EER Standard Model

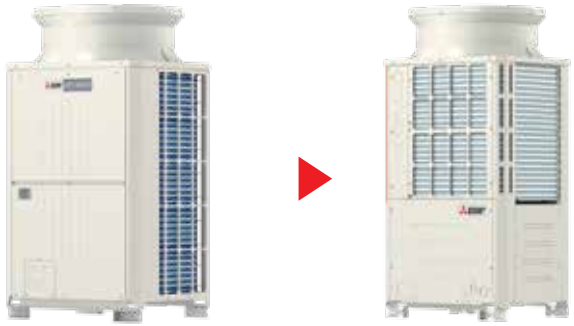


*Comparison under the nominal condition.

FLEXIBLE NOISE SETTING

The low-noise mode which conventionally only had one pattern has been increased to four patterns so that a mode can be selected from a total of five patterns including the rated pattern. The low-noise mode* has four patterns 85%, 70%, 60% and 50% for the fan speed. This can be set with the outdoor unit's DIP switch.
The pattern can be selected according to the customer's requests when a low-noise operation is required.
*In the low noise mode, the capacity will be reduced.

Previous model (YLM) (YNW)



NEW DESIGN

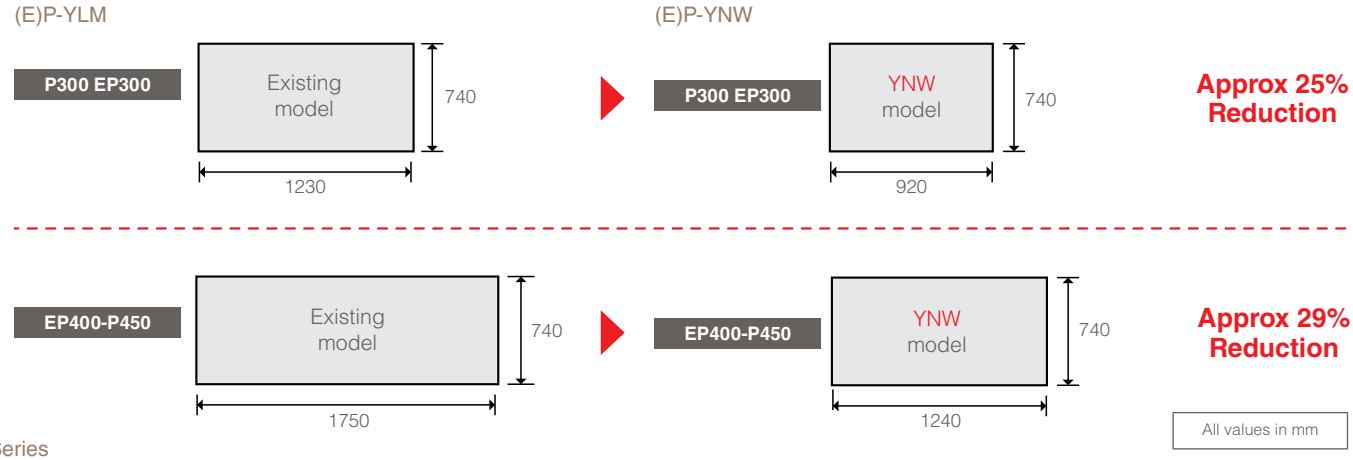
For improved high efficiency, the structure was changed by using a four-sided heat exchanger. The appearance is more sophisticated and can enhance the design of a building.

*All YNW product images are High Efficiency type.

Comparison of modules (EP)

Capacity Increased up to 124kW
New 45~56kW single module available

Single modules of up to 56kW have been added to the R2-Series.
Single modules are smaller, with L modules replacing the EP400 and P450 modules, reducing installation space by approximately 29%.



R2 Series

Single (P)

	22.4kW	28kW	33.5kW	40kW	45kW	50kW	56kW
	P200	P250	P300	P350	P400	P450	P500
YLM-A	S	S	L	L	-	-	-
YNW	S	S	S	L	L	L	XL

Single (EP)

	22.4kW	28kW	33.5kW	40kW	45kW	50kW	56kW
	P200	P250	P300	P350	P400	P450	P500
YLM-A1	S	S	L	L	XL	XL	-
YNW	S	S	S	L	L	L	XL

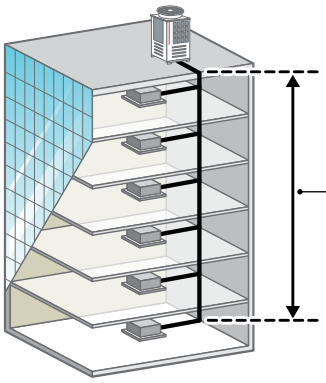
Combination (P)

	22.4kW	28kW	33.5kW	40kW	45kW	50kW	56kW	63kW	69kW	73kW	80kW	85kW	90kW	96kW	101kW	108kW	113kW	118kW	124kW
	P200	P250	P300	P350	P400	P450	P500	P550	P600	P650	P700	P750	P800	P850	P900	P950	P1000	P1050	P1100
YLM-A	-	-	-	-	S+S	S+S	S+S	S+L	L+L	L+L	L+L	L+L	L+L	L+XL	XL+XL	-	-	-	-
YNW	-	-	-	-	S+S	S+S	S+S	S+S	S+S	S+L	L+L	L+L	L+L	L+L	L+L	L+XL	XL + XL	XL + XL	XL + XL

Newly available single module
Increase capacities up to 124kW
Use of module one size smaller than existing unit

USABLE IN AN APPLICATION WITH A LARGE VERTICAL SEPARATION OF UP TO 90 METERS

A height difference of up to 90 m from the outdoor unit to the indoor unit can be supported with no additional parts. This increases design flexibility and facilitates installation of these units even in high-rise buildings.



Height difference from outdoor unit to indoor unit:
The system can be configured with a height difference of up to **90m with no additional parts.**

*Whether the system can be configured with such a height difference varies depending on the model.
*The maximum height difference is 60 m when the outdoor unit is located lower than the indoor unit.

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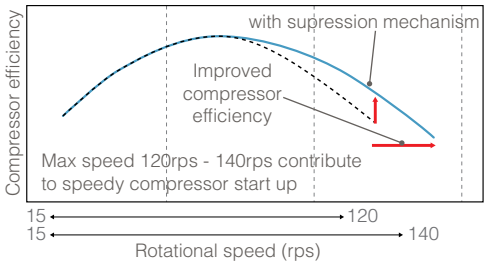
روبروی پالایشگاه نفت پارس، پلاک ۱۲

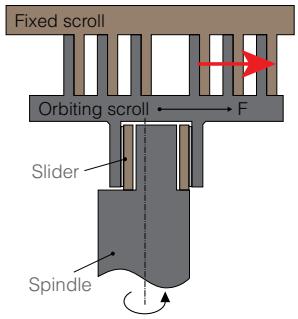
KEY COMPONENTS

1. Compressor with centrifugal force suppression mechanism

The compressor, known as the heart of the air conditioner has been newly developed. A new centrifugal force suppression mechanism and a new multi-port mechanism have been implemented, as well as a mounted high-efficiency motor. The synergistic effect of these new technologies increases the compressor performance and efficiency and also helps to improve the performance of the outdoor unit.



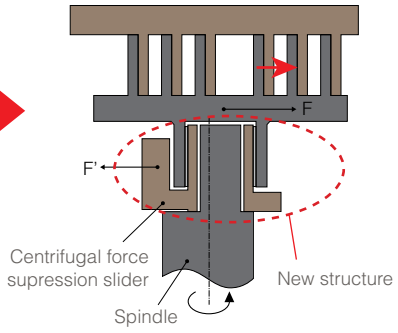
Existing mechanism
Small loss | Vortex pressing speed low



Centrifugal force applied on scroll section: Large

Refrigerants leakage loss: large
Max. speed 120rps

Centrifugal force supression
Large loss | Vortex pressing speed high



Centrifugal force applied on scroll section: Large

Refrigerants leakage loss: large
Max. speed 140rps

Centrifugal force supression mechanism (22.4kw to 40kw)

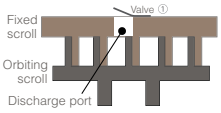
The structure of the scroll compressor causes a centrifugal force during operation. Conventionally, that centrifugal force is applied onto the scroll section. This causes the refrigerant to leak and restricts the increase in rotational speed to a maximum of 120rps. With the new compressor, a new structure (centrifugal force supression mechanism) has been mounted to suppress the centrifugal force. This mechanism successfully suppresses the centrifugal force generated at the scroll section, reduces refrigerant leakage losses and increases the compressor efficiency. The maximum rotational speed has been increased from the conventional 120rps to 140rps. This new mechanism also speeds up the start of operation and enables operations such as preheat defrost operation and the smooth auto-shift startup mode.

Multi-port mechanism

With the scroll compressor, the distance of the compression process in the scroll is usually fixed, so over-compression occurs during the low loads and low rotation. The new compressor is equipped with to 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 additional compression and contributing to the efficient partial load operation.

Existing structure

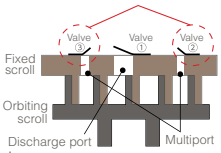
		Operation pattern	
		Partial load	Rating, high pressure difference
Main port	Valve①	Open	Open



Structure with multi-port design

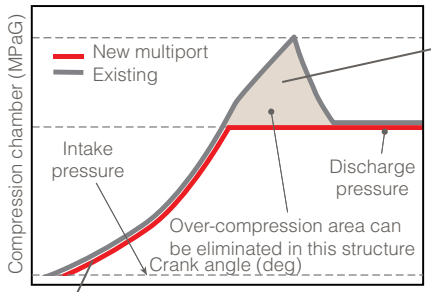
		Operation pattern	
		Partial load	Rating, high pressure difference
Main port	Valve①	Open	Open
Sub-port	Valve②	Open	Closed
	Valve③	Open	Closed

Structure



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

Reduced over-compression loss (multi-port)



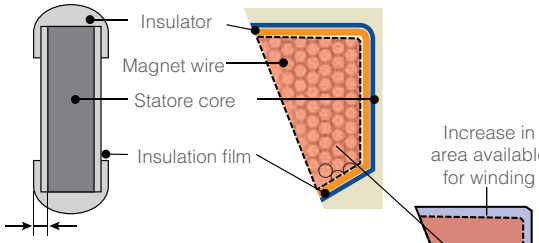
Existing model
Conventionally, gas refrigerant is compressed to a set pressure, and then lowered to the target discharge pressure at which it is discharged. This causes drive losses from over-compression.

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

Improved high-efficiency motor

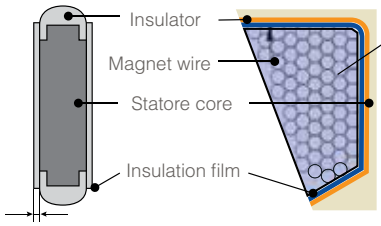
The insulator section that traditionally created a dead space is reduced by insulating the motor's stator film. Since winding can be set in that section, the winding area can be increased by approximately 9%. The wire diameter has also been increased by two ranks, so the resistance between terminals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

Existing model (YLM)



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

Model (YNW)



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

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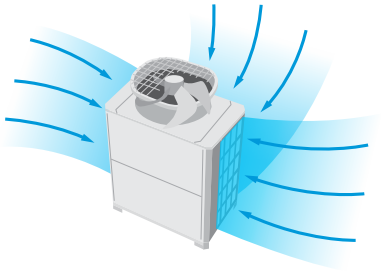
روبروی پالایشگاه نفت پارس، پلاک ۱۲

2. Four-way suction and new fan

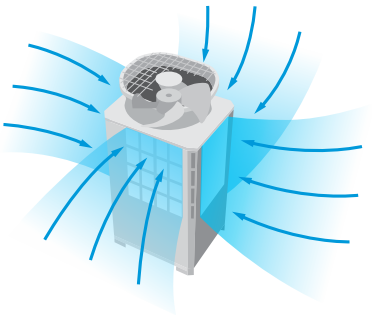
On the conventional models, a U-shaped heat exchanger was installed over the rear and side surfaces. In the YNW model, the four-sided heat exchanger is mounted on the top section of the module near the fan. This allows air to be taken in effectively increasing the heat exchanger's efficiency.

Existing model



The three-surface circulation and the vertically long heat exchanger attenuate the suction rate at sections distanced from the fan.

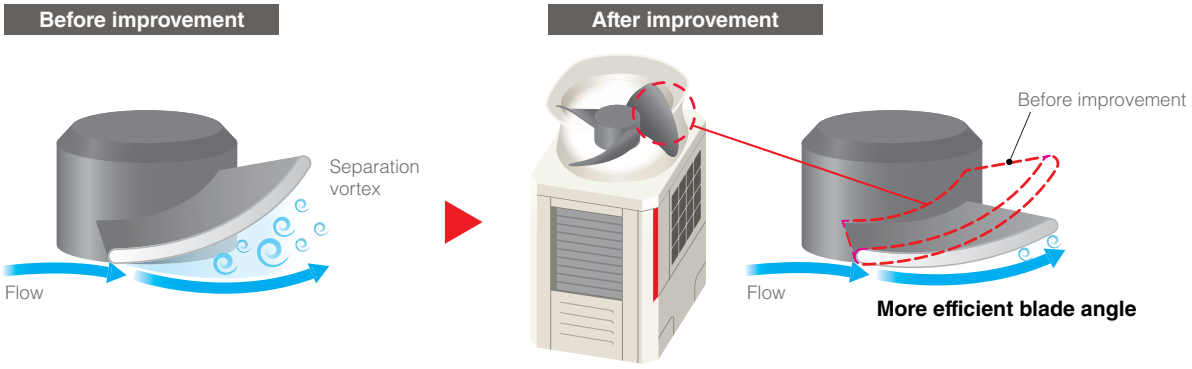
YNW model



Efficient air circulation is achieved by placing the heat exchangers on the upper part. The multiplier effect created by increasing the number of suction surfaces from three surfaces to four surfaces improves the operation efficiency.

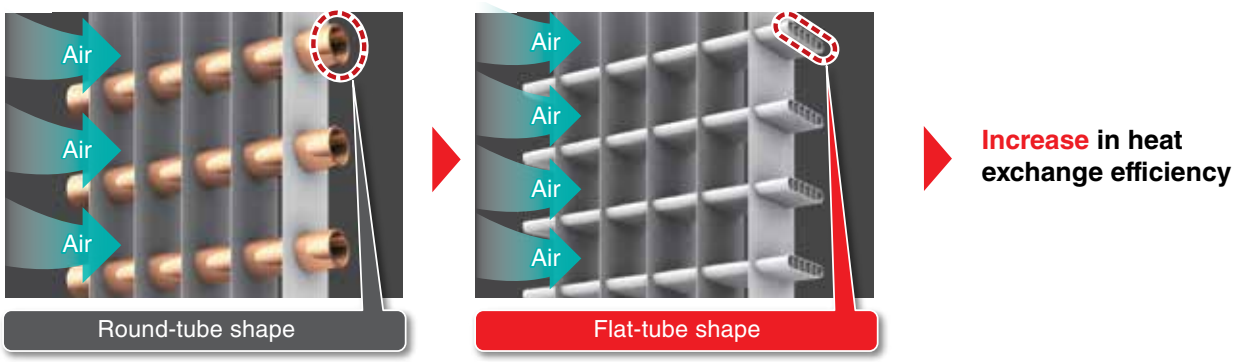
3. Streamlined fan

A new fan which is suitable for a 4-face suction, with a newly designed winglet provided on the periphery of each blade to operate efficiently. Additionally, the blade angle is adequately determined according to the flows on the inner and outer peripheries of the blade to optimise the blowing efficiency.



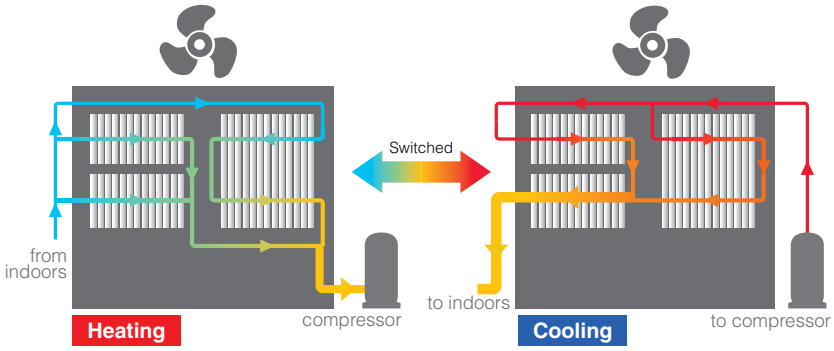
4. Flat-tube heat exchanger (EP Models)

In addition to the round-tube heat exchanger models, the flat-tube heat exchanger models are available. The use of flat tubes increases the number of piping stages while maintaining the same size for the heat exchanger. The inside of the tube is divided into thin compartments, which increases the area of contact between refrigerant and air, thereby increasing heat exchange effectiveness and significantly improving energy-saving performance. The flat-tube heat exchanger improves heat exchange effectiveness by approximately 30% compared to round-tube heat exchangers.

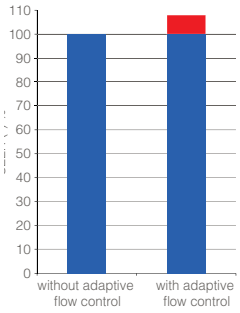


5. Adaptive flow control

Changed to a refrigerant circuit flow for both heating and cooling.



Comparision of EP300 (Y Series) SEER (cooling) with and without variable path



*Not applicable to all models

» During cooling, a serial flow path (flow through two of the heat exchangers split into three and then through the last heat exchanger) is used. With fewer paths, the refrigerant flow rate is increased, and the heat conductivity performance is improved. The drop in heat exchanger capacity per path prevents the refrigerant stagnation and improves the condensing performance of the heat exchanger during cooling.

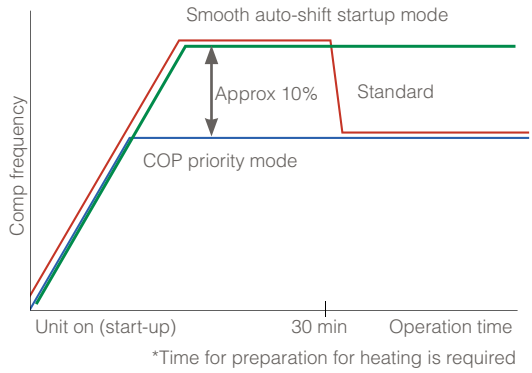
» During heating, a parallel flow path (flow refrigerant simultaneously through all heat exchangers split into three) is used. By flowing the refrigerant to all paths at the heat exchanger inlets (by increasing the number of paths compared to cooling), the pressure loss in the heat exchanger is reduced, and the evaporator performance is improved.

*Increase in evaporator performance is compared to using the original number of cooling paths.

KEY FUNCTIONS

1. Smooth auto-shift startup mode

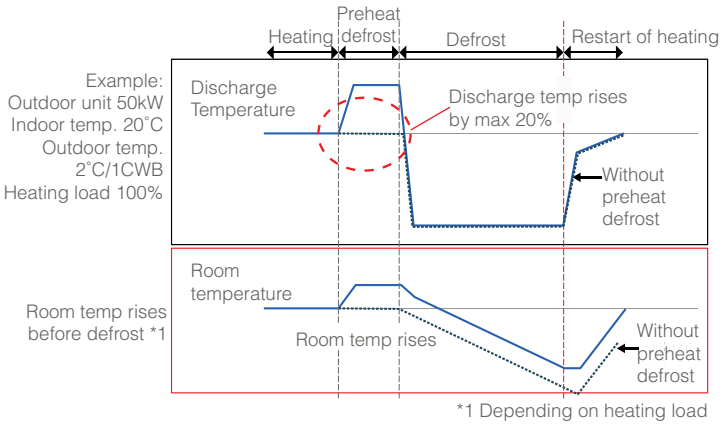
Smooth auto-shift startup mode, a new operation mode on the outdoor unit can now be selected in addition to the conventional COP Priority and Capacity Priority modes. To heat the room faster, Capacity Priority mode runs for 30 minutes when the heating operation starts. The unit then switches to COP Priority mode to increase energy-saving efficiency. This enables both improved comfort and energy savings.



*Time for preparation for heating is required

2. Preheat defrost operation

The new outdoor unit is equipped with a preheat defrost operation that raises the discharge temperature of the air before beginning defrost operation. This contributes to raising the room temperature before the start of the defrost operation and prevents room occupants experiencing a chilling sensation.



*1 Depending on heating load

3. Energy-efficient evaporation control

Since the evaporation temperature is kept constant regardless of the air conditioning load in normal operation mode, energy loss could occur at times of low air conditioning load. The new models are equipped with a function for selecting the target evaporation temperature*1 according to the air conditioning load. The compressor frequency is reduced according to conditions in the room to control the evaporation temperature. This can curb excessive power consumption and realise energy savings*2.

*1 To change the evaporation 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 air conditioner returns to normal mode.

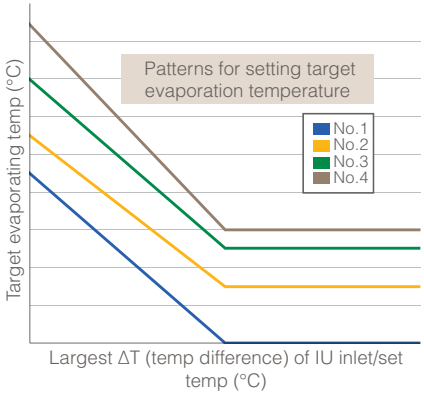
Increase of target Evaporation temperature

▼

Lower compressor frequency

▼

Reduced power consumption



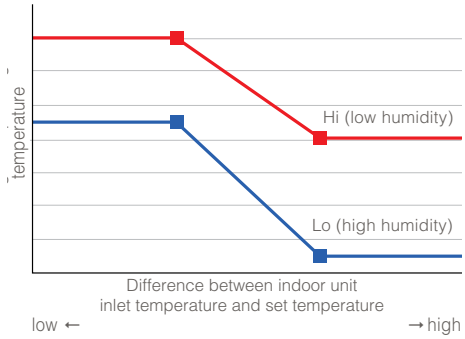
4. High sensible heat operation

The evaporating temperature is controlled according to a room's temperature and humidity and refrigerant pressure.

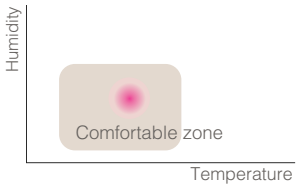
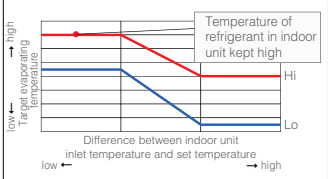
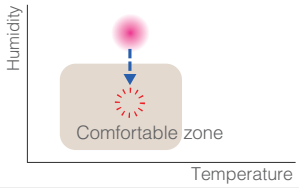
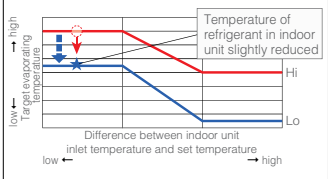
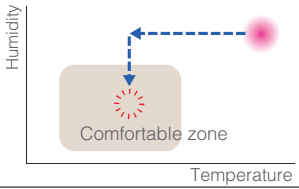
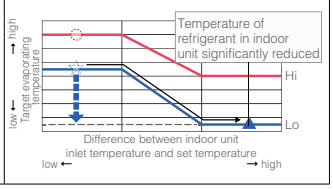
With high sensible heat operation mode activated, air conditioners consume less energy,*1 thereby realising cost savings.
If a locally procured humidity sensor is installed, the evaporating temperature of the outdoor unit can be controlled optimally as shown below according to the difference between the indoor unit inlet temperature and set temperature.
A wide range of temperature settings is available, from a low evaporating temperature close to the temperature for normal operation to a high evaporating temperature to realise energy savings.

*1 Unlike in evaporating temperature control mode, once the air conditioners are set in high sensible heat operation mode, they are kept running at reduced evaporating temperature.

Image of evaporating temperature control during high sensible heat operation in full cooling mode



Temperature and humidity conditions

	Room State	Condition of Outdoor Unit	Zone	Evaporating Temperature Control
Comfortable temperature and humidity High sensible heat operation	Comfortable	Comfortable and energy-saving operation even at low compressor rotating speed		
High humidity	Slightly humid	Compressor rotating at medium speed to reduce humidity		
High temperature and humidity	Uncomfortable	Compressor rotating at high speed to reduce temperature and humidity		

5. Maintenance data retrieval via USB

Operation data was retrieved from conventional models using the maintenance tool. On the new model, the data can be retrieved quickly via USB*1. For convenience, it is unnecessary to carry a PC that the maintenance tool application is installed on. The software can be written via USB, while data for can be stored in the USB memory device*2 up to 4 days and the 5 minutes after an error has occurred.

*1 In the case of OC-IC maximum configuration.
*2 USB memory devices conforming to USB2.0 can be used.

OPTIONAL PARTS

OUTDOOR UNITS

For Y SERIES

Description	Model	Remarks
Twinning Kit	CMY-Y100VBK3	For PUHY-(E)P400 ~ (E)P650YSNW-A
	CMY-Y200VBK2	For PUHY-(E)P700 ~ (E)P900YSNW-A
	CMY-Y300VBK3	For PUHY-(E)P950 ~ (E)P1350YSNW-A
Branch Pipe (Joint)	CMY-Y102SS-G2	200 or below (total capacity of indoor unit)
	CMY-Y102LS-G2	201-400 (total capacity of indoor unit)
	CMY-Y202S-G2	401-650 (total capacity of indoor unit)
	CMY-Y302S-G2	651-above (total capacity of indoor unit)
Branch Pipe (Header)	CMY-Y104-G	For 4 branches
	CMY-Y108-G	For 8 branches
	CMY-Y1010-G	For 10 branches
Fin Guard	PAC-FG01S-E	For side surfaces of S and L modules (a set of two pieces)
	PAC-FG02S-E	For side surfaces of XL modules (a set of two pieces)
	PAC-FG01B-E	For rear surface of S module
	PAC-FG02B-E	For rear surface of L module
	PAC-FG03B-E	For rear surface of XL module

For R2 SERIES

Description		Model	Remarks
Twinning Kit		CMY-R100VBK4	For PURY-(E)P400 ~ (E)P650YSNW-A
		CMY-R200VBK4	For PURY-(E)P700 ~ (E)P1100YSNW-A
		CMY-Y102SS-G2	200 or below (total capacity of indoor unit)
For BC Controller	2-Branch Joint Pipe	CMY-Y102LS-G2	201-400 (total capacity of indoor unit)
		CMY-R201S-G	350 or below (total capacity of indoor unit)
	Joint and Reducer	CMY-R202S-G	351-600 (total capacity of indoor unit)
		CMY-R203S-G	601-650 (total capacity of indoor unit)
		CMY-R204S-G	651-1000 (total capacity of indoor unit)
		CMY-R205S-G	1001 or above (total capacity of indoor unit)
		CMY-R101S-G	For P200-P650 outdoor unit
		CMY-R102S-G	For P700-P1100 outdoor unit
	Reducer	CMY-R301S-G	For CMB-P104,106,108,1012,1016V-J (When the outdoor unit capacity is P200 to P300)
		CMY-R302S-G	For CMB-P108,1012,1016V-JA (when the outdoor unit capacity is P200 to P900)
		CMY-R303S-G	For CMB-P108,1012,1016V-JA and for use with Sub-BC Controller
		CMY-R304S-G	For CMB-P1016V-KA(When the outdoor unit capacity is P200 to P1000)
		CMY-R305S-G	For CMB-P1016V-KA and for use with Sub-BC Controller
		CMY-R306S-G	For CMB-P104V-KB
	Branch Pipe (Header)	CMY-R160-J1	Joint for connecting to two nozzles
Fin Guard		PAC-FG01S-E*	For side surfaces of S and L modules (a set of two pieces)
		PAC-FG02S-E*	For side surfaces of XL modules (a set of two pieces)
		PAC-FG01B-E	For rear surface of S module
		PAC-FG02B-E	For rear surface of L module
		PAC-FG03B-E	For rear surface of XL module

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YNW-A(-BS)

Model			PUHY-P200YNW-A (-BS)	PUHY-P250YNW-A(-BS)	PUHY-P300YNW-A (-BS)	PUHY-P350YNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz			
Cooling Capacity (Nominal)*1		kW	22.4	28.0	33.5	40.0
		BTU/h	76,400	95,500	114,300	136,500
	Power Input	kW	5.61	7.25	9.35	10.86
	Current Input	A	9.4-8.9-8.6	12.2-11.6-11.2	12.9-12.2-11.8	18.3-17.4-16.7
	EER	kW/kW	3.99	3.86	3.58	3.68
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C			
	Outdoor	D.B.	-5.0~52.0°C			
Heating Capacity (Max)*2		kW	25.0	31.5	37.5	45.0
		BTU/h	85,300	107,500	128,000	153,500
	Power Input	kW	5.59	7.35	9.10	11.30
	Current Input	A	9.4-8.9-8.6	12.4-11.7-11.3	15.3-14.1-14.0	19.0-18.1-17.4
	COP	kW/kW	4.47	4.28	4.2	3.98
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C			
	Outdoor	W.B.	-20.0~15.5°C			
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~P250/1~30
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	58.0 / 59.0	60.0 / 61.0	61.0 / 64.5	62.0 / 64.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	75.0 / 78.0	78.0 / 80.0	80.0 / 83.5	80.5 / 83.0
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	9.52 (3/8) Brazed	9.52 (3/8) Brazed (12.7 (1/2) Brazed, Farthest Length >= 90m)	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			28.58 (1-1/8) Brazed
FAN *4	Type x Quantity		Propeller Fan x 1			Propeller Fan x 2
	Air Flow Rate	m^3/min	170	185	240	270
		L/s	2,833	3,083	4,000	4,500
		cfm	6,003	6,532	8,474	9,534
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor			
	Motor Output	kW	0.92 x 1			0.46 x 2
	External Static Pressure		0 Pa (0 mmH_2O)			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	5.6	7.0	7.9	9.8
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>			
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740			1,858 (1,798 without legs) x 1,240 x 740
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection			
Refrigerant	Type x Original Charge		R10A x 6.5kg			R10A x 9.8kg
Net Weight		kg	225		228	278
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6			
Optional Parts			Joint: CMY-Y102SS/LS-G2 Header: CMY-Y104/108/1012, 1010-G			Joint: CMY-Y102SS/LS-G2, CMY-Y202S-G2 Header: CMY-Y104/108/1012, 1010-G

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YNW-A(-BS)

Model			PUHY-P400YNW-A (-BS)	PUHY-P450YNW-A(-BS)	PUHY-P500YNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	45.0	50.0	56.0
		BTU/h	153,500	170,600	191,100
	Power Input	kW	12.93	14.74	16.00
	Current Input	A	21.8-20.7-19.9	24.8-23.6-22.7	27.0-25.1-24.7
	EER	kW/kW	3.48	3.39	3.50
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	50.0	56.0	63.0
		BTU/h	170,600	191,100	215,000
	Power Input	kW	13.69	16.32	16.11
	Current Input	A	23.1-21.9-21.1	27.5-26.1-25.2	27.1-25.8-24.9
	COP	kW/kW	3.65	3.43	3.91
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/1~34	P15~P250/1~39	P15~P250/1~43
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	65.0 / 67.0	65.5 / 69.5	63.5 / 66.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	82.5 / 86.0	83.5 / 88.5	82.0 / 85.5
Refrigerant Piping Diameter	High Pressure	mm (in.)	12.7 (1/2) Brazed	15.88 (5/8) Brazed	
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		
FAN *4	Type x Quantity		Propeller Fan x 2		
	Air Flow Rate	m^3/min	300	305	365
		L/s	5,000	5,083	6,083
		cfm	10,593	10,770	12,888
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor		
	Motor Output	kW	0.46 x 2		0.92 x 2
	External Static Pressure		0 Pa (0 mmH_2O)		
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	10.9	12.4	13.3
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>		
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740		1,858 (1,798 without legs) x 1,750 x 740
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)		
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection		
Refrigerant	Type x Original Charge		R410A x 9.8kg	R410A x 10.8kg	
Net Weight		kg	278	294	337
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6		
Optional Parts			Joint: CMY-Y102SS/LS-G2,CMY-Y202S-G2 Header: CMY-Y104/108/1010-G		

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YSNW-A(-BS)

Model			PUHY-P400YSNW-A (-BS)	PUHY-P450YSNW-A(-BS)	PUHY-P500YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	45.0	50.0	56.0
		BTU/h	153,500	170,600	191,100
	Power Input	kW	11.63	13.15	14.97
	Current Input	A	19.6-18.6-17.9	22.1-21.6-20.3	25.2-24.0-23.1
	EER	kW/kW	3.87	3.80	3.74
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	50.0	56.0	63.0
		BTU/h	170,600	191,100	215,000
	Power Input	kW	11.54	13.23	15.18
	Current Input	A	19.4-18.5-17.8	22.1-21.0-20.3	25.6-24.3-23.4
	COP	kW/kW	4.33	4.23	4.15
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/1~34	P15~P250/1~39	P15~P250/1~43
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	61.0 / 62.0	62.0 / 63.0	63.0 / 64.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	78.0 / 81.0	80.0 / 82.0	81.0 / 83.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	12.7 (1/2) Brazed	15.88 (5/8) Brazed	
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		

Set Model								
Model			PUHY-P200YNW-A (-BS)	PUHY-P200YNW-A (-BS)	PUHY-P200YNW-A (-BS)	PUHY-P250YNW-A (-BS)	PUHY-P250YNW-A (-BS)	PUHY-P250YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 1					
	Air Flow Rate	m^3/min	170			185		
		L/s	2,833			3,083		
		cfm	6,003			6,532		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 1					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	5.6			7.0		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 6.5kg					
Net Weight		kg	225					
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	9.52 (3/8) Brazed					
	Gas Pipe	mm (in.)	22.2 (7/8) Brazed					
Optional Parts			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 (subject to JIS B8615-1).

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YNW-A(-BS)

Model			PUHY-P550YSNW-A (-BS)	PUHY-P600YSNW-A(-BS)	PUHY-P650YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	63.0	69.0	73.0
		BTU/h	215,000	235,400	249,100
	Power Input	kW	17.54	19.88	20.79
	Current Input	A	29.6-28.1-27.1	27.4-26.0-25.1	35.0-33.3
	EER	kW/kW	3.59	3.47	3.51
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	69.0	76.5	81.5
		BTU/h	235,400	261,00	278,100
	Power Input	kW	16.99	19.17	21.61
	Current Input	A	28.6-27.2-26.2	32.3-30.7-29.6	36.4-34.6-33.4
	COP	kW/kW	4.06	3.99	3.77
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/2~47	P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	63.5 / 66.0	64.0 / 67.5	66.5 / 68.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	82.0 / 85.0	83.0 / 86.5	84.0 / 87.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	15.88 (5/8) Brazed		
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		

Set Model								
Model			PUHY-P250YNW-A (-BS)	PUHY-P300YNW-A (-BS)	PUHY-P300YNW-A (-BS)	PUHY-P300YNW-A (-BS)	PUHY-P250YNW-A (-BS)	PUHY-P400YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 1					Propeller Fan x 2
	Air Flow Rate	m³/min	185	240			185	300
		L/s	3,083	4,000			3,083	5,000
		cfm	6,532	8,474			6,532	10,593
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 1					0.46 x 2
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	7.0	7.9			7.0	10.9
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740					1,858 (1,798 without legs) x 1,240 x 740
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 6.5kg					R410A x 9.8
Net Weight		kg	225	228			225	278
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
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
	Gas Pipe	mm (in.)	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					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

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SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YSNW-A(-BS)

Model			PUHY-P700YSNW-A (-BS)	PUHY-P750YSNW-A(-BS)	PUHY-P800YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	80.0	85.0	90.0
		BTU/h	273,000	290,000	307,100
	Power Input	kW	22.47	24.56	26.39
	Current Input	A	37.9-36.0-34.7	41.4-39.3-37.9	44.5-42.3-40.7
	EER	kW/kW	5.56	3.46	3.41
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	88.0	95.0	100.0
		BTU/h	300,300	324,100	341,200
	Power Input	kW	22.79	25.81	28.08
	Current Input	A	38.4-36.5-35.2	43.5-41.3-39.8	47.5-42.3-43.4
	COP	kW/kW	3.86	3.68	3.56
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/2~50		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	65.5 / 67.0	67.0 / 68.5	67.5 / 71.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	83.5 / 86.0	84.5 / 88.0	85.5 / 89.5
Refrigerant Piping Diameter	High Pressure	mm (in.)	19.05 (3/4) Brazed		
	Low Pressure	mm (in.)	34.93 (1-3/8) Brazed		

Set Model								
Model			PUHY-P350YNW-A (-BS)	PUHY-P350YNW-A (-BS)	PUHY-P350YNW-A (-BS)	PUHY-P400YNW-A (-BS)	PUHY-P350YNW-A (-BS)	PUHY-P450YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m³/min	270			300	270	305
		L/s	4,500			5,000	4,500	5,083
		cfm	9,534			10,593	9,534	10,770
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.46 x 2					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	9.8			10.9	9.8	12.4
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798) x 1,240 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 9.8kg					R410A x 10.8kg
Net Weight		kg	278					294
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	12.7 (1/2) Brazed			15.88 (5/8) Brazed	12.7 (1/2) Brazed	15.88 (5/8) Brazed
	Gas Pipe	mm (in.)	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					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YSNW-A(-BS)

Model			PUHY-P850YSNW-A (-BS)	PURY-P900YSNW-A(-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	96.0	101.0
		BTU/h	327.600	344,600
	Power Input	kW	28.91	30.79
	Current Input	A	48.8-46.3-44.6	51.9-49.3-47.5
	EER	kW/kW	3.32	3.28
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C	
	Outdoor	D.B.	-5.0~52.0 °C	
Heating Capacity (Max)*2		kW	108.0	113.0
		BTU/h	368,500	385,600
	Power Input	kW	31.57	34.03
	Current Input	A	53.2-50.6-48.8	57.4-54.5-52.6
	COP	kW/kW	3.42	3.32
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C	
	Outdoor	W.B.	-20.0~15.5 °C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	68.5 / 71.5	68.5 / 72.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	86.0 / 90.5	86.5 / 91.5
Refrigerant Piping Diameter	High Pressure	mm (in.)	19.05 (3/4) Brazed	
	Low Pressure	mm (in.)	41.28 (1-5/8) Brazed	

Set Model						
Model			PUHY-P400YNW-A (-BS)	PUHY-P450YNW-A (-BS)	PUHY-P450YNW-A (-BS)	PUHY-P450YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2			
	Air Flow Rate	m^3/min	300	305		
		L/s	5,000	5,083		
		cfm	10,593	10,770		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor			
	Motor Output	kW	0.46 x 2			
	External Static Pressure		0 Pa (0 mmH_2O)			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	10.9	12.4		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>			
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740			
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection			
Refrigerant	Type x Original Charge		R410A x 9.8kg	R410A x 10.8kg		
Net Weight		kg	278	294		
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6			
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed			
	Gas Pipe	mm (in.)	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			

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YSNW-A(-BS)

Model			PUHY-P950YSNW-A (-BS)	PUHY-P1000YSNW-A(-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	108.0	113.0
		BTU/h	368,500	385,600
	Power Input	kW	29.91	32.01
	Current Input	A	50.4-47.9-46.2	54.0-51.3-49.4
	EER	kW/kW	3.61	3.53
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C	
	Outdoor	D.B.	-5.0~52.0 °C	
Heating Capacity (Max)*2		kW	119.5	127.0
		BTU/h	407,700	433,300
	Power Input	kW	30.40	33.42
	Current Input	A	51.3-48.7-46.9	56.4-53.5-51.6
	COP	kW/kW	3.95	3.80
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C	
	Outdoor	W.B.	-20.0~15.5 °C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	66.0 / 68.0	68.0 / 69.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	84.5 / 87.0	85.5 / 88.5
Refrigerant Piping Diameter	High Pressure	mm (in.)	19.05 (3/4) Brazed	
	Low Pressure	mm (in.)	41.28 (1-5/8) Brazed	

Set Model								
Model			PUHY-P250YNW-A (-BS)	PUHY-P350YNW-A (-BS)	PUHY-P350YNW-A (-BS)	PUHY-P250YNW-A (-BS)	PUHY-P350YNW-A (-BS)	PUHY-P400YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 1	Propeller Fan x 2		Propeller Fan x 1	Propeller Fan x 2	
	Air Flow Rate	m³/min	185	270		185	270	300
		L/s	3,083	4,500		3,083	4,500	5,000
		cfm	6,532	9,534		6.532	9,534	10,593
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 1	0.46 x 2		0.92 x 1	0.46 x 2	
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	7.0	9.8		7.0	9.8	10.9
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740	1,858 (1,798 without legs) x 1,240 x 740		1,858 (1,798 without legs) x 920 x 740	1,858 (1,798 without legs) x 1,240 x 740	
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 6.5kg	R410A x 9.8kg		R410A x 6.5kg	R410A x 9.8kg	
Net Weight		kg	225	278		225	278	
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
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	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	
Optional Parts			Outdoor Twinning Kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YSNW-A(-BS)

Model			PUHY-P1050YSNW-A(-BS)	PUHY-P1100YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	118.0	124.0
		BTU/h	402,600	423,100
	Power Input	kW	34.10	35.53
	Current Input	A	57.5-54.6-52.7	59.9-56.9-54.9
	EER	kW/kW	3.46	3.49
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C	
	Outdoor	D.B.	-5.0~52.0 °C	
Heating Capacity (Max)*2		kW	132.0	140.0
		BTU/h	450,400	177,700
	Power Input	kW	35.86	37.43
	Current Input	A	60.5-57.5-55.4	63.1-60.0-57.8
	COP	kW/kW	3.58	3.74
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C	
	Outdoor	W.B.	-20.0~15.5 °C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/3~50	P15~P250/3~50
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	68.5 / 70.5	68.5 / 70.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	86.0 / 89.5	86.0 / 88.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	19.05 (3/4) Brazed	
	Low Pressure	mm (in.)	41.28 (1-5/8) Brazed	

Set Model

Model			PUHY-P250YNW-A (-BS)	PUHY-P400YNW-A (-BS)	PUHY-P400YNW-A (-BS)	PUHY-P350YNW-A (-BS)	PUHY-P350YNW-A (-BS)	PUHY-P400YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 1	Propeller Fan x 2				
	Air Flow Rate	m³/min	185	300		270		300
		L/s	3,083	5,000		4,500		5,000
		cfm	6,532	10,593		9,534		10,593
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 1	0.46 x 2				
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	7.0	10.9		9.8		10.9
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740	1,858 (1,798 without legs) x 1,240 x 740				
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 6.5kg	R410A x 9.8kg				
Net Weight		kg	225	278				
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
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
	Gas Pipe	mm (in.)	22.2 (7/8) 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					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YSNW-A(-BS)

Model			PUHY-P1150YSNW-A (-BS)	PUHY-P1200YSNW-A(-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	130.0	136.0
		BTU/h	443,600	464,000
	Power Input	kW	37.90	40.35
	Current Input	A	63.9-60.7-58.5	68.1-64.7-62.3
	EER	kW/kW	3.43	3.37
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C	
	Outdoor	D.B.	-5.0~52.0 °C	
Heating Capacity (Max)*2		kW	145.0	150.0
		BTU/h	494,700	511,800
	Power Input	kW	39.94	42.37
	Current Input	A	67.4-64.0-61.7	71.5-67.9-65.4
	COP	kW/kW	3.78	136.0
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C	
	Outdoor	W.B.	-20.0~15.5 °C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/3~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	69.0 / 71.0	70.0 / 72.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	86.5 / 90.0	87.5 / 91.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	19.05 (3/4) Brazed	
	Low Pressure	mm (in.)	41.28 (1-5/8) Brazed	

Set Model

Model			PUHY-P350YNW-A (-BS)	PUHY-P400YNW-A (-BS)	PUHY-P400YNW-A (-BS)	PUHY-P400YNW-A (-BS)	PUHY-P400YNW-A (-BS)	PUHY-P400YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m³/min	270	300				
		L/s	4,500	5,000				
		cfm	9,534	10,593				
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.46 x 2					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	9.8	10.9				
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 9.8kg					
Net Weight		kg	278					
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	12.7 (1/2) Brazed	15.88 (5/8) Brazed				
	Gas Pipe	mm (in.)	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					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YSNW-A(-BS)

Model			PUHY-P1250YSNW-A (-BS)	PUHY-P1300YSNW-A(-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	140.0	146.0
		BTU/h	477,700	498,200
	Power Input	kW	41.91	44.10
	Current Input	A	70.7-67.2-64.7	74.4-70.7-68.1
	EER	kW/kW	3.34	3.31
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C	
	Outdoor	D.B.	-5.0~52.0 °C	
Heating Capacity (Max)*2		kW	165.5	163.0
		BTU/h	534,000	556,200
	Power Input	kW	45.23	48.08
	Current Input	A	76.3-72.5-69.9	81.1-77.1-74.3
	COP	kW/kW	3.46	3.39
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C	
	Outdoor	W.B.	-20.0~15.5 °C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/3~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	70.0 / 73.0	70.0 / 73.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	87.5 / 92.0	88.0 / 92.5
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed	
	Gas Pipe	mm (in.)	41.28 (1-5/8) Brazed	

Set Model

Model			PUHY-P400YNW-A (-BS)	PUHY-P400YNW-A (-BS)	PUHY-P450YNW-A (-BS)	PUHY-P400YNW-A (-BS)	PUHY-P450YNW-A (-BS)	PUHY-P450YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m^3/min	300		305	300	305	
		L/s	5,000		5,083	5,000	5,083	
		cfm	10,593		10,770	10,593	10,770	
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.46 x 2					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	10.9		12.4	10.9	12.4	
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 9.8kg		R410A x 10.8kg	R410A x 9.8kg	R410A x 10.8kg	
Net Weight		kg	278		294	278	294	
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed					
	Gas Pipe	mm (in.)	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					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P YSNW-A(-BS)

Model			PUHY-P1350YSNW-A (-BS)		
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	150.0		
		BTU/h	511,800		
	Power Input	kW	45.73		
	Current Input	A	77.1-73.3-70.6		
	EER	kW/kW	3.28		
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	168.0		
		BTU/h	573,200		
	Power Input	kW	50.60		
	Current Input	A	85.4-81.1-78.2		
	COP	kW/kW	4.05		
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/3~50		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	70.5 / 74.5		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	88.5 / 93.5		
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed		
	Gas Pipe	mm (in.)	41.28 (1-5/8) Brazed		
Set Model					
Model			PUHY-P450YNW-A (-BS)	PUHY-P450YNW-A (-BS)	PUHY-P450YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2		
	Air Flow Rate	m^3/min	305		
		L/s	5,083		
		cfm	10,770		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor		
	Motor Output	kW	0.46 x 2		
	External Static Pressure		0 Pa (0 mmH_2O)		
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	12.4		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>		
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)		
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection		
Refrigerant	Type x Original Charge		R410A x 10.8kg		
Net Weight		kg	294		
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6		
Pipe Between Unit and Distributor	High Pressure	mm (in.)	15.88 (5/8) Brazed		
	Low Pressure	mm (in.)	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		

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*Due to continuing improvement, above specification may be subject to change without notice.
*Subject to JRA9002-1991 standard.

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SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP200YNW-A (-BS)	PUHY-EP250YNW-A(-BS)	PUHY-EP300YNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	22.4	28.0	33.5
		BTU/h	76,400	95,500	114,300
	Power Input	kW	5.07	6.73	8.52
	Current Input	A	8.5-8.1-7.8	11.3-10.7-10.4	14.3-13.6-13.1
	EER	kW/kW	4.41	4.16	3.93
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Outdoor	D.B.	-5.0~52.0°C		
Heating Capacity (Max)*2		kW	25.0	31.5	37.5
		BTU/h	85,300	107,500	128,000
	Power Input	kW	5.35	7.01	8.78
	Current Input	A	9.0-8.5-7.8	11.8-11.2-10.8	14.8-14.0-13.5
	COP	kW/kW	5.35	4.49	4.27
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Outdoor	W.B.	-20.0~15.5°C		
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
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	58.0 / 59.0	60.0 / 61.0	61.0 / 64.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	75.0 / 78.0	78.0 / 80.0	80.0 / 83.5
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	9.52 (3/8) Brazed	9.52 (3/8) Brazed (12.7 (1/2) Brazed, Farthest Length >=90m)	9.52 (3/8) Brazed (12.7 (1/2) Brazed, Farthest Length >=40m)
	Gas Pipe	mm (in.)	22.2 (7/8) Brazed		28.58 (1-1/8) Brazed
FAN*4	Type x Quantity		Propeller Fan x 1		
	Air Flow Rate	m^3/min	170	185	240
		L/s	2,833	3,083	4,000
		cfm	6,003	6,532	8,474
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor		
	Motor Output	kW	0.92 x 1		
	External Static Pressure		0 Pa (0 mmH2O)		
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	5.6	7.0	7.9
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>		
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)		
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection		
Refrigerant	Type x Original Charge		R10A x 6.5kg		
Net Weight		kg	231	231	235
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6		
Optional Parts			Joint: CMY-Y102SS/LS-G2 Header: CMY-Y104/108/1010-G		

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP350YNW-A (-BS)	PUHY-EP400YNW-A(-BS)	PUHY-EP450YNW-A (-BS)	PUHY-EP500YNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz			
Cooling Capacity (Nominal)*1		kW	40.0	45.0	50.0	56.0
		BTU/h	136,500	153,500	170,600	191,100
	Power Input	kW	10.38	12.19	13.40	16.00
	Current Input	A	17.5-16.6-16.0	20.5-19.5-18.8	22.6-21.4-20.7	27.0-25.6-24.7
	EER	kW/kW	3.85	3.69	3.73	3.5
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C			
	Outdoor	D.B.	-5.0~52.0°C			
Heating Capacity (Max)*2		kW	45.0	50.0	56.0	63.0
		BTU/h	153,500	170,600	191,100	215,000
	Power Input	kW	11.47	13.05	15.01	15.0
	Current Input	A	19.3-18.3-17.7	22.0-20.9-20.1	25.3-24.0-23.2	25.3-24.0-23.1
	COP	kW/kW	3.32	3.83	3.73	4.20
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C			
	Outdoor	W.B.	-20.0~15.5°C			
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity			
	Model/Quantity		P15~P250/1~30	P15~P250/1~34	P15~P250/1~39	P15~P250/1~43
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	62.0 / 63.5	65.0 / 65.5	65.5 / 69.5	63.5 / 66.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	80.5 / 82.5	82.5 / 84.5	83.5 / 88.5	82.0 / 85.5
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	12.7 (1/2) Brazed		15.88 (5/8) Brazed	
	Gas Pipe	mm (in.)	28.58 (1-1/8) Brazed			
FAN *4	Type x Quantity		Propeller Fan x 2			
	Air Flow Rate	m³/min	270		305	365
		L/s	4,500		5,083	6,083
		cfm	9,534		10,770	12,888
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor			
	Motor Output	kW	0.46 x 2			0.92 x 2
	External Static Pressure		0 Pa (0 mmH_2O)			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	9.8	10.9	12.4	13.3
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>			
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740			1,858 (1,798 without legs) x 1,750 x 740
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection			
Refrigerant	Type x Original Charge		R10A x 9.8kg	R10A x 10.8kg		
Net Weight		kg	285	305		342
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6			
Optional Parts			Joint: CMY-Y102SS/LS-G2, CMY-Y202S-G2 Header: CMY-Y104/108/1010-G			

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP400YSNW-A (-BS)	PUHY-EP450YSNW-A(-BS)	PUHY-EP500YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	45.0	50.0	56.0
		BTU/h	153,500	170,600	191,100
	Power Input	kW	10.53	12.07	13.59
	Current Input	A	17.7-16.8-16.2	20.3-19.3-18.6	23.4-22.2-21.4
	EER	kW/kW	4.27	4.14	4.03
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Outdoor	D.B.	-5.0~52.0°C		
Heating Capacity (Max)*2		kW	50.0	56.0	63.0
		BTU/h	170,600	191,100	215,000
	Power Input	kW	11.06	12.64	14.48
	Current Input	A	18.6-17.7-17.0	21.5-20.2-19.5	24.4-23.2-22.3
	COP	kW/kW	4.52	4.43	4.35
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Outdoor	W.B.	-20.0~15.5°C		
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/1~34	P15~P250/1~39	P15~P250/1~43
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	61.0 / 62.0	62.0 / 63.0	63.0 / 64.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	78.0 / 81.0	80.0 / 82.0	81.0 / 83.0
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	12.7 (1/2) Brazed	15.88 (5/8) Brazed	
	Gas Pipe	mm (in.)	28.58 (1-1/8) Brazed		

Set Model								
Model			PUHY-EP200YNW-A (-BS)	PUHY-EP200YNW-A (-BS)	PUHY-EP200YNW-A (-BS)	PUHY-EP250YNW-A (-BS)	PUHY-EP250YNW-A (-BS)	PUHY-EP250YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 1					
	Air Flow Rate	m^3/min	170			185		
		L/s	2,833			3,083		
		cfm	6,003			6,532		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 1					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	5.6			7.0		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R10A x 6.5kg					
Net Weight		kg	231					
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6					
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	9.52 (3/8) Brazed					
	Gas Pipe	mm (in.)	22.2 (7/8) Brazed					
Optional Parts			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 (subject to JIS B8615-1).

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP550YSNW-A-(BS)	PUHY-EP600YSNW-A-(BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	63.0	69.0
		BTU/h	215,000	235,400
	Power Input	kW	16.11	18.11
	Current Input	A	27.1-25.8-24.9	30.5-29.0-27.9
	EER	kW/kW	3.91	3.81
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Outdoor	D.B.	-5.0~52.0°C	
Heating Capacity (Max)*2		kW	69.0	76.5
		BTU/h	235,400	261,000
	Power Input	kW	16.31	18.47
	Current Input	A	27.5-26.1-25.2	31.1-29.6-28.5
	COP	kW/kW	4.25	4.84
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Outdoor	W.B.	-20.0~15.5°C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/2~47	P15~P250/2~50
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	63.5 / 66.0	64.0 / 67.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	82.0 / 85.0	83.0 / 86.5
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed	
	Gas Pipe	mm (in.)	28.58 (1-1/8) Brazed	

Set Model						
Model			PUHY-EP250YNW-A (-BS)	PUHY-EP300YNW-A (-BS)	PUHY-EP300YNW-A (-BS)	PUHY-EP300YNW-A (-BS)
FAN*4	Type x Quantity		Propeller Fan x 1			
	Air Flow Rate	m^3/min	185	240		
		L/s	3,083	4,000		
		cfm	6,532	8,474		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor			
	Motor Output	kW	0.92 x 1			
	External Static Pressure		0 Pa (0 mmH_2O)			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	7.0	7.9		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>			
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740			
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection			
Refrigerant	Type x Original Charge		R10A x 6.5kg			
Net Weight		kg	231	235		
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6			
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	9.52 (3/8) Brazed	12.7 (1/2) Brazed		
	Gas Pipe	mm (in.)	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			

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP650YSNW-A-(BS)	PUHY-EP700YSNW-A-(BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	73.0	80.0
		BTU/h	249,100	273,000
	Power Input	kW	19.46	21.44
	Current Input	A	32.8-31.2-30.0	36.1-34.3-33.1
	EER	kW/kW	3.75	3.73
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Outdoor	D.B.	-5.0~52.0°C	
Heating Capacity (Max)*2		kW	81.5	88.0
		BTU/h	278,100	300,300
	Power Input	kW	20.58	23.15
	Current Input	A	34.7-33.0-31.8	39.0-37.1-35.7
	COP	kW/kW	3.96	3.80
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Outdoor	W.B.	-20.0~15.5°C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	66.5 / 67.0	65.0 / 66.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	84.0 / 86.0	83.5 / 85.5
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed	19.05 (3/4) Brazed
	Gas Pipe	mm (in.)	28.58 (1-1/8) Brazed	34.93 (1-3/8) Brazed

Set Model

Model			PUHY-EP250YNW-A (-BS)	PUHY-EP400YNW-A (-BS)	PUHY-EP350YNW-A (-BS)	PUHY-EP350YNW-A (-BS)
FAN*4	Type x Quantity		Propeller Fan x 1	Propeller Fan x 2		
	Air Flow Rate	m^3/min	185	270		
		L/s	3,083	4,500		
		cfm	6,532	9,534		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor			
	Motor Output	kW	0.92 x 1	0.46 x 2		
	External Static Pressure		0 Pa (0 mmH_2O)			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	7.0	10.9	9.8	
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>			
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740	1,858 (1,798 without legs) x 1,240 x 740		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection			
Refrigerant	Type x Original Charge		R10A x 6.5kg	R10A x 10.8kg	R10A x 9.8kg	
Net Weight		kg	231	305	285	
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6			
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	9.52 (3/8) Brazed	12.7 (1/2) Brazed		
	Gas Pipe	mm (in.)	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			

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP750YSNW-A (-BS)	PUHY-EP800YSNW-A(-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	85.0	90.0
		BTU/h	290,000	307,100
	Power Input	kW	23.28	24.59
	Current Input	A	39.3-37.3-35.9	41.5-39.4-38.0
	EER	kW/kW	3.65	3.66
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Outdoor	D.B.	-5.0~52.0°C	
Heating Capacity (Max)*2		kW	95.0	100.0
		BTU/h	324,100	341,200
	Power Input	kW	25.33	27.10
	Current Input	A	42.7-40.6-39.1	45.7-43.1-41.8
	COP	kW/kW	3.75	3.69
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Outdoor	W.B.	-20.0~15.5°C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	67.0 / 67.5	67.5 / 70.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	84.5 / 86.5	85.5 / 89.5
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed	
	Gas Pipe	mm (in.)	34.93 (1-3/8) Brazed	

Set Model						
Model			PUHY-EP350YNW-A (-BS)	PUHY-EP400YNW-A (-BS)	PUHY-EP350YNW-A (-BS)	PUHY-EP450YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2			
	Air Flow Rate	m³/min	270			305
		L/s	4,500			5,083
		cfm	9,534			10,770
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor			
	Motor Output	kW	0.46 x 2			
	External Static Pressure		0 Pa (0 mmH_2O)			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	9.8	10.9	9.8	12.4
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>			
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740			
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection			
Refrigerant	Type x Original Charge		R10A x 9.8kg	R10A x 10.8kg	R10A x 9.8kg	R10A x 10.8kg
Net Weight		kg	285	305	285	305
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6			
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	12.7 (1/2) Brazed	15.88 (5/8) Brazed	12.7 (1/2) Brazed	15.88 (5/8) Brazed
	Gas Pipe	mm (in.)	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			

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

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SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP850YSNW-A (-BS)	PUHY-EP900YSNW-A(-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	96.0	101.
		BTU/h	327,600	344,600
	Power Input	kW	26.76	27.97
	Current Input	A	45.1-42.8-41.3	47.2-44.8-43.2
	EER	kW/kW	3.59	3.61
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Outdoor	D.B.	-5.0~52.0°C	
Heating Capacity (Max)*2		kW	108.0	113.0
		BTU/h	368,500	385,600
	Power Input	kW	29.50	31.30
	Current Input	A	49.8-47.3-45.6	52.8-50.1-48.3
	COP	kW/kW	3.55	3.61
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Outdoor	W.B.	-20.0~15.5°C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	68.5 / 71.0	68.5 / 72.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	86.0 / 90.0	86.5 / 91.5
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed	
	Gas Pipe	mm (in.)	41.28 (1-5/8) Brazed	

Set Model

Model			PUHY-EP400YNW-A (-BS)	PUHY-EP450YNW-A (-BS)	PUHY-EP450YNW-A (-BS)	PUHY-EP450YNW-A (-BS)
FAN*4	Type x Quantity		Propeller Fan x 2			
	Air Flow Rate	m³/min	270	305		
		L/s	4,500	5,083		
		cfm	9,534	10,770		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor			
	Motor Output	kW	0.46 x 2			
	External Static Pressure		0 Pa (0 mmH_2O)			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	10.9	12.4		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>			
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740			
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection			
Refrigerant	Type x Original Charge		R10A x 10.8kg			
Net Weight		kg	305			
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6			
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed			
	Gas Pipe	mm (in.)	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			

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP950YSNW-A (-BS)	PUHY-EP1000YSNW-A(-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	108.0	113.0
		BTU/h	368,500	385,600
	Power Input	kW	28.34	30.21
	Current Input	A	47.8-45.4-43.8	50.9-48.4-46.6
	EER	kW/kW	3.81	3.74
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Outdoor	D.B.	-5.0~52.0°C	
Heating Capacity (Max)*2		kW	119.5	127.0
		BTU/h	407,700	433,300
	Power Input	kW	30.32	32.56
	Current Input	A	51.1-48.6-46.8	54.9-52.2-50.3
	COP	kW/kW	3.94	3.90
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Outdoor	W.B.	-20.0~15.5°C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	66.0 / 67.5	68.0 / 68.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	84.5 / 86.5	85.5 / 87.5
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed	
	Gas Pipe	mm (in.)	41.28 (1-5/8) Brazed	

Set Model

Model			PUHY-EP250YNW-A (-BS)	PUHY-EP350YNW-A (-BS)	PUHY-EP350YNW-A (-BS)	PUHY-EP250YNW-A (-BS)	PUHY-EP350YNW-A (-BS)	PUHY-EP400YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 1	Propeller Fan x 2		Propeller Fan x 1	Propeller Fan x 2	
	Air Flow Rate	m³/min	185	270		185	270	
		L/s	3,083	4,500		3,083	4,500	
		cfm	6,532	9,534		6,532	9,534	
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 1	0.46 x 2		0.92 x 1	0.46 x 2	
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	7.0	9.8		7.0	9.8	10.9
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740	1,858 (1,798 without legs) x 1,240 x 740		1,858 (1,798 without legs) x 920 x 740	1,858 (1,798 without legs) x 1,240 x 740	
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R10A x 6.5kg	R10A x 9.8kg		R10A x 6.5kg	R10A x 9.8kg	R10A x 10.8kg
Net Weight		kg	231	285		231	285	305
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
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	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	
Optional Parts			Outdoor Twinning Kit: CMY-Y300VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202/302S-G2 Header: CMY-Y104/108/1010-G					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP1050YSNW-A (-BS)	PUHY-EP1100YSNW-A(-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	118.0	124.0
		BTU/h	402,600	423,100
	Power Input	kW	32.06	33.78
	Current Input	A	54.1-51.4-49.5	57.0-54.1-52.2
	EER	kW/kW	3.68	3.67
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Outdoor	D.B.	-5.0~52.0°C	
Heating Capacity (Max)*2		kW	132.0	140.0
		BTU/h	450,400	477,700
	Power Input	kW	34.19	37.13
	Current Input	A	57.7-54.8-52.8	62.6-59.5-57.3
	COP	kW/kW	3.86	3.77
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Outdoor	W.B.	-20.0~15.5°C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/3~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	68.5 / 69.0	68.5 / 69.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	86.0 / 88.0	86.0 / 89.0
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed	
	Gas Pipe	mm (in.)	41.28 (1-5/8) Brazed	

Set Model								
Model			PUHYEP250YNW-A(-BS)	PUHYEP400YNW-A(-BS)	PUHYEP400YNW-A(-BS)	PUHYEP360YNW-A(-BS)	PUHYEP360YNW-A(-BS)	PUHYEP400YNW-A(-BS)
FAN *4	Type x Quantity		Propeller Fan x 1	Propeller Fan x 2				
	Air Flow Rate	m^3/min	185	270				
		L/s	3,083	4,500				
		cfm	6,532	9,534				
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 1	0.46 x 2				
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	7.0	10.9		9.8		10.9
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740	1,858 (1,798 without legs) x 1,240 x 740				
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R10A x 6.5kg	R10A x 10.8kg		R10A x 9.8kg		R10A x 10.8kg
Net Weight		kg	231	305		285		305
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6					
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
	Gas Pipe	mm (in.)	22.2 (7/8) 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					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP1150YSNW-A (-BS)	PUHY-EP1200YSNW-A(-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	130.0	136.0
		BTU/h	443,600	464,000
	Power Input	kW	35.91	38.09
	Current Input	A	60.6-57.5-55.6	64.3-61.0-58.8
	EER	kW/kW	3.62	3.57
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Outdoor	D.B.	-5.0~52.0°C	
Heating Capacity (Max)*2		kW	145.0	150.0
		BTU/h	494,700	511,800
	Power Input	kW	38.77	40.43
	Current Input	A	65.4-62.1-59.9	68.2-64.8-62.4
	COP	kW/kW	3.74	3.71
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Outdoor	W.B.	-20.0~15.5°C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/3~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	69.0 / 69.5	70.0 / 70.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	86.5 / 88.5	87.5 / 89.5
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed	
	Gas Pipe	mm (in.)	41.28 (1-5/8) Brazed	

Set Model								
Model			PUHY-EP350YNW-A (-BS)	PUHY-EP400YNW-A (-BS)	PUHY-EP400YNW-A (-BS)	PUHY-EP400YNW-A (-BS)	PUHY-EP400YNW-A (-BS)	PUHY-EP400YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m^3/min	270					
		L/s	4,500					
		cfm	9,534					
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.46 x 2					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	9.8	10.9				
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R10A x 9.8kg	R10A x 10.8kg				
Net Weight		kg	285	305				
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
Pipe Between Unit and Distributor	Liquid Pipe	mm (n.)	12.7 (1/2) Brazed	15.88 (5/8) Brazed				
	Gas Pipe	mm (in.)	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					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP1250YSNW-A (-BS)	PUHY-EP1300YSNW-A(-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	140.0	146.0
		BTU/h	477,700	498,200
	Power Input	kW	38.99	40.55
	Current Input	A	65.8-62.5-60.2	68.4-65.0-62.6
	EER	kW/kW	3.59	3.60
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Outdoor	D.B.	-5.0~52.0°C	
Heating Capacity (Max)*2		kW	156.5	163.0
		BTU/h	534,000	556,200
	Power Input	kW	42.52	44.78
	Current Input	A	71.7-68.1-65.7	75.5-71.8-69.2
	COP	kW/kW	3.68	3.64
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Outdoor	W.B.	-20.0~15.5°C	
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity	
	Model/Quantity		P15~P250/3~50	
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	70.0 / 72.0	70.0 / 73.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	87.5 / 91.0	88.0 / 92.5
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed	
	Gas Pipe	mm (in.)	41.28 (1-5/8) Brazed	

Set Model

Model			PUHY-EP400YNW-A(-BS)	PUHY-EP400YNW-A(-BS)	PUHY-EP450YNW-A(-BS)	PUHY-EP400YNW-A(-BS)	PUHY-EP450YNW-A(-BS)	PUHY-EP450YNW-A(-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m³/min	270		305	270	305	
		L/s	4,500		5,083	4,500	5,083	
		cfm	9,534		10,770	9,534	10,770	
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.46 x 2					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	10.9		12.4	10.9	12.4	
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R10A x 10.8kg					
Net Weight		kg	305					
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6					
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed					
	Gas Pipe	mm (in.)	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					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - Y Series Heat Pump

PUHY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PUHY-EP1350YSNW-A(-BS)		
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	150.0		
		BTU/h	511,800		
	Power Input	kW	41.55		
	Current Input	A	70.1-66.6-64.2		
	EER	kW/kW	3.61		
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Outdoor	D.B.	-5.0~52.0°C		
Heating Capacity (Max)*2		kW	168.0		
		BTU/h	573,200		
	Power Input	kW	46.53		
	Current Input	A	78.5-74.6-71.9		
	COP	kW/kW	3.61		
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Outdoor	W.B.	-20.0~15.5°C		
Indoor Unit Connectable	Total Capacity		50~130% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/3~50		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	70.0 / 74.5		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	88.5 / 93.5		
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed		
	Gas Pipe	mm (in.)	41.28 (1-5/8) Brazed		
Set Model					
Model			PUHY-EP450YNW-A (-BS)	PUHY-EP450YNW-A (-BS)	PUHY-EP450YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2		
	Air Flow Rate	m^3/min	305		
		L/s	5,083		
		cfm	10,770		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor		
	Motor Output	kW	0.46 x 2		
	External Static Pressure		0 Pa (0 mmH_2O)		
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	12.4		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>		
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)		
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection		
Refrigerant	Type x Original Charge		R10A x 10.8kg		
Net Weight		kg	305		
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6		
Pipe Between Unit and Distributor	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed		
	Gas Pipe	mm (in.)	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		

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
*5 Due to continuing improvement, above specification may be subject to change without notice.
*6 Subject to JRA9002-1991 standard

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-P YNW-A(-BS)

Model			PURY-P200YNW-A (-BS)	PURY-P250YNW-A(-BS)	PURY-P300YNW-A (-BS)	PURY-P350YNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz			
Cooling Capacity (Nominal)*1		kW	22.4	28.0	33.5	40.0
		BTU/h	76,400	95,500	114,300	136,500
	Power Input	kW	5.62	7.46	9.15	0.86
	Current Input	A	9.4-9.0-8.6	12.5-11.9-11.5	15.4-14.6-14.1	18.3-17.4-16.7
	EER	kW/kW	3.98	3.75	3.66	3.68
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C			
	Outdoor	D.B.	-5.0~52.0°C			
Heating Capacity (Max)*2		kW	25.0	31.5	37.5	45.0
		BTU/h	85,300	107,500	128,000	153,500
	Power Input	kW	5.98	7.68	9.97	11.50
	Current Input	A	10.0-9.5-9.2	12.9-11.9-11.5	16.8-15.9-15.4	19.4-18.4-17.7
	COP	kW/kW	4.18	4.10	3.76	3.91
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C			
	Outdoor	W.B.	-20.0~15.5°C			
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity			
	Model/Quantity		P15~P250/1~20	P15~P250/1~25	P15~P250/1~30	P15~P250/1~35
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	59.0/59.0	60.5/61.0	61.0/67.0	62.5/64.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	76.0/78.0	78.5/80.0	80.0/86.5	81.0/83.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	15.88 (5/8) Brazed	19.05 (3/4) Brazed		
	Low Pressure	mm (in.)	19.05 (3/4) Brazed	22.2 (7/8) Brazed		28.58 (1-1/8) Brazed
FAN *4	Type x Quantity		Propeller Fan x 1			Propeller Fan x 2
	Air Flow Rate	m^3/min	170	185	240	250
		L/s	2,833	3,083	4,000	4,167
		cfm	6,003	6,532	8,474	8,828
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor			
	Motor Output	kW	0.92 x 1			0.46 x 2
	External Static Pressure		0 Pa (0 mmH_2O)			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	5.6	7.0	7.9	10.2
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>			
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740			
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection			
Refrigerant	Type x Original Charge		R10A x 5.2kg			R10A x 8.0kg
Net Weight		kg	229		231	273
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6			
Optional Parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 BC Controller: CMB-P104, 106, 108,1012, 1016V-J Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB			

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-P YNW-A(-BS)

