

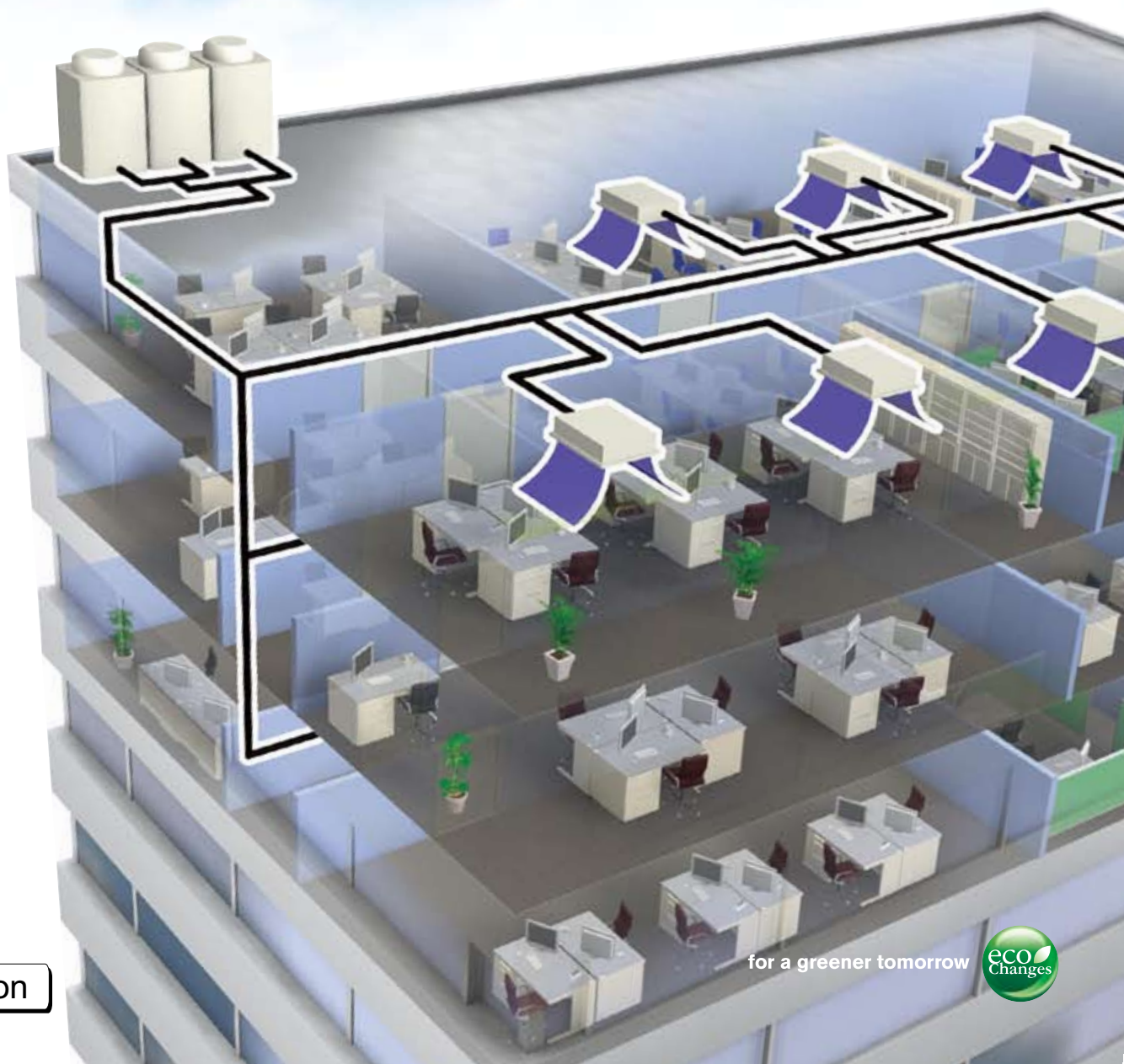
Solution to meet your renewal demands

REPLACE MULTI

Reuse

Replace

Renewal



Global efforts to combat global warming

Mitsubishi Electric, as a world leading manufacturer, we acknowledge that in recent years, with the acceleration of global warming, the need to be more energy conscious and environmentally responsible has become increasingly important to us all. To prevent global warming and to reduce CO₂ emissions, several regulations restricting ozone-depleting refrigerants, such as the Montreal Protocol on Substances that Deplete the Ozone Layer, have been established.

R22, which has been widely used as a refrigerant for air conditioners, is one of the phase-out target refrigerants, and is to be phased out by the year 2015. There are also several regulations to encourage replacement of old air-conditioning systems to the latest energy saving systems to reduce CO₂ emissions.

Economic and managerial problems

Replacement of the existing old air-conditioning system is one of the effective methods to prevent global warming. However, replacement of the air-conditioning system requires great financial investment, and few office buildings or hotels can afford a complete shut down while replacement work of air-conditioning system is carried out. Owners of R22 system will need to make a decision to replace their air-conditioning system with our REPLACE MULTI.

➡ REPLACE MULTI

All these concerns are taken into consideration with Mitsubishi Electric's new REPLACE MULTI system. Since 2001 in Japanese market and from 2004 in overseas market, Mitsubishi Electric has taken a lead in introducing the replacement technology. As a solution to meet and exceed demands placed on today's market, we are proud to introduce our advanced REPLACE MULTI system.

REPLACE MULTI is designed to simply replace the existing R22 / R407C VRF equipment. With a unique technology, reusing of existing refrigerant pipework on R22 VRF system, and charging correct volume of new refrigerant is easily possible without any use of special kit.

Introduction to REPLACE MULTI series

Why REPLACE MULTI?

Three main features of REPLACE MULTI

Technology

Mineral oil collection flow

Other features

Case study

Outdoor unit lineup

Indoor unit lineup

Specification

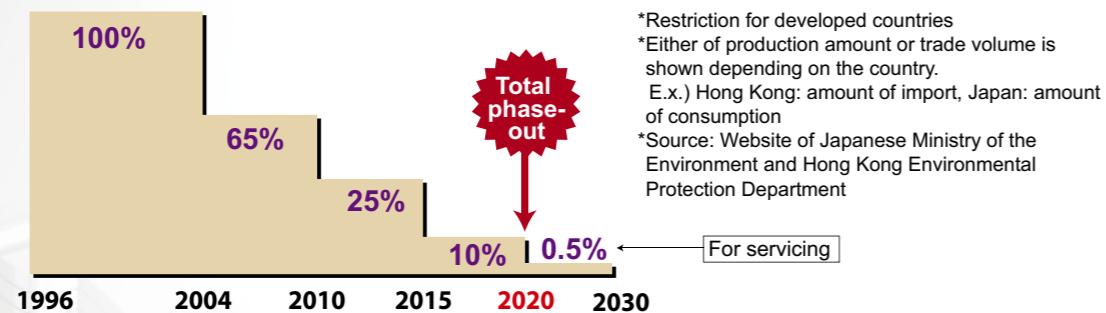
● Why REPLACE MULTI? – a solution to the environmental concerns and renewal demands –

R22 phase out movement

The ozone layer surrounding the earth protects the earth from harmful ultraviolet radiation from the sun. The Montreal Protocol was established in 1989, which aims at protecting the ozone layer. It requires to phase out production, consumption, and trade of ozone-depleting substances. R22 refrigerant, which has been widely used as a refrigerant for air conditioners, is one of the phase-out target substances, and is to be phased out according to the timetable shown below.

HCFC (such as R22) phase-out timetable

*Ratio of production amount and trade volume to that in 1989



According to the Montreal Protocol, HCFC refrigerants including R22 will be phased out by the year 2020, which means replacing HCFC refrigerant system with HFC refrigerant system (such as R410A system) is essential. At the same time, overcoming challenges to renewal work, such as construction time and cost, is also essential. Mitsubishi Electric's REPLACE MULTI is the perfect solution to all these environmental concerns and renewal demands.

R22 phase out regulation in Europe

EC legislation has set a more stringent phase-out target year for EC nations of 2015.



● Three main features of REPLACE MULTI

Mitsubishi Electric's REPLACE MULTI, with three outstanding features to Reuse, Replace, and Renewal, presents a new solution to the market when replacing air conditioners.

Instead of completely replacing all the units and piping in the system, the launch of Mitsubishi Electric's REPLACE MULTI enables a new option to reuse the existing components in a system.

This relieves owners from constraints they had to consider when replacement of air conditioners takes place; for example, new piping, tearing walls, and business closing during construction.

R reuse

Reusing previously installed equipments
-less resource and waste
-less cost

R replace

Short and quick replacement
-shorter time
-automatically

R renewal

Renew systems for greater performance
-high energy efficiency
-wider range and possibility

R reuse equipment

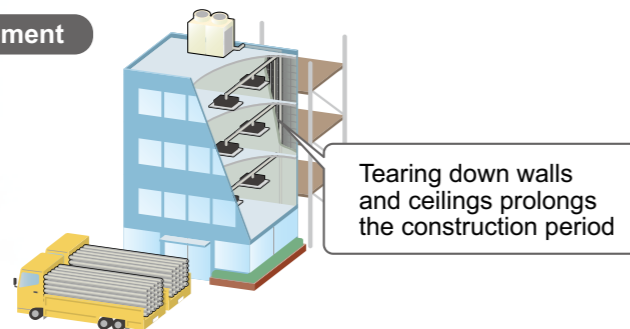
REPLACE MULTI is equipped with a special technology which allows replacement of R22/R407C VRF system to a R410A system reusing the existing equipment. Not only pipes, but also power supply, wiring, breaker, and wiring for controller are not wasted. There is even a possibility to replace other manufacturers' VRF products depending on installation conditions.

✓... Reusable ✗... Not Reusable

	Refrigerant pipes	Power supply and wiring	Breaker	Wiring for controller	Indoor Unit	Outdoor Unit
Reuseability	✓	✓	✓	✓	✓*	✗

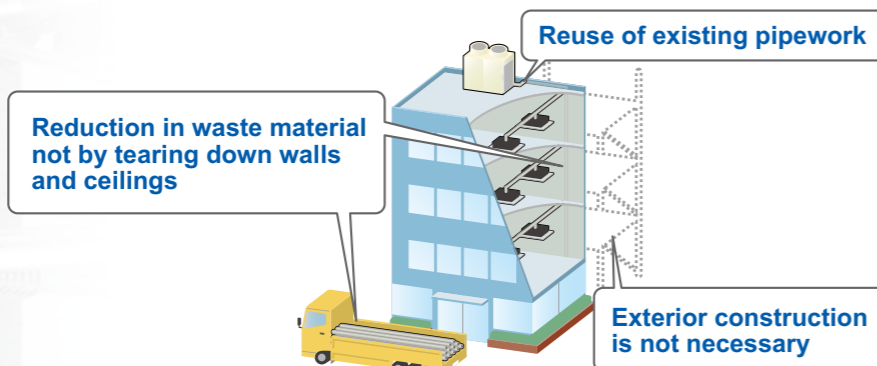
NOTE : Reusable items depend on system condition and existing infrastructure.
 *For R2 series, it is necessary to replace the BC controller.

Total system replacement



Keeping the effect on business hours to a minimum

Component replacement with REPLACE MULTI



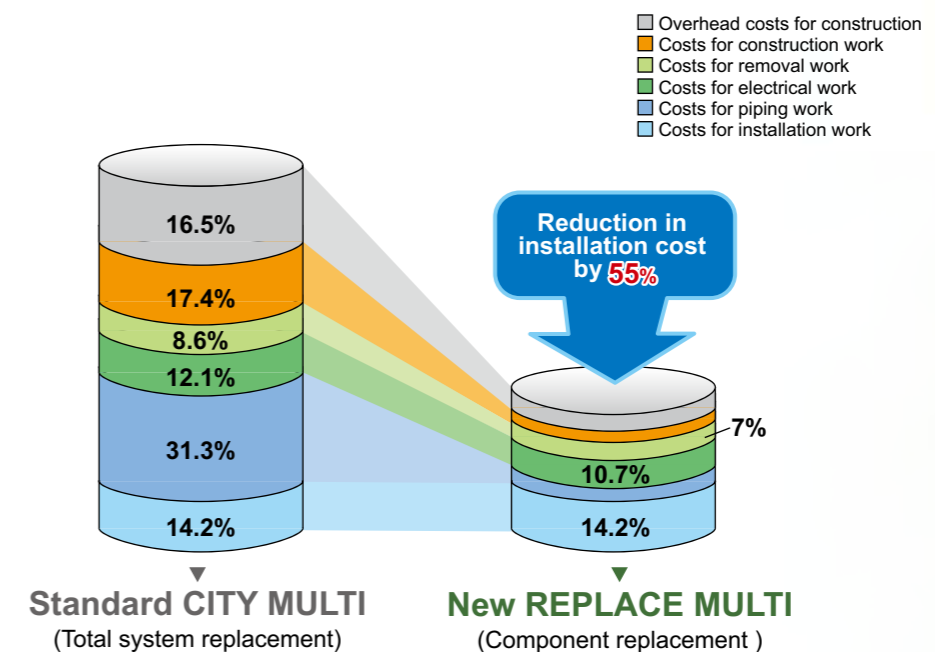
Cost

Low renewal cost (estimation)

Reduction in waste and time also results in minimized construction work cost by approximately **55%** compared to the conventional total system replacement. (Estimated based on installation in Japan)

The major cutback achieved here is the pipe work costs by reusing existing piping which generally involves demolitions of exterior and interior walls, and rooftops.

