

SMALL Y LINE

OUTDOOR UNITS - PUMY-P Y(V)KM(-BS)

NEW



MORE QUIETNESS
THANKS TO THE NEW
FAN

CONNECTABLE
TO **ecodan** ATW
Renewable Heating Technology
MODULES FOR HOT
WATER PRODUCTION
UP TO 55°C

GEOMETRIC PIPING
LIMITATIONS
INCREASED

H.I.C. CIRCUIT (HEAT
INTER CHARGER)
FOR THE SUBCOOLING
CONTROL

HEATING OPERATION
RANGE EXTENDED UP
TO -20°C OUTDOOR
TEMPERATURE

TOP PERFORMANCE
AND COP > 4 ON THE
ENTIRE RANGE

POWER RANGE
4-5-6 HP
THREE-PHASE
AND SINGLE SIZE

NEW CHASSIS WITH
INCREASED HEAT
EXCHANGE SURFACE

INCREASED
RELIABILITY

CONNECTABLE TO
RESIDENTIAL AND
COMMERCIAL INDOOR
UNITS BY LEV-KIT AND
BRANCH BOX

NATIVE REPLACE
TECHNOLOGY
FUNCTION FOR THE
REPLACEMENT OF R22
SYSTEMS



New PUMY Y(V)KM 4(5) - The smallest, but with all the technology and efficiency of our bigger units

The SMALL Y (PUMY) series of outdoor units by Mitsubishi Electric, which now offers 7 different variants (with single and three-phase 4.5, 5 and 6 HP versions and a three-phase 8 HP version), is the ideal solution for large homes and medium-sized offices. These outdoor units may be connected to up to 12 indoor units of different type and power rating. This system offers exceptional savings in operating costs and is suitable for both residential and commercial applications.

Class-beating energy efficiency

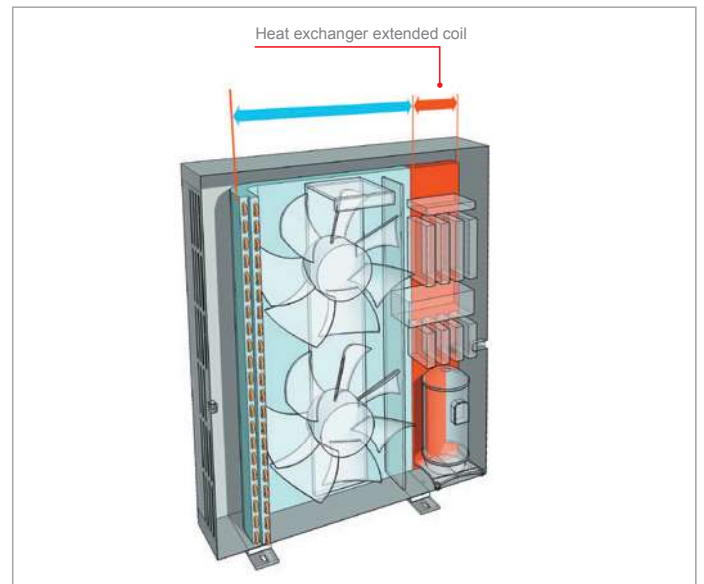
The new SMALL Y (PUMY) series has been designed to offer extraordinary levels of energy efficiency in both summer (EER) and winter (COP) operation. The entire range scores **COP values above 4**, making these units usable even in regions where legislation sets more restrictive performance limitations.

Total comfort. Even at -20°C

The new SMALL Y (PUMY) series is now capable of operating in heating mode over an even broader temperature range (from -20 to +15 °C).