Model			PURY-P400YNW-A (-BS)	PURY-P450YNW-A(-BS)	PURY-P500YNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	45.0	50.0	56.0
		BTU/h	153,500	170,600	191,100
	Power Input	kW	12.93	14.92	16.23
	Current Input	A	21.4-20.7-19.9	25.1-23.9-23.0	27.3-26.0-25.0
	EER	kW/kW	3.88	3.35	3.45
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	50.0	56.0	63.0
		BTU/h	170,600	191,100	215,000
	Power Input	kW	13.92	16.47	16.23
	Current Input	A	23.4-22.3-21.5	27.8-26.4-25.4	27.3-26.0-25.0
	COP	kW/kW	3.59	3.40	3.88
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/1~40	P15~P250/1~45	P15~P250/1~50
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	65.0 / 69.0	65.5 / 70.0	63.5 / 64.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	83.0 / 88.0	83.0 / 89.0	82.0 / 84.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed		
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		
FAN *4	Type x Quantity		Propeller Fan x 2		
	Air Flow Rate	m^3/min	315		295
		L/s	5,250		4,917
		cfm	11,123		10,416
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor		
	Motor Output	kW	0.46 x 2		0.92 x 2
	External Static Pressure		0 Pa (0 mmH_2O)		
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	10.9	12.4	13.0
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>		
External Dimensions HxWxD		mm	1,858 x 1,240 x 740		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)		
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection		
Refrigerant	Type x Original Charge		R410A x 8.0kg	R410A x 10.8kg	
Net Weight		kg	273	293	337
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6		
Optional Parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB		

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-P YSNW-A(-BS)

Model			PURY-P400YSNW-A (-BS)	PURY-P450YSNW-A(-BS)	PURY-P500YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	45.0	50.0	56.0
		BTU/h	153,500	170,600	191,100
	Power Input	kW	11.65	13.33	15.38
	Current Input	A	19.6-18.6-18.0	22.5-21.3-20.6	25.9-24.6-23.7
	EER	kW/kW	3.86	3.75	3.64
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	50.0	56.0	63.0
		BTU/h	170,600	191,100	215,000
	Power Input	kW	12.34	13.93	15.82
	Current Input	A	20.8-19.7-19.0	25.5-22.3-21.5	26.7-25.3-24.4
	COP	kW/kW	4.05	4.2	3.98
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/1~40	P15~P250/1~45	P15~P250/1~50
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	62.0 / 62.0	63.0 / 63.5	63.5 / 64.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	79.0 / 81.0	80.5 / 82.5	81.5 / 83.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed		
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		

Set Model								
Model			PURY-P200YNW-A (-BS)	PURY-P200YNW-A (-BS)	PURY-P200YNW-A (-BS)	PURY-P250YNW-A (-BS)	PURY-P250YNW-A (-BS)	PURY-P250YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 1					
	Air Flow Rate	m^3/min	170			185		
		L/s	2,833			3,083		
		cfm	6,003			6,532		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 1					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	5.6			7.0		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 5.2kg					
Net Weight		kg	229					
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
Pipe Between Unit and Distributor	High Pressure	mm (in.)	15.88 (5/8) Brazed					
	Low Pressure	mm (in.)	19.05 (3/4) Brazed					
Optional Parts			Outdoor Twinning Kit: CMY-R100VBK4 Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-P YSNW-A(-BS)

Model			PURY-P550YSNW-A (-BS)	PURY-P600YSNW-A(-BS)	PURY-P650YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	63.0	69.0	73.0
		BTU/h	215,000	235,400	249,100
	Power Input	kW	17.54	19.43	20.50
	Current Input	A	29.6-28.1-27.1	32.8-31.1-30.0	34.6-32.8-31.5
	EER	kW/kW	3.59	3.55	3.56
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	69.0	76.5	81.5
		BTU/h	235,400	261,000	278,100
	Power Input	kW	18.11	20.95	21.90
	Current Input	A	30.5-29.0-27.9	35.3-33.5-32.3	36.9-35.1-33.8
	COP	kW/kW	3.81	3.65	3.72
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/2~50		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	64.0 / 68.0	64.0 / 70.0	65.0 / 69.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	82.5 / 87.5	83.0 / 89.5	83.5 / 88.5
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed (28.58 (1-1/8) Brazed for the part that exceeds 65 m)		28.58 (1-1/8) Brazed
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		

Set Model								
Model			PURY-P250YNW-A (-BS)	PURY-P300YNW-A (-BS)	PURY-P300YNW-A (-BS)	PURY-P300YNW-A (-BS)	PURY-P300YNW-A (-BS)	PURY-P350YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 1					Propeller Fan x 2
	Air Flow Rate	m³/min	185	240	240	240	240	250
		L/s	3,083	4,000	4,000	4,000	4,000	4,167
		cfm	6,532	8,474	8,474	8,474	8,474	8,828
	Control, Driving Mechanism		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	0.46 x 2
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	7.0	7.9				10.2
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740					1,858 (1,798 without legs) x 1,240 x 740
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 5.2kg					R410A x 8.0 kg
Net Weight		kg	229	231				273 (602)
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
Pipe Between Unit and Distributor	High Pressure	mm (in.)	19.05 (3/4) Brazed					
	Low Pressure	mm (in.)	22.2 (7/8) Brazed					28.58 (1-1/8) Brazed
Optional Parts			Outdoor Twinning Kit: CMY-R100VBK4 Joint: CMY-Y102SS-G2,CMY-Y102LS-G2,CMY-R160-J1 Main BC Controller: CMB-P108,1012,1016V-JA,CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-P YSNW-A(-BS)

Model			PURY-P700YSNW-A (-BS)	PURY-P750YSNW-A(-BS)	PURY-P800YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	80.0	85.0	90.0
		BTU/h	273,000	290,000	307,100
	Power Input	kW	22.47	24.56	26.62
	Current Input	A	37.9-36.0-34.7	41.4-39.5-37.9	44.9-42.6-41.1
	EER	kW/kW	3.56	3.46	3.38
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	88.0	95.0	100.0
		BTU/h	300,300	324,100	341,200
	Power Input	kW	23.21	26.09	28.73
	Current Input	A	39.1-37.2-35.8	44.0-41.8-40.3	48.5-46.0-44.4
	COP	kW/kW	3.79	3.64	3.48
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/2~50		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	65.5 / 67.0	67.0 / 70.5	68.0 / 72.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	84.0 / 86.0	85.5 / 89.5	86.0 / 91.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	28.58 (1-1/8) Brazed		
	Low Pressure	mm (in.)	34.93 (3-8/8) Brazed		

Set Model								
Model			PURY-P350YNW-A (-BS)	PURY-P350YNW-A (-BS)	PURY-P350YNW-A (-BS)	PURY-P400YNW-A (-BS)	PURY-P400YNW-A (-BS)	PURY-P400YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m³/min	250			315		
		L/s	4,167			5,250		
		cfm	8,828			11,123		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.46 x 2					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	10.2			10.9		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 8.0kg					
Net Weight		kg	273					
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
Pipe Between Unit and Distributor	High Pressure	mm (in.)	19.05 (3/4) Brazed			22.2 (7/8) Brazed		
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed					
Optional Parts			Outdoor Twinning Kit: CMY-R200VBK4 Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-P YSNW-A(-BS)

Model			PURY-P850YSNW-A (-BS)	PURY-P900YSNW-A(-BS)	PURY-P950YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	96.0	101.0	108.0
		BTU/h	327.600	344,600	368,500
	Power Input	kW	29.80	31.07	33.23
	Current Input	A	48.9-46.5-44.8	52.4-49.8-48.0	56.0-53.2-51.3
	EER	kW/kW	3.31	3.25	3.25
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	108.0	113.0	119.5
		BTU/h	368,500	385,600	407,700
	Power Input	kW	31.85	34.24	33.85
	Current Input	A	53.7-51.0-49.2	57.8-54.9-52.9	57.1-54.2-52.3
	COP	kW/kW	3.39	3.30	3.53
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/2~50		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	68.5 / 72.5	68.5 / 73.0	68.0 / 71.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	86.0 / 91.5	86.0 / 92.0	85.5 / 90.5
Refrigerant Piping Diameter	High Pressure	mm (in.)	28.58 (1-1/8) Brazed		
	Low Pressure	mm (in.)	41.28 (1-5/8) Brazed		

Set Model								
Model			PURY-P400YNW-A (-BS)	PURY-P450YNW-A (-BS)	PURY-P450YNW-A (-BS)	PURY-P450YNW-A (-BS)	PURY-P450YNW-A (-BS)	PURY-P500YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m³/min	315					295
		L/s	5,250					4,917
		cfm	11,123					10,416
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.46 x 2					0.92 x 2
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	10.9	12.4				13.0
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 8.0kg					
Net Weight		kg	273	293				337
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
Pipe Between Unit and Distributor	High Pressure	mm (in.)	22.2 (7/8) Brazed					
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed					
Optional Parts			Outdoor Twinning Kit: CMY-R200VBK4 Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

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SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-P YSNW-A(-BS)

Model			PURY-P1000YSNW-A (-BS)	PURY-P1050YSNW-A(-BS)	PURY-P1100YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	113.0	118.0	124.0
		BTU/h	385,600	402,600	423,100
	Power Input	kW	33.73	29.20	32.54
	Current Input	A	56.9-54.0-52.1	49.2-46.8-45.1	54.9-52.1-50.2
	EER	kW/kW	3.35	4.04	3.81
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	127.0	132.0	140.0
		BTU/h	433,300	450,400	177,700
	Power Input	kW	33.77	34.10	37.52
	Current Input	A	57.0-54.1-52.2	57.5-54.6-52.7	63.3-60.1-57.9
	COP	kW/kW	3.76	3.87	3.73
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/2~50	P15~P250/3~50	P15~P250/3~50
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	66.5 / 67.5	68.0 / 73.0	69.0 / 73.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	85.0 / 87.0	86.0 / 92.0	86.5 / 92.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	28.58 (1-1/8) Brazed	34.93 (1-3/8) Brazed	34.93 (1-3/8) Brazed
	Low Pressure	mm (in.)	41.28 (1-5/8) Brazed		

Set Model								
Model			PURY-P500YNW-A (-BS)	PURY-P500YNW-A (-BS)	PURY-P500YNW-A (-BS)	PURY-P550YNW-A (-BS)	PURY-P550YNW-A (-BS)	PURY-P550YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m³/min	295			410		
		L/s	4,917			6,833		
		cfm	10,416			14,477		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 2					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	13.0			14.3		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,750 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 10.8kg					
Net Weight		kg	337					
Heat Exchanger			Salt-Resistant Cross Fin and Copper Tube*6					
Pipe Between Unit and Distributor	High Pressure	mm (in.)	22.2 (7/8) Brazed					
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed					
Optional Parts			Outdoor Twinning Kit: CMY-R200VBK4 Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-EP YNW-A(-BS) / HIGH EFFICIENCY

Model			PURY-EP200YNW-A (-BS)	PURY-EP250YNW-A(-BS)	PURY-EP300YNW-A (-BS)	PURY-EP350YNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz			
Cooling Capacity (Nominal)*1		kW	22.4	28.0	33.5	40.0
		BTU/h	76,400	95,500	114,300	136,500
	Power Input	kW	5.38	7.0	8.98	10.49
	Current Input	A	9.0-8.6-8.3	11.8-11.2-10.8	15.1-14.4-13.8	17.7-16.8-16.2
	EER	kW/kW	4.16	4.0	3.73	3.81
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C			
	Outdoor	D.B.	-5.0~52.0°C			
Heating Capacity (Max)*2		kW	25.0	31.5	37.5	45.0
		BTU/h	85,300	107,500	128,000	153,500
	Power Input	kW	5.88	7.59	9.94	11.59
	Current Input	A	9.9-9.4-9.0	12.8-12.1-11.7	16.7-15.9-15.3	19.5-18.7-17.9
	COP	kW/kW	4.25	5.26	3.77	3.88
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C			
	Outdoor	W.B.	-20.0~15.5°C			
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity			
	Model/Quantity		P15~P250/1~20	P15~P250/1~25	P15~P250/1~30	P15~P250/1~35
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	59.0 / 59.0	60.5 / 61.0	61.0 / 67.0	62.5 / 64.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	76.0 / 78.0	78.5 / 80.0	80.0 / 86.5	81.0 / 83.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	15.88 (5/8) Brazed	19.05 (3/4) Brazed		
	Low Pressure	mm (in.)	19.05 (3/4) Brazed	22.2 (7/8) Brazed		28.58 (1-1/8) Brazed
FAN *4	Type x Quantity		Propeller Fan x 1			Propeller Fan x 2
	Air Flow Rate	m^3/min	170	185	240	250
		L/s	2,833	3,083	4,000	4,167
		cfm	6,003	6,532	8,474	8,828
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor			
	Motor Output	kW	0.92 x 1			0.46 x 2
	External Static Pressure		0 Pa (0 mmH_2O)			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	5.6	7.0	7.9	10.2
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>			
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740			
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection			
Refrigerant	Type x Original Charge		R10A x 5.2kg			R10A x 8.0kg
Net Weight		kg	234		236	279
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6			
Optional Parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 BC Controller: CMB-P104, 106, 108,1012, 1016V-J Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB			

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

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SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-EP YNW-A(-BS) / HIGH EFFICIENCY

Model			PURY-EP400YNW-A (-BS)	PURY-EP450YNW-A(-BS)	PURY-EP500YNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	45.0	50.0	56.0
		BTU/h	153,500	170,600	191,100
	Power Input	kW	12.52	13.55	16.09
	Current Input	A	21.6-20.5-19.8	22.8-21.7-20.9	27.1-25.8-24.8
	EER	kW/kW	3.51	3.69	3.48
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	50.0	56.0	63.0
		BTU/h	170,600	191,100	215,000
	Power Input	kW	13.26	15.86	15.14
	Current Input	A	22.3-21.2-20.4	26.7-25.4-24.5	25.5-24.2-23.4
	COP	kW/kW	3.77	3.53	4.16
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/1~40	P15~P250/1~45	P15~P250/1~50
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	65.0 / 69.0	65.5 / 70.0	63.5 / 64.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	83.0 / 88.0	83.0 / 89.0	82.0 / 84.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed		
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		
FAN *4	Type x Quantity		Propeller Fan x 2		
	Air Flow Rate	m³/min	315		295
		L/s	5,250		4,917
		cfm	11,123		10,416
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor		
	Motor Output	kW	0.46 x 2		0.92 x 2
	External Static Pressure		0 Pa (0 mmH_2O)		
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	10.9	12.4	13.0
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>		
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740		1,858 (1,798 without legs) x 1,750 x 740
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)		
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection		
Refrigerant	Type x Original Charge		R410A x 8.0kg	R410A x 10.8kg	
Net Weight		kg	282	306	345
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6		
Optional Parts			Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB		

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-EP YNW-A(-BS) / HIGH EFFICIENCY

Model			PURY-EP400YSNW-A (-BS)	PURY-EP450YSNW-A(-BS)	PURY-EP500YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	45.0	50.0	56.0
		BTU/h	153,500	170,600	191,100
	Power Input	kW	11.13	12.62	14.43
	Current Input	A	18.7-17.8-17.2	21.3-20.2-19.5	24.8-23.1-22.3
	EER	kW/kW	4.04	3.96	3.88
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	50.0	56.0	63.0
		BTU/h	170,600	191,100	215,000
	Power Input	kW	12.13	13.75	15.63
	Current Input	A	20.4-19.4-18.7	23.2-22.0-21.2	26.3-25.0-24.1
	COP	kW/kW	4.12	4.07	4.03
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/1~40	P15~P250/1~45	P15~P250/1~50
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	62.0 / 62.0	63.0 / 63.5	63.5 / 64.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	79.0 / 81.0	80.5 / 82.5	81.5 / 83.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed		
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		

Set Model								
Model			PURY-EP200YNW-A (-BS)	PURY-EP200YNW-A (-BS)	PURY-EP200YNW-A (-BS)	PURY-EP250YNW-A (-BS)	PURY-EP250YNW-A (-BS)	PURY-EP250YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 1					
	Air Flow Rate	m^3/min	170			185		
		L/s	2,833			3,083		
		cfm	6,003			6,532		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 1					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	5.6			7.0		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 5.2kg					
Net Weight		kg	234					
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6					
Pipe Between Unit and Distributor	High Pressure	mm (in.)	15.88 (5/8) Brazed			19.05 (3/4) Brazed		
	Low Pressure	mm (in.)	19.05 (3/4) Brazed			22.2 (7/8) Brazed		
Optional Parts			Outdoor Twinning Kit: CMY-R100VBK4 Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

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SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PURY-EP550YSNW-A (-BS)	PURY-EP600YSNW-A(-BS)	PURY-EP650YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	63.0	69.0	73.0
		BTU/h	215,000	235,400	249,100
	Power Input	kW	16.80	19.06	19.94
	Current Input	A	28.3-26.9-25.9	32.1-30.5-29.4	33.6-31.9-30.8
	EER	kW/kW	3.75	3.62	3.66
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	69.0	76.5	81.5
		BTU/h	235,400	261,00	278,100
	Power Input	kW	17.96	20.90	21.96
	Current Input	A	30.3-28.8-27.7	35.2-33.5-32.3	37.0-35.2-33.9
	COP	kW/kW	3.84	3.66	3.71
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/2~50		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	64.0 / 68.0	64.0 / 89.5	83.5 / 88.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	82.5 /87.5	83.0 / 89.5	83.5 / 88.5
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed (for the part that exceeds 65m)		28.58 (1-1/8) Brazed
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		

Set Model								
Model			PURY-EP250YNW-A(-BS)	PURY-EP300YNW-A(-BS)	PURY-EP300YNW-A(-BS)	PURY-EP300YNW-A(-BS)	PURY-EP300YNW-A(-BS)	PURY-EP350YNW-A(-BS)
FAN *4	Type x Quantity		Propeller Fan x 1					Propeller Fan x 2
	Air Flow Rate	m³/min	185	240				250
		L/s	3,083	4,000				4,167
		cfm	6,532	8,474				8,828
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 1					0.46 x 2
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	7.0	7.9				10.2
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 920 x 740					1,858 (1,798 without legs) x 1,240 x 740
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 5.2kg					R410A x 8.0kg
Net Weight		kg	234	236				279
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6					
Pipe Between Unit and Distributor	High Pressure	mm (in.)	19.05 (3/4) Brazed					
	Low Pressure	mm (in.)	22.2 (7/8) Brazed					28.58 (1-1/8) Brazed
Optional Parts			Outdoor Twinning Kit: CMY-R100VBK4 Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PURY-EP700YSNW-A (-BS)	PURY-EP750YSNW-A(-BS)	PURY-EP800YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	80.0	85.0	90.0
		BTU/h	273,000	290,000	307,100
	Power Input	kW	21.62	23.94	26.47
	Current Input	A	36.4-34.6-33.4	40.4-38.3-37.0	44.6-42.4-40.9
	EER	kW/kW	3.70	3.55	3.40
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	88.0	95.0	100.0
		BTU/h	300,300	324,100	341,200
	Power Input	kW	23.4	25.60	27.32
	Current Input	A	39.5-37.5-36.1	43.2-41.0-39.5	46.1-43.4-42.2
	COP	kW/kW	3.76	3.71	3.66
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/2~50		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	65.5 / 67.0	67.0 / 70.5	68.0 / 72.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	84.0 / 86.0	85.5 / 89.5	86.0 / 91.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	28.58 (1-1/8) Brazed		
	Low Pressure	mm (in.)	34.93 (1-3/8) Brazed		

Set Model

Model			PURY-EP350YNW-A (-BS)	PURY-EP350YNW-A (-BS)	PURY-EP350YNW-A (-BS)	PURY-EP400YNW-A (-BS)	PURY-EP400YNW-A (-BS)	PURY-EP400YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m^3/min	250			315		
		L/s	4,167			5,250		
		cfm	8,828			11,123		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.46 x 2					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	10.2			10.9		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 8.0kg					
Net Weight		kg	279			282		
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6					
Pipe Between Unit and Distributor	High Pressure	mm (in.)	19.05 (3/4) Brazed			22.2 (7/8) Brazed		
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed					
Optional Parts			Outdoor Twinning Kit: CMY-R200VBK4 Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PURY-EP850YSNW-A (-BS)	PURY-EP900YSNW-A(-BS)	PURY-EP950YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	96.0	10.1.0	108.0
		BTU/h	327.600	344,600	368,500
	Power Input	kW	27.50	28.21	30.16
	Current Input	A	46.4-44.1-42.5	47.6-45.2-43.6	50.9-48.3-46.6
	EER	kW/kW	3.49	3.58	3.58
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	108.0	113.0	119.5
		BTU/h	368,500	385,600	407,700
	Power Input	kW	30.50	33.04	32.03
	Current Input	A	51.4-48.9-47.5	55.7-52.9-51.0	54.0-51.3-49.5
	COP	kW/kW	3.54	3.42	3.75
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/2~50		
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	68.5 / 72.5	68.5 / 73.0	68.0 / 71.5
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	86.0 / 91.5	86.0 / 92.0	85.5 / 90.5
Refrigerant Piping Diameter	High Pressure	mm (in.)	28.58 (1-1/8) Brazed		
	Low Pressure	mm (in.)	41.28 (1-5/8) Brazed		

Set Model								
Model			PURY-EP400YNW-A(-BS)	PURY-EP450YNW-A(-BS)	PURY-EP450YNW-A(-BS)	PURY-EP450YNW-A(-BS)	PURY-EP450YNW-A(-BS)	PURY-EP500YNW-A(-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m^3/min	315					295
		L/s	5,250					4,917
		cfm	11,123					10,416
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.46 x 2					0.92 x 2
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	10.9	12.4				13.0
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,240 x 740					1,858 (1,798 without legs) x 1,750 x 740
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 8.0kg	R410A x 10.8kg				
Net Weight		kg	282	306				345
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6					
Pipe Between Unit and Distributor	High Pressure	mm (in.)	22.2 (7/8) Brazed					
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed					
Optional Parts			Outdoor Twinning Kit: CMY-R200VBK4 Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1012, 1016V-JA, CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-EP YSNW-A(-BS) / HIGH EFFICIENCY

Model			PURY-EP1000YSNW-A (-BS)	PURY-EP1050YSNW-A(-BS)	PURY-EP1100YSNW-A (-BS)
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	113.0	118.0	124.0
		BTU/h	385,600	402,600	423,100
	Power Input	kW	33.43	29.13	32.46
	Current Input	A	56.4-53.6-51.6	49.1-46.7-45.0	54.7-52.0-50.1
	EER	kW/kW	3.38	4.05	3.82
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0 °C		
	Outdoor	D.B.	-5.0~52.0 °C		
Heating Capacity (Max)*2		kW	127.0	132.0	140.0
		BTU/h	433,300	450,400	177,700
	Power Input	kW	31.43	32.58	36.83
	Current Input	A	53.0-50.4-48.5	55.0-52.2-50.3	62.1-59.0-56.9
	COP	kW/kW	4.04	4.05	3.08
Temp. Range of Heating	Indoor	D.B.	15.0~27.0 °C		
	Outdoor	W.B.	-20.0~15.5 °C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity		
	Model/Quantity		P15~P250/2~50	P15~P250/3~50	P15~P250/3~50
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	66.5 / 67.5	68.0 / 73.0	69.0 / 73.0
Sound Pressure Level (Measured in Anechoic Room)*3		dB <A>	85.0 / 87.0	86.0 / 92.0	86.5 / 92.0
Refrigerant Piping Diameter	High Pressure	mm (in.)	28.58 (1-1/8) Brazed	34.93 (1-3/8) Brazed	
	Low Pressure	mm (in.)	41.28 (1-5/8) Brazed		

Set Model								
Model			PURY-EP500YNW-A (-BS)	PURY-EP500YNW-A (-BS)	PURY-EP500YNW-A (-BS)	PURY-EP550YNW-A (-BS)	PURY-EP550YNW-A (-BS)	PURY-EP550YNW-A (-BS)
FAN *4	Type x Quantity		Propeller Fan x 2					
	Air Flow Rate	m^3/min	295			410		
		L/s	4,917			6,833		
		cfm	10,416			14,477		
	Control, Driving Mechanism		Inverter-Control, Direct-Driven by Motor					
	Motor Output	kW	0.92 x 2					
	External Static Pressure		0 Pa (0 mmH_2O)					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	13.0			14.3		
External Finish			Pre-Coated Galvanised Steel Sheets (+ Powder Coating for -BS Type) <MUNSELL 5Y 8/1 or Similar>					
External Dimensions HxWxD		mm	1,858 (1,798 without legs) x 1,750 x 740					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP./FAN)		Over-Heat Protection, Over-Current Protection					
Refrigerant	Type x Original Charge		R410A x 10.8kg					
Net Weight		kg	345					
Heat Exchanger			Salt-Resistant Cross Fin and Aluminium Tube*6					
Pipe Between Unit and Distributor	High Pressure	mm (in.)	22.2 (7/8) Brazed					
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed					
Optional Parts			Outdoor Twinning Kit: CMY-R200VBK4 Joint: CMY-Y102SS-G2, CMY-Y102LS-G2, CMY-R160-J1 Main BC Controller: CMB-P1016V-KA Sub-BC Controller: CMB-P104V-KB					

Notes:

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

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*3 Cooling mode/heating mode.
*4 External Static Pressure option is available (30Pa, 60Pa, 80Pa / 3.1mmH_2O, 6.1mmH_2O, 8.2mmH_2O).
Consult your dealer about the specification when setting External Static Pressure option.
* Due to continuing improvement, above specification may be subject to change without notice.

CONTAINS FLUORINATED GREENHOUSE GASES

OUTDOOR UNIT - Y Series Heat Pump

PUHY-P•Y(S)NW-A(-BS)

Model	Refrigerant		Factory Charged		Maximum Additional Charge		Total Charge	
	Type	GWP	Weight [kg]	CO_2 Equivalent [t]*	Weight [kg]	CO_2 Equivalent [t]*	Weight [kg]	CO_2 Equivalent [t]*
PUHY-P200YNW-A (-BS)	R410A	2088	6.5	13.57	15.9	33.20	22.4	46.77
PUHY-P250YNW-A (-BS)			6.5	13.57	22.9	47.82	29.4	61.39
PUHY-P300YNW-A (-BS)			6.5	13.57	23.4	48.86	29.9	61.43
PUHY-P350YNW-A (-BS)			9.8	20.46	24.4	50.95	34.2	71.41
PUHY-P400YNW-A (-BS)			9.8	20.46	24.9	51.99	34.7	72.45
PUHY-P450YNW-A (-BS)			10.8	22.55	33.1	69.11	43.9	91.66
PUHY-P500YNW-A (-BS)			10.8	22.55	34.0	70.99	44.8	93.54
PUHY-P400YSNW-A (-BS)			13.0	27.14	32.0	66.82	45.0	93.96
PUHY-P450YSNW-A (-BS)			13.0	27.14	32.0	66.83	45.0	93.96
PUHY-P500YSNW-A (-BS)			13.0	27.14	32.9	68.70	45.9	95.84
PUHY-P550YSNW-A (-BS)			13.0	27.14	34.7	72.45	47.7	99.60
PUHY-P600YSNW-A (-BS)			13.0	27.14	34.7	72.45	47.7	99.60
PUHY-P650YSNW-A (-BS)			16.3	34.03	35.7	74.54	52.0	108.58
PUHY-P700YSNW-A (-BS)			19.6	40.92	45.7	95.42	65.3	136.35
PUHY-P750YSNW-A (-BS)			19.6	40.92	45.7	95.42	65.3	136.35
PUHY-P800YSNW-A (-BS)			20.6	43.01	46.0	96.05	66.6	139.06
PUHY-P850YSNW-A (-BS)			20.6	43.01	47.8	99.81	68.4	145.82
PUHY-P900YSNW-A (-BS)			21.6	45.10	48.2	100.64	69.8	145.74
PUHY-P950YSNW-A (-BS)			23.8	49.69	47.1	98.34	70.9	148.04
PUHY-P1000YSNW-A (-BS)			26.1	54.50	46.8	97.72	72.9	152.22
PUHY-P1050YSNW-A (-BS)			26.1	54.50	46.8	97.72	72.9	152.22
PUHY-P1100YSNW-A (-BS)			29.4	61.39	47.0	98.14	76.4	159.52
PUHY-P1150YSNW-A (-BS)			29.4	61.39	47.0	98.14	76.4	159.52
PUHY-P1200YSNW-A (-BS)			29.4	61.39	47.0	98.14	76.4	159.52
PUHY-P1250YSNW-A (-BS)			30.4	63.48	49.1	102.52	79.5	166.00
PUHY-P1300YSNW-A (-BS)			31.4	65.56	49.5	103.36	80.9	168.92
PUHY-P1350YSNW-A (-BS)			32.4	67.65	49.8	103.98	82.2	171.63

PUHY-EP•Y(S)NW-A(-BS)

Model	Refrigerant		Factory Charged		Maximum Additional Charge		Total Charge	
	Type	GWP	Weight [kg]	CO_2 Equivalent [t]*	Weight [kg]	CO_2 Equivalent [t]*	Weight [kg]	CO_2 Equivalent [t]*
PUHY-EP200YNW-A (-BS)	R410A	2088	6.5	13.57	15.9	33.20	22.4	46.77
PUHY-EP250YNW-A (-BS)			6.5	13.57	22.9	47.82	29.4	61.39
PUHY-EP300YNW-A (-BS)			6.5	13.57	23.4	48.86	29.9	62.43
PUHY-EP350YNW-A (-BS)			9.8	20.46	24.4	50.95	34.2	71.41
PUHY-EP400YNW-A (-BS)			10.8	22.55	25.2	52.62	36.0	75.17
PUHY-EP450YNW-A (-BS)			10.8	22.55	33.1	69.11	43.9	91.66
PUHY-EP500YNW-A (-BS)			10.8	22.55	34.0	70.99	44.8	93.54
PUHY-EP550YSNW-A (-BS)			13.0	27.14	34.7	72.45	47.7	99.60
PUHY-EP600YSNW-A (-BS)			13.0	27.14	34.7	72.45	47.7	99.60
PUHY-EP650YSNW-A (-BS)			17.3	36.12	36.0	75.17	53.3	111.29
PUHY-EP700YSNW-A (-BS)			19.6	40.92	45.7	95.42	65.3	136.35
PUHY-EP750YSNW-A (-BS)			20.6	43.01	46.0	96.05	66.6	139.06
PUHY-EP800YSNW-A (-BS)			20.6	43.01	46.0	96.05	66.6	139.06
PUHY-EP850YSNW-A (-BS)			21.6	45.10	48.2	100.64	69.8	145.74
PUHY-EP900YSNW-A (-BS)			21.6	45.10	48.2	100.64	69.8	145.74
PUHY-EP950YSNW-A (-BS)			23.8	49.69	47.1	98.34	70.9	148.04
PUHY-EP1000YSNW-A (-BS)			27.1	56.58	47.2	98.55	74.3	155.14
PUHY-EP1050YSNW-A (-BS)			28.1	58.67	47.5	99.18	75.6	157.85
PUHY-EP1100YSNW-A (-BS)			30.4	63.48	47.3	98.76	77.7	162.24
PUHY-EP1150YSNW-A (-BS)			31.4	65.56	47.7	99.60	79.1	165.16
PUHY-EP1200YSNW-A (-BS)			32.4	67.65	48.0	100.22	80.4	167.88
PUHY-EP1250YSNW-A (-BS)			32.4	67.65	49.8	103.98	82.2	171.63
PUHY-EP1300YSNW-A (-BS)			32.4	67.65	49.8	103.98	82.2	171.63
PUHY-EP1350YSNW-A (-BS)			32.4	67.65	49.8	103.98	82.2	171.63

OUTDOOR UNIT - R2 Series Heat Recovery

PURY-P•Y(S)NW-A(-BS) / CONTAINS FLUORINATED GREENHOUSES GASES

Model	Refrigerant		Factory Charged		Maximum Additional Charge		Total Charge	
	Type	GWP	Weight [kg]	CO_2 Equivalent [t]*	Weight [kg]	CO_2 Equivalent [t]*	Weight [kg]	CO_2 Equivalent [t]*
PURY-P200YNW-A (-BS)	R410A	2088	5.2	10.86	31.8	66.40	37.0	77.26
PURY-P250YNW-A (-BS)			5.2	10.86	37.8	78.93	43.0	89.78
PURY-P300YNW-A (-BS)			5.2	10.86	37.8	78.93	43.0	89.78
PURY-P350YNW-A (-BS)			8.0	16.70	41.3	86.23	43.9	102.94
PURY-P400YNW-A (-BS)			8.0	16.70	47.3	98.76	55.3	115.47
PURY-P450YNW-A (-BS)			10.8	22.55	44.5	92.92	56.0	116.93
PURY-P500YNW-A (-BS)			10.8	22.55	45.2	94.38	56.0	116.93
PURY-P550YNW-A (-BS)			10.8	22.55	45.2	94.38	56.0	116.93
PURY-P400YSNW-A (-BS)			10.4	21.72	60.6	126.53	71.0	148.25
PURY-P450YSNW-A (-BS)			10.4	21.72	60.6	126.53	71.0	148.25
PURY-P500YSNW-A (-BS)			10.4	21.72	60.6	126.53	71.0	148.25
PURY-P550YSNW-A (-BS)			10.4	21.72	60.6	126.53	71.0	148.25
PURY-P600YSNW-A (-BS)			10.4	21.72	60.6	126.53	71.0	148.25
PURY-P650YSNW-A (-BS)			13.2	27.56	65.6	136.97	78.8	164.53
PURY-P700YSNW-A (-BS)			16.0	33.41	79.6	166.20	95.6	199.61
PURY-P750YSNW-A (-BS)			16.0	33.41	79.6	173.30	95.6	206.71
PURY-P800YSNW-A (-BS)			16.0	33.41	83.0	173.30	99.0	206.71
PURY-P850YSNW-A (-BS)			18.8	39.25	80.2	167.46	99.0	206.71
PURY-P900YSNW-A (-BS)			21.6	45.10	77.4	161.61	99.0	206.71
PURY-P950YSNW-A (-BS)			21.6	45.10	77.4	161.61	99.0	206.71
PURY-P1000YSNW-A (-BS)			21.6	45.10	77.4	161.61	99.0	206.71
PURY-P1050YSNW-A (-BS)			21.6	45.10	77.4	161.61	99.0	206.71
PURY-P1100YSNW-A (-BS)			21.6	45.10	77.4	161.61	99.0	206.71

PURY-EP•Y(S)NW-A(-BS) / CONTAINS FLUORINATED GREENHOUSES GASES

Model	Refrigerant		Factory Charged		Maximum Additional Charge		Total Charge	
	Type	GWP	Weight [kg]	CO_2 Equivalent [t]*	Weight [kg]	CO_2 Equivalent [t]*	Weight [kg]	CO_2 Equivalent [t]*
PURY-EP200YNW-A (-BS)	R410A	2088	5.2	10.86	28.3	59.09	33.5	69.95
PURY-EP250YNW-A (-BS)			5.2	10.86	34.3	71.62	39.5	82.48
PURY-EP300YNW-A (-BS)			5.2	10.86	34.3	71.62	39.5	82.48
PURY-EP350YNW-A (-BS)			8.0	16.70	39.0	81.43	47.0	98.14
PURY-EP400YNW-A (-BS)			8.0	16.70	39.0	81.43	47.0	98.14
PURY-EP450YNW-A (-BS)			10.8	22.55	44.7	93.33	55.5	115.88
PURY-EP500YNW-A (-BS)			10.8	22.55	45.2	94.38	56.0	115.88
PURY-EP550YNW-A (-BS)			10.8	22.55	45.2	94.38	56.0	116.93
PURY-EP400YSNW-A (-BS)			10.4	21.72	53.6	111.92	64.0	116.93
PURY-EP450YSNW-A (-BS)			10.4	21.72	53.6	111.92	64.0	133.63
PURY-EP500YSNW-A (-BS)			10.4	21.72	53.6	111.92	64.0	133.63
PURY-EP550YSNW-A (-BS)			10.4	21.72	53.6	111.92	64.0	133.63
PURYE-P600YSNW-A (-BS)			10.4	21.72	53.6	111.92	64.0	133.63
PURY-EP650YSNW-A (-BS)			13.2	27.56	59.8	124.86	73.0	152.42
PURY-EP700YSNW-A (-BS)			16.0	33.41	78.0	162.86	94.0	196.27
PURY-EP750YSNW-A (-BS)			16.0	33.41	80.5	168.08	95.6	201.49
PURY-EP800YSNW-A (-BS)			16.0	33.41	83.0	173.30	99.0	206.71
PURY-EP850YSNW-A (-BS)			18.8	39.25	80.2	167.46	99.0	206.71
PURY-EP900YSNW-A (-BS)			21.6	45.10	77.4	161.61	99.0	206.71
PURY-EP950YSNW-A (-BS)			21.6	45.10	77.4	161.61	99.0	206.71
PURY-EP1000YSNW-A (-BS)			21.6	45.10	77.4	161.61	99.0	206.71
PURY-EP1050YSNW-A (-BS)			21.6	45.10	77.4	161.61	99.0	206.71
PURY-EP1100YSNW-A (-BS)			21.6	45.10	77.4	161.61	99.0	206.71

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

Water Cooled City Multi Benefits

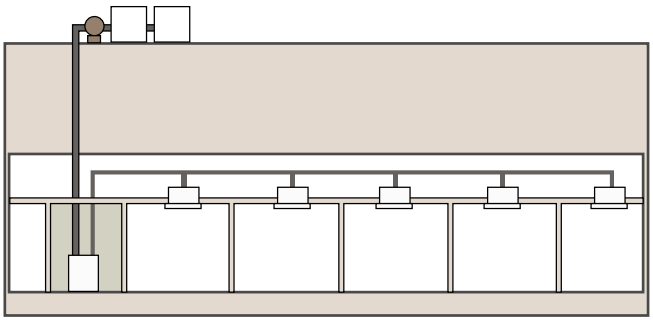
Water Cooled systems can be used in buildings that are taller than 50m by running a main water pipe through each floor. Any heat source system that can supply heat source water between 10˚C - 45˚C can be used.

Simultaneous heating and cooling operation is available (WR2 Series).

It is suggested that Water Cooled systems are used in buildings that have the following heating and cooling needs:

- Buildings that require all year cooling. For example tenant buildings in which kitchens and offices exist together and buildings in which equipment rooms and office exist together.
- Buildings in which there are large room temperature differences between sunny and shaded rooms.
- Hotels with a lot of individual operation needs.

Water Cooled systems are ideally suited for use in temperate and colder climates since heat exchange with the outside air is not required.

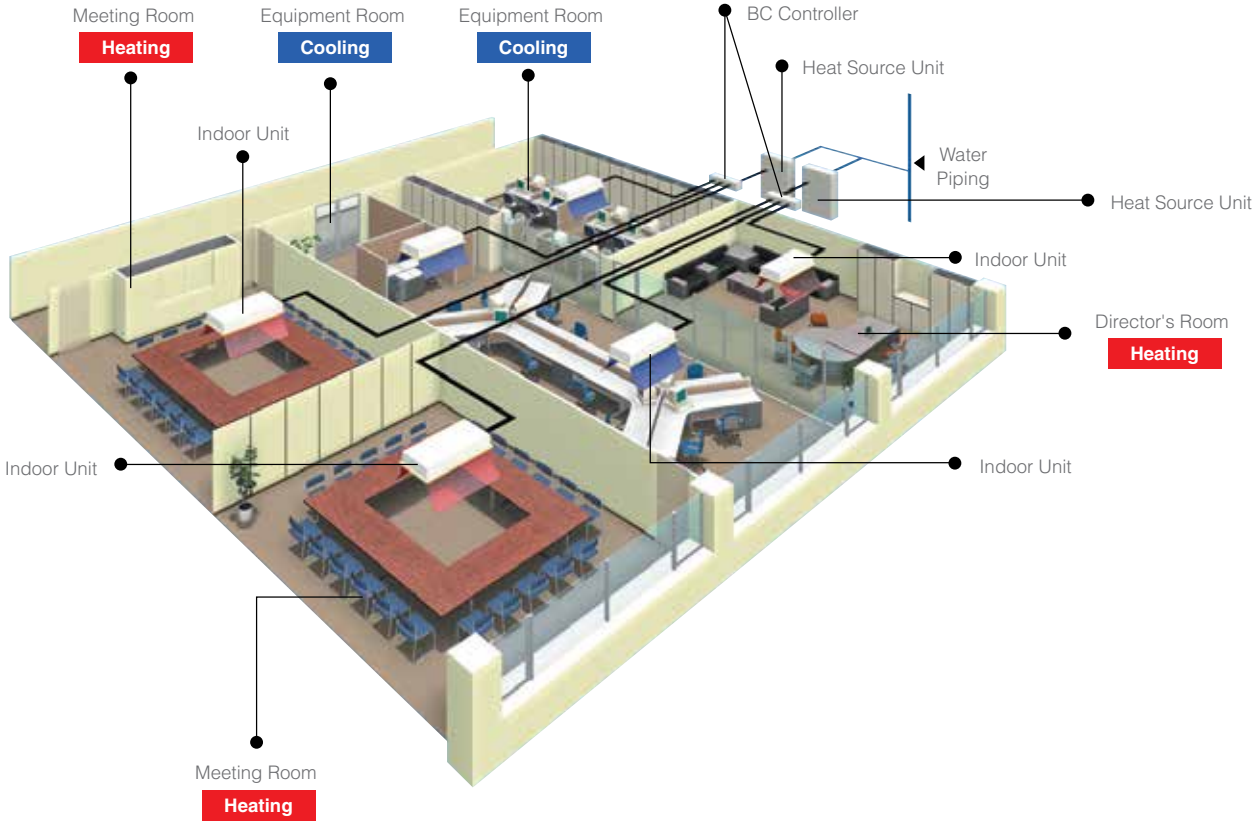


Energy Saving Technology

WHAT IS WATER COOLED?

A unique offering from Mitsubishi Electric

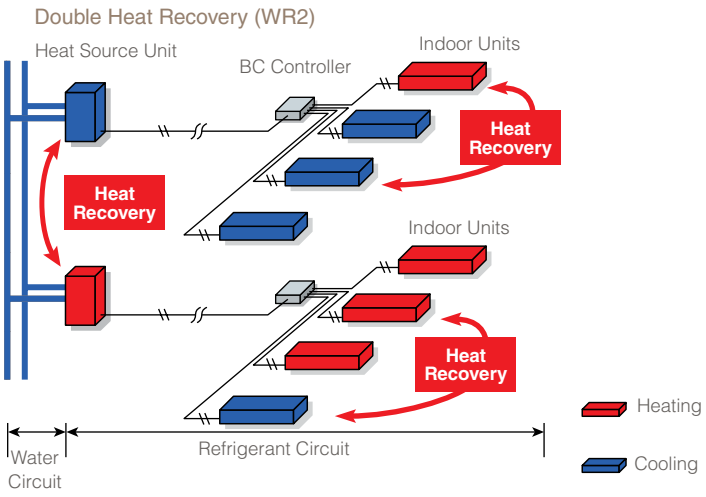
It is now possible to combine the features of VRF with a water circuit using CITY MULTI WR2/WY. In this case, the heat is rejected to a water source rather than to the outside air. The advantages of Water Cooled systems are that the water can be delivered at optimised temperatures and volumes, allowing even greater flexibility and increased COP.



WR2 (Heat Recovery Type)

Mitsubishi Electric now offers double heat recovery operation.

- The first heat recovery is within the refrigerant system. Simultaneous cooling and heating operation is available with heat recovery performed between indoor units.
- The second heat recovery is within the water loop, where heat recovery is performed between the PQRY units. This double heat recovery operation substantially improves energy efficiency and makes the system the ideal solution to the requirements of modern office buildings, where some areas require cooling even in winter.



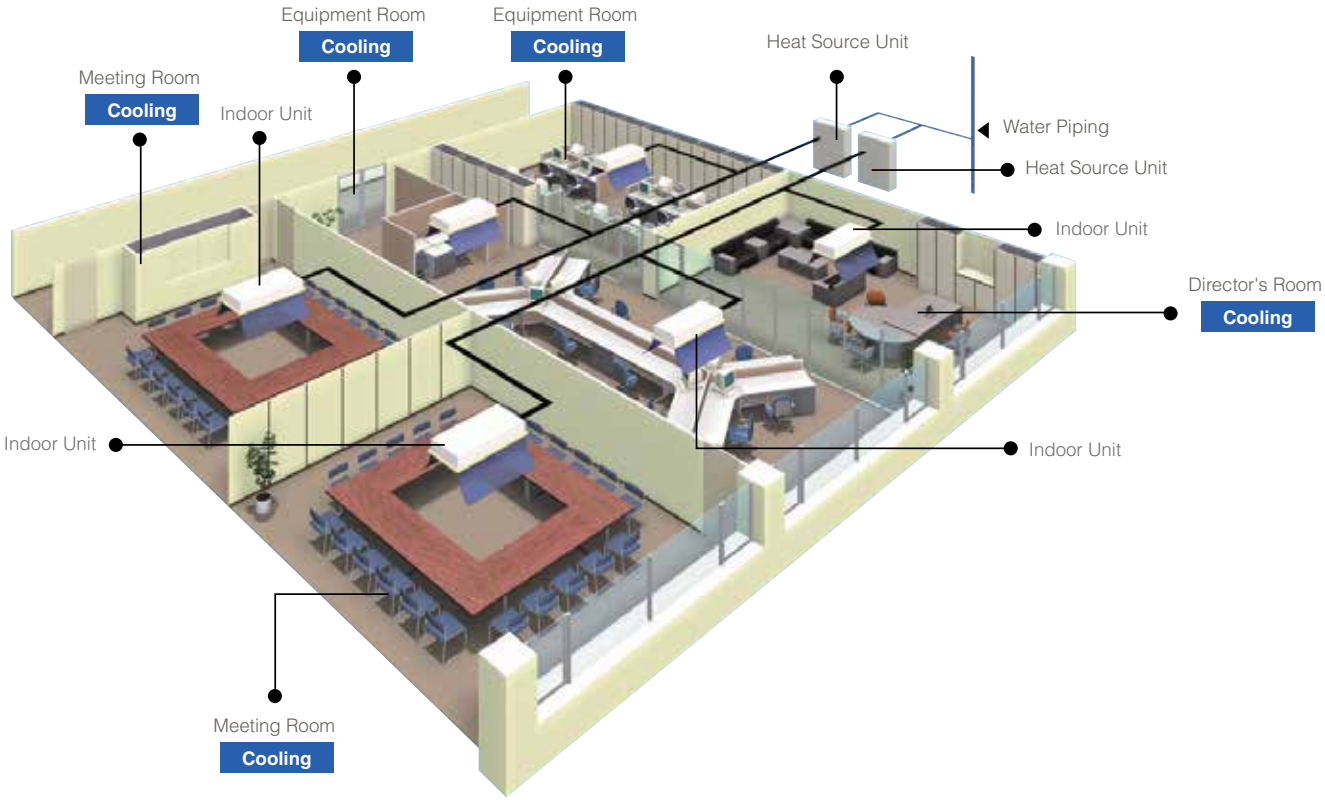
Water Cooled Series

COOLING OR HEATING

Water energy source system allows switching between cooling and heating

The WY-Series has all the benefits of the Y-Series using water source condensing units. Condensing units can be situated indoors, allowing greater design flexibility and almost no limitation on building size. Depending on capacity, up to 15 to 50 indoor units can be connected to a single condensing unit with individualised and centralised control. The indoor can operate in either cooling or heating mode.

Installation image WY Series



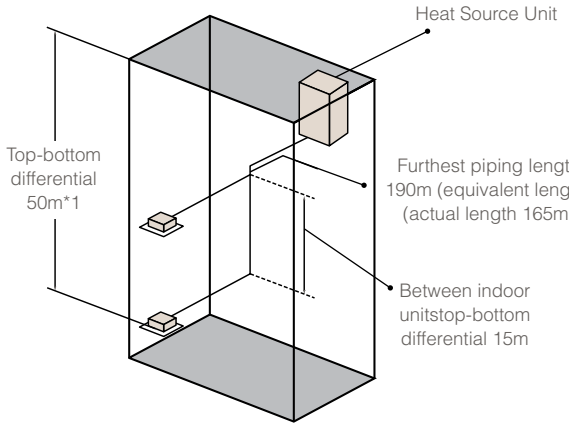
SYSTEM PIPE LENGTHS

P200-P900 WY Series

Refrigerant Piping Lengths	Maximum Units
Total Length	300-500
Maximum Allowable Length	165 (190 equivalent)
Farthest Indoor from First Branch	40*2

Vertical Variations Between Units	Maximum Units
Indoor/Heat Source (Heat Source Higher)	50
Indoor/Heat Source (Heat Source Lower)	40
Indoor/Indoor	15

All values in metres



*1 When the heat source unit is installed below the indoor unit, top-bottom differential is 40m.

*2 90m is available. When the piping length exceeds 40m, use on size larger liquid pipe starting with the section of piping where 40m is exceeded and all piping after that point.

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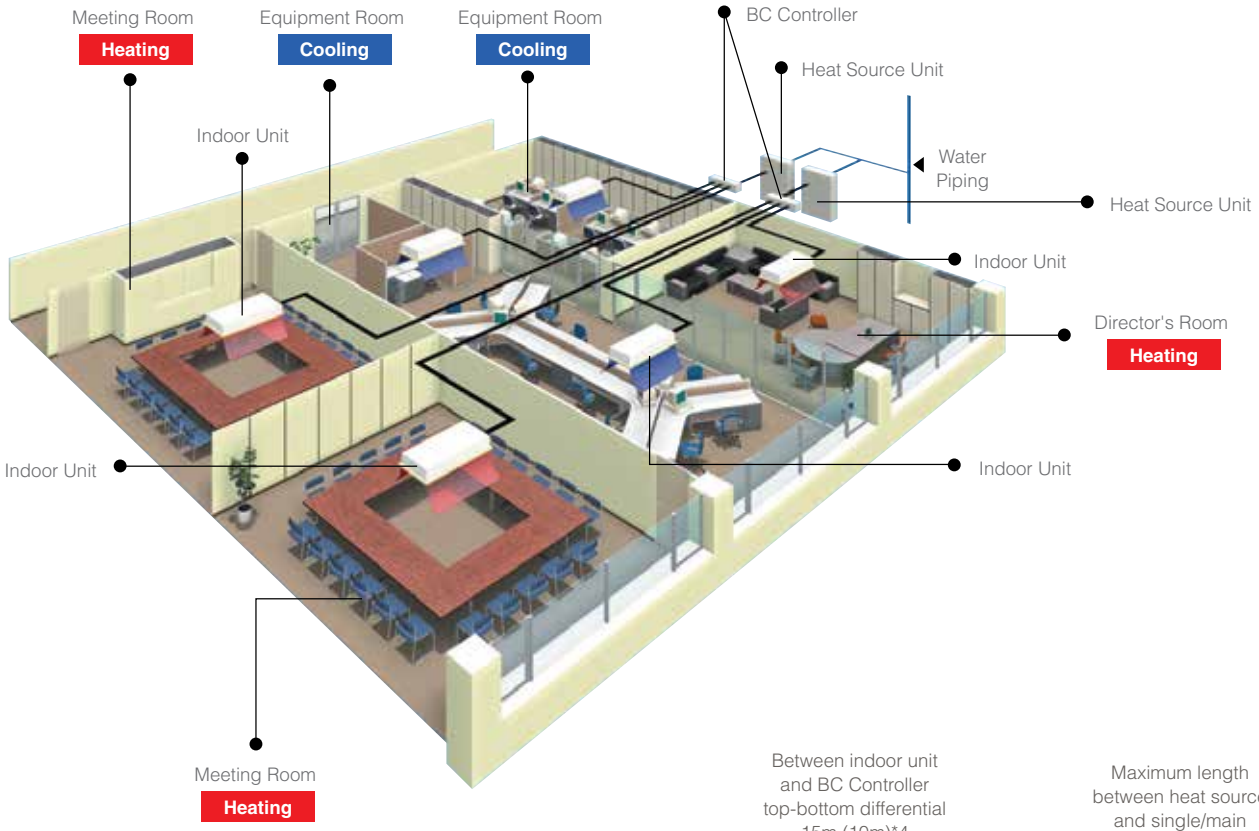
روبروی پالایشگاه نفت پارس، پلاک ۱۲

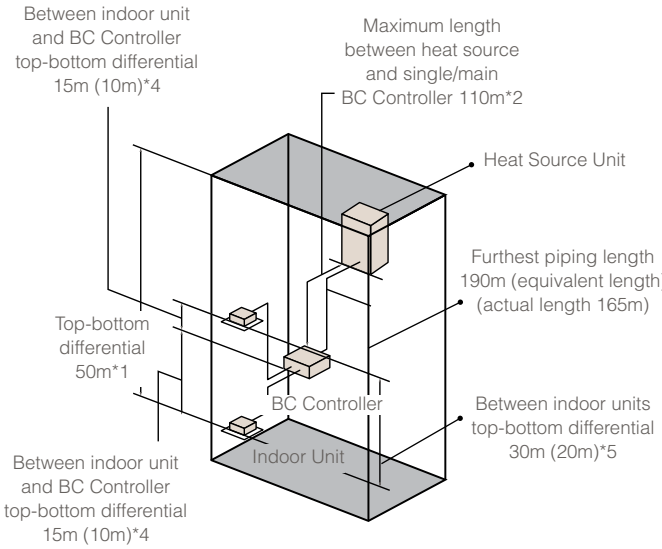
WR2 HEAT RECOVERY SERIES

Advanced water heat source unit enjoying the benefits of WR2 Series

The CITY MULTI WR2 series provides all of the advantages of the R2 series with the added benefits of a water heat source system, making it suitable for a broader range of applications in high rises, frigid climates and coastal areas. Not only does it produce heat recovery from the indoor units on the same 2-pipe refrigerant circuit, but it also produces heat recovery via the water circuit between heat source units, making it a more efficient system.

Installation image WR2 Series





SYSTEM PIPE LENGTHS

P200-P900 WR2 Series

Refrigerant Piping Lengths	Maximum Units
Total Length	550-750
Maximum Allowable Length	165 (190 equivalent)
Maximum Length Between Heat Source and Single/Main BC Controller	110*2
*Maximum total length is dependent upon the distance between the outdoor unit and the single/main BC Controller	
Maximum Length Between Single/Main BC Controller and Indoor	40*3
Vertical Variations Between Units	**Maximum Units**
Indoor/Heat Source (Heat Source Higher)	50
Indoor/Heat Source (Heat Source Lower)	40
Indoor/BC Controller (Single/Main)	15*4
Indoor/Indoor	30*5
Main BC Controller/Sub BC Controller	15*6

All values in metres

*1 When the heat source unit is installed below the indoor unit, top-bottom differential is 40m.

*2 Details refer to the Data Book.

*3 Farthest Indoor from BC Controller can exceed 40m till 60m if no Indoor sized P200, P250 connected. Details refer to the Data Book.

*4 Distance of Indoor sized P200, P250 from BC must be less than 10m, if any.

*5 Distance of Indoor sized P200, P250 from Indoor unit must be less than 20m if any.

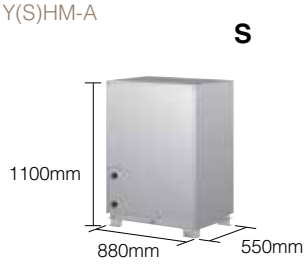
*6 Distance between BC (Main) and BC (Sub) must be less than 10m, if two BC (Sub) are installed or Indoor sized P200 and/or P250 is connected.

YLM Series

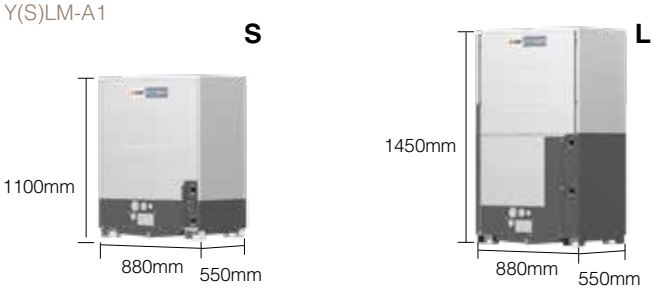
WIDE CAPACITY RANGE AVAILABLE, SINGLE MODULE CAPABLE OF UP TO P600 AND COMBINATION MODULE UP TO P900

Single or combination module units are available to meet various installation conditions and capacity requirements.

Y(S)HM-A



Y(S)LM-A1



WY Series

Single module units available up to P600

		P200	P250	P300	P350	P400	P450	P500	P550	P600	P650	P700	P750	P800	P850	P900
PQHY-P YLM-A1	Single	S	S	S	L	L	L	L	L	L						
PQHY-P YHM-A	Single	S	S	S												
PQHY-P YSLM-A1	Combination					S+S	S+S	S+S	S+S	S+S		L+L	L+L	L+L	L+L	L+L
PQHY-P YSHM-A	Combination					S+S	S+S	S+S	S+S	S+S	S+S	S+S	S+S	S+S	S+S	S+S

WR2 Series

Single module units available up to P600

Single module units available up to P600

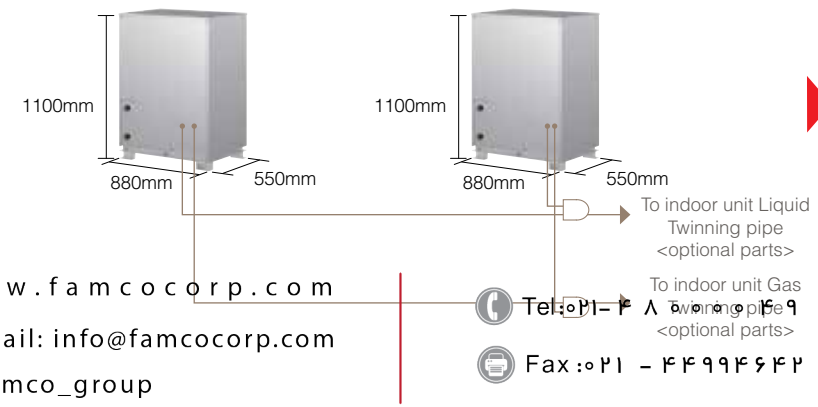
		P200	P250	P300	P350	P400	P450	P500	P550	P600	P650	P700	P750	P800	P850	P900
PQRY-P YLM-A1	Single	S	S	S	L	L	L	L	L	L						
PQRY-P YHM-A	Single	S	S	S												
PQRY-P YSLM-A1	Combination					S+S	S+S	S+S	S+S	S+S		L+L	L+L	L+L	L+L	L+L
PQRY-P YSHM-A	Combination					S+S	S+S	S+S	S+S	S+S						

BENEFIT OF SINGLE MODULE WIDE CAPACITY RANGE

Less piping work

» Capable of covering up to P600 (69kW) with a single module.

P400YHSM (WY/WR2 Series)



P400YLM (WY-WR2 Series)

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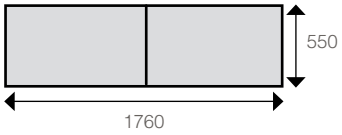
Less footprint

» Less footprint by the enhancement of the lineup of single-module units.

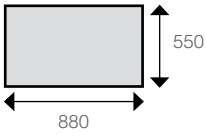
PQHY-P YSHM-A

P400 - P600



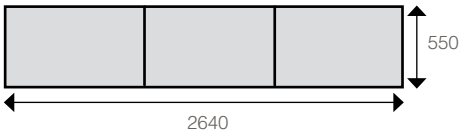
PQHY-P Y(S)LM-A1

P200 - P600

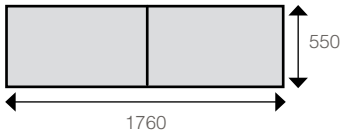


Approx 50% Reduction

EP400-P450



P400 - P900 *P650 is excluded.

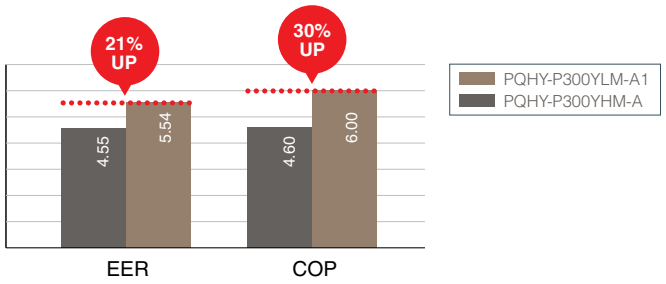


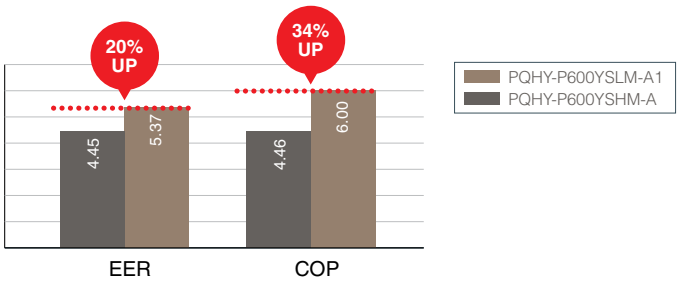
Approx 33% Reduction

All values in mm

HIGH ENERGY EFFICIENCY

High EER and COP as compared to the conventional models





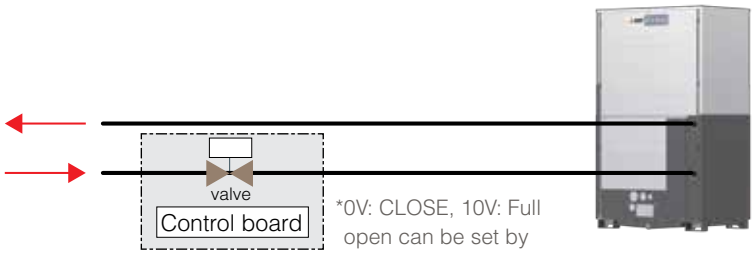
WATER FLOW RATE CONTROL

Improve system energy consumption by reducing the water pump consumption by changing water flow volume during partial load.

» Control of water flow rate
Control output voltage (0-10V) for adjustment of valve operating [0V: Full open,10V: close]
Voltage at 0 volt: Even when power down, water will continue to circulate.

» Site control panel for pump interlock is not required.*

*Details refer to the DATA BOOK.



*0V: CLOSE, 10V: Full open can be set by changing the settings of dip switch.

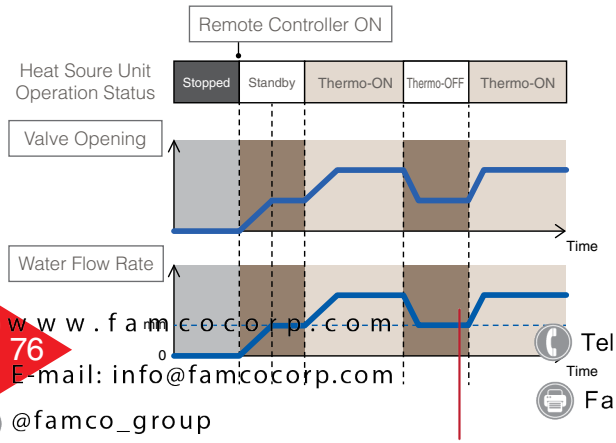
Valve and control board: field supply

POWER SAVE SETTING (PQHY-P Y(S)LM-A1, PQRY-P Y(S)LM-A1)

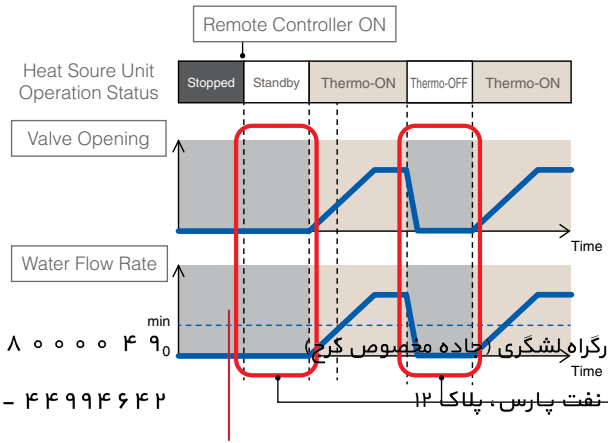
On the previous models (A type), the pump was operated at a constant flow rate during standby and Thermo-OFF.

On the A1 type models, the water control valve is closed during standby and Thermo-OFF to reduce the circulating water flow rate achieving the reduction in power consumption of the pump.

Standard



Power-save settings for the pump



The valve closes and stops the water flow during standby and Thermo-OFF to reduce the energy consumption of the pump.