Moreover, these feature add up to not only less labor, materials, lower operating costs, but also reduce costs for waste disposal.



*Estimation based on installation in Japan.

R

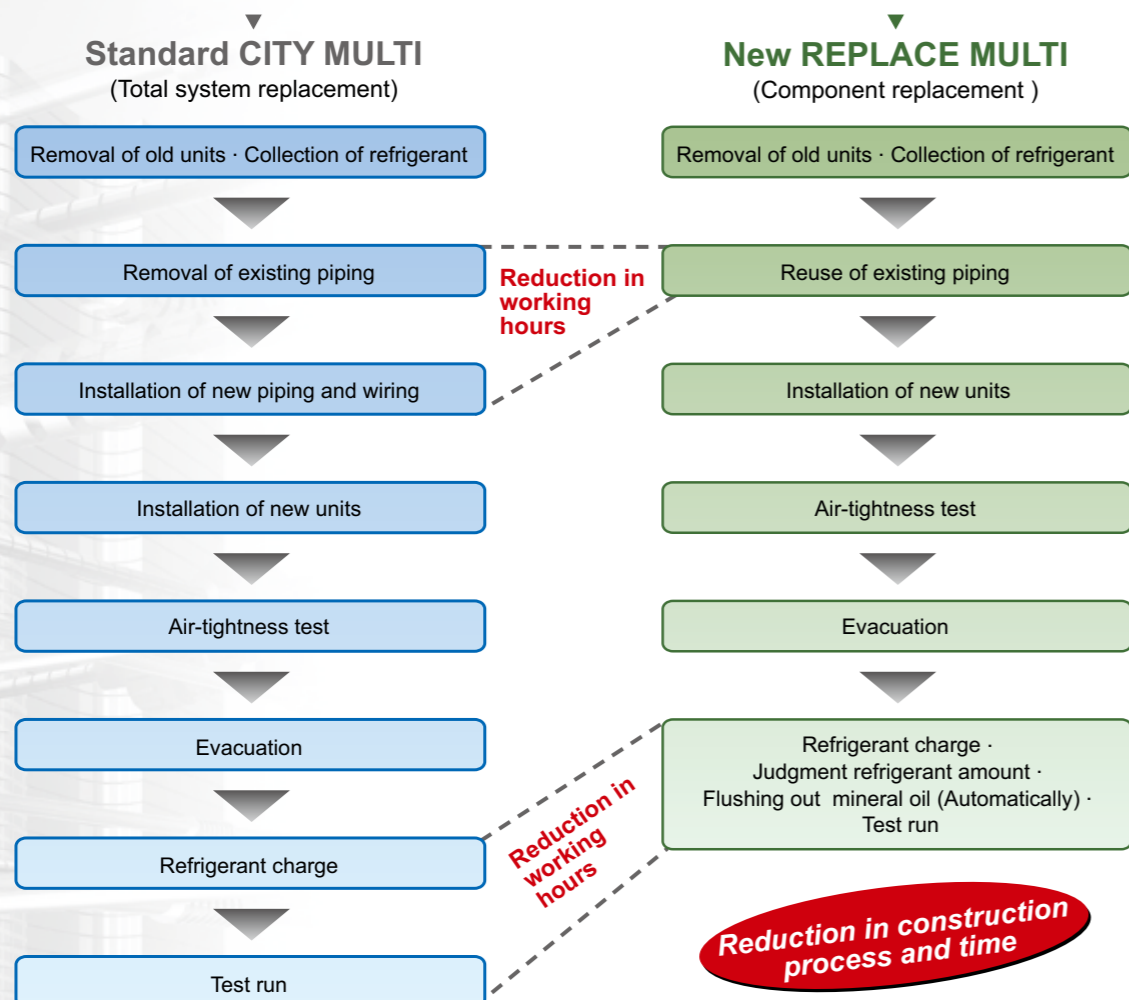
replace>
with smooth installation

Time

Short and quick construction process and time

Compared to the installation process and time to install a complete new system, REPLACE MULTI offers shorter and quicker installation.

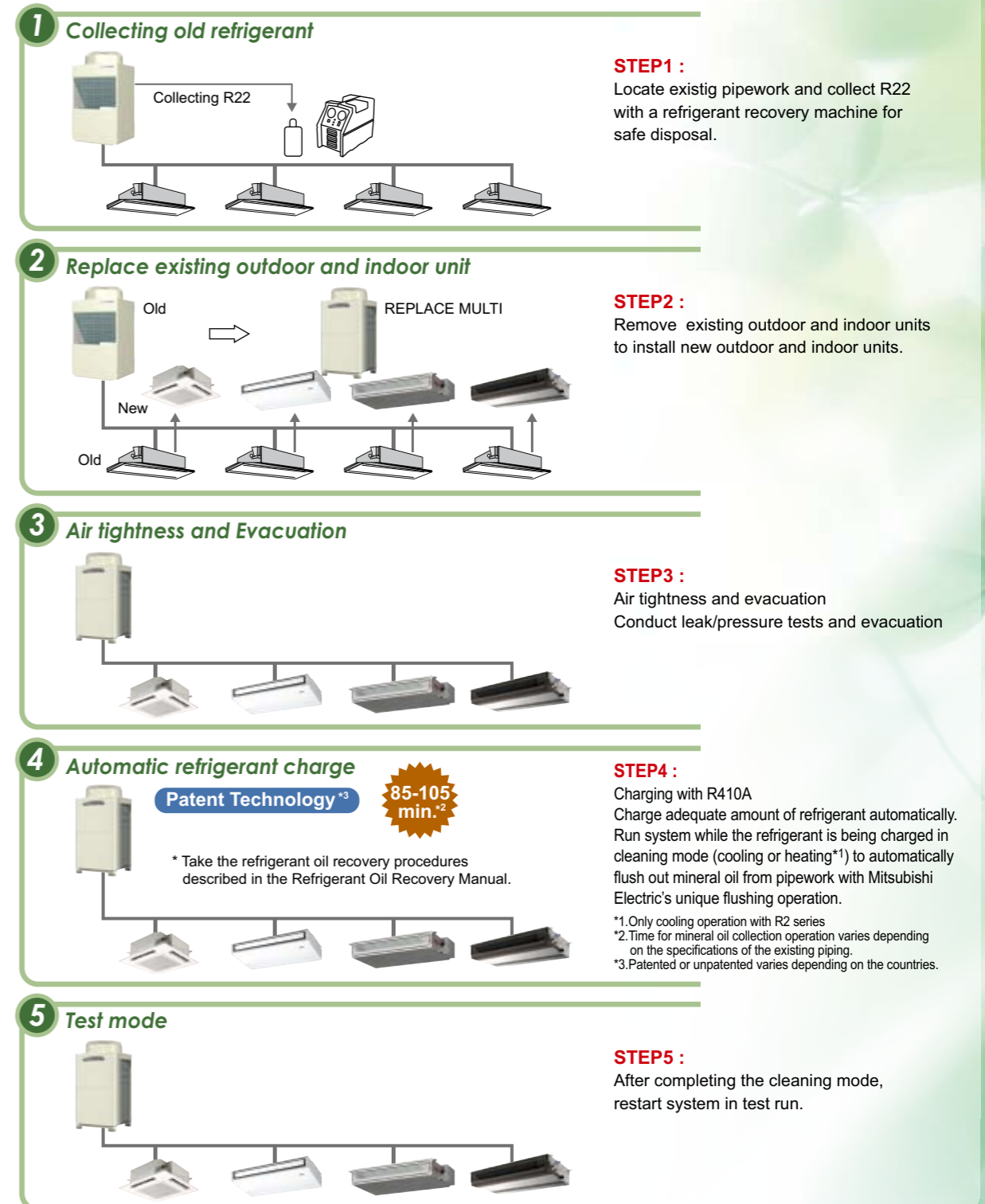
The key cause of this is because with REPLACE MULTI, without any use of special kit, existing piping can be reused and works at rooftop or walls for new piping are not required. This results in reduced installation time and system downtime which is an attractive factor to minimize the effect on business working hours.



5 steps to REPLACE MULTI

Installing REPLACE MULTI can be simply done in 5 steps.

*Installation steps if the length or diameter of the refrigerant pipe is unknown are shown below.



Automatic refrigerant charge

Amount of refrigerant to be charged on site is normally calculated according to the refrigerant piping diameter and the length. This means it is difficult to calculate the accurate amount of additional refrigerant when the existing piping is reused because the refrigerant piping diameter and the length of the old system is sometimes not clear.

With Replace Multi, the adequate amount of refrigerant is automatically determined and charged by detecting pressure, which has achieved shorter installation process and time.

Case study of replacement in short period of time

9 days

Application: **Showroom**
Country: **Japan**
Work: **Year 2004**
Installation: **Outdoor unit x 3, Indoor unit x 15**

2 days

Application: **Nursing and Healthcare Facility for the Elderly**
Country: **Japan**
Work: **Year 2002**
Installation: **Outdoor unit x 1, Indoor unit x 4**

24 days

(54 days in the case of total system replacement)

Application: **Office building**
Country: **Japan**
Work: **Year 2002**
Installation: **Outdoor unit x 16, Indoor unit x 32**

1 week (Golden week)

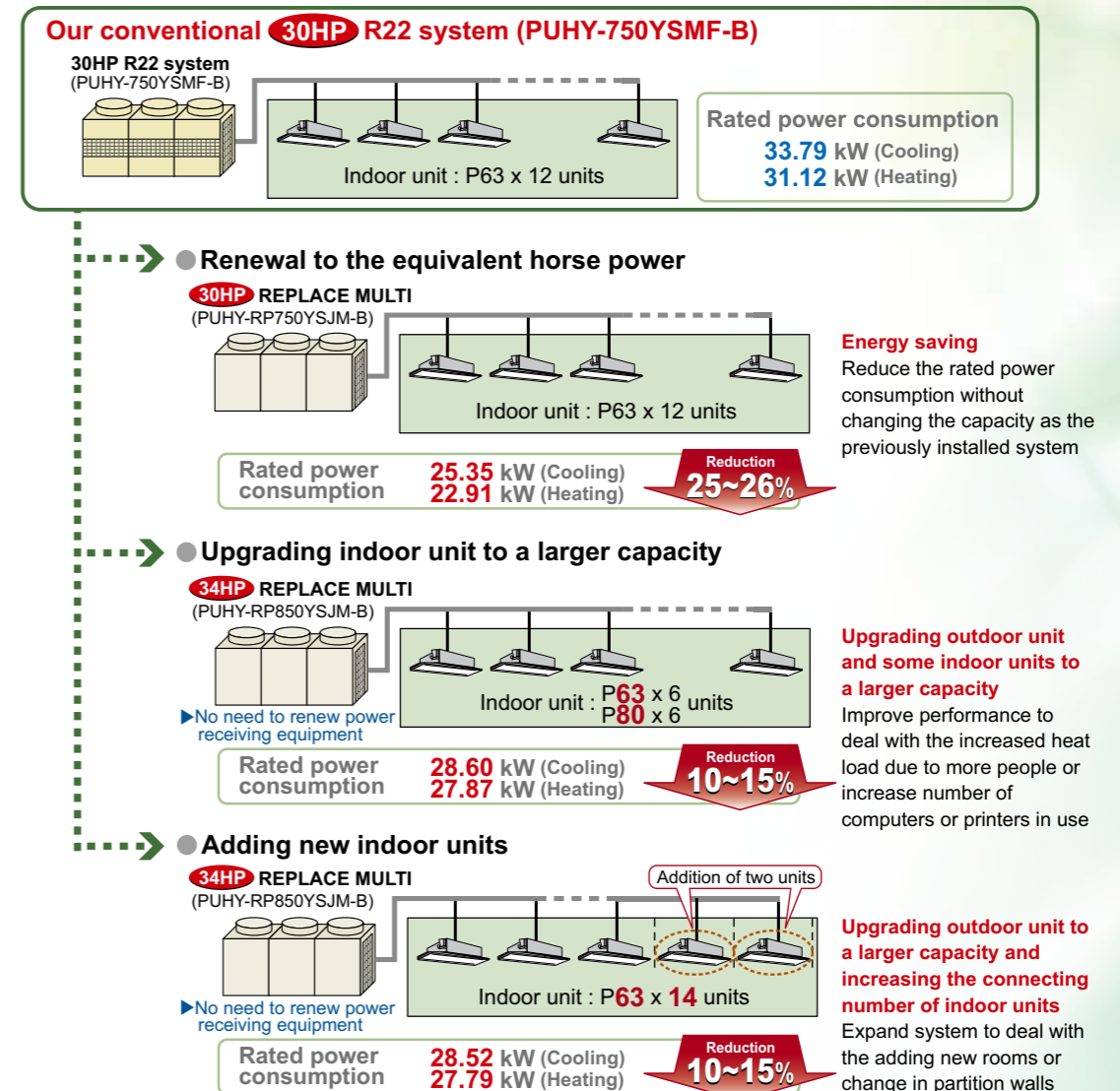
Application: **College**
Country: **Japan**
Work: **Year 2003**
Installation: **Outdoor unit x 18, Indoor unit x 39**

*In Japan, we have a one-week holiday in May called "Golden Week".