OPTIONAL PARTS

OUTDOOR UNITS

For PQHY Series

Description	Model	Applicable capacity
Branch Pipe (Joint)	CMY-Y102SS-G2	200 or below (Total capacity of indoor unit)
	CMY-Y102LS-G2	201-400 (Total capacity of indoor unit)
	CMY-Y202S-G2	401-650 (Total capacity of indoor unit)
		The first branch of P450-P650
	CMY-Y302S-G2	651 or above (Total capacity of indoor unit)
Branch Pipe (Header)	CMY-Y104-G	For 4 branches
	CMY-Y108-G	For 8 branches
	CMY-Y1010-G	For 10 branches
Twinning Kit	CMY-Y100VBK3	For PQHY-P400-P600YSLM-A1
	CMY-Y200VBK2	For PQHY-P650-P900YSLM-A1

Description		Model	Applicable capacity
Branch Pipe (Joint)		CMY-Y102SS-G2	200 or below (Total capacity of indoor unit)
		CMY-Y102LS-G2	201-400 (Total capacity of indoor unit)
Twinning Kit		CMY-Q100CBK2	For PQRY-P400~P600YSLM-A1
		CMY-Q200CBK	For PQRY-P700~P900YSLM-A1
For BC Controller	2-Branch Joint Pipe	CMY-Y102SS-G2	200 or below (Total capacity of indoor unit)
		CMY-Y102LS-G2	201-400 (Total capacity of indoor unit)
	Joint and Reducer	CMY-R201S-G	350 or below (Total capacity of indoor unit)
		CMY-R202S-G	351-300 (Total capacity of indoor unit)
		CMY-R203S-G	601-650 (Total capacity of indoor unit)
		CMY-R204S-G	651-1000 (Total capacity of indoor unit)
		CMY-R205S-G	1001 or above (Total capacity of indoor unit)
		CMY-R101S-G	For P200-P650 Heat Source Unit
		CMY-R102S-G	For P700-P1100 Heat Source Unit
	Reducer	CMY-R301S-G	For CMB-P104, 106, 108, 1012, 1016V-J (When the heat source unit capacity is P200 to P300)
		CMY-R302S-G	For CMB-P104,106,108,1012,1016V-JA (When the heat source unit capacity is P200 to P900)
		CMY-R303S-G	For CMB-P108,1012,1016V-JA and for use with sub BC controller
		CMY-R304S-G	For CMB-P1016V-KA (When the heat source unit capcity is P200 to P1000)
		CMY-R305S-G	For CMB-P1016V-KA and for use with sub BC controller
		CMY-R306S-G	For CMB-P104, 108V-KB
	Branch Pipe (Header)	CMY-R160-J1	Joint for connecting to two nozzles

SPECIFICATIONS

HEAT SOURCE UNIT - WY Series

PQHY-P YLM-A (HEAT PUMP)

Model			PQHY-P200YLM-A	PQHY-P250YLM-A	PQHY-P300YLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	22.4	28.0	33.5
		kcal/h	20,000	25,000	30,000
		BTU/h	76,400	95,500	114,300
	Power Input	kW	3.71	4.90	6.04
	Current Input	A	6.2-5.9-5.7	8.2-7.8-7.5	10.1-9.6-9.3
	EER	kW/kW	6.03	5.71	5.54
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Calculating Water	C°	10.0~45.0°C		
Heating Capacity (Nominal)*2		kW	25.0	31.5	37.5
		kcal/h	21,500	27,100	32,300
		BTU/h	85,300	107,500	128,000
	Power Input	kW	3.97	5.08	6.25
	Current Input	A	6.7-6.3-6.1	8.5-8.1-7.8	10.5-10.0-9.6
	COP	kW/kW	6.29	6.20	6.00
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Calculating Water	C°	10.0~45.0°C		
Indoor Unit Connectable	Total Capacity		50~130% of Heat Source Unit Capacity		
	Model/Quantity		P15~P250/1~17	P15~P250/1~21	P15~P250/1~26
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	46	48	54
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	9.52 (3/8) Brazed	9.52 (3/8) Brazed (12.7 (1/2) Brazed, Farthest Length >=90m)	9.52 (3/8) Brazed (12.7 (1/2) Brazed, Farthest Length >=40m)
	Gas Pipe	mm (in.)	19.05 (3/4) Brazed	22.2 (7/8) Brazed	
Circulating Water	Water Flow Rate	m^3/h	5.76		
		L/min	96		
		cfm	3.4		
	Pressure Drop	kPa	24		
	Operating Volume Range	kW	3.0~7.2		
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	4.8	6.2	7.7
External Finish			Galvanised Steel Sheets		
External Dimensions HxWxD		mm	1,100 x 880 x 550		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)		
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection		
	Compressor		Over-Heat Protection		
Refrigerant	Type x Original Charge		R410A x 5.0kg		
Net Weight		kg	174		
Heat Exchanger			Plate Type		
	Water Volume in Plate	L	5.0		
	Water Pressure Max.	MPa	2.0		
Optional Parts			Joint: CMY-Y102SS/LS-G2 Header: CMY-Y104,108,1010-G		

Notes:

*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

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SPECIFICATIONS

HEAT SOURCE UNIT - WY Series

PQHY-P YLM-A (HEAT PUMP)

Model			PQHY-P350YLM-A	PQHY-P400YLM-A	PQHY-P450YLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	40.0	45.0	50.0
		kcal/h	35,000	40,000	45,000
		BTU/h	136,500	153,500	170,600
	Power Input	kW	7.14	8.03	9.29
	Current Input	A	12.0-11.4-11.0	13.5-12.8-12.4	15.6-14.8-14.3
	EER	kW/kW	5.60		5.38
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Calculating Water	C°	10.0~45.0°C		
Heating Capacity (Nominal)*2		kW	45.0	50.0	56.0
		kcal/h	40,000	45,000	50,000
		BTU/h	153,500	170,600	191,100
	Power Input	kW	7.53	8.37	9.79
	Current Input	A	12.7-12.0-11.6	14.1-13.4-12.9	16.5-15.7-15.1
	COP	kW/kW	5.97		5.72
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Calculating Water	C°	10.0~45.0°C		
Indoor Unit Connectable	Total Capacity		50~130% of Heat Source Unit Capacity		
	Model/Quantity		P15~P250/1~30	P15~P250/1~34	P15~P250/1~39
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	52		54
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		
Circulating Water	Water Flow Rate	m^3/h	7.20		
		L/min	120		
		cfm	4.4		
	Pressure Drop	kPa	44		
	Operating Volume Range	kW	4.5~11.6		
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	9.5	10.7	11.6
External Finish			Galvanised Steel Sheets		
External Dimensions HxWxD		mm	1,450 x 880 x 550		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)		
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection		
	Compressor		Over-Heat Protection		
Refrigerant	Type x Original Charge		R410A x 6.0kg		
Net Weight		kg	217		
Heat Exchanger			Plate Type		
	Water Volume in Plate	L	5.0		
	Water Pressure Max.	MPa	2.0		
Optional Parts			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°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

HEAT SOURCE UNIT - WY Series

PQHY-P YLM-A (HEAT PUMP)

Model			PQHY-P500YLM-A	PQHY-P550YLM-A	PQHY-P600YLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	56.0	63.0	69.0
		kcal/h	50,000	55,000	60,000
		BTU/h	191,100	215,000	235,400
	Power Input	kW	11.17	12.54	14.49
	Current Input	A	18.8-17.9-17.2	21.1-20.1-19.3	24.4-23.2-22.3
	EER	kW/kW	5.01	5.02	4.76
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Calculating Water	C°	10.0~45.0°C		
Heating Capacity (Nominal)*2		kW	63.0	69.0	76.5
		kcal/h	55,000	60,000	65,800
		BTU/h	215,000	235,400	261,000
	Power Input	kW	11.43	12.27	14.51
	Current Input	A	19.2-18.3-17.6	20.7-19.5-18.9	24.4-23.2-22.3
	COP	kW/kW	5.51	5.62	5.27
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Calculating Water	C°	10.0~45.0°C		
Indoor Unit Connectable	Total Capacity		50~130% of Heat Source Unit Capacity		
	Model/Quantity		P15~P250/1~43	P15~P250/2~47	P15~P250/2~50
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	54	56.5	
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed		
	Gas Pipe	mm (in.)	28.58 (1-1/8) Brazed		
Circulating Water	Water Flow Rate	m^3/h	7.20	11.52	
		L/min	120	192	
		cfm	4.2	6.8	
	Pressure Drop	kPa	44	45	
	Operating Volume Range	kW	4.5~11.6	6.0~14.4	
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	13.0	15.0	16.1
External Finish			Galvanised Steel Sheets		
External Dimensions HxWxD		mm	1,450 x 880 x 550		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)		
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection		
	Compressor		Over-Heat Protection		
Refrigerant	Type x Original Charge		R410A x 6.0kg	R410A x 7.11kg	
Net Weight		kg	217	246	
Heat Exchanger			Plate Type		
	Water Volume in Plate	L	5.0	10.0	
	Water Pressure Max.	MPa	2.0		
Optional Parts			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°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

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SPECIFICATIONS

HEAT SOURCE UNIT - WY Series

PQHY-P YSLM-A (HEAT PUMP)

Model			PQHY-P400YSLM-A	PQHY-P450YSLM-A	PQHY-P500YSLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	45.0	50.0	56.0
		kcal/h	40,000	45,000	50,000
		BTU/h	153,500	170,600	191,100
	Power Input	kW	7.70	8.78	10.12
	Current Input	A	12.9-12.3-11.9	14.8-14.0-13.5	17.0-16.2-15.6
	EER	kW/kW	5.84	5.69	5.53
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Calculating Water	C°	10.0~45.0°C		
Heating Capacity (Nominal)*2		kW	50.0	56.0	63.0
		kcal/h	45.000	50.000	55.000
		BTU/h	170.600	191.100	215.000
	Power Input	kW	7.94	8.97	10.16
	Current Input	A	13.4-12.7-12.2	15.1-14.3-13.8	17.1-16.2-15.7
	COP	kW/kW	6.29	6.24	6.20
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Calculating Water	C°	10.0~45.0°C		
Indoor Unit Connectable	Total Capacity		50~130% of Heat Source Unit Capacity		
	Model/Quantity		P15~P250/1~34	P15~P250/1~39	P15~P250/1~43
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	49	50	51
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed		
	Gas Pipe	mm (in.)	28.58 (1-1/8) Brazed		

Set Model								
Model			PQHY-P200YLM-A	PQHY-P250YLM-A	PQHY-250-YLM-A	PQHY-200YLM-A	PQHY-P250YLM-A	PQHY-P250YLM-A
Circulating Water	Water Flow Rate	m³/h	5.76 + 5.76					
		L/min	96 + 96					
		cfm	3.4 + 3.4					
	Pressure Drop	kPa	24					
	Operating Volume Range	kW	3.0 +3.0 - 7.2 + 7.2					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	4.8		6.2	4.8	6.2	
External Finish			Galvanised Steel Sheets					
External Dimensions HxWxD		mm	1,100 x 880 x 550					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)					
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection					
	Compressor		Over-Heat Protection					
Refrigerant	Type x Original Charge		R410A x 5.0kg					
Net Weight		kg	174					
Heat Exchanger			Plate Type					
	Water Volume in Plate	L	5.0					
	Water Pressure Max.	MPa	2.0					
Optional Parts			Heat Source Twinning Kit: CMY-Y100BVK3 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°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

HEAT SOURCE UNIT - WY Series

PQHY-P YSLM-A (HEAT PUMP)

Model			PQHY-P550YSLM-A	PQHY-P600YSLM-A	PQHY-P700YSLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	63.0	69.0	80.0
		kcal/h	55,000	60,000	68,800
		BTU/h	215,000	235,400	273,000
	Power Input	kW	11.55	12.84	14.73
	Current Input	A	19.4,-18.5-17.8	21.6-20.5-19.8	24.8-23.6-22.7
	EER	kW/kW	5.45	5.37	5.43
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Calculating Water	C°	10.0~45.0°C		
Heating Capacity (Nominal)*2		kW	69.0	76.5	88.0
		kcal/h	60,000	65,800	75,700
		BTU/h	235,400	261,000	300,300
	Power Input	kW	11.31	12.75	14.73
	Current Input	A	19.0-18.1-17.4	21.5-20.4-19.7	24.8-23.6-22.7
	COP	kW/kW	6.10	6.00	5.97
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Calculating Water	C°	10.0~45.0°C		
Indoor Unit Connectable	Total Capacity		50~130% of Heat Source Unit Capacity		
	Model/Quantity		P15~P250/2~47	P15~P250/2~50	P15~P250/2~50
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	55	57	55
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed		
	Gas Pipe	mm (in.)	28.58 (1-1/8) Brazed		

Set Model

Model			PQHY-P300YLM-A	PHY-P250YLM-A	PQHY-P300-YLM-A	PQHY-300YLM-A	PQHY-P350YLM-A	PQHY-P350YLM-A
Circulating Water	Water Flow Rate	m³/h	5.76 + 5.76				7.20 + 7.20	
		L/min	96 + 96				120 + 120	
		cfm	3.4 + 3.4				4.2 + 4.2	
	Pressure Drop	kPa	24				44	
	Operating Volume Range	kW	3.0 + 3.0 - 7.2 + 7.2				4.5 + 4.5 ~ 11.6 + 11.16	
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	7.7	6.2	7.7		9.5	
External Finish			Galvanised Steel Sheets					
External Dimensions HxWxD		mm	1,100 x 880 x 550				1,450 x 880 x 550	
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)					
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection					
	Compressor		Over-Heat Protection					
Refrigerant	Type x Original Charge		R410A x 5.0kg				R410A x 6.0kg	
Net Weight		kg	174				217	
Heat Exchanger			Plate Type					
	Water Volume in Plate	L	5.0					
	Water Pressure Max.	MPa	2.0					
Optional Parts			Heat Source Twinning Kit: CMY-Y100BVK3 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°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

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SPECIFICATIONS

HEAT SOURCE UNIT - WY Series

PQHY-P YSLM-A (HEAT PUMP)

Model			PQHY-P750YSLM-A	PQHY-P800YSLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	85.0	90.0
		kcal/h	73,100	77,440
		BTU/h	290,000	307,100
	Power Input	kW	15.64	16.57
	Current Input	A	26.4-25.0-24.1	27.9-26.5-25.6
	EER	kW/kW	5.43	
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Calculating Water	C°	10.0~45.0°C	
Heating Capacity (Nominal)*2		kW	95.0	100.0
		kcal/h	81,700	86,000
		BTU/h	324,100	341,200
	Power Input	kW	15.90	16.75
	Current Input	A	26.8-25.4-24.5	28.2-26.8-25.8
	COP	kW/kW	5.97	
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Calculating Water	C°	10.0~45.0°C	
Indoor Unit Connectable	Total Capacity		50~130% of Heat Source Unit Capacity	
	Model/Quantity		P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	55	
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed	
	Gas Pipe	mm (in.)	34.93 (1-3/8) Brazed	

Set Model						
Model			PQHY-P400YLM-A	PQHY-P350YLM-A	PQHY-P400-YLM-A	PQHY-400YLM-A
Circulating Water	Water Flow Rate	m^3/h	7.20 + 7.20			
		L/min	120 +120			
		cfm	4.2 + 4.2			
	Pressure Drop	kPa	44			
	Operating Volume Range	kW	4.5 + 4.5 ~ 11.6 + 11.6			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	10.7	9.5	10.7	
External Finish			Galvanised Steel Sheets			
External Dimensions HxWxD		mm	1,450 x 880 x 550			
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)			
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection			
	Compressor		Over-Heat Protection			
Refrigerant	Type x Original Charge		R410A x 6.0kg			
Net Weight		kg	217			
Heat Exchanger			Plate Type			
	Water Volume in Plate	L	5.0			
	Water Pressure Max.	MPa	2.0			
Optional Parts			Heat Source Twinning Kit: CMY-Y200VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202, 302S-G2 Header: CMY-Y104,108,1010-G			

Notes:

*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

HEAT SOURCE UNIT - WY Series

PQHY-P YSLM-A (HEAT PUMP)

Model			PQHY-P850YSLM-A	PQHY-P900YSLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	96.0	101.0
		kcal/h	82,600	86,900
		BTU/h	327,600	344,600
	Power Input	kW	18.03	19.38
	Current Input	A	30.4-28.9-27.8	32.7-31.0-29.9
	EER	kW/kW	5.32	5.21
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Calculating Water	C°	10.0~45.0°C	
Heating Capacity (Nominal)*2		kW	108.0	113.0
		kcal/h	92,900	97,200
		BTU/h	368,500	385,600
	Power Input	kW	18.49	19.74
	Current Input	A	31.2-29.6-28.5	33.3-31.6-30.5
	COP	kW/kW	5.84	5.72
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Calculating Water	C°	10.0~45.0°C	
Indoor Unit Connectable	Total Capacity		50~130% of Heat Source Unit Capacity	
	Model/Quantity		P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	56	57
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	19.05 (3/4) Brazed	
	Gas Pipe	mm (in.)	41.28 (1-5/8) Brazed	

Set Model

Model			PQHY-P450YLM-A	PQHY-P400YLM-A	PQHY-P450-YLM-A	PQHY-450YLM-A
Circulating Water	Water Flow Rate	m^3/h	7.20 + 7.20			
		L/min	120 +120			
		cfm	4.2 + 4.2			
	Pressure Drop	kPa	44			
	Operating Volume Range	kW	4.5 + 4.5 ~ 11.6 + 11.6			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	11.6	10.7	11.6	
External Finish			Galvanised Steel Sheets			
External Dimensions HxWxD		mm	1,450 x 880 x 550			
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)			
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection			
	Compressor		Over-Heat Protection			
Refrigerant	Type x Original Charge		R410A x 6.0kg			
Net Weight		kg	217			
Heat Exchanger			Plate Type			
	Water Volume in Plate	L	5.0			
	Water Pressure Max.	MPa	2.0			
Optional Parts			Heat Source Twinning Kit: CMY-Y200VBK3 Joint: CMY-Y102SS/LS-G2, CMY-Y202, 302S-G2 Header: CMY-Y104,108,1010-G			

Notes:

*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
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SPECIFICATIONS

HEAT SOURCE UNIT - WR2 Series

PQRY-P YLM-A (HEAT RECOVERY)

Model			PQRY-P200YLM-A	PQRY-P250YLM-A	PQRY-P300YLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	22.4	28.0	33.5
		kcal/h	20,000	25,000	30,000
		BTU/h	76,400	95,500	114,300
	Power Input	kW	3.71	4.90	6.04
	Current Input	A	6.2-5.9-5.7	8.2-7.8-7.5	10.1-9.6-9.3
	EER	kW/kW	6.03	5.71	5.54
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Calculating Water	C°	10.0~45.0°C		
Heating Capacity (Nominal)*2		kW	25.0	31.5	37.5
		kcal/h	21,500	27,100	32,300
		BTU/h	85,300	107,500	128,000
	Power Input	kW	3.97	5.08	6.25
	Current Input	A	6.7-6.3-6.1	8.5-8.1-7.8	10.5-10.0-9.6
	COP	kW/kW	6.29	6.20	6.00
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Calculating Water	C°	10.0~45.0°C		
Indoor Unit Connectable	Total Capacity		50~150% of Heat Source Unit Capacity		
	Model/Quantity		P15~P250/1~20	P15~P250/1~25	P15~P250/1~30
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	46	48	54
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	15.88 (5/8) Brazed	19.05 (3/4) Brazed	
	Gas Pipe	mm (in.)	19.05 (3/4) Brazed	22.2 (7/8) Brazed	
Circulating Water	Water Flow Rate	m³/h	5.76		
		L/min	96		
		cfm	3.4		
	Pressure Drop	kPa	24		
	Operating Volume Range	kW	3.0~7.2		
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	4.8	6.2	7.7
External Finish			Galvanised Steel Sheets		
External Dimensions HxWxD		mm	1,100 x 880 x 550		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)		
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection		
	Compressor		Over-Heat Protection		
Refrigerant	Type x Original Charge		R410A x 5.0kg		
Net Weight		kg	172		
Heat Exchanger			Plate Type		
	Water Volume in Plate	L	5.0		
	Water Pressure Max.	MPa	2.0		
Optional Parts			Joint: CMY-Y102SS/LS-G2, CMY-R160-J1 BC Controller: CMB-P104, 105, 106, 108, 1010, 1013, 1016-G1 Main BC Controller: CMB-P108, 1010, 1013, 1016V-GA1 Sub-BC Controller: CMB-P104, 108V-GB1, CMB-P1016V-HB1		

Notes:

*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

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SPECIFICATIONS

HEAT SOURCE UNIT - WR2 Series

PQRY-P YLM-A (HEAT RECOVERY)

Model			PQRY-P350YLM-A	PQRY-P400YLM-A	PQRY-P450YLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	40.0	45.0	50.0
		kcal/h	35,000	40,000	45,000
		BTU/h	136,500	153,500	170,600
	Power Input	kW	7.14	8.03	9.29
	Current Input	A	12.0-11.4-11.0	13.5-12.8-12.4	15.6-14.8-14.3
	EER	kW/kW	5.60		5.38
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Calculating Water	C°	10.0~45.0°C		
Heating Capacity (Nominal)*2		kW	45.0	50.0	56.0
		kcal/h	40,000	45,000	50,000
		BTU/h	153,500	170,600	191,100
	Power Input	kW	7.53	8.37	9.79
	Current Input	A	12.7-12.0-11.6	14.1-13.4-12.9	16.5-15.7-15.1
	COP	kW/kW	5.97		5.72
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Calculating Water	C°	10.0~45.0°C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity of Heat Source Unit Capacity		
	Model/Quantity		P15~P250/1~35	P15~P250/1~40	P15~P250/1~45
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	52		54
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	22.2 (7/8) Brazed		
	Gas Pipe	mm (in.)	28.58 (1-1/8) Brazed		
Circulating Water	Water Flow Rate	m³/h	7.20		
		L/min	120		
		cfm	4.2		
	Pressure Drop	kPa	44		
	Operating Volume Range	kW	4.5 ~ 11.6		
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	9.5	10.7	11.6
External Finish			Galvanised Steel Sheets		
External Dimensions HxWxD		mm	1,450 x 880 x 550		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)		
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection		
	Compressor		Over-Heat Protection		
Refrigerant	Type x Original Charge		R410A x 6.0kg		
Net Weight		kg	216		
Heat Exchanger			Plate Type		
	Water Volume in Plate	L	5.0		
	Water Pressure Max.	MPa	2.0		
Optional Parts			Joint: CMY-Y102SS/LS-G2, CMY-R160-J1 BC Controller: CMB-P104, 105, 106, 108, 1010, 1013, 1016V-G1 Main BC Controller: CMB-P108, 1010, 1013, 1016V-GA1 Sub-BC Controller: CMB-P104, 108V-GB1, CMB-P1016V-HB1	Joint: CMY-Y102SS/LS-G2, CMY-R160-J1 BC Controller: CMB-P108, 1010, 1013, 1016V-G1 Main BC Controller: CMB-P108, 1010, 1013, 1016V-GA1 Sub-BC Controller: CMB-P104, 108V-GB1, CMB-P1016V-HB1	

Notes:

*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

HEAT SOURCE UNIT - WR2 Series

PQRY-P YLM-A (HEAT RECOVERY)

Model			PQRY-P500YLM-A	PQRY-P550YLM-A	PQRY-P600YLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	56.0	63.0	69.0
		kcal/h	50,000	55,000	60,000
		BTU/h	191,100	215,000	235,400
	Power Input	kW	11.17	12.54	14.49
	Current Input	A	18.8-17.9-17.2	21.1-20.1-19.3	24.4-23.2-22.3
	EER	kW/kW	5.01	5.02	4.76
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Calculating Water	C°	10.0~45.0°C		
Heating Capacity (Nominal)*2		kW	63.0	69.0	76.5
		kcal/h	55,000	60,000	65,800
		BTU/h	215,000	235,400	261,000
	Power Input	kW	11.43	12.27	14.51
	Current Input	A	19.2-18.3-17.6	20.7-19.6-18.9	24.4-23.2-22.4
	COP	kW/kW	5.51	5.62	5.27
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Calculating Water	C°	10.0~45.0°C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity of Heat Source Unit Capacity		
	Model/Quantity		P15~P250/1~50	P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	54	56.5	
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed (28.58 (1-1/8) Brazed for the part that exceeds 65 m)	
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		
Circulating Water	Water Flow Rate	m^3/h	7.20	11.52	
		L/min	120	192	
		cfm	4.2	6.8	
	Pressure Drop	kPa	44	45	
	Operating Volume Range	kW	4.5 ~ 11.6	6.0 ~ 14.4	
Compressor	Type		Inverter Scroll Hermetic Compressor		
	Starting Method		Inverter		
	Motor Output	kW	13.0	15.0	16.1
External Finish			Galvanised Steel Sheets		
External Dimensions HxWxD		mm	1,450 x 880 x 550		
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)		
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection		
	Compressor		Over-Heat Protection		
Refrigerant	Type x Original Charge		R410A x 6.0kg	R410A x 11.7kg	
Net Weight		kg	216	246	
Heat Exchanger			Plate Type		
	Water Volume in Plate	L	5.0	10.0	
	Water Pressure Max.	MPa	2.0		
Optional Parts			Joint: CMY-Y102SS/LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1010, 1013, 1016V-GA1 Sub-BC Controller: CMB-P104, 108V-GB1, CMB-P1016V-HB1		

Notes:

*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

HEAT SOURCE UNIT - WR2 Series

PQRY-P YSLM-A (HEAT RECOVERY)

Model			PQRY-P400YSLM-A	PQRY-P450YSLM-A	PQRY-P500YSLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	45.0	50.0	56.0
		kcal/h	40,000	45,000	50,000
		BTU/h	153,500	170,600	191,100
	Power Input	kW	7.70	8.78	10.12
	Current Input	A	12.9-12.3-11.9	14.8-14.0-13.5	17.0-16.2-15.6
	EER	kW/kW	5.84	5.69	5.53
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Calculating Water	C°	10.0~45.0°C		
Heating Capacity (Nominal)*2		kW	50.0	56.0	63.0
		kcal/h	45,000	50,000	55,000
		BTU/h	170,600	191,100	215,000
	Power Input	kW	7.94	8.97	10.16
	Current Input	A	13.4-12.7-12.2	15.1-14.3-13.8	17.1-16.2-15.7
	COP	kW/kW	6.29	6.24	6.20
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Calculating Water	C°	10.0~45.0°C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity of Heat Source Unit Capacity		
	Model/Quantity		P15~P250/1~40	P15~P250/1~45	P15~P250/1~50
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	49	50	51
Refrigerant Piping Diameter	High Pressure	mm (in.)	22.2 (7/8) Brazed		
	Low Pressure	mm (in.)	28.58 (1-1/8) Brazed		

Set Model								
Model			PQHY-P200YLM-A	PQHY-P200YLM-A	PQHY-P250YLM-A	PQHY-P200YLM-A	PQHY-P250YLM-A	PQHY-P250YLM-A
Circulating Water	Water Flow Rate	m³/h	5.76 + 5.76					
		L/min	96 + 96					
		cfm	3.4 + 3.4					
	Pressure Drop	kPa	24					
	Operating Volume Range	kW	3.0 + 3.0 ~ 7.2 + 7.2					
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	4.8		6.2	4.8	6.2	
External Finish			Galvanised Steel Sheets					
External Dimensions HxWxD		mm	1,100 x 880 x 550					
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15MPa (601 psi)					
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection					
	Compressor		Over-Heat Protection					
Refrigerant	Type x Original Charge		R410A x 5.0 kg					
Net Weight		kg	172					
Heat Exchanger			Plate Type					
	Water Volume in Plate	L	5.0					
	Water Pressure Max.	MPa	2.0					
Optional Parts			Heat Source Twinning Kit: CMY-Q100CBK2 Joint: CMY-Y102SS/LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1010, 1013, 1016V-GA1 Sub-BC Controller: CMB-P104, 108V-GB1, CMB-P1016V-HB1					

Notes:

*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

HEAT SOURCE UNIT - R2 Series

PQRY-P YSLM-A (HEAT RECOVERY)

Model			PQRY-P550YSLM-A	PQRY-P600YSLM-A	PQRY-P700YSLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz		
Cooling Capacity (Nominal)*1		kW	63.0	69.0	80.0
		kcal/h	55,000	60,000	68,800
		BTU/h	215,000	235,400	273,000
	Power Input	kW	11.55	12.84	14.73
	Current Input	A	19.4-18.5-17.8	21.6-20.5-19.8	24.8-23.6-22.7
	EER	kW/kW	5.45	5.37	5.43
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C		
	Calculating Water	C°	10.0~45.0°C		
Heating Capacity (Nominal)*2		kW	69.0	76.5	88.0
		kcal/h	60,000	65,800	75,700
		BTU/h	235,400	261,000	300,300
	Power Input	kW	11.31	12.75	14.73
	Current Input	A	19.0-18.1-17.4	21.5-20.4-19.7	24.8-23.6-22.7
	COP	kW/kW	6.10	6.00	5.97
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C		
	Calculating Water	C°	10.0~45.0°C		
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity of Heat Source Unit Capacity		
	Model/Quantity		P15~P250/2~50		
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	55	57	55
Refrigerant Piping Diameter	High Pressure	mm	22.2 (7/8) Brazed (28.58 (1-1/8) Brazed for the part that exceeds 65 m)		28.58 (1-1/8) Brazed
	Low Pressure	mm	28.58 (1-1/8) Brazed	34.93 (1-3/8) Brazed	34.93 (1-3/8) Brazed

Set Model								
Model			PQRY-P300YLM-A	PQRY-P250YLM-A	PQRY-P300YLM-A	PQRY-P300YLM-A	PQRY-P350YLM-A	PQRY-P350YLM-A
Circulating Water	Water Flow Rate	m^3/h	5.76 + 5.76					
		L/min	96 + 96				120 + 120	
		cfm	3.4 + 3.4				4.2 + 4.2	
	Pressure Drop	kPa	24				44	
	Operating Volume Range	kW	3.0 + 3.0 ~ 7.2 + 7.2				4.5 + 4.5 ~ 11.6 + 11.6	
Compressor	Type		Inverter Scroll Hermetic Compressor					
	Starting Method		Inverter					
	Motor Output	kW	7.7	6.2	7.7		9.5	
External Finish			Galvanised Steel Sheets					
External Dimensions HxWxD		mm	1,100 x 880 x 550				1,450 x 880 x 550	
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)					
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection					
	Compressor		Over-Heat Protection					
Refrigerant	Type x Original Charge		R410A x 5.0 kg				R410A x 6.0 kg	
Net Weight		kg	172				216	
Heat Exchanger			Plate Type					
	Water Volume in Plate	L	5.0					
	Water Pressure Max.	MPa	2.0					
Optional Parts			Heat Source Twinning Kit: CMY-Q100CBK2 Joint: CMY-Y102SS/LS-G2, CMY-R160-J1 Main BC Controller: CMB-P108, 1010, 1013, 1016V-GA1 Sub-BC Controller: CMB-P104, 108V-GB1, CMB-P1016V-HB1					

Notes:

*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

HEAT SOURCE UNIT - WR2 Series

PQRY-P YSLM-A (HEAT RECOVERY)

Model			PQHY-P750YSLM-A	PQHY-P800YSLM
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	85.0	90.0
		kcal/h	73,100	77,400
		BTU/h	290,000	307,100
	Power Input	kW	15.64	16.57
	Current Input	A	26.4-25.0-24.1	27.9-26.5-25.6
	EER	kW/kW	5.43	
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Calculating Water	C°	10.0~45.0°C	
Heating Capacity (Nominal)*2		kW	95.0	100.0
		kcal/h	81,700	86,000
		BTU/h	324,100	341,200
	Power Input	kW	15.90	16.75
	Current Input	A	26.8-25.4-24.5	28.2-26.8-25.8
	COP	kW/kW	5.97	
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Calculating Water	C°	10.0~45.0°C	
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity of Heat Source Unit Capacity	
	Model/Quantity		P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	55	
Refrigerant Piping Diameter	High Pressure	mm	28.58 (1-1/8) Brazed	
	Low Pressure	mm	34.93 (1-3/8) Brazed	

Set Model						
Model			PQRY-P400YLM-A	PQRY-P350YLM-A	PQRY-P400YLM-A	PQRY-P400YLM-A
Circulating Water	Water Flow Rate	m³/h	7.20 + 7.20			
		L/min	120 + 120			
		cfm	4.2 + 4.2			
	Pressure Drop	kPa	44			
	Operating Volume Range	kW	4.5 + 4.5 ~ 11.6 + 11.6			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	10.7	9.5	10.7	
External Finish			Galvanised Steel Sheets			
External Dimensions HxWxD		mm	1,450 x 880 x 550			
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection			
	Compressor		Over-Heat Protection			
Refrigerant	Type x Original Charge		R410A x 6.0 kg			
Net Weight		kg	216			
Heat Exchanger			Plate Type			
	Water Volume in Plate	L	5.0			
	Water Pressure Max.	MPa	2.0			
Optional Parts			Heat Source Twinning Kit: CMY-Q200CBK Joint: CMY-Y102SS/LS-G2, CMY-R160-J1 Main BC Controller: CMB-P1016V-HA1 Sub-BC Controller: CMB-P104, 108V-GB1, CMB-P1016V-HB1			

Notes:

*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

SPECIFICATIONS

HEAT SOURCE UNIT - WR2 Series

PQRY-P YSLM-A (HEAT RECOVERY)

Model			PQRY-P850YSLM-A	PQRY-P900YSLM-A
Power Source			3-Phase 4-Wire 380-400-415 V 50/60 Hz	
Cooling Capacity (Nominal)*1		kW	96.0	101.0
		kcal/h	82,600	86,900
		BTU/h	327,600	344,600
	Power Input	kW	18.03	19.38
	Current Input	A	30.4-28.9-27.8	32.7-31.0-29.9
	EER	kW/kW	5.32	5.21
Temp. Range of Cooling	Indoor	W.B.	15.0~24.0°C	
	Calculating Water	C°	10.0~45.0°C	
Heating Capacity (Nominal)*2		kW	108.0	113.0
		kcal/h	92,900	97,200
		BTU/h	368,500	385,600
	Power Input	kW	18.49	19.74
	Current Input	A	31.2-29.6-28.5	33.3-31.6-30.5
	COP	kW/kW	5.84	5.72
Temp. Range of Heating	Indoor	D.B.	15.0~27.0°C	
	Calculating Water	C°	10.0~45.0°C	
Indoor Unit Connectable	Total Capacity		50~150% of Outdoor Unit Capacity of Heat Source Unit Capacity	
	Model/Quantity		P15~P250/2~50	
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	56	57
Refrigerant Piping Diameter	High Pressure	mm (in.)	28.58 (1-1/8) Brazed	
	Low Pressure	mm (in.)	41.28 (1-5/8) Brazed	

Set Model						
Model			PQRY-P450YLM-A	PQRY-P400YLM-A	PQRY-P450YLM-A	PQRY-P450YLM-A
Circulating Water	Water Flow Rate	m^3/h	7.20 + 7.20			
		L/min	120 + 120			
		cfm	4.2 + 4.2			
	Pressure Drop	kPa	44			
	Operating Volume Range	kW	4.5 + 4.5 ~ 11.6 + 11.6			
Compressor	Type		Inverter Scroll Hermetic Compressor			
	Starting Method		Inverter			
	Motor Output	kW	11.6	10.7	11.6	
External Finish			Galvanised Steel Sheets			
External Dimensions HxWxD		mm	1,450 x 880 x 550			
Protection Devices	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 4.15 MPa (601 psi)			
	Inverter Circuit (COMP.)		Over-Heat Protection, Over-Current Protection			
	Compressor		Over-Heat Protection			
Refrigerant	Type x Original Charge		R410A x 6.0 kg			
Net Weight		kg	216			
Heat Exchanger			Plate Type			
	Water Volume in Plate	L	5.0			
	Water Pressure Max.	MPa	2.0			
Optional Parts			Heat Source Twinning Kit: CMY-Q200CBK Joint: CMY-Y102SS/LS-G2, CMY-R160-J1 Main BC Controller: CMB-P1016V-HA1 Sub-BC Controller: CMB-P104, 108V-GB1, CMB-P1016V-HB1			

Notes:

*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference
Cooling	27°C DB/19°C WB	35°C DB/24°C WB	7.5m	0m
Heating	20°C DB	7°C DB/6°C WB		

*The ambient temperature of the heat source unit needs to be kept below 40°CD.B.
*The ambient relative humidity of the heat source unit needs to be kept below 80%.
*The heat source unit should not be installed outdoors.
*Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
*Be sure to provide interlocking for the unit operation and water circuit.
*Nominal condition *1, *2 are subject to JIS B8615-1.
*Due to continuing improvement, above specification may be subject to change without notice.

Advanced Energy-saving Technologies

S (HEAT PUMP) SERIES

The shapes of the fan and grille of the outdoor unit have been redesigned, realising an increase in blowing capacity and more efficient heat exchange while maintaining the same operating noise level.

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

PUMY-SP

The PUMY-SP series allows the connection of multiple indoor units to a single outdoor unit. Choose from City Multi indoor units using the standard branch pipework, M-S-P series indoor units via a multi split system branch box, or a combination of both for selection convenience.

PUMY-SP SERIES LINEUP

Unit Dimension: (w) 1050 x (d) 330 (+25) x (h) 981 mm

PUMY-SP80V/YKMD NEW

Cooling Capacity: 9.0kW
Cooling Efficiency-EER: 4.27/AEER: 3.35
Heating Capacity: 10.0kW
Heating Efficiency-COP: 4.41/ACOP: 3.62

PUMY-SP112V/YKMD

Cooling Capacity: 12.5kW
Cooling Efficiency-EER: 4.03/AEER: 3.31
Heating Capacity: 14.0kW
Heating Efficiency-COP: 4.42/ACOP: 3.72

PUMY-SP125V/YKMD

Cooling Capacity: 14.0kW
Cooling Efficiency-EER: 3.65/AEER: 3.29
Heating Capacity: 16.0kW
Heating Efficiency-COP: 4.10/ACOP: 3.56

PUMY-SP140V/YKMD

Cooling Capacity: 15.5kW
Cooling Efficiency-EER: 3.54/AEER: 3.40
Heating Capacity: 16.5kW
Heating Efficiency-COP: 4.10/ACOP: 3.55

FEATURES

- Heating & Cooling
- Inverter Technology
- Increased Fan Opening
- Inflexed Fan
- Light Weight
- Compact 980mm Height
- Design Flexibility
- Flexible Connection
- Energy Efficient
- Demand Response Capable
- Quiet Mode*
- Guaranteed Operating Range
  Cooling at -5°C ~ 52°C
  Heating at -20°C ~ 15°C

PUMY-P

PUMY-P series condensing units allow the selection of a suitable model indoor unit for the living environment, while maintaining extended pipe runs to allow convenient location for the condensing unit.

PUMY-P SERIES LINEUP

Unit Dimension: (w) 1050 x (d) 330 (+25) x (h) 1338 mm

PUMY-P112V/YKMD

Cooling Capacity: 12.5kW
Cooling Efficiency-EER: 4.48/AEER: 4.13(V) 4.07(Y)

Heating Capacity: 14.0kW
Heating Efficiency-COP: 4.47/ACOP: 4.20(V) 4.14(Y)

PUMY-P125V/YKMD

Cooling Capacity: 14.0kW
Cooling Efficiency-EER: 4.05/AEER: 3.76(V) 3.71(Y)

Heating Capacity: 16.0kW
Heating Efficiency-COP: 4.28/ACOP: 4.03 (V) 3.99 (Y)

PUMY-P140V/YKMD

Cooling Capacity: 15.5kW
Cooling Efficiency-EER: 3.43/AEER: 3.22(V) 3.19(Y)

Heating Capacity: 18.0kW
Heating Efficiency-COP: 4.03/ACOP: 3.81(V) 3.78(Y)

PUMY-P200YKMD NEW

Cooling Capacity: 22.4kW
Cooling Efficiency-EER: 3.60/AEER: 3.17

Heating Capacity: 25.0kW
Heating Efficiency-COP: 4.17ACOP: 3.78

FEATURES

- Heating & Cooling
- Inverter Technology
- Increased Fan Opening
- Inflexed Fan
- Design Flexibility
- Flexible Connection
- Energy Efficient
- Demand Response Capable
- Quiet Mode*
- Guaranteed Operating Range
  Cooling at -5°C ~ 52°C
  Heating at -20°C ~ 15°C

Wi-Fi CONTROL
Wi-Fi Connectable
Optional upgrade adapter required per indoor unit.

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تهران، کیلومتر۲ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

COMPATIBLE INDOOR UNIT RANGE*

TYPE		MODEL NAME	MODEL
Ceiling Cassette	4-way Airflow	PLFY-P-VEM-E	
		PLFY-P-VFM-E	
	2-way Airflow	PLFY-P-VLMD-E	
	1-way Airflow	PMFY-P-VBM-E	
Ceiling Concealed		PEFY-P-VMR-L	
		PEFY-P-VMS1(L)-E	
		PEFY-P-VMHS-E	
		PEFY-P-VMA-E	
		PEFY-P-VMX	
	Fresh Air Intake	PEFY-P-VMH-E-F	
Ceiling Suspended		PCFY-P-VKM-E	
Wall Mounted		PKFY-P-VLM-E	
		PKFY-P-VKM-E	
Floor Standing / Floor Mounted Concealed		PFFY-P-VKM-E2	
		PFFY-P-VLEM-E	
		PFFY-P-VLRM-E PFFY-P-VLRMM-E	

*Connectible indoor unit varies depending on capacity.

TYPE	SERIES	MODEL NAME	MODEL
Wall Mounted	LN Series	MSZ-LN	
	EF Series	MSZ-EF	
	G Series	MSZ-GE	
	AP Series	MSZ-AP	
Floor Standing		MFZ-KJ	
4-way Cassette		PLA-M	
		SLZ-KF	
1-way Cassette		MLZ-KP	
Ceiling Concealed		SEZ-KD	
		PEAD-M	
Ceiling Suspended		PCA-M	

MIXED SYSTEM

QTY	Model	80			112		125		140		200
Branch Box 1 Unit	City Multi	5	4	2	5	4	5		5		5
	Branch Box	2	3	4	4	5	5		5		5
Branch Box 2 Units	City Multi	3	2	-	3	2	3	2	3	2	3
	Branch Box	3	4	-	5	6	6	7	7	8	8

Branch Box Features

PAC-MK33BC

PAC-MK53BC

Flexible Installation Indoor

The branch box can be installed in the ceiling, thus improving appearance. Maintenance is also easier through access to the circuit board and other inner parts by simply removing the controller cover, compared to the previous model.

Flexible Installation Outdoor*1

The branch box can be installed outdoors by using the optional cover*2 for outdoor installation. Eliminating the need for a special maintenance hole in the ceiling.

*1 Not suitable in corrosive environments or near coastal areas.

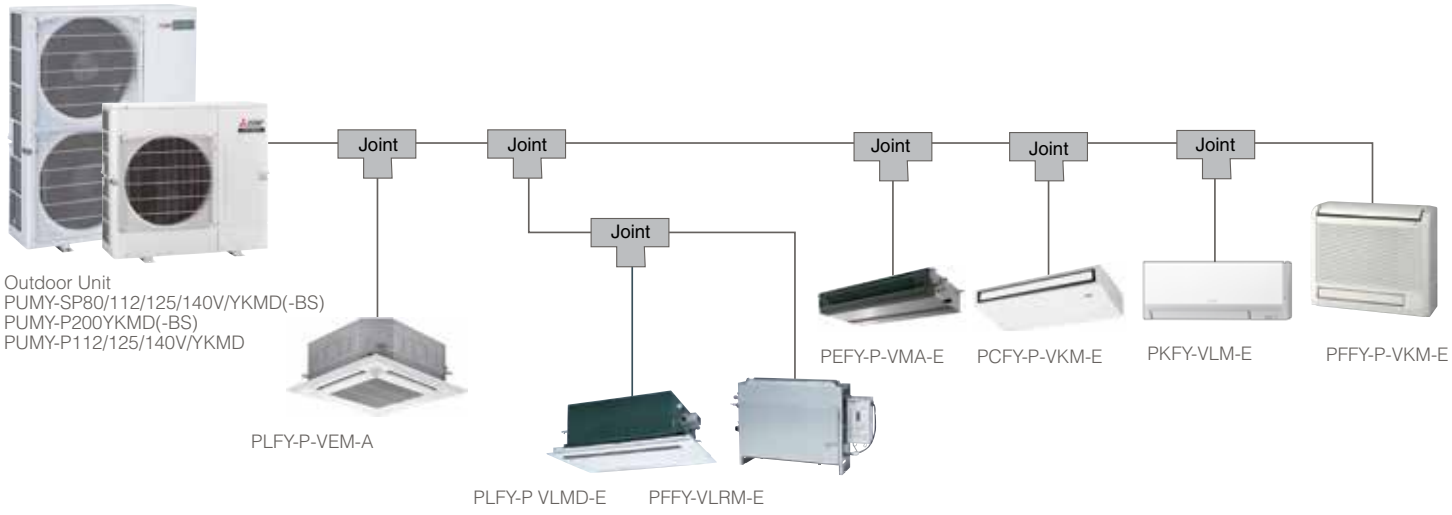
*2 PAC-AK350CVR-E

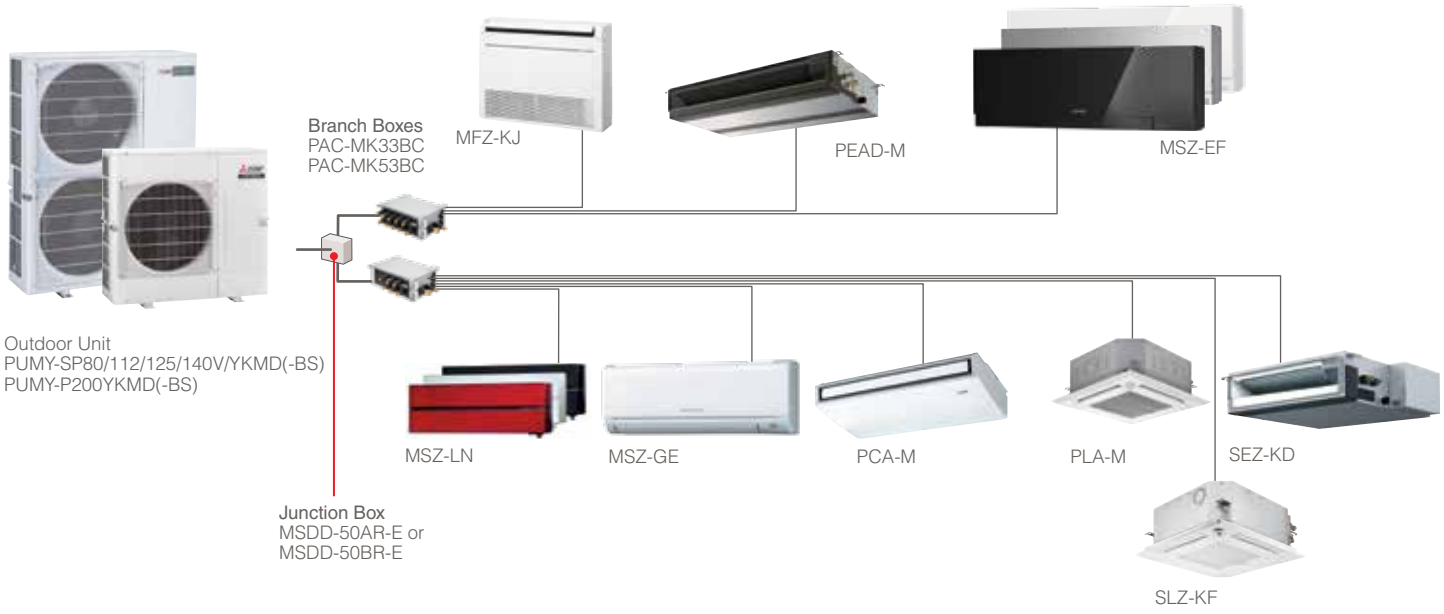
Notes:

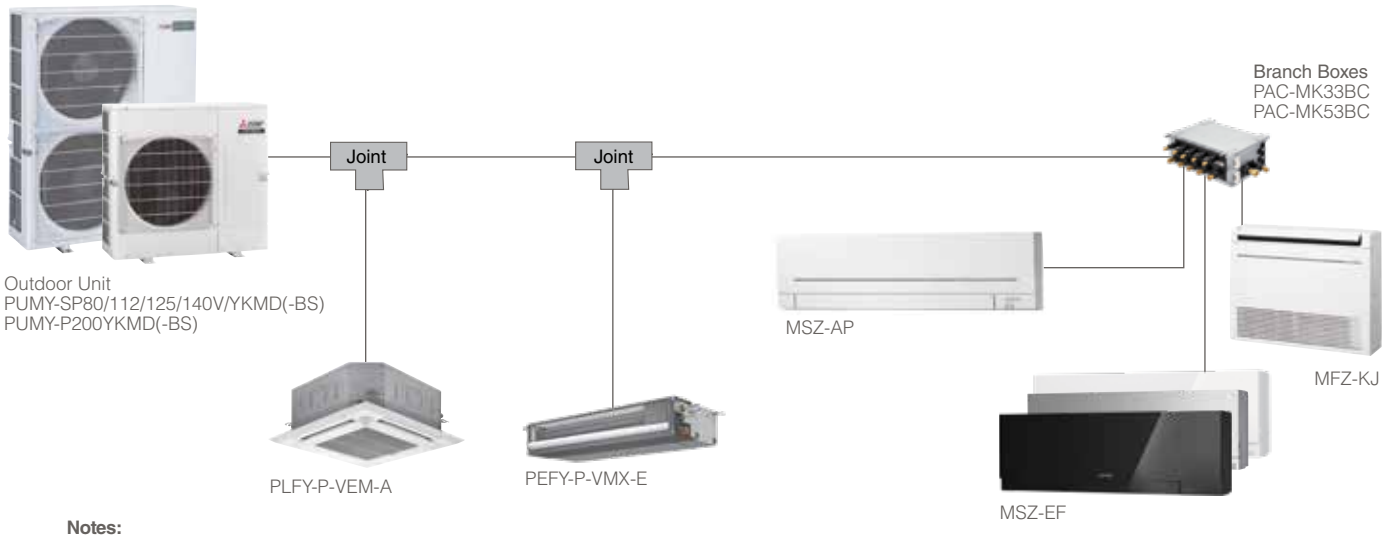
- PUMY-P112/125/140 VYKMD are not compatible with Branch Box, therefore M/S/P Series indoor units are not connectable.

PUMY SUMMARY

Installation with both City Multi indoor units via T-Piece and Multi-Split indoor units via branchbox.







Notes:

PUMY-P112/125/140 V/YKMD are not compatible with Branch Box, therefore M/S/P Series indoor units are not connectable.

*Connectible indoor unit varies depending on capac

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

OUTDOOR UNIT - S Series

PUMY-SP VKMD-A(-BS)

SERIES			PUMY-SP (Single Fan)					
Model			PUMY-SP80VKMD-A	PUMY-SP80YKMD-A	PUMY-SP112VKMD-A	PUMY-SP112YKMD-A	PUMY-SP125VKMD-A	PUMY-SP125YKMD-A
Power Source			VKMD: 1-phase 220-230-240 V, 50 Hz; 1-phase 220 V, 60 Hz YKMD: 3-phase 380-400-415 V, 50 Hz; 3-phase 380 V, 60 Hz					
Cooling Capacity (Nominal)*1		kW	9.0		12.5		14.0	
	Power Input	kW	2.11		3.10		3.84	
	Current Input	A	9.79 - 9.36 - 8.97	3.37 - 3.21 - 3.09	14.38 - 13.75 -13.18	4.96 - 4.71 - 4.54	17.81 -17.04 -16.33	6.14 - 5.83 - 5.62
	EER	kW	4.27		4.03		3.65	
	AEER	kW	3.35		3.31		3.29 *3	
Temperature Range of Cooling	Indoor	W.B	15.0 ~ 24.0 °C					
	Outdoor	D.B	-5.0 ~ 52.0 °C *3 *4 *5					
Heating Capacity (Nominal)*2		kW	10.0		14.0		16.0	
	Power Input	kW	2.27		3.17		3.90	
	Current Input	A	10.53 -10.07 - 9.65	3.63 - 3.45 - 3.32	14.70 -14.06 -13.48	5.07 - 4.82 - 4.64	18.09 - 17.30 - 16.58	6.24 - 5.93 - 5.71
	COP	kW	4.41		4.42		4.10	
	ACOP	kW	3.62		3.72		3.56	
Temperature Range of Heating	Indoor	W.B	15 ~ 27 °C					
	Outdoor	D.B	-20 ~ 15 °C					
Indoor Unit Connectable	Total Capacity		50% to 130% of Outdoor Unit Capacity					
	Model/Quantity		P10-P100/9		P15-P140/9		P15-P140/10	
Sound Pressure Level (measured in anechoic room)		dB	51/54		52/54		53/56	
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	9.52 (3/8) Flare					
	Gas Pipe	mm (in.)	15.88 (5/8) Flare					
Fan	Type x Quantity		Propeller Fan × 1					
	Airflow Rate	m³/min	75		77		83	
		L/s	1250		1283		1383	
		cfm	2649		2719		2931	
	Control, Driving Mechanism		DC Control					
	Motor Output	kW	0.20 × 1					
Compressor	Type x Quantity		Twin Rotary Hermetic Compressor × 1					
	Manufacturer		Mitsubishi Electric Corporation					
	Starting Method		Inverter					
	Motor Output	kW	2.1		3.1		3.5	
	Lubricant		FV50S (1.4 litre)					
External Finish			Galvanised Steel Sheet Munsell No. 3Y 7.8/1.1					
External Dimension (H x W x D)		mm	981 × 1,050 × 330 (+25)					
Protection Devices	High Pressure Protection		High Pressure Switch					
	Inverter Circuit (COMP./FAN)		Overcurrent Detection, Overheat detection (Heat Sink Thermistor)					
	Compressor		Compressor Thermistor, Overcurrent Detection					
	Fan Motor		Overheating, Voltage Protection					
Refrigerant	Type x Original Charge		R410A × 3.5 kg					
	Control		Electronic Expansion Valve					
Net Weight		kg	93 *5 *6		94 *7		93 *6	94 *7
Heat Exchanger			Cross Fin and Copper Tube					
HIC Circuit (HIC: Heat Inter-Changer)			HIC Circuit					
Defrosting Method			Reversed Refrigerant Circuit					
Drawing	External		RK01J091					
	Wiring		BH79N194	BH79N195	BH79N194	BH79N195	BH79N194	BH79N195
Standard Attachment	Document		Installation Manual					
	Accessory		Grounded Lead Wire					
Optional Parts			Joint: CMY-Y62-G-E Header: CMY-Y64/68-G-E					

Remarks:
*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference	External Static Pressure (Outdoor Unit)
Cooling	27°C DB/19°C WB	35°C DB	7.5m	0m	0Pa
Heating	20°C DB	7°C DB/6°C WB			

*3 MEPS Part load.
*4 10 to 52:, when connecting following models: PKFY-P15/20/25VBM,PKFY-P10/15/20/25/32VLM, PFFY-P20/25/32VLE(R)M, PFFY-P20/25/32VKM, and M series, S series , and P series type indoor unit with branch box, M series type indoor unit with connection kit.
*5 -15 to 52:, when using an optional air protect guide [PAC-SH95AG-E]. However, this condition does not apply to the indoor unit listed in *4.
*6 94 (207), for PUMY-SP80/112/125/140VKMD.TH-A-BS.*6 93, for PUMY-SP112/125/140YKMD.TH-A-BS.
*7 95 (209), for PUMY-SP112/125/140YKMD.TH-A-BS.
*8 When connecting 7 indoor units via branch box, connectable citymulti indoor units are 3; connecting 8 indoor units via branch box, connectable citymulti indoor units are 2.

Notes:
1. Nominal conditions *1, *2 are subject to ISO 15042.
2. Due to continuing improvement, these specifications may be subject to change without notice.

SPECIFICATIONS

OUTDOOR UNIT - S Series

PUMY-P VKM-A(-BS)

SERIES			PUMY-SP (Single Fan)		PUMY-P (Twin Fan)
Model			PUMY-SP140VKMD-A	PUMY-SP140YKMD-A	PUMY-P200YKMD-A
Power Source			VKMD: 1-phase 220-230-240 V, 50 Hz; 1-phase 220 V, 60 Hz YKMD: 3-phase 380-400-415 V, 50 Hz; 3-phase 380 V, 60 Hz		
Cooling Capacity (Nominal)*1		kW	15.5		22.4
	Power Input	kW	4.38		6.22
	Current Input	A	20.32 - 19.43 - 18.62	7.00 - 6.65 - 6.41	10.16 - 9.65 - 9.30
	EER	kW	3.54		3.60
	AEER	kW	3.40 *3		3.17
Temperature Range of Cooling	Indoor	W.B	15.0 ~ 24.0 °C		
	Outdoor	D.B	-5.0 ~ 52.0°C *4 *5		
Heating Capacity (Nominal)*2		kW	16.5	16.5	25.0
	Power Input	kW	4.02		6.00
	Current Input	A	18.65 - 17.83 - 17.09	6.24 - 5.93 - 5.71	9.80 - 9.31 - 8.98
	COP	kW	4.10		4.17
	ACOP	kW	3.55		3.78
Temperature Range of Heating	Indoor	W.B	15 ~ 27 °C		
	Outdoor	D.B	-20 ~ 15 °C		
Indoor Unit Connectable	Total Capacity		50% to 130% of Outdoor Unit Capacity		
	Model/Quantity		P15-P140/12		P15-P200/12
Sound Pressure Level (measured in anechoic room)		dB	54/56		57/61
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	9.52 (3/8) Flare *8		
	Gas Pipe	mm (in.)	15.88 (5/8) Flare		19.05 (3/4) Flare
Fan	Type x Quantity		Propeller Fan x 1		Propeller Fan x 2
	Airflow Rate	m^3/min	83	120	134
		L/s	1,383	2,000	2,233
		cfm	2,931	4,237	4,732
	Control, Driving Mechanism		DC Control		
	Motor Output	kW	0.20 x 1		0.20 + 0.20
Compressor	Type x Quantity		Twin Rotary Hermetic Compressor x 1		Scroll Hermetic Compressor x 1
	Manufacturer		Mitsubishi Electric Corporation		
	Starting Method		Inverter		
	Motor Output	kW	3.7		5.3
External Finish			Galvanised Steel Sheet Munsell No. 3Y 7.8/1.1		
External Dimension (H x W x D)		mm	981 × 1,050 × 330 (+25)		1,338 x 1,050 x 330 (+25)
Protection Devices	High Pressure Protection		High Pressure Switch		
	Inverter Circuit (COMP./FAN)		Overcurrent Detection, Overheat Detection (Heat Sink Thermistor)		
	Compressor		Compressor Thermistor, Overcurrent Detection		
	Fan Motor		Overheating, Voltage Protection		
Refrigerant	Type x Original Charge		R410A x 4.8kg		R410A x 7.3kg
	Control		Electronic Expansion Valve		Linear Expansion Valve
Net Weight		kg	93 *6	94 *7	138 *9
Heat Exchanger			Cross Fin and Copper Tube		
HIC Circuit (HIC: Heat Inter-Changer)			HIC Circuit		
Defrosting Method			Reversed Refrigerant Circuit		
Drawing	External		RK01J091		RK01J635
	Wiring		BH79N194	BH79N195	VG79J111
Standard Attachment	Document		Installation Manual		
	Accessory		Ground Lead Wire		Ground Lead Wire x 1
Optional Parts			Joint: CMY-Y62-G-E Header: CMY-Y64/68-G-E		

Remarks:
*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference	External Static Pressure (Outdoor Unit)
Cooling	27°C DB/19°C WB	35°C DB	7.5m	0m	0Pa
Heating	20°C DB	7°C DB/6°C WB			

*3 MEPS Part load.
*4 10 to 52:, when connecting following models: PKFY-P15/20/25VBM,PKFY-P10/15/20/25/32VLM, PFFY-P20/25/32VLE(R)M, PFFY-P20/25/32VKM, and M series, S series , and P series type indoor unit with branch box, M series type indoor unit with connection kit.
*5 -15 to 52:, when using an optional air protect guide [PAC-SH95AG-E]. However, this condition does not apply to the indoor unit listed in *4.
*6 94 (207), for PUMY-SP80/112/125/140VKMD.TH-A-BS.*6 93, for PUMY-SP112/125/140VKMD.TH-A-BS.
*7 95 (209), for PUMY-SP112/125/140YKMD.TH-A-BS.
*8 Liquid pipe diameter: 12.7mm, when further piping length is longer than 30m or the farthest length of the main pipe between the outdoor unit and the branch box is longer than 20m in the branch box system.
*9 138 (305), for PUMY-P200YKMD.TH-A-BS.

SPECIFICATIONS

OUTDOOR UNIT - S Series

PUMY-P YKM-A(-BS)

SERIES			PUMY-P (Twin Fan)					
Model			PUMY-P112VKMD-A	PUMY-P112YKMD-A	PUMY-P125VKMD-A	PUMY-P125YKMD-A	PUMY-P140VKMD-A	PUMY-P140YKMD-A
Power Source			VKMD: 1-phase 220-230-240 V, 50 Hz; 1-phase 220 V, 60 Hz YKMD: 3-phase 380-400-415 V, 50 Hz; 3-phase 380 V, 60 Hz					
Cooling Capacity (Nominal)*1		kW	12.5		14.0		15.5	
	Power Input	kW	2.79		3.46		4.52	
	Current Input	A	12.32	4.24	15.27	5.26	19.95	6.87
	EER	kW	4.48		4.05		3.43	
	AEER	kW	4.13	4.07	3.76	3.71	3.22	3.19
Temperature Range of Cooling	Indoor	W.B	15.0 ~ 24.0 °C					
	Outdoor	D.B	-5.0 ~ 46.0°C	-5.0 ~ 52.0 °C *4	-5.0 ~ 46.0°C	-5.0 ~ 52.0 °C *4	-5.0 ~ 46.0°C	-5.0 ~ 52.0 °C *4
Heating Capacity (Nominal)*2		kW	14.0		16.0		18.0	
	Power Input	kW	3.13		3.74		4.47	
	Current Input	A	13.82	4.76	16.51	5.68	19.73	6.79
	COP	kW	4.47		4.28		4.03	
	ACOP	kW	4.20	4.14	4.03	3.99	3.81	3.78
Temperature Range of Heating	Indoor	W.B	15 ~ 27 °C					
	Outdoor	D.B	-20 ~ 15 °C					
Indoor Unit Connectable	Total Capacity		50% to 130% of Outdoor Unit Capacity					
	Model/Quantity		15 - 125/9		15 - 140/10		15 - 140/12	
Sound Pressure Level (measured in anechoic room)		dB	49/51		50/52		51/54	
Refrigerant Piping Diameter	Liquid Pipe	mm (in.)	9.52 (3/8) Flare *3					
	Gas Pipe	mm (in.)	15.88 (5/8) Flare					
Fan	Type x Quantity		Propeller Fan x 2					
	Airflow Rate	m^3/min	110				120	
		L/s	1,833				2,000	
		cfm	3,884				4,237	
	Control, Driving Mechanism		DC Control					
	Motor Output	kW	0.06 + 0.06					
Compressor	Type x Quantity		Scroll Hermetic Compressor x 1					
	Manufacturer		Mitsubishi Electric Corporation					
	Starting Method		Inverter					
	Motor Output	kW	3.0		3.5		4.0	
	Lubricant		FV50S (2.3 litre)					
External Finish			Galvanised Steel Sheet Munsell No. 3Y 7.8/1.1					
External Dimension (H x W x D)		mm	1,338 x 1,050 x 330 (+25)					
Protection Devices	High Pressure Protection		High Pressure Switch					
	Inverter Circuit (COMP./FAN)		Overcurrent Detection, Overheat Detection (Heat Sink Thermistor)					
	Compressor		Compressor Thermistor, Overcurrent Detection					
	Fan Motor		Overheating, Voltage Protection					
Refrigerant	Type x Original Charge		R410A x 4.8kg					
	Control		Electronic Expansion Valve					
Net Weight		kg	123	125	123	125	123	125
Heat Exchanger			Cross Fin and Copper Tube					
HIC Circuit (HIC: Heat Inter-Changer)			HIC Circuit					
Defrosting Method			Reversed Refrigerant Circuit					
Drawing	External		BK01N346	BK01N339	BK01N346	BK01N339	BK01N346	BK01N339
	Wiring		BH78B813	BH78B814	BH78B813	BH78B814	BH78B813	BH78B814
Standard Attachment	Document		Installation Manual					
	Accessory		Grounded Lead Wire					
Optional Parts			Joint: CMY-Y62-G-E Header: CMY-Y64/68-G-E					

Remarks:
*1, *2 Nominal conditions.

	Indoor	Outdoor	Pipe Length	Level Difference	External Static Pressure (Outdoor Unit)
Cooling	27°C DB/19°C WB	35°C DB	7.5m	0m	0Pa
Heating	20°C DB	7°C DB/6°C WB			

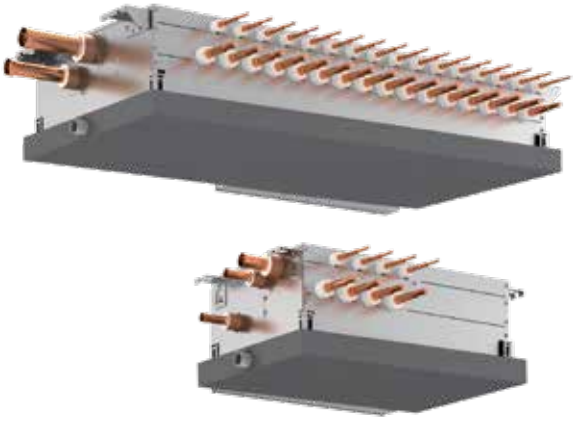
*3 Liquid pipe diameter: 12.7mm, when further piping length is longer than 60m, or the farthest length of the main pipe between the outdoor unit and the branch box is longer than 20m in the branch box system.
*4 10 to 52°C, when connecting following models: PKFY-P15/20/25VBM, PFFY-P20/25/32VLE(R)M, PFFY-P20/25/32VKM type indoor unit; and M-Series, S-Series and P-Series type indoor unit.

Notes:
1. Due to continuing improvement, above specifications may be subject to change without notice.

The Secret of CITY MULTI Heat Recovery System Lies in the BC Controller

FOR R2 AND WR2 SERIES

The BC Controller houses a liquid/refrigerant separator, allowing the outdoor/heat source unit to deliver a mixture (2-phase) of hot gas for heating and liquid refrigerant for cooling, all through the same pipe. Three pipe systems allocate a pipe to each of these phases. When this mixture arrives at the BC Controller, it is separated and the correct phase delivered to each indoor unit depending on the individual requirement of either heating or cooling.



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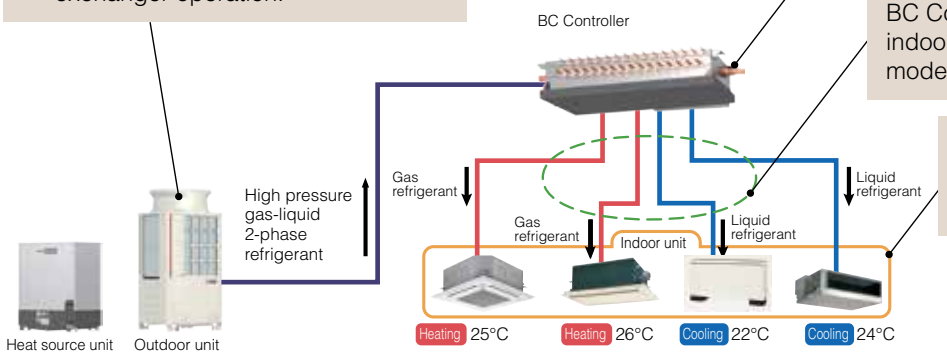
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

1 The capacity requirement of the system controls the compressor frequency, and the mode of heat exchanger operation.

2 R2/WR2 Refrigerant Circuit
2-phase Gas-liquid refrigerant from outdoor unit is separated into gas and liquid refrigerant by the gas-liquid separator in BC Controller.

BC Controller divides refrigerant to each indoor unit according to the operation mode of each indoor unit.

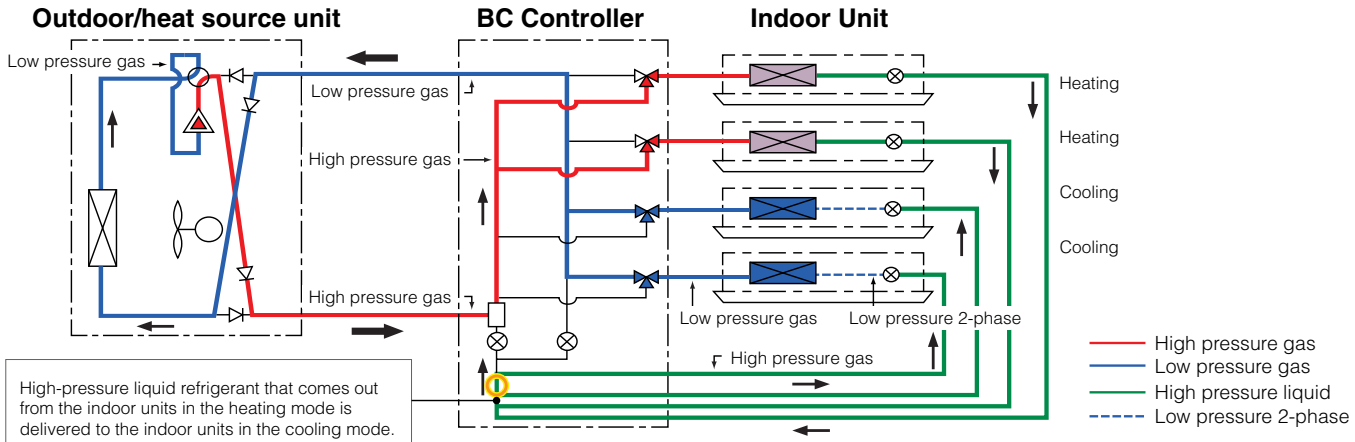
3 The LEV adjust the refrigerant flow by temperature difference between inlet and outlet.



Meet the demand of
cooling / heating flexibly.

Heating = gas refrigerant
Cooling = liquid refrigerant

Total heat recovery operation



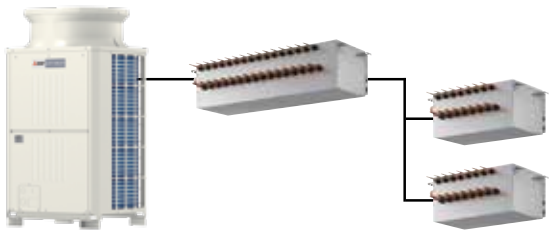
High-pressure liquid refrigerant that comes out from the indoor units in the heating mode is delivered to the indoor units in the cooling mode.

BC Controller

Sub-BC controller connections increased

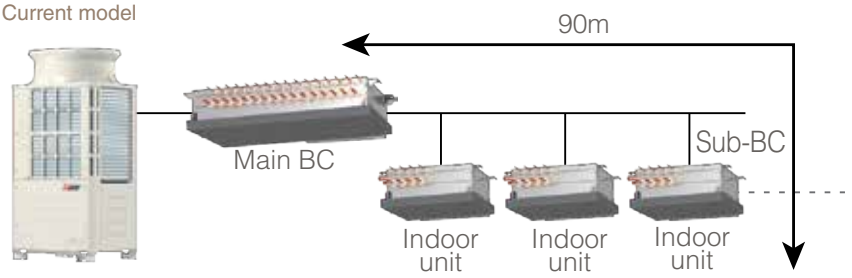
Only two sub-BC controllers could be connected to a main BC controller in previous models. Up to 11 sub-BC controllers can now be connected to the new BC controller, allowing for more flexibility in system design. The line-branching method enables the creation of system designs that use less refrigerant.

Previous model



Only 2 sub-BC controller connections

Current model



Connect up to 11 sub-BC controllers

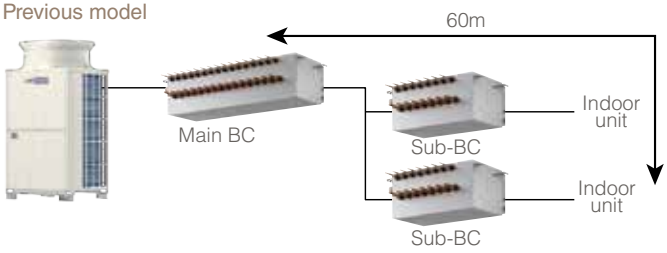
OTHER FEATURES

Greater flexibility in refrigerant piping design

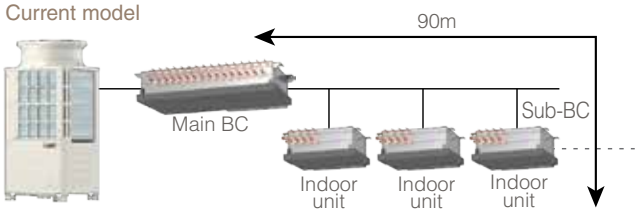
The piping length from the central BC controller to indoor units has been increased from 60m to 90m, providing greater flexibility in piping design.

*Sub-BC controllers should be used when piping length is 60m or more.

Previous model



Current model



Main BC controller with increased connection capacity

The connection capacity of the main BC controller has been increased compared to previous controllers, allowing system designs with fewer units. The KA type which can be connected to units up to 124kW has been added to the product lineup to handle outdoor units with increased capacities.

Previous model

Type	Outdoor Unit Capacity
G	~40kW
GA	~73kW
HA	~101kW

Type	Total Indoor Unit Capacity
GB/HB (sub)	~40kW
Sub-BC (total)	~50kW

Current model

Type	Outdoor Unit Capacity
J	~40kW
JA	~101kW
KA	~124kW

Type	Total Indoor Unit Capacity
KB (sub)	~40kW
Sub-BC (total)	No limits

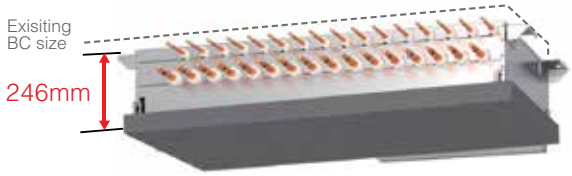
The JA type can handle up to the conventional GA and HA ranges

The KA type can be connected to units up to 124kW, has been added to the product lineup to handle outdoor units with increased capacities.

Reduced height

With an average lower height of 40.5mm compared to previous sub-BC controllers, the new design can be installed in ceilings with limited space.

* Servicing space is required.

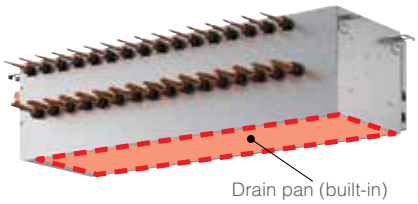


Reduction in height size

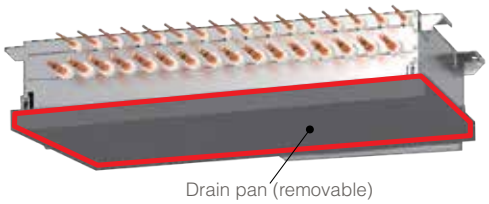
Improved accessibility to lower surface and serviceability

Previously, the drain pan on existing models were built into the bottom and could be removed. The drain pan of the new model is installed on the lower surface like a cover, making it easily removable for service from below. Serviceability is therefore improved compared to conventional units, which need to be serviced from the side.

Previous model



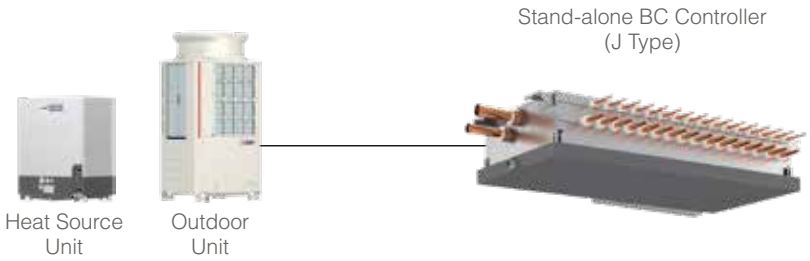
Current model



LINEUP OF BC CONTROLLERS

The BC controller lineup includes the J type (used alone), the JA and KA types (used as a main-BC controller), and the KB type (used as a sub-BC controller).

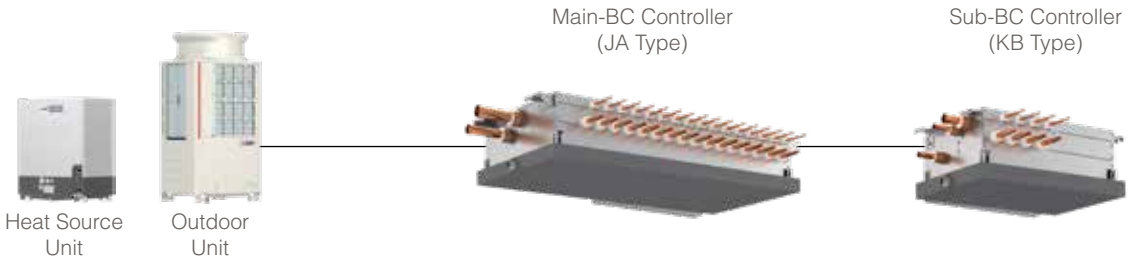
System with a single BC Controller



Stand-alone Type (J Type)

Model	CMB-P104V-JA	CMB-P106V-J	CMB-P108V-J	CMB-P1012V-J	CMB-P1016V-J
Number of Branches	4	6	8	12	16
Connectable Outdoor/Heat Source Unit Capacity	P200 to P350				

System with a multiple BC Controllers



Main BC Controller (JA and KA Types)

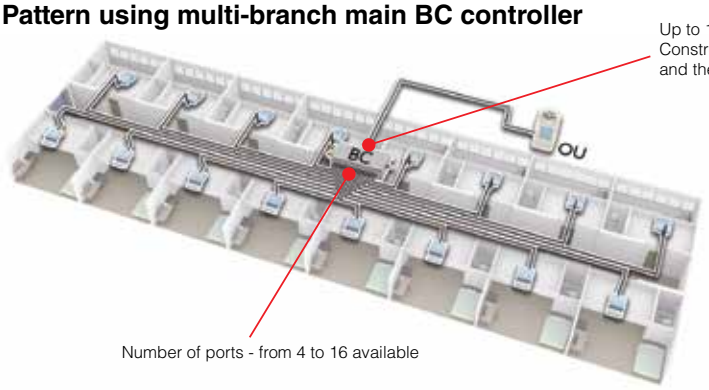
Model	CMB-P108V-JA	CMB-P1012V-JA	CMB-P1016V-JA	CMB-P1016V-KA
Number of Branches	8	12	16	16
Connectable Outdoor/Heat Source Unit Capacity	P200 to P900			P200 to P1100

Sub-BC Controller (KB Type)

Model	CMB-P104V-KB	CMB-P108V-KB
Number of Branches		12
Connectable Main-BC Controller	CMB-P108/1012/1016V-JA, CMB-P1016V-KA	

BC CONTROLLER DESIGN CAN BE SELECTED FROM VARIOUS PATTERNS DEPENDING ON USE

Pattern using multi-branch main BC controller



Up to 124kW can be connected to one main BC controller. Construction is easier as the number of piping connections and the suspension work can be reduced.