Replacement example

REPLACE MULTI has an extensive lineup and offer higher performance that can be adapted to any demand and requirements in a building. Whether its performance, expansion of the system, or energy efficiency that needs to be considered, REPLACE MULTI can meet all these demands. It can provide comfortable cooling and heating all year around with a reduction in power consumption compared to a R22 system 10 years ago.

Example (30HP, 50Hz)

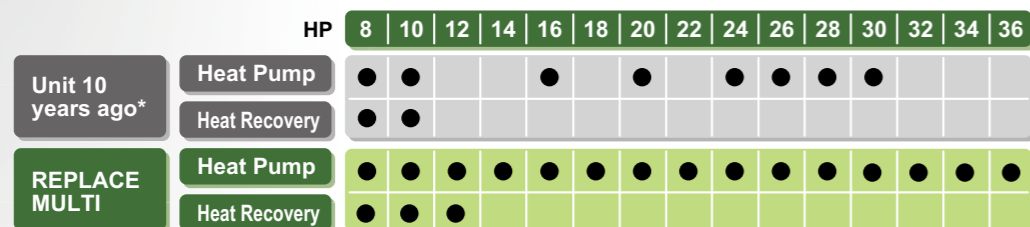


Renewal →

to greater performance

Lineup comparison

REPLACE MULTI lineup varies from 8HP to 36HP in Heat Pump series, and 8HP to 12HP in Heat Recovery series. The lineup offers flexibility to adapt to a broader range of applications.



*R22 system PUHY-Y(S)MF-B and PURY-Y(S)MF-B model

High Efficiency

By installing energy efficient REPLACE MULTI, it is possible to benefit from 40% to 60%* greater COP (Coefficient of Performance) compared to the R22 system 10 years ago.

*Only for 8-10 HP

Comparison of COP in cooling/heating average (COP for outdoor unit only, not for the whole system)

	Heat Pump		Heat Recovery	
	8 HP	10 HP	8 HP	10 HP
Unit 10 years ago*	2.86	2.83	2.80	2.78
REPLACE MULTI	4.16	4.01	4.53	4.23
Comparison	145%	142%	163%	153%

*R22 system PUHY-YMF-B and PURY-Y(S)MF-B model

Low sound pressure level

REPLACE MULTI managed to achieve not only higher performance but also lower sound pressure levels which is an important advantage compared with the R22 systems 10 years ago.

Comparison of sound pressure level

	Heat Pump		Heat Recovery	
	8 HP	10 HP	8 HP	10 HP
Unit 10 years ago*	57	58	60	61
REPLACE MULTI	56	57	56	57

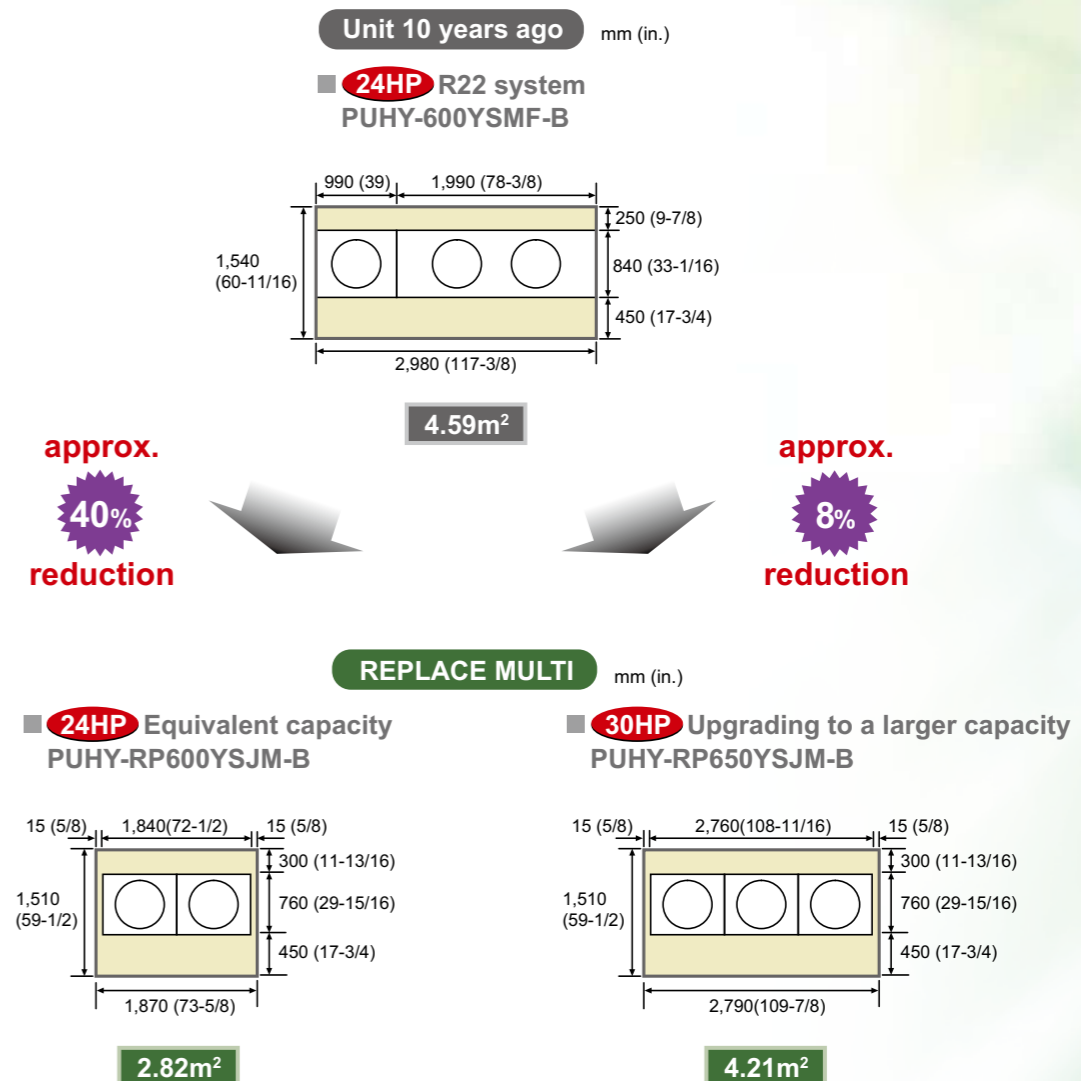
*R22 system PUHY-YMF-B and PURY-Y(S)MF-B model

Space

Small installation space

Outdoor unit installation space is reduced by approximately **40%*** compared to the space required with R22 unit 10 years ago. This is possible both when installing a unit with equivalent capacity or even when upgrading units to a larger capacity.

*When the existing unit and REPLACE MULTI are both 24HP



<The unit weight is heavier by approx. 10%.>

● Technology

Patent Technology
*Patented or unpatented varies depending on the countries.

Mineral oil collection

At the core of the new innovative REPLACE MULTI technology to reuse existing piping is the mineral oil collection to clean out the minerals in previously installed pipe work.

Mineral oil collection with Mitsubishi Electric's unique flushing operation is carried out while the new refrigerant is being charged (if the length or diameter of the refrigerant pipe is unknown).

With this advance technology, the cleaning process is completed quickly, thoroughly and automatically to keep the air environment comfortable.

QUICK & AUTOMATIC --> Quick and automatic mineral oil collection with simple step

COMFORT -----> Comfort not interrupted during the process

Our technology on REPLACE MULTI and actual performance were proved, and we won the following two awards in Japan.



2007 Award of Japanese Institute of Invention and Innovation



2010 Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology

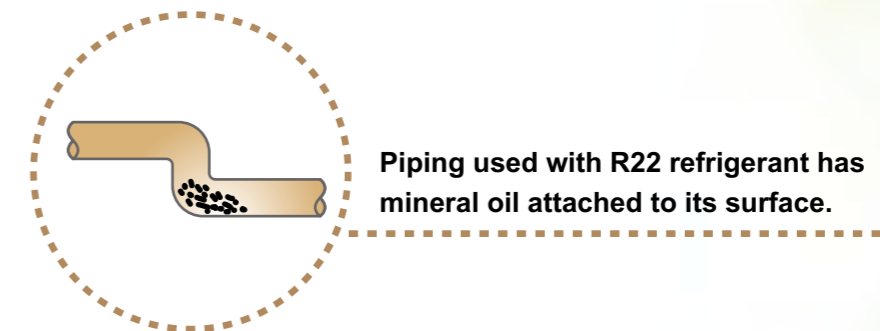
R22

R22 is a single hydrochlorofluorocarbon or HCFC compound known to have ozone depleting potential. R22 has been widely used in Air-Conditioning and Refrigeration equipment; however, virgin R22 refrigerant within the European countries are banned under European legislation driven by the Montreal Protocol.

R410A

R410A is a binary blend of hydrofluorocarbon or HFC compounds with ZERO ozone depleting potential. R410A is a more energy efficient refrigerant than R22 offering a greater heat transfer, which is one of the key elements to stop global warming.

Why mineral oil collection is required.



Piping used with R22 refrigerant has mineral oil attached to its surface.

Refrigerant piping used for R22 requires treatment before it is reused.

Mineral oil in the piping must be removed or a new piping needs to be installed.

If the mineral oil in new refrigerant R410A refrigerant and R22 refrigerant are mixed, there is a possibility of sludge due to deterioration. When this occurs, mineral oil may not dissolve in the R410A refrigerant and lead to problems in compressor and LEV clogging.

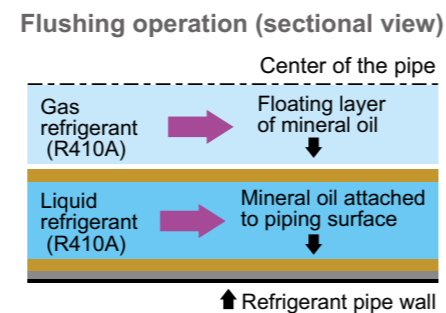
Quick & Automatic

Facts

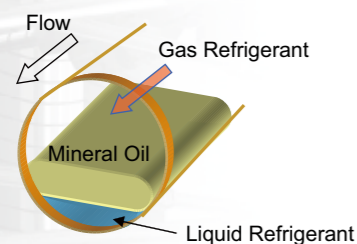
Quick and automatic mineral oil collection	Mineral oil can be collected in approximately 85~105 minutes. * The time varies depending on the pipe length and temperature conditions. Y series Max.120 minutes(cooling) / Max.140 minutes(heating) R2 series Max.180 minutes(cooling)
Condition of mineral oil collection (Outdoor temperature)	REPLACE MULTI can clean pipe in winter season. Y series -10°C ~ 45°C R2 series -5°C ~ 45°C
Density of R410A refrigerant	R410A refrigerant < R22 refrigerant R410A gas refrigerant < mineral oil < R410A liquid refrigerant
Speed	R410A liquid refrigerant < R410A gas refrigerant

Principle of mineral oil collection

Mineral oil in R22 system is not soluble to the R410 refrigerant. When R410A two phase refrigerant flows through a pipework, shear force among the mineral oil and R410A refrigerant pushes out and strip off from the mineral oil attached to the piping surface. The mineral oil floats on the surface between gas and liquid refrigerant.



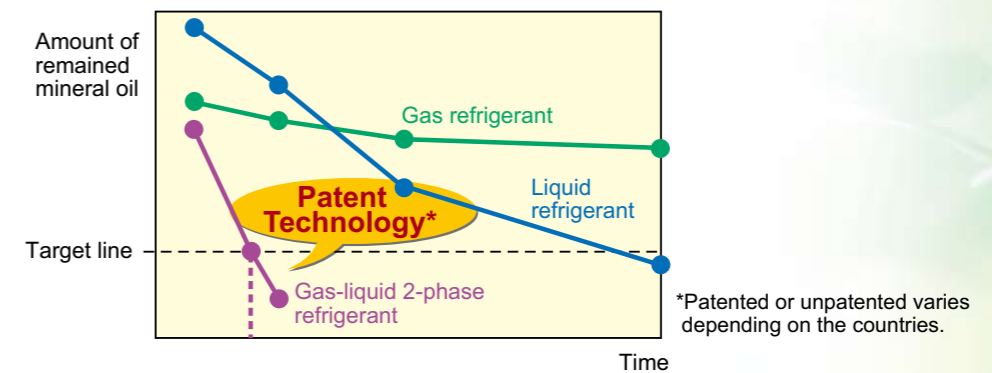
Flushing operation



If the refrigerant is 2 phase, liquid refrigerant speed is accelerated by the gas refrigerant flowing at high-speed in the center part of the pipeworks. With this acceleration, the mineral oil floating at the surface of liquid refrigerant also increases its speed and mineral oil collection can be finished smoothly and quickly in the existing refrigerant piping.