Number of ports - from 4 to 16 available

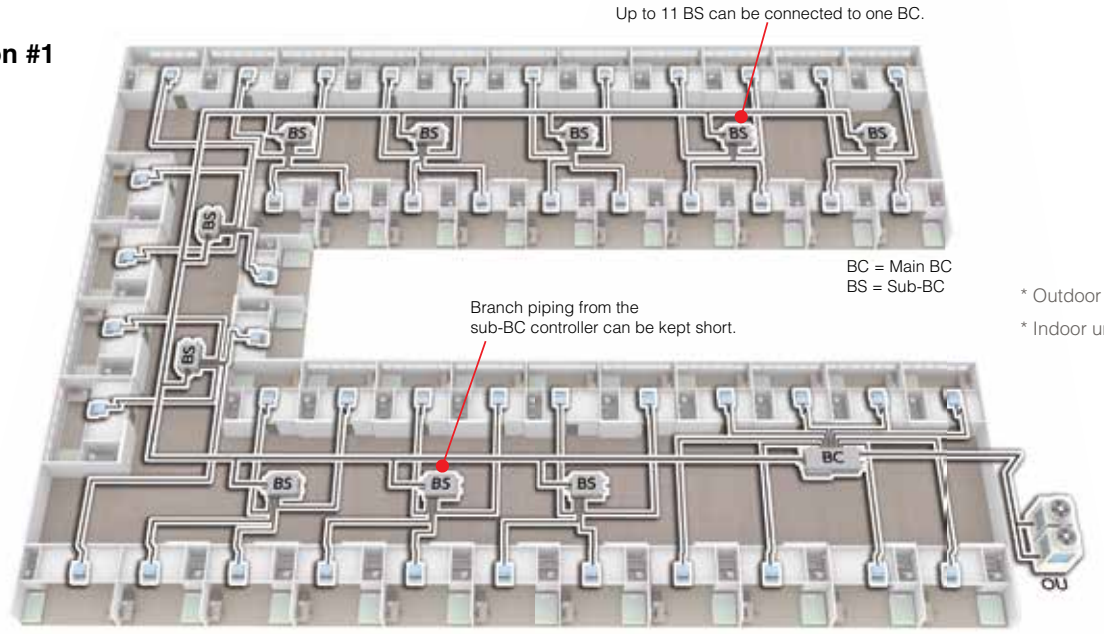
The line-branching method with a main BC controller and sub-BC controllers

The number of sub-BC controllers that can be connected has been increased from 2 to 11, and sub-BC controllers can now be installed closer to the indoor units, thus reducing both the total branch length compared to conventional models and the amount of refrigerant used.

» Low number of piping connections, even across many rooms.

» Low amount of refrigerant required.

Installation #1



Up to 11 BS can be connected to one BC.

BC = Main BC
BS = Sub-BC

Branch piping from the sub-BC controller can be kept short.

* Outdoor unit: 101kW
* Indoor units: P25 x 48 units

COMPARISON OF PIPING DESIGN FOR 48 ROOMS

Previous model

Branch piping from sub-BC controller is long.

*The 16 branch BC controller is an older model and is not possible in this design.

Current model

The sub-BC controller can be installed near the indoor units, so that the branch piping can be greatly reduced. This also reduces the length of system piping, enabling using less refrigerant design.

Overall branch piping length reduced

Refrigerant amount reduced by 20%*

* BC controllers: Existing HA + HB (16-branch) x 2 units
New JA + KB (4-branch) x 10 units

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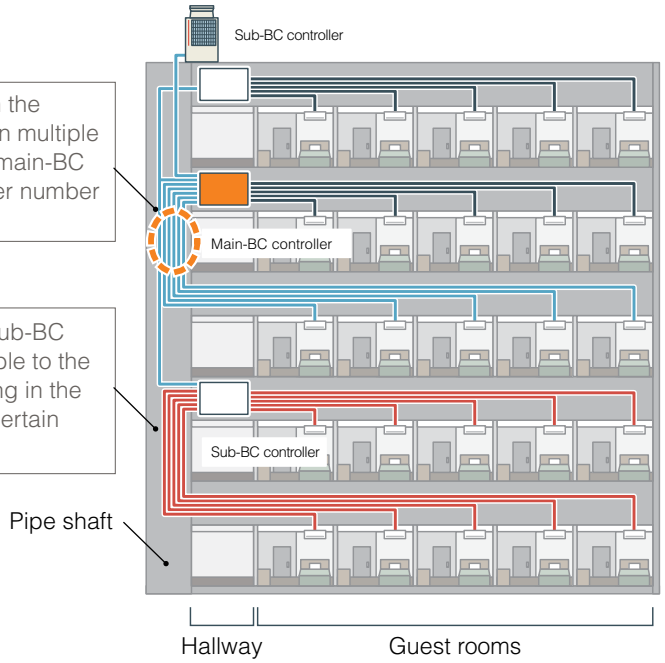
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Installation #2

Conventional model

Connecting the pipes from the air conditioners installed on multiple levels of floors to a single main-BC controller requires a greater number of pipes.

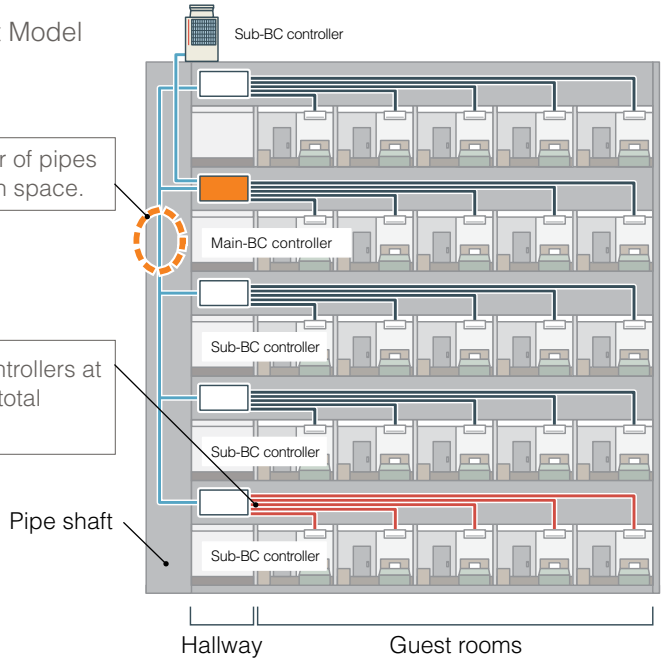
Originally, only up to two sub-BC controllers were connectable to the main-BC controller, resulting in the need for longer piping in certain applications.



Installation #2 | Current Model

The need for fewer number of pipes requires smaller installation space.

Installation of sub-BC controllers at each floor level reduced total piping length.



Refrigerant amount reduced by 20%*

* Outdoor unit: 56kW
* Indoor units: P20 × 25 units
* BC controllers: Existing GA + HB (16-branch) × 2 units
  New JA + KB (8-branch) × 4 units

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
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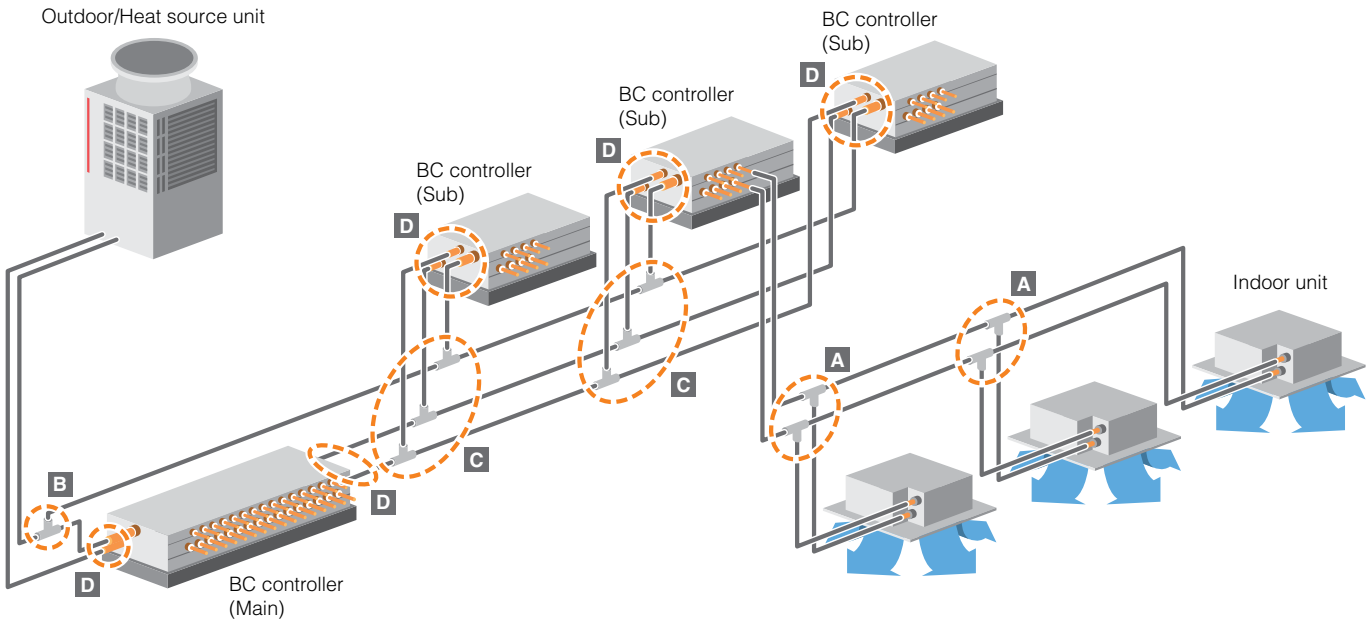
OUTDOOR UNITS

For BC CONTROLLERS

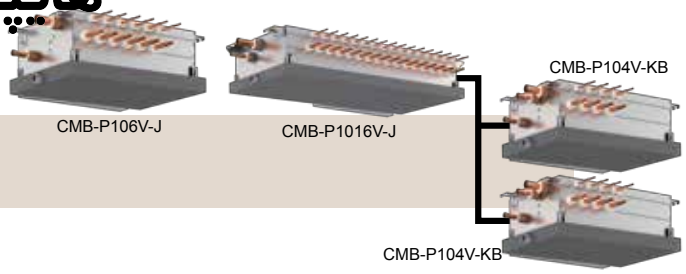


A	Branch Joint	Between BC and Indoor Units	CMY-Y102SS-G2	Total down-stream indoor unit capcity: - P200
			CMY-Y102LS-G2	Total down-stream indoor unit capacity: P201 - P250
B	Low Pressure Pipe Joint	Between Outdoor Units and Sub BC	CMY-R101S-G	Outdoor unit capacity: P200 - P650
			CMY-R102S-G	Outdoor unit capacity: P700 - P1100
C	Branch Joint	Between Main BC and Sub BC	CMY-R201S-G	Total down-stream indoor unit capacity: - P350
			CMY-R202S-G	Total down-stream indoor unit capacity: P351 - P600
			CMY-R203S-G	Total down-stream indoor unit capacity: P601-P650
			CMY-R204S-G	Total down-stream indoor unit capacity: P651 - P1000
			CMY-R205-G	Total down-stream indoor unit capacity: P1001
D	Reducer	Between Outdoor Units and BC	CMY-R301S-G	For J type (Outdoor unit capacity: P200 - P300)
			CMY-R302S-G	For JA type (Outdoor unit capacity: P200 - P900
			CMY-R304S-G	For KA type (When using the Sub BC Controller)
		Between Main BC and Sub BC	CMY-R303S-G	For JA type (When using the Sub BC Controller)
			CMY-R305S-G	For KA type (When using the Sub BC Controller)
			CMY-R306S-G	For KB type
Branch Pipe (Header)			CMY-R160-J1	Joint for connecting to two nozzles

*1 Main BC Controller has two ports for Sub BC Controller. Low pressure pipe has to be branched from the outdoor unit. ("B" in the figure)
*2 Items "B" and "C" are not necessary when J-type BC Controller is used.

FAMCO هایپرصنعت

SPECIFICATIONS



BC CONTROLLER

CMB-P-V-J/JA/KA/KB

Model				CMB-P104V-J	CMB-P106V-J	CMB-P108V-J	CMB-P1012V-J	CMB-P106V-J
Number of Branches				4	6	8	12	16
Power Source				1-Phase 220-230-240 V				
Power Input	kW	50Hz	Cooling	0.067/0.076/0.085	0.097/0.110/0.123	0.127/0.144/0.161	0.186/0.211/0.236	0.246/0.279/0.312
			Heating	0.030/0.034/0.038	0.045/0.051/0.057	0.060/0.068/0.076	0.090/0.102/0.114	0.119/0.135/0.151
		60Hz	Cooling	0.054/0.061/0.067	0.078/0.088/0.097	0.102/0.115/0.127	0.150/0.168/0.186	0.198/0.222/0.246
			Heating	0.024/0.027/0.030	0.036/0.041/0.045	0.048/0.054/0.060	0.072/0.081/0.090	0.096/0.108/0.119
Current	kW	50Hz	Cooling	0.31/0.34/0.36	0.45/0.48/0.52	0.58/0.63/0.68	0.85/0.92/0.99	1.12/1.22/1.30
			Heating	0.14/0.15/0.16	0.21/0.23/0.24	0.28/0.30/0.32	0.42/0.44/0.48	0.55/0.59/0.63
		60Hz	Cooling	0.25/0.27/0.28	0.36/0.39/0.41	0.47/0.50/0.53	0.69/0.74/0.78	0.90/0.97/1.03
			Heating	0.11/0.12/0.13	0.17/0.18/0.19	0.22/0.24/0.25	0.33/0.36/0.38	0.44/0.47/0.50
External Finish				Galvanised Steel Plate (Lower Part Drain Pan: Pre-Coated Galvanised Sheets + Powder Coating)				
Indoor Unit Capacity Connectable to 1 Branch *12				Model P80 or Smaller. (Use Optional Joint Pipe combing 2 branches when the total unit capacity exceeds P81.)				
Connectable Outdoor/Heat Source Unit Capacity				P200 to P350				
Height		mm		246				
Weight		mm		596			911	1,135
Depth		mm		495			639	
Refrigerant Piping Diameter	To Outdoor/Heat Source Unit			Connectable Unit Capacity				
				P200	P250/P300		P350 *13	
		High Pressure Pipe		15.88 (5/8) Brazed	19.05 (3/4) Brazed		19.05 (3/4) Brazed or 22.2 (7/8) Brazed	
		Low Pressure Pipe		19.05 (3/4) Brazed	22.2 (7/8) Brazed		28.58 (1-1/8) Brazed	
	To Indoor Unit	Liquid Pipe		Indoor Unit Model 50 or Smaller 6.35 (1/4) Brazed Bigger than 50 9.52 (3/8) Brazed				
		Gas Pipe		Indoor Unit Model 50 or Smaller 12.7 (1/2) Brazed Bigger than 50 15.88 (5/8) Brazed. (19.05, 22.2 with Optional Joint Pipe Used.) (19.05, 22.2 with Optional Joint Pipe Used.)				
Drain Pipe		mm		O.D. 32				
Net Weight		kg		23	27	31	46	56
Sound Power Level (Measured in Anechoic Room)		dB <A>	Rated Operation	56 (When P200 Outdoor/Heat Source Unit is Connected, 57 (P250), 59 (P350)				
			Defrost	71				
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	Rated Operation	38 (When P200 Outdoor/Heat Source Unit is Connected, 39 (P250), 40 (P350)				
			Defrost	53				
Accessories				Drain Connection Pipe, Washer, Tie Band				

Model				CMB-P108V-JA	CMB-P1012V-JA	CMB-P1016V-JA
Number of Branches				8	12	16
Power Source				1-Phase 220-230-240 V		
Power Input	kW	50Hz	Cooling	0.127/0.144/0.161	0.186/0.211/0.236	0.246/0.279/0.312
			Heating	0.060/0.068/0.076	0.090/0.102/0.114	0.119/0.135/0.151
		60Hz	Cooling	0.102/0.115/0.127	0.150/0.168/0.186	0.198/0.222/0.246
			Heating	0.048/0.054/0.060	0.072/0.081/0.090	0.096/0.108/0.119
Current	kW	50Hz	Cooling	0.58/0.63/0.68	0.85/0.92/0.99	1.12/1.22/1.30
			Heating	0.28/0.30/0.32	0.42/0.44/0.48	0.55/0.59/0.63
		60Hz	Cooling	0.47/0.50/0.53	0.69/0.74/0.78	0.90/0.97/1.03
			Heating	0.22/0.24/0.25	0.33/0.36/0.38	0.44/0.47/0.50
External Finish				Galvanised Steel Plate (Lower Part Drain Pan: Pre-Coated Galvanised Sheets + Powder Coating)		
Indoor Unit Capacity Connectable to 1 Branch *12				Model P80 or Smaller (Use Optional Joint Pipe combing 2 branches when the total unit capacity exceeds P81.)		
Connectable Outdoor/Heat Source Unit Capacity				P200 to P900		
Height		mm		246		
Weight		mm		911	1,135	
Depth		mm		639		
Refrigerant Piping Diameter	To Outdoor/Heat Source Unit			Connectable Unit Capacity		
				P200 / P250/P300 / P350*13 / P400 to P500 / P550*13 / P600*13 / P650 / P700 to P800 / P850 to P900		
		High Pressure Pipe		15.88 (5/8) Brazed / 19.05 (3/4) Brazed / 19.05 or 22.2 (7/8) Brazed / 22.2 (7/8) Brazed / 22.2 or 28.58 (1-1/8) Brazed / 28.58 (1-1/8) Brazed		
		Low Pressure Pipe		19.05 (3/4) Brazed / 22.2 (7/8) Brazed / 28.58 (1-1/8) Brazed / 28.58 or 34.93 (1-3/8) Brazed / 28.58 (1-1/8) Brazed / 34.93 (1-3/8) Brazed / 41.28 (1-5/8) Brazed		
	To Indoor Unit	Liquid Pipe		Indoor Unit Model 50 or Smaller 6.35 (1/4) Brazed Bigger than 50 9.52 (3/8) Brazed		
		Gas Pipe		Indoor Unit Model 50 or Smaller 12.7 (1/2) Brazed Bigger than 50 15.88 (5/8) Brazed (19.05, 22.2 with Optional Joint Pipe Used.)		
	To other BC controller			Total Down-Stream Indoor Unit Capacity		
				to P200 / P201 to P300 / P301 to 350 / P351 to P400 / P401 to P600 / P601 to P650 / P651 to P800 / P801 to P1000 / P1001 or above		
		High Pressure Pipe		15.88 (5/8) Brazed / 19.05 (3/4) Brazed / 22.2 (7/8) Brazed / 28.58 (1-1/8) Brazed / 34.93 (1-3/8) Brazed		
		Low Pressure Pipe		19.05 (3/4) Brazed / 22.2 (7/8) Brazed / 28.58 (1-1/8) Brazed / 34.93 (1-3/8) Brazed / 41.28 (1-5/8) Brazed		
		Liquid Pipe		9.52 (3/8) Brazed / 12.7 (1/2) Brazed / 15.88 (5/8) Brazed / 19.05 (3/4) Brazed		

Model			CMB-P108V-JA	CMB-P1012V-JA	CMB-P1016V-JA
Drain Pipe	mm		O.D. 32 (1-1/4)		
Net Weight	kg		45	55	63
Sound Power Level (Measured in Anechoic Room)	dB <A>	Rated Operation	62 (When P250 Outdoor/Heat Source Unit is Connected,65(P450), 68 (P700), 69 (P900)		
		Defrost	74		
Sound Power Level (Measured in Anechoic Room)	dB <A>	Rated Operation	44 (When P250 Outdoor/Heat Source Unit is Connected, 47 (P450), 50 (P700), 51 (P900)		
		Defrost	56		
Accessories			Drain Connection Pipe, Washer, Tie Band		

Combination chart of BC Controller for R2 Series (YNW)

	P200-P350	P400-P900	P950-P1100
CMB-P VJ	✓	N/A	N/A
CMB-P V-JA	✓	✓	N/A
CMB-P V-KA	✓	✓	✓
CMB-P V-KB (Sub)	CMB-P108/1012/1016V-JA, CMB-P1016V-KA		

Model				CMB-P1016V-KA								
Number of Branches				16								
Power Source				1-Phase 220-230-240 V								
Power Input	kW	50Hz	Cooling	0.246/0.279/0.312								
			Heating	0.119/0.135/0.151								
		60Hz	Cooling	0.198/0.222/0.246								
			Heating	0.096/0.108/0.119								
Current	kW	50Hz	Cooling	1.12/1.22/1.30								
			Heating	0.55/0.59/0.63								
		60Hz	Cooling	0.90/0.97/1.03								
			Heating	0.44/0.47/0.50								
External Finish				Galvanised Steel Plate (Lower Part Drain Pan: Pre-Coated Galvanised Sheets + Powder Coating)								
Indoor Unit Capacity Connectable to 1 Branch *12				Model P80 or Smaller (Use Optional Joint Pipe combing 2 branches when the total unit capacity exceeds P81.)								
Connectable Outdoor/Heat Source Unit Capacity				P200 to P1100								
Height	mm			246								
Weight	mm			1,135								
Depth	mm			639								
Refrigerant Piping Diameter	To Outdoor/Heat Source Unit			Connectable Unit Capacity								
				P200	P250/P300	P350*13	P400 to P500	P550*13	P600*13	P650	P700 to P800	P850 to P900	P1050 to P1100
		High Pressure Pipe		15.88 (5/8) Brazed	19.05 (3/4) Brazed	19.05 or 22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 or 28.58 (1-1/8) Brazed		28.58 (1-1/8) Brazed			34.93 (1-3/8) Brazed
		Low Pressure Pipe (Brazed)		19.05 (3/4) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed			28.58 or 34.93 (1-3/8) Brazed	28.58 (1-1/8) Brazed	34.93 (1-3/8) Brazed	41.28 (1-5/8) Brazed	
	To Indoor Unit	Liquid Pipe		Indoor Unit Model 50 or Smaller 6.35 (1/4) Brazed Bigger than 50 9.52 (3/8) Brazed									
		Gas Pipe		Indoor Unit Model 50 or Smaller 12.7 (1/2) Brazed Bigger than 50 15.88 (5/8) Brazed (19.05, 22.2 with Optional Joint Pipe Used.)									
	To other BC controller			Total Down-Stream Indoor Unit Capacity									
				to P200	P201 to P300	P301 to P350	P351 to P400	P401 to P600	P601 to P650	P651 to P800	P801 to P1000	P1001 or above	
		High Pressure Pipe		15.88 (5/8) Brazed	19.05 (3/4) Brazed		22.2 (7/8) Brazed		28.58 (1-1/8) Brazed			34.93 (1-3/8) Brazed	
		Low Pressure Pipe		19.05 (3/4) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed				34.93 (1-3/8) Brazed	41.28 (1-5/8) Brazed		
		Liquid Pipe		9.52 (3/8) Brazed		12.7 (1/2) Brazed		15.88 (5/8) Brazed		19.05 (3/4) Brazed			
Drain Pipe	mm			O.D. 32 (1-1/4)									
Net Weight	kg			65									
Sound Power Level (Measured in Anechoic Room)	dB <A>	Rated Operation		56 (When P300 Outdoor/Heat Source Unit is Connected, 61 (P550), 63 (P800), 66 (P1100)									
		Defrost		73									
Sound Pressure Level (Measured in Anechoic Room)	dB <A>	Rated Operation		38 (When P300 Outdoor/Heat Source Unit is Connected, 43 (P550), 45(P800), 48 (P1100)									
		Defrost		55									
Accessories				Drain Connection Pipe, Washer, Tie Band									

Notes:

1. Installation/foundation work, electrical connection work, insulation work, power source switch, and other items shall be referred to the Installation Manual.
2. The equipment is for R410A refrigerant.
3. Install this product in a location where noise (refrigerant noise) emitted by the unit will not disturb the neighbors.
   (For use in quiet environments with low background noise, position the BC CONTROLLER at least 5m away from any indoor units.)
4. Sound pressure/power level differs depending on the connected outdoor/heat source unit capacity or operation condition. The sound pressure/power level at the Rated Operation is the value of the cooling mode.
5. The sound pressure/power level values were obtained in an anechoic room. Actual sound pressure level is usually greater than that measured in anechoic room due to ambient noise and deflection sound.
6. The Sound Pressure Level values were obtained at the location below 1.5m from the unit.
7. The solenoid valve switching sound is 56 dB regardless of the unit model.
8. Indoor units P100, P125, P140 can be connected to 1 branch. (In this case, cooling capacity decreases a little.)
9. Refrigerant Piping Diameter for connection of plural indoor units with 1 branch shall be referred to the Installation Manual.
10. This unit is not designed for outside installations.
11. When blazing the pipes, be sure to blaze, after covering a wet cloth to the insulation pipes of the units in order to prevent it from burning and shrinking by heat.

*12 Indoor unit capacity connectable to 1 branch is changed depending on the indoor unit type and connection method. Please refer to the Installation Manual for more information.

*13 For the refrigerant pipe size, refer to Installation Manual of outdoor units/heat source units.

*14 When blazing the pipes, be sure to blaze, after covering a wet cloth to the insulation pipes of the units in order to prevent it from burning and shrinking by heat.

*15 Can't use singleness. (MAIN BC CONTROLLER is necessary).

SPECIFICATIONS

Model				CMB-P104V-KB *14*15								
Number of Branches				4								
Power Source				1-Phase 220-230-240 V								
Power Input	kW	50Hz	Cooling	0.060/0.068/0.076								
			Heating	0.030/0.034/0.038								
		60Hz	Cooling	0.048/0.054/0.060								
			Heating	0.024/0.027/0.030								
Current	kW	50Hz	Cooling	0.28/0.30/0.32								
			Heating	0.14/0.15/0.16								
		60Hz	Cooling	0.22/0.24/0.25								
			Heating	0.11/0.12/0.13								
External Finish				Galvanised Steel Plate (Lower Part Drain Pan: Pre-Coated Galvanised Sheets + Powder Coating)								
The Maximum Number of Connectable Sub-BC Controllers				11								
The Maximum Connectable Capacity of Indoor Units				P350 for each								
Connectable Main BC controller				CMB-P108/1012/1016V-JA, CMB-P1016V-KA								
Height		mm		246								
Weight		mm		596								
Depth		mm		495								
Refrigerant piping diameter	To Indoor Unit	Liquid Pipe		Indoor Unit Model 50 or Smaller 6.35 (1/4) Brazed Bigger than 50 9.52 (3/8) Brazed								
		Gas Pipe		Indoor Unit Model 50 or Smaller 12.7 (1/2) Brazed Bigger than 50 15.88 (5/8) Brazed (19.05, 22.2 with Optional Joint Pipe Used.)								
	To other BC controller			Total Down-Stream Indoor Unit Capacity								
				to P200	P201 to P300	P301 to P350	P351 to P400	P401 to P600	P601 to P650	P651 to P800	P801 to P1000	P1001 or above
		High Pressure Pipe		15.88 (5/8) Brazed	19.05 Brazed		22.2 Brazed		28.58 (1-1/8) Brazed			34.93 (1-3/8) Brazed
		Low Pressure Pipe		19.05 (3/4) Brazed	22.2 (7/8) Brazed	28.58 (1-1/8) Brazed				34.93 (1-3/8) Brazed	41.28 (1-5/8) Brazed	
		Liquid Pipe		9.52 (3/8) Brazed		12.7 (1/2) Brazed		15.88 (5/8) Brazed		19.05 (3/4) Brazed		
Drain Pipe		mm		O.D. 32 (1-1/4)								
Net Weight		kg		21								
Sound Power Level (Measured in Anechoic Room)		dB <A>	Rated Operation	56 (When P200 Outdoor/Heat Source Unit is Connected, 57 (P250), 59 (P350)								
			Defrost	73								
Sound Pressure Level (Measured in Anechoic Room)		dB <A>	Rated Operation	38 (When P200 Outdoor/Heat Source Unit is Connected, 39 (P250), 40 (P250), 40 (P350)								
			Defrost	53								
Accessories				Drain Connection Pipe, Washer, Tie Band								

Notes:

1. Installation/foundation work, electrical connection work, insulation work, power source switch, and other items shall be referred to the Installation Manual.
2. The equipment is for R410A refrigerant.
3. Install this product in a location where noise (refrigerant noise) emitted by the unit will not disturb the neighbors.
   (For use in quiet environments with low background noise, position the BC CONTROLLER at least 5m away from any indoor units.)
4. Sound pressure/power level differs depending on the connected outdoor/heat source unit capacity or operation condition. The sound pressure/power level at the Rated Operation is the value of the cooling mode.
5. The sound pressure/power level values were obtained in an anechoic room. Actual sound pressure level is usually greater than that measured in anechoic room due to ambient noise and deflection sound.
6. The Sound Pressure Level values were obtained at the location below 1.5m from the unit.
7. The solenoid valve switching sound is 56 dB regardless of the unit model.
8. Indoor units P100, P125, P140 can be connected to 1 branch. (In this case, cooling capacity decreases a little.)
9. Refrigerant Piping Diameter for connection of plural indoor units with 1 branch shall be referred to the Installation Manual.
10. This unit is not designed for outside installations.
11. When blazing the pipes, be sure to blaze, after covering a wet cloth to the insulation pipes of the units in order to prevent it from burning and shrinking by heat.

*12 Indoor unit capacity connectable to 1 branch is changed depending on the indoor unit type and connection method. Please refer to the Installation Manual for more information.

*13 For the refrigerant pipe size, refer to Installation Manual of outdoor units/heat source units.

*14 When blazing the pipes, be sure to blaze, after covering a wet cloth to the insulation pipes of the units in order to prevent it from burning and shrinking by heat.

*15 Can't use singleness. (MAIN BC CONTROLLER is necessary).

Indoor Units

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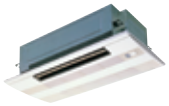
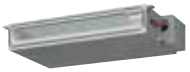
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Lineup of Indoor Units

Type		Ceiling Cassette Type				Ceiling Concealed Type	
Model		PLFY-P VEM-A 4-Way Air Flow	PLFY-P VFM-E1 4-Way Air Flow	PLFY-P VLMD-E 2-Way Air Flow	PMFY-P VBM-E 1-Way Air Flow	PEFY-P VMR-E-L/R Low Noise Type	PEFY-P VMS1(L)-E Compact Depth Type
							
Line Up	P15		●				●
	P20		●	●	●	●	●
	P25		●	●	●	●	●
	P32	●	●	●	●	●	●
	P40	●	●	●	●		●
	P50	●	●	●			●
	P63	●		●			●
	P80	●		●			
	P100	●		●			
	P125	●		●			

Type		Ceiling Concealed Type					
Model		PEFY-P VMX(L)-E(1) Compact Depth Type	PEFY-P VMA(L)-E Medium Static Pressure Type	PEFY-P VMA3-E Medium Static Pressure Type	PEFY-P VMHS-E High Static Pressure Type	PEFY-P VMHS-E-F Fresh Air Intake Type	PEFY-P VMH-E-F Fresh Air Intake
							
Line Up	P15	●					
	P20	●	●	●			
	P25	●	●				
	P32	●	●				
	P40	●	●		●		
	P50	●	●		●		
	P63	●	●		●		
	P71		●		●		
	P80		●		●		●
	P100		●		●		
	P125		●		●	●	
	P140		●		●		●
	P200				●	●	●
	P250				●	●	●

Type		Ceiling Suspended Type	Wall Mounted Type			Floor Standing/Floor Mounted Concealed Type		
Model		PCFY-P VKM-E	PKFY-P VLM-E	PKFY-P VLM-E	PKFY-P VKM-E	PFFY-P VKM-E2	PFFY-P VLEM-E	PFFY-P VLRM-E PFFY-P VLRMM-E
								
Line Up	P15		●					
	P20		●			●	●	●
	P25		●			●	●	●
	P32		●			●	●	●
	P40	●		●		●	●	●
	P50			●			●	●
	P63	●			●		●	●
	P100	●			●			
	P125	●						

Provide Comfort to All Corners of the Room

CEILING CASSETTE TYPE | 4-WAY AIRFLOW TYPE

Ceiling cassette air conditioning systems are an ideal option to air condition rooms where there is no available walls to mount a split system or where there is limited ceiling space for a ducted system. Its whisper quiet operation is ideal for master bedrooms, living rooms and other single room residential or commercial uses.

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

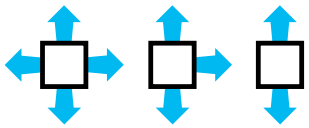
PLFY-P VEM-A

4-WAY AIRFLOW TYPE

OPTIMUM AIRFLOW

2-,3-,4-way airflow pattern selection

Three outlet options to choose from: bi-directional, three-way, and four-way to suit different types of installation. Select, for example, four-directional for installation in the center of the room and three-directional for installation in the corner.

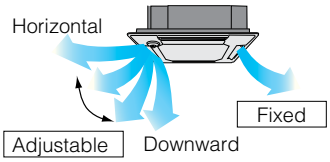


2-,3-,4-way air flow pattern selection.
*Optional shuffle placement is required for 2- and 3-way patterns.

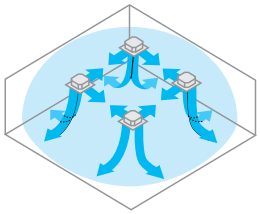
Individual vane angle settings

Vane directions can be changed or fixed from the remote controller to direct the supply air at or away from the objects or the occupants in the room.

Airflow direction at each vane can be set using the wired remote controller of the wireless remove controller (PAR-SL100A-E).



Multi-directional air conditioning



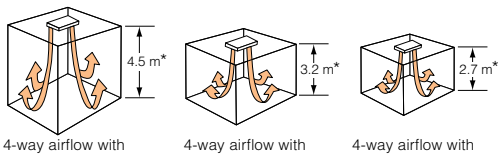
2-, 3-, 4-way airflow pattern selection

Individual vane angle settings

The combination of individual vane setting, which enables the optimal outlet setting for each room layout, and the wide airflow function works to ensure even temperature distribution throughout each room. The result is uniformly comfortable 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 a room's height. The ability to choose the optimum airflow volume makes it possible to optimise 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

*P100

Airflow pattern \ Model	P20-P80			P100/P125		
	High-ceiling setting	Standard setting	Low-ceiling setting	High-ceiling setting	Standard setting	Low-ceiling setting
4-way	3.5m	2.7	2.5m	4.5m	3.2m	2.7m
3-way	3.5m	3.0m	2.7m	4.5m	3.6m	3.0m
2-way	3.5m	3.3m	3.0m	4.5m	4.0m	3.3m

AUTOMATIC AIR-SPEED ADJUSTMENT

An automatic air-speed mode that adjusts airflow speed automatically is adopted 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 heating/cooling operation, the airflow is set to high-speed to quickly heat/cool the room.

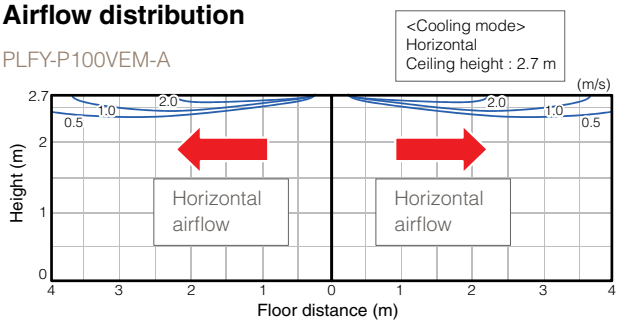
When the room temperature reaches the desired setting, the airflow speed is decreased automatically for stable and comfortable heating/cooling operation.

HORIZONTAL AIRFLOW

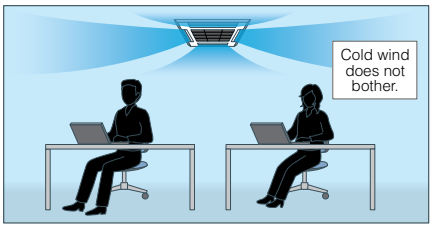
Air supply is horizontally fed into the space to reduce the feeling of cold draft suitable for offices and restaurants.

Airflow distribution

PLFY-P100VEM-A



Horizontal airflow



EASY INSTALLATION

Temporary hanging hook

The structure of the panel has been redesigned and is now equipped with a temporary hanging hook. This has improved work efficiency during panel installation.

Electrical box wiring

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

Previous model

Current model

No need to remove screws

Installation is possible without removing the screws for the corner panel and the control box, simply loosen them. This lowers the risk of losing screws.

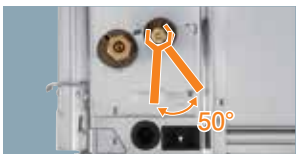
Corner panel

Control box cover

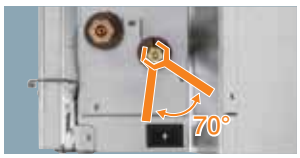
Increased space for plumbing work

The top and bottom positions of the liquid 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 where the spanner can be moved has been increased, thus improving liquid pipe work and enabling it to be completed smoothly.

Previous model

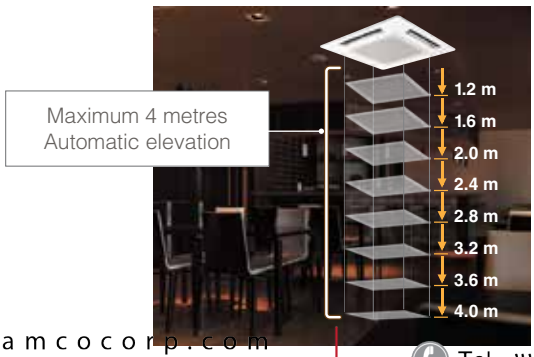


Current model



EASY CLEANING

With the automatic elevation panel, cleaning the filter is easy, even with high ceilings.



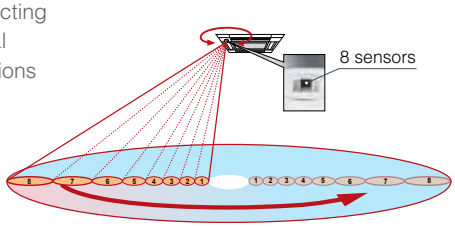
IT TERMINAL

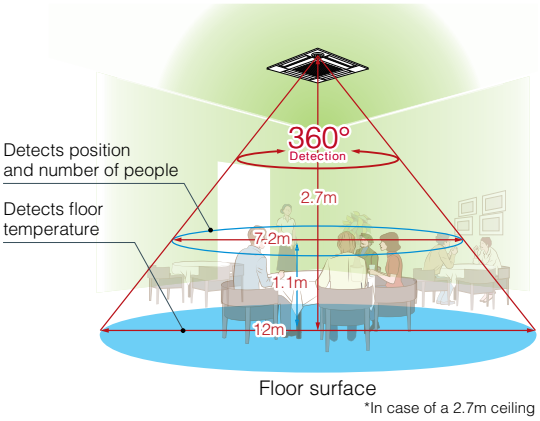
IT terminal is available. For details, contact your local distributor.

3D i-SEE SENSOR

Highly accurate people detection

A total of eight sensors rotate a full 360° in 3-minute intervals. In addition to detecting human body temperature, our original algorithm also detects people's positions and the number of people.





Room occupancy energy-saving mode

The 3D i-See Sensor detects the number of people in the room. It then calculates the occupancy rate based on the maximum number of people in the room up to that point in time in order to save air conditioning power. Air conditioning power equivalent to 1°C is saved during both cooling and heating operation at an occupancy rate of approximately 30%. The temperature is controlled according to the number of people.

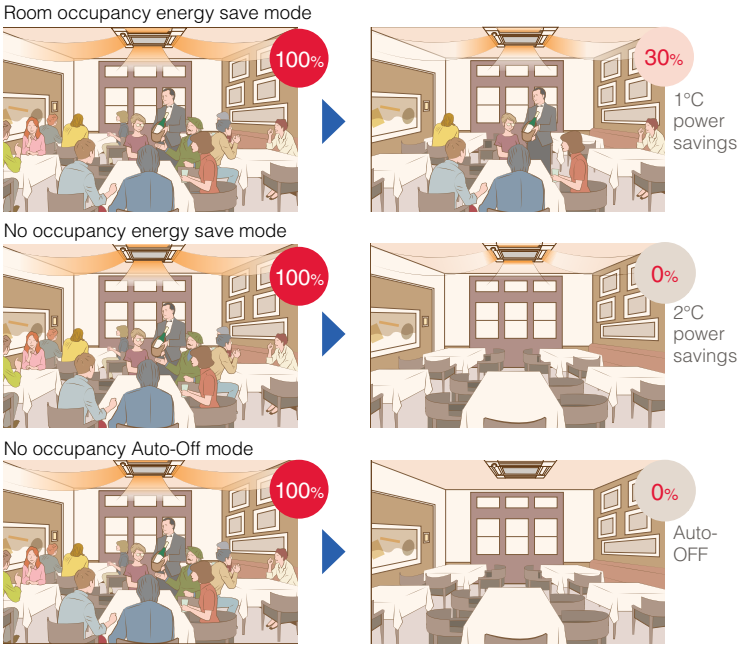
No occupancy energy-saving mode

When 3D i-See Sensor detects that no one is in the room, the system is switched to a preset power-saving mode. If the room remains unoccupied for more than 60 minutes, air conditioning power equivalent to 2°C is saved during both cooling and heating operation. This contributes to preventing waste in terms of heating and cooling.

No occupancy Auto-OFF mode

When the room remains unoccupied for a preset period of time, the air conditioner turns off automatically, thereby providing even greater power savings. The time until operation is stopped can be set in intervals of 10 minutes, ranging from 60 to 180 minutes.

*No occupancy Auto-OFF mode is not available when multiple indoor units are operated by one MA remote controller.

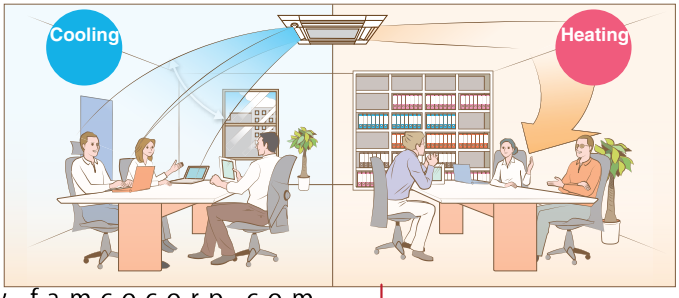


*PAR-33MAA is required for each setting.

Seasonal airflow

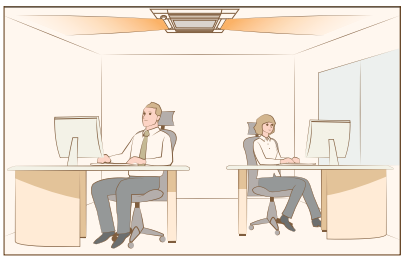
When cooling
Saves energy while keeping a comfortable effective temperature by automatically switching between ventilation and cooling. When a pre-set temperature is reached, the air conditioning unit switches to swing fan operation to maintain the effective temperature. This clever function contributes to keeping a comfortable coolness.

When heating
The air conditioning unit automatically switches between circulator and heating. Wasted heat that accumulates near the ceiling is reused via circulation. When a preset temperature is reached the air conditioner switches from heating to circulator and blows air in the horizontal direction. It pushes down the warm air that has gathered near the ceiling to people's height, thereby providing smart heating.



Direct/indirect setting

Some people do not like the feeling of wind, while others want to be warm from head to toe. People's likes and dislikes vary. With the 3D i-see Sensor, it is possible to choose to block or not block to the wind for each vane.



SPECIFICATIONS

INDOOR UNIT - CEILING CASSETTE TYPE

PLFY-P VEM-A / 4-Way Airflow

Model			PLFY-P32VEM-A	PLFY-P40VEM-A	PLFY-P50VEM-A	PLFY-P63VEM-A	PLFY-P80VEM-A	PLFY-P100VEM-A	PLFY-P125VEM-A
Power Source			1-phase 220/230/240V 50Hz, 220/230V 60Hz						
Cooling Capacity*1		kW	3.6	4.5	5.6	7.1	9.0	11.2	14.0
		BTU/h	12,300	15,400	19,100	24,200	30,700	38,200	47,800
Heating Capacity*2		kW	4.0	5.0	6.3	8.0	10.0	12.5	16.0
		BTU/h	13,600	17,100	21,500	27,300	34,100	42,700	54,600
Power Consumption	Cooling	kW	0.03				0.05	0.07	0.11
	Heating	kW	0.03				0.05	0.07	0.11
Current	Cooling	A	0.32			0.36	0.50	0.67	1.06
	Heating	A	0.25			0.29	0.43	0.60	0.99
External Finish (Munsell No.)		Unit	Galvanised Steel Sheet						
		Panel	MUNSELL (1.0Y/9.2/0.2)						
Dimension H x W x D	Unit	mm	258 x 840 x 840					298x840x840	
	Panel	mm	40 x 950 x 950						
Net Weight	Unit	kg	19			21		24	
	Panel	kg	5						
Heat Exchanger			Micro Slit Fin (Aluminum Fin and Copper Tube)						
Fan	Type x Quantity		Turbo Fan x 1						
	Air Flow Rate *2 (Lo-Mid2-Mid1-Hi)	m³/min	13-14-16-17		13-14-16-19	15-16-17-19	15-18-20-23	20-23-26-29	24-26-30-35
		L/s	217-233-267-283	217-233-267-300	217-233-267-317	250-267-283-317	250-300-333-383	333-383-433-483	400-433-500-583
		cfm	459-494-565-600	459-494-565-636	459-494-565-671	530-565-600-671	530-636-706-812	706-812-918-1024	847-918-1060-1236
	External Static Pressure	Pa	0						
Motor	Type		DC Motor						
	Output	kW	0.050					0.120	
Air Filter			PP Honeycomb						
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø12.7 (ø1/2)			ø15.88 (ø5/8)			
	Liquid (Flare)	mm (in.)	ø6.35 (ø1/4)			ø9.52 (ø3/8)			
Field Drain Pipe Diameter		mm (in.)	O.D. 32 (1-1/4)						
Sound Pressure Level *2 *3 (Low-Mid2-Mid1-Hi)		dB(A)	26-27-29-31	26-27-29-31	26-27-29-31	28-29-30-32	28-31-34-37	34-37-39-41	35-39-42-45

OPTIONAL PARTS

INDOOR UNITS

For PLFY-P VEM-A / 4-Way Airflow

Description	Model	Applicable Capacity
Branch Pipe (2 Branch)	CMY-Y62-G-E	P32, P40, P50, P63, P80, P100, P125
Header	CMY-Y64-G-E	P32, P40, P50, P63, P80, P100, P125
Header	CMY-Y68-G-E	P32, P40, P50, P63, P80, P100, P125
Drain Socket	PAC-SG61DS-E	P32, P40, P50, P63, P80, P100, P125
Centralised Drain Pan	PAC-SH97DP-E	P32, P40, P50, P63, P80, P100, P125
Port Connector (Ø9.52 →Ø12.7)	PAC-SG73RJ-E	P32, P40, P50, P63, P80, P100, P125
3RUW &RQQHFWRU (Ø15.88 →Ø19.05)	PAC-SG75RJ-E	P32, P40, P50, P63, P80, P100, P125
Air Outlet Guide	PAC-SJ37SP-E	P32, P40, P50, P63, P80, P100, P125

Notes:
*Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
*Due to continuing improvement, above specifications may be subject to change without notice.
*1. Nominal cooling conditions
Indoor: 27°CD.B./19°CW.B., Outdoor: 35°CD.B.
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)
*2. Nominal heating conditions
Indoor: 20°CD.B., Outdoor: 7°CD.B./6°CW.B.
Pipe length: 7.5 m (24-9/16 ft.), Level difference: 0 m (0 ft.)

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

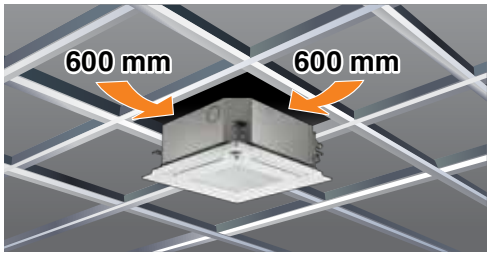
PLFY-P VFM-E

4-WAY AIRFLOW TYPE

Size which perfectly fits to grid system ceiling (600 mm × 600 mm). Possible to blow in 4-way direction even though it is a compact size.

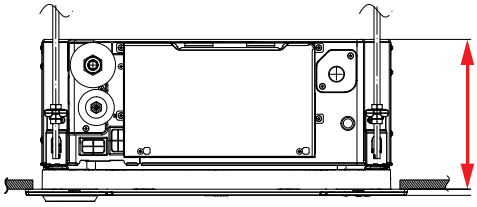
BEAUTIFUL SQUARE DESIGN

The straight square design matches 2 × 2 (600 mm × 600 mm) ceiling construction specifications.
Direct line-based square design enables designs of system ceiling to match the design of direct line type illuminations, thereby creating a beautiful space.



THE HEIGHT ABOVE CEILING 245MM

The height above ceiling of 245 mm is top class in the industry*, and enables fitting into narrow ceiling space.



* As of Aug 2015. Among compact 4-way cassettes for system ceiling. (An incompany investigation.)

COMPACT AND LIGHT-WEIGHT DESIGN

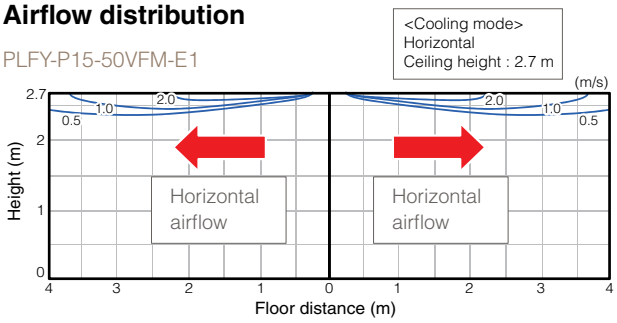
The panel weighs 3 kg, and the unit's body weighs 14 kg (P15, P20 and P25 models) or 15 kg (P32, P40 and P50 models).

HORIZONTAL AIRFLOW

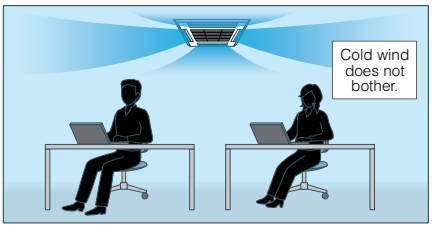
Air supply is horizontally fed into the space to reduce the feeling of cold draft. The ideal airflow for offices and restaurants.

Airflow distribution

PLFY-P15-50VFM-E1



Horizontal airflow



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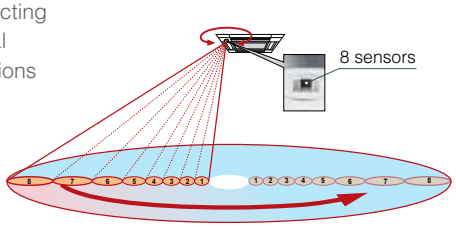
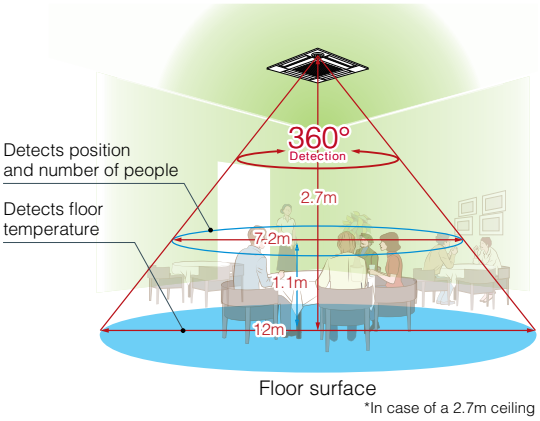
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

3D i-SEE SENSOR

Highly accurate people detection

A total of eight sensors rotate a full 360° in 3-minute intervals. In addition to detecting human body temperature, our original algorithm also detects people's positions and the number of people.





Room occupancy energy-saving mode

the 3D i-See Sensor detects the number of people in the room. It then calculates the occupancy rate based on the maximum number of people in the room up to that point in time in order to save air conditioning power. Air conditioning power equivalent to 1°C is saved during both cooling and heating operation at an occupancy rate of approximately 30%. The temperature is controlled according to the number of people.

No occupancy energy-saving mode

When 3D i-See Sensor detects that no one is in the room, the system is switched to a preset power-saving mode. If the room remains unoccupied for more than 60 minutes, air conditioning power equivalent to 2°C is saved during both cooling and heating operation. This contributes to preventing waste in terms of heating and cooling.

No occupancy Auto-OFF mode

When the room remains unoccupied for a preset period of time, the air conditioner turns off automatically, thereby providing even greater power savings. The time until operation is stopped can be set in intervals of 10 minutes, ranging from 60 to 180 minutes.

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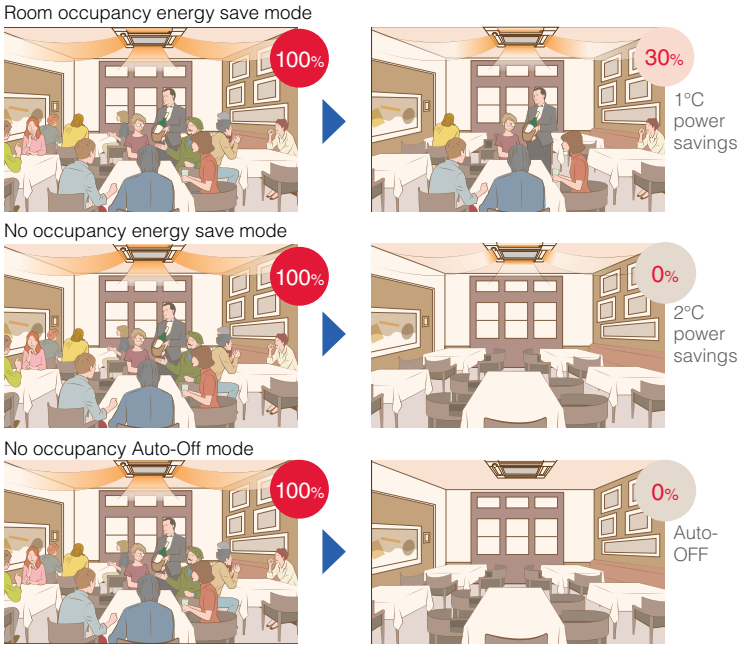

*PAR-33MAA is required for each setting.

Seasonal airflow

When cooling
Saves energy while keeping a comfortable effective temperature by automatically switching between ventilation and cooling. When a pre-set temperature is reached, the air conditioning unit switches to swing fan operation to maintain the effective temperature. This clever function contributes to keeping a comfortable coolness.

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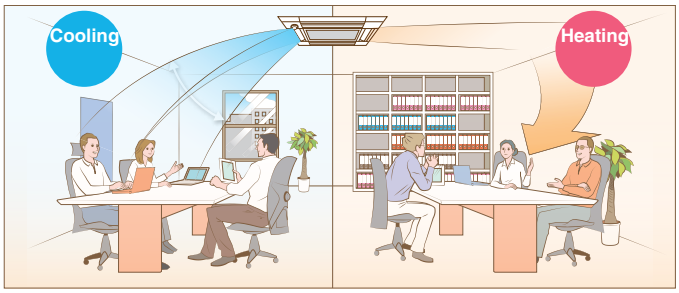
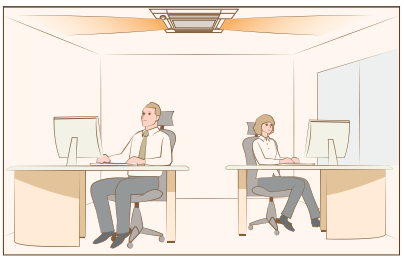
The air conditioning unit automatically switches between circulator and heating. Wasted heat that accumulates near the ceiling is reused via circulation. When a preset temperature is reached the air conditioner switches from heating to circulator and blows air in the horizontal direction. It pushes down the warm air that has gathered near the ceiling to people's height, thereby providing smart heating.



Direct/indirect setting

Some people do not like the feeling of wind, while others want to be warm from head to toe. People's likes and dislikes vary. With the 3D i-see Sensor, it is possible to choose to block or not block to the wind for each vane.



SPECIFICATIONS

INDOOR UNIT - CEILING CASSETTE TYPE

PLFY-P VFM-E1 / 4-Way Airflow

Model			PLFY-P15VFM-E1	PLFY-P20VFM-E1	PLFY-P25VFM-E1	PLFY-P32VFM-E1	PLFY-P40VFM-E1	PLFY-P50VFM-E1
Power Source			1-Phase 220-240V 50Hz / 220V 60Hz					
Cooling Capacity*1		kW	1.7	2.2	2.8	3.6	4.5	5.6
		BTU/h	5,800	7,500	9,600	12,300	15,400	19,100
Heating Capacity (Nominal)*1		kW	1.9	2.5	3.2	4.0	5.0	6.3
		BTU/h	6,500	8,500	10,900	13,600	17,100	21,500
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	0.40
	Heating	A	0.14	0.16	0.17	0.18	0.23	0.35
External Finish (Munsell No.)		Unit	Galvanised Steel Sheet					
		Panel	MUNSELL (1.0Y/9.2/0.2)					
Dimension H x W x D	Unit	mm	208 x 570 x 570					
	Panel	mm	10 x 625 x 625					
Net Weight	Unit	kg	14			15		
	Panel	kg	3					
Heat Exchanger			Cross Fin (Aluminum Fin and Copper Tube)					
Fan	Type x Quantity		Turbo Fan x 1					
	Air Flow Rate (Lo-Mid-Hi)	m^3/min	6.5-7.5-8.0	6.5-7.5-8.5	6.5-8.0-9.0	7.0-8.0-9.5	7.5-9.0-11.0	9.0-11.0-13.0
		L/s	108-125-133	108-125-142	108-133-150	117-133-158	125-150-183	150-183-217
		cfm	230-265-282	230-265-300	230-282-318	247-282-335	265-318-388	318-388-459
	External Static Pressure	Pa	0					
Motor	Type		DC Motor					
	Output	kW	0.05					
Air Filter			PP Honeycomb Fabric (Long Life Type)					
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø12.7 (ø1/2)					
	Liquid (Flare)	mm (in.)	ø6.35 (ø1/4)					
Field Drain Pipe Diameter		mm (in.)	O.D. 32 (1-1/4) (PVC Pipe VP-25 Connectable)					
Sound Pressure Level *2 (Lo-Mid-Hi)		dB(A)	26-28-30	26-29-31	26-30-33	26-30-34	28-33-39	33-39-43

Notes:
*1 Cooling/Heating capacity indicates the maximum value at operation under the following condition.
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB
Heating : Indoor 20°C DB, Outdoor 7°C DB/6°C WB
*2 It is measured in anechoic room at power source 230V.

OPTIONAL PARTS

INDOOR UNITS

For PLFY-P VFM-E1 / 4-Way Airflow

Description	Model	Applicable Capacity
i-See Sensor Corner Panel	PAC-SF1ME-E	P15, P20, P32, P40, P50
Wareless Signal Receiver	Par-SF9FA-E	P15, P20, P32, P40, P50

PANEL & PANEL CORNER

INDOOR UNITS

For PLFY-P VFM-E1 / 4-Way Airflow

		With Signal Receiver	With 3D i-See Sensor	With Wireless Remote Controller
Panel	SLP-2FA			
	SLP-2FAL	✓		
	SLP-2FAE		✓	
	SLP-2FALE	✓	✓	
	SLP-2FALM	✓		✓
	SLP-2FALME	✓	✓	✓
Corner Panel	PAR-SF9FA-E	✓		
	PAC-SF1ME-E		✓	

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

Simple Panel Design

CEILING CASSETTE TYPE | 2-WAY AIRFLOW TYPE

The compact height (290 mm) and built in drain lift-up mechanism make this unit ideal for low and narrow ceiling spaces.

PLFY-P VLMD-E

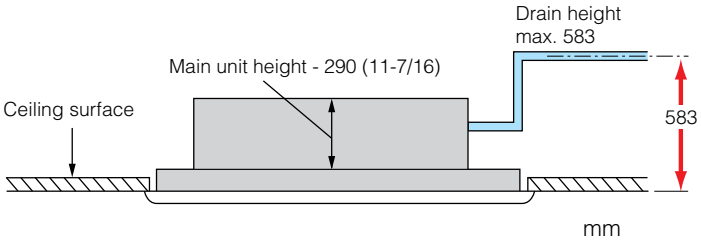
2-WAY AIRFLOW TYPE

SIMPLE PLAN DESIGN

In-take port is not a grille but made in stylish design. It can be installed in harmony with ceiling and illuminations.

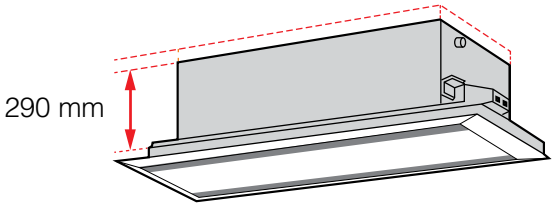
DRAIN PUMP IS EQUIPPED AS STANDARD FEATURE

The drain can be positioned anywhere up to 583 mm from the ceiling's surface, providing greater freedom with long cross-piping and allowing more versatility with piping layouts.



SLIM BODY - ONLY 290MM HEIGHT

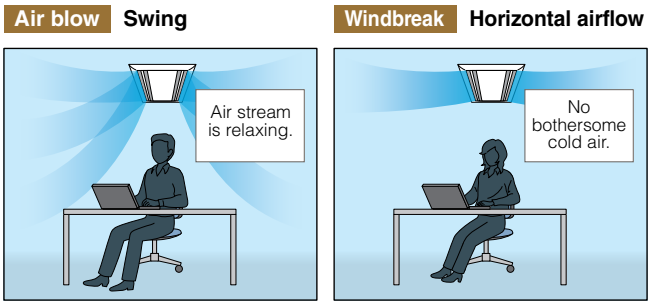
The slimline body is highly suited for installation in narrow ceiling spaces and for replacing obsolete air conditioning equipment in older buildings. The height of the main unit is only 290 mm.



VANE CONTROL

Vane angle can be selected from 7 types including "Horizontal fix" and "Swing" to set an airblow type according to your taste.

*Airflow direction cannot be changed individually.



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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

INDOOR UNIT - CEILING CASSETTE TYPE

PLFY-P VLMD-E / 2-Way Airflow

Model			PLFY-P20VLMD-E	PLFY-P25VLMD-E	PLFY-P32VLMD-E	PLFY-P40VLMD-E
Power Source			1-Phase 220-240V 50Hz / 1-Phase 220-230V 60Hz			
Cooling Capacity*1		kW	2.2	2.8	3.6	4.5
		BTU/h	7,500	9,600	12,300	15,400
Heating Capacity*1		kW	2.5	3.2	4.0	5.0
		BTU/h	8,500	10,900	13,600	17,100
Power Consumption	Cooling	kW	0.072 / 0.075	0.072 / 0.075	0.072 / 0.075	0.081 / 0.085
	Heating	kW	0.065 / 0.069	0.065 / 0.069	0.065 / 0.069	0.074 / 0.079
Current	Cooling	A	0.36 / 0.37	0.36 / 0.37	0.36 / 0.37	0.40 / 0.42
	Heating	A	0.30 / 0.32	0.30 / 0.32	0.30 / 0.32	0.34 / 0.37
External Finish (Munsell No.)		Unit	Galvanised Steel Plate			
		Panel	Pure White (6.4Y 8.9/0.4)			
Dimension H x W x D	Unit	mm	290 x 776 x 634			
	Panel	mm	20 x 1080 x 710			
Net Weight	Unit	kg	23		24	
	Panel	kg	6.5 (15)			
Heat Exchanger			Cross Fin			
Fan	Type x Quantity		Turbo Fan x 1			
	Air Flow Rate *2 (Lo-Mid-Hi)	m^3/min	6.5-8.0-9.5			7.0-8.5-10.5
		L/s	108-133-158			117-142-175
		cfm	230-283-335			247-300-371
	External Static Pressure	Pa	0			
Motor	Type		1-Phase Induction Motor			
	Output	kW	0.015 (at 240V)			
Air Filter			PP Honeycomb Fabric (Long Life Type)			
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø12.7 (ø1/2) (ø1/2)			
	Liquid (Flare)	mm (in.)	ø6.35 (ø1/4) (ø1/4)			
Field Drain Pipe Diameter		mm (in.)	O.D.32 (1-1/4)			
Sound Pressure Level *2 *3 (Lo-Mid-Hi)	220V, 240V	dB(A)	27-30-33			29-33-36
	230V	dB(A)	28-31-34			30-34-37

Model			PLFY-P50VLMD-E	PLFY-P63VLMD-E	PLFY-P80VLMD-E	PLFY-P100VLMD-E	PLFY-P125VLMD-E
Power Source			1-Phase 220-240V 50Hz / 1-Phase 220-230V 60Hz				
Cooling Capacity*1		kW	5.6	7.1	9.0	11.2	14.0
		BTU/h	19,100	24,200	30,700	38,200	47,800
Heating Capacity*1		kW	6.3	8.0	10.0	12.5	16.0
		BTU/h	21,500	27,300	34,100	42,700	54,600
Power Consumption	Cooling	kW	0.082 / 0.086	0.101 / 0.105	0.147 / 0.156	0.157 / 0.186	0.28 / 0.28
	Heating	kW	0.075 / 0.080	0.094 / 0.099	0.140 / 0.150	0.150 / 0.180	0.27 / 0.27
Current	Cooling	A	0.41 / 0.43	0.49 / 0.51	0.72 / 0.74	0.75 / 0.88	1.35 / 1.35
	Heating	A	0.35 / 0.38	0.43 / 0.46	0.66 / 0.69	0.69 / 0.83	1.33 / 1.33
External Finish (Munsell No.)		Unit	Galvanised Steel Plate				
		Panel	Pure White (6.4Y 8.9/0.4)				
Dimension H x W x D	Unit	mm	290 x 946 x 634		290 x 1446 x 634		290 x 1708 x 606
	Panel	mm	20 x 1250 x 710		20 x 1750 x 710		20 x 2010 x 710
Net Weight	Unit	kg	27	28	44	47	56
	Panel	kg	7.5		12.5		13.0
Heat Exchanger			Cross Fin				
Fan	Type x Quantity		Turbo Fan x 1		Turbo Fan x 2		Sirocco Fan x 4
	Air Flow Rate *2 (P50~P100:Lo-Mid-Hi) (P125:Lo-Mid2-Mid1-Hi)	m^3/min	9.0-11.0-12.5	11.0-13.0-15.5	15.5-18.5-22.0	17.5-21.0-25.0	24.0-27.0-30.0-33.0
		L/s	150-183-208	167-217-258	258-308-367	292-350-417	400-450-500-550
		cfm	318-388-441	353-459-547	547-653-777	618-742-883	848-953-1,059-1,165
	External Static Pressure	Pa	0				
Motor	Type		1-Phase Induction Motor				
	Output	kW	0.020 (at 240V)		0.020 x 2 (at 240V)	0.030 x 2 (at 240V)	0.078 x 2 (at 240V)
Air Filter			PP Honeycomb Fabric (Long Life Type)				Synthetic Fibre Unwoven Cloth Filter (Long Life)
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø12.7 (ø1/2)	ø15.88 (ø5/8)			
	Liquid (Flare)	mm (in.)	ø6.35 (ø1/4)	ø9.52 (ø3/8)			
Field Drain Pipe Diameter		mm (in.)	O.D.32 (1-1/4)				
Sound Pressure Level *2 *3 (Lo-Mid-Hi)	220V, 240V	dB(A)	31-34-37	32-37-39	33-36-39	36-39-42	40-42-44-46 (Lo-Mid2-Mid1-Hi)
	230V	dB(A)	32-35-38	33-38-40	34-37-40	37-41-43	

Notes:
*1 Cooling/Heating capacity indicates the maximum value at operation. Refer to the following condition.
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB
Heating : Indoor 20°C DB, Outdoor 7°C DB/6°C WB
*2 Air flow rate, sound pressure level and sound power level are measured with high fan speed.
*3 It is measured in anechoic room.

OPTIONAL PARTS

INDOOR UNITS

For PLFY-P VLMD-E / 2-Way Airflow

Description	Model	Applicable Capacity
Decoration Panel	CMP-40VLW-C	P20, P25, P32, P40
	CMP-63VLW-C	P50, P63
	CMP-100VLW-C	P80, P100
	CMP-125VLW-C	P125
OA Duct Flange	PAC-KH11OF	P20, P25, P32, P40, P50, P63, P80, P100

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

Superior in Workability

CEILING CASSETTE TYPE | 1-WAY AIRFLOW TYPE

Compact and lightweight body combine to provide a solution that is ideal for limited ceiling space applications.

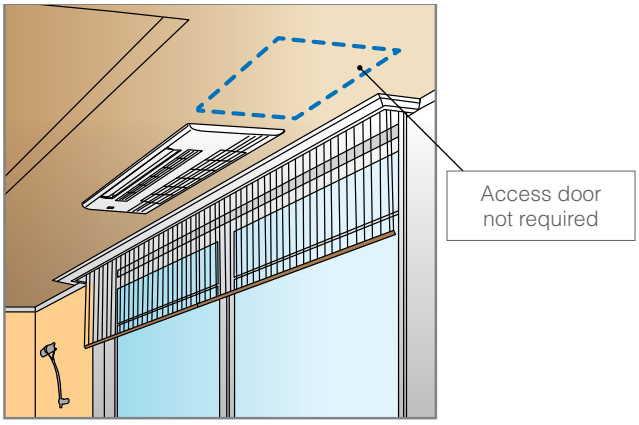
PMFY-P VBM-E

1-WAY AIRFLOW TYPE

Compact and lightweight body combine to provide a solution that is ideal for limited ceiling space applications.

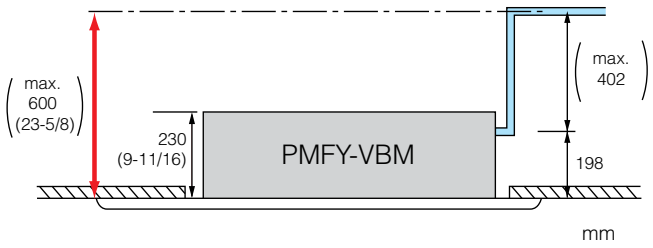
CEILING MOUNTED

Installing a 1-way airflow type unit in a room creates a more spacious feel that enhances room comfort. This overhead format is also an excellent solution when lighting equipment is installed at the centre of the room and fixtures such as book shelves are mounted on wall surfaces.



DRAIN PUMP

The drain can be positioned anywhere up to 600 mm (23-5/8 in.) from the ceiling's surface.