The amount of time required for mineral oil collection differs by the condition of refrigerant. The most effective and quickest result can be expected when 2 phase refrigerant is used.

Mineral oil collection speed comparison by refrigerant type



This mineral oil collection with 2 phase refrigerant is a **patented technology*** of Mitsubishi Electric and was awarded by the Japanese Institute and Innovation in 2007.

Automatic refrigerant charge

Amount of refrigerant required for the system is automatically determined and charged after the mineral oil collection is completed.

Comfort

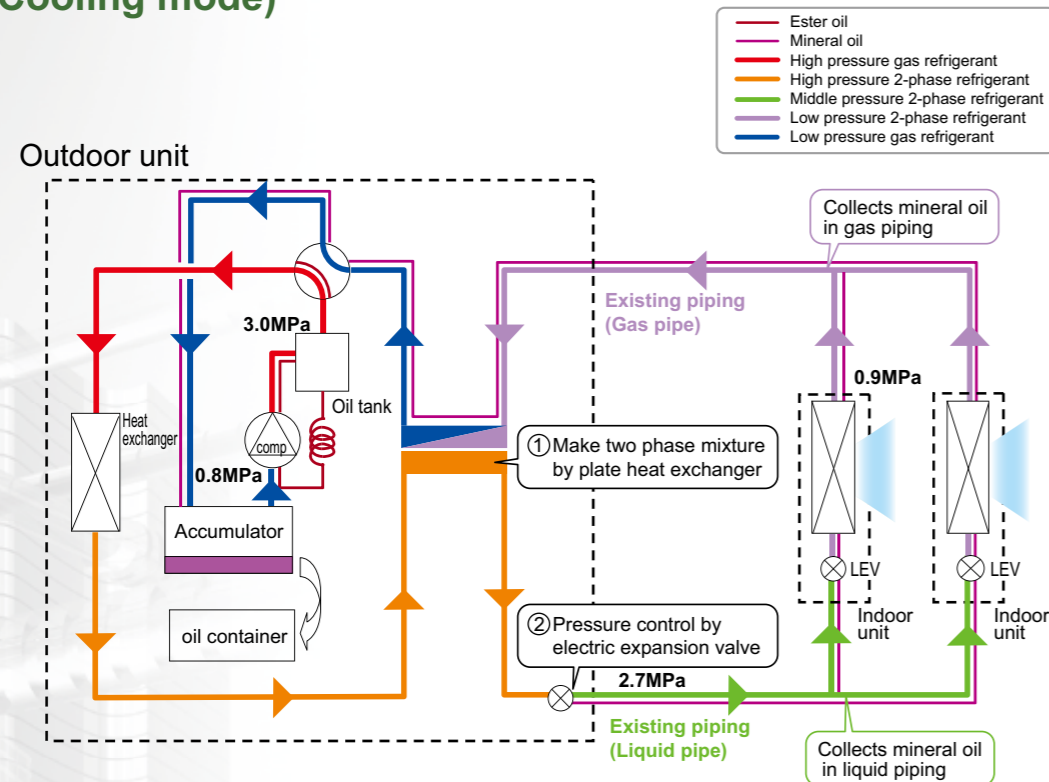
Automatically performed by just setting the dip switch, mineral oil collection can even be performed without turning off the air conditioners. Therefore, it can maintain a comfortable indoor air environment, cooling or heating operation with Y series outdoor unit, and cooling operation with R2 series.

*Only cooling operation with R2 series

● Mineral oil collection flow

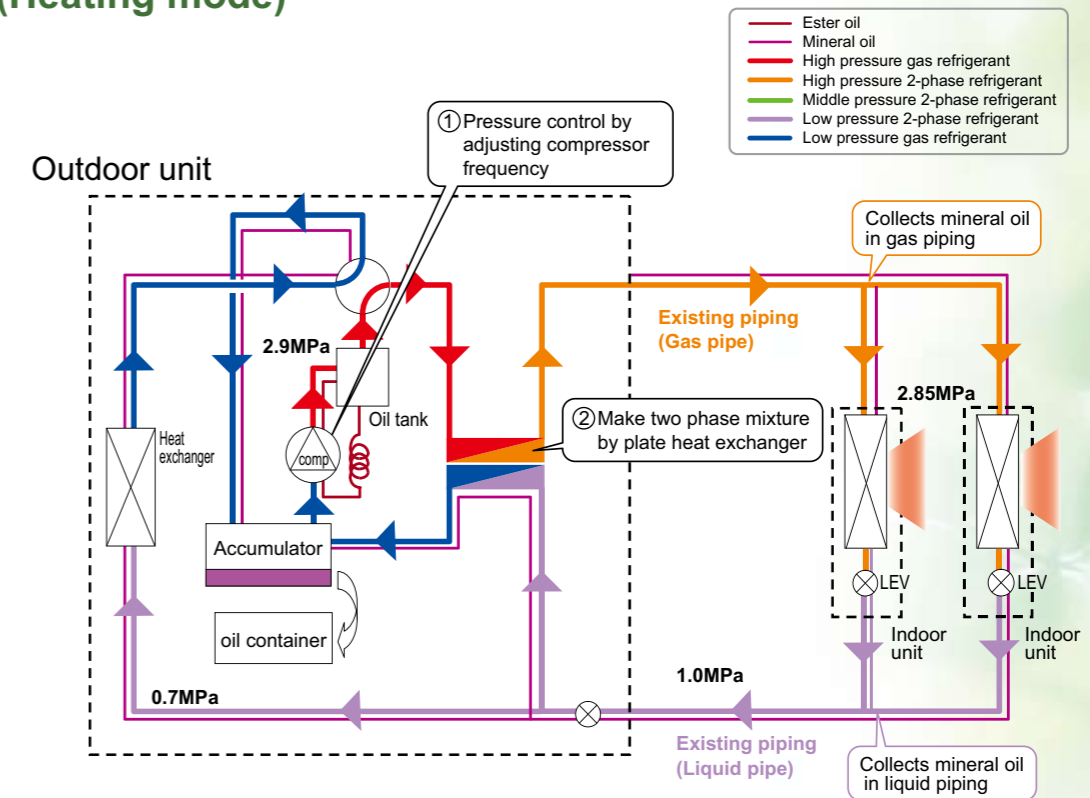
The following shows an overview of the mineral oil collection flow along with the refrigerant flow. During mineral oil collection, with Heat Pump outdoor unit, cooling or heating operation is available, and with Heat Recovery outdoor unit, only cooling operation is available. Mineral oil in the existing piping is collected along with the new refrigerant flow. At the end of each flow, the refrigerant returns to outdoor unit with mineral oil which is collected in an accumulator and automatically removed to an oil container in the outdoor unit.

Heat pump Y series outdoor unit (Cooling mode)



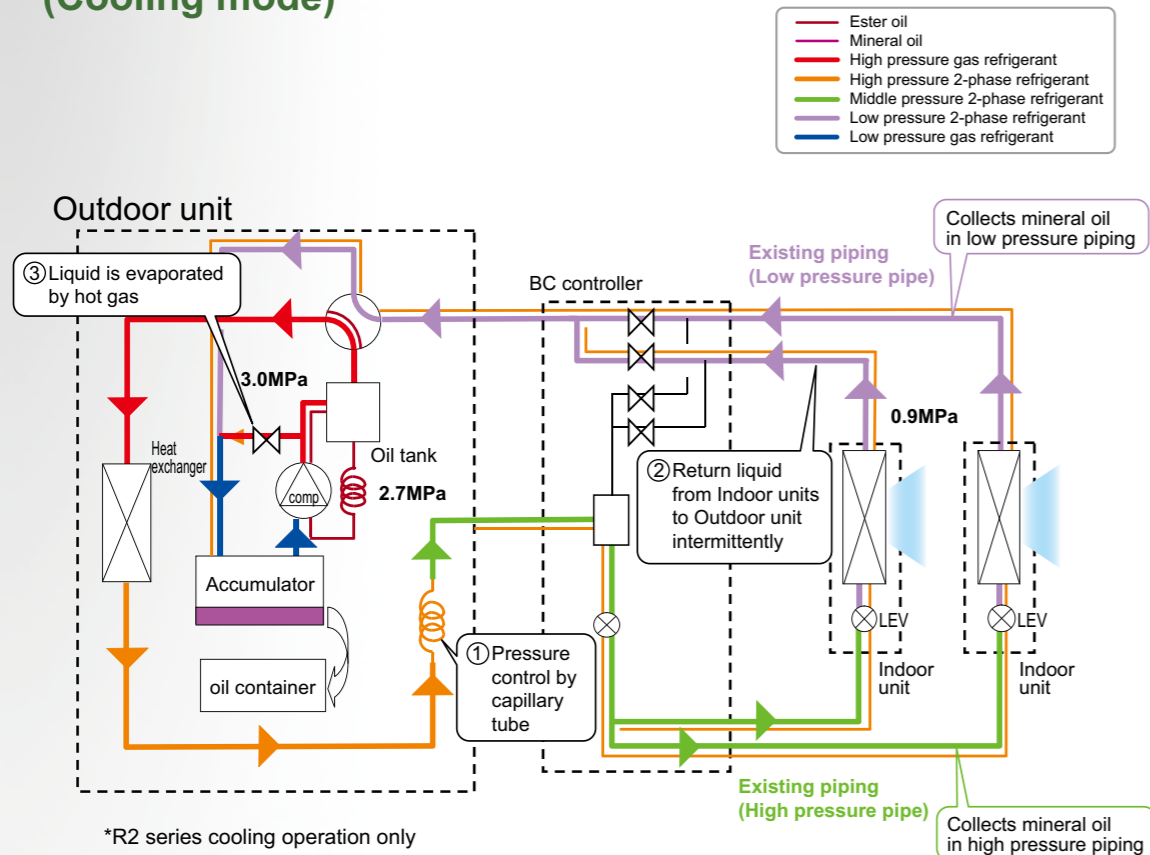
First, high pressure gas from the compressor is condensed to 2-phase refrigerant by plate heat exchanger① and reduces its pressure to middle pressure 2-phase refrigerant by a LEV②. It allows 2-phase refrigerant to flow in the existing R22/R407C piping. This 2-phase refrigerant (liquid refrigerant speed is accelerated by gas refrigerant) accelerates to peel off mineral oil in the existing liquid pipe. Then, middle pressure 2-phase refrigerant reduces its pressure to low pressure 2-phase refrigerant by an indoor unit LEV to collect mineral oil in the existing gas pipe. Lastly, the refrigerant returns to outdoor unit with mineral oil and heat exchanges to become low pressure gas refrigerant through heat exchanger. Mineral oil in gas refrigerant is separated at accumulator and only gas refrigerant returns to compressor. Mineral oil collected in accumulator is automatically removed to oil container in the outdoor unit.

Heat pump Y series outdoor unit (Heating mode)



First, high pressure gas refrigerant heat exchanges at the outdoor unit plate heat exchanger to become high pressure 2-phase refrigerant②. By regulating compressor frequency①, pressure of this 2-phase refrigerant is adjusted within the level that the EXISTING R22/R407C piping can stand (R22/R407C design pressure). This 2-phase refrigerant (liquid refrigerant speed is accelerated by gas refrigerant) accelerates to peel off mineral oil in the existing gas pipe. Then, refrigerant flowing out from indoor unit becomes low pressure 2-phase refrigerant by indoor unit LEV. This 2-phase refrigerant collects mineral oil in existing liquid pipe. Lastly, the refrigerant returns to outdoor unit with mineral oil distributing to plate heat exchanger and outdoor heat exchanger. Mineral oil in gas refrigerant is separated at accumulator and only gas refrigerant returns to compressor. Mineral oil collected in accumulator is automatically removed to oil container in the outdoor unit.

Heat pump R2 series outdoor unit (Cooling mode)



First, high pressure gas from the compressor is condensed to 2-phase refrigerant and reduces its pressure to middle pressure 2-phase refrigerant by an outdoor unit capillary tube ①. It allows middle pressure 2-phase refrigerant to flow in the existing R22/R407C piping via BC controller. Within certain operating pressure, this 2-phase refrigerant (liquid refrigerant speed is accelerated by gas refrigerant) accelerates to peel off the mineral oil in the existing high pressure pipe. Then, middle pressure 2-phase refrigerant reduces its pressure to low pressure 2-phase refrigerant by indoor unit LEV. The 2-phase refrigerant is not completely gasified by controlling LEV at indoor unit. 2-phase refrigerant flows out to collect mineral oil in the low pressure pipe ②. Lastly, the refrigerant returns to outdoor unit with mineral oil exchanges heat to become low pressure gas refrigerant and reaches accumulator after evaporated by hot gas ③. Mineral oil in gas refrigerant is separated at accumulator and only gas refrigerant returns to compressor. Mineral oil collected in accumulator is automatically removed to oil container in the outdoor unit.

Difference in method of oil/ chlorine collection depending on the outdoor unit type

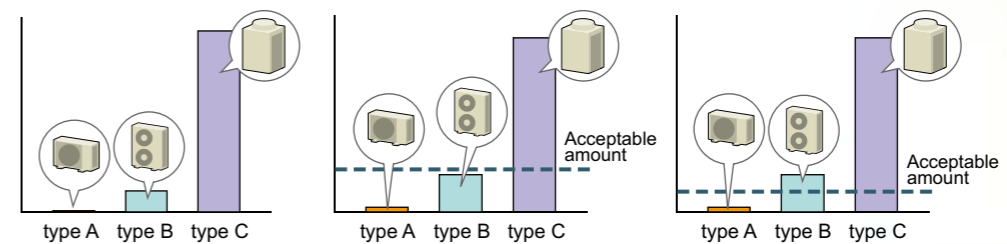
The surface area inside the refrigerant pipes of a large-capacity system is much larger than that of a small-capacity system, which means the amount of mineral oil and chlorine remained in the refrigerant pipes is large, and may lead to clogging of LEV or capillary tubes in indoor units.

With Mitsubishi Electric's unique mineral oil collection technology using 2 phase refrigerant, REPLACE MULTI is able to clean out mineral oil and chlorine remained in previously installed pipe work. After flushing operation is carried out, collected mineral oil and chlorine is completely sealed by closing a valve manually, which can prevent leakage.

Surface area inside refrigerant piping
(ratio to type A)

Remained mineral oil inside refrigerant piping
(ratio to refrigerant oil used in R410A equipment)

Remained chlorine inside refrigerant piping
(ratio to refrigerant oil used in R410A equipment)



For type A and type B, flushing operation is not necessary.

Alkyl benzene oil is used as refrigerant oil in the outdoor unit of P50 or less. The advantage of alkyl benzene oil is that even if it is mixed with chlorine, there is no possibility of sludge, which means that the existing piping can be reused without flushing operation. The disadvantage of alkyl benzene oil is its low fluidity. To make up for the disadvantage, a high efficient oil separator has been developed.

- Type A → 1 to 2HP unit mainly for residences
 - Type B → 2 to 10HP unit mainly for commercial use
 - Type C → 5 to 50 HP unit mainly for commercial use
- Individual operation of indoor units is possible, and REPLACE MULTI belongs to this category.

Pressure control in REPLACE MULTI

A decompression circuit is mounted on REPLACE MULTI outdoor unit, which has achieved that the pressure applied to the refrigerant piping with R410A REPLACE MULTI is the same as that applied with the existing R22 equipment.

*Allowable pressure of the existing piping must be 3.3MPa or higher. For R2 series, 3.6MPa or higher

Other features

Reliable and Long Product Life Cycle

Y series only



Backup operation

Backup Function

(16HP~36HP models)

The combined modular Y series design ensures an exceptionally high level of reliability by utilizing a new backup function, which can be easily operated from an indoor unit remote controller in the unlikely case of a malfunction.

Y series only



Alternate operation

Rotation Function

(16HP~36HP models)

Running outdoor units alternatively with 'Rotation Function', the system is able to ensure an optimum product life cycle for both of its component units.

30, 60Pa High Static Pressure

Both Y and R2 series correspond to high static pressure of 30Pa and 60Pa, ideal and flexible for wide range of application.

High heating performance at low ambient temperature

At default setting, high heating capacity at low ambient temperature is available.

Note: COP decreases at low ambient temperature.
Depending on customer requirement, COP preference mode is available by setting a DIP switch.

Cooling operation set temperature of 14°C

For applications requiring low setting temperature, cooling operation down to 14°C is available by selecting a dip switch on the unit.

Note: This function is available on PEFY/ PFFY series (excluding PEFY-P VMH-E-F, PFFY-P VKM) and PLFY-P VLMD.

Remote Controller

NEW

Wired MA remote controller PAR-30MAA

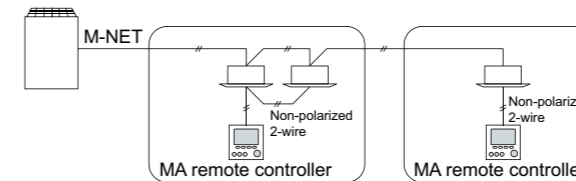


[Advanced Functions]

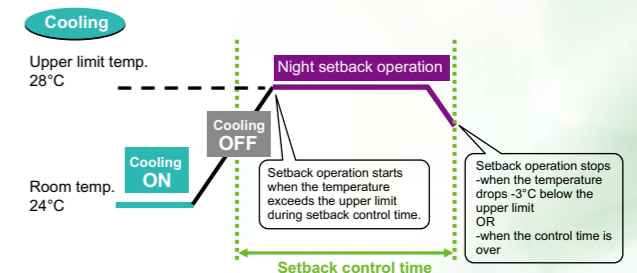
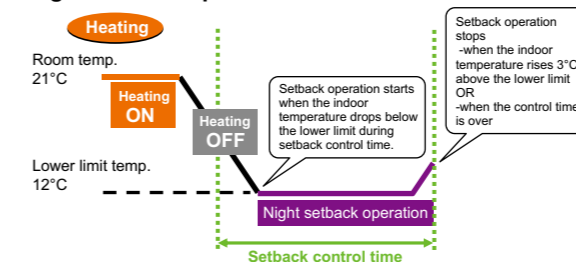
- Error information
- Timer
- Operation lock
- Temperature range restriction
- Language selection

- Backlit LCD (Liquid Crystal Display)
Large, easy-to-see display
Full-dot LCD display with large characters for easy viewing
Contrast also adjustable
- Auto Return
Function to return the set temperature to the originally preset temperature after certain amount of time
Auto return can be set respectively for cooling operation and for heating operation.
Time can be set to a value from 30 and 120 in 10-minute increments.
- Night Setback
To prevent indoor dew or excessive temperature rise, this control starts heating operation when the control object group is stopped and the room temperature drops below the preset lower limit temperature. Also, this control starts cooling operation when the control object group is stopped and the room temperature rises above the preset upper limit temperature.
- Dimensions: 120(W) x 120(H) x 19(D) mm

Example of system configuration



Night Setback Operation

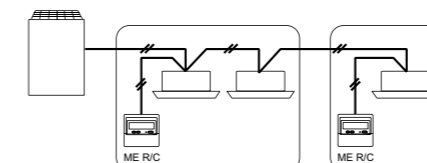


Wired ME remote controller PAR-F27MEA



- This remote control requires non-polar wiring to only one indoor unit.
- Group operation over multiple outdoor units is possible. Grouping can be changed without rewiring, which makes dividing rooms for tenants easier.
- Timer operation
*Daily timer operation of one ON/OFF setting everyday
*Auto-off timer : 0:30, 1:00, 1:30, 2:00...4:00
*The setting is kept in nonvolatile memory.
- Function lock
All functions or all functions except ON/OFF can be selected.
- Set temperature range limit
- Interlock setting and operation of LOSSNAY
- Dimensions: 130(W) x 120(H) x 19(D) mm
:5-1/8(W) x 4-23/32(H) x 3/4(D) in.

Example of system configuration



Case Study

Case Study
1

Hotel stayed open while renewal work was carried

Application: Hotel “Kimiidera Garden Hotel Hayashi”

Country: Japan **Work:** May 2006

Installation: Outdoor unit : 2 x Y series REPLACE MULTI 8HP unit
Indoor unit : 40 x Ceiling concealed unit
2 x Two way cassette unit etc.
(Total 74 indoor units)



The Challenge

Located at the foot of one of the historical temples (Kimiidera temple) in Wakayama, Japan, Kimiidera Garden Hotel Hayashi is a 120-year-old traditional hotel that can accommodate up to 350 people. The hotel has been seeking an advanced air conditioning system to offer the guests complete comfort; however, few hotels can afford a complete shut down while renewal construction is carried out. Kimiidera Garden Hotel Hayashi was not an exception. The hotel needed to stay open and air conditioners to continue operation throughout the whole renewal period.

The Solution

Other manufacturer's air conditioning systems had been previously installed. This was not a problem because Mitsubishi Electric's REPLACE MULTI can also replace other manufactures' system by utilizing the existing piping and keeping the distracting construction noise to a minimum. What's more, the hotel owner did not have to worry about business closing because operation of air conditioners is not interrupted throughout the construction work. The system was gradually renewed by refrigerant systems to keep the effect on the guests to a minimum, and it took three months in total to complete the work.

Case Study
2

Renewal work was completed only on shop holiday

Application: Car equipment store “James”

Country: Japan **Work:** April 2009

Installation: Outdoor unit: 8 x Y series REPLACE MULTI 10HP unit
Indoor unit: 3 x Ceiling suspended unit
1 x Ceiling concealed unit
17 x Ceiling cassette unit (Total 21 indoor units)



The Challenge

“James” is one of a famous car equipment store for automobile accessories and maintenance in Japan opening stores all around the country. In a store located in Hamamatsu City, Shizuoka prefecture, gas-driven air conditioning system had been installed for ten years. The system was old, required frequent maintenance and was giving trouble to the store owner. One summer, half of the system had a break down which greatly affected the customers and especially employees working in the car inspection pit where heat from maintenance tools and equipment is generated.


The Solution

To improve customer satisfaction and working environment without any affect on business itself, Mitsubishi Electric REPLACE MULTI system was chosen. Renewal work was carried out only on shop holiday, and replacements of outdoor units were quickly completed in a day not affecting the opening hours of the store.

With the replacement of air conditioning units, not only were customer satisfaction and working environment were improved, but maintenance cost has been reduced. In addition, to improve running costs, a centralized controller G-50A was newly installed to efficiently control the system and air filter cleaning is carried out once a month.

Outdoor unit lineup

Y series Y series PUHY-RP YJM-B(-BS)



Horse Power	8	10	12	14
Capacity	P200	P250	P300	P350
Combination	Single module			

Y series Y series PUHY-RP YSJM-B(-BS)




Horse Power	16	18	20	22	24	26
Capacity	P400	P450	P500	P550	P600	P650
Combination	P200+ P200	P200+ P250	P250+ P250	P250+ P300	P300+ P300	P300+ P350

Y series Y series PUHY-RP YSJM-B(-BS)



Horse Power	28	30	32	34	36
Capacity	P700	P750	P800	P850	P900
Combination	P200+ P250+ P250	P250+ P250+ P250	P250+ P250+ P300	P250+ P300+ P300	P300+ P300+ P300

R2 series R2 series PURY-RP YJM-B(-BS)



Horse Power	8	10	12
Capacity	P200	P250	P300
Combination	Single module		

Piping length

PUHY-RP200-550Y(S)JM-B

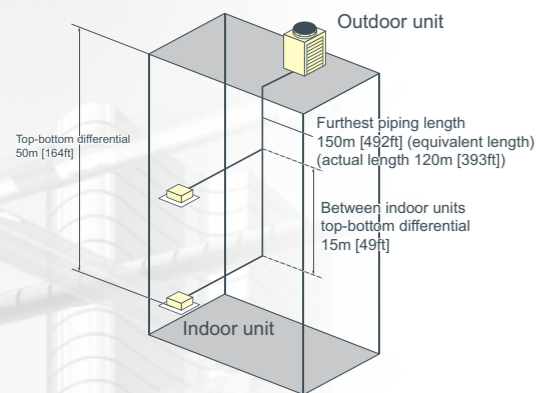
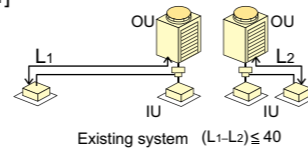


Image of 8HP~14HP installation

Refrigerant Piping Lengths Maximum meters [Feet]

Total length 300 [984]
 Maximum allowable length 120 [393]
 equivalent 150 [492]
 Farthest indoor from first branch 40 [131]*

* REPLACE MULTI can combine an existing multiple system if the length difference of farthest indoor from first branch is no larger than 40m.



Vertical differentials between units Maximum meters [Feet]

Indoor/outdoor (outdoor higher) 50 [164]
 Indoor/outdoor (outdoor lower) 40 [131]
 Indoor/indoor 15 [49]
 Outdoor/outdoor* 0.1 [0.3]

* For models PUHY-RP400~RP550YSJM-A

PURY-RP200-300YJM-B

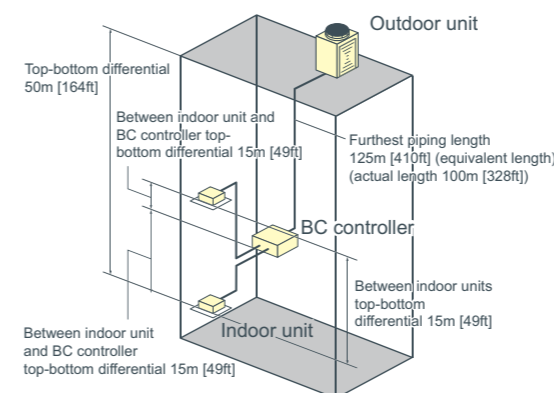


Image of 8HP~14HP installation

Refrigerant Piping Lengths Maximum meters [Feet]

Total length 220 [721]
 Maximum allowable length 100 (90) [328 (295)]*
 equivalent 125 (115) [410 (377)]*
 Farthest indoor from BC controller 30 [98]

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

Vertical differentials between units Maximum meters [Feet]

Indoor/outdoor (outdoor higher) 50 [164]
 Indoor/outdoor (outdoor lower) 40 [131]
 Indoor/BC controller (single/main) 15 (10) [49 (32)]*

* Maximum length between single/main BC controller and indoor is dependent upon the vertical differential between the single/main BC controller and the indoor unit.