COMPACT SIZE FOR SMOOTH INSTALLATION AND MAINTENANCE

Unit body size has been standardised for all models at 812 mm for easier installation.
Body weight is only 14 kg for the main unit and 3 kg for the panel, making this unit one of the lightest in the industry.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

INDOOR UNIT - CEILING CASSETTE TYPE

PMFY-P VBM-E / 1-Way Airflow

Model			PMFY-P20VBM-E	PMFY-P25VBM-E	PMFY-P32VBM-E	PMFY-P40VBM-E
Power Source			1-Phase 220-240V 50Hz / 1-Phase 220V 60Hz			
Cooling Capacity*1		kW	2.2	2.8	3.6	4.5
		BTU/h	7,500	9,600	12,300	15,400
Heating Capacity*1		kW	2.5	3.2	4.0	5.0
		BTU/h	8,500	10,900	13,600	17,100
Power Consumption	Cooling	kW	0.042	0.044		0.054
	Heating	kW	0.042	0.044		0.054
Current	Cooling	A	0.20	0.21		0.26
	Heating	A	0.20	0.21		0.26
External Finish			White (0.98Y 8.99/0.63)			
Dimension H x W x D	Unit	mm	230 x 812 x 395			
	Panel	mm	30 x 1000 x 470			
Net Weight	Unit	kg	14			
	Panel	kg	3			
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)			
Fan	Type x Quantity		Line Flow Fan x 1			
	Air Flow Rate *2 (Lo-Mid2-Mid1-Hi)	m³/min	6.5-7.2-8.0-8.7	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		128-145-162-178
		cfm	230-254-283-307	258-283-304-328		272-307-343-378
	External Static Pressure	Pa	0			
Motor	Type		1-Phase Induction Motor			
	Output	kW	0.028			
Air Filter			PP Honeycomb Fabric			
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø12.7 (ø1/2)			
	Liquid (Flare)	mm (in.)	ø6.35 (ø1/4)			
Field Drain Pipe Diameter		mm (in.)	O.D. 26 (1)			
Sound Pressure Level *2 *3 (Low-Mid2-Mid1-Hi)		dB(A)	27-30-33-35	32-34-36-37		33-35-37-39

OPTIONAL PARTS

INDOOR UNITS

PMFY-P VBM-E / 1-Way Airflow

Description	Model	Applicable Capacity
Decoration Panel	PMP-40BMW	P20, P25, P32, P40

Notes:
*1 Cooling/Heating capacity indicates the maximum value at operation under the following condition.
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB
Heating : Indoor 20°C DB, Outdoor 7°C DB/6°C WB
*2 Air flow rate/sound pressure level are in (Lo-Mid2-Mid1-Hi).
*3 It is measured in anechoic room.

Whisper Quiet Operation

CEILING CONCEALED TYPE

Indoor units are as quiet as 23-30 dB (A) at low speed, so they're ideal for offices, hotel rooms, living rooms and other residential uses. Bulkhead air conditioners are also highly effective in limited installation space situations; for example lack of wall space or concrete ceilings.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

Overview of Lineup

Low Noise Type

PEFY-P VMR-E-L/R

» Achieved low noise operation. Most suitable for places where low noise operation is required such as hotels. 20dB (at low fan speed 220V)
» Bottom inlet or rear inlet can be selected.
» Piping connection location can be selected, allowing to select according to layout of a room.

Static pressure 5Pa	Low noise	Rear inlet bottom inlet
Piping connection right/left		Air flow rate 3 levels

Compact Depth Type

PEFY-P VMX(L)-E(1)

» Measures only 450mm* in depth and 200mm in height. Installable in a limited space such as in a room with a clipped ceiling.
» Three return air intake positions (side, bottom, side bottom) to choose from to suit the installation conditions.

Static pressure maximum 45Pa *Maximum pressure differs depending on model.	3 inlet type
Depth: 450mm* Height: 200mm *Duct flange and filter are excluded.	Air flow rate 3 levels
Drain pump (standard)* Maximum lifting height 700mm *For PEFY-P VMX-E(1)	

Low Static Pressure Type

PEFY-P VMS1(L)-E

» Thin design with a body height of 200mm (any kW model) enables the installation in a ceiling with small cavity space.
» Low noise operation has been achieved. 22dB (PEFY-P15VMS1(L)-E at low fan speed).
» Demonstrates external static pressure of maximum 50Pa in spite of its compact design.
» Drain pump installed or not can be selected.

Static pressure maximum 50Pa	Low noise	Height 200mm
Drain pump (standard) Maximum lifting height 550mm		Air flow rate 3 levels

Medium Static Pressure Type

PEFY-P VMA(L)-E
PEFY-P VMA3-E

» Thin design with a body height of 250mm (any kW model) enables the installation in a ceiling with small cavity space.
» Bottom inlet and rear inlet can be selected.
» Demonstrates external static pressure of 150Pa* in spite of its compact design.
*PEFY-P VMA(L)-E models.
» PEFY-P VMA(L)-E models are sold with or without a drain pump.

Static pressure maximum 150Pa *Maximum pressure differs depending on model	Height 250mm	Rear inlet bottom inlet
Drain pump (standard) Maximum lifting height 700mm *For PEFY-P VMA-E and PEFY-P VMA3-E		Air flow rate 3 levels

High Static Pressure Type

PEFY-P VMHS-E

» Maximum external static pressure of 250Pa* allows for more freedom in duct design.
*P200, P250VMHS-E model.
» Compatible with drain pumps (option) 500mm ~ 700mm.

Static pressure Maximum 250Pa *Maximum pressure differs depending on model.	
Drain pump (option) Maximum lifting height 700mm	Air flow rate 3 levels

Fresh Air Intake Type

PEFY-P VMHS-E-F
PEFY-P VMH-E-F

» Controllable supply-air temperature (VHMS-E-F model only).
» Fresh air instake type indoor unit.
» Maximum external static pressure of 250Pa* allows for more freedom in duct design.
*VMHS-E-F model.

Static pressure maximum 150Pa *Maximum pressure differs depending on model	Rear inlet bottom inlet
Drain pump (option) Maximum lifting height 700mm *For PEFY-P VMHS-E-F	Air flow rate 3 levels

PEFY-P VMR-E-L/R

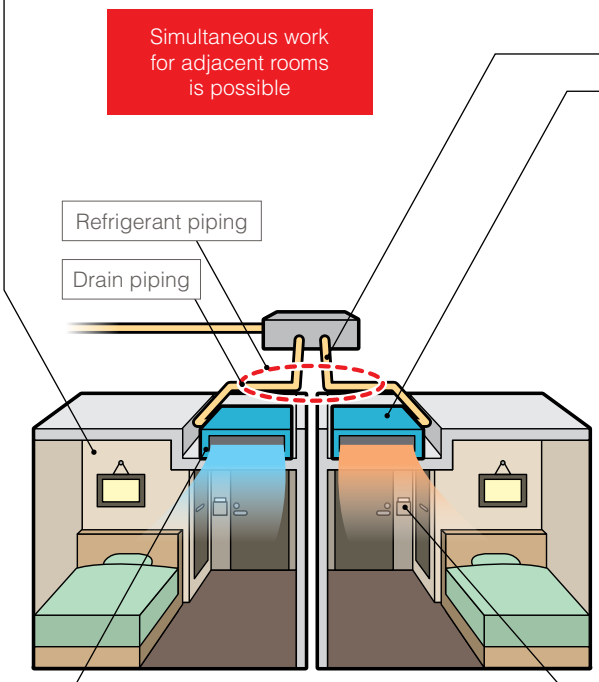
LOW NOISE TYPE

Achieved low noise operation as well as reduced construction work and maintenance, thereby creating a comfortable room environment. Most suitable for installing in a hotel, etc.

*The picture represents -L type. For -R type, the control box comes to the right side when looked at from the front.

LOW-NOISE OPERATION FOR A QUIET INDOOR ENVIRONMENT

Low noise design: Minimum of 20 dB when air flow rate is low and maximum of 35 dB when air flow rate is high.
*Noise values measured on a rear-inlet model in an anechoic room.
(The noise value is higher in cases where the bottom inlet is used.)



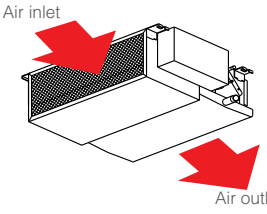
FLEXIBLE APPLICATION IN SYMMETRICALLY ARRANGED ROOMS

Models are available with refrigerant/drain piping and control box on either the right or left sides, so it flexibly fits into a room shape of bilateral symmetry which is frequently seen in hotel guest rooms.

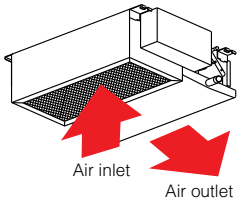
AIR INLET DIRECTION CAN EASILY BE CHANGED

For inlet direction, rear/bottom selection is possible in accordance with layout of a room.

Rear inlet



Bottom inlet



By exchanging the closing board and air filter, rear inlet and bottom inlet can be changed. (At factory shipment: Rear inlet)

*The units with bottom inlet make more noise than those with rear inlet. It is recommended to choose the type of “with rear inlet” for the rooms that should be quiet such as bedrooms.

FAN STRUCTURE ALLOWING EASY MAINTENANCE

As the fan case does not use screws, it can be easily removed, allowing easy maintenance of the fan. Moreover, the air filter can be pulled out from 2 directions of side or rear of the main unit.

INTERLOCK WITH CARD KEY IS POSSIBLE

Air conditioner is switched ON/OFF by pulling or inserting a card key. It prevents from forgetting to turn off air conditioner to save wasteful operation. (Optional accessory is needed.)

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

INDOOR UNIT - CEILING CONCEALED TYPE

PEFY-P VMR-E-L/R

Model				PEFY-P20VMR-E-L	PEFY-P25VMR-E-L	PEFY-P32VMR-E-L
Power Source				1-Phase 220-230-240V 50Hz / 1-Phase 220-230V 60Hz		
Cooling Capacity*1			kW	2.2	2.8	3.6
			BTU/h	7,500	9,600	12,300
Heating Capacity*1			kW	2.5	3.2	4.0
			BTU/h	8,500	10,900	13,600
Power Consumption	Cooling		kW	0.06 / 0.06		0.07 / 0.08
	Heating		kW	0.06 / 0.06		0.07 / 0.08
Current	Cooling		A	0.29 / 0.29		0.34 / 0.38
	Heating		A	0.29 / 0.29		0.34 / 0.38
External Finish				Galvanised		
Dimension H x W x D	Rear Inlet		mm	292 x 640 x 580		
	Bottom Inlet		mm	300 x 640 x 570		
Net Weight			kg	18		
Heat Exchanger				Cross Fin (Aluminum Fin and Copper Tube)		
Fan	Type x Quantity			Sirocco Fan x 1		
	Air Flow Rate (Lo-Mid-Hi)		m³/min	4.8-5.8-7.9		4.8-5.8-9.3
			L/s	80-97-132		80-97-155
			cfm	170-205-279		170-205-328
	External Static Pressure *2		Pa	5		
Motor	Type			1-Phase Induction Motor		
	Output		kW	0.018		0.023
Air Filter				PP Honeycomb Fabric (Washable)		
Refrigerant Pipe Diameter	Gas		mm (in.)	ø12.7 (ø1/2) Brazed		
	Liquid		mm (in.)	ø6.35 (ø1/4) Brazed		
Field Drain Pipe Diameter			mm (in.)	O.D. 26 (1)		
Sound Pressure Level *3 (Lo-Mid-Hi)		220V	dB(A)	20-25-30		20-25-33
		230V		21-26-32		21-26-35
		240V		22-27-30		22-27-33

Model				PEFY-P20VMR-E-R	PEFY-P25VMR-E-R	PEFY-P32VMR-E-R
Power Source				1-Phase 220-230-240V 50Hz / 1-Phase 220-230V 60Hz		
Cooling Capacity (Nominal)*1			kW	2.2	2.8	3.6
			BTU/h	7,500	9,600	12,300
Heating Capacity (Nominal)*1			kW	2.5	3.2	4.0
			BTU/h	8,500	10,900	13,600
Power Consumption	Cooling		kW	0.06 / 0.06		0.07 / 0.08
	Heating		kW	0.06 / 0.06		0.07 / 0.08
Current	Cooling		A	0.29 / 0.29		0.34 / 0.38
	Heating		A	0.29 / 0.29		0.34 / 0.38
External Finish				Galvanised		
Dimension H x W x D	Rear Inlet		mm	292 x 640 x 580		
	Bottom Inlet		mm	300 x 640 x 570		
Net Weight			kg	18		
Heat Exchanger				Cross Fin (Aluminum Fin and Copper Tube)		
Fan	Type x Quantity			Sirocco Fan x 1		
	Air Flow Rate (Lo-Mid-Hi)		m³/min	4.8-5.8-7.9		4.8-5.8-9.3
			L/s	80-97-132		80-97-155
			cfm	170-205-279		170-205-328
	External Static Pressure *2		Pa	5		
Motor	Type			1-Phase Induction Motor		
	Output		kW	0.018		0.023
Air Filter				PP Honeycomb Fabric (Washable)		
Refrigerant Pipe Diameter	Gas (Flare)		mm (in.)	ø12.7 (ø1/2) Brazed		
	Liquid (Flare)		mm (in.)	ø6.35 (ø1/4) Brazed		
Field Drain Pipe Diameter			mm (in.)	O.D. 26 (1)		
Sound Pressure Level *3 (Lo-Mid-Hi)		220V	dB(A)	20-25-30		20-25-33
		230V		21-26-32		21-26-35
		240V		22-27-30		22-27-33

Notes:

*1 Cooling/Heating capacity indicates the maximum value at operation under the following condition.
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB
Heating : Indoor 20°C DB, Outdoor 7°C DB/6°C WB

*2 The external static pressure is set to 5Pa (at 220V, 230V, 240V).

*3 Measured in anechoic room. Sound pressure levels of the unit with a rear air inlet. (Sound pressure levels are higher than the unit with a bottom air inlet.)

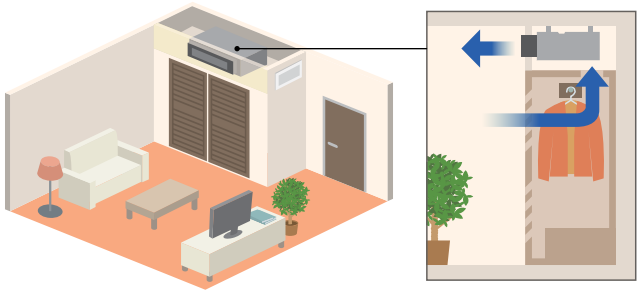
PEFY-P VMX(L)-E(1)

COMPACT DEPTH TYPE

Compact depth design and three ways of suction air offer the flexible installation. The line-up consists of up to P63 with the same depth.

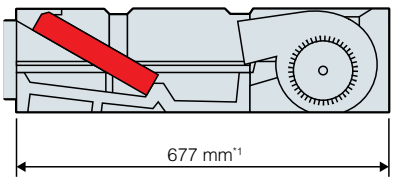
COMPACT DESIGN

The thin body allows to be installed in a tight space such as above the closet.

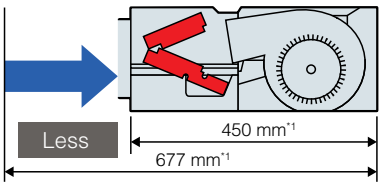


PEFY-P VMX(L)-E(1)		P15	P20	P25	P32	P40	P50	P63
Height	mm	200						
Width	mm	698					948	1148
Depth	mm	450*1						

Standard Depth Model (VMS1)



Compact Depth Model (VMX)

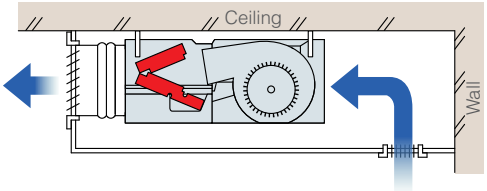


All models measure 450 mm*1 in depth and 200 mm in height. The V-shaped design of the heat exchanger reduced the depth by approx. 33%.
The line-up is available from P15 to P63.

*1. Duct flange and filter are excluded.

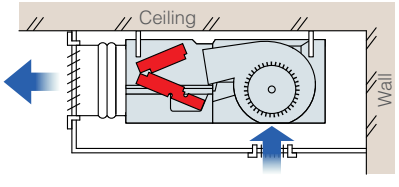
Rear Inlet

Low sound pressure level, suitable for installation where quietness is required.



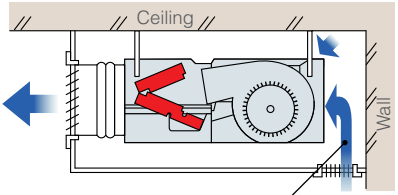
Bottom Inlet

Requires less rear clearance space, allowing for installation in a tight space.



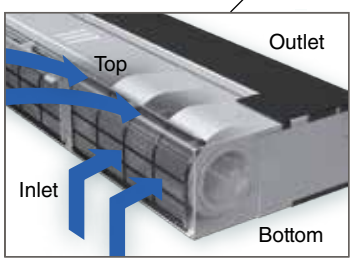
Top & Rear Inlet

Requires the same amount of installation space as the bottom-inlet models, but quieter.



For VRF, Mitsubishi Electric has developed a unique technique of simultaneous return air intake from the top and rear side of an indoor unit. Filter and switches are accessible from the bottom for easy maintenance and setting change. Changes in filter structure and inlet shape on the top and rear inlet model reduced the minimum clearance requirement to 50 mm, enabling the installation of the indoor unit in a narrow space.

*Provide a service access space and an inspection window. Refer to the installation manual for details.
*It is recommended to choose the type of “with rear inlet” for the rooms that should be quiet such as bedrooms.

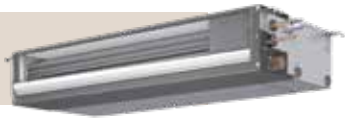


COMPACT DESIGN

The unit is made suitable for a variety of applications with static pressure settings of 4, 15, 35, 45 Pa (P50, P63)/4, 15, 35 Pa (P15, P20, P25, P32, P40).

SPECIFICATIONS

INDOOR UNIT - CEILING CONCEALED TYPE



PEFY-P VMX-E

Model				PEFY-P15VMX-E (1)	PEFY-P20VMX-E (1)	PEFY-P25VMX-E (1)	PEFY-P32VMX-E (1)	PEFY-P40VMX-E (1)	PEFY-P50VMX-E (1)	PEFY-P63VMX-E (1)
Power Source				1-Phase 220-230-240V 50Hz / 60Hz						
Cooling Capacity (Nominal)*1			kW	1.7	2.2	2.8	3.6	4.5	5.6	7.1
			BTU/h	5,800	7,500	9,600	12,300	15,400	19,100	24,200
Heating Capacity (Nominal)*3			kW	1.9	2.5	3.2	4.0	5.0	6.3	8.0
			BTU/h	6,500	8,500	10,900	13,600	17,100	21,500	27,300
Power Consumption*2	Cooling		kW	0.057		0.073	0.079	0.124	0.140	0.139
	Heating		kW	0.038		0.054	0.060	0.105	0.121	0.120
Current*2	Cooling		A	0.62		0.73	0.90	1.41	1.51	1.62
	Heating		A	0.42		0.53	0.70	1.21	1.31	1.42
External Finish				Galvanised						
Dimension H x W x D			mm	200 x 698 x 481 (450*5)					200 X 948 X 481 (450*5)	200, 1,148 X 481 (450*5)
Net Weight			kg	17			18		22	25
Heat Exchanger				Cross Fin (Aluminum Fin and Copper Tube)						
Fan*4	Type x Quantity			Sirocco Fan x 2					Sirocco Fan x 3	Sirocco Fan x 4
	Air Flow Rate (Lo-Mid-Hi)		m^3/min	5.0 - 6.0 - 7.0	5.0 - 6.5 - 7.5	5.5 - 7.0 - 9.0	5.5 - 7.5 - 9.0	7.0 - 10.0 - 12.5	8.5 - 14.0 - 17.0	11.0 - 15.0 - 19.5
			L/s	83 - 100 - 117	83 - 108 - 125	92 - 117 - 150	92 - 125 - 150	117 - 167 - 208	142 - 233 - 283	183 - 250 - 325
			cfm	177 - 212 - 247	177 - 230 - 265	194 - 247 - 318	194 - 265 - 318	247 - 353 - 441	300 - 494 - 600	388 - 560 - 689
	External Static Pressure		Pa	<4> - 15 - <35>					<4> - 15 - <35> - <45>	
Motor	Type			DC Motor						
	Output		kW	0.096						
Air Filter				PP Honeycomb Fabric						
Refrigerant Pipe Diameter	Gas		mm (in.)	ø12.7 (ø1/2) Brazed						ø15.88 (ø5/8) Brazed
	Liquid		mm (in.)	ø6.35 (ø1/4) Brazed						ø9.52 (ø3/8) Brazed
Field Drain Pipe Diameter			mm (in.)	O.D.32 (1-1/4)						
Sound Pressure Level*2 (Lo-Mid-Hi)		Rear	dB(A)	26-27-30	26-28-32	28-30-34	28-31-36	31-38-42	30-37-42	30-34-37
		Bottom		32-37-42	32-37-42	34-39-46	38-42-47	42-51-56	38-49-56	40-46-53

Notes:

*1 Nominal cooling conditions
Indoor: 27°CD.B./19°CW.B., Outdoor: 35°CD.B.
Pipe length: 7.5 m, Level difference: 0 m

*2 The values are measured at the factory setting of external static pressure.

*3 Nominal heating conditions
Indoor: 20°CD.B. , Outdoor: 7°CD.B./6°CW.B.
Pipe length: 7.5 m, Level difference: 0 m

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

*5 Duct flange and filter are excluded.

* Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.

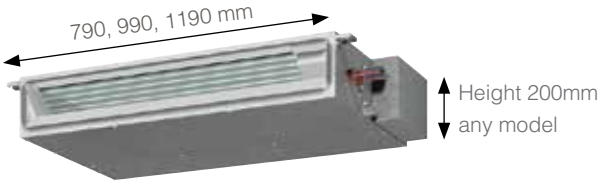
PEFY-P VMS1(L)-E

COMPACT DEPTH TYPE

Even though it has a slim body of 200 mm height, it demonstrates maximum external static pressure of 50 Pa, thereby significantly enhancing freedom of designing and allowing installation into a narrow ceiling space.The line-up consists of up to P63 with the same height.

COMPACT DESIGN

Thin body design with a height of no more than 200 mm (any kW model) enables the installation in a ceiling with small cavity space.



PEFY-P VMX(L)-E(1)		P15	P20	P25	P32	P40	P50	P63
Height	mm	200						
Width	mm	790				990		1190

LOW NOISE DESIGN

Thanks to centrifugal fan and coil, low noise operation was achieved. It is best suited to a place where quietness is required.

Sound pressure level table (Standard static pressure) at 15 Pa

Capacity			P15	P20	P25	P32	P40	P50	P63
Sound Pressure Level	Fan Speed	Hi	28	29	30	32	33	35	36
		Mid	24	25	26	27	30	32	33
		Lo	22	23	24	24	28	30	30

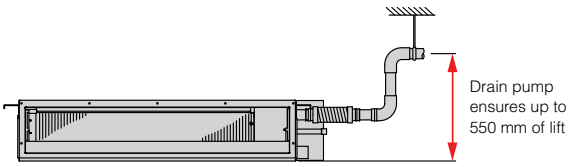
EXTERNAL STATIC PRESSURE

External static pressure can be selected from 5, 15, 35 and 50 Pa. (Set to 15 Pa at the time of factory shipment)

OPTIONAL DRAIN PUMP

For PEFY-P VMS1, drain pump is equipped as standard feature and eliminates drain trap. This achieves Maximum lifting height of 550 mm.
For PEFY-P VMS1L-E, drain pump is sold separately.

*For places where low-noise operation is especially required (i.e., hotels), VMS1L (without drain pump) is recommended.



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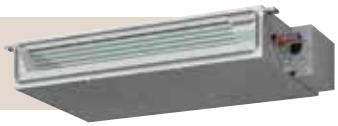
SPECIFICATIONS

INDOOR UNIT - CEILING CONCEALED TYPE



PEFY-P VMS1(L)-E

Model			PEFY-P15VMS1(L)-E	PEFY-P20VMS1(L)-E	PEFY-P25VMS1(L)-E	PEFY-P32VMS1(L)-E	PEFY-P40VMS1(L)-E	PEFY-P50VMS1(L)-E	PEFY-P63VMS1(L)-E
Power Source			1-Phase 220-240V 50Hz / 1-Phase 220-240V 60Hz						
Cooling Capacity*1		kW	1.7	2.2	2.8	3.6	4.5	5.6	7.1
		BTU/h	5,800	7,500	9,600	12,300	15,400	19,100	24,200
Heating Capacity*1		kW	1.9	2.5	3.2	4.0	5.0	6.3	8.0
		BTU/h	6,500	8,500	10,900	13,600	17,100	21,500	27,300
Power Consumption *3	Cooling	kW	0.05 [0.03]		0.06 [0.04]	0.07 [0.05]		0.09 [0.07]	
	Heating	kW	0.03 [0.03]		0.04 [0.04]	0.05 [0.05]		0.07 [0.07]	
Current *3	Cooling	A	0.42 [0.31]	0.47 [0.36]	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]		0.45 [0.45]	0.56 [0.56]	0.61 [0.61]
External Finish			Galvanised						
Dimension H x W x D		mm	200 x 790 x 700				200 x 990 x 700		200 x 1,190 x 700
Net Weight *3		kg	19			20	24		28
Heat Exchanger			Cross Fin (Aluminium Fin and Copper Tube)						
Fan	Type x Quantity		Sirocco Fan x 2				Sirocco Fan x 3		Sirocco Fan x 4
	Air Flow Rate (Lo-Mid-Hi)	m³/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
		L/s	83-100-117	91-108-133	91-117-150	100-133-167	133-158-183	158-183-217	200-233-275
		cfm	176-212-247	194-229-282	194-247-317	212-282-353	282-335-388	335-388-459	424-494-583
	External Static Pressure*2	Pa	5-15-35-50						
Motor	Type		DC Motor						
	Output	kW	0.096						
Air Filter			PP Honeycomb Fabric (Washable)						
Refrigerant Pipe Diameter	Gas	mm (in.)	ø12.7 (ø1/2) Brazed						ø15.88 (ø5/8) Brazed
	Liquid	mm (in.)	ø6.35 (ø1/4) Brazed						ø9.52 (ø3/8) Brazed
Field Drain Pipe Diameter		mm (in.)	O.D. 32 (1-1/4)						
Sound Pressure Level (Lo-Mid-Hi) (Measured in Anechoic Room)		dB(A)	22-24-28	23-25-29	24-26-30	24-27-32	28-30-33	30-32-35	30-33-36

OPTIONAL PARTS

INDOOR UNITS

For PEFY-P VMS1(L)-E

Description	Model	Applicable Capacity
Drain Pump	PAC-KE07DM-E	P20, P25, P32, P40, P50, P63 *For PEFY-VMS1L only
Control Box Replace Kit	PAC-KE70HS-E	P20, P25, P32, P40, P50, P63

Notes:

*1 Cooling/Heating capacity indicates the maximum value at operation under the following condition.
Cooling : Indoor 27°C DB/19°C WB, Outdoor 35°C DB
Heating : Indoor 20°C DB, Outdoor 7°C DB/6°C WB
Piping length : 7.5m / Height difference : 0m

*2 The external static pressure is set to 15Pa at factory shipment.

*3 [ ] is in case of PEFY-P15-63VMS1-E

PEFY-P VMA(L)-E

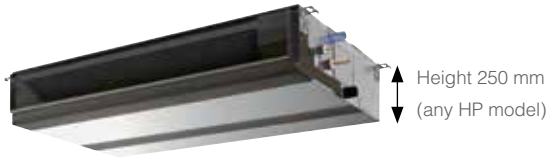
MEDIUM STATIC PRESSURE TYPE

*The picture represents VMA type
(equipped with drain pump as standard).

A wide range of external static pressure and the slim 250mm height body provide design flexibility for narrow ceiling spaces. The line-up consists of up to P140 with the same height.

COMPACT DESIGN

Thin body design with a height of no more than 250 mm (any HP model) enables the installation in a ceiling with small cavity.



EXTERNAL STATIC PRESSURE

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 150 Pa.

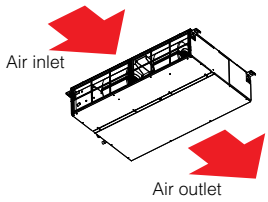
Series	P20	P25	P32	P40	P50	P63	P71	P80	P100	P125	P140
PEFY-P VMA(L)-E	35/50/70/100/150 Pa										

AIR INLET DIRECTION CAN EASILY BE CHANGED

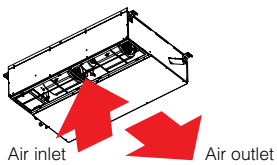
By only switching the closing board and air filter, the inlet layout can be altered from the rear inlet. (At the time of factory shipment: rear inlet)

*Units with bottom inlet make more noise than those with a rear inlet.
It is recommended that the rear inlet be selected when installing the units in rooms that should be quiet, such as bedrooms.

Rear inlet



Bottom inlet



ANALOGUE INPUT

Multi-stage airflow control is possible by connecting a third-party Damper System Controller to the analogue input.

OPTIONAL DRAIN PUMP

The lineup consists of two types: models with or without a built-in drain pump, thus allowing more freedom in piping layout design.

PEFY-P VMA-E Built-in drain pump
PEFY-P-VMA3-E Built-in drain pump

PEFY-P VMAL-E No drain pump

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

SPECIFICATIONS

INDOOR UNIT - CEILING CONCEALED TYPE

PEFY-P VMA(L)-E

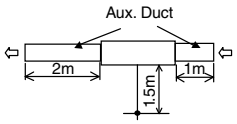
Model			PEFY-P20VMA3-E	PEFY-P20VMA(L)-E	PEFY-P25VMA(L)-E	PEFY-P32VMA(L)-E	PEFY-P40VMA(L)-E	PEFY-P50VMA(L)-E
Power Source			1-Phase 220-230-240V 50Hz / 60Hz					
Cooling Capacity (Nominal)*1		kW	2.2		2.8	3.6	4.5	5.6
		BTU/h	7,500		9,600	12,300	15,400	19,100
Heating Capacity (Nominal)*2		kW	2.5		3.2	4.0	5.0	6.3
		BTU/h	8,500		10,900	13,600	17,100	21,500
Power Consumption	Cooling *3	kW	0.110	0.06 [0.04]		0.07 [0.05]	0.09 [0.07]	0.11 [0.09]
	Heating *3	kW	0.090	0.04		0.05	0.07	0.09
Current	Cooling *3	A	0.90	0.53 [0.42]		0.55 [0.44]	0.64 [0.53]	0.74 [0.63]
	Heating *3	A	0.79	0.42		0.44	0.53	0.63
External Finish			Galvanised Steel Plate					
Dimension H x W x D		mm	250 x 900 x 732	250 x 700x 732			250 x 900 x 732	
Net Weight		kg	27	23			26	
Heat Exchanger			Cross Fin (Aluminium Fin and Copper Tube)					
Fan	Type x Quantity		Sirocco Fan x 1					
	Air Flow Rate (Lo-Mid-Hi)	m³/min	12.0 - 14.5 - 17.0	6.0 - 7.5 - 8.5		7.5 - 9.0 - 10.5	10.0 - 12.0 - 14.0	12.0 - 14.5 - 17.0
		L/s	200 - 242 - 283	100 - 125 - 142		125 - 150 - 175	167 - 200 - 233	200 - 242 - 283
	External Static Pressure *4	Pa	<35>-<50>-<70>-<100>-<150>					
Motor	Type		DC Motor					
	Output	kW	0.085					
Air Filter			PP Honeycomb Fabric					
Refrigerant Pipe Diameter	Liquid (Flare)	mm (in.)	6.35 (1/4) Brazed					
	Gas (Flare)	mm (in.)	12.7 (1/2) Brazed					
Field Drain Pipe Diameter		mm (in.)	O.D.32 (1-1/4)					
Sound Pressure Level *3 *5 *6 (Lo-Mid-Hi) (Measured in Anechoic Room)		dB(A)	30 - 35 - 39	26 - 28 - 29		28 - 30 - 34		28 - 32 - 35
		dB(A)	26 - 31 - 35	23 - 25 - 26		23 - 26 - 29	23 - 27 - 30	25 - 29 - 32

Model			PEFY-P63VMA(L)-E	PEFY-P71VMA(L)-E	PEFY-P80VMA(L)-E	PEFY-P100VMA(L)-E	PEFY-P125VMA(L)-E	PEFY-P140VMA(L)-E
Power Source			1-Phase 220-230-240V 50Hz / 60Hz					
Cooling Capacity (Nominal)*1		kW	7.1	8.0	9.0	11.2	14.0	16.0
		BTU/h	24,200	27,300	30,700	38,200	47,800	54,600
Heating Capacity (Nominal)*2		kW	8.0	9.0	10.0	12.5	16.0	18.0
		BTU/h	27,300	30,700	34,100	42,700	54,600	61,400
Power Consumption	Cooling *3	kW	0.12 [0.10]	0.14 [0.12]		0.24 [0.22]	0.34 [0.32]	0.36 [0.34]
	Heating *3	kW	0.10	0.12		0.22	0.32	0.34
Current	Cooling *3	A	1.01 [0.90]	1.15 [1.04]		1.47 [1.36]	2.05 [1.94]	2.21 [2.10]
	Heating *3	A	0.90	1.04		1.36	1.94	2.10
External Finish			Galvanised Steel Plate					
Dimension H x W x D		mm	250 x 1,100 x 732			250 x 1,400 x 732		250 x 1,600 x 732
Net Weight		kg	32 [31]			42 [41]		46 [45]
Heat Exchanger			Cross Fin (Aluminum Fin and Copper Tube)					
Fan	Type x Quantity		Sirocco Fan x 2					
	Air Flow Rate (Lo-Mid-Hi)	m³/min	13.5 - 16.0 - 19.0	14.5 - 18.0 - 21.0		23.0 - 28.0 - 33.0	28.0 - 34.0 - 40.0	29.5 - 35.5 - 42.0
		L/s	225 - 267 - 317	242 - 300 - 350		383 - 467 - 550	467 - 567 - 667	492 - 592 - 700
	External Static Pressure *4	Pa	<35>-<50>-<70>-<100>-<150>					
Motor	Type		DC Motor					
	Output	kW	0.121			0.244		
Air Filter			PP Honeycomb Fabric					
Refrigerant Pipe Diameter	Liquid	mm (in.)	9.52 (3/8) Brazed					
	Gas	mm (in.)	15.88 (5/8) Brazed					
Field Drain Pipe Diameter		mm (in.)	O.D.32 (1-1/4)					
Sound Pressure Level *3 *5 *6 (Lo-Mid-Hi) (Measured in Anechoic Room)		dB(A)	29-32-36	30-34-38		32-37-41	35-40-44	36-41-45
		dB(A)	25-29-33	26-29-34		28-33-37	32-36-40	33-37-42

Notes:

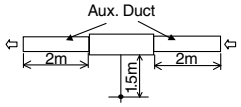
* [ ] is in case of PEFY-P VMAL-E
*1 Nominal cooling conditions
Indoor: 27°CDB/19°CWB, Outdoor: 35°CDB
Pipe length: 7.5m, Level difference: 0m
*2 Nominal heating conditions
Indoor: 20°CDB, Outdoor: 7°CDB/6°CWB
Pipe length: 7.5m, Level difference: 0m
*3 The values are measured at the rated external static pressure.
*4 The rated external static pressure is shown without< >.The factory setting is the rated value.

*5 Measured in anechoic room with a 1m air inlet duct and 2m air outlet duct attached to the unit and 1.5m below the unit.



Measurement Location

*6 Measured in anechoic room with a 2m air inlet duct and 2m air outlet duct attached to the unit and 1.5m below the unit.



Measurement Location

OPTIONAL PARTS

INDOOR UNITS

For PEFY-P VMA(L)-E

Description	Model	Applicable Capacity	
		VMA(L)	VMA3
Filter Box	PAC-KE91TB-E	P20, P25, P32	-
	PAC-KE92TB-E	P40, P50	P20
	PAC-KE93TB-E	P63, P71, P80	-
	PAC-KE94TB-E	P100, P125	-
	PAC-KE95TB-E	P140	-

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

PEFY-P VMHS-E

HIGH STATIC PRESSURE TYPE

PEFY-P VMH-E2 (P40-P140)

PEFY-P VMHS-E (P40-P140)

PEFY-P VMHS-E (P200/P250)

A wide range of external static pressure allows authentic duct air conditioning with an elegant interior layout.

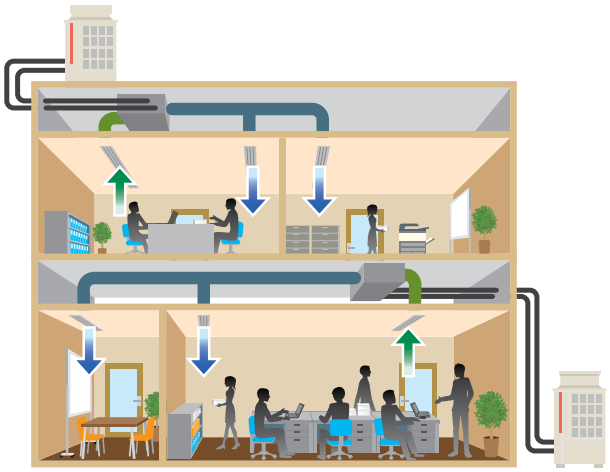
EASY DUCT DESIGN

High external static pressure enables long duct and more freedom in design. It allows high interior oriented ducted air conditioning.

PEFY-P VMHS-E		P40	P50	P63	P71	P80	P100	P125	P140
External static pressure (Pa)	220 V	50 – <100> – <150> – <200>							

PEFY-P VMHS-E	P200	P250
External static pressure (Pa)	<50> – <100> – 150 – <200> – <250>	

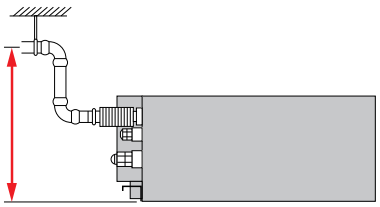
The factory setting of external static pressure is shown without chevrons "< >". Refer to "Fan characteristics curves", according to the external static pressure, in the DATA BOOK for the usable range of the air flow rate.



DRAIN PUMP (OPTION)

The introduction of an upper drain pump allows the drain connection to be raised as high as 550 mm for P40-P140VMH(S) models/700 mm for P200/P250VMHS models, allowing more freedom in piping layout design and reducing horizontal piping requirements.

Drain pump ensures up to
550 mm of lift
(P40-P140VMH(S) models),
700 mm of lift
(P200/P250 VMHS models)



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روبروی پالایشگاه نفت پارس، پلاک ۱۲

PEFY-P140 and Smaller Models with a DC Motor

THE USE OF DC MOTOR

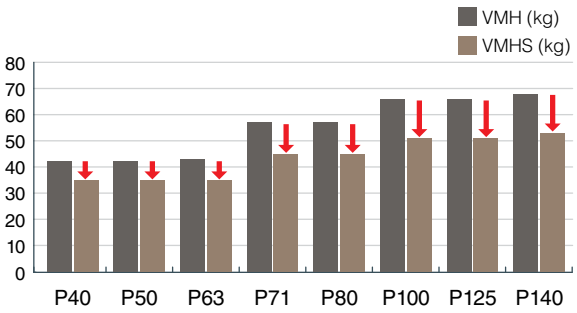
In the past, the only models featuring a DC motor were the P200 (22.4kW) and the P250 (28kW). Now, the P140 (15.5kW) and smaller models featuring a DC motor have also become available that consume less power compared to AC motors. On the P80 models, power consumption is reduced by 59%*.

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

PEFY-P VMH-E2	P40	P50	P63	P71	P80	P100	P125	P140	P220	P250
PEFY-P VMH(S)	AC Motor								DC Motor	
PEFY-P VMHS	DC Motor									

REDUCTION WEIGHT

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



DC 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.

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.

			P40	P50	P63	P71	P80	P100	P125	P140	P220	P250
PEFY-P VMH	External static pressure (Pa)	220 V	<50>-100-<200>									
		230, 240 V	<100>-150-<200>									
PEFY-P VMHS	External static pressure (Pa)	220-240 V	50-<100>-<150>-<200>									

Four levels of external pressure settings

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

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

INDOOR UNIT - CEILING CONCEALED TYPE

PEFY-P VMHS-E

Model			PEFY-P40VMHS-E	PEFY-P50VMHS-E	PEFY-P63VMHS-E	PEFY-P71VMHS-E
Power Source			1-Phase 220-240V 50Hz / 1-Phase 220-240V 60Hz			
Cooling Capacity (Nominal)*1		kW	4.5	5.6	7.1	8.0
		BTU/h	15,400	19,100	24,200	27,300
Heating Capacity (Nominal)*3		kW	5.0	6.3	8.0	9.0
		BTU/h	17,100	21,500	27,300	30,700
Power Consumption*2	Cooling	kW	0.055		0.090	0.075
	Heating	kW	0.055		0.090	0.075
Current*2	Cooling	A	0.41 - 0.39 - 0.38		0.64 - 0.62 - 0.59	0.54 - 0.52 - 0.50
	Heating	A	0.41 - 0.39 - 0.38		0.64 - 0.62 - 0.59	0.54 - 0.52 - 0.50
External Finish			Galvanised Steel Plate			
Dimension H x W x D		mm	380 x 745 x 900			380 x 1,030 x 900
Net Weight		kg	35			45
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)			
Fan*4	Type x Quantity		Sirocco Fan x 1			Sirocco Fan x 2
	Air Flow Rate (Lo-Mid-Hi)	m^3/min	10.0 - 12.0 - 14.0		13.5 - 16.0 - 19.0	15.5 - 18.0 - 22.0
		L/s	167 - 200 - 233		225 - 267 - 317	258 - 300 - 367
		cfm	353 - 424 - 494		477 - 565 - 671	547 - 636 - 777
	External Static Pressure	Pa	50-<150>-<200>			
		mmH_2O	5.1-<10.2>-<15.3>-<20.4>			
Motor	Type		DC Motor			
	Output	kW	0.121			0.244
	Driving Mechanism		Driect-Driven by Motor			
Air Filter (Option)			Synthetic Fibre Unwoven Cloth Filter (Long Life Filter) and Filter Box are Recommended.			
Refrigerant Pipe Diameter	Gas (R410A)	mm (in.)	ø12.7 (ø1/2) Brazed		ø15.88 (ø5/8) Brazed	
	Liquid (R410A)	mm (in.)	ø6.35 (ø1/4) Brazed		ø9.52 (ø3/8) Brazed	
Field Drain Pipe Diameter		mm (in.)	O.D. 32 (1-1/4)			
Sound Pressure Level *2 (Lo-Mid-Hi)		dB(A)	20-23-27		24-27-32	24-26-30

Model			PEFY-P80VMHS-E	PEFY-P100VMHS-E	PEFY-P125VMHS-E	PEFY-P140VMHS-E
Power Source			1-Phase 220-240V 50Hz / 1-Phase 220-240V 60Hz			
Cooling Capacity (Nominal)*1		kW	9.0	11.2	14.0	16.0
		BTU/h	30,700	38,200	47,800	54,600
Heating Capacity (Nominal)*3		kW	10.0	12.5	16.0	18.0
		BTU/h	34,100	42,700	54,600	61,400
Power Consumption*2	Cooling	kW	0.090	0.160		0.190
	Heating	kW	0.0990	0.160		0.190
Current*2	Cooling	A	0.63 - 0.61 - 0.58	1.05 - 1.01 - 0.96		1.24 - 1.19 - 1.14
	Heating	A	0.63 - 0.61 - 0.58	1.05 - 1.01 - 0.96		1.24 - 1.19 - 1.14
External Finish			Galvanised Steel Plate			
Dimension H x W x D		mm	380 x 1,030 x 900	380 x 1,195 x 900		
Net Weight		kg	45	51		53
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)			
Fan*4	Type x Quantity		Sirocco Fan x 2			
	Air Flow Rate (Lo-Mid-Hi)	m^3/min	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	300-358-417	442-533-633	442-533-633	467-567-667
		cfm	636 - 759 - 883	936 - 1,130 - 1,342		989 - 1,201 - 1,412
	External Static Pressure	Pa	50-<150>-<200>			
		mmH_2O	5.1-<10.2>-<15.3>-<20.4>			
Motor	Type		DC Motor			
	Output	kW	0.244	0.375		
	Driving Mechanism		Driect-Driven by Motor			
Air Filter (Option)			Synthetic Fibre Unwoven Cloth Filter (Long Life Filter) and Filter Box are Recommended.			
Refrigerant Pipe Diameter	Gas (R410A)	mm (in.)	ø9.52 (ø3/8) Brazed			
	Liquid (R410A)	mm (in.)	ø15.88 (ø5/8) Brazed			
Field Drain Pipe Diameter		mm (in.)	O.D. 32 (1-1/4)			
Sound Pressure Level *2 (Lo-Mid-Hi)		dB(A)	25-27-30	27-31-34		27-32-36

Notes:

*1 Nominal cooling conditions
Indoor: 27°CD.B./19°CW.B., Outdoor: 35°CD.B.
Pipe length: 7.5 m, Level difference: 0 m
*2 Nominal heating conditions
Indoor: 20°CD.B., Outdoor: 7°CD.B./6°CW.B.
Pipe length: 7.5 m, Level difference: 0 m
*3 The values are measured at the factory setting of external static pressure.
*4 The factory setting of external static pressure is shown without <>. Refer to "Fan characteristics curves", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.

SPECIFICATIONS

INDOOR UNIT - CEILING CONCEALED TYPE

PEFY-P VMH(S)-E

Model				PEFY-P200VMH-E	PEFY-P250VMH-E	PEFY-P200VMHS-E	PEFY-P250VMHS-E
Power Source				3-phase 380-415V 50Hz / 3N ~ 380-415V 60Hz		1-Phase 220-240V 50Hz / 1-Phase 220-240V 60Hz	
Cooling Capacity*1			kW	22.4	28.0	22.4	28.0
			BTU/h	76,400	95,500	76,400	95,500
Heating Capacity*3			kW	25.0	31.5	25.0	31.5
			BTU/h	85,300	107,500	85,300	107,500
Power Consumption		Cooling*2	kW	0.99 / 1.14	1.23 / 1.41	0.63 *7	0.82 *7
		Heating*2	kW	0.99 / 1.14	1.23 / 1.41	0.63 *7	0.82 *7
Current	Cooling *2	380-415V	A	1.62 / 1.86	2.00 / 2.30	-	
		220-230-240V	A	-	-	3.47-3.32-3.18 *7	4.72-4.43-4.14 *7
	Heating *2	380-415V	A	1.62 / 1.86	2.00 / 2.30	-	
		220-230-240V	A	-		3.47-3.32-3.18 *7	4.72-4.43-4.14 *7
External Finish (Munsell No.)				Galvanised		Galvanised Steel Plate	
Dimension H x W x D			mm	470 x 1,250 x 1,120			
Net Weight			kg	100		97	100
Heat Exchanger				Cross Fin (Aluminium Plate Fin and Copper Tube)			
Fan*4	Type x Quantity			Sirocco Fan x 2			
	Air Flow Rate		m^3/min	58.0	72.0	-	
			L/s	967	1200	-	
			cfm	2048	2543	-	
		Lo-Mid-Hi	m^3/min	-		50.0-61.0-72.0	58.0-71.0-84.0
			L/s	-		833-1017-1200	967-1183-1400
			cfm	-		1766-2154-2542	2048-2507-2966
	External Static Pressure	380V	Pa	<110>-<220>*4		-	
		400,415V	Pa	<130<-<260>*4		-	
			Pa	-		<50>-<100>-150-<200>-<250> *8	
			mmH_2O	-		<5.1>-<10.2>-15.3-<20.4>-<25.5> *8	
Motor	Type			3-Phase Induction Motor		DC Motor	
	Output		kW	0.76 *5	1.08 *5	0.87	0.87
Air Filter (Option)				Synthetic Fibre Unwoven Cloth Filter (Long Life Filter)		Synthetic Fibre Unwoven Cloth Filter (Long Life Filter) and Filter Box are Recommended.	
Refrigerant Pipe Diameter	Gas (Brazed)		mm (in.)	ø19.05 (ø3/4)	ø22.2 (ø7/8)	ø19.05 (ø3/4)	ø22.2 (ø7/8)
	Liquid (Brazed)		mm (in.)	ø9.52 (ø3/8)		ø9.52 (ø3/8)	
Field Drain Pipe Diameter			mm (in.)	O.D. 32 (1-1/4)			
Sound Pressure Level (Lo-Mid-Hi)		380V	dB(A)	42 (110Pa) / 45 (220Pa) *6	50 (110Pa) / 52 (220Pa) *6	-	
		400, 415V	dB(A)	44 (130Pa) / 47 (260Pa) *6	52 (130Pa) / 54 (260Pa) *6	-	
		Lo-Mid-Hi	dB(A)	-		36-39-43 *9	39-42-46 *9

Notes:

*1 Cooling/heating capacity indicates the maximum value at operation under the following condition.
Cooling Indoor : 27°CDB/19°CWB, Outdoor: 35°CDB
Heating Indoor : 20°CDB, Outdoor : 7°CDB/6°C(WB
*2 The external static pressure is set to 100Pa (at 220V) /150Pa (at 230, 240V) at factory shipment.
*3 The values are that at 240V.
*4 The external static pressure is set to 220Pa (at 380V) /260Pa (at 400, 415V) at factory shipment.
*5 The values are that at 415V.
*6 It is measured in anechoic room.
*7 The values are measured at the rated External Static Pressure.
*8 The rated external static pressure is shown without < >.
The factory setting is the rated value.
*9 It is measured at the rated external static pressure in anechoic room.

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OPTIONAL PARTS

INDOOR UNITS

PEFY-P VMH/S-E

Description	Model	Applicble Capability	Remarks
		VMHS-E	
Drain Pump	PAC-KE05DM-F	P200, P250	
	PAC-DRP10DP-E2	P40 - P140	
Long Life Filter	PAC-KE86LAF	P40, P50, P63	
	PAC-KE88LAF	P71, P80	
	PAC-KE89LAF	P100, P125, P140	
	PAC-KE85LAF	P200, P250	
Filter Box	PAC-KE63TB-F	P40, P50, P63	Required when long life filter is used
	PAC-KE99TB-F	P71, P80	
	PAC-KE140TB-F	P100, P125, P140	
	PAC-KE250TB-F	P200, P250	

Notes:

*1 Nominal cooling conditions
Indoor: 27°CD.B./19°CW.B., Outdoor: 35°CD.B.
Pipe length: 7.5 m, Level difference: 0 m
*2 Nominal heating conditions
Indoor: 20°CD.B., Outdoor: 7°CD.B./6°CW.B.
Pipe length: 7.5 m, Level difference: 0 m
*3 The values are measured at the factory setting of external static pressure.
*4 The factory setting of external static pressure is shown without < >.
Refer to "Fan characteristics curves", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.

PEFY-P VMHS-E-F
PEFY-P VMH-E-F

FRESH AIR INTAKE TYPE


PEFY-P125VMHS-E-F


PEFY-P200, 250VMHS-E-F


PEFY-P80, 140VMH-E-F


PEFY-P200, 250VMH-E-F

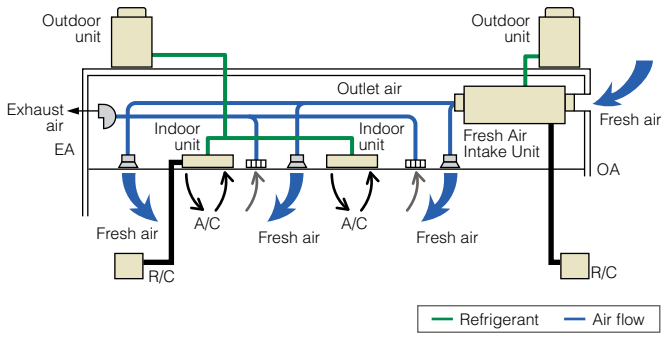
Air conditioner with fresh air intake which enables supply air temperature control.*

* For PEFY-P VMHS-E-F models only

ENABLES INTAKE OF OUTSIDE AIR

Fresh air can be taken in with temperature control. Fresh air intake is available for each air conditioning zone.

*Fresh air intake type indoor unit is designed to supply pretreated outside air into the room. Do not use to handle internal thermal load.



CONTROLLABLE OUTLET AIR TEMPERATURE*

Pre-treating the intake air before being supplied to the room contributes to the stability of room temperature, assists in improved comfort of the occupants.

*PEFY-P VMHS-E-F models only.
*Comparison with PEFY-P140, 200, 250VMH-E-F.

EQUIPPED WITH NEW 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, which allows for easier installation.

*PEFY-P VMHS-E-F models only.
**Comparison with PEFY-P140, 200, 250VMH-E-F.

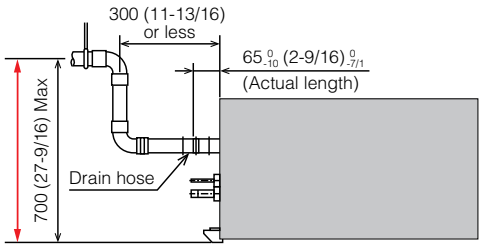
DRAIN PUMP (OPTIONAL)

Drain pump (option) ensures up to 550 mm for P125VMHS-E-F and P80-P250VMH-E-F models/700 mm of lift for P200, P250VMHS-E-F models.

The introduction of an upper drain pump allows the drain connection to be raised as high 550 mm for P125VMHS-E-F and P80-P250VMH-E-F models/700 mm for P200, P250VMHS-E-F models, allowing more freedom in piping layout design and reducing horizontal piping requirements.

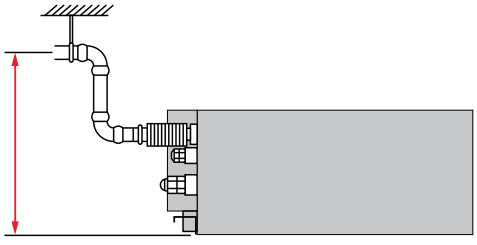
PEFY-P VMHS-E-F

Drain pump ensures up to 700 mm of lift



PEFY-P VMH-E-F

Drain pump ensures up to 550 mm of lift



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روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

INDOOR UNIT - FRESH AIR INTAKE TYPE

PEFY-P VMH-E-F

Model				PEFY-P80VMH-E-F	PEFY-P140VMH-E-F
Power Source				1-Phase 220-240V 50Hz / 1-Phase 208-230V 60Hz	
Cooling Capacity*1			kW	9.0	16.0
			BTU/h	30,700	54,600
Heating Capacity*2			kW	8.5	15.1
			BTU/h	29,000	51,500
Power Input*3	Cooling		kW	0.16 / 0.21	0.29 / 0.33
	Heating		kW	0.16 / 0.21	0.29 / 0.33
Current Input*3	Cooling		A	0.67 / 0.91	1.24 / 1.48
	Heating		A	0.67 / 0.91	1.24 / 1.48
External Finish				Galvanised	
Dimension H x W x D			mm	380 x 1000 x 900	380 x 1200 x 900
Net Weight			kg	50	67
Heat Exchanger				Cross Fin (Aluminum Plate Fin and Copper Tube)	
Fan	Type x Quantity			Sirocco Fan x 1	Sirocco Fan x 2
	Air Flow Rate		m³/min	9.0	18.0
			L/s	150	300
			cfm	318	636
	External Static Pressure*4	208V	Pa	<35> - 85 - <170>	
		220V	Pa	<40> - 115 - <190>	<50> - 115 - <190>
		230V	Pa	<50> - 130 - <210>	<60> - 130 - <220>
		240V	Pa	<80> - 170 - <220>	<100> - 170 - <240>
Motor	Type			1-Phase Induction Motor	
	Output		kW	0.09 (at 220V)	0.14 (at 220V)
Air Filter (Option)				Synthetic Fibre Unwoven Cloth Filter (Long Life)	
Refrigerant Pipe Diameter	Gas (Flare)		mm (in.)	ø15.88 (ø5/8)	
	Liquid (Flare)		mm (in.)	ø9.52 (ø3/8)	
Field Drain Pipe Diameter			mm (in.)	O.D. 32 (1-1/4)	
Sound Pressure Level *5 (Lo-Mid-Hi)		208, 220V	dB(A)	27 - 38 - 43	28 - 38 - 43
		230, 240V	dB(A)	33 - 43 - 45	34 - 43 - 45

Notes:

*1 Nominal cooling conditions.
*2 Nominal heating conditions.
*3 The values are measured at the factory setting of external static pressure.
*4 The factory setting of external static pressure is shown without < >. Refer to “Fan characteristics curves”, according to the external static pressure, in DATA BOOK for the usable range of air flow rate.
*5 The values are measured at the factory setting of external static pressure.
The operating noise is the data that was obtained by measuring it 1.5m from the bottom of the unit in an anechoic room. (Noise meter A-scale value)

» Operational temp. range is
Cooling : from 21°CDB/15.5°C)WB to 43°CDB/35°CWB
Heating : from -10°CDB to 20°CDB
* Thermo off (Fan) operation automatically starts either when temperature is lower than 21°CDB in cooling mode or when the temperature exceeds 20°CDB in heating mode.
» As the room temp. in sensed by the thermo in the remote controller or the one in the room, be sure to use either remote controller or room thermo.
» Auto-changeover function or Dry mode is NOT available. Fan mode operation during the thermo off in Cooling/Heating mode.
» In any case, the air flow rate should be kept lower than 110% of the above chart. Please see “Fan curves” for the details.
» 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 fild supply filters.
» Long life cannot be used with high-efficiency filter together (PEFY-P80/140VMH-E-F type).
» Fresh air intake type indoor units supply pretreated outside air into the room. This type of unit is not designed to handle internal thermal load. Use other types of air conditioning units that are capable of handling internal thermal load in combination with the fresh air intake type units.

SPECIFICATIONS

INDOOR UNIT - FRESH AIR INTAKE TYPE

PEFY-P VMH-E-F

Model				PEFY-P200VMH-E-F	PEFY-P250VMH-E-F
Power Source				3-phase 380-415V 50Hz / 3N~ 380-415V 60Hz	
Cooling Capacity*1			kW	22.4	28.0
			BTU/h	76,400	95,500
Heating Capacity*2			kW	21.2	26.5
			BTU/h	72,300	90,400
Power Consumption	Cooling		kW	0.34 / 0.42	0.39 / 0.50
	Heating		kW	0.34 / 0.42	0.39 / 0.50
Current	Cooling		A	0.58 / 0.74	0.68 / 0.86
	Heating		A	0.58 / 0.74	0.68 / 0.86
External Finish				Galvanised	
Dimension H x W x D			mm	470 x 1250 x 1120	
Net Weight			kg	100	
Heat Exchanger				Cross Fin (Aluminum Plate Fin and Copper Tube)	
Fan	Type x Quantity			Sirocco Fan x 2	
	Air Flow Rate		m³/min	28	35
			L/s	467	583
			cfm	989	1236
	External Static Pressure*4	380V	Pa	<140> - 200	<110> - 190
		400V	Pa	<150> - 210	<120> - 200
		415V	Pa	<160> - 220	<130> - 210
Motor	Type			3-Phase Induction Motor	
	Output		kW	0.20	0.23
Air Filter (Option)				Synthetic Fibre Unwoven Cloth Filter (Long Life)	
Refrigerant Pipe Diameter	Gas (Brazed)		mm (in.)	ø19.05 (ø3/4)	ø22.2 (ø7/8)
	Liquid (Brazed)		mm (in.)	ø9.52 (ø3/8)	
Field Drain Pipe Diameter			mm (in.)	O.D.32 (1-1/4)	
Sound Pressure Level *5 (Lo-Hi)		380V	dB(A)	39 - 42	40 - 44
		400V	dB(A)	40 - 43	40 - 45
		415V	dB(A)	40 - 44	41 - 46

Notes:

*1 Nominal cooling conditions.
*2 Nominal heating conditions.
*3 The values are measured at the factory setting of external static pressure.
*4 The factory setting of external static pressure is shown without < >. Refer to “Fan characteristics curves”, according to the external static pressure, in DATA BOOK for the usable range of air flow rate.
*5 The values are measured at the factory setting of external static pressure.
The operating noise is the data that was obtained by measuring it 1.5m from the bottom of the unit in an anechoic room. (Noise meter A-scale value)

» Operational temp. range is
Cooling : from 21°CDB/15.5°C)WB to 43°CDB/35°CWB
Heating : from -10°CDB to 20°CDB
* Thermo off (Fan) operation automatically starts either when temperature is lower than 21°CDB in cooling mode or when the temperature exceeds 20°CDB in heating mode.
» As the room temp. in sensed by the thermo in the remote controller or the one in the room, be sure to use either remote controller or room thermo.
» Auto-changeover function or Dry mode is NOT available. Fan mode operation during the thermo off in Cooling/Heating mode.
» In any case, the air flow rate should be kept lower than 110% of the above chart. Please see “Fan curves” for the details.
» 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 fild supply filters.
» Long life cannot be used with high-efficiency filter together (PEFY-P80/140VMH-E-F type).
» Fresh air intake type indoor units supply pretreated outside air into the room. This type of unit is not designed to handle internal thermal load. Use other types of air conditioning units that are capable of handling internal thermal load in combination with the fresh air intake type units.

OPTIONAL PARTS

INDOOR UNITS

PEFY-P VMH-E-F

Description	Model	Applicable Capacity	
		VMHS-E-F	VMH-E-F
Long Life Filter	PAC-KE88LAF	-	P80
	PAC-KE89LAF	P125	P140
	PAC-KE85LAF	P200, P250	P200, P250
Filter Box	PAC-KE80TB-F	-	P80
	PAC-KE140TB-F	P125	P140
	PAC-KE250TB-F	P200, P250	P200, P250
Drain Pump	PAC-KE04DM-F	-	P80, P140, P200, P250
	PAC-DRP10DP-E2	P125	-
	PAC-KE06M-F	P200, P250	-

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

INDOOR UNIT - FRESH AIR INTAKE TYPE

PEFY-P VMHS-E-F

Model			PEFY-P125-VMHS-E-F		PEFY-P200-VMHS-E-F		PEFY-P250-VMHS-E-F *6	
Power Source			1-Phase 220-230-240V 50 / 60Hz					
Cooling Capacity*1		kW	14.0		22.4		28.0	
		BTU/h	47,800		76,400		95,500	
Temperature Range of Cooling			17°CD.B/15.5°CW.B. ~ 43°CD.B./35°CW.B. *Thermo-off (FAN mode) automatically starts if the outdoor temperature is lower than 17°CD.B.					
Heating Capacity*3		kW	8.9		13.9		17.4	
		BTU/h	30,400		47,400		59,400	
Power Input*2	Cooling	kW	0.220		0.260		0.350	
	Heating	kW	0.230		0.270		0.360	
Current Input*2	Cooling	A	1.43		1.66		2.16	
	Heating	A	1.52		1.85		2.38	
Temperature Range of Heating			-10°CD.B ~ 20°CD.B. *Thermo-off (FAN mode) automatically starts if the outdoor temperature is higher than 20°CD.B.					
External Finish			Galvanised					
Dimension H x W x D		mm	380 x 1,195 x 900		470 x 1,250 x 1, 120			
Net Weight		kg	49		78		81	
Heat Exchanger			Cross Fin (Aluminum Fin and Copper Tube)					
Fan*4*5	Type x Quantity		Sirocco Fan x 1		Sirocco Fan x 2			
	Air Flow Rate		Normal-Airflow Rate Mode					
		m³/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 - 517 - 583	467 - 517 - 583	517 - 583 - 667
	External Static Pressure	Pa	<100> - <150> - 200 - <250>					
		mmH_2O	<10.2> - <15.3> - 20.4 - <25.5>					
	Motor Type		DC Motor					
	Motor Output	kW	0.244		0.375			
	Driving Mechanism		Direct-Driven by Motor					
Air Filter (Option)			Synthetic Fibre Unwoven Cloth Filter (Long Life)					
Refrigerant Pipe Diameter	Gas (R410A)	mm (in.)	15.88 (5/8) Brazed		19.05 (3/4) Brazed		22.22 (7/8) Brazed	
	Liquid (R410A)	mm (in.)	9.52 (3/8) Brazed					
Field Drain Pipe Size		mm (in.)	O.D. 32 (1-1/4)					
Sound Pressure Level *2 (Lo-Mid-Hi)			Normal-Airflow Rate Mode					
		dB(A)	34 - 37 - 41	36 - 40 - 42	35 - 38 - 41	36 - 39 - 42	38 - 40 - 44	38 - 41 - 45
Optional Parts	Drain Pump Kit		PAC-DRP10DP-E2		PAC-KE06DM-F			
	Long Life Filter		PAC-KE89LAF		PAC-KE85LAF			
	Filter Box		PAC-KE140TB-F		PAC-KE250TB-F			

Notes:

*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 The values are measured at the factory setting of airflow mode and external static pressure.
*3 Heating capacity indicates the maximum value of 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.
*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 airflow rate.
*5 If the airflow rate is over the usable range, dewdrop can be caused by the air outlet, and the airflow rate is changed automatically because of the output down by the fan motor control. If the airflow rate is less than the usable range, condensation from the unit surface can be caused.
*6 Regarding P250VMHS-E-F, the middle notch airflow rate is different from the spec value when the external static pressure setting is set to 100Pa. See "Fan characteristics curves" in DATA BOOK for the details.

» The combination of fresh air intake type indoor units with other types of indoor units to handle thermal load which may cause the conflict of an operation mode. It is not recommended when fresh air intake type indoor units are 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 outlet air 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.» When this unit is Used as sole A/C system, be careful about the dew in air outlet grilles in cooling mode.
» The maximum connectable indoor units to 1 outdoor unit are 110% (100% in case o heating below -5°C).
» When fresh air intake type indoor units connect to an outdoor unit together with other types of indoor units, 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 the 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 refrigerat pipe of about 7.5m and a level difference of 0m.
» 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 the 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 a 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, i.e. 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. This filter should be attached where easy maintenance is possible in case of usage of field supply filters.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

FLEXIBLE AIR-FLOW SETTING

Two to four levels of external static pressure levels to choose from.

PEFY-P VMHS-E-F	P125	P200	P250
External static pressure (Pa)	<100>-<150>-200-<250>		

PEFY-P VMHS-E-F		P80	P140	P200	P250
External static pressure (Pa)	208 V	<35> -85- <170>	<35> -85- <170>	<140> -200	<110> -190
	220 V	<40> -115- <190>	<50> -115- <190>	<150> -210	<120> -200
	230 V	<50> -130- <210>	<60> -130- <220>	<160> -220	<130> -210
	240 V	<80> -170- <220>	<100> -170- <240>	-	-

For PEFY-P VMHS-E-F models only

Two types of air-flow modes are available, each of which has three air-flow rates to choose from.

Mode	Normal Airflow rate	High Airflow rate
Air Flow rate	Low-Medium-High	Low-Medium-High

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Easy Maintenance

CEILING SUSPENDED TYPE

Designed for ultra-quiet operation and easy maintenance, the unit provides comfortable air conditioning for a wide range of applications where floor or wall space cannot be used practically.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

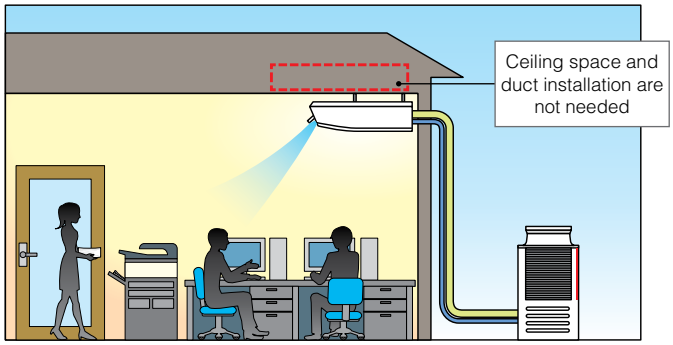
PCFY-P VKM-E

CEILING SUSPENDED TYPE

A stylish indoor unit design and optional drain pump expand installation possibilities.

EASY INSTALLATION

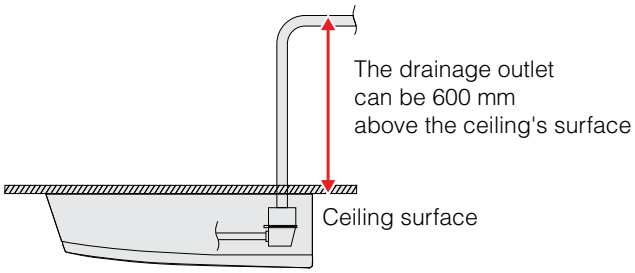
The ceiling-suspended cassette can easily be installed without requiring ductwork, even if the ceiling does not have sufficient space.



DRAIN PUMPS CAN BE SUPPORTED THROUGHOUT THE KILOWATT RANGE. (OPTION)

The optional drain pump allows the drain connection to be raised as high as 600 mm, expanding flexibility in choosing the unit's location during installation work.

Drain pump installation possible

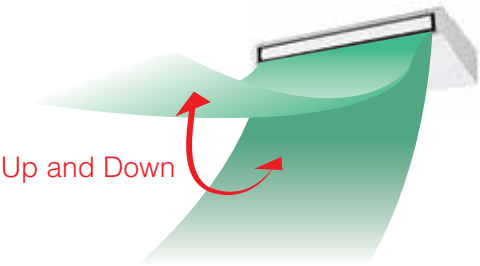


CONSIDERATION OF HARMONY WITH INTERIOR DESIGN

Sleek and slim with stylishly curved lines, the PCFY-Series blends right into any interior.

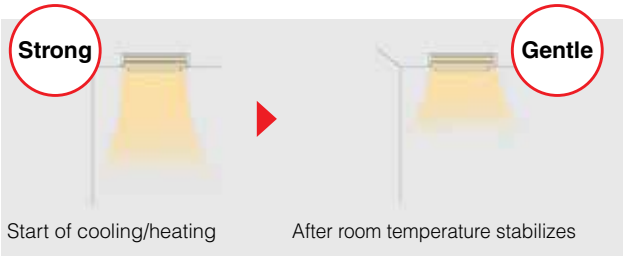
AUTO VANE CONTROL

Outlet vanes can be moved up and down using the remote controller. This improved airflow control feature solves the problem of drafts.



EQUIPPED WITH AUTOMATIC AIR-SPEED ADJUSTMENT

An automatic airspeed mode that adjusts airflow speed automatically is adopted to maintain comfortable room conditions at all times. This setting automatically adjusts the airspeed to conditions that match the room environment. At the start of heating/cooling operation, the airflow is set to high-speed to quickly heat/cool the room. When the room temperature reaches the desired setting, the airflow speed is decreased automatically for stable comfortable heating/cooling operation.



SPECIFICATIONS

INDOOR UNIT - CEILING SUSPENDED TYPE

PCFY-P VKM-E

Model			PCFY-P40VKM-E	PCFY-P63VKM-E	PCFY-P100VKM-E	PCFY-P125VKM-E
Power Source			1-Phase 220-240V 50Hz / 1-Phase 220V 60Hz			
Cooling Capacity*1		kW	4.5	7.1	11.2	14.0
		BTU/h	15,400	24,200	38,200	47,800
Heating Capacity*1		kW	5.0	8.0	12.5	16.0
		BTU/h	17,100	27,300	42,700	54,600
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 No.)			6.4Y 8.9/ 0.4			
Dimension H x W x D		mm	230 x 960 x 680	230 x 1,280 x 680	230 x 1,600 x 680	
Net Weight		kg	24	32	36	38
Heat Exchanger			Cross Fin (Aluminum Fin and Copper Tube)			
Fan	Type x Quantity		Sirocco Fan x 2	Sirocco Fan x 3	Sirocco Fan x 4	
	Air Flow Rate*2 (Lo-Mid2-Mid1-Hi)	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	742-847-953-1,095
	External Static Pressure	Pa	0			
Motor	Type		DC Motor			
	Output	kW	0.090	0.095	0.160	
Air Filter (Option)			PP Honeycomb (Long Life)			
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø12.7 (ø1/2)	ø15.88 (ø5/8)	ø15.88 (ø5/8) / ø19.05 (ø3/4) (Compatible)	
	Liquid (Flare)	mm (in.)	ø6.35 (ø1/4)	ø9.52 (ø3/8)		
Field Drain Pipe Diameter		mm (in.)	O.D. 26 (1)			
Sound Pressure Level *2*3 (Low-Mid2-Mid1-Hi)		dB(A)	29-32-34-36	31-33-35-37	36-38-41-43	36-39-42-44

OPTIONAL PARTS

INDOOR UNITS

For PCFY-P VKM-E

Description	Model	Applicable Capacity
Drain Pump Kit	PAC-SH83DM-E	P40
	PAC-SH84DM-E	P63, P100, P125
Filter Box	PAC-SH88KF-E	P40
	PAC-SH89KF-E	P63
	PAC-SH90KF-E	P100, P125
Wireless Remote Controller Kit	PAR-SL94B-E	P40, P63, P100, P125

Notes:

*1 Cooling/Heating capacity indicates the maximum value at operation under the following condition.
Cooling Indoor : 27°CDB/19°CWB, Outdoor 35°CDB
Heating Indoor : 20°CDB, Outdoor 7°CDB/6°CWB
*2 Air flow rates/sound pressure level are shown in (Lo-Mid2-Mid1-Hi).
*3 It is measured in anechoic room.