Indoor/indoor 15 (10) [49 (32)]*
 Main BC Controller/Sub BC Controller 15 (10) [49 (32)]*

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

PUHY-RP600-900YSJM-B

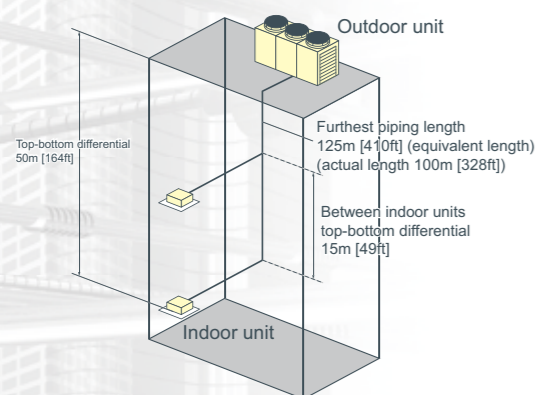
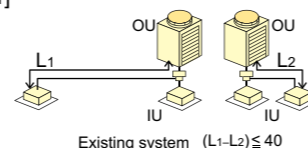


Image of 28HP~36HP installation

Refrigerant Piping Lengths Maximum meters [Feet]

Total length 250 [820]
 Maximum allowable length 100 [328]
 equivalent 125 [410]
 Farthest indoor from first branch 40 [131]*

* REPLACE MULTI can combine an existing multiple system if the length difference of farthest indoor from first branch is no larger than 40m.



Vertical differentials between units Maximum meters [Feet]

Indoor/outdoor (outdoor higher) 50 [164]
 Indoor/outdoor (outdoor lower) 40 [131]
 Indoor/indoor 15 [49]
 Outdoor/outdoor* 0.1 [0.3]


* For models PUHY-RP600~RP900YSJM-A

Indoor unit lineup

Standard CITY MULTI indoor units can be connected to REPLACE MULTI.

Ceiling cassette (4-way air flow)


see Sensor **PLFY-P VBM-E**
PLFY-P VCM-E



Model	P20	P25	P32	P40	P50
Capacity	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW
Model	P63	P80	P100	P125	
Capacity	7.1kW	9.0kW	11.2kW	14.0kW	

Fresh Air Intake


PEFY-P VMH-E-F



Model	P80	P140	P200	P250
Capacity	9.0kW	16.0kW	22.4kW	28.0kW

Ceiling cassette (2-way air flow)


PLFY-P VLMD-E



Model	P20	P25	P32	P40	P50
Capacity	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW
Model	P63	P80	P100	P125	
Capacity	7.1kW	9.0kW	11.2kW	14.0kW	

Ceiling suspended


PCFY-P VKM-E



Model	P40	P63	P100	P125
Capacity	4.5kW	7.1kW	11.2kW	14.0kW

Ceiling cassette (1-way air flow)

PMFY-P VBM-E



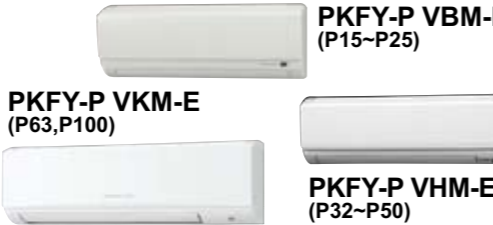
Model	P20	P25	P32	P40
Capacity	2.2kW	2.8kW	3.6kW	4.5kW

Wall mounted

PKFY-P VBM-E (P15~P25)

PKFY-P VKM-E (P63,P100)

PKFY-P VHM-E (P32~P50)



Model	P15	P20	P25	P32	P40	P50	P63	P100
Capacity	1.7kW	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW	7.1kW	11.2kW


Ceiling concealed

PEFY-P VMR-E-L/R (P20~P32)

PEFY-P VMA(L)-E (P20~P140)

PEFY-P VMS1(L)-E (P15~P63)

PEFY-P VMH-E (P40~P250)




Model	P15	P20	P25	P32	P40	P50	P63
Capacity	1.7kW	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW	7.1kW
Model	P71	P80	P100	P125	P140	P200	P250
Capacity	8.0kW	9.0kW	11.2kW	14.0kW	16.0kW	22.4kW	28.0kW

Floor standing / Floor mounted concealed

PFFY-P VLEM-E (P20~P40)

PFFY-P VKM-E (P20~P40)

PFFY-P VLRM-E
PFFY-P VLMM-E (P20~P63)



Model	P20	P25	P32	P40	P50	P63
Capacity	2.2kW	2.8kW	3.6kW	4.5kW	5.6kW	7.1kW

Lossnay

LGH-15~100RXs-E

LGH-150/200RXs-E



Model	15RXs-E	25RXs-E	35RXs-E	50RXs-E	65RXs-E
Air volume	150m³/h	250m³/h	350m³/h	500m³/h	650m³/h
Model	80RXs-E	100RXs-E	150RXs-E	200RXs-E	
Air volume	800m³/h	1000m³/h	1500m³/h	2000m³/h	

*The specifications above are the values with LOSSNAY ventilation and the fan speed of high.

OA Processing Units

GUF-50/100RD(H)3*



*Available for limited countries. Please contact your local distributor for further information.

Model	50RDH3	100RDH3	50RD3	100RD3
Airflow rate (High value)	500m³/h	1000m³/h	500m³/h	1000m³/h

*For more information about indoor units, please refer to our CITY MULTI catalogue.

Specification

Model	PUHY-RP200YJM-B (-BS)	PUHY-RP250YJM-B (-BS)	PUHY-RP300YJM-B (-BS)	PUHY-RP350YJM-B (-BS)	
Power source	3-phase 4-wire 380-400-415V 50/60Hz				
Cooling capacity (Nominal)	*1 kW *1 kcal / h *1 BTU / h	22.4 19,300 66,400	28.0 24,100 82,500	33.5 28,800 98,000	
Power input	kW	5.68	7.62	8.98	
Current input	A	9.5-9.1-8.7	12.8-12.2-11.7	15.1-14.4-13.8	
COP	kW/kW	3.94	3.67	3.73	
Temp. range of cooling	Indoor W.B. Outdoor D.B.	15.0~24.0°C (59~75°F) -5.0~43.0°C (23~109°F)	15.0~24.0°C (59~75°F) -5.0~43.0°C (23~109°F)	15.0~24.0°C (59~75°F) -5.0~43.0°C (23~109°F)	
Heating capacity (Nominal)	*2 kW *2 kcal / h *2 BTU / h	25.0 21,500 73,300	31.5 27,100 92,400	37.5 32,300 111,000	
Power input	kW	5.69	7.22	9.42	
Current input	A	9.6-9.1-8.7	12.1-11.5-11.1	15.9-15.1-14.5	
COP	kW/kW	4.39	4.36	3.98	
Temp. range of heating	Indoor D.B. Outdoor W.B.	15.0~27.0°C (59~81°F) -20.0~15.5°C (-4~60°F)	15.0~27.0°C (59~81°F) -20.0~15.5°C (-4~60°F)	15.0~27.0°C (59~81°F) -20.0~15.5°C (-4~60°F)	
Indoor unit connectable	Total capacity Model / Quantity	50~130 % of outdoor unit capacity P15~P250 / 1~17 P15~P250 / 1~21 P15~P250 / 1~26 P15~P250 / 1~30			
Sound pressure level (measured in anechoic room)	dB<A>	56	57	59	
Refrigerant piping diameter	Liquid pipe mm(in.) Gas pipe mm(in.)	12.7 (1/2) Braze 28.58 (1-1/8) Braze	12.7 (1/2) Braze 28.58 (1-1/8) Braze	12.7 (1/2) Braze 28.58 (1-1/8) Braze	
FAN	*3 Type x Quantity	Propeller fan x 1			
Air flow rate	m³ / min L/s cfm	185 3,083 6,532	185 3,083 6,532	185 3,083 6,532	
Control, Driving mechanism		Inverter-control, Direct-driven by motor			
Motor output	kW	0.92 x 1	0.92 x 1	0.92 x 1	
External static press.	Pa (0 mmHzO)	0 Pa (0 mmHzO)	0 Pa (0 mmHzO)	0 Pa (0 mmHzO)	
Compressor	Type x Quantity Manufacture Starting method Motor output Case heater Lubricant	Inverter scroll hermetic compressor AC&R Works, MITSUBISHI ELECTRIC CORPORATION Inverter 4.8 0.035 (240V) MEL32			
External finish		Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>			
External dimension HxWxD	mm in.	1,710(1,650 without legs) x 920 x 760 67-3/8 (65 without legs) x 36-1/4 x 29-15/16	1,710(1,650 without legs) x 920 x 760 67-3/8 (65 without legs) x 36-1/4 x 29-15/16	1,710(1,650 without legs) x 920 x 760 67-3/8 (65 without legs) x 36-1/4 x 29-15/16	
Protection devices	High pressure protection Inverter circuit (COMP. / FAN) Compressor Fan motor	High pressure sensor, High pressure switch at 4.15,3.3MPa (601,479 psi) Over-heat protection, Over-current protection Over-heat protection Thermal switch			
Refrigerant	Type x original charge Control	R410A x 6.5kg (15lbs) R410A x 9.0kg (20lbs) R410A x 9.0kg (20lbs) R410A x 9.0kg (20lbs) LEV and HIC circuit			
Net weight	kg(lbs)	230(508)	255 (563)	255 (563)	
Heat exchanger		Salt-resistant cross fin & copper tube			
Optional parts		Header: CMY-Y104/108/1010-G			

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

* The specification data is subject to rounding variation.

- Remarks:
- 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.
 - Our company is unable to guarantee reliability of pre-existing pipes and pre-existing cables.

- Notes:
- 1.Nominal cooling conditions (subject to JIS B8615-1)
Indoor : 27°CDB/19°CWB (81°FDB/66°FWB), Outdoor : 35°CDB (95°FDB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - 2.Nominal heating conditions (subject to JIS B8615-1)
Indoor : 20°CDB(68°FDB), Outdoor : 7°CDB/6°CWB (45°FDB/43°FWB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - 3.External static pressure option is available (30Pa, 60Pa / 3.1mmHzO, 6.1mmHzO).

Model		PUHY-RP400YSJM-B (-BS)		PUHY-RP450YSJM-B (-BS)		
Power source		3-phase 4-wire 380-400-415V 50/60Hz				
Cooling capacity (Nominal)	*1 kW	45.0		50.0		
	*1 kcal / h	38,700		43,000		
	*1 BTU / h	153,500		170,600		
	Power input kW	11.87		13.77		
Current input A	20.0-19.0-18.3		23.2-22.0-21.2			
COP	kW/kW	3.79		3.63		
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C (59~75°F)		15.0~24.0°C (59~75°F)	
	Outdoor	D.B.	-5.0~43.0°C (23~109°F)		-5.0~43.0°C (23~109°F)	
Heating capacity (Nominal)	*2 kW	50.0		56.0		
	*2 kcal / h	43,000		48,200		
	*2 BTU / h	170,600		191,100		
	Power input kW	11.38		12.81		
Current input A	19.2-18.2-17.5		21.6-20.5-19.8			
COP	kW/kW	4.39		4.37		
Temp. range of heating	Indoor	D.B.	15.0~27.0°C (59~81°F)		15.0~27.0°C (59~81°F)	
	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)		-20.0~15.5°C (-4~60°F)	
Indoor unit connectable	Total capacity	50~130 % of outdoor unit capacity				
	Model / Quantity	P15~P250 / 1~32		P15~P250 / 1~32		
Sound pressure level (measured in anechoic room)	dB<A>	59		59.5		
Refrigerant piping diameter	Liquid pipe mm(in.)	15.88 (5/8) Brazed		15.88 (5/8) Brazed		
	Gas pipe mm(in.)	34.93 (1-3/8) Brazed		34.93 (1-3/8) Brazed		
Set Model		PUHY-RP200YJM-B (-BS)	PUHY-RP200YJM-B (-BS)	PUHY-RP200YJM-B (-BS)	PUHY-RP250YJM-B (-BS)	
FAN	*3 Type x Quantity	Propeller fan x 1				
	Air flow rate	m³ / min	185	185	185	185
		L/s	3,083	3,083	3,083	3,083
		cfm	6,532	6,532	6,532	6,532
	Control, Driving mechanism	Inverter-control, Direct-driven by motor				
	Motor output kW	0.92 x 1				
External static press.	0 Pa (0 mmH ₂ O)					
Compressor	Type x Quantity	Inverter scroll hermetic compressor				
	Manufacture	AC&R Works, MITSUBISHI ELECTRIC CORPORATION				
	Starting method	Inverter				
	Motor output kW	4.8				
	Case heater kW	0.035 (240V)		0.045 (240V)		
	Lubricant	MEL32				
External finish	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>					
External dimension HxWxD	mm	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	
	in.	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15, 3.3MPa (601,479 psi)				
	Inverter circuit (COMP. / FAN)	Over-heat protection, Over-current protection				
	Compressor	Over-heat protection				
	Fan motor	Thermal switch				
Refrigerant	Type x original charge	R410A x 6.5kg (15lbs)	R410A x 6.5kg (15lbs)	R410A x 6.5kg (15lbs)	R410A x 9.0kg (20lbs)	
	Control	LEV and HIC circuit				
Net weight	kg(lbs)	230 (508)	230 (508)	230 (508)	255 (563)	
Heat exchanger	Salt-resistant cross fin & copper tube					
Pipe between unit and distributor	Liquid pipe mm(in.)	9.52 (3/8) Brazed	9.52 (3/8) Brazed	9.52 (3/8) Brazed	9.52 (3/8) Brazed	
	Gas pipe mm(in.)	19.05 (3/4) Brazed	19.05 (3/4) Brazed	19.05 (3/4) Brazed	22.2 (7/8) Brazed	
Optional parts	Outdoor Twinning kit: CMY-RP100VBK Header: CMY-Y104/108/1010-G					

Unit converter	
kcal	=kW × 860
BTU / h	=kW × 3,412
cfm	=m³ / min × 35.31
lb	=kg / 0.4536
* The specification data is subject to rounding variation.	

- Remarks:
- 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.
 - Our company is unable to guarantee reliability of pre-existing pipes and pre-existing cables.

- Notes:
- 1.Nominal cooling conditions (subject to JIS B8615-1)
Indoor : 27°CDB/19°CWB (81°FDB/66°FWB), Outdoor : 35°CDB (95°FDB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - 2.Nominal heating conditions (subject to JIS B8615-1)
Indoor : 20°CDB(68°FDB), Outdoor : 7°CDB/6°CWB (45°FDB/43°FWB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - 3.External static pressure option is available (30Pa, 60Pa / 3.1mmH₂O, 6.1mmH₂O).

Model		PUHY-RP500YSJM-B (-BS)		PUHY-RP550YSJM-B (-BS)		
Power source		3-phase 4-wire 380-400-415V 50/60Hz				
Cooling capacity (Nominal)	*1 kW	56.0		63.0		
	*1 kcal / h	48,200		54,200		
	*1 BTU / h	191,100		215,000		
	Power input kW	15.68		17.50		
Current input A	26.4-25.1-24.2		29.5-28.0-27.0			
COP	kW/kW	3.57		3.60		
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C (59~75°F)		15.0~24.0°C (59~75°F)	
	Outdoor	D.B.	-5.0~43.0°C (23~109°F)		-5.0~43.0°C (23~109°F)	
Heating capacity (Nominal)	*2 kW	63.0		69.0		
	*2 kcal / h	54,200		59,300		
	*2 BTU / h	215,000		235,400		
	Power input kW	14.44		16.62		
Current input A	24.3-23.1-22.3		28.0-26.6-25.6			
COP	kW/kW	4.36		4.15		
Temp. range of heating	Indoor	D.B.	15.0~27.0°C (59~81°F)		15.0~27.0°C (59~81°F)	
	Outdoor	W.B.	-20.0~15.5°C (-4~60°F)		-20.0~15.5°C (-4~60°F)	
Indoor unit connectable	Total capacity	50~130 % of outdoor unit capacity				
	Model / Quantity	P15~P250 / 1~32		P15~P250 / 1~32		
Sound pressure level (measured in anechoic room)	dB<A>	60		61		
Refrigerant piping diameter	Liquid pipe mm(in.)	15.88 (5/8) Brazed		15.88 (5/8) Brazed		
	Gas pipe mm(in.)	34.93 (1-3/8) Brazed		34.93 (1-3/8) Brazed		
Set Model		PUHY-RP250YJM-B (-BS)	PUHY-RP250YJM-B (-BS)	PUHY-RP250YJM-B (-BS)	PUHY-RP300YJM-B (-BS)	
FAN	*3 Type x Quantity	Propeller fan x 1				
	Air flow rate	m³ / min	185	185	185	185
		L/s	3,083	3,083	3,083	3,083
		cfm	6,532	6,532	6,532	6,532
	Control, Driving mechanism	Inverter-control, Direct-driven by motor				
	Motor output kW	0.92 x 1				
External static press.	0 Pa (0 mmH ₂ O)					
Compressor	Type x Quantity	Inverter scroll hermetic compressor				
	Manufacture	AC&R Works, MITSUBISHI ELECTRIC CORPORATION				
	Starting method	Inverter				
	Motor output kW	6.8				
	Case heater kW	0.045 (240V)		0.045 (240V)		
	Lubricant	MEL32				
External finish	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>					
External dimension HxWxD	mm	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	
	in.	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15, 3.3MPa (601,479 psi)				
	Inverter circuit (COMP. / FAN)	Over-heat protection, Over-current protection				
	Compressor	Over-heat protection				
	Fan motor	Thermal switch				
Refrigerant	Type x original charge	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	
	Control	LEV and HIC circuit				
Net weight	kg(lbs)	255 (563)	255 (563)	255 (563)	255 (563)	
Heat exchanger	Salt-resistant cross fin & copper tube					
Pipe between unit and distributor	Liquid pipe mm(in.)	9.52 (3/8) Brazed	9.52 (3/8) Brazed	9.52 (3/8) Brazed	12.7 (1/2) Brazed	
	Gas pipe mm(in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	
Optional parts	Outdoor Twinning kit: CMY-RP100VBK Header: CMY-Y104/108/1010-G					

Unit converter	
kcal	=kW × 860
BTU / h	=kW × 3,412
cfm	=m³ / min × 35.31
lb	=kg / 0.4536
* The specification data is subject to rounding variation.	

- Remarks:
- 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.
 - Our company is unable to guarantee reliability of pre-existing pipes and pre-existing cables.

- Notes:
- 1.Nominal cooling conditions (subject to JIS B8615-1)
Indoor : 27°CDB/19°CWB (81°FDB/66°FWB), Outdoor : 35°CDB (95°FDB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - 2.Nominal heating conditions (subject to JIS B8615-1)
Indoor : 20°CDB(68°FDB), Outdoor : 7°CDB/6°CWB (45°FDB/43°FWB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - 3.External static pressure option is available (30Pa, 60Pa / 3.1mmH₂O, 6.1mmH₂O).

Model	PUHY-RP600YSJM-B (-BS)				PUHY-RP650YSJM-B (-BS)					
Power source	3-phase 4-wire 380-400-415V 50/60Hz									
Cooling capacity (Nominal)	*1 kW	69.0				73.0				
	*1 kcal / h	59,300				62,800				
	*1 BTU / h	235,400				249,100				
	Power input kW	18.59				21.09				
Temp. range of cooling	Indoor	W.B. 15.0~24.0°C (59~75°F)				15.0~24.0°C (59~75°F)				
	Outdoor	D.B. -5.0~43.0°C (23~109°F)				-5.0~43.0°C (23~109°F)				
	COP	kW/kW 3.71				3.46				
Heating capacity (Nominal)	*2 kW	76.5				81.5				
	*2 kcal / h	65,800				70,100				
	*2 BTU / h	261,000				278,100				
	Power input kW	19.22				21.73				
Temp. range of heating	Indoor	D.B. 15.0~27.0°C (59~81°F)				15.0~27.0°C (59~81°F)				
	Outdoor	W.B. -20.0~15.5°C (-4~60°F)				-20.0~15.5°C (-4~60°F)				
	COP	kW/kW 3.98				3.75				
Indoor unit connectable	50~130 % of outdoor unit capacity									
Sound pressure level (measured in anechoic room)	dB(A) 62				62.5					
Refrigerant piping diameter	Liquid pipe mm(in.)	19.05 (3/4) Brazed				19.05 (3/4) Brazed				
	Gas pipe mm(in.)	34.93 (1-3/8) Brazed				41.28 (1-5/8) Brazed				
Set Model	PUHY-RP300YJM-B (-BS)		PUHY-RP300YJM-B (-BS)		PUHY-RP300YJM-B (-BS)		PUHY-RP350YJM-B (-BS)			
FAN	*3 Type x Quantity	Propeller fan x 1								
	Air flow rate	m ³ / min	185		185		185		185	
		L/s	3,083		3,083		3,083		3,083	
		cfm	6,532		6,532		6,532		6,532	
	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		
External static press.	0 Pa (0 mmH ₂ O)		0 Pa (0 mmH ₂ O)		0 Pa (0 mmH ₂ O)		0 Pa (0 mmH ₂ O)			
Compressor	Type x Quantity	Inverter scroll hermetic compressor								
	Manufacture	AC&R Works, MITSUBISHI ELECTRIC CORPORATION								
	Starting method	Inverter		Inverter		Inverter		Inverter		
	Motor output kW	8.2		8.2		8.2		9.9		
	Case heater kW	0.045 (240V)		0.045 (240V)		0.045 (240V)		0.045 (240V)		
	Lubricant	MEL32		MEL32		MEL32		MEL32		
External finish	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>									
External dimension HxWxD	mm	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	
	in.	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15, 3.3MPa (601,479 psi)								
	Inverter circuit (COMP. / FAN)	Over-heat protection, Over-current protection								
	Compressor	Over-heat protection								
	Fan motor	Thermal switch								
Refrigerant	Type x original charge	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	
	Control	LEV and HIC circuit								
Net weight	kg(lbs)	255 (563)	255 (563)	255 (563)	255 (563)	255 (563)	255 (563)	255 (563)		
Heat exchanger	Salt-resistant cross fin & copper tube									
	Pipe between unit and distributor	Liquid pipe mm(in.)	12.7 (1/2) Brazed	12.7 (1/2) Brazed	12.7 (1/2) Brazed	12.7 (1/2) Brazed	12.7 (1/2) Brazed	12.7 (1/2) Brazed	12.7 (1/2) Brazed	
	Gas pipe mm(in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed		
Optional parts	Outdoor Twinning kit: CMY-RP100VBK Header: CMY-Y104/108/1010-G									

Unit converter	
kcal	=kW × 860
BTU / h	=kW × 3,412
cfm	=m ³ / min × 35.31
lb	=kg / 0.4536
* The specification data is subject to rounding variation.	

- Remarks:
- 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.
 - Our company is unable to guarantee reliability of pre-existing pipes and pre-existing cables.

- Notes:
- 1.Nominal cooling conditions (subject to JIS B8615-1)
Indoor : 27°CDB/19°CWB (81°FDB/66°FWB), Outdoor : 35°CDB (95°FDB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - 2.Nominal heating conditions (subject to JIS B8615-1)
Indoor : 20°CDB(68°FDB), Outdoor : 7°CDB/6°CWB (45°FDB/43°FWB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - 3.External static pressure option is available (30Pa, 60Pa / 3.1mmH₂O, 6.1mmH₂O).