Advanced Air Cleaning System

WALL MOUNTED TYPE

Our commitment to product innovation is a key factor in Mitsubishi Electric being a leader in air conditioning technology. In keeping with this commitment, we have introduced a number of state-of-the-art features to our wall mounted air conditioner range.

The range of wall mounted VRF indoor units, suitable for single rooms through to larger open-plan areas.

PKFY-P VLM-E
PKFY-P VLM-E
PKFY-P VKM-E


PKFY-P VLM


PKFY-P VLM


PKFY-P VKM

WALL MOUNTED TYPE

A stylish indoor unit design and optional drain pump expand installation possibilities.

EASY INSTALLATION

The unit can be installed without the need of consideration for the duct installation or ceiling space.

LINEUP OF STANDARD THREE TYPES

Capacity range

Capacity	P15	P20	P25	P32	P40	P50	P63	P100
VLM	✓	✓	✓	✓				
VLM					✓	✓		
VKM							✓	✓

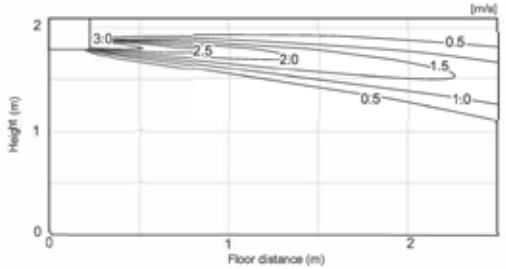
DRAIN PUMP ALSO SUPPORTED*

The optional drain pump allows the drain connection to be raised as high as 800 mm*, allowing more freedom in piping layout design.

AIRFLOW CONTROL

Significantly improved airflow control through widened vane control, improving air distribution and comfort. This also reduces the feeling of draft even on a wall-mounted model.

Airflow distributions PKFY-P50VLM-E (Cooling mode) Horizontal air flow



PKFY-VLM-E only

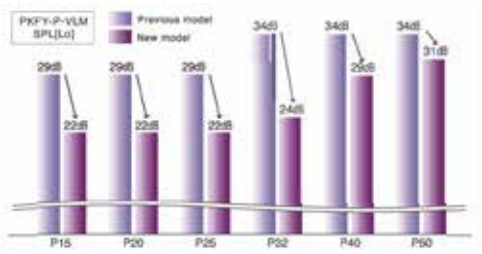
COMPLEMENTS ANY DECOR

Even for the VRF type, a wall-mounted type can be installed. Its compact design fits houses, small meeting rooms in offices, restaurants, and so on.

*If the refrigerant sound is noisy in a bedroom or the like, consider purchasing any other type indoor unit.

REDUCED NOISE LEVELS

The noise level has been significantly reduced compared to the previous model by reviewing the unit structure and improving the line flow fan. Noise levels have reduced to 22dB (models P15/20/25 only).



PKFY-VLM-E only

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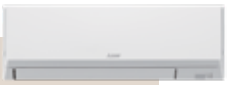
روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS


PKFY-P VLM


PKFY-P VLM


PKFY-P VKM

INDOOR UNIT - WALL MOUNTED TYPE

PKFY-P VLM-E

Model			PKFY-P10VLM-E	PKFY-P15VLM-E	PKFY-P20VLM-E	PKFY-P25VLM-E	PKFY-P32VLM-E	PKFY-P40VLM-E	PKFY-P50VLM-E
Power Source			1-phase 220-240 V 50 Hz, 1-phase 220-230 V 60 Hz						
Cooling Capacity (Nominal)	*1	kW	1.2	1.7	2.2	2.8	3.6	4.5	5.6
	*1	kcal/h	1000	1500	1900	2400	3100	3900	4800
	*1	BTU/h	4100	5800	7500	9600	12300	15400	19100
	Power input	kW	0.02	0.02	0.02	0.03	0.04	0.04	0.05
	Current input	A	0.20	0.20	0.20	0.25	0.35	0.35	0.45
Heating Capacity (Nominal)	*2	kW	1.4	1.9	2.5	3.2	4.0	5.0	6.3
	*2	kcal/h	1200	1600	2200	2800	3400	4300	5400
	*2	BTU/h	4800	6500	8500	10900	13600	17100	21500
	Power input	kW	0.01	0.01	0.01	0.02	0.03	0.03	0.04
	Current input	A	0.15	0.15	0.15	0.20	0.30	0.30	0.40
External finish (Munsell No.)			Plastic (0.7PB 9.2/.04)9.2/0.4)						
External dimension (HxWxD)		mm	299 x 773 x 237					299 x 898 x 237	
Net weight		kg (lb)	11					13	
Heat exchanger			Cross fin (Aluminium fin and copper tube)						
Fan	Type x Quantity		Line flow fan x1						
	External static press	Pa (mmH20)	0 (0)						
	Motor type		DC motor						
	Motor output	kW	0.03						
	Driving mechanism		Direct driven						
	Airflow rate (Low-Mid2-Mid1-High)	m³/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
Noise level (Low-Mid2-Mid1-High) (measured in anechoic room at 1m)		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
Insulation material			Polyethylene sheet						
Air filter			PP Honeycomb						
Protection device			Fuse						
Refridgerant control device			LEV						
Connectable outdoor unit			R410A CITY MULTI						
Diameter of refrigerant pipe	Liquid	mm (in.)	Ø6.35 (Ø1/4)						
	Gas	mm (in.)	Ø12.7 (Ø1/2)						
Field drain pipe		mm (in.)	I.D.16 (5/8)						
Standard attachment			Installation Manual, Instruction Book						
Optional parts	Drain pump kit		PAC-SK01DM-E						
	External Lev Box		PAC-SK17LE-E	PAC-SG95LE-E					

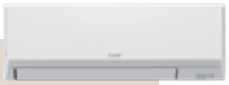
Remark — Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
Due to continuing improvement above specifications may be subject to change without notice.

Notes: '1.Nominal cooling conditions (subject to JIS B8615-1) Indoor: 27°CD.B./19°CW.B. Outdoor: 35°CD.B. Pipe length: 7.5 m, Level difference: 0 m
'2. Nominal heating conditions (subject to JIS B8615-1) Indoor: 20°CD.B. Outdoor: 7°CD.B./6°CW.B. Pipe length: 7.5 m, Level difference: 0 m

Unit converter — kcal/h = kW x 860 Btu/h = kW x 3,412 cfm = m³/min x 35.31 lb = kg/0.4536
Note: Above specification data is subject to rounding variation.

SPECIFICATIONS


PKFY-P VLM


PKFY-P VLM


PKFY-P VKM

INDOOR UNIT - WALL MOUNTED TYPE

PKFY-P VB(H)(K)M-E

Model			PKFY-P63VKM-E	PKFY-P100VKM-E
Power Source			1-Phase 220-230-240V 50Hz / 1-Phase 220V 60Hz	
Cooling Capacity*1		kW	7.1	11.2
		BTU/h	24,200	38,200
Heating Capacity*1		kW	8.0	12.5
		BTU/h	27,300	42,600
Power Consumption	Cooling*4	kW	0.05	0.08
	Heating	kW	0.04	0.07
Current *3	Cooling*4	A	0.37	0.58
	Heating	A	0.30	0.51
External Finish (Munsell No.)			Plastic (1.0Y 9.2/0.2)	
Dimension H x W x D		mm	365 x 1,170 x 295	
Net Weight		kg	21	
Heat Exchanger			Cross Fin (Aluminum Fin and Copper Tube)	
Fan	Type x Quantity		Line Flow Fan x 1	
	Air Flow Rate*2 (Lo-Hi)	m³/min	16-20	20-26
		L/s	267-333	333-433
		cfm	565-706	706-918
	External Static Pressure	Pa	0	
Motor	Type		DC Motor	
	Output	kW	0.056	
Air Filter (Option)			PP Honeycomb	
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø15.88 (ø5/8)	ø15.88 (ø5/8) / ø19.05 (ø3/4) (Compatible)
	Liquid (Flare)	mm (in.)	ø9.52 (ø3/8)	
Field Drain Pipe Diameter		mm (in.)	I.D. 16 (5/8)	
Sound Pressure Level *2*3 (Lo-Hi)		dB(A)	39-45	41-49

Notes:

*1 Cooling/Heating capacity indicates the maximum value at operation under the following condition.
Cooling Indoor : 27°CDB/19°CWB,Outdoor 35°CDB
Heating Indoor : 20°CDB, Outdoor 7°CDB/6°CWB

*2 Air Flow Rates/Sound Pressure Levela are shown in (Lo-Hi).
*3 It is measured in anechoic room.
*4 Electrical characteristic of cooling are included optional drain-pump.

OPTIONAL PARTS

INDOOR UNITS

For PKFY-P VB(H)(K)M-E

Description	Model	Applicable Capacity
External LEV Box	PAC-SG95LE-E	P15, P20, P32, P40, P50, P63
Drain Pump Kit	PAC-SH75DM-E	P32, P40, P50
	PAC-SH94DM-E	P63, P100

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

Effective Air Conditioning

FLOOR STANDING TYPE

Floor standing concealed systems provide simple, effective air conditioning in perimeter zones. The units are easy to install at only 220mm deep and offer an unobstructive method of delivering highly efficient performance.

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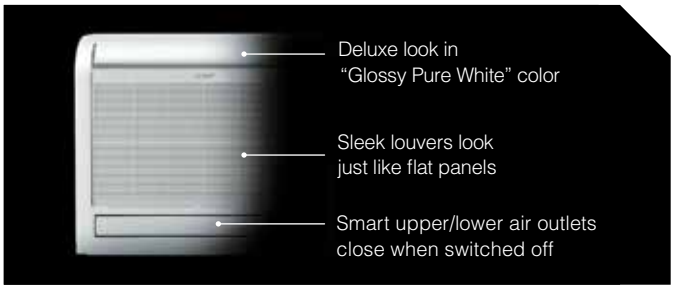
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

PFFY-P VKM-E2

EXPOSED TYPE

A stylish indoor unit design and optional drain pump expand installation possibilities.

SOPHISTICATED DESIGN



An innovative floor-standing air-conditioner from Mitsubishi Electric. A pleasing mix of streamlined form and diversified function. Engineered to keep room walls free, provide comfortable cooling in the summer, and toasty heating in the winter.

The “Glossy Pure White” colour ensures a high-end look, a perfect match for any room. Both upper and lower air outlets remain closed when switched off, showing off a smart and striking image.

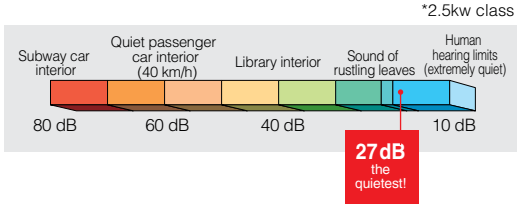
A superb air conditioner from Mitsubishi Electric, providing a handsome fit for your own distinctive interior.

QUIET OPERATION

Mitsubishi Electric air conditioners have some of the quietest models available in the market. Our floor-standing models are no exception, creating a quiet and comfortable space where occupants do not even realize that an air conditioner is operating.

ONLY 27 dB*

*PFFY-P20VKM-E2 at low fan speed



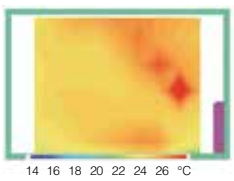
SOPHISTICATED DESIGN

Comfy room temperatures are accomplished through optimum, powerful, and efficient air distribution through the upper and lower air outlets.

The upper vane angle is remote controllable, with 5 air flow direction levels (+Swing and Auto modes) and 4 wind power levels (+Auto mode).

By setting the vane angle almost vertical, bothersome direct wind can be avoided for increased comfort.

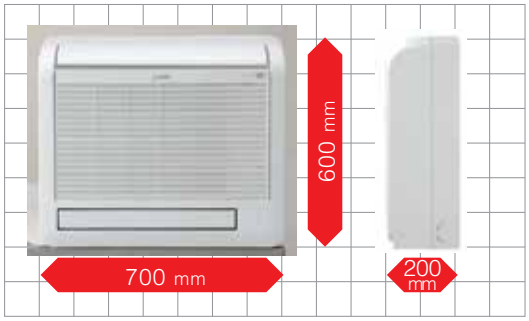
The air from both the upper and lower air outlets is optimally controlled and distributed evenly to every corner of the room. In heating mode, the warm air is smartly controlled to stay at the floor level: Say goodbye to chilly feet!



SLIM, YET MIGHTY

The unit's body is slim and trim, highlighting its compact essence. An ideal size for living rooms, bedrooms, and more.

The removable and washable front panel makes cleaning a snap. Easy, regular cleaning helps your air conditioner stay beautiful while maintaining its energy-efficient operation.



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روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

INDOOR UNIT - FLOOR STANDING EXPOSED

PFFY-P VKM-E2

Model			PFFY-P20VKM-E2	PFFY-P25VKM-E2	PFFY-P32VKM-E2	PFFY-P40VKM-E2
Power Source			1-Phase 220-240V 50Hz			
Cooling Capacity (Nominal)*1		kW	2.2	2.8	3.6	4.5
		BTU/h	7,500	9,600	12,300	15,400
Heating Capacity (Nominal)*1		kW	2.5	3.2	4.0	5.0
		BTU/h	8,500	10,900	13,600	17,100
Power Consumption	Cooling	kW	0.025			0.028
	Heating	kW	0.025			0.028
Current *3	Cooling	A	0.20			0.24
	Heating	A	0.20			0.24
External Finish			Plastic (Pure White)			
Dimension H x W x D		mm	600 x 700 x 200			
Net Weight		kg	15			
Heat Exchanger			Cross Fin (Aluminum Fin and Copper Tube)			
Fan	Type x Quantity		Line Flow Fan x 2			
	Air Flow Rate (Lo-Mid-Hi-SHi)	m³/min	5.9-6.8-7.6-8.7	6.1-7.0-8.0-9.1		8.0-9.0-9.5-10.7
	External Static Pressure	Pa	0			
Motor	Type		DC Motor			
	Output	kW	0.03 x 2			
Air Filter			PP Honeycomb Fabric (Catechin Filter)			
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø12.7 (ø1/2)			
	Liquid (Flare)	mm (in.)	ø6.35 (ø1/4)			
Field Drain Pipe Diameter		mm (in.)	I.D. 16 (5/8)			
Sound Pressure Level *2 (Lo-Mid-HI-SHi)		dB(A)	27-31-34-37	28-32-35-38		35-38-42-44

Notes:

*1 Cooling/Heating capacity indicates the maximum value at operation under the following condition.
Cooling Indoor : 27°CDB/19°CWB, Outdoor 35°CDB
Heating Indoor : 20°CDB, Outdoor 7°CDB/6°CWB
*2 Air flow rate/sound pressure levels are shown in (Lo-Mid-Hi-SHi).
*3 It is measured in anechoic room.

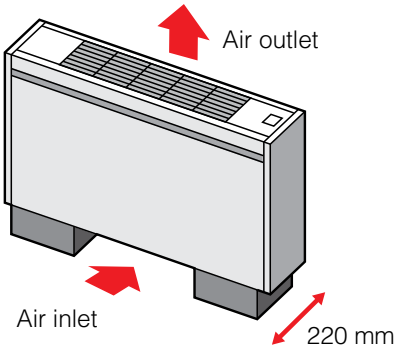
PFFY-P VLEM-E2

EXPOSED TYPE (FOR PERIMETER ZONE)

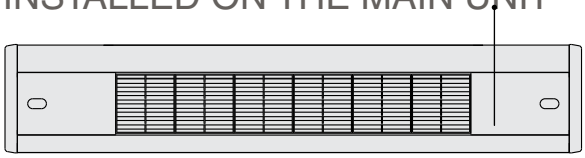
This is a floor standing type that allows efficient perimeter processing. It adopts a low-height design that does not block off day lighting from windows.

COMPACT UNIT FOR EASY PERIMETER AIR CONDITIONING

The compact body depth of 220 mm can be easily installed in a perimeter zone for effective air-conditioning.



REMOTE CONTROLLER CAN BE INSTALLED ON THE MAIN UNIT



Remote controller can be built-in.
MA remote controller PAR-40MAA can be installed.

ELECTRONICS DRY FUNCTION DEHUMIDIFY REFRESHINGLY

Optimum dehumidification depending on indoor temperature to prevent over-cooling. Refreshing dehumidification can be attained.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

INDOOR UNIT - FLOOR STANDING EXPOSED

PFFY-P VLEM-E

Model			PFFY-P20VLEM-E	PFFY-P25VLEM-E	PFFY-P32VLEM-E	PFFY-P40VLEM-E	PFFY-P50VLEM-E	PFFY-P63VLEM-E
Power Source			1-Phase 220-240V 50Hz / 1-Phase 208-230V 60Hz					
Cooling Capacity (Nominal)*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
Heating Capacity (Nominal)*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	Cooling	kW	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		0.06 / 0.07	0.065 / 0.075	0.085 / 0.09	0.1 / 0.11
Current3	Cooling	A	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		0.29 / 0.30	0.32 / 0.33	0.40 / 0.41	0.46 / 0.47
External Finish (Munsell No.)			Acrylic Paint (5Y 8/1)					
Dimension H x W x D		mm	630 x 1,050 x 220		630 x 1,170 x 220		630 x 1,410 x 220	
Net Weight		kg	28		30	32	36	37
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)					
Fan	Type x Quantity		Sirocco Fan x 1		Sirocco Fan x 2			
	Air Flow Rate*2 (Lo-Hi)	m^3/min	5.5-6.5		7.0-9.0	9.0-11.0	12.0-14.0	12.0-15.5
		L/s	92-108		117-150	150-183	200-233	200-258
		cfm	194-230		247-318	318-388	424-494	424-547
	External Static Pressure	Pa	0					
Motor	Type		1-Phase Induction Motor					
	Output	kW	0.015		0.018	0.030	0.035	0.050
Air Filter			PP Honeycomb Fabric (Washable)					
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø12.7 (ø1/2)					ø15.88 (ø5/8)
	Liquid (Flare)	mm (in.)	ø6.35 (ø1/4)					ø9.52 (ø3/8)
Field Drain Pipe Diameter		mm (in.)	I.D. 26 (1) <Accessory Hose O.D. 27 (1-3/32) (Top End :20 (13/16))>					
Sound Pressure Level *2 *3 *4 (Lo-Hi)		dB(A)	34-40		35-40	38-43		40-46

Notes:

*1 Cooling/heating capacity indicates the maximum value at operation under the following condition.
Cooling Indoor : 27°CDB/19°CWB, Outdoor 35°CDB
Heating Indoor : 20°CDB, Outdoor 7°CDB/6°CWB
*2 Air flow rate/sound pressure level are in (Lo-Hi)
*3 Measured point : 1m x 1m, Power supply : AC240V/50Hz
» 1dB(A) lower at AC230V/50Hz
» 2dB(A) lower at AC220V/50Hz
» 3dB(A) lower at 1.5m x 1.5m point
*4 It is measured in anechoic room.

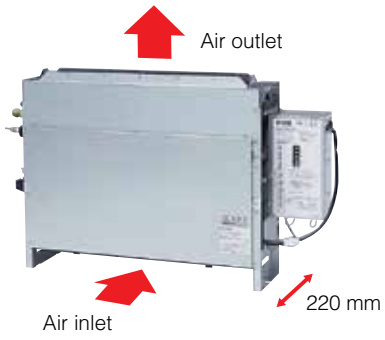
PFFY-P VLRM-E
PFFY-P VLRMM-E

CONCEALED TYPE (FOR PERIMETER ZONE)

Neatly installed with pericover concealed.
Easy installation in perimeter zone.

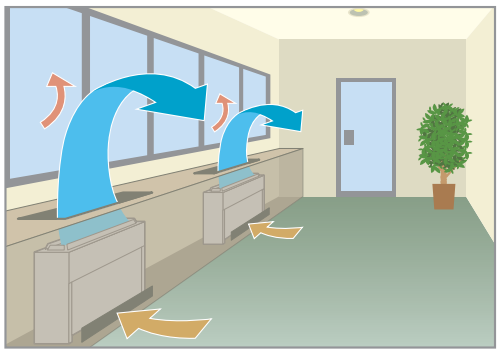
COMPACT UNIT FOR EASY PERIMETER AIR CONDITIONING

The compact body depth of 220mm can be easily installed in a perimeter zone for effective air-conditioning.



COMPACT UNIT FOR EASY PERIMETER AIR CONDITIONING

The compact body depth of 220mm can be easily installed in a perimeter zone for effective air-conditioning.



MAXIMUM EXTERNAL STATIC PRESSURE 60 PA*

Additional external static pressure capacity provides flexibility for duct extension, branching, and air outlet configuration.

*For VLRMM models.

ELECTRONICS DRY FUNCTION DEHUMIDIFY REFRESHINGLY TO PREVENT OVER-COOLING

Optimum dehumidification depending on indoor temperature to prevent over-cooling. Refreshing dehumidification can be attained.

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

INDOOR UNIT - FLOOR MOUNTED CONCEALED

PFFY-P VLRM(M)-E

Model			PFFY-P20VLRM-E	PFFY-P25VLRM-E	PFFY-P32VLRM-E	PFFY-P40VLRM-E	PFFY-P50VLRM-E	PFFY-P63VLRM-E
Power Source			1-Phase 220-240V 50Hz / 1-Phase 208-230V 60Hz					
Cooling Capacity (Nominal)*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
Heating Capacity (Nominal)*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	Cooling	kW	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		0.06 / 0.07	0.065 / 0.075	0.085 / 0.09	0.1 / 0.11
Current	Cooling	A	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		0.29 / 0.30	0.32 / 0.33	0.40 / 0.41	0.46 / 0.47
External Finish (Munsell No.)			Galvanised Steel Plate					
Dimension H x W x D		mm	639 x 886 x 220		639 x 1,006 x 220		639 x 1,246 x 220	
Net Weight		kg	22		24	25	29	30
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)					
Fan	Type x Quantity		Sirocco Fan x 1		Sirocco Fan x 2			
	Air Flow Rate*2 (Lo-Hi)	m^3/min	5.5-6.5		7.0-9.0	9.0-11.0	12.0-14.0	12.0-15.5
		L/s	92-108		117-150	150-183	200-233	200-258
		cfm	194-230		247-318	318-388	424-494	424-547
	External Static Pressure	Pa	0					
Motor	Type		1-Phase Induction Motor					
	Output	kW	0.015		0.018	0.030	0.035	0.050
Air Filter			PP Honeycomb Fabric (Washable)					
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø12.7 (ø1/2)					ø15.88 (ø5/8)
	Liquid (Flare)	mm (in.)	ø6.35 (ø1/4)					ø9.52 (ø3/8)
Field Drain Pipe Diameter		mm (in.)	I.D. 26 (1) <Accessory Hose O.D. 27 (1-3/32) (Top End: 20 (13/16))>					
Sound Pressure Level *2 *3 *4 (Lo-Hi)		dB(A)	34-40		35-40	38-43		40-46

Notes:

*1 Cooling/Heating capacity indicates the maximum value at operation under the following condition.
Cooling Indoor : 27°CDB/19°CWB, Outdoor 35°CDB
Heating Indoor : 20°CDB, Outdoor 7°CDB/6°CWB
*2 Air flow rate/sound pressure level are in (Lo-Hi)
*3 Measured point : 1m x 1m, Power supply : AC240V/50Hz
» 1dB(A) lower at AC230V/50Hz
» 2dB(A) lower at AC220V/50Hz
» 3dB(A) lower at 1.5m x 1.5m point
*4 It is measured in anechoic room.

Model			PFFY-P20VLRMM-E	PFFY-P25VLRMM-E	PFFY-P32VLRMM-E	PFFY-P40VLRMM-E	PFFY-P50VLRMM-E	PFFY-P63VLRMM-E
Power Source			1-Phase 220-240V 50Hz / 1-Phase 220-240V 60Hz					
Cooling Capacity (Nominal)*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
Heating Capacity (Nominal)*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	Cooling	kW	0.04		0.04	0.05	0.05	0.07
	Heating	kW	0.04		0.04	0.05	0.05	0.07
Current Input *3	Cooling	A	0.34		0.38	0.43	0.48	0.59
	Heating	A	0.34		0.38	0.43	0.48	0.59
External Finish (Munsell No.)			Galvanised Steel Plate					
Dimension H x W x D		mm	639 x 886 x 220		639 x 1,006 x 220		639 x 1,246 x 220	
Net Weight		kg	21		24	25	29	
Heat Exchanger			Cross Fin (Aluminum Plate Fin and Copper Tube)					
Fan	Type x Quantity		Sirocco Fan x 1		Sirocco Fan x 2			
	Air Flow Rate (Lo-Mid-Hi)	m^3/min	4.5-5.5-6.5		6.5-7.5-9.0	8.0-9.5-11.0	10.0-12.0-14.0	11.0-13.0-15.5
		L/s	75-92-108		108-125-150	133-158-183	167-200-233	183-217-258
		cfm	159-194-230		230-265-318	282-335-388	353-424-494	388-459-547
	External Static Pressure*2	Pa	20/40/60					
Motor	Type		DC Motor					
	Output	kW	0.096					
Air Filter			PP Honeycomb Fabric (Washable)					
Refrigerant Pipe Diameter	Gas (Flare)	mm (in.)	ø12.7 (ø1/2) Brazed					ø15.88 (ø5/8) Brazed
	Liquid (Flare)	mm (in.)	ø6.35 (ø1/4) Brazed					ø9.52 (ø3/8) Brazed
Field Drain Pipe Diameter		mm (in.)	I.D. 26 (1) <Accessory Hose O.D. 27 (1-3/32) (Top End: 20 (13/16))>					
Sound Pressure Level *3 (Lo-Mid-Hi)	20Pa	dB(A)	31-36-40		27-32-37	30-36-40	32-37-41	35-40-44
	40Pa	dB(A)	34-39-42		30-35-41	32-38-42	35-40-44	36-42-47
	60Pa	dB(A)	35-40-43		32-37-42	35-39-44	36-41-45	38-43-48

Notes:

*1 Cooling/Heating capacity indicates the maximum value at operation under the following condition.
Cooling Indoor : 27°CDB/19°CWB, Outdoor 35°CDB
Heating Indoor : 20°CDB, Outdoor 7°CDB/6°CWB
Pipe Length : 7.5m / Height Difference : 0m
*2 The external static pressure is set to 20Pa at factory shipment.
*3 The sound pressure level in operation is measured at 1m apart from the front side and the bottom side of the unit in anechoic room.
(Noise meter A-scale value.) Connect the duct of 1m in length to the air outlet.

Lossnay System

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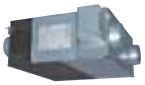
Lineup of Lossnay Units

Unit Type	Model \ Air Volume	150 CMH	250 CMH	350 CMH	500 CMH	650 CMH	800 CMH	1000 CMH	1500 CMH	2000 CMH	2500 CMH
Lossnay Unit	LGH-RVX Series 	•	•	•	•	•	•	•	•	•	
	LGH-RVXT Series 								•	•	•
	GUF Series 				•			•			

LGH-RVX Series

This commercially oriented system can be utilised virtually anywhere with high performance and functions.

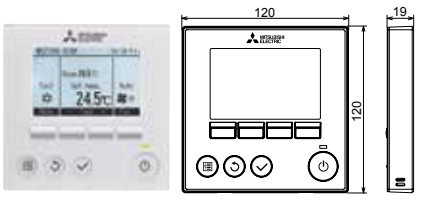
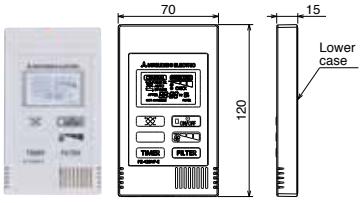
LGH-RVXT Series

Thin large air volume models in LGH-Series with high performance and functions.

GUF Series

Heat recovery with heating and cooling system using the heat resource of City Multi outdoor unit.

Lineup of Remote Controllers

Function (Communicating Mode)	PZ-61DR-E LGH-RVX/RVXT	PZ-43SMF-E LGH-RVX/RVXT
		
Fan Speed Selection	4 Fan Speeds	2 of 4 fan speeds
Ventilation Mode Selection	Energy Recovery / Bypass / Auto	Energy Recovery / Bypass / Auto
Night-Purge (Time)	Anytime Schedule	No
Night-Purge (Fan Speed)	Selectable from 4 fan speeds	No
Function Setting from RC	Yes	No
Bypass Temperature Free Setting	Yes	No
Fan Power Change After Installation	Yes	No
On/Off Timer	Yes	Yes
Auto-OFF Timer	Yes	No
Weekly Timer	Yes	No
Operation Restrictions (on/Off, ventilation mode, fan speed)	Yes	No
Operation Restrictions (Fan Speed Skip Setting)	Yes	No
Screen Contrast Adjustment	Yes	No
Language Selection	Yes (8 Languages)	No (English Only)
Initialising Remote Controller	Yes	No
Filter Cleaning Sign	Yes	Yes
Lossnay Core Cleaning Sign	Yes	No
Error Indication	Yes	Yes
Error History	Yes	No
Dimensions (H x W x D)	120 x 120 x 19 mm	120 x 70 x 15 mm

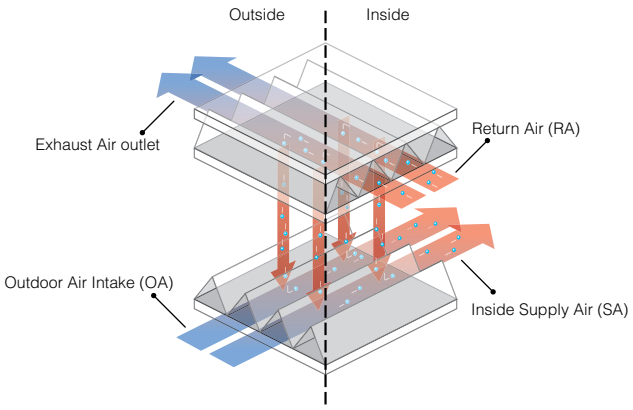
Lossnay ventilation systems are renowned industry-wide for their efficiency.

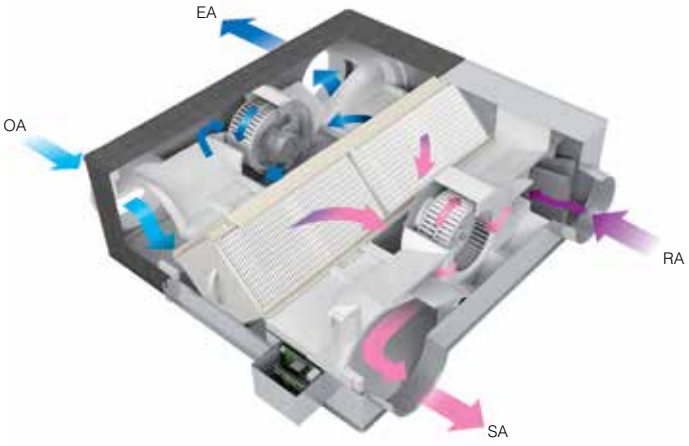
They offer environment-friendly energy recovery and humidity control, and enable air conditioning systems to simultaneously provide optimum room comfort and energy savings.

INDOOR AIR QUALITY INSIDE A BUILDING IS OPTIMISED THROUGH TEMPERATURE AND HUMIDITY EXCHANGE BY LOSSNAY

Lossnay is a total heat exchange ventilation system that uses paper characteristics to perform temperature (sensible heat) and humidity (latent heat) exchange.

The concept of sensible heat and latent heat exchange using Lossnay core

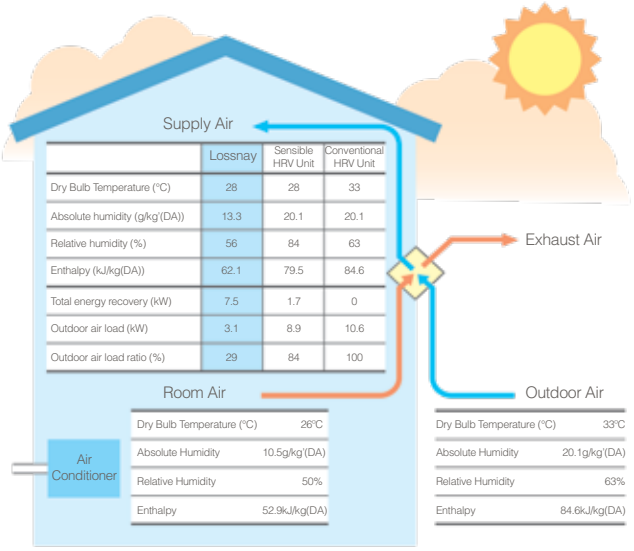




WHAT CAN BE IMPROVED BY INTRODUCING LOSSNAY?

Ventilation with maximised comfort.

In Summer:
Air similar to the conditions of the cooled (dehumidified) indoor air is supplied.



	Lossnay	Sensible HRV Unit	Conventional HRV Unit
Dry Bulb Temperature (°C)	28	28	33
Absolute humidity (g/kg'(DA))	13.3	20.1	20.1
Relative humidity (%)	56	84	63
Enthalpy (kJ/kg(DA))	62.1	79.5	84.6
Total energy recovery (kW)	7.5	1.7	0
Outdoor air load (kW)	3.1	8.9	10.6
Outdoor air load ratio (%)	29	84	100

Room Air	
Dry Bulb Temperature (°C)	26°C
Absolute Humidity	10.5g/kg'(DA)
Relative Humidity	50%
Enthalpy	52.9kJ/kg(DA)

Outdoor Air	
Dry Bulb Temperature (°C)	33°C
Absolute Humidity	20.1g/kg'(DA)
Relative Humidity	63%
Enthalpy	84.6kJ/kg(DA)

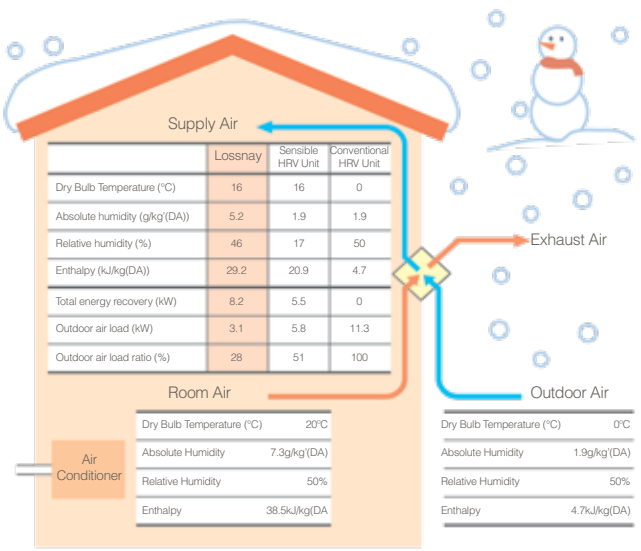
Heat Recovery Calculation

Indoor Supply Air Temperature (°C) = Outdoor Temperature (°C) - {Outdoor Temperature (°C) - Indoor Temperature (°C)} x Temp Recovery Efficiency (%)

Calculation example: 28°C=33°C-(33°C-26°C)x72%

*The above applies to the case of LGH-100RVX (fan speed 4).

In Winter:
Air similar to the conditions of the heated (humidified) indoor air is supplied.



	Lossnay	Sensible HRV Unit	Conventional HRV Unit
Dry Bulb Temperature (°C)	16	16	0
Absolute humidity (g/kg'(DA))	5.2	1.9	1.9
Relative humidity (%)	46	17	50
Enthalpy (kJ/kg(DA))	29.2	20.9	4.7
Total energy recovery (kW)	8.2	5.5	0
Outdoor air load (kW)	3.1	5.8	11.3
Outdoor air load ratio (%)	28	51	100

Room Air	
Dry Bulb Temperature (°C)	20°C
Absolute Humidity	7.3g/kg'(DA)
Relative Humidity	50%
Enthalpy	38.5kJ/kg(DA

Outdoor Air	
Dry Bulb Temperature (°C)	0°C
Absolute Humidity	1.9g/kg'(DA)
Relative Humidity	50%
Enthalpy	4.7kJ/kg(DA)

Heat Recovery Calculation

Indoor Supply Air Temperature (°C) = {Indoor Temperature (°C) - Outdoor Temperature (°C)} x Temp Recovery Efficiency (%) + Indoor Temperature (°C)

Calculation example: 16°C=(20°C-0°C)x80%+0°C

*The above applies to the case of LGH-100RVX (fan speed 4).

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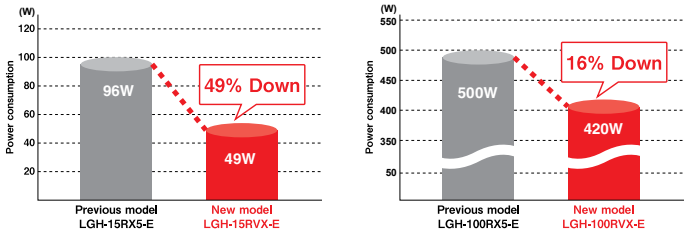
LGH-RVX SERIES (STANDARD MODEL)

Power consumption reduced further with introduction of a DC motor

Realised low power consumption with introduction of a high efficiency brushless DC motor. Compared to models with an AC motor, power consumption is reduced.

Comparison between new and previous power consumption.

(New model: Fan speed 4 at 230V 50Hz, Previous model: Extra-high at 220V 50Hz)



IMPROVED AIR VOLUME RANGE

Wide range air volume

Each fan speed has a range setting of 25, 50, 75 and 100%, allowing much finer air volume control. When used in combination with the CO2 sensor or timer function, the air volume can be controlled according to conditions that realize better performance and reduce power consumption.

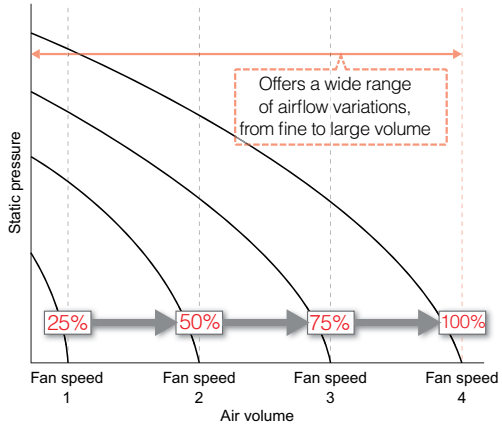
Fan speed adjustment function

The default fan speed value can be adjusted slightly. Use the PZ-61DR-E remote controller to reset the speed.

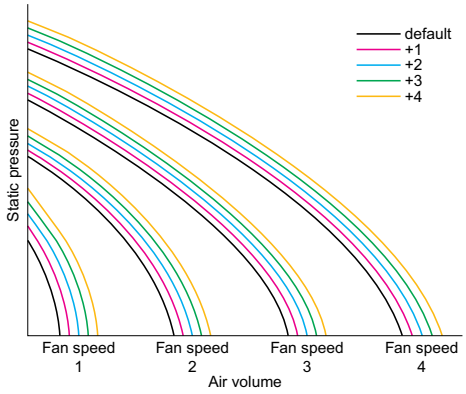
1) Considering the total hours of Lossnay operation (filter clogging), the fan power can be adjusted automatically after a given period of time.

2) After the unit is installed, when if the air volume is slightly lower than the desired airflow, it is possible to make fine adjustments.

LGH-RVX/RVXT Series Model Characteristic Curves



P-Q Curve Image



LGH-RVXT SERIES | THINNER BODY TYPE

The LGH-RVXT-Series have a large air volume of 1500 - 2500 CMH, but has a thin body at 500mm. Installing the unit behind the ceiling is easy.

LGH-150/200RVX-E

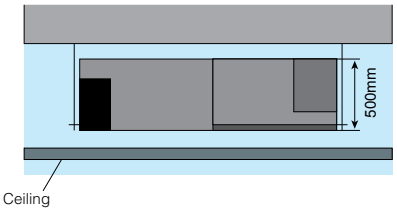
Height: 808mm

LGH-150/200RVXT-E

Height: 500mm

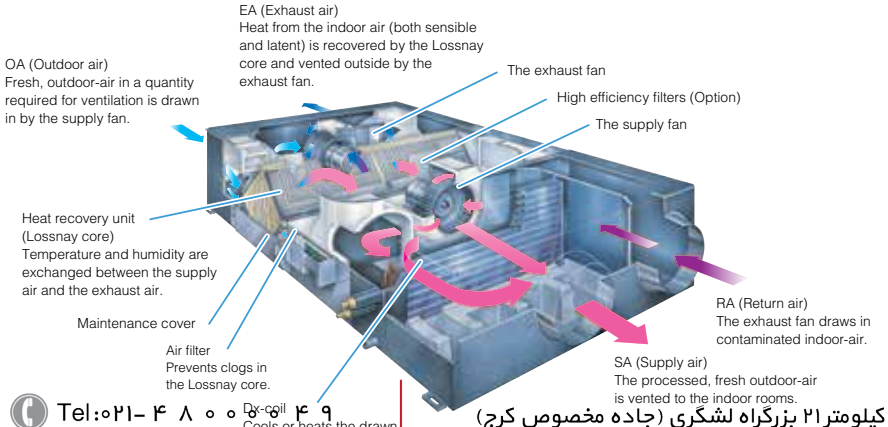
38% Thinner Body

LGH-150/200RVXT Installation Image



GUF-SERIES (LOSSNAY WITH DX-COIL UNIT)

Along with Lossnay ventilation, the OA Processing Unit is really two units in one, functioning as the main air conditioner when the load is light and adding supplemental air conditioning when the load is heavy.



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روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

LOSSNAY INDOOR UNIT

LGH-RVX SERIES

Model		LGH-15RVX-E								LGH-25RVX-E							
Electrical power supply		220-240V/50Hz, 220V/60Hz								220-240V/50Hz, 220V/60Hz							
Ventilation mode		Heat recovery mode				Bypass mode				Heat recovery mode				Bypass mode			
Fan speed		SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1
Running current (A)		0.40	0.24	0.15	0.10	0.41	0.25	0.15	0.10	0.48	0.28	0.16	0.10	0.48	0.29	0.16	0.11
Input power (W)		49	28	14	7	52	28	14	8	62	33	16	7.5	63	35	17	9
Air volume	(m³/h)	150	113	75	38	150	113	75	38	250	188	125	63	250	188	125	63
	(L/s)	42	31	21	10	42	31	21	10	69	52	35	17	69	52	35	17
External static pressure (Pa)		95	54	24	6	95	54	24	6	85	48	21	5	85	48	21	5
Temperature exchange efficiency (%)		80.0	81.0	83.0	84.0	—	—	—	—	79.0	80.0	82.0	86.0	—	—	—	—
Enthalpy exchange efficiency (%)	Heating	73.0	75.5	78.0	79.0	—	—	—	—	69.5	72.0	76.0	83.0	—	—	—	—
	Cooling	71.0	74.5	78.0	79.0	—	—	—	—	68.0	70.0	74.5	83.0	—	—	—	—
Noise (dB)	(Measured at 1.5m under the centre of unit in an anechoic chamber)	28.0	24.0	19.0	17.0	29.0	24.0	19.0	18.0	27.0	22.0	20.0	17.0	27.5	23.0	20.0	17.0
Weight (kg)		20								23							
Specific energy consumption class		A								A							

*The Air outlets noise (45 angle,1.5 metres in front of the unit) is about 13dB(LGH-15RVX-E) / 15dB(LGH-25RVX-E) greater than the indicated value (at Fan speed 4).
*The running current, the input power, the efficiency and the noise are based on the rating air volume, and 230V/50Hz.
*For the specification at the other frequency contact your dealer.
*Figures in the chart are measured according to Japan Industrial Standard (JIS B 8628). Characteristic Curves are measured by chamber method.

Model		LGH-35RVX-E								LGH-50RVX-E							
Electrical power supply		220-240V/50Hz, 220V/60Hz								220-240V/50Hz, 220V/60Hz							
Ventilation mode		Heat recovery mode				Bypass mode				Heat recovery mode				Bypass mode			
Fan speed		SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1
Running current (A)		0.98	0.54	0.26	0.12	0.98	0.56	0.28	0.13	1.15	0.59	0.26	0.13	1.15	0.59	0.27	0.13
Input power (W)		140	70	31	11	145	72	35	13	165	78	32	12	173	81	35	14
Air volume	(m³/h)	350	263	175	88	350	263	175	88	500	375	250	125	500	375	250	125
	(L/s)	97	73	49	24	97	73	49	24	139	104	69	35	139	104	69	35
External static pressure (Pa)		160	90	40	10	160	90	40	10	120	68	30	8	120	68	30	8
Temperature exchange efficiency (%)		80.0	82.5	86.0	88.5	—	—	—	—	78.0	81.0	83.5	87.0	—	—	—	—
Enthalpy exchange efficiency (%)	Heating	71.5	74.0	78.5	83.5	—	—	—	—	69.0	71.0	75.0	82.5	—	—	—	—
	Cooling	71.0	73.0	78.0	82.0	—	—	—	—	66.5	68.0	72.5	82.0	—	—	—	—
Noise (dB)	(Measured at 1.5m under the centre of unit in an anechoic chamber)	32.0	28.0	20.0	17.0	32.5	28.0	20.0	18.0	34.0	28.0	19.0	18.0	35.0	29.0	20.0	18.0
Weight (kg)		30								33							

*The Air outlets noise (45 angle,1.5 metres in front of the unit) is about 12dB(LGH-35RVX-E) / 18dB(LGH-50RVX-E) greater than the indicated value (at Fan speed 4).
*The running current, the input power, the efficiency and the noise are based on the rating air volume, and 230V/50Hz.
*For the specification at the other frequency contact your dealer.
*Figures in the chart are measured according to Japan Industrial Standard (JIS B 8628). Characteristic Curves are measured by chamber method.

Model		LGH-65RVX-E								LGH-80RVX-E							
Electrical power supply		220-240V/50Hz, 220V/60Hz								220-240V/50Hz, 220V/60Hz							
Ventilation mode		Heat recovery mode				Bypass mode				Heat recovery mode				Bypass mode			
Fan speed		SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1
Running current (A)		1.65	0.90	0.39	0.15	1.72	0.86	0.38	0.16	1.82	0.83	0.36	0.15	1.97	0.86	0.40	0.15
Input power (W)		252	131	49	15	262	131	47	17	335	151	60	18	340	151	64	20
Air volume	(m³/h)	650	488	325	163	650	488	325	163	800	600	400	200	800	600	400	200
	(L/s)	181	135	90	45	181	135	90	45	222	167	111	56	222	167	111	56
External static pressure (Pa)		120	68	30	8	120	68	30	8	150	85	38	10	150	85	38	10
Temperature exchange efficiency (%)		77.0	81.0	84.0	86.0	—	—	—	—	79.0	82.5	84.0	85.0	—	—	—	—
Enthalpy exchange efficiency (%)	Heating	68.5	71.0	76.0	82.0	—	—	—	—	71.0	73.5	78.0	81.0	—	—	—	—
	Cooling	66.0	69.5	74.0	81.0	—	—	—	—	70.0	72.5	78.0	81.0	—	—	—	—
Noise (dB)	(Measured at 1.5m under the centre of unit in an anechoic chamber)	34.5	29.0	22.0	18.0	35.5	29.0	22.0	18.0	34.5	30.0	23.0	18.0	36.0	30.0	23.0	18.0
Weight (kg)		38								48							

*The Air outlets noise (45 angle,1.5 metres in front of the unit) is about 16dB(LGH-65RVX-E) / 24dB(LGH-80RVX-E) greater than the indicated value (at Fan speed 4).
*The running current, the input power, the efficiency and the noise are based on the rating air volume, and 230V/50Hz.
*For the specification at the other frequency contact your dealer.
*Use this unit with static pressure 240Pa or less at Fan speed 4. Otherwise the noise level might be large. (Only LGH-80RVX-E)
*Figures in the chart are measured according to Japan Industrial Standard (JIS B 8628). Characteristic Curves are measured by chamber method.

SPECIFICATIONS

LOSSNAY INDOOR UNIT

LGH-RVX SERIES

Model		LGH-100RVX-E								LGH-150RVX-E							
Electrical power supply		220-240V/50Hz, 220V/60Hz								220-240V/50Hz, 220V/60Hz							
Ventilation mode		Heat recovery mode				Bypass mode				Heat recovery mode				Bypass mode			
Fan speed		SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1
Running current (A)		2.50	1.20	0.50	0.17	2.50	1.20	0.51	0.19	3.71	1.75	0.70	0.29	3.85	1.78	0.78	0.30
Input power (W)		420	200	75	21	420	200	75	23	670	311	123	38	698	311	124	44
Air volume	(m^3/h)	1000	750	500	250	1000	750	500	250	1500	1125	750	375	1500	1125	750	375
	(L/s)	278	208	139	69	278	208	139	69	417	313	208	104	417	313	208	104
External static pressure (Pa)		170	96	43	11	170	96	43	11	175	98	44	11	175	98	44	11
Temperature exchange efficiency (%)		80.0	83.0	86.5	89.5	—	—	—	—	80.0	82.5	84.0	85.0	—	—	—	—
Enthalpy exchange efficiency (%)	Heating	72.5	74.0	78.0	87.0	—	—	—	—	72.0	73.5	78.0	81.0	—	—	—	—
	Cooling	71.0	73.0	77.0	85.5	—	—	—	—	70.5	72.5	78.0	81.0	—	—	—	—
Noise (dB)	(Measured at 1.5m under the centre of unit in an anechoic chamber)	37.0	31.0	23.0	18.0	38.0	32.0	24.0	18.0	39.0	32.0	24.0	18.0	40.5	33.0	26.0	18.0
Weight (kg)		54								98							

*The Air outlets noise (45 angle,1.5 metres in front of the unit) is about 21dB(LGH-100RVX-E) / 22dB(LGH-150RVX-E) greater than the indicated value (at Fan speed 4).
*The running current, the input power, the efficiency and the noise are based on the rating air volume, and 230V/50Hz.
*For the specification at the other frequency contact your dealer.
*Use this unit between static pressure 60Pa and 240Pa at Fan speed 4. Otherwise the motor protection may work and reduce its output or the noise level might be larger. (Only LGH-100RVX-E)
*Use this unit with static pressure 250Pa or less at Fan speed 4. Otherwise the noise level might be larger (Only LGH-150RVX-E)
*Figures in the chart are measured according to Japan Industrial Standard (JIS B 8628). Characteristic Curves are measured by chamber method.

Model		LGH-200RVX-E							
Electrical power supply		220-240V/50Hz, 220V/60Hz							
Ventilation mode		Heat recovery mode				Bypass mode			
Fan speed		SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1
Running current (A)		4.88	2.20	0.88	0.33	4.54	2.06	0.87	0.35
Input power (W)		850	400	153	42	853	372	150	49
Air volume	(m^3/h)	2000	1500	1000	500	2000	1500	1000	500
	(L/s)	556	417	278	139	556	417	278	139
External static pressure (Pa)		150	84	38	10	150	84	38	10
Temperature exchange efficiency (%)		80.0	83.0	86.5	89.5	—	—	—	—
Enthalpy exchange efficiency (%)	Heating	72.5	74.0	78.0	87.0	—	—	—	—
	Cooling	71.0	73.0	77.0	85.5	—	—	—	—
Noise (dB)	(Measured at 1.5m under the centre of unit in an anechoic chamber)	40.0	36.0	28.0	18.0	41.0	36.0	27.0	19.0
Weight (kg)		110							

*The Air outlets noise (45 angle,1.5 metres in front of the unit) is about 21dB greater than the indicated value (at Fan speed 4).
*The running current, the input power, the efficiency and the noise are based on the rating air volume, and 230V/50Hz.
*For the specification at the other frequency contact your dealer.
*Use this unit between static pressure 50Pa and 220Pa at Fan speed 4. Otherwise the motor protection may work and reduce its output or the noise level might be large.
*Figures in the chart are measured according to Japan Industrial Standard (JIS B 8628). Characteristic Curves are measured by chamber method.

SPECIFICATIONS

LOSSNAY INDOOR UNIT

LGH-RVXT SERIES

Model		LGH-150RVXT-E								LGH-200RVXT-E							
Electrical power supply		220-240V/50Hz, 220V/60HZ								220-240V/50Hz, 220V/60Hz							
Ventilation mode		Heat recovery mode				Bypass mode				Heat recovery mode				Bypass mode			
Fan speed		SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1
Running current (A)		4.30	2.40	1.10	0.36	3.40	1.80	0.77	0.31	5.40	2.70	1.10	0.39	5.00	2.20	0.85	0.34
Input power (W)		792	421	176	48	625	334	134	37	1000	494	197	56	916	407	150	45
Air volume	(m^3/h)	1500	1125	750	375	1500	1125	750	375	2000	1500	1000	500	2000	1500	1000	500
	(L/s)	417	313	208	104	417	313	208	104	556	417	278	139	556	417	278	139
External static pressure (Pa)	Supply	175	98	44	11	175	98	44	11	175	98	44	11	175	98	44	11
	Return	100	56	25	6	100	56	25	6	100	56	25	6	100	56	25	6
Temperature exchange efficiency (%)		80.0	80.5	81.0	81.5	-	-	-	-	80.0	81.0	82.5	84.0	-	-	-	-
Enthalpy exchange efficiency (%)	Heating	70.0	71.0	73.0	75.0	-	-	-	-	72.5	73.5	77.0	83.0	-	-	-	-
	Cooling	69.0	70.0	72.0	74.0	-	-	-	-	70.0	71.0	74.5	80.5	-	-	-	-
Noise (dB)		39.5	35.5	29.5	22.0	39.0	33.0	26.5	20.5	39.5	35.5	28.0	22.0	40.5	34.5	27.0	20.5
Weight (kg)		156								159							

*The running current, the input power, the efficiency and the noise are based on the rating air volume and 230V/50z.
*For the specification at the other frequency contact your dealer.
*Figures in the chart are measured according to Japan Industria Standard (JIS B 8628). Characteristic curves are measured by chamber method.

Model		LGH-250RVXT-E							
Electrical power supply		220-240V/50Hz, 220V/60Hz							
Ventilation mode		Heat recovery mode				Bypass mode			
Fan speed		SP4	SP3	SP2	SP1	SP4	SP3	SP2	SP1
Running current (A)		7.60	3.60	1.40	0.57	6.90	3.10	1.30	0.49
Input power (W)		1446	687	244	82	1298	587	212	69
Air volume	(m^3/h)	2500	1875	1250	625	2500	1875	1250	625
	(L/s)	694	521	347	174	694	521	347	174
External static pressure (Pa)	Supply	175	98	44	11	175	98	44	11
	Return	100	56	25	6	100	56	25	6
Temperature exchange efficiency (%)		77.0	79.0	80.5	82.5	—	—	—	—
Enthalpy exchange efficiency (%)	Heating	68.0	71.5	74.0	79.0	—	—	—	—
	Cooling	65.5	69.0	71.5	76.5	—	—	—	—
Noise (dB)		43.0	39.0	32.0	24.0	44.0	38.5	31.0	22.5
Weight (kg)		198							

*The running current, the input power, the efficiency and the noise are based on the rating air volume, and 230V/50Hz.
*For the specification at the other frequency contact your dealer.
*Figures in the chart are measured according to Japan Industrial Standard (JIS B 8628). Characteristic Curves are measured by chamber method.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

LOSSNAY INDOOR UNIT

GUF SERIES

Model			GUF-50RD4				GUF-100RD4			
Electrical power supply			220-240V/50Hz				220-240V/50Hz			
Ventilation mode			Heat recovery mode		Bypass mode		Heat recovery mode		Bypass mode	
Fan speed			High	Low	High	Low	High	Low	High	Low
Running current (A)			1.15	0.70	1.15	0.70	2.20	1.73	2.25	1.77
Input power (W)			235-265	150-165	235-265	150-165	480-505	370-395	490-515	385-410
Air volume		(m^3/h)	500	400	500	400	1000	800	1000	800
		(L/s)	139	111	139	111	278	222	278	222
External static pressure (Pa)			140	90	140	90	140	90	140	90
Temperature exchange efficiency (%)			77.5	80	—	—	79.5	81.5	—	—
Enthalpy exchange efficiency (%)		Heating	68	71	—	—	71	74	—	—
		Cooling	65	67	—	—	69	71	—	—
Cooling capacity (kW)			5.57(1.94)				11.44(4.12)			
Heating capacity (kW)			6.21(2.04)				12.56(4.26)			
Capacity equivalent to the indoor unit			P32				P63			
Noise (dB)	(Measured at 1.5m under the centre of the unit)		33.5-34.5	29.5-30.5	35-36	29.5-30.5	38-39	34-35	38-39	35-36
Weight (kg)			48				82			

Cooling/Heating capacity indicates the maximum value at operation under the following conditions.
Cooling: Indoor: 27°cDB/19°cWB Outdoor: 35°cDB/24°cWB
Heating: Indoor: 20°cDB/13.8°cWB Outdoor: 7°cDB/6°cWB
*The figures in( ) indicates heat recovering capacity of heat exchange core.
*Figures in the chart are measured according to Japan Industrial Standard (JIS B 8628). Characteristic Curves are measured by chamber method.

Model			GUF-50RDH4				GUF-100RDH4			
Electrical power supply			220-240V/50Hz				220-240V/50Hz			
Ventilation mode			Heat recovery mode		Bypass mode		Heat recovery mode		Bypass mode	
Fan speed			High	Low	High	Low	High	Low	High	Low
Running current (A)			1.15	0.70	1.15	0.70	2.20	1.76	2.25	1.77
Input power (W)			235-265	150-165	235-265	150-165	480-505	385-400	490-515	385-410
Air volume		(m^3/h)	500	400	500	400	1000	800	1000	800
		(L/s)	139	111	139	111	278	222	278	222
External static pressure (Pa)			125	80	125	80	135	86	135	86
Temperature exchange efficiency (%)			77.5	80	—	—	79.5	81.5	—	—
Enthalpy exchange efficiency (%)		Heating	68	71	—	—	71	74	—	—
		Cooling	65	67	—	—	69	71	—	—
Cooling capacity (kW)			5.57(1.94)				11.44(4.12)			
Heating capacity (kW)			6.21(2.04)				12.56(4.26)			
Capacity equivalent to the indoor unit			P32				P63			
Humidifier	Humidifying		Permeable film humidifier							
	Humidifying capacity(kg/h)		2.7(heating)				5.4(heating)			
	Water supply pressure		Minimum pressure : 2.0 × 104Pa				Maximum pressure : 49.0 × 104Pa			
Noise (dB)	(Measured at 1.5m under the centre of the unit)		33.5-34.5	29.5-30.5	35-36	29.5-30.5	38-39	34-35	38-39	35-36
Weight (kg)			51(filled with water 55)				88(filled with water 96)			

*Cooling/Heating capacity indicates the maximum value at operation under the following conditions.
Cooling: Indoor: 27°cDB/19°cWB Outdoor: 35°cDB/24°cWB
Heating: Indoor: 20°cDB/13.8°cWB Outdoor: 7°cDB/6°cWB
*The figures in( ) indicates heat recovering capacity of heat exchange core.
*Figures in the chart are measured according to Japan Industrial Standard (JIS B 8628). Characteristic Curves are measured by chamber method.

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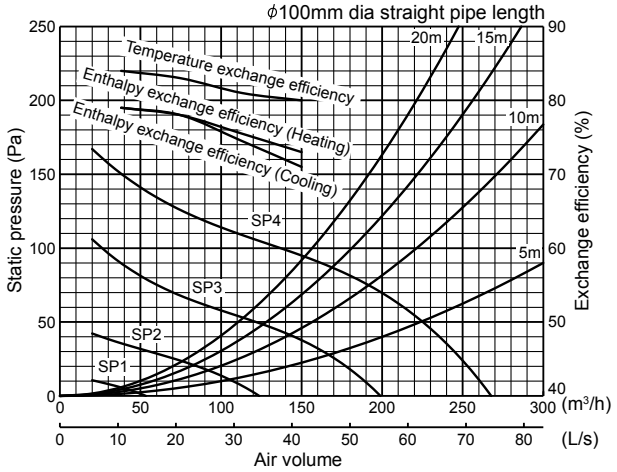
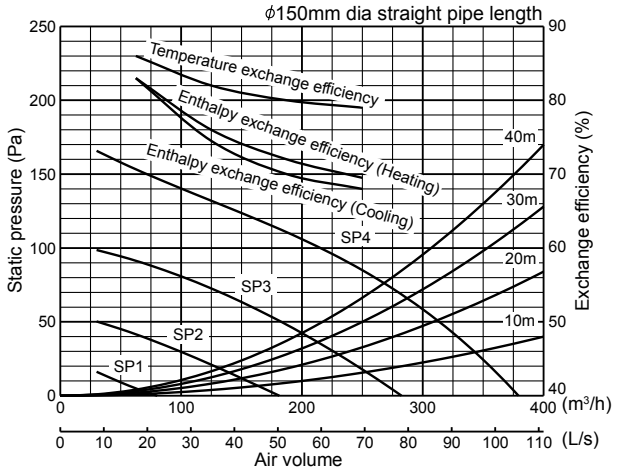
روبروی پالایشگاه نفت پارس، پلاک ۱۲

CHARACTERISTIC CURVES

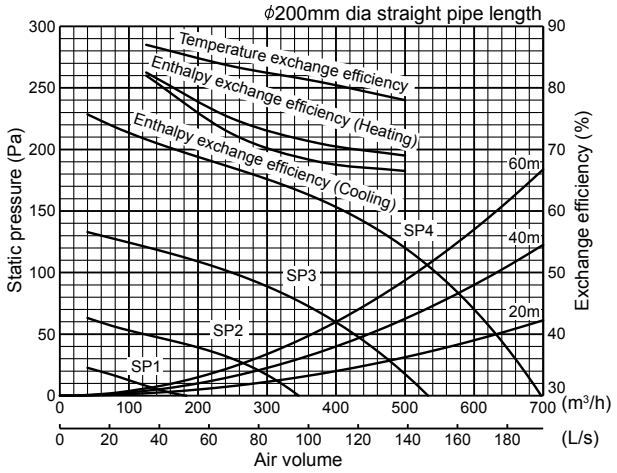
LGH-15RVX-E



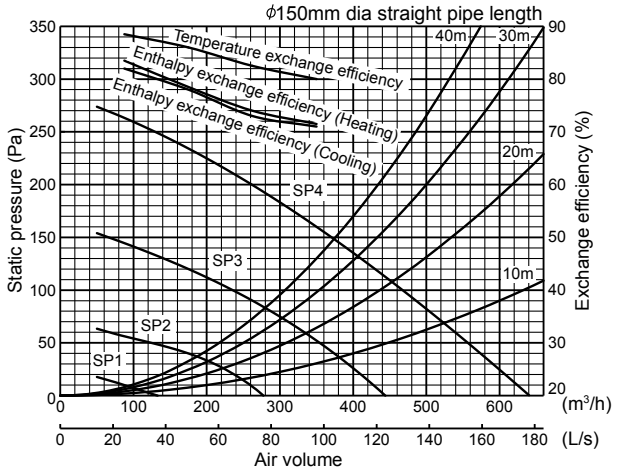
LGH-25RVX-E



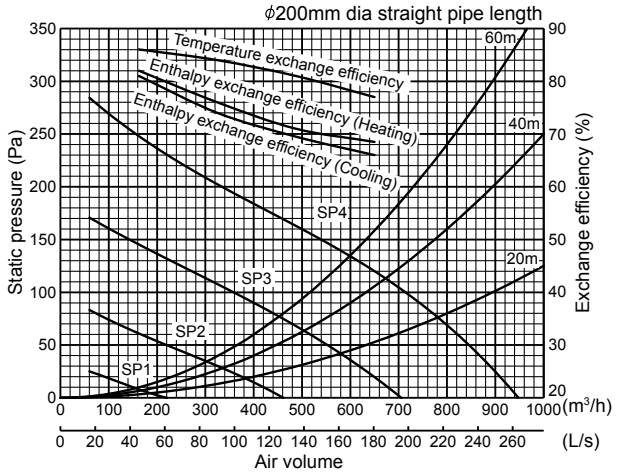
LGH-35RVX-E



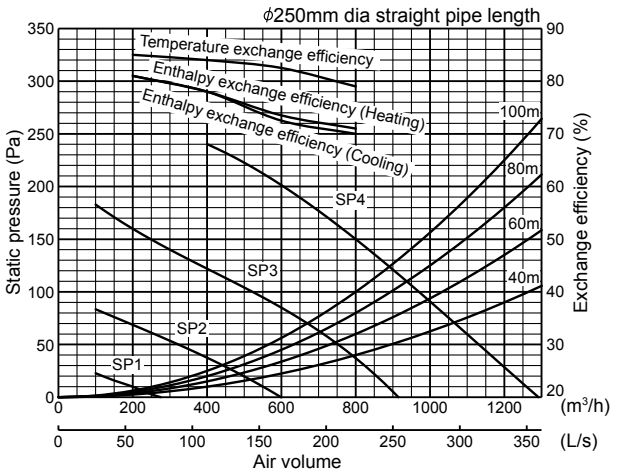
LGH-50RVX-E



LGH-65RVX-E



LGH-80RVX-E



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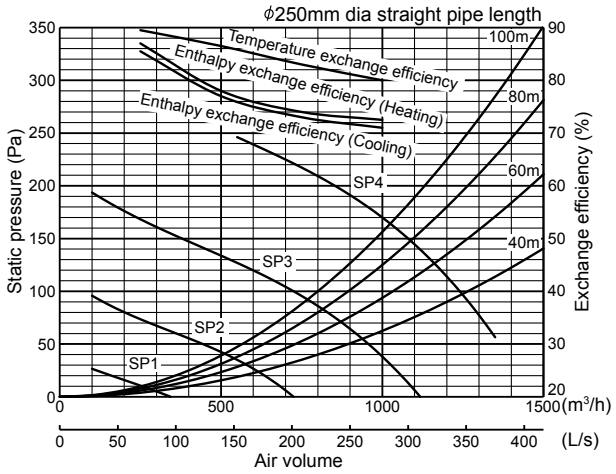
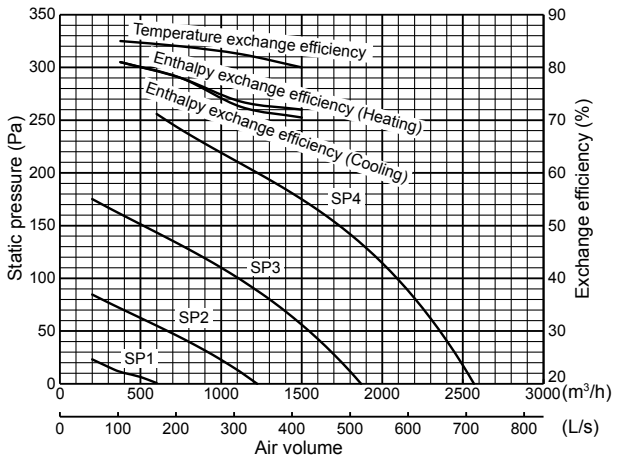
روبروی پالایشگاه نفت پارس، پلاک ۱۲

CHARACTERISTIC CURVES

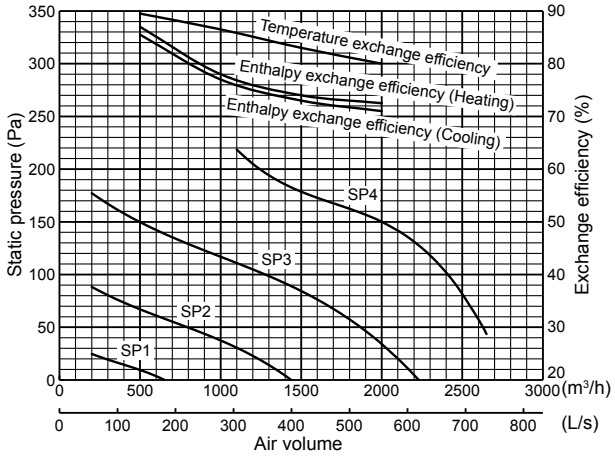
LGH-100RVX-E



LGH-150RVX-E



LGH-200RVX-E



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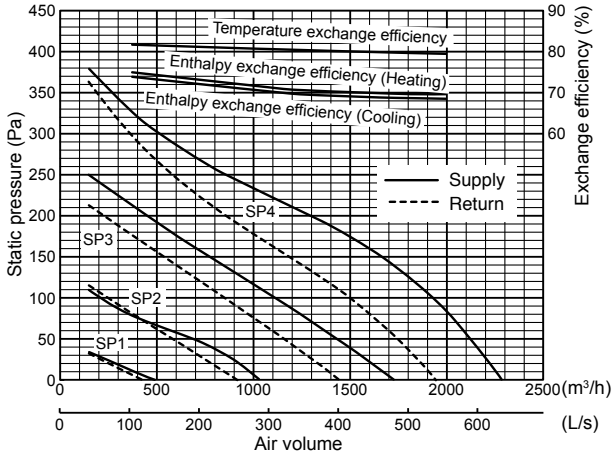

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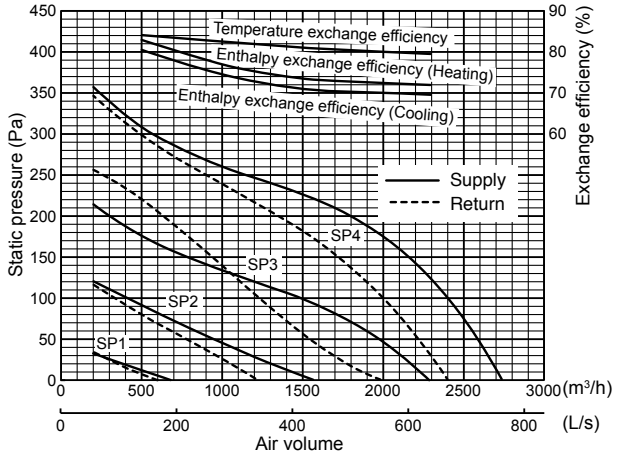
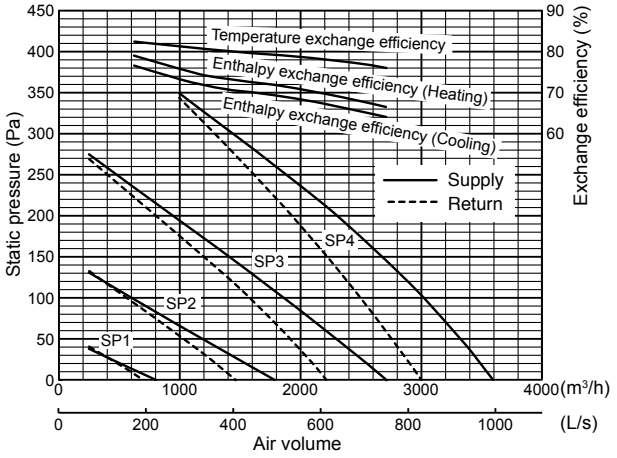


LGH-250RVXT-E



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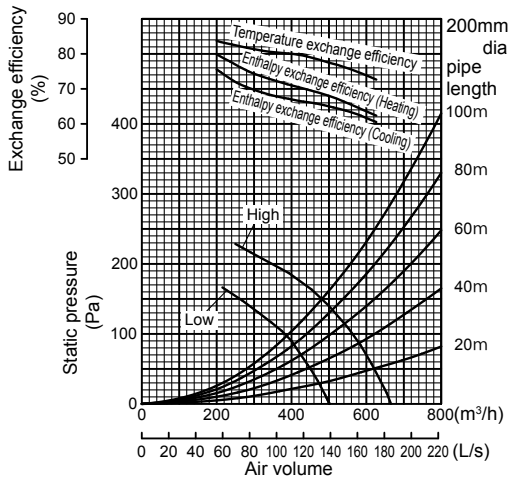
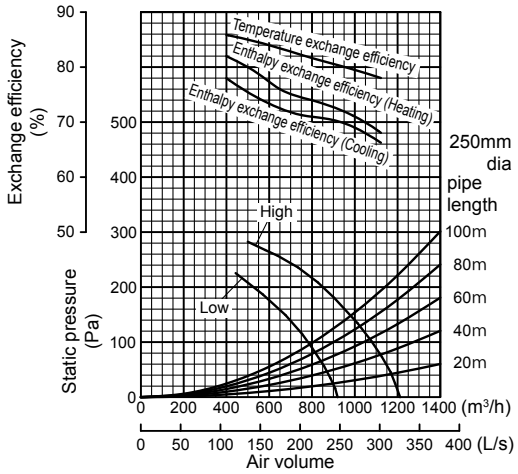
CHARACTERISTIC CURVES

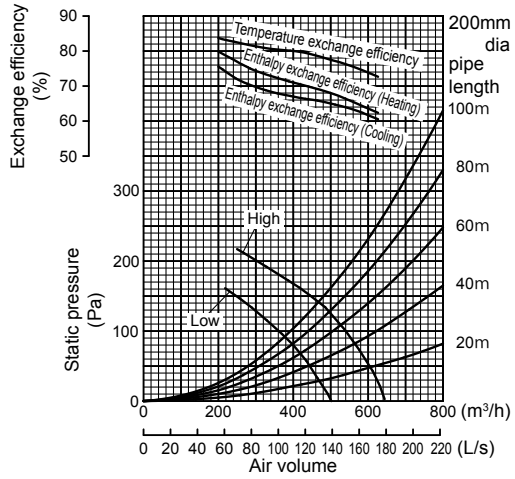
GUF-50RD4



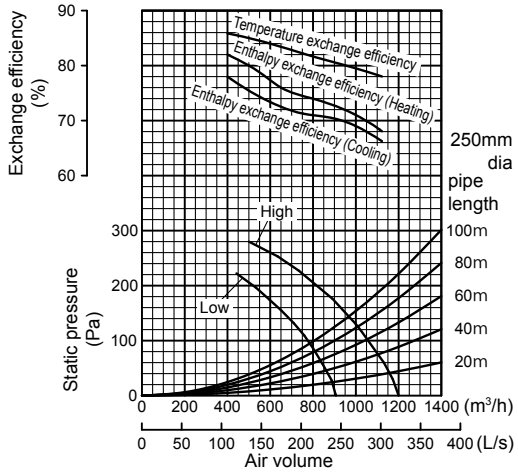
GUF-100RD4



GUF-50RDH4



GUF-100RDH4



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روبروی پالایشگاه نفت پارس، پلاک ۱۲

The Importance of Control

The need for control is paramount in order to optimise the performance of any air conditioning system and minimize its running costs. Mitsubishi Electric offers a wide range of control options designed to meet such needs.

Operating an air conditioning system without the right control can prove costly. It's therefore important to ensure that every system is correctly specified to the degree of control it requires. Mitsubishi Electric have a wide range of controls available 'off-the-shelf' and individual control systems can be specifically designed to match.

Good controls will benefit any application, large or small. Air conditioning products need to react to a variety of factors: different room sizes, usage and staff levels; changes in the climate; electronic equipment and lighting ...the list goes on. So whatever the application, optimum control of air conditioning systems is essential and will result in a constant, comfortable environment, which in turn is both energy and cost efficient.

A Degree of Difference

When an air conditioning system is not properly controlled, it will not run as efficiently as it should. For every degree that the system deviates from the required temperature, energy costs can rise by up to 5%. Specify one of the many control options from Mitsubishi Electric to ensure air conditioning works as intended, whilst giving the optimum amount of control.

The Simpler, The Better

With the array of comprehensive control systems available from Mitsubishi Electric, it becomes simple to design and install air conditioning systems. From a simple hand-held controller to a AE-200E system you are in control.

ICON EXPLANATION

DUAL SET POINT

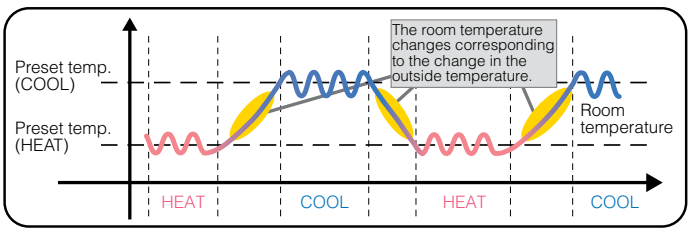
Dual set point

When the operation mode is set to the Auto (dual set point) mode, two preset temperatures (one each for cooling and heating) can be set. Depending on the room temperature, indoor unit will automatically operate in either the Cool or Heat mode and keep the room temperature within the preset range.

*Please contact your Mitsubishi Electric sales office for details.
*This function is supported only when all the indoor units, remote controllers, and system controllers that are connected to a given group features the function.

Operation pattern during Auto

Dual set point mode.



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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

System Controller

Mitsubishi Electric's Air-conditioner Network System (MELANS) leads air conditioner management to a PC browser and Network era.

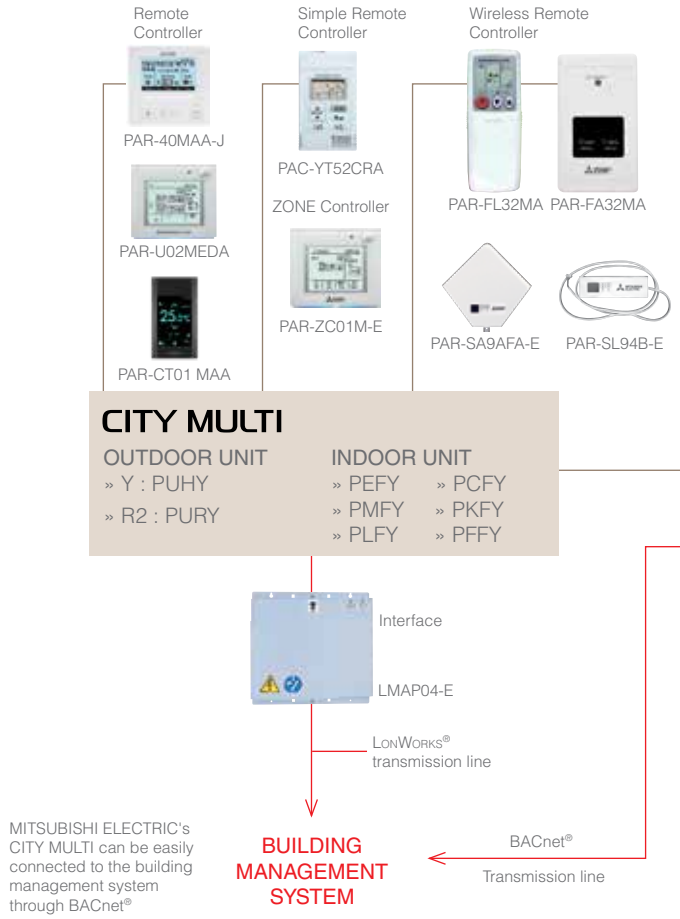
MELANS

Use of our MELANS products enhances efficiency and quality of air conditioning, contributing to energy saving and reduction in running cost. We offer a wide variety of MELANS products to meet all requirements - from the smallest and simplest to the largest and most complex.

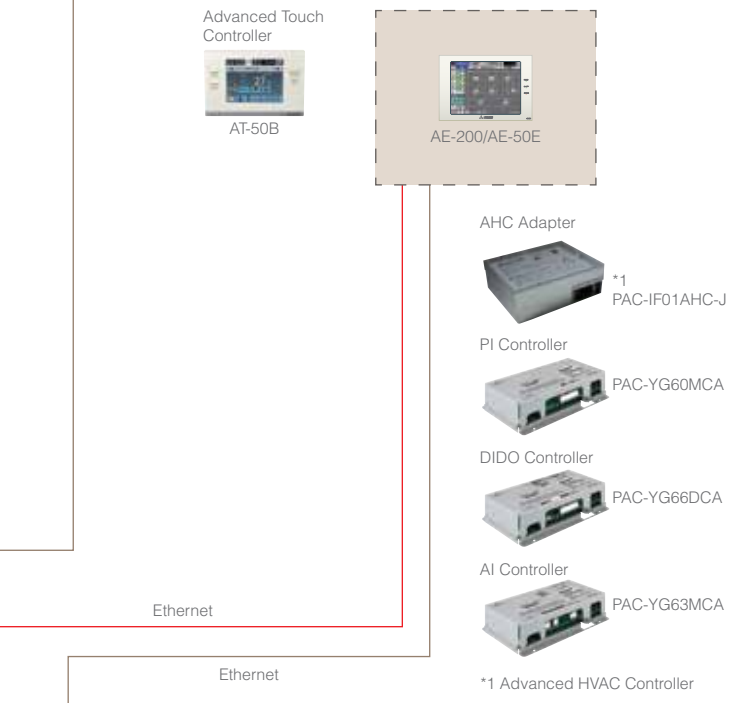
We have individual remote controllers, various centralised controllers, and centralised integrated software, as well as BMS interface hardware and software etc. Above all, with AE-200E/AG-150A, PC browser and long distance remote control (monitoring and operating) via communication network is possible and easy.

INDIVIDUAL REMOTE CONTROLLER

All of the local remote controllers feature liquid crystal and LED displays and easy to operate.



CENTRALISED REMOTE CONTROLLER



AIR CONDITIONING CONTROL SYSTEM

This is a specialised air conditioning management system, in which up to 2000 indoor units can be centrally controlled.

*Some controllers cannot be used in combination with certain models of devices.

Integrated M-NET Control

Model	Local Remote Controller *10				System Controller*10					
	PAR-33MAAJ	PAR-U02MEDA	PAC-YT52CRA	PAR-FL32MA	PAC-YT40ANRA	AT-50B	AE-200 / AE-50E		AE-200 + AE50-E	
Controllable Groups / Indoors (Group/Indoor)	1 /16	1 /16	1 /16	1 /16	16 / 50	50 / 50	50 / 50		200 / 200	
							AE-200E	Browser *4	AE-200E	Browser *4
Operating										
ON / OFF	○	○	○	○	◎	◎	◎■	◎■	◎■	◎■
Mode (Cool/Heat/Dry/Fan)	○	○	○	○	N	◎	◎■	◎■	◎■	◎■
Temperature - Set	○	○	○	○	N	◎	◎■	◎■	◎■	◎■
Dual Set Point *10	○	○	○	N	○*11	◎	◎■	◎■	◎■	◎■
Local Permit/Prohibit	N	N	N	N	N	◎	◎■	◎■	◎■	◎■
Fan Speed	○	○	○	○	N	◎	◎■	◎■	◎■	◎■
Air-Flow Direction	○	○	○	○	N	◎	◎■	◎■	◎■	◎■
Status Monitoring										
ON/OFF	○	○	○	○	◎	◎	◎	○	◎	○
Mode (Cool/Heat/Dry/Fan)	○	○	○	○	N	○	○	○	○	○
Temp.erature - Set	○	○	○	○	N	○	○	○	○	○
Local Permit/Prohibit	○	○	○	○	○	○	○	○	○	○
Fan Speed	○	○	○	○	N	○	○	○	○	○
Air-Flow Direction	○	○	○	○	N	○	○	○	○	○
Indoor Temperature	○	○	○	N	N	○	○	○	○	○
Filter Sign	○	○	N	N	N	◎	○	○	○	○
Error Flashing	○	○	○	○	○	◎	○	○	○	○
Error Code	○	○	○	N	○	○	○	○	○	○
Operation Hour	N	N	N	N	N	N	N	N	N	N
Scheduling										
One-Day	○	○	N	N	N	○	◎■	◎■	◎■	◎■
Times of ON/OFF Per Day	1	1	N	1	N	16	24	24	24	24
Weekly	○	○	N	N	N	○	◎■	◎■	◎■	◎■
Times of ON/OFF Per Week	8 x 7	8 x 7	N	N	N	16 x 7	24 x 7	24 x 7	24 x 7	24 x 7
Annual	N	N	N	N	N	N	◎■	◎■	◎■	◎■
Optimised Start-Up	N	N	N	N	N	N	N	○	○	○
Auto-Off Timer	○	○	N	N	N	N	N	N	N	N
Min. Timer Setting Unit (Minute)	5	5	N	10	N	5	1	1	1	1
Recording										
Error-Record	○	N	N	N	N	○	○	○	○	○
Daily/Monthly Report	N	N	N	N	N	N	N	N	N	N
Electricity Charge	N	N	N	N	N	N	N	N	N	N
Energy Management Data	N	N	N	N	N	N	N	●	N	●
Other										
Temp.-Set Limitation by Local R/C	○	○	○	N	N	N	N	N	N	N
Temp.-Set Limiation by System Controller *4	○*5	○	○*5	N	N	○*5	N	○*2*6	N	○*2*6
Operation-Lock	○	○	○	N	N	◎	N	N	N	N
Night Setback	○	○	N	N	N	◎	○	○*2	○	○*2
Sliding Temperature Control	N	N	N	N	N	N	○	○*2	○	○*2
Management (Group/interlocked)										
Ventilation Interlock	N / ○	N / ○	N / ○	N	○	○	○	○/○*2	○	○/○*2
Group Setting	○*1	○	○*1	N	○	○	○	○*2	○	○*2
Block Setting	N	N	N	N	N	N	○	○*2	○	○*2
Revision of Electricity Charge	N	N	N	N	N	N	N	N	N	N
Operating on Lossnay Interlocked (Group/Interlocked)										
ON/OFF	N / ○	N / ○	N / ○	N / ○*8	◎ / ◎ *3	◎ / ◎	◎ / ◎	◎ / ◎	◎ / ◎	◎ / ◎
Fan Speed	N / ○	N / ○	N	N	N	◎ / ◎	◎ / ◎	◎ / ◎	◎ / ◎	◎ / ◎
Ventilation Mode	N / N	N	N	N	N	◎ / N	◎ / N	◎ / N	◎ / N	◎ / N
Status Monitoring on Lossnay Interlocked Group/Interlocked										
ON/OFF	N / ○	N / ○	N / ○	N	N	◎ / ◎	◎ / ◎	◎ / ◎	◎ / ◎	◎ / ◎
Fan Speed	N / ○	N / ○	N	N	N	○/○	○/○	○/○	○/○	○/○
Ventilation Mode	N	N	N	N	N	○/N	○/N	○/N	○/N	○/N

◎ : Each Group / Batched

○ : Each Group

□ : Blocked (for CITY MULTI unit, not for all Mr Slim

(●) : License registration for the optional functions required.

N: Not available (not Used)

△ : Batched only

▲ : Batched handling (for maintenance)

■ : Block

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۲

Integrated M-NET Control continued

*1 Group setting via wiring between Indoor units with cross-over cable;
*2 Installation possible at Initial setting web browser;
*3 Inter-lock is set at Local remote controller.
*4 AE-200E/AE-50E/EB-50GU-J/GB-50ADA-J license registration to AE-200E/AE-50E/EB-50GU-J/GB-50ADA-J is required to monitor and operate the units by browser.
*5 This function can be set only on the ME remote controller. This function cannot be Used with the MA/Simple MA remote controller.
(But, the validity of this function with the MA/Simple MA remote controller depends on the Indoor Unit Model, and there are possibilities that this function can be Used with them.)
*6 This function is available only when applying together with AE-200E/AE-50E, GB-50ADA-J, and EB-50GU-J.*8 Inter-lock is set from system controllers (Except PAC-YT40ANRA) or local remote controllers.
*7 The maximum number of controllable units decreases depending on the Indoor Unit Model.
*8 For indoor use only.
*9 This function is supported only when all the indoor units, remote controllers, and system controllers that are connected to a given group features the function.
*10 For the availabilty of the function, please contact your local distributor.

LOSSNAY Remote Controller PZ-52SF	
■ Controllable LOSSNAY groups	1
■ Controllable LOSSNAY unit	16
■ Operating ON/OFF	O
Mode (automatic ventilation vent-heat interchange/normal ventilation)	O
Local permit-prohibit	N
Fan speed	O
Air flow direction	N
■ Scheduling	N
■ Recording	N
■ Management Group setting	O
Block setting	N
■ Status monitoring ON/OFF	O
Mode (automatic ventilation vent-heat interchange/normal ventilation)	O
Local permit-prohibit	O
Fan speed	N
Air flow direction	O
Error flashing	O
Error code	O
O : Each group, N: Not available.	

Air Conditioner Control System Interface

» LMAP04-E: LonWorks® Interface controls up to 50 groups/50 units, for details, refer to description.

Individual Remote Controllers

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

PAR-CT01MAA

MA TOUCH REMOTE CONTROLLER

MULTIPLE COLOR PATTERNS

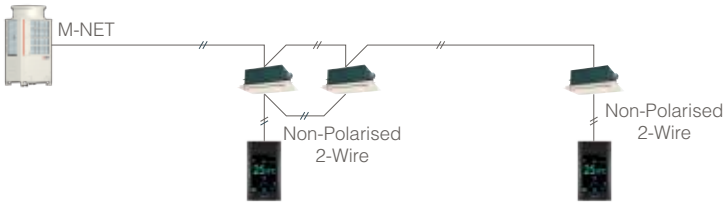
180 color patterns can be selected for the display's control parameters or background.

LANGUAGE SELECTION

The screen's display language can be selected from 14 languages.

- » English
- » French
- » Spanish
- » Italian
- » Portuguese
- » Greek
- » Turkish
- » Swedish
- » German
- » Duch
- » Russian
- » Czech
- » Hungarian
- » Polish

SYSTEM STRUCTURE



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

FULL COLOR TOUCH PANEL & BACKLIT DISPLAY

Visible big size icons on the full color touch panel display.

Touch Panel

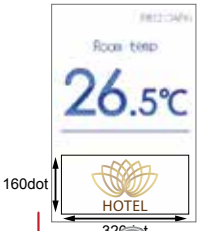
Operation panels

Temp. Setting | Operation Mode | Fan Speed | Vane Control | Ventilation | Louver Control

LOGO IMAGE CUSTOMISATION

A logo image can be displayed on the initial screen.

*For PAR-CT01MAA-SB and PAR-CT01MAA-PB models only.



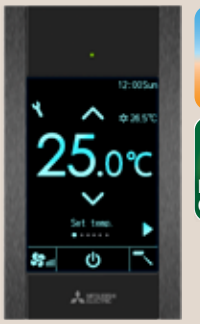
CONTROL PARAMETER CUSTOMISATION

Users can customize the panel to display the selected parameters only.

Hotel setting

A simple operation panel is liked by uses, especially in hotels. It is capable of displaying only ON/OFF, set temp., fan speed.

PAR-CT01MAA-SB
H 120 x W 68 x D 14.1mm



PAR-CT01MAA-PB
H 120 x W 68 x D 14.1mm

PAR-CT01MAA-S
H 120 x W 68 x D 14.1mm

BLUETOOTH® LOW ENERGY TECHNOLOGY

For PAR-CT01MAA-SB and PAR-CT01MAA-PB models

Remote controller can communicate with smart phone or tablet device via Bluetooth Low Energy. User & Setting App are available.

* The Bluetooth® word mark is trademark of Bluetooth SIG, Inc., USA.
* Contact the sales company for information on “Bluetooth” function.

App screen image

User app. Setting app.

User App

MELRemo

* For iOS (10.0 or later)

Setting App

MELRemo

* For iOS (10.0 or later)

To download the App, scan the QR code.
*QR code is a registered trademark of DENSO WAVE INCORPORATED.

Functions

O: Each group ×: Not Available

Item	Description	Operations	Display
ON/OFF	Switches among Cool/Dry/Fan/Auto/Heat.	O	O
Room Temp. Setting	The temperature can be set within the following range. Cool/Dry : 19°C - 35°C Heat : 4.5°C - 28°C Auto : 19°C - 28°C (Duel Set Point) * Set temperature range varies depending on the model.	O	O
Air Flow and Direction setting	Fan Speed Control. * Available airflow directions vary depending on the model.	O	O
Louver Setting	Switches between louver ON/OFF. Select Direction.	O	O
Ventilation Equipment Control	Interlocked setting and interlocked operation setting with the CITY MULTI LOSSNAY units can be made. The Stop/Low/High settings of the ventilation equipment can be controlled.	O	O
Error Information	When an error occurs, an error code and the unit address appear. Air conditioning unit model, serial number, and contact number can be set to appear when an error occurs. (The information above needs to be entered in advance.) * An error code may not appear depending on the error.	-	O
Timer Daily/Weekly	ON/OFF timer Turns ON and OFF daily at a set time. • Time can be set in 5-minute increments. • It is also possible to set the ON time only or the OFF time only. Auto-OFF timer Turns off the unit after a certain period of operation. • Operation time can be set to a value from 30 to 240 minutes in 10-minute increments.	O	O
Allows/Disallows Local Operation	The following operation can be prohibited by making certain settings on the centralised controller: ON/OFF, operation mode setting, temperature setting, fan speed, air direction, and filter sign reset. * While an operation is prohibited, the operation icon lights up (only on the Main display in the "Full" mode).	×	O
Operation Lock	The following operation can be prohibited respectively: ON/OFF, operation mode setting, temperature setting, and airflow direction setting.	O	O
Temperature Range Restriction	The room temperature range for each operation mode can be restricted.	O	O
Bluetooth Connection, Bluetooth Screen Update	The Bluetooth connection information can be acquired. Using an Application, a logo image as well as setting data can be sent to the remote controller.	O	O

PAR-40MAA

WIRED REMOTE CONTROLLER

H 120 x W 120 x D 14.5mm

Backlit LCD (Liquid Crystal Display)

Large, easy-to-see display. Full-dot LCD display with large characters for easy viewing Contrast also adjustable.

Night setback

When the room temperature goes outside of a certain range during the predetermined period, this function automatically starts heating or cooling operation to prevent dew condensation or an excessive temperature increase in the room.

Language selection

The screen's display language can be selected from 8 languages: English, French, Spanish, Italian, Portuguese, Greek, Turkish, Swedish.

3D i-see sensor

Settings for 3D i-see sensor can be performed.

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.

Auto descending panel*

Panels can be lowered/raised using the remote controller. The descending distance of the panel can also be selected.

*The availability of the function depends on the indoor unit model. For details, please contact your local distributor.

Alternate Background Display

The screen background colour can be set to black to suit the atmosphere of the living environment.

Energy Efficiency Schedule

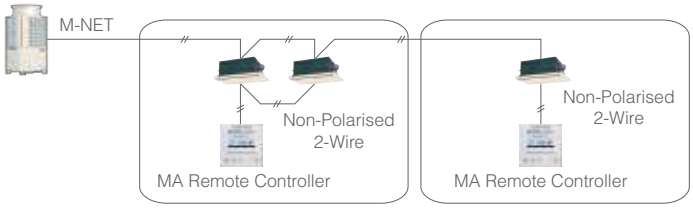
Capacity control of outdoor unit

The amount of power consumed in each time period is managed so that the demand value is not exceeded. The demand control function can be set to start and finish in 5-minute increments. Additionally, the level can be adjusted to 0, 50, 60, 70, 80 or 90% of maximum capacity, and up to 4 patterns can be set per day. Air conditioning operation is automatically controlled to ensure that electricity in excess of the contracted volume is not consumed.

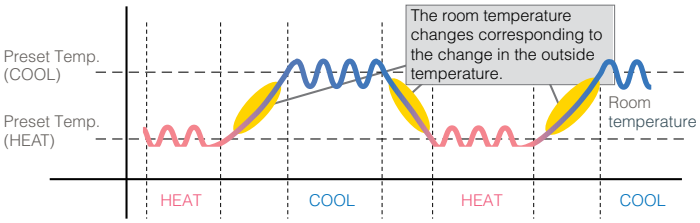
Setting pattern example

Start time		Finish time	Adjusted capacity level
8:15	▶	12:00	80%
12:00	▶	13:00	50%
13:00	▶	17:00	90%
17:00	▶	21:00	50%

System structure



Operation Pattern During Auto (Dual set point) Dode



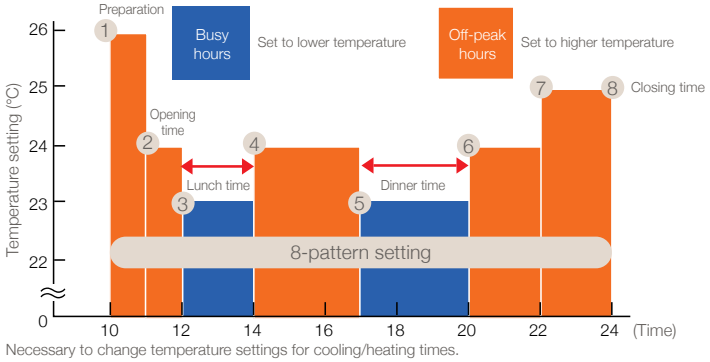
Weekly Timer

Set up to 8 patterns per day including temperature control

Weekly schedule timer can save two different settings which can be easily switched according to different seasons.
In addition, it offers eight different pattern setting per day. (On, Off and temperature setting).

*Weekly Timer cannot be used when on/off Timer is in use.

Setting Example (Restaurant in summer time)



Necessary to change temperature settings for cooling/heating times.
*Joint research conducted by Mitsubishi Electric.

PAR-40MAA

Functions

1. Operation/Display — ○: Each group ×: Not Available

Item	Description	Setting	Display
ON/OFF	Switches between ON and OFF.	○	○
Operation Mode Switching	Switches among Cool/Dry/Fan/Auto/Heat.	○	○
Temperature Setting	Changes the set temperature. *Set temperature range varies depending on the indoor unit model.	○	○
Fan Speed Setting *1	Changes fan direction.	○	○
Airflow Direction Setting *1	Changes airflow direction.	○	○
Louvre Setting	Switches between louvre ON/OFF.	○	○
Ventilation Equipment Control	Interlocked setting and interlocked operation setting with City Multi Lossnay units can be performed. The Stop/Low/High settings of the ventilation equipment can be controlled.	○	○
Auto-descending Panel *1	Raises and lowers the automatic elevating panel.	○	○
Main Display Mode Setting	The Main display can be displayed in two different modes: "Full" and "Basic".	○	○
Black & White Inversion	The colours of the display can be inverted, turning white background to black and black characters to white.	○	○
Clock *2	Date (year/month/day) and time (hour/minute) can be set. The set time as well as the day of the week will be displayed on the Main display. It is also possible to set not to display the time on the Main display. The clock can be displayed in 12-hour format (AM/PM before or after the time) and 24-hour format.	○	○
Daylight Saving Time	The start/end time for daylight saving time can be set. The daylight saving time function will be activated based on the setting contents.	○	○
Room Temperature Display	The room temperature display can be enabled or disabled.	×	○
Error Information *3	When an error occurs, an error code and the unit address appear. The air conditioning unit model, serial number and contact number can be set to appear when an error occurs. (The above information needs to be entered in advance.)	×	○
Filter Information	A filter sign will appear when it is time to clean the filter.	×	○
Remote Controller Information	The version of the remote controller can be checked.	×	○

2. Schedule and Timer Settings — ○: Each group ×: Not Available

Item	Description	Setting	Display
Timer	ON/OFF Timer Turns ON and OFF daily at a set time. • Time can be set in 5-minute increments. • It is also possible to set the ON time only or the OFF time only. Auto-OFF timer • Turns off the unit after a certain period of operation. • Operation time can be set to a value from 30 to 240 minutes in 10-minute increments.	○	○
Weekly Timer	Weekly ON/OFF times and set temperatures can be set. • Time can be set in 5-minute increments. Up to 8 schedule patterns can be set per day of the week. • Not valid when the ON/OFF timer is set.	○	○
Netback Setback	The temperature range and the start/stop times can be set.	○	○

3. Restriction Settings — ○: Each group ×: Not Available

Item	Description	Setting	Display
Allows/Disallows Local Operation	The following operation can be prohibited by applying certain settings on the centralised controller: ON/OFF, operation mode, set temperature, filter sign reset, air direction and fan speed. • While an operation is prohibited, the operation icon lights up (only on the Main display in the "Full" mode).	×	○
Operation Lock	The following operations can be prohibited: "On/Off", "Mode", "Set temp.", "Menu", "Fan", "Louvre" or "Vane".	○	○
Temperature Range Restriction	The room temperature range for each operation mode can be restricted.	○	○
Auto Return	The units operate at the preset temperature after a designated period. (Time can be set to a value from 30 to 120 minutes in 10-minute increments.) *Note valid when the temperature setting range is restricted.	○	×
Password	Administrator password (required for schedule setting etc.) and Maintenance password (required for test run and function setting etc.) can be set.	○	×

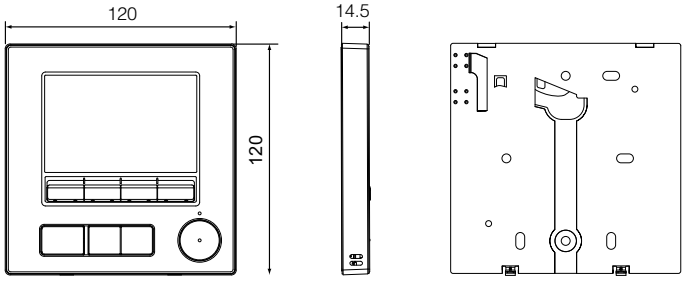
4. Miscellaneous Items — ○: Each group ×: Not Available

Item	Description	Setting	Display
Language Selection	Select the display language from the following 14 languages. English, French, Spanish, German, Italian, Dutch, Portugese, Greek, Russian, Turkish, Czech, Hungarian, Polish, Swedish.	○	○
Brightness Contrast	The brightness of the LCD can be adjusted. The contrast of the LCD can be adjusted.	○	○
Manual Vane Angle *1	Fixes the vane position for each air outlet.	○	×
Service *1	Contains Test Run, Function Setting, Request Code and Error History.	○	○
3D i-See Sensor *1	Settings for 3D i-See Sensor can be made.	○	○

*1 This function is active only for the units that support the function.
*2 The clock is accurate within 45 seconds per month (at the temperature of 25°C). The clock is backed up for 3 days.
*3 An error code may not appear depending on the error.

External Dimensions

(Front view) (Side view) (Rear view) Unit: mm



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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

PAR-U02MEDA

ME REMOTE CONTROLLER

DUAL SET POINT

H 120 x W 140 x D 25mm

Occupancy sensor
The occupancy sensor detects vacancy for energy-save control.

Touch panel and backlit LCD
The touch panel shows the operation settings screen. When the backlight is off, touching the panel turns on the backlight, and it will stay lit for a pre-determined period of timei

LED Indicator
The LED indicator indicates the operation status in different colors. The LED indicator lights up during normal operation, lights off when units are stopped, and blinks when an error occurs.

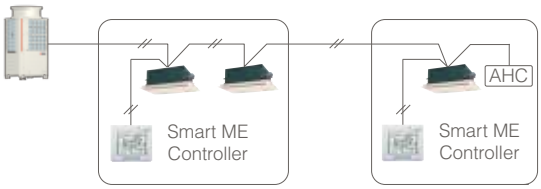
Brightness sensor
The brightness sensor detects the brightness of the room for energy-save control.

Temperature and humidity sensor
The sensor detects the room temperature and the relative humidity.

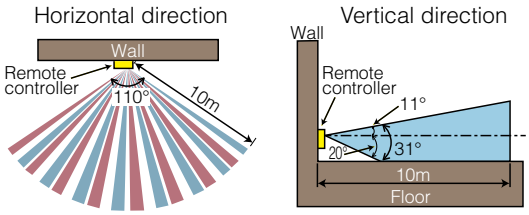
Device control via AHC (Advanced HVAC Controller)
Allows for control of other manufacturer's products connected via AHC.

Auto (Dual set point) modes
Two set temperatures (one each for cooling and heating) can be set.

System structure



Occupancy sensor detection zone



Functions

○: Each group ×: Not Available

Item	Description	Operations	Display
ON/OFF	Switches between ON and OFF.	○	○
Operation Mode Switching	Switches between Cool / Drying / Fan / Heat / Auto. Operation modes vary depending on the Indoor Unit Model. Auto mode is for CITY MULTI R2, and WR2 series only.	○	○
Room Temp. Setting	The temperature can be set within the following range. Cool / Drying : 19°C - 35°C Heat : 4.5°C - 28°C Auto : (single set point) : 19°C - 28°C Auto : (dual set points) [Cool] Same as the set temp. range for Cool mode. [Heat] Same as the set temp. range for Heat mode. * The settable temperature ranges vary depending on the Indoor Unit Model.	○	○
Fan speed setting	Changes fan speed. * Available fan speeds vary depending on the model.	○	○
Air Flow Direction Setting	Changes airflow direction. * Available airflow directions vary depending on the model.	○	○
Allows/Disallows Local Operation	The following operation can be prohibited by making certain settings on the centralised controller: ON/OFF, operation mode setting, temperature setting, fan speed, air direction, and filter sign reset. * While an operation is prohibited, the operation icon lights up.	×	○
Error Information	When an error occurs, an error code and the unit address appear. Contact number can be set to appear when an error occurs. (The information above needs to be entered on the Service menu.)	-	○
Schedule (Weekly timer)	Weekly ON/OFF times, operation mode, and set temperatures can be set. • Time can be set in 5-minute increments. Up to 8 schedule patterns can be set per day of the week. * Not valid when the ON/OFF timer is set.	○	○
Timer	ON/OFF timer Turns ON and OFF daily at a set time. • Time can be set in 5-minute increments. • It is also possible to set the ON time only or the OFF time only. Auto-OFF timer Turns off the unit after a certain period of operation. • Operation time can be set to a value from 30 to 240 in 10-minute increments.	○	○
Energy-Save Control During Vacancy	When vacancy is detected by the occupancy sensor, the energy-save control assist function is activated. Four control types are available for selection: ON/OFF / Set temperature/Fan speed/Turning-off. The brightness sensor can be Used in conjunction with the occupancy sensor to detect the occupancy/vacancy status more accurately.	○	○

PAC-YT52CRA (MA)

SIMPLE REMOTE CONTROLLER

DUAL SET POINT

H 120 x W 70 x D 14.5mm

Dual set point

When the operation mode is set to the Auto (dual set point) mode, two preset temperatures (one each for cooling and heating) can be set. Depending on the room temperature, indoor unit will automatically operate in either the Cool or Heat mode and keep the room temperature within the preset range.

*Please contact your Mitsubishi Electric sales office for details.

Backlit LCD (Liquid Crystal Display)

Large, easy-to-see display. Full-dot LCD display with large characters for easy viewing Contrast also adjustable.

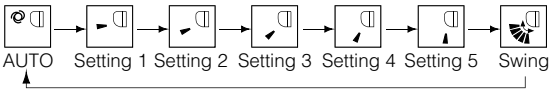
Flat back

Install without hole on wall Slim and flat type Thickness is less than 14.5mm.

Vane button (standard)

The Vane button has been added to allow the user to change airflow direction (ceiling-cassette and wall-mounted types).

Pressing the button will switch the vane directions.



*The settable vane direction varies depending on the Indoor Unit Model to be connected.

* If the unit has no vane function, the vane direction cannot be set In this case, the vane icon blinks when the button is pressed.

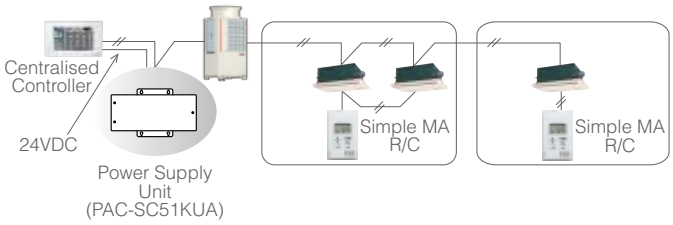
» The only wiring required is cross-over wiring based on two-wire signal lines.

» Room temperature sensors are built-in.

» Can operate all types of indoor units.
*Since this controller has limited functions, it should always be Used in conjunction with standard controller or centralised controller.

» LCD temperature setting and display in 1°C increments.

System structure



Functions

□: Each unit ○: Each group ×: Not Available

Item	Description	Operations	Display
ON/OFF	Changes between ON and OFF.	○	○
Operation Mode Switching	Select from COOL, DRYING, FAN, AUTO, and HEAT. * AUTO mode is settable only when those functions are available on the indoor unit.	○	○
Temperature Setting	Changes the set temperature. * Set temperature range varies depending on the indoor unit model.	○	○
Fan Speed Setting	Changes the fan speed. * The settable fan speed varies depending on the Indoor Unit Model to be connected	○	○
Permit/Prohibit Local Operation	By setting a centralised controller, the following local operations are prohibited: ON/OFF; operation mode; preset temperature; * The CENTRAL icon appears while the local operations are prohibited.	×	○
Error	Displays the current error status with the address. * The address may not be displayed depending on the error status.	×	□
Ventilation Equipment	When the CITY MULTI indoor unit is connected, interlocked setting of the CITY MULTI LOSSNAY unit is possible. When the Mr. SLIM indoor unit (A-control) is connected, interlocked operation of the microcomputer-type LOSSNAY unit is possible.	○	○
Set Temperature Range Limit	The preset temperature range can be restricted for each operation mode (COOL/HEAT/AUTO).	○	○

Zone Controller

Fan Speed Control

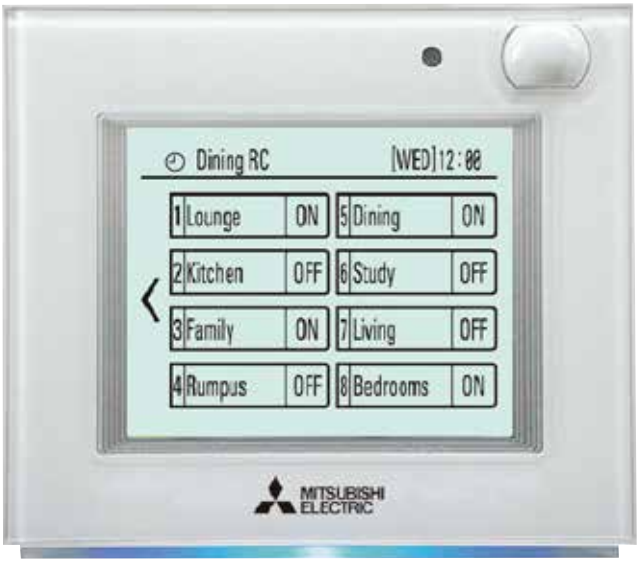
When the fan speed of the unit is set to auto, it will control the fan speed according to the number of opened outlets and the temperature difference between set and space temperature.

Averaging Sensor Control

The Zone controller can have up to 5 sensors in the system (Main RC, Sub RC, Optional Sensor 1, Optional Sensor 2 and indoor unit sensor). Control of the unit is based on averaging of the sensors of the active zones.

Wi-Fi Control

With the use of optional Wi-Fi interface (MAC - 559IF-E) and active Internet, users will be able to control the air conditioner and zones from anywhere via smart-phone, tablet or computer.



Energy Save Functions

» Energy save control will turn on when the occupancy sensor detects room/area vacancy.

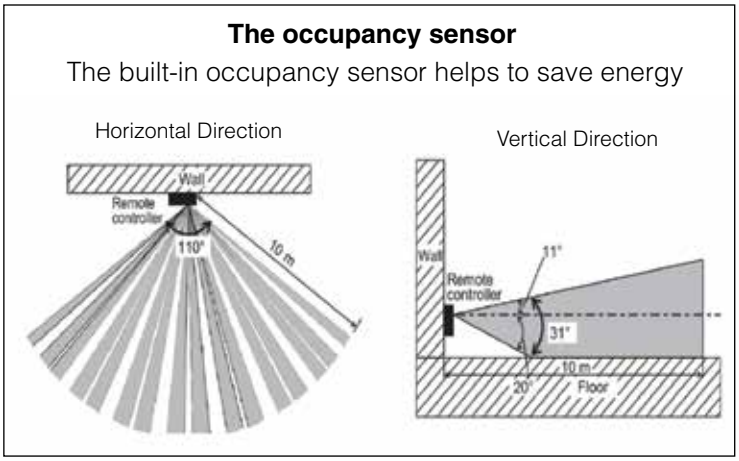
» The occupancy sensor detects the occupancy based on movements and also the temperature difference between the occupant and its surroundings.

» Only one of the energy-saving controls can be used at any time.

» Energy-saving mode can be deactivated according to the lighting level detected by the brightness sensor (while occupants are sleeping at night).

The occupancy sensor

The built-in occupancy sensor helps to save energy



Energy-save control mode **Control when vacancy is detected**

System Components

Parts	Specifications
Zone controller	Make sure the correct zone controller is selected from the following 4 models. » Maximum 4 of 24 V AC damper motor connecting type: PAC-ZC40H-E » Maximum 8 of 240 V AC damper motor connecting type: PAC-ZC80H-E » Maximum 4 of 24 V AC damper motor connecting type: PAC-ZC40L-E » Maximum 8 of 240 V AC damper motor connecting type: PAC-ZC80L-E
Zone remote controller	A maximum of 2 remote controllers can be connected. 1x remote controller is included in the Zone Controller, Additional remote part# : PAR-ZC01M-E
Temperature sensors	A maximum of 5 temperature sensors » Intake air temperature sensor in the indoor unit » Temperature sensor in the main remote controller » Temperature sensor in the sub remote controller » Optional temperature sensor 1: PAC-SE41TS-E » Optional temperature sensor 2: PAC-SE41TS-E They can be assigned to each of the zones
Damper motor (locally supplied)	Only drive open, drive close damper motor can be connected. (Spring motor damper can not be used) If 24 V AC motors are used ensure the transformer is adequately sized for the zone motors connected and ensure it's suitable for the installation conditions.

Wireless Remote Controller

PAR-FL32MA / PAR-FA32MA / PAR-SA9FA

PAR-FL32MA
H 159 x W 58 x D 19mm

PAR-SL100A-E
(PLFY-P VFM only)
H 159 x W 58 x D 19mm

PAR-FA32MA
H 120 x W 70 x D 22.5mm

PAR-SA9FA-E
(4-Way Cassette Signal Receiver)
H 256 x D 19mm

PAR-SF9FA-E
(2 x 2 Cassette Signal Receiver)
H 214 x D 25.5mm

PAR-SL94B-E
(Wireless Remote Controller Kit for Ceiling Suspended)
H 57 x W 182 x D 31mm

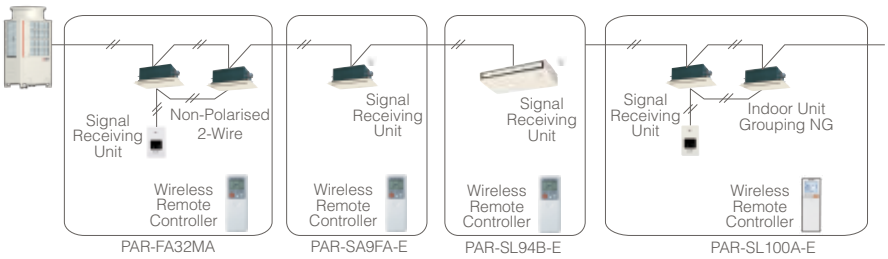
» No need to configure addresses for group operation.

» Lit LED keeps you informed of operation - blinking even gives you the error code via the number of blinks.

» Can be used with the MA remote controller.
*When used in group configurations, wiring between indoor units is required.
*Combining ME remote controller and/or LOSSNAY remote controller in a group is not possible.

» LCD temperature setting and display in 1°C increments.

System structure



Correspondence Table

	Receiver	Transmitter
PMFY-P VBM PLFY-P VCM/VLMD PFFY-P VKM PEFY-P VMR-E-L/R/VMH PFFY-P VLEM/VKM/VLRM/VLRMM PEFY-P VMS1(L) PEFY-VMA(L)	PAR-FA32MA	PAR-FL32MA

Correspondence Table

	Receiver	Transmitter
PCFY-P VKM	PAR-FA32MA PAR-SL94B-E	PAR-FL32MA
PLFY-P VBM-E	PAR-SA9FA-E	
PKFY-P VBM-E PKFY-P VHM/VKM	Built-In	
PLFY-*VFM-E1	PAR-SF9FA-E	PAR-SL100A-E

Functions

○: Each group ×: Not Available

Item	Description	Operations	Display
ON/OFF	ON and OFF operation for a single group	○	○
Temperature Setting	Sets the temperature for a single group Range of temperature setting Cool/Dry : 19°C - 30°C (14°C - 30°C) / 67°F - 87°F (57°F - 87°F) Heat : 17°C - 28°C (17°C - 28°C) / 63°F - 83°F (63°F - 83°F) Auto : 19°C - 28°C (17°C - 28°C) / 67°F - 83°F (63°F - 83°F) ( ) For PEFY/PFFY by setting DipSW 7-1 to ON and limits to NI6H fan speed only. * Set to PAR-FL32MA according to its Installation Manual 4 "Model setting".	○	○
Air Flow Direction Setting	Air flow direction angles (4-angle, Swing) Auto Louver ON/OFF. Air flow direction settings vary depending on the model.	*	*
Timer Operation	One ON/OFF setting can be set for one day.	○	○
Permit/Prohibit Local Operation	Individually prohibit operation of each local remote control function (ON/OFF, Change operation mode, Set temperature, Reset filter). *1 If operation is performed when the local remote controller inactivation command is received from the main system controller, a buzzer will ring and an LED will flash.	×	○*1
Ventilation Equipment	Up to 16 indoor units can be connected to an interlocked system that has one LOSSNAY. The LOSSNAY will run in interlock with the operation of the indoor unit. *2 The fan rate and mode cannot be changed.	×*2	○

Some models will have different display for the air flow direction and fan speed. Set the air flow direction and fan speed when performing initial setting.

Control Your Comfort Anywhere, Anytime

Wi-Fi CONTROL*1

Wi-Fi Control unlocks the door to smarter heating and cooling, for total home comfort wherever you are.

This innovative technology connects your Mitsubishi Electric air conditioner to your smartphone, tablet or online account, giving you the freedom to fully control each unit on-the-go via an Internet connection from anywhere in the world.

Wi-Fi Voice Control with Amazon Alexa and Google Assistant

Mitsubishi Electric air conditioning systems connected with Wi-Fi Control*1 are now also Amazon Alexa*2 and Google Assistant*3 enabled! This means you can enjoy hands-free control.

- Wi-Fi Control compatible with Amazon Alexa and Google Assistant
- View and control your air conditioner from anywhere in the world*1
- Enhance energy savings
- Set up of 7 day weekly schedule
- True two-way feedback
- Control of individual zones when connected to ducted indoor units with a Zone Controller

amazon alexa ENABLED

works with the Google Assistant

*1 Optional upgrade adapter required per unit (excludes LN Series due to built-in capabilities). Requires an Internet connection and the App downloaded from the App Store or Google Play Store on your smartphone or tablet with the latest Operating System available.
*2 To use Amazon Alexa to control your air conditioner, you will need an Amazon Alexa Echo device.
*3 To use Google Assistant to control your air conditioner, you will need a Google Home smart speaker.

Centralised Remote Controllers

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تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبـروی پالایشگاه نفت پـارس، پلاک ۱۲

AT-50B

DUAL SET POINT

H 120 x W 180 x D 30mm

ADVANCED TOUCH CONTROLLER

With new Advanced Touch Controller AT-50B, easy and simple operation on the touch panel offers an optimal air environment for individual unit.

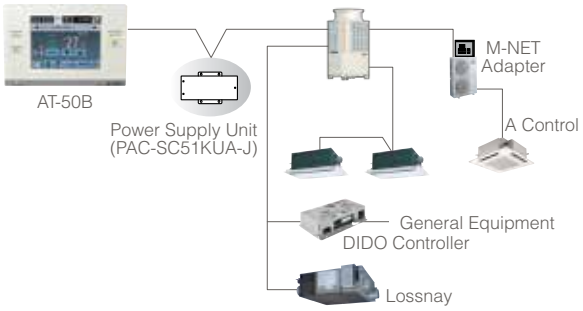
The color touch panel is easy to see and operate. The operation screen can be selected according to the intended use.

Dual set point

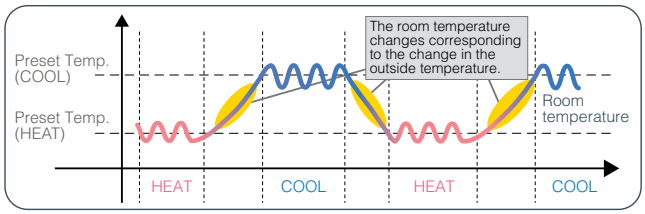
When the operation mode is set to the Auto (dual set point) mode, two preset temperatures (one each for cooling and heating) can be set. Depending on the room temperature, indoor unit will automatically operate in either the Cool or Heat mode and keep the room temperature within the preset range.

*Please contact your Mitsubishi Electric sales office for details.

System structure



Operation pattern during auto (dual set point) mode



DESIGN

Backlit LCD (liquid crystal display) touch panel

5-inch color LCD touch panel enables easy and simple operation.

The backlight lights up when the panel is touched, and lights off after certain period of time.
The touch panel displays the operation status of the units in GRID, LIST or in GROUP.

GRID (Zoom Out) Screen
Displays the operation status of all groups.

GRID (Zoom In) Screen
Displays the detailed operation status of each group

LIST Screen
Displays the detailed operation status of each group with group name.

GROUP Screen
Displays the detailed operation status of each group. Sets group operations.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

Functions

Three in one

The following three features are integrated into AT-50B
» Control up to 50 indoor units from one location.

» Control up to 50 units/50 groups of air conditioners.

» A weekly programmable timer, being able to control up to 50 indoor units.

Weekly and daily schedule

» 5 patterns of one day and 12 patterns of weekly schedule (16 settings max. per pattern).

» Two types of weekly schedule can be set.

Functions (basic functions)

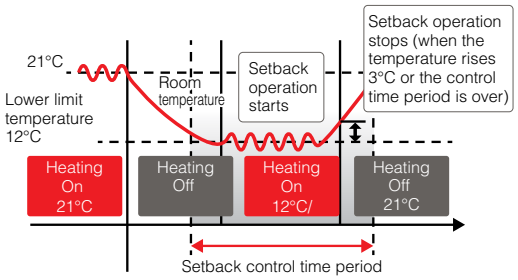
» ON/OFF
» Temperature setting
» Fan speed setting
» Louver setting
» Airflow direction setting
» Operation mode switching

System changeover

The operation mode can be switched depending on indoor temperature setting and target temperature of each group or a representative indoor unit.

Night setback function

When the room temperature goes outside of a certain range during the predetermined period, this function automatically starts heating or cooling operation to prevent dew condensation or an excessive temperature increase in the room.



When the temperature drops below the lower limit temperature (heating control)

Main system controller/sub system controller

AT-50B can be set to Sub System controller. When connecting multiple system controllers, designate the system controller with many functions as the "Main", and set the system controllers with few functions as the "Sub".

Simple buttom arrangement

The F1 (Function 1) and the F2 (Function 2) button can be set as a run button of the following collective operation. (Setback/Schedule/Operation Mode/Temperature Correction/ Remote Controller Prohibition).

Advanced functions

☐: Each unit ○: Each group ◎: Group or collective ×: Not Available

Item	Description	Operations	Display
Permit / Prohibit	The ON/OFF, operation mode, setting temperature, fan speed, air direction, filter sign reset operations, and timer using the local remote controllers can be prohibited. Only ON/OFF and filter reset can be prohibited for the LOSSNAY group. *The settable items vary depending on the models.	◎	◎
Operation Lock	The operation lock can be set to the input operation of AT-50B. Each button can be set. (Function Button 1, Function Button 2, Collective ON/OFF, Touch Panel) Each function can be set. (Operation mode, Setting temperature, Fan speed, Menu button) The password for the lock release can be set.	◎	◎
Error Display	When an error is currently occurring on an air conditioner unit, the afflicted unit and the error code are displayed. * When an error occurs, the "ON/OFF" LED flashes. The operation monitor screen show abnormal icon over the unit. The error monitor screen shows the abnormal unit address and error code. The error log monitor screen shows the time and date, the abnormal unit address, error code and source of detection.	×	☐◎
Ventilation (Independent)	Switches the mode "Bypass/Heat recovery/Auto" for LOSSNAY groups.	◎	◎
Ventilation (Interlocked)	The LOSSNAY will run in interlock with the operation of indoor unit.	◎	◎
Temperature-Set Limitation	Batch-setting to temperature range limit at cooling, heating, and auto mode.	◎	◎
Specific Mode Operation Prohibit (Cooling Prohibit, Heating Prohibit, Cooling/Heating Prohibit)	When set as the main controller, operation of the following modes with the local remote controllers can be prohibited. When cooling is prohibited: Cooling, dry, automatic can not be chosen. When heating is prohibited: Heating, automatic can not be chosen. When cooling/heating is prohibited: Cooling, dry, heating, automatic can not be chosen.	◎	◎
External Input (Emergency Stop Input, etc.)	The following input with level signals or pulse signals are available. Level signal: "Emergency stop input" or "Collective ON/OFF" Pulse signal: "Collective ON/OFF" or "Local remote controller prohibit/permit" One input can be selected from those above. * An external input/output adapter (PAC-YT41HAA (sold separately)) is required. Relays and DC power supply or other devices must be prepared at the site.	◎	◎
External Output (Error Output, Operation Output)	"ON/OFF" and "error/normal" are output with the level signal. * An external input/output adapter (PAC-YT41HAA, PAC-YT51HAA (sold separately)) is required. Relays and DC power supply or other devices must be prepared at the site.	◎	◎
Checking the Gas Amount	Use this function to check for refrigerant leak from the outdoor unit. * When this function is Used, the gas amount checking function of the outdoor unit cannot be Used. This function is for CITY MULTI R2 and Y (PUMY is excluded.) series only.	☐	☐
Schedule Operation	Weekly schedule setting up to 12 pattern is available. In one pattern, up to 16 setting of "ON/OFF", "Operation mode", "Set Temperature", "Fan speed", "Air flow direction" and "Permit / Prohibit local operation" can be scheduled. Two types of weekly schedule(Summer/Winter) can be set. Today's schedule setting up to 5 pattern in available.	○	○

* Depending on the installation conditions, power supply unit (PAC-SC51KUA) is required. Please contact your local distributor or MITSUBISHI ELECTRIC branch office for further information.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

AE-200/AE-50E

DUAL SET POINT

CENTRALISED CONTROLLER

H 200 x W 284 x D 65mm

Ability to promote energy consumption of air conditioning equipment, it provides assistance in energy efficiency.

» Energy consumption of air conditioning equipment by individual area is displayed using graphs for easier viewing.

» Enables comparisons with the previous year's power consumption as well as with the target electric power, thus allowing users to check the operating state at a glance.

» Floor layout is displayed on the 10.4-inch LCD touch panel, facilitating easier operation of air conditioning equipment.

In an easy and flexible manner, an optimum system can be established according to the scale of facilities.

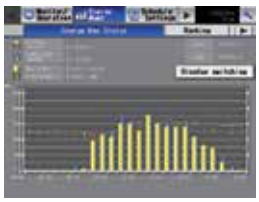
» Implements control on up to 50 indoor units of air-conditioning equipment.

» By using three units of expansion controller "AE-50E", the centralised control is implemented for the maximum of 200 indoor units.

Features for operating and monitoring the hot water heat pump are also available on PWFY.

» Centralised batch control on PWFY is possible in addition to that on air conditioning unit.

Control screen for power consumption

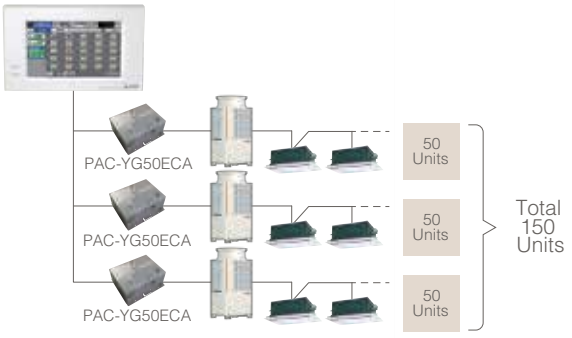


Energy consumption of applicable area is displayed by the month, day, and hour. Energy consumption of two different units, groups and blocks can be compared. Fan operation time as well as energy consumption can be displayed.

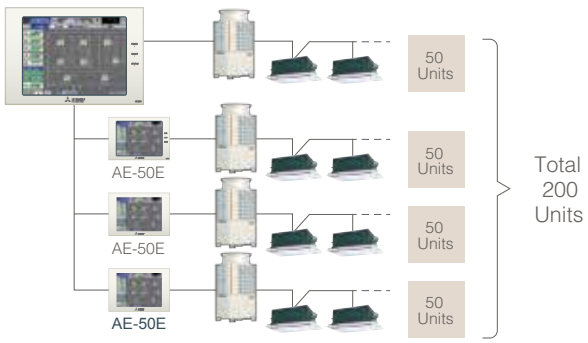
Energy consumptions of air conditioning equipment are ranked and displayed by individual air conditioning equipment and by area, thus visualizing high-load components. Also, comparison of energy consumption with target electric energy is possible.

Comparison in the number of connectable units

Previous Model: AG-150A



Existing Model: AE-200E



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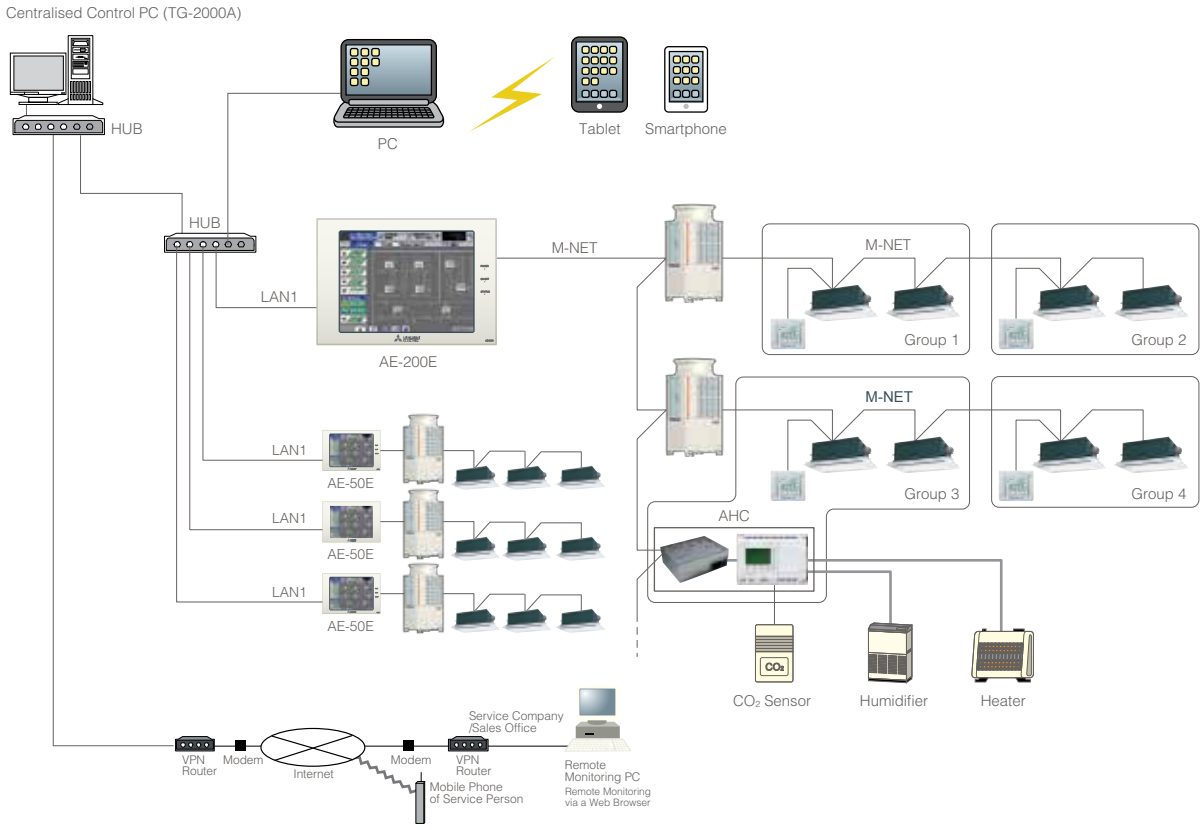
روبروی پالایشگاه نفت پارس، پلاک ۱۲

System structure



Functions

□: Each unit ○: Each group ●: Each block △: Each floor ◎: Collective ×: Not Available

Item	Description	Operations	Display
Controllable Number of Units	Up to 50 units/50 groups		
ON/OFF	ON and OFF operation for the air conditioning units and general equipment. (To operate general equipment, PAC-YG66DCA is required.)	○◎△●	○◎
Operation Mode	Switches between several operation modes depending on the air conditioning unit. Air conditioning unit : Cool/Dry/Auto(*)/Fan/Heat LOSSNAY unit : Heat Recovery/Bypass/Auto Air To Water (PWFY) units : Heating, Heating ECO, Hot Water, Anti-freeze, Cooling(**) * Auto mode is for CITY MULTI R2 and WR2 series only. ** Only PWFY	○◎△●	○
Temperature Setting	Cool/Dry : 19°C (67°F) -35°C (95°F) [14°C (57°F) -30°C (87°F)] Heat : 4.5°C (40°F) -28°C (83°F) [17°C (63°F) -28°C (83°F)] Auto : 19°C (67°F) -28°C (83°F) [17°C (63°F) -28°C (83°F)] The range of temperature depends on the air conditioning unit. [ ] in case of using middle-temperature on PDFY, PEFY-VML/VMR/VMS/VMH-by setting DipSW7-1 to ON. Yet, PEFY-P-VMH-E-F is excluded.	○◎△●	○
Fan Speed Setting	Models with 4 air flow speed settings : Hi/Mid-2/Mid-1/Low Models with 3 air flow speed settings : Hi/Mid/Low Models with 2 air flow speed settings : Hi/Low Fan speed setting (including Auto) varies depending on the model.	○◎△●	○
Airfow Direction Setting	Air flow direction angles, 4-angles or 5-angles Swing, Auto (Louver cannot be set)	○◎△●	○
Schedule Operation	Weekly schedule can be set by groups based on daily operation pattern.	○◎△●	○
Permit/Prohibit Local Operation	Individually prohibits operation of each local remote controller function. (ON/OFF, Operation mode, Set temperature, Filter sign reset, Air Direction*, Fan Speed*, Timer*) * This function depends on the model.	○◎△●	○
Indoor Unit Intake Temperature	Measures the intake temperature of the indoor unit only when the indoor unit is operating.	×	○
Error	When an error is currently occuring on an air conditioning unit, the afflicated unit and the error code are displayed.	×	□◎
Test Run	This operates air conditioning units in test run mode.	○◎△●	○
Ventilation Interlock	The ventilation unit (LOSSNAY) is able to automatically start its operation when operation of the interlocked indoor unit starts.	○◎△●	○
External Input/Output	By using optional external input/output adapter (PAC-YG10HA-E) you can set and monitor the following. Input : By level signal : "Batch ON/OFF", "Batch emergency stop" By pulse signal : "Batch ON/OFF", "Enable/disable local remote controller" Output : "ON/OFF", "Error/Normal"	◎	◎
Energy Management	Bar Graph : Indoor unit Electric Energy, FAN operation time, Thermo-ON time (TOTAL, Cooling, Heating) can be displayed hourly, daily and monthly. Line Graph : Outdoor Temp., Room temp., Set temp. (Heating, Cooling) input from PAC-YG63MCA and temp. from AHC.	×	□◎●
Advanced HVAC Controller (AHC)	The status of AHC can only be monitored.	×	○
New Smart ME Controller	The status of sensor on this controller can be monitored.	×	○

EW-50E

DUAL SET POINT

CENTRALISED CONTROLLER

H 172 x W 209 x D 92 mm

Can be used as an expansion controller for the AE-200E

Up to 200 indoor units can be operated and monitored by connecting three EW-50E units to an AE-200E controller.

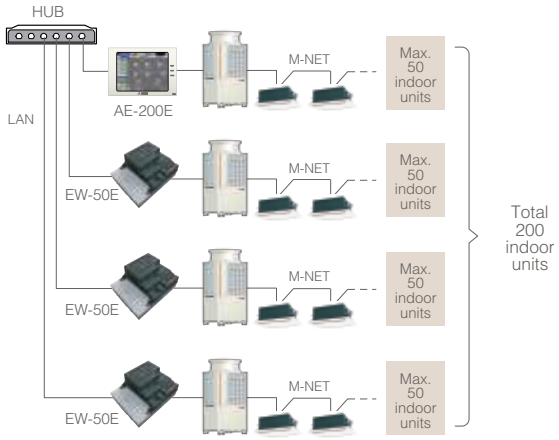
Function to apportion electricity charges

The power consumption of each air conditioner can be calculated with an AE-200E controller. The calculated data can be output to a PC via a USB memory device or LAN, and billing charges can be prepared using a specific charge calculation tool.

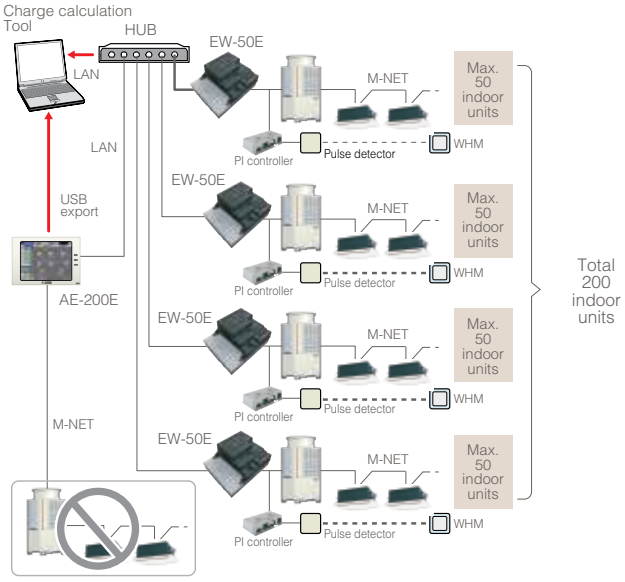
*To use the function to apportion electricity charge, the AE-200E and EW-50E are required.
*For other restrictions, refer to the Installation Manual and Instruction Book

System structure

System Diagram (Standard)



System Diagram (with charge setting)



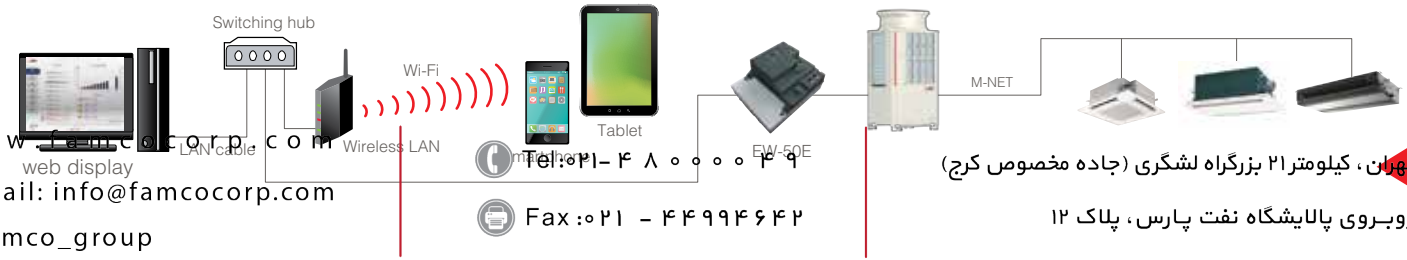
* When the AE-200E M-NET is not used, a maximum of four EW-50E units can be connected.

Air conditioner units can be operated and monitored independently using a PC

Even without an AE-200E controller, the EW-50E can operate and monitor air conditioner units using browser software*1. Air conditioners can be operated and monitored remotely via the Internet. In addition, air conditioners in multiple buildings can be operated collectively.*2

* 1. This operation has been confirmed on Internet Explorer 11, Edge or on Google Chrome ver.54, and Safari10.
Microsoft® Internet Explorer is a trademark or registered trademark of Microsoft Corporation in the United States and other countries.
Google is a registered trademark of Google Inc.
Google Chrome is a registered trademark of Google Inc. in the U.S. and other countries.
Edge is a trademark or registered trademark of Microsoft Corporation in the U.S. and other countries.
Internet Explorer is a trademark or registered trademark of Microsoft Corporation in the U.S. and other countries.
Windows is a trademark or registered trademark of Microsoft Corporation in the U.S. and other countries.
Safari is a trademark or registered trademark of Apple Inc. in the U.S.
Company names and product names in this brochure may be trademarks or registered trademarks of the respective rights holder.

* 2. When connecting an EW-50E via the Internet, do not connect the EW-50E directly to the Internet. Instead, always connect via a router using the VPN function to ensure security.



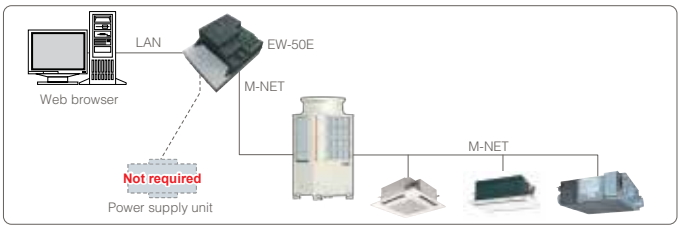
Manage air conditioner usage conditions

Energy consumption of air conditioners can be displayed in an easy-to-understand manner using a web browser.
* For the billing function, PI Controller and watt-hour meter with pulse transmitter (locally available one) are required.



Operable without the transmission line power supply unit

The EW-50E unit is equipped with a power supply function. Power supplied by a transmission line power supply unit is not necessary. Since an outside power supply is not needed, self-sustained operation is possible even when the outdoor unit system is down. (In cases where the power consumption factor exceeds 1.5, a power supply unit is needed.)



Energy-saving control

With the addition of an energy-saving control license (optional product), the set temperature can be automatically changed*1 according to the room temperature around the air conditioner unit to allow greater energy savings without sacrificing comfort.

* 1. With this function, the set temperature can be changed in +2°C/2°F increments for cooling and -2°C/2°F increments for heating during a set time interval. In cases where the intake temperature and the set temperature are significantly different, exclusion from the energy-saving target is possible.