Model	PUHY-RP700YSJM-B (-BS)				PUHY-RP750YSJM-B (-BS)				PUHY-RP800YSJM-B (-BS)					
Power source	3-phase 4-wire 380-400-415V 50/60Hz													
Cooling capacity (Nominal)	*1 kW	80.0				85.0				90.0				
	*1 kcal / h	68,800				73,100				77,400				
	*1 BTU / h	273,000				290,000				307,100				
	Power input kW	22.22				24.14				25.49				
Temp. range of cooling	Indoor	W.B. 15.0~24.0°C (59~75°F)				15.0~24.0°C (59~75°F)				15.0~24.0°C (59~75°F)				
	Outdoor	D.B. -5.0~43.0°C (23~109°F)				-5.0~43.0°C (23~109°F)				-5.0~43.0°C (23~109°F)				
	COP	kW/kW 3.60				3.52				3.53				
Heating capacity (Nominal)	*2 kW	88.0				95.0				100.0				
	*2 kcal / h	75,700				81,700				86,100				
	*2 BTU / h	300,300				324,100				341,200				
	Power input kW	20.13				21.78				23.75				
Temp. range of heating	Indoor	D.B. 15.0~27.0°C (59~81°F)				15.0~27.0°C (59~81°F)				15.0~27.0°C (59~81°F)				
	Outdoor	W.B. -20.0~15.5°C (-4~60°F)				-20.0~15.5°C (-4~60°F)				-20.0~15.5°C (-4~60°F)				
	COP	kW/kW 4.37				4.36				4.21				
Indoor unit connectable	50~130 % of outdoor unit capacity													
Sound pressure level (measured in anechoic room)	dB(A) 61.5				62				62.5					
Refrigerant piping diameter	Liquid pipe mm(in.)	19.05 (3/4) Brazed				19.05 (3/4) Brazed				19.05 (3/4) Brazed				
	Gas pipe mm(in.)	41.28 (1-5/8) Brazed				41.28 (1-5/8) Brazed				41.28 (1-5/8) Brazed				
Set Model	PUHY-RP200YJM-B (-BS)		PUHY-RP250YJM-B (-BS)		PUHY-RP250YJM-B (-BS)		PUHY-RP250YJM-B (-BS)		PUHY-RP250YJM-B (-BS)		PUHY-RP300YJM-B (-BS)			
FAN	*3 Type x Quantity	Propeller fan x 1												
	Air flow rate	m ³ / min	185			185			185			185		
		L/s	3,083			3,083			3,083			3,083		
		cfm	6,532			6,532			6,532			6,532		
	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			
External static press.	0 Pa (0 mmH ₂ O)			0 Pa (0 mmH ₂ O)			0 Pa (0 mmH ₂ O)			0 Pa (0 mmH ₂ O)				
Compressor	Type x Quantity	Inverter scroll hermetic compressor												
	Manufacture	AC&R Works, MITSUBISHI ELECTRIC CORPORATION												
	Starting method	Inverter			Inverter			Inverter			Inverter			
	Motor output kW	4.8			6.8			6.8			8.2			
	Case heater kW	0.035 (240V)			0.045 (240V)			0.045 (240V)			0.045 (240V)			
	Lubricant	MEL32			MEL32			MEL32			MEL32			
External finish	Pre-coated galvanized steel sheets (+powder coating for -BS type) <MUNSELL 5Y 8/1 or similar>													
External dimension HxWxD	mm	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760		
	in.	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16	67-3/8 (65 without legs) x 36-1/4 x 29-15/16		
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15, 3.3MPa (601,479 psi)												
	Inverter circuit (COMP. / FAN)	Over-heat protection, Over-current protection												
	Compressor	Over-heat protection												
	Fan motor	Thermal switch												
Refrigerant	Type x original charge	R410A x 6.5kg (15lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)		
	Control	LEV and HIC circuit												
Net weight	kg(lbs)	230 (508)	255 (563)	255 (563)	255 (563)	255 (563)	255 (563)	255 (563)	255 (563)	255 (563)	255 (563)			
Heat exchanger	Salt-resistant cross fin & copper tube													
	Pipe between unit and distributor	Liquid pipe mm(in.)	9.52 (3/8) Brazed	9.52 (3/8) Brazed	9.52 (3/8) Brazed	9.52 (3/8) Brazed	9.52 (3/8) Brazed	9.52 (3/8) Brazed	9.52 (3/8) Brazed	9.52 (3/8) Brazed	9.52 (3/8) Brazed	12.7 (1/2) Brazed		
	Gas pipe mm(in.)	19.05 (3/4) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed			
Optional parts	Outdoor Twinning kit: CMY-RP200VBK Header: CMY-Y104/108/1010-G													

Unit converter	
kcal	=kW × 860
BTU / h	=kW × 3,412
cfm	=m ³ / min × 35.31
lb	=kg / 0.4536
* The specification data is subject to rounding variation.	

- Remarks:
- 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.
 - Our company is unable to guarantee reliability of pre-existing pipes and pre-existing cables.

- Notes:
- 1.Nominal cooling conditions (subject to JIS B8615-1)
Indoor : 27°CDB/19°CWB (81°FDB/66°FWB), Outdoor : 35°CDB (95°FDB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - 2.Nominal heating conditions (subject to JIS B8615-1)
Indoor : 20°CDB(68°FDB), Outdoor : 7°CDB/6°CWB (45°FDB/43°FWB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - 3.External static pressure option is available (30Pa, 60Pa / 3.1mmH₂O, 6.1mmH₂O).

Model	PUHY-RP850YSJM-B (-BS)			PUHY-RP900YSJM-B (-BS)				
Power source	3-phase 4-wire 380-400-415V 50/60Hz							
Cooling capacity (Nominal)	*1 kW	96.0			101.0			
	*1 kcal / h	82,600			86,900			
	*1 BTU / h	327,600			344,600			
	Power input kW	27.11			28.29			
	Current input A	45.7-43.4-41.9			47.7-45.3-43.7			
Temp. range of cooling	COP	3.54			3.57			
	Indoor W.B.	15.0~24.0°C (59~75°F)			15.0~24.0°C (59~75°F)			
	Outdoor D.B.	-5.0~43.0°C (23~109°F)			-5.0~43.0°C (23~109°F)			
	Heating capacity (Nominal)	*2 kW	108.0			113.0		
	*2 kcal / h	92,900			97,200			
Temp. range of heating	*2 BTU / h	368,500			385,600			
	Power input kW	26.47			28.39			
	Current input A	44.6-42.4-40.9			47.9-45.5-43.8			
	COP	4.08			3.98			
	Indoor D.B.	15.0~27.0°C (59~81°F)			15.0~27.0°C (59~81°F)			
Outdoor W.B.	-20.0~15.5°C (-4~60°F)			-20.0~15.5°C (-4~60°F)				
Indoor unit connectable	Total capacity	50~130 % of outdoor unit capacity						
Model / Quantity	P15~P250 / 1~32			P15~P250 / 1~32				
Sound pressure level (measured in anechoic room)	dB<A>	63.5			64			
Refrigerant piping diameter	Liquid pipe mm(in.)	19.05 (3/4) Brazed			19.05 (3/4) Brazed			
	Gas pipe mm(in.)	41.28 (1-5/8) Brazed			41.28 (1-5/8) Brazed			
Set Model	PUHY-RP250YJM-B(-BS) PUHY-RP300YJM-B(-BS) PUHY-RP300YJM-B(-BS) PUHY-RP300YJM-B(-BS) PUHY-RP300YJM-B(-BS)							
FAN	*3 Type x Quantity	Propeller fan x 1						
	Air flow rate	m³ / min	185	185	185	185	185	
		L/s	3,083	3,083	3,083	3,083	3,083	
		cfm	6,532	6,532	6,532	6,532	6,532	
	Control, Driving mechanism	Inverter-control, Direct-driven by motor						
	Motor output kW	0.92 x 1						
	External static press.	0 Pa (0 mmHzO)						
Compressor	Type x Quantity	Inverter scroll hermetic compressor						
Manufacture	AC&R Works, MITSUBISHI ELECTRIC CORPORATION							
Starting method	Inverter							
Motor output kW	8.2							
Case heater kW	0.045 (240V)							
Lubricant	MEL32							
External finish	Pre-coated galvanized steel sheets (+powder coating for -BS type)							
External dimension HxWxD	mm	<MUNSELL 5Y 8/1 or similar>						
	in.	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	1,710 (1,650 without legs) x 920 x 760	
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15, 3.3MPa (601,479 psi)						
	Inverter circuit (COMP. / FAN)	Over-heat protection, Over-current protection						
	Compressor	Over-heat protection						
	Fan motor	Thermal switch						
Refrigerant	Type x original charge	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)	R410A x 9.0kg (20lbs)		
Control	LEV and HIC circuit							
Net weight	kg(lbs)	255 (563)	255 (563)	255 (563)	255 (563)	255 (563)		
Heat exchanger	Salt-resistant cross fin & copper tube							
Pipe between unit and distributor	Liquid pipe mm(in.)	9.52 (3/8) Brazed	12.7 (1/2) Brazed	12.7 (1/2) Brazed	12.7 (1/2) Brazed	12.7 (1/2) Brazed		
	Gas pipe mm(in.)	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed	22.2 (7/8) Brazed		
Optional parts	Outdoor Twinning kit: CMY-RP200VBK Header: CMY-Y104/108/1010-G							

- Remarks:
- 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.
 - Our company is unable to guarantee reliability of pre-existing pipes and pre-existing cables.

- Notes:
- Nominal cooling conditions (subject to JIS B8615-1)
Indoor : 27°CDB/19°CWB (81°FDB/66°FWB), Outdoor : 35°CDB (95°FDB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - Nominal heating conditions (subject to JIS B8615-1)
Indoor : 20°CDB(68°FDB), Outdoor : 7°CDB/6°CWB (45°FDB/43°FWB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - External static pressure option is available (30Pa, 60Pa / 3.1mmHzO, 6.1mmHzO).

Unit converter	
kcal	=kW × 860
BTU / h	=kW × 3,412
cfm	=m³ / min × 35.31
lb	=kg / 0.4536
* The specification data is subject to rounding variation.	

Model	PURY-RP200YJM-B (-BS)		PURY-RP250YJM-B (-BS)		PURY-RP300YJM-B (-BS)			
Power source	3-phase 4-wire 380-400-415V 50/60Hz							
Cooling capacity (Nominal)	*1 kW	22.4		28.0		33.5		
	*1 kcal / h	19,300		24,100		28,800		
	*1 BTU / h	76,400		95,500		114,300		
	Power input kW	4.95		6.82		8.35		
	Current input A	8.3-7.9-7.6		11.5-10.9-10.5		14.0-13.3-12.9		
Temp. range of cooling	COP	4.52		4.10		4.01		
	Indoor W.B.	15.0~24.0°C (59~75°F)		15.0~24.0°C (59~75°F)		15.0~24.0°C (59~75°F)		
	Outdoor D.B.	-5.0~43.0°C (23~109°F)		-5.0~43.0°C (23~109°F)		-5.0~43.0°C (23~109°F)		
	Heating capacity (Nominal)	*2 kW	25.0		31.5		37.5	
	*2 kcal / h	21,500		27,100		32,300		
Temp. range of heating	*2 BTU / h	85,300		107,500		128,000		
	Power input kW	5.50		7.22		8.70		
	Current input A	9.2-8.8-8.5		12.1-11.5-11.1		14.6-13.9-13.4		
	COP	4.54		4.36		4.31		
	Indoor D.B.	15.0~27.0°C (59~81°F)		15.0~27.0°C (59~81°F)		15.0~27.0°C (59~81°F)		
Outdoor W.B.	-20.0~15.5°C (-4~60°F)		-20.0~15.5°C (-4~60°F)		-20.0~15.5°C (-4~60°F)			
Indoor unit connectable	Total capacity	50~150 % of outdoor 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>	56		57		59		
Refrigerant piping diameter	High pressure mm(in.)	19.05 (3/4) Brazed		19.05 (3/4) Brazed		19.05 (3/4) Brazed		
	Low pressure mm(in.)	28.58 (1-1/8) Brazed		28.58 (1-1/8) Brazed		28.58 (1-1/8) Brazed		
FAN	Type x Quantity	Propeller fan x 1						
	Air flow rate	m³ / min	225		225		225	
		L/s	3,750		3,750		3,750	
		cfm	7,945		7,945		7,945	
	Control, Driving mechanism	Inverter-control, Direct-driven by motor						
	Motor output kW	0.92 x 1		0.92 x 1		0.92 x 1		
	External static press.	0 Pa (0 mmHzO)		0 Pa (0 mmHzO)		0 Pa (0 mmHzO)		
Compressor	Type x Quantity	Inverter scroll hermetic compressor						
Manufacture	AC&R Works, MITSUBISHI ELECTRIC CORPORATION							
Starting method	Inverter		Inverter		Inverter			
Motor output kW	5.4		6.8		7.8			
Case heater kW	0.035 (240V)		0.045 (240V)		0.045 (240V)			
Lubricant	MEL32		MEL32		MEL32			
External finish	Pre-coated galvanized steel sheets (+powder coating for -BS type)							
External dimension HxWxD	mm	1,710(1,650 without legs) x 1,220 x 760		1,710(1,650 without legs) x 1,220 x 760		1,710(1,650 without legs) x 1,220 x 760		
	in.	67-3/8 (65 without legs) x 48-1/16 x 29-15/16		67-3/8 (65 without legs) x 48-1/16 x 29-15/16		67-3/8 (65 without legs) x 48-1/16 x 29-15/16		
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15, 3.6MPa (601,522 psi)						
	Inverter circuit (COMP. / FAN)	Over-heat protection, Over-current protection						
	Compressor	Discharge thermo protection, Over-current protection						
Fan motor	Thermal switch							
Refrigerant	Type x original charge	R410A x 11.8kg (27lbs)		R410A x 11.8kg (27lbs)		R410A x 11.8kg (27lbs)		
Control	Indoor LEV and BC controller							
Net weight	kg(lbs)	275 (607)		290 (640)		290 (640)		
Heat exchanger	Salt-resistant cross fin & copper tube							
Optional parts	BC controller: CMB-P104, 105, 106, 108, 1010, 1013, 1016V-G							
	Main BC controller: CMB-P108, 1010, 1013, 1016V-GA							
	Sub BC controller: CMB-P104, 108V-GB							

Unit converter	
kcal	=kW × 860
BTU / h	=kW × 3,412
cfm	=m³ / min × 35.31
lb	=kg / 0.4536
* The specification data is subject to rounding variation.	

- Remarks:
- 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.
 - Our company is unable to guarantee reliability of pre-existing pipes and pre-existing cables.

- Notes:
- Nominal cooling conditions (subject to JIS B8615-1)
Indoor : 27°CDB/19°CWB (81°FDB/66°FWB), Outdoor : 35°CDB (95°FDB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)
 - Nominal heating conditions (subject to JIS B8615-1)
Indoor : 20°CDB(68°FDB), Outdoor : 7°CDB/6°CWB (45°FDB/43°FWB)
Pipe length : 7.5m (24-9/16ft.), Level difference : 0m (0ft.)



FM33568 / ISO 9001;2008

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

ISO Authorization System

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



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

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

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