Functions

◎: By group or multiple groups ○: By group □: Batch only

Item	Description	Operations	Display
ON/OFF	Switches air conditioners and general equipment ON or OFF.	○◎△●	○◎
Operation Mode Switching	Switches to cool, dry, auto, fan, or heat operation. * Some modes are not available depending on the unit.	○◎△●	○
Room Temperature Setting	Changes the set temperature. * Set temperature range varies depending on the indoor unit model.	○◎△●	○
Set Temperature 0.5°C Increments	The temperature can be set and displayed in 0.5°C/1°F increments. * With some unit combinations, the temperature is set in 1°C/1°F increments.	○◎△●	○
Fan Speed Setting	The fan speed can be set to 4 levels, 3 levels, 2 levels, or automatic. * Available fan speeds differ depending on the unit.	○◎△●	○
Air Direction Setting	Fixed swing in 5 levels or auto air direction can be set. * Available air directions differ depending on the unit.	○◎△●	○
Prohibition of Local Remote Controller Operation	It is possible to disable the ability to use local remote controllers to run or stop the operation mode, set temperature, filter sign reset, wind speed, wind direction and timer operation. * In the Lossnay group, only ON/OFF and filter reset can be disabled. * Disabling of the fan speed, air direction, and timer operation can be set for the AT-50B, PAR-33MA, PAR-U02MEDA, and PAC-YT52CR models.	○◎△●	○
Room Temperature Display	Displays the suction temperature of the indoor unit.	×	○
Error Display	Displays the current error content together with the address.	×	□◎
Schedule Operation	Today/weekly/weekly by season/yearly Setting content: ON/OFF, operation mode, set temperature, disable local remote controller, air direction/fan	○◎△●	○
Energy Management	Displays the power consumption* or operating hours. * Optional part required.	○◎△●	○
Ventilator Operation (Solo)	Group operation is possible for free plan Lossnay units only. * The above group operation mode includes auto ventilation, heat exchange, and normal ventilation.	◎	◎
Ventilator Operation (Interlocked)	Free plan Lossnay units and indoor units can be interlocked and operated together. * At this point, air volume can be operated, but the ventilation mode cannot be selected.	×	□◎●
External Input (Timer Connection, Emergency Stop Input, etc.)	Using a level signal or pulse signal, it is possible to input the following: Level signal: Emergency Stop Input, Batch ON/OFF, and Demand Input. Pulse signal: Batch ON/OFF or Operation Disable/Enable * Requires an external power supply and external I/O adapter (PAC-YG10HA) sold separately. Only one input can be selected from the above inputs.	×	○
External Input (Error output, Operation Output)	Using the level signal, ON/OFF, and Error/Normal are output. * Requires an external power supply and external I/O adapter (PAC-YG10HA) sold separately.	×	○
Web Browser	Monitor/operation, failure, filter sign monitoring, schedule setting, interlocked control setting (option), energy-saving control setting (option), energy-saving peak cut setting (option), set temperature range restrictions, other		
Filter Reset	Filter sign reset		
Connectable Location	Centralized system transmission line: Connectable Recommended Indoor and outdoor transmission line: Connectable		

* Functions and specifications differ depending on the connected equipment and model.
* Electric energy can be proportionally divided using the EW-50E alone.
However, the apportioned electricity charge function requires an AE-200E or TG-2000A.
Connectable equipment: CITY MULTI, HYBRID CITY MULTI
A Control Mr. Slim (Can be connected using an M-NET adapter for special outdoor unit)
Room air conditioner (Requires a system control interface or M-NET control interface)
Lossnay/OA Processing Unit/AH controller, PI controller, DIDO controller

Notes:
* 1. Some items do not support the multi group setting and display.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

PAC-YG60MCA

H 120 x W 200 x D 45mm

PI CONTROLLER

No more PLCs are needed! Our new PI controller makes it possible to perform energy saving without PLC, which is cost saving. A maximum of 4 measurement meter (WHM, gas meter, water meter, calorie meter) can be connected to the PI controller and can be Used also for charge calculation.

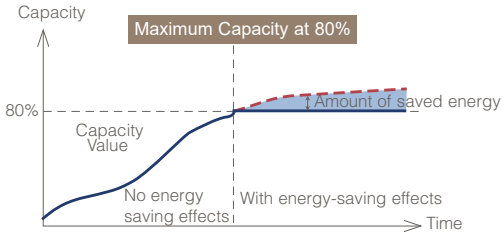
*24 VDC power needs to be provided on site.

Energy saving control (peak cut)

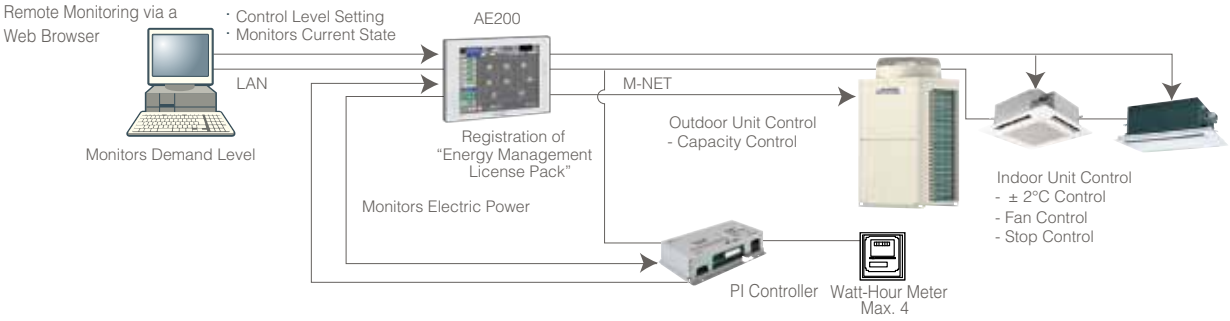
Enables Energy Saving Control with the use of our new PI controller. (Registration of “Energy Management license pack” is required.)

To perform energy saving, the capacity of the outdoor unit is controlled.

*Please note that when using an energy saving control, there are no warranties to failures such as usage over the contracted electricity.



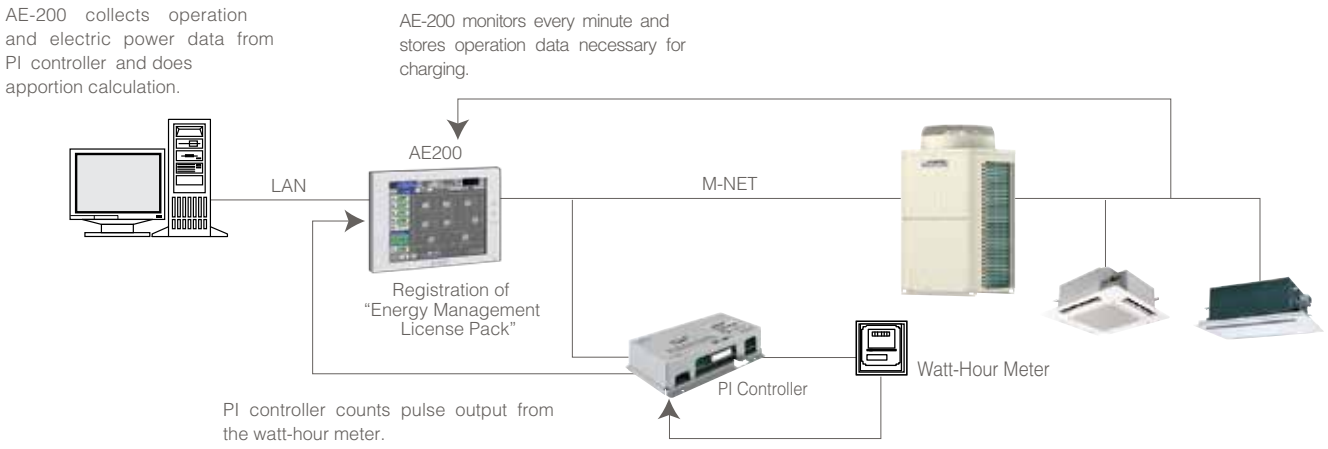
System structure



CHARGE CALCULATION

Enables charge calculation for each tenant and output as CSV file.

System structure



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روبروی پالایشگاه نفت پارس، پلاک ۱۲

PAC-YG66DCA

DIDO CONTROLLER

H 120 x W 200 x D 45mm

No more PLCs are needed! Our new DIDO controller makes it possible to control general-purpose equipment without PLC, which is cost saving. Up to 6 general-purpose equipment can be connected to the DIDO controller.

*24 VDC power needs to be provided on site.

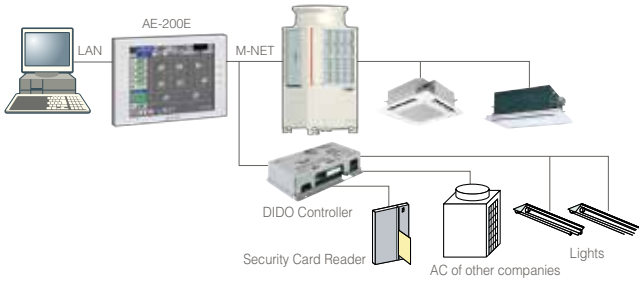
General-purpose equipment control

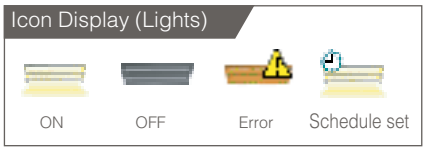
» Enables to control and monitor equipment other than air conditioners (air-conditioners of other companies, lights, ventilators, etc.)

» In addition to above, the air-conditioners can be interlocked with general-purpose equipment. E.g. Interlock between indoor units and security system.

» The indoor units can be turned ON/OFF when the security system is activated/deactivated.

System structure





PAC-YG63MCA

AI CONTROLLER

H 120 x W 200 x D 45mm

Our new AI controller makes it possible to monitor the values measured by the temperature/humidity sensor connected to the AI controller. The AI controller has two input and two output channels.

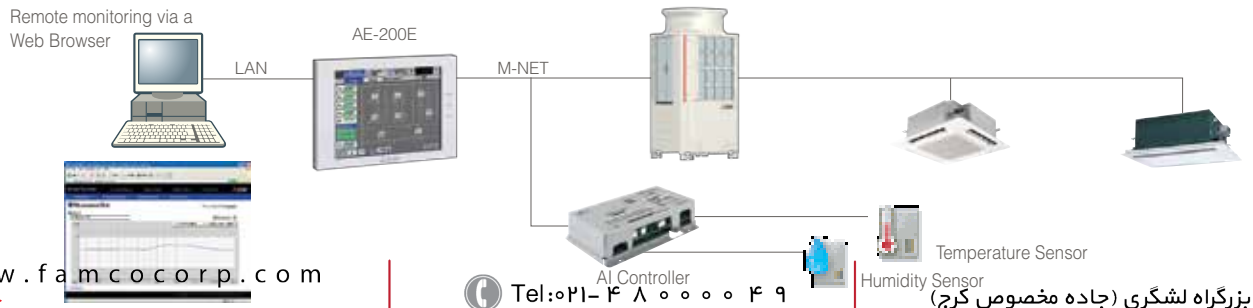
*24 VDC power needs to be provided on site.

* Trend displays of measurement data can be shown on a Web browser.

Temperature/humidity monitoring

» Monitors the values measured by the temperature/humidity sensor connected to the AI controller.
* Temperature : Pt100, 4 to 20mA DC, 1 to 5 VDC, 0 to 10 VDC.
* Humidity : 4 to 20mA DC, 1 to 5 VDC, 0 to 10 VDC.

System structure



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روبروی پالایشگاه نفت پارس، پلاک ۱۲

LonWorks (LMAP04)

CITY MULTI can easily combine into a Building Management System (BMS) via the LonWorks and M-NET adapter LMAP04. LonWorks is an opened transmission protocol widely Used at BMS, and related equipment control.

CITY MULTI is therefore compatible with large-scaled BMS management via LonWorks.

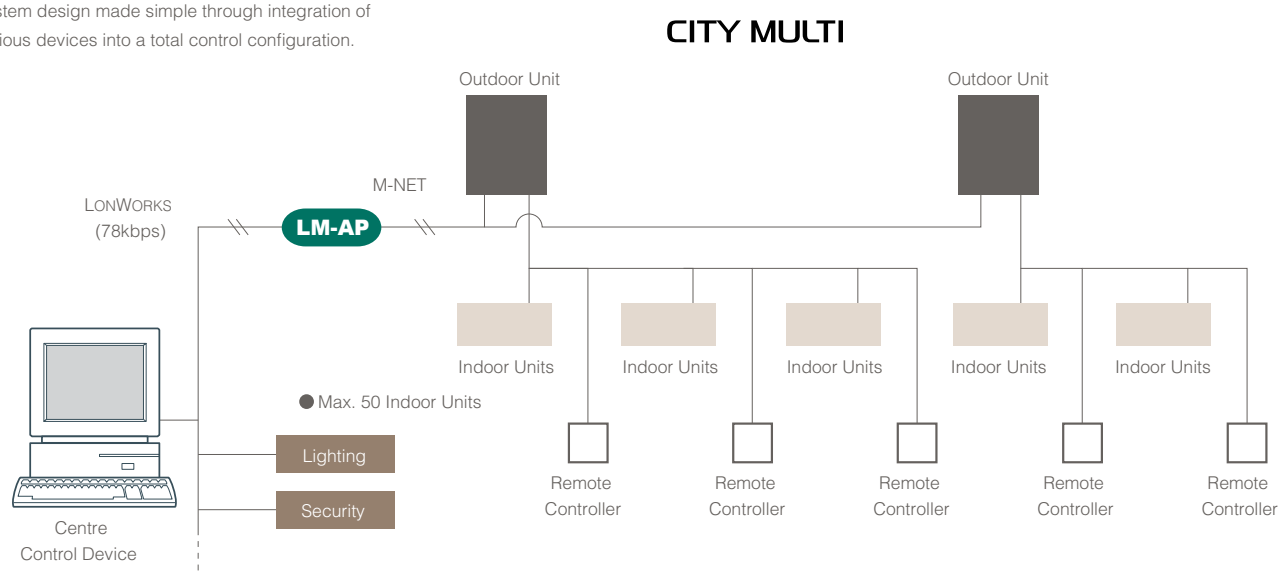
One LM ADAPTER unit can connect up to 50 Groups/50 indoor units.

Using a single LONWORKS adapter (LM-AP), you can connect up to a maximum of 50 indoor units.

LM-AP LMAP04 — Protocol converter between LonWorks and M-NET

Example of System Configuration

System design made simple through integration of various devices into a total control configuration.



LonWorks®

The building management system is connected to the CITY MULTI air conditioning system using LonWorks®, which is widely used on field networks, allowing for an open network and savings in construction to use.

LonWorks® Interface

Function	Content
Control	
ON/OFF	Run/Stop
Mode Operation	Cooling/Drying/Heating/Auto/Fan/Setback
Setpoint Adjustment	Cooling 19-35°C, Heating 4.5-28°C, Auto 19-28°C
Fan Speed Control	Lo-Mi1-Mi2-Hi
Permit/Prohibit	ON/OFF, Mode, Setpoint
Emergency Stop	-
Monitoring	
ON/OFF	Run/Stop
Mode	Cooling/Drying/Heating/Auto/Fan/Setback
Setpoint	Cooling 19-35°C, Heating 4.5-28°C, Auto 19-28°C
Fan Speed	Lo-Mi1-Mi2-Hi
Permit/Prohibit	ON/OFF, Mode, Setpoint
Alarm State	Normal/Abnormal
Room Temperature	-10°C~50°C
Thermo ON/OFF	ON/OFF

Hot Water Solutions
Air to Water Series

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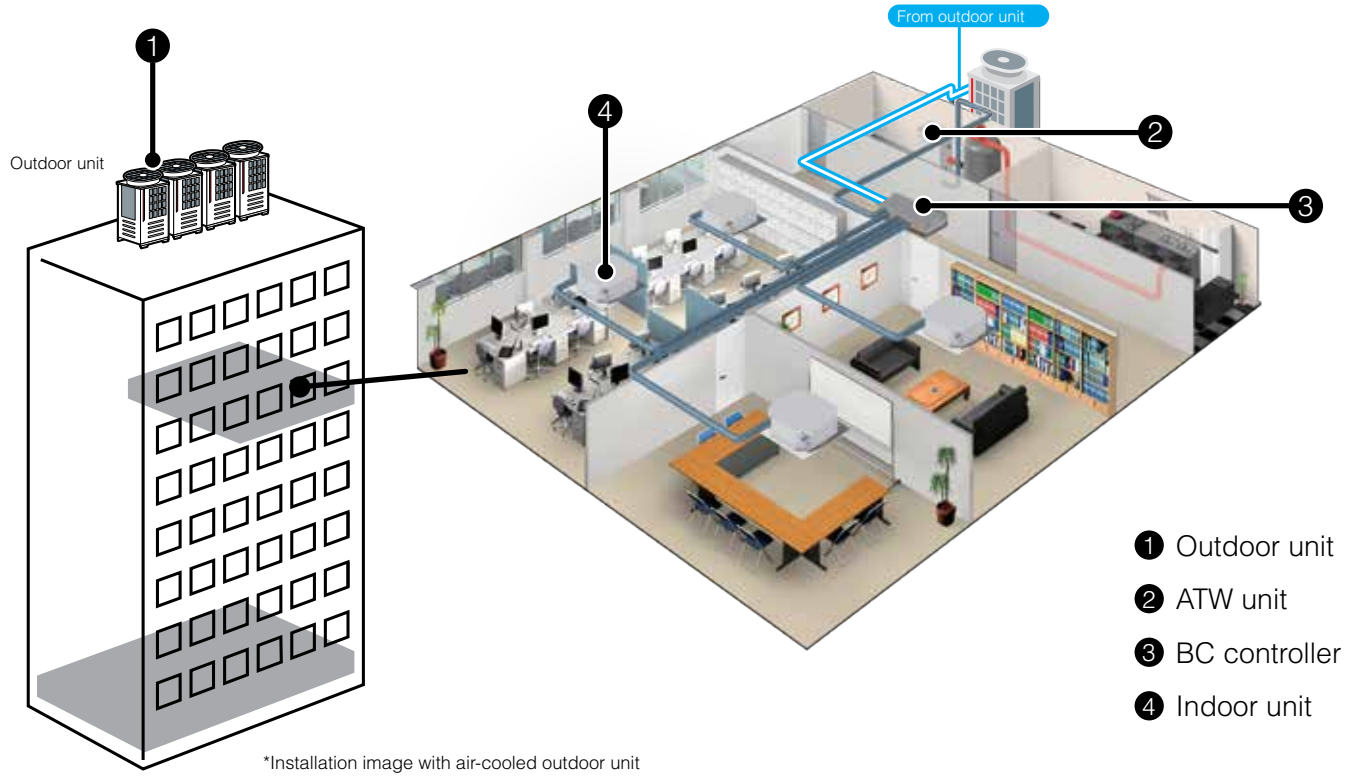
تهران، کیلومتر۲۱ بزرگراه لشگری (جاده مخصوص کرج)
روبروی پالایشگاه نفت پارس، پلاک ۱۲

Air to Water Series is a system that can create cold and hot water and be used with VRF system as with the indoor units.
Air to Water Series, which can supply hot water of up to 70°C, can be used in any situation, such as for shower or floor heating in homes and hotels, as well as for supplying hot water in offices and restaurants.
The use of the Air to Water Series in combination with the Heat recovery series (R2/WR2-Series) enables the effective use of exhaust heat from the cooling operation to create hot water, ensuring the efficient heat recovery operation.

System structure

Air To Water (ATW) Series offers the choice between two types of units; a Booster unit and a HEX (Heat Exchanger) unit. A Booster unit offers hot water to a maximum of 70°C and HEX unit offers 45°C in heating and down to 8°C in cooling. Applying heat pump and heat recovery technology to provide hot water, the units are suitable for residences, office buildings, restaurants or hotels, providing an optimal environment while benefiting from reduced running costs and less impact on environment.

ATW system consists of an outdoor unit, a BC controller when connected with R2-Series, ATW unit, indoor unit and a controller.



*Installation image with air-cooled outdoor unit

LINEUP

Type	Booster Unit	HEX Unit
Model Name	PWFY-P100VM-E-BU 	PWFY-EP100VM-E1-AU 
Applications	Sanitary water, shower etc.	Floor heating, panel heater, fan-coil unit (AHU), etc.
Connactable To	CITY MULTI R2/WR2 Series	CITY MULTI R2/WR2/Y/WY Series
Operation	Up to 70°C	Hot water up to 45°C/Cold water down to 8°C

PWFY-P100VM-E-BU

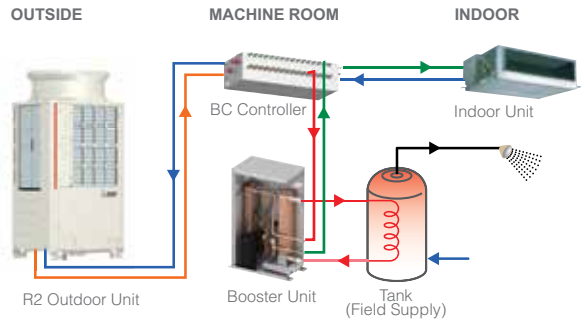
BOOSTER UNIT

Benefiting from the heat recovery operation of the CITY MULTI R2 system, the Booster unit converts energy from the air to higher temperatures suitable for supplying hot water and results in virtually no energy waste.

Connectable to	Applications	Operation
CITY MULTI R2/WR2 Series	Best for sanitary water, shower etc.	Up to 70°C

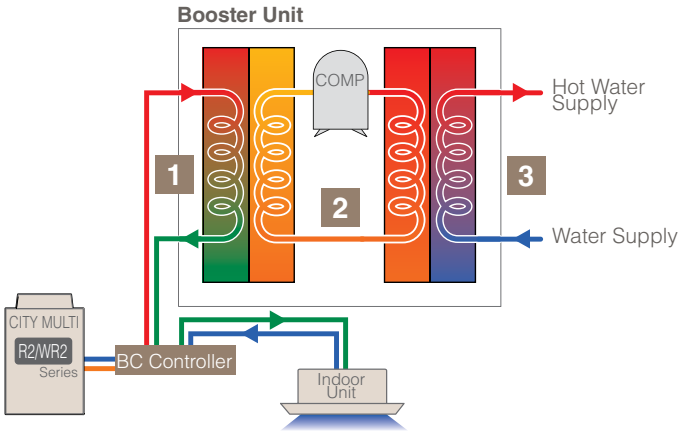
System outline

The Booster unit is connected to a BC controller with refrigerant pipes, and to the water tank with water pipes. The waste heat from cooling operation is utilised for heating operation which provides hot water.



Red — High Pressure Gas Refrigerant
Orange — High Pressure 2-Phase Refrigerant
Green — High Pressure Liquid Refrigerant
Blue — Low Pressure Gas Refrigerant
Black — Hot Water

What makes the Booster Unit unique?



Red — High Pressure Gas Refrigerant
Orange — High Pressure 2-Phase Refrigerant
Green — High Pressure Liquid Refrigerant
Blue — Low Pressure Gas Refrigerant

Refrigerant Flow

1 From the BC controller, high pressure R410A gas refrigerant is delivered to the Booster unit to exchange heat with the low pressure R134a liquid refrigerant circulating through 2 and returns to the BC controller as a high pressure liquid refrigerant.

2 Refrigerant R134a circulates inside the two plate heat exchangers inside the unit.

Temperature rises as low-pressure R134a gas refrigerant is compressed by the compressor and becomes high-pressure gas refrigerant.

Water Supply

3 Water entering the Booster unit exchanges heat with high-pressure R134a gas refrigerant. The hot water circulates to heat the water inside the tank which, will be Used for showers, sanitary water etc.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

PWFY-P100VM-E-AU

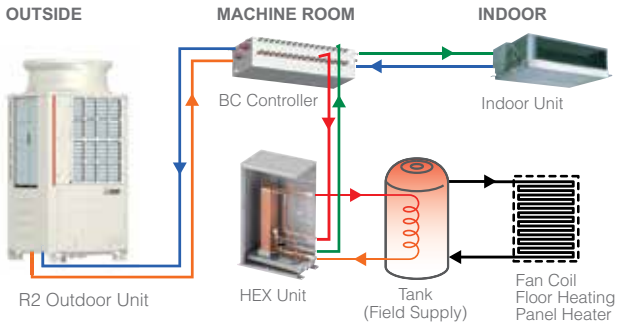
HEX UNIT

By utilising waste heat from the R2 outdoor unit for heating operation in HEX unit, it is possible to supply hot water with high efficiency. Also, even when connected with the Y series, it provides efficient operation compared to a conventional system.

Connectable to	Applications	Operation
CITY MULTI R2/WR2 Series Y/WY Series	Best for floor heating, panel heater, fan-coil unit (AHU) etc.	Hot water up to 45°C Cold water up to 8°C

System outline - HEX Unit with R2 Series

HEX unit is connected to BC controller with refrigerant pipes, and to the water tank with water pipes.
The HEX unit is not equipped with a compressor.

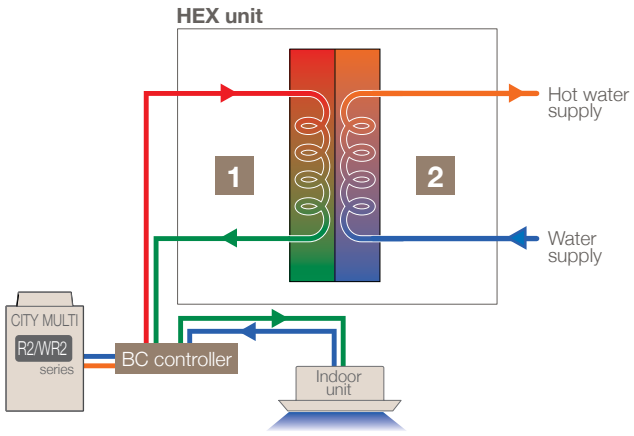


* The image is a System Structure in case of heating mode.
* The necessity of the tank depends on the system configuration.

Red	High Pressure Gas Refrigerant
Orange	High Pressure 2-phase Refrigerant
Green	High Pressure Liquid Refrigerant
Blue	Low Pressure Gas Refrigerant
Black	Hot Water

What makes the HEX Unit unique with R2/WR2 Series?

Hot Water Supply



Refrigerant Flow

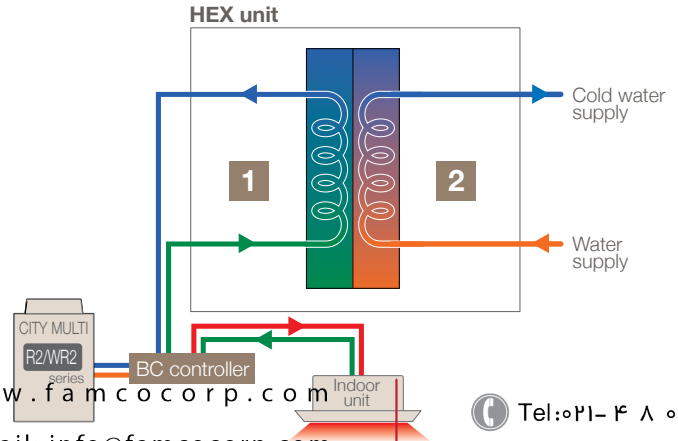
1 From the BC controller, high pressure R410A gas refrigerant is delivered to the HEX unit and returns to the unit as high pressure liquid refrigerant.

Water Supply

2 Water entering the HEX unit exchanges heat with the R410A refrigerant and water circulates to heat the water inside the tank.

Red	High Pressure Gas Refrigerant
Orange	High Pressure 2-phase Refrigerant
Green	High Pressure Liquid Refrigerant
Blue	Low Pressure Gas Refrigerant

Cold Water Supply



Refrigerant Flow

1 From the BC controller, high pressure R410A liquid refrigerant is delivered to the HEX unit and returns to the unit as low pressure gas refrigerant.

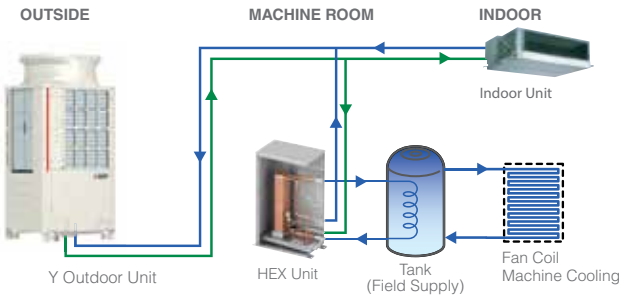
Water Supply

2 Water entering the HEX unit exchanges heat with the R410A refrigerant and water circulates to cool the water inside the tank.

Red	High Pressure Gas Refrigerant
Orange	High Pressure 2-phase Refrigerant
Green	High Pressure Liquid Refrigerant
Blue	Low Pressure Gas Refrigerant

System outline - HEX Unit with Y Series

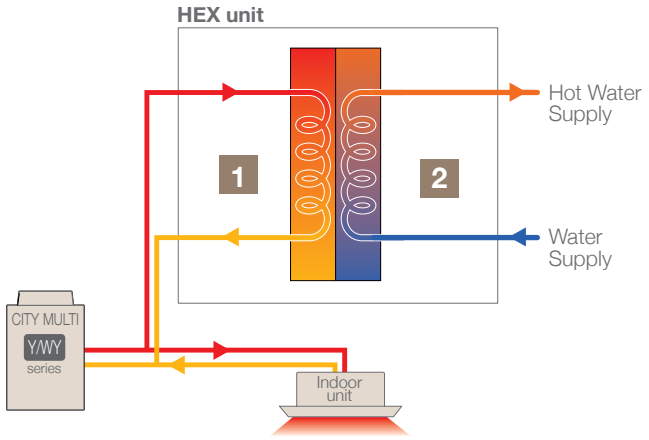
The HEX Unit is connected to the Y outdoor unit with refrigerant pipes, and to the water tank with water pipes.
The HEX Unit is not equipped with a compressor.



Red — High Pressure Gas Refrigerant
Orange — High Pressure 2-phase Refrigerant
Green — High Pressure Liquid Refrigerant
Blue — Low Pressure Gas Refrigerant

What makes the HEX Unit unique with Y/WY Series?

Hot Water Supply



Refrigerant Flow

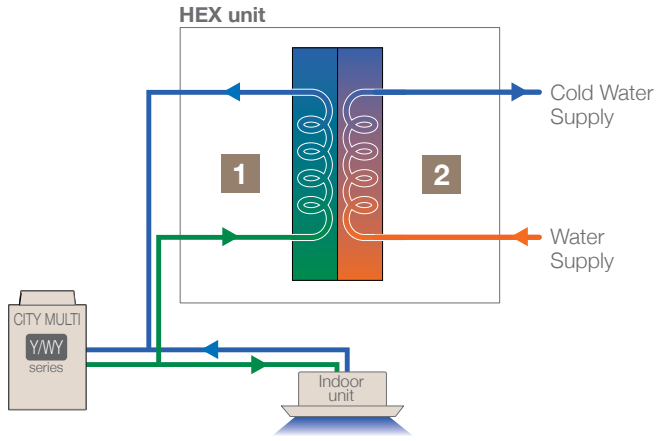
1 From the outdoor unit, high pressure R410A gas refrigerant is delivered to the HEX unit and returns to the unit as low pressure 2-phase refrigerant.

Water Supply

2 Water entering the HEX unit exchanges heat with the R410A refrigerant and water circulates to heat the water inside the tank.

Red — High Pressure Gas Refrigerant
Orange — High Pressure 2-phase Refrigerant
Yellow — Low Pressure 2-phase Refrigerant
Green — High Pressure Liquid Refrigerant
Blue — Low Pressure Gas Refrigerant

Cold Water Supply



Refrigerant Flow

1 From the outdoor unit, high pressure R410A liquid refrigerant is delivered to the HEX unit and returns to the unit as low pressure gas refrigerant.

Water Supply

2 Water entering the HEX unit exchanges heat with the R410A refrigerant and water circulates to cool the water inside the tank.

Red — High Pressure Gas Refrigerant
Orange — High Pressure 2-phase Refrigerant
Green — High Pressure Liquid Refrigerant
Blue — Low Pressure Gas Refrigerant

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

BC Controller

To connect R2/WR2 Series outdoor units and ATW indoor units, a BC controller or WCB (Water system, Connection Box), which is a simple version of a BC controller, is required.

		BC Controller
Model		CMB-P104-P1016V-J CMB-P108-P1016V-JA CMB-P1016V-KA CMB-P104, 108V-KB
Connectable ATW System		Booster/HEX
Outdoor Unit	Connectable Series	R2/WR2
	Connectable Capacity	P200-P1100
ATW/ Indoor Unit	Connectable Qty	1-50
	Connection Method	With BC's Port
	Operation Mode	Cooling AND Heating
Product Image		

Mitsubishi Electric's Proposal

How Air to Water systems can actually apply to applications to satisfy the expectations

The Air to Water system; Mitsubishi Electric's solution to cooling, heating and hot water supply, is an attractive solution utilising the heat pump and heat recovery technology.

The fact that the Air to Water advanced technology can greatly reduce CO_2 emissions is appealing amid the global and national pressures to be more environmentally responsible.

With innovative technology, Air to Water systems are ideal for use in various applications to provide air conditioning or hot water depending on requirement.

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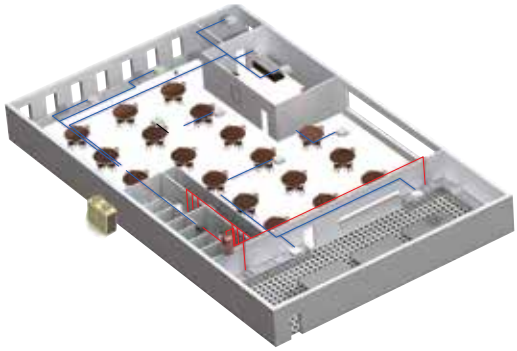
Application Examples

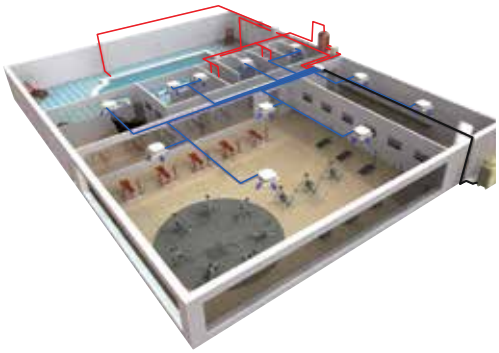
The application examples here indicate why ATW systems are chosen and how the great potential offered by using ATW systems can be best utilised



Restaurant

Reason for ATW

- Hot water is almost always required in the kitchen.
- Waste heat from the kitchen can be used to cool the dining hall in the summer, increasing efficiency of the system.



Health Club

Reason for ATW

- Gym spaces that require year-round cooling.
- Swimming pools and shower rooms require hot water.

Office

Reason for ATW

- Different requirements for different tenants/rooms.
  Meaning cooling/heating/hot water is expected throughout the year.
- In the winter, hot water for small kitchens using the waste heat from cooling operation in rooms with a number of computers.
- In the summer, cooling operation performed in all rooms while hot water is available in small kitchens.

Residence

Reason for ATW

- Hot water requirement throughout the year. For shower and kitchen.
- Can be used for under floor heating in winter seasons and cooling in summer seasons.

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SPECIFICATIONS

ATW UNIT

BOOSTER UNIT

Model			PWFY-P100VM-E-BU
Power Source			1- phase 220 - 230 -240V 50/60-Hz
Heating Capacity (nominal)	*1	kW	12.5
	*1	Kcal/h	10,800
	*1	Btu/h	42,700
	Power Input	kW	2.48
	Current Input	A	11.63 -11.12 - 10.66
Temp. Range of Heating	Outdoor Unit/Heat Source Unit Condition	W.B.	-20 ~ 32°C R2-Series
		-	10 ~ 45°C WR2-Series
	Booster Unit Inlet Water Temp.	-	10 ~ 70°C
Connectable Outdoor Unit / Heat Source Unit	Total Capacity		50 ~ 100% of outdoor unit/heat source unit capacity
	Model / Quantity		R2 (Standard, Hi-COP), WR2 Series only
Sound Pressure Level (Measured in Anechoic Room)		Db <a>	44
Diameter of Refrigerant Pipe	Liquid	mm	ø9.52 (ø3/8) (ø3/8") Brazed
	Gas	mm	ø15.88 (ø5/8) (ø5/8") Brazed
Diameter of Water Pipe	Inlet	mm	PT3/4 Screw
	Outlet	mm	PT3/4 Screw
Field Drain Pipe Size		mm	ø32 (1-1/4")
External Finish			NO
External Dimension H x W x D		mm	800 (785 without legs) x 450 x 300
Net Weight		kg	59
Compressor	Type		Inverter rotary hermetic compressor
	Maker		MITSUBISHI ELECTRIC CORPORATION
	Starting Method		Inverter
	Motor Output	kW	1.0
	Lubricant		NEO22
Circulating Water	Operation Volume Range	m3 / h	0.6 ~ 2.15
Protection on Internal Circuit (R134A)	High Pressure Protection		High Pressure Sensor, High Pressure Switch at 3.60 MPa (601 psi)
	Inverter Circuit (comp)		Over - heat protection, Over - current protection
	Compressor		Discharge thermo protection, Over - current protection
Refrigerant	Type x Original Charge	*2	R134a x 1.1kg
	Control		IEV
Design Pressure	R410a	Mpa	4.15
	R134a	Mpa	3.60
	Water	Mpa	1.00
Drawing	External		WKB94L762
	Wiring		WKE94C229
Standard Attachment	Document		Installation Manual, Instruction Book
	Accessory		Strainer, Heat insulation material
Optional Parts			NONE
Remark			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.

Notes:

* 1. Nominal heating conditions
  R2-Series
  Outdoor Temp.: 7°CDB/6°CWB
  Pipe length: 7.5m
  Level difference: 0m
  Inlet water Temp. 65°C
  Water flow rate 2.15m³/h

  WR2-Series
  Circulating water Temp.: 20°C
  Pipe length: 7.5m
  Level difference : 0m
  Inlet water Temp. (for PWFY side) 65°C
  Water flow rate 2.15m³/h

* 2. Do not use refrigerant other than the type indicated in the manuals provided with the unit and on the nameplate.
  - Doing so may cause the unit or pipes to burst, or result in explosion or fire during use, during repair, or at the time of disposal of the unit.
  - It may also be in violation of applicable laws.
  - MITSUBISHI ELECTRIC CORPORATION cannot be held responsible for malfunctions or accidents resulting from the use of the wrong type of refrigerant.

* Due to continuing improvement, the above specifications may be subject to change without notice.
* The unit is not designed for outside installations.
* Please don't use steel fittings for the water piping.
* Please always make water circulate or add the brine to the circulation water when the ambient temperature becomes 0°C or less.
* Please always make sure that water circulates or pull out the circulation water completely when not using it.
* Please do not use groundwater and well water.
* Install the Outdoor unit (R2-series) in an environment where the wet bulb Temp. will not exceed 32°C.
* The water circuit must use the closed circuit.
* Please do not use it as a drinking water.

SPECIFICATIONS

ATW UNIT

HEX UNIT

Model			PWFY-EP100VM-E1-AU
Power Source			1 -Phase 220 -230 240v 50 / 60hz
Heating Capacity (nominal)	*1	kW	12.5
	*1	Kcal/h	10,800
	*1	Btu/h	42,700
	Power Input	Kw	0.015
	Current Input	A	0.068 - 0.065 - 0.063
Temp. Range of Heating	Outdoor Temp. for Outdoor Unit	W.B	-20 ~ 32°C R2 - Series
		W.B	-20 ~ 15.5°C Y - Series
	Circulating Water Temp. for Heat Source Unit	-	10 ~ 45.5°C WR2 - Series
		-	10 ~ 45.5°C WY - Series
	Inlet Water Temp. for PWFY	-	10 ~ 40°C R2/Y/WR2/WY - Series
Cooling Capacity (nominal)	*2	kW	11.2
	*2	Kcal / h	9, 600
	*2	Btu / h	38, 200
	Power Input	kW	0.015
	Current Input	A	0.068 - 0.065 - 0.063
Temp. Range of Cooling	Outdoor Temp. For Outdoor Unit	D.B.	-5 ~ 46°C R2 - Series
		D.B.	-5 ~ 46°C Y - Series
	Circulating Water Temp. for Heat Source Unit	-	10 ~ 45°C WR2 - Series
		-	10 ~ 45°C WY - Series
	Inlet Water Temp. for PWFY	-	10 ~ 35°C
Connectable Outdoor Unit / Heat Source Unit	Total Capacity		50 ~ 100% Of outdoor / heat source unit capacity
	Model / Quantity		PUHY-P·Y(S)KB-A1(-BS), PUHY-EP·Y(S)LM-A(-BS), PQHY-P·, PURY-(E)P·Y(S)LM-A(1)(-BS), PQRY-P·Y(S)LM-A
Sound Pressure Level (Measured in Anechoic Room)		Db <a>	29
Diameter of Refrigerant Pipe	Liquid	mm	Ø9.52 (ø3/8) Brazed
	Gas	mm	Ø15.88 (ø5/8) Brazed
Diameter of Water Pipe	Inlet	mm	Pt1 screw (pt3/4 screw without expansion joint)
	Outlet	mm	Pt1 screw (pt3/4 screw without expansion joint)
Field Drain Pipe Size		mm	Ø32 (1-1/4")
External Finish			No
External Dimension H x W x D		mm	800 (785 Without legs) x 450 x 300
Net Weight		kg	33
Circulating Water	Operation Volume Range	m3 / h	1.8 ~ 4.30
Design Pressure	R410a	Mpa	4.15
	Water	Mpa	1.00
Drawing	External		WKJ94T340
	Wiring		WKE94C951
Standard Attachment	Document		Installation manual, instruction book
	Accessory		Strainer, heat insulation material, expansion joint, flow switch x 1 set, buffer material
Optional Parts			Solenoid valve kit: PAC-SV01PW-E
Remark			Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to in the installation manual

Notes:

* 1. Nominal heating conditions (PWFY conditions are indicated in the parentheses)
Y/R2-Series
Outdoor Temp.: 7°CDB/6°CWB
Pipe length: 7.5m
Level difference: 0m
(Inlet water Temp. 30°C, Water flow rate 4.30m³/h)

WY/WR2-Series
Circulating water Temp. : 20°C
Pipe length: 7.5m
Level difference: 0m
(Inlet water Temp. for PWFY side 30°C,
Water flow rate 4.30m³/h)

* 2. Nominal cooling conditions (PWFY conditions are indicated in the parentheses)
Y/R2-Series
Outdoor Temp.: 35°CDB
Pipe length: 7.5m
Level difference: 0m
(Inlet water Temp. 23°C, Water flow rate 3.86m³/h)

WY/WR2-Series
Circulating water Temp.: 30°C
Pipe length: 7.5m
Level difference: 0m
(Inlet water Temp. for PWFY side 23°C,
Water flow rate 3.86m³/h)

* Due to continuing improvement, the above specifications may be subject to change without notice.
* The unit is not designed for outside installations.
* Please don't use steel fittings for the water piping.
* Please always make sure that water circulates or add the brine to the circulation water when the ambient temperature becomes 0°C or less.
* Please always make water circulate or pull out the circulation water completely when not using it.
* Please do not use ground water and well water.
* Install the outdoor unit (R2-Series) in an environment where the wet bulb Temp. will not exceed 32°C.
* The water circuit must use the closed circuit.
* Please do not use it as a drinking water.

SPECIFICATIONS

CONTROLLER

REMOTE CONTROLLER PAR-W31MAA

Item	Description	Operations	Display
ON / OFF	ON and OFF the operation of a group of units	○	○
Operation Mode Switching	Switches between Hot Water / Heating / Heating ECO / Anti - freeze / Cooling * Available operation modes vary depending on the unit to be connected. * Switching limit setting can be made via a remote controller.	○	○
Water Temperature Setting	Temperature can be set within the ranges below. (in increments of 1°C) Heating 30°C ~ 50°Cw / Anti-freeze 10°C ~ 45°C Heating ECO 30°C ~ 45°C / Cooling 10°C ~ 30°C Hot Water 30°C ~ 70°C * The settable range varies depending on the unit to be connected.	○	○
Preset Temperature Range Limit	Preset temperature range setting can be limited via a remote controller.	○	○
Water Temperature Display	10°C ~ 90°C (in increments of 1°C) * The settable range varies depending on the unit to be connected.	×	○
Permit / Prohibit Local Operation	Individually prohibits operations of each local remote control function: ON / OFF, Operation modes, Water temperature setting, Circulating water replacement warning reset. * Upper level controller may not be connected depending on the unit to be connected.	×	○
Schedule Operation	ON / OFF / Water temperature setting can be done up to 6 times one day in the week. (in increments of a minute)	○	○
Error Display	When an error is currently occurring on a unit, the afflicted unit and the error code are displayed.	×	○
Self Check (error history)	Searches the latest error history by pressing the CHECK button twice.	○	○
Test Run	Enables the Test run mode by pressing the TEST button twice. * Test run mode is not available depending on the unit to be connected.	○	○
Circulating Water Replacement Warning	Displays the circulating water replacement warning via the unit message. Clears the display by pressing the CIR.WATER button twice. * Circulating water replacement warning is not available depending on the unit to be connected.	○	○
Operation Locking Function	Remote controller operation can be locked or unlocked. ·All-switch locking ·Locking except ON / OFF switch	○	○

○ = Each Group ×= Not Available

CENTRALISED CONTROLLER AE-200E

Item	Description	Operations	Display
Controllable Unit	Up to 50 units / 50 groups (200 units with AE-50E or EW-50E)		
ON / OFF	ON and OFF the operation of a group of units	○ ◎ △ ●	○ ◎
Operation Mode Switching	Switches between Hot Water / Heating / Heating ECO / Anti - freeze / Cooling * Available operation modes vary depending on the unit to be connected. * Switching limit setting can be made via a remote controller.	○ ◎ △ ●	○
Water Temperature Setting	Temperature can be set within the ranges below (in increments of 1°C) [Booster unit]** Heating: 30°C ~ 50°C Heating ECO***: Invalid Hot Water: 30°C ~ 70°C Anti-freeze: 10°C ~ 45°C Cooling: Invalid [Water HEX unit]** Heating: 30°C ~ 45°C Heating ECO***: Invalid Hot Water: Invalid Anti-freeze: 10°C ~ 45°C Cooling: 10°C ~ 30°C * The settable range varies depending on the unit to be connected.** "Air To Water" on the AE-200E screen indicates Booster unit group and Water HEX unit group.*** The temperature is controlled automatically in the Heating ECO. The user cannot change the temperature settings.	○ ◎ △ ●	○
Water Temperature Display	10°C ~ 90°C (in increments of 1°C). * The settable range varies depending on the unit to be connected.	×	○
Permit / Prohibit Local Operation	Individually prohibit operation of each local remote control function (ON / OFF, Change operation mode, Set temperature).	○ ◎ △ ●	○
Schedule Operation	Group is the smallest unit to which a weekly schedule can be assigned. The same schedule can be applied collectively, or to each group, groups in a block, or groups on a floor. • Up to 24 events can be scheduled for each day. • "ON/OFF", "Operation mode", "Temperature Setting", and "Permit / Prohibit local operation" can be scheduled. • Five types of weekly schedule patterns (summer and winter) are available. • Five operation patterns (A-E) can be set for each year, up to 50 days can be allocated to each pattern.	○ ◎ △ ●	○
Error Display	When an error is currently occurring on a unit, the afflicted unit and the error code is displayed.	×	□ ◎
Test Run	This operates air conditioner units in test run mode.	○ ◎ △ ●	○
External Input / Output	By using optional external input / output adaptor (PAC-YG10HA) you can set and monitor the following. Input: By level signal : "Batch ON / OFF", "Batch emergency stop" By pulse signal: "Batch ON / OFF", "Enable / disable local remote controller" Output: "ON / OFF", "Error / Normal"	◎	◎

□ = Each Unit ○ = Each Group ● = Each Block △ = Each Floor ◎ = Collective × = Not Available

Note: Operation and displayed content vary depending on the Indoor Unit Model. Refer to the CITY MULTI catalog for the air conditioning control systems.

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روبروی پالایشگاه نفت پارس، پلاک ۱۲

SPECIFICATIONS

CONTROLLER

ADVANCED TOUCH CONTROLLER AT-50B

Item	Description	Operations	Display
Controllable Unit	50 units / groups of units		
ON / OFF	ON and OFF operation of a group of units. Even when only a single ATW unit or indoor unit is operated in the system, the advanced touch controller will operate and collective ON/OFF lamp will light up.	◎ ○	◎ ○
Operation Mode Switching	Switches between Hot Water / Heating / Heating ECO / Anti - freeze / Cooling * Available operation modes vary depending on the unit to be connected.	◎ ○	◎ ○
Water Temperature Setting	Temperature can be set within the ranges below. (in increments of 1°C) [Booster unit] Heating: 30°C ~ 50°C Heating ECO**: 30°C ~ 45°C Hot Water: 30°C ~ 70°C Anti-freeze: 10°C ~ 45°C Cooling: Invalid [Water HEX unit] Heating: 30°C ~ 45°C Heating ECO**: 30°C ~ 45°C Hot Water: Invalid Anti-freeze: 10°C ~ 45°C Cooling: 10°C ~ 30°C * The settable range varies depending on the unit to be connected. ** The temperature is controlled automatically in the Heating ECO mode. The user cannot change the temperature settings.	◎ ○	◎ ○
Water Temperature Display	10°C ~ 90°C (in increments of 1°C)	×	○
Permit / Prohibit Local Operation	Individually prohibit operation of each local remote control function (Start / Stop, Change operation mode, Set temperature, Circulating water replacement warming reset).	◎ ○	◎ ○
Schedule Operation	Weekly schedule setting up to 12 patterns is available. In one pattern, up to 16 settings of "ON / OFF", "Operation mode", "Temperature Setting", and "Permit / Prohibit local operation" can be scheduled. Two types of weekly schedule patterns (summer and winter) are available. Today's schedule setting up to 5 patterns in available * Time setting unit: 5 minutes / unit	○	○
Error Display	When an error is currently occurring on a unit, the afflicted unit and the error code are displayed. * When an error occurs, the "ON / OFF" LED flashes. The operation monitor screen show abnormal icon over the unit. The error monitor screen shows the abnormal unit address and error code. The error log monitor screen shows the time and date, the abnormal unit address, error code, and source of detection.	×	□ ◎

□ = Each Unit ○ = Each Group ● = Each Block △ = Each Floor ◎ = Collective × = Not Available

OPTIONAL PARTS

SOLENOID VALVE KIT

Applicable System

System Configuration
Y, or WY* + PWFY-EP100VM-E1-AU + Indoor Unit

*Solenoid valve kit will be Used only when operating the WY at the water temperature below 10°C.

Note:
When you intend to adpot PWFY-EP100VM-E1-AU with below system configuration, you may need to use optional part (PAC-SV01PW-E).
Please contact your Mitsubishi Electric sales office for details.

PAC-SV01PW-E

Item			Description
Power Source			1 - phase 220 - 230 -240V 50 / 60Hz
Diameter of Refrigerant Pipe	Applicable Models		PWFY-EP100VM-E1-AU
	Liquid	mm	ø15.88 (ø5/8)
	Gas	mm	ø9.52 (ø3/8)
External Dimension H x W x D		mm	462 x 320 x 207
Net Weight		kg	8.5
Drawing	External		WKD94T532
Standard Attachment	Document		Installation Manual
	Accessory		Specification Label, Refrigerant conn.pipe, Flow Switch

Installation Information

1. General Precautions

1-1. Usage

» The air conditioning system described in this catalogue is designed for human comfort.

» This product is not designed for preservation of food, animals, plants, precision equipment, or art objects. To prevent quality loss, do not use the product for purposes other than what it is designed for.

» To reduce the risk of water leakage and electric shock, do not use the product for air conditioning vehicles or vessels.

1-2. Installation Environment

» Do not install any unit other than the dedicated unit in a place where the voltage changes a lot, large amounts of mineral oil (e.g., cutting oil) are present, cooking oil may splash, or a large quantity of steam can be generated such as a kitchen.

» Do not install the unit in acidic or alkaline environments.

» Installation should not be performed in the locations exposed to chlorine or other corrosive gases. Avoid installation near a sewer.

» To reduce the risk of fire, do not install the unit in a place where flammable gas may be leaked or inflammable material is present.

» This air conditioning unit has a built-in microcomputer. Take the noise effects into consideration when deciding the installation position. Especially in a place where antenna or electronic device are installed, it is recommended that the air conditioning unit be installed away from them.

» Install the unit on a solid foundation according to the local safety measures against typhoons, wind gusts, and earthquakes to prevent the unit from being damaged, toppled, and falling.

1-3. Backup System

» In a place where air conditioner's malfunctions may exert crucial influence, it is recommended to have two or more systems of single outdoor units with multiple indoor units.

1-4. Unit Characteristics

» Heat pump efficiency depends on outdoor temperature. In the heating mode, performance drops as the outside air temperature drops. In cold climates, performance can be poor. Warm air would continue to be trapped near the ceiling and the floor level would continue to stay cold. In this case, heat pumps require a supplemental heating system or air circulator. Before purchasing them, consult your local distributor for selecting the unit and system.

» When the outdoor temperature is low and the humidity is high, the heat exchanger on the outdoor unit side tends to collect frost, which reduces its heating performance. To remove the frost, Auto-defrost function will be activated and the heating mode will temp.orarily stop for 3-10 minutes. Heating mode will automatically resume upon completion of defrost process.

» Air conditioner with a heat pump requires time to warm up the whole room after the heating operation begins, because the system circulates warm air in order to warm up the whole room.

» The sound levels were obtained in an anechoic room. The sound levels during actual operation are usually higher than the simulated values due to ambient noise and echoes. Refer to the section on "SOUND LEVELS" in the City Multi Data Book for the measurement location.

» Depending on the operation conditions, the unit generates noise caUsed by valve actuation, refrigerant flow, and pressure changes even when operating normally. Please consider to avoid location where quietness is required.

» Install the unit on a solid foundation according to the local safety measures against typhoons, wind gusts, and earthquakes to prevent the unit from being damaged, toppling over, and falling.
For BC controller, it is recommended to unit to be installed in places such as ceilings of corridor, restrooms and plant rooms.

» The total capacity of the connected indoor units can be greater than the capacity of the outdoor unit. However, when the connected indoor units operate simultaneously, each unit's capacity may become Smaller than the rated capacity.

» When the unit is started up for the first time within 12 hours after power on or after power failure, it performs initial startup operation (capacity control operation) to prevent damage to the compressor. The initial startup operation requires 90 minutes maximum to complete, depending on the operation load.

1-5. Relevant Equipment

» Use an earth leakage breaker (ELCB) with medium sensitivity, and an activation speed of 0.1 second or less.

» Consult your local distributor or a qualified technician when installing an earth leakage breaker.

» If the unit is inverter type, select an earth leakage breaker for handling high harmonic waves and surges.

» Leakage current is generated not only through the air conditioning unit but also through the power wires.

» This air conditioning unit has a built-in microcomputer. Take the noise effects into consideration when deciding the installation location. Especially in a place where antenna or electronic device are installed, it is recommended that the air conditioning unit be installed away from them. Therefore, the leakage current of the main power supply is greater than the total leakage current of each unit. Take into consideration the capacity of the earth leakage breaker or leakage alarm when installing one at the main power supply. To measure the leakage current simply on site, use a measurement tool equipped with a filter, and clamp all the four power wires together. The leakage current measured on the ground wire may not accurate because the leakage current from other systems may be included to the measurement value.

» If a large current flows due to the product malfunctions or faulty wiring, both the earth leakage breaker on the product side and the upstream overcurrent breaker may trip almost at the same time. Separate the power system or coordinate all the breakers depending on the system's priority level.

1-6. Unit Installation

» Your local distributor or a qualified technician must read the Installation Manual that is provided with each unit carefully before performing installation work.

» Consult your local distributor or a qualified technician when installing the unit. Improper installation by an unqualified person may result in water leakage, electric shock, or fire.

» Ensure there is enough space around each unit.

1-7. Optional Accessories

» Only use accessories recommended by Mitsubishi Electric. Consult your local distributor or a qualified technician when installing them. Improper installation by an unqualified person may result in water leakage, electric leakage, system breakdown, or fire.

» Some optional accessories may not be compatible with the air conditioning unit to be Used or may not be suitable for the installation conditions. Check the compatibility when considering any accessories.

» Note that some optional accessories may affect the air conditioner's external form, appearance, weight, operating sound, and other characteristics.

1-8. Operation/Maintenance

» Read the Instruction Book that is provided with each unit carefully prior to use.

» Maintenance or cleaning of each unit may be risky and require expertise. Read the Instruction Book to ensure safety. Consult your local distributor or a qualified technician when special expertise is required such as when the indoor unit needs to be cleaned.

2. Precautions for Indoor Unit

2-1. Operating Environment

» The refrigerant (R410A) Used for the air conditioner is non-toxic and non-flammable. However, if the refrigerant leaks, the oxygen level may drop to harmful levels. If the air conditioner is installed in a small room, measures must be taken to prevent the refrigerant concentration from exceeding the safety limit even if the refrigerant should leak.

» If the units operate in the cooling mode at the humidity above 80%, condensation may collect and drip from the indoor units.

2-2. Unit Characteristics

» The return air temperature display on the remote controller may differ from the ones on the other thermometers.

» The clock on the remote controller may be displayed with a time lag of approximately one minute every month.

» The temperature using a built-in temperature sensor on the remote controller may differ from the actual room temperature due to the effect of the wall temperature.

» Use a built-in thermostat on the remote controller or a separately-sold thermostat when indoor units installed on or in the ceiling operate the automatic cooling/heating switchover.

» The room temperature may rise drastically due to Thermo OFF in the places where the air conditioning load is large such as computer rooms.

» Be sure to use a regular filter. If an irregular filter is installed, the unit may not operate properly, and the operation noise may increase.

» The room temperature may rise over the preset temperature in the environment where the heating air conditioning load is small.

2-3. Unit Installation

» For simultaneous cooling/heating operation type air conditioners (R2, WR2 series), the G-type BC controller cannot be connected to the 45kW outdoor unit model or above, and the G- and GA-type BC controllers cannot be connected to the 80kW model or above. The GB- and HB-type BC controllers (sub) cannot be connected to the outdoor unit directly, and be sure to use them with GA- and HA-type BC controllers (main).

» The insulation for low Pressure Pipes between the BC controller and outdoor unit should be at least 20 mm thick. If the unit is installed on the top floor or in a high-temperature, high-humidity environment, thicker insulation may be necessary.

» Do not have any branching points on the downstream of the refrigerant pipe header.

» When a field-supplied external thermistor is installed or when a device for the demand control is Used, abnormal stop of the unit or damage of the electromagnetic contactor may occur. Consult your local distributor for details.

» When indoor units operate a fresh air intake, install a filter in the duct (field-supplied) to remove the dust from the air.

» The 4-way or 2-way Airflow Ceiling Cassette Type units that have an outside air inlet can be connected to the duct, but need a booster fan to be installed at site. Refer to the chapter "Indoor Unit" in the Data Book for the available range for fresh air intake volume.

» Operating fresh air intake on the indoor unit may increase the Sound Pressure Level.

3. Precautions for Fresh Air Intake Type Indoor Unit

3-1. Usage

» This unit mainly handles the outside air load, and is not designed to maintain the room temperature. Install other air conditioners for handling the air conditioning load in the room.

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3-2. Unit Characteristics

» This unit cannot perform the drying operation. The unit will continue the fan operation and blow fresh air (air that is not air-conditioned) when the Heating Thermo-OFF or Cooling Thermo-OFF mode is selected.

» The fan may stop tentatively when the unit is connected to the simultaneous cooling/heating operation type outdoor unit (R2, WR2 series) or during the defrost cycle.

» This unit switches the Thermo ON or OFF depending on the room temperature. The outside air is directly supplied into the room during Thermo OFF. Take caution of the cold supply air due to low outside air temperature and of condensation in the room due to high humidity of the outside air.

» Outside air temperature ranges for the operation must be as follows: Cooling: 21°CD.B./15.5°CW.B. ~ 43°CD.B./35°CW.B.
Heating: -10°CD.B.~ 20°CD.B
The unit is forced to operate Thermo OFF (fan operation) when the outside air temperature is as follows. Cooling: 21°CD.B or below; Heating: 20°CD.B or above.

» Either a remote controller (sold separately) or a remote sensor (sold separately) must be installed to monitor the room temperature.

» If only this unit is Used as an indoor unit, condensation may form from the supply air grill while the unit is operated in the cooling mode. This unit cannot operate dehumidifying.

» Use the unit in a way that the Air Flow Rate will not exceed the 110% of the rated airflow.

4. Precautions for Outdoor Unit/Heat Source Unit

4-1. Installation Environment

» Outdoor unit with salt-resistant specification is recommended to use in a place where it is subject to salt air.

» Even when the unit with salt-resistant specification is Used, it is not completely protected against corrosion. Be sure to follow the directions or precautions described in Instructions Book and Installation Manual for installation and maintenance. The salt-resistant specification is referred to the guidelines published by JRAIA (JRA9002).

» Install the unit in a place where the flow of discharge air is not obstructed. If not, the short-cycling of discharge air may occur.

» Provide proper drainage around the unit base, because the condensation may collect and drip from the outdoor units.
Provide water-proof protection to the floor when installing the units on the rooftop.

» In a region where snowfall is expected, install the unit so that the outlet faces away from the direction of the wind, and install a snow guard to protect the unit from snow. Install the unit on a base approximately 50 cm higher than the expected snowfall. Close the openings for pipes and wiring, because the ingress of water and small animals may cause equipment damage. If SUS snow guard is Used, refer to the Installation Manual that comes with the snow guard and take caution for the installation to avoid the risk of corrosion.

» When the unit is expected to operate continuously for a long period of time at outside air temperatures of below 0°C, take appropriate measures, such as the use of a unit base heater, to prevent icing on the unit base. (Not applicable to the PUMY series)

» Install the snow guard so that the outlet/inlet faces away from the direction of the wind.

» When the snow accumulates approximately 50 cm or more on the snow guard, remove the snow from the guard. Install a roof that is strong enough to withstand snow loads in a place where snow accumulates.

» Provide proper protection around the outdoor units in places such as schools to avoid the risk of injury.

» A cooling tower and heat source water circuit should be a closed circuit that water is not exposed to the atmosphere.
When a tank is installed to ensure that the circuit has enough water, minimize the contact with outside air so that the oxygen from being dissolved in the water should be 1 mg/L or less.

» Install a strainer (50 mesh or more recommended) on the water pipe inlet on the heat source unit.

» Interlock the heat source unit and water circuit pump.

» Note the followings to prevent the freeze bursting of pipe when the heat source unit is installed in a place where the ambient temperature can be 0°C or below.
  » Keep the water circulating to prevent it from freezing when the ambient temperature is 0°C or below.
  » Before a long period of non-use, be sure to purge the water out of the unit.

4-2. Circulating Water

» Follow the guidelines published by JRAIA (JRA-GL02-1994) to check the water quality of the water in the heat source unit regularly.

» A cooling tower and heat source water circuit should be a closed circuit that water is not exposed to the atmosphere. When a tank is installed to ensure that the circuit has enough water, minimize the contact with outside air so that the oxygen from being dissolved in the water should be 1 mg/L or less.

4-3. Unit Characteristics

» When the Thermo ON and OFF is frequently repeated on the indoor unit, the operation status of outdoor units may become unstable.

4-4. Relevant Equipment

» Provide grounding in accordance with the local regulations.

5. Precautions for Control-Related Items

5-1. Product Specification

» To introduce the MELANS system, a consultation with us is required in advance. Especially to introduce the electricity charge apportioning function or energy-save function, further detailed consultation is required. Consult your local distributor for details.

» Billing calculation for AE-200E, AE-50E, AG-150A, or the billing calculation unit is unique and based on our original method. (Backup operation is included.) It is not based on the metering method, and do not use it for official business purposes. It is not the method that the amount of electric power consumption (input) by air conditioner is calculated. Note that the electric power consumption by air conditioner is apportioned by using the ratio corresponding to the operation status (output) for each air conditioner (indoor unit) in this method.

» In the apportioned billing function for AE-200E, AE-50E and AG-150A, use separate watt-hour meters for A-control units, K-control units, and packaged air conditioner for City Multi air conditioners. It is recommended to use an individual watt-hour meter for the large-capacity indoor unit (with two or more addresses).

» When using the peak cut function on the AE-200E, AE-50E, AG-150A, note that the control is performed once every minute and it takes time to obtain the effect of the control. Take appropriate measures such as lowering the criterion value. Power consumption may exceed the limits if AE-200E, AE-50E, AG-150A, malfunctions or stops. Provide a back-up remedy as necessary.

» The controllers cannot operate while the indoor unit is OFF. (No error) Turn ON the power to the indoor unit when operating the controllers.

» When using the interlocked control function on the AE-200E, AE-50E, AG-150A, PAC-YG66DCA, or PAC- YG63MCA, do not use it for the control for the fire prevention or security. (This function should never be Used in the way that would put people's lives at risk.) Provide any methods or circuit that allow ON/OFF operation using an external switch in case of failure.

5-2. Installation Environment

» The surge protection for the transmission line may be required in areas where lightning strikes frequently occur.

» A receiver for a wireless remote controller may not work properly due to the effect of general lighting. Leave a space of at least 1 m between the general lighting and receiver.

» When the Auto-elevating panel is Used and the operation is made by using a wired remote controller, install the wired remote controller to the place where all air conditioners controlled (at least the bottom part of them) can be seen from the wired remote controller. If not, the descending panel may cause damage or injury, and be sure to use a wireless remote controller designed for use with elevating panel (sold separately).

» Install the wired remote controller (switch box) to the place where the following conditions are met.
  » Install the controller in a place where an average room temperature can be detected.
  » Install the controller in a place where no other wires are present around the temperature sensor. (If other wires are present, the remote controller cannot detect an accurate room temperature.)

» To prevent unauthorized access, always use a security device such as a VPN router when connecting AE-200E, AE-50E or AG-150A to the Internet.

Maintenance Equipment

MAINTENANCE CYCLE

[Note that maintenance cycle does not mean guarantee period.]

The following tables are applicable when using equipment under the conditions below.

» Normal use without frequent START/STOPs (The number of START/STOPs is assumed to be less than 6 times per hour in normal use.)

» Operating hours are assumed to be 10 hours per day/2500 hours per year.

If the following conditions are met, the equipment may not be used, or the "maintenance cycle" and "replacement intervals" may be shortened.

» When equipment is used in an environment where the temperature and humidity are high or change dramatically

» When equipment is used in an environment where the power supply fluctuations (the distortion of voltage, frequency, and waveform) are large (Only within the allowable range)

» When equipment is used in an environment where the unit may receive vibration or mechanical shock

» When equipment is used in an environment where dust, salt, toxic gases such as sulfur dioxide and hydrogen sulfide, and oil mist are present

» When equipment starts/stops frequently and operates for a long time (24-hour air conditioning operation)

Table 1. Maintenance Cycle

Major Components	Checking Cycle	Maintenance Cycle
Compressor	1 year	20,000 hours
Motor (Fan, Louver, Drain Pipe)		20,000 hours
Bearing		15, 000 hours
Electric board		25,000 hours
Heat exchanger		5 years

Major Components	Checking Cycle	Maintenance Cycle
Expansion Valve	1 year	20,000 hours
Valve (Solenoid valve, four-way valve)		20,000 hours
Sensor (Thermistor, Pressure Sensor)		5 years
Drain Pan		8 years

Note 1: This table shows major components. Refer to the maintenance contract for details.

Note 2: This maintenance cycle shows a period in which products are expected to require no maintenance. Use this cycle for planning maintenance (budgeting the maintenance expense etc.) Checking/ Maintenance cycle may be shorter than the one on this table depending on the contents of maintenance check contract.

Sudden unpredictable accident may occur even if check-up is performed.

REPLACEMENT CYCLE OF CONSUMABLE COMPONENTS

[Note that maintenance cycle does not mean guarantee period.]

Table 2. Replacement Cycle

Major Components	Checking Cycle	Maintenance Cycle
Long-Life Filter	1 year	5 years
High-Performance Filter		1 year
Fan Belt		5,000 hours
Smoothing Capacitor		10 years
Fuse		10 years
Crank Case Heater		8 years

Note 1: This table shows major components. Refer to the maintenance contract for details.

Note 2: This replacement cycle shows a period in which products are expected to require no replacements. Use this cycle for planning maintenance (budgeting expenses for replacing equipment etc.).

NOTES

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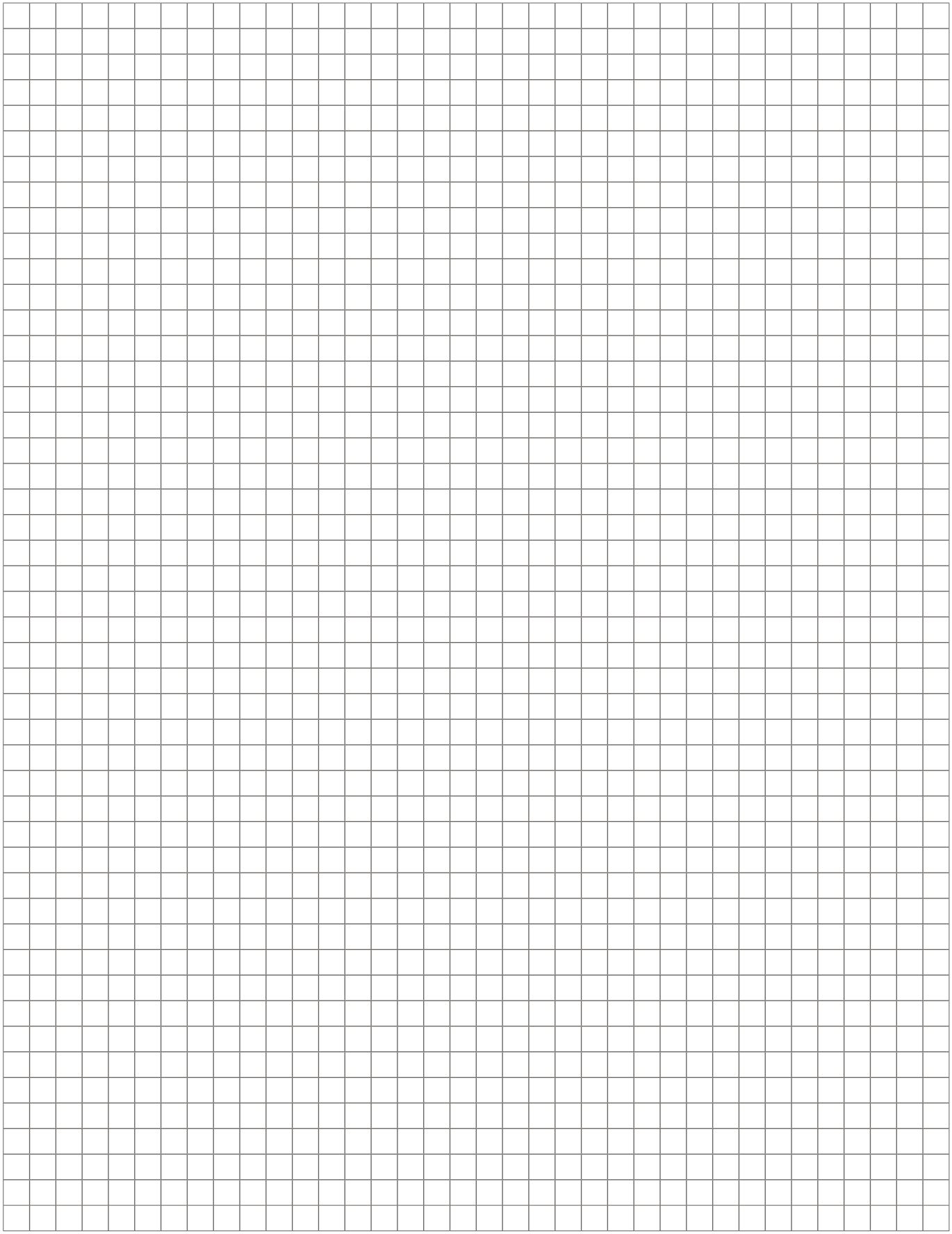

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Products in this brochure contain refrigerant R410A. Please refer to the specifications before installation and servicing of these products. The purchaser must ensure that the person and/or companies are suitably licensed and experienced are permitted to install, service and repair the air conditioners. Suitable access for warranty and service is required. Specifications, designs and other content appearing in this brochure is current at the time of printing, and is subject to change without notice. Images are representational for illustration purposes.

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