New chassis with larger heat exchange surface area

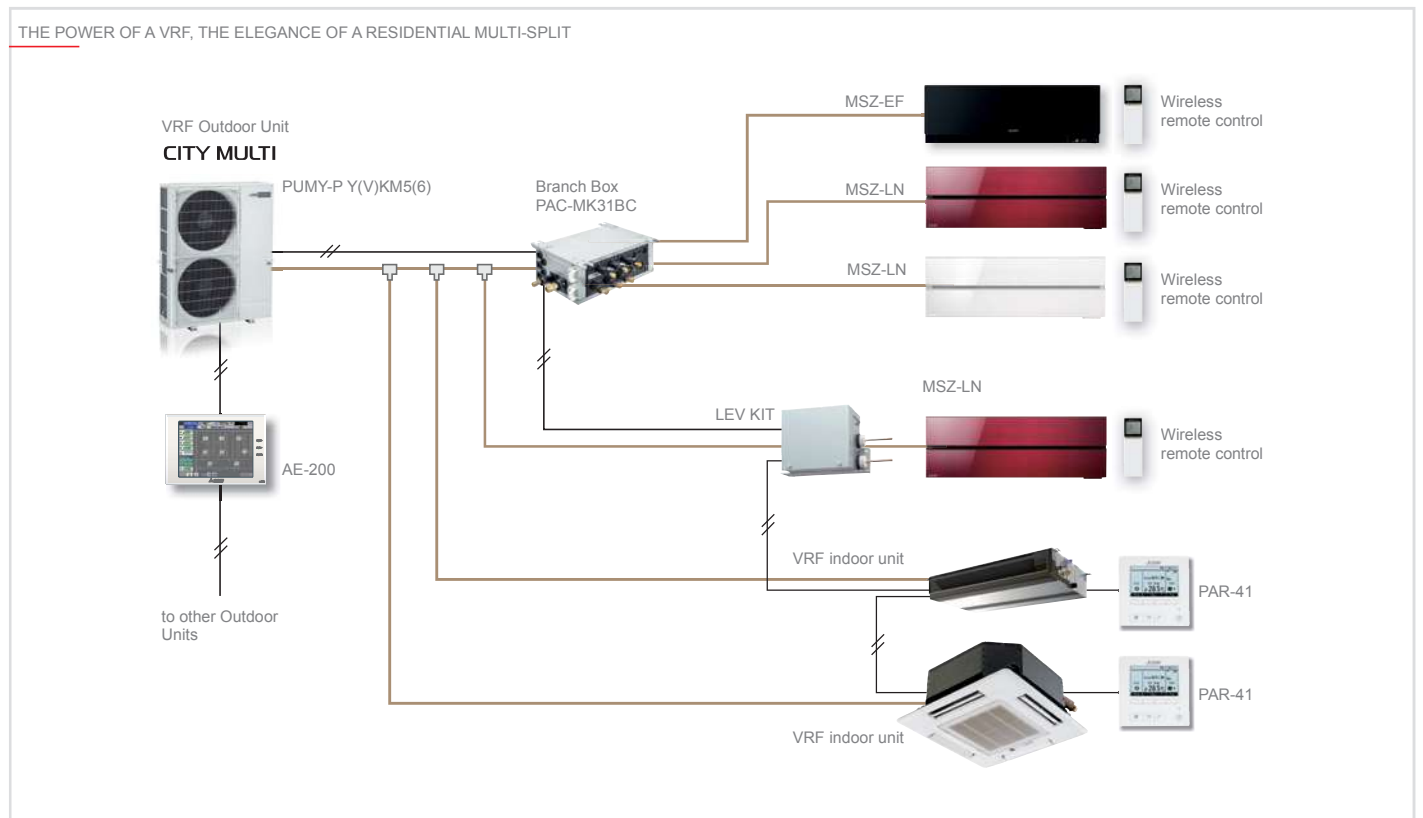
The new design of the SMALL Y (PUMY) series has made it possible to use a direct expansion coil with greater heat exchange surface area and density. Together with the introduction of the **Heat Inter Charger** overcooling circuit – a technological solution now appearing for the first time in units of this series – these improvements ensure superlative performance and extraordinary energy efficiency in cooling mode. The flat fin configuration of the coil and special Blue Fin treatment protect the



coil itself against corrosion, ensuring that the unit continues to function with the same outstanding thermal exchange efficiency and performance over time.

The power of a VRF, the elegance of a residential Multi-Split

With the **LEV KIT** and the new dedicated **Branch Box** (available as 3 and 5 connection versions), the outdoor units of the Small Y series can now be connected to the entire range of **residential and commercial** indoor units, with looks that are perfectly suited to applications (such as residential buildings and hotels) where design and elegance are decisive factors in the choice of indoor units.



New Branch Boxes (3 or 5 connections) – Total flexibility

The new Branch Boxes are designed to offer the greatest configuration flexibility possible for the system. This makes it possible to create systems consisting entirely of CITY MULTI VRF units, systems with Residential/ Commercial series indoor units only, or mixed systems with both types of unit.

Model	1 Branch Box		2 Branch Box	
	Branch Box ways	CITY MULTI Indoor units	Branch Box ways	CITY MULTI Indoor units
PUMY-P112	Max. 5	Max. 5	Max. 7	Max. 3
			Max. 8	Max. 2
PUMY-P125	Max. 5	Max. 5	Max. 8	Max. 3
PUMY-P140				Max. 3

Mixed systems

SMALL Y series (PUMY) sizes 4.5-5-6 HP can be connected to **Ecodan HYDROBOX and HYDROTANK**, allowing mixed systems (domestic hot water, radiant panels or air heating and air cooling). Thanks to this feature the system can produce **hot water up to 55°C**.

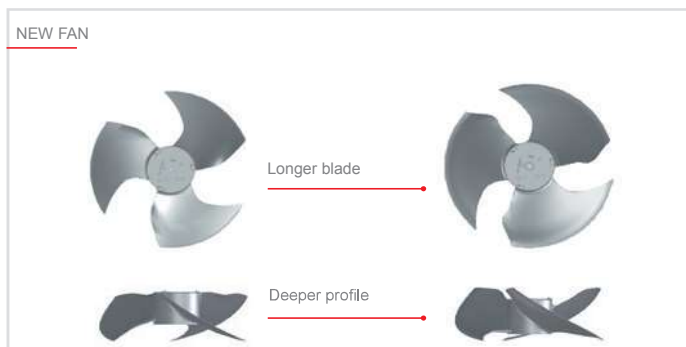
Unparalleled silence

The new fans cut through the air more effectively and minimise turbulence, for superlative static overpressure with **minimum noise impact**. These fans generate a **10% higher outdoor air flow than the previous version** while operating at the same noise levels. Small Y (PUMY) is also capable of operating in “low noise” mode, reducing sound pressure levels by 2 dB. By connecting an external timer or switch to the fan, this mode can be set for specific time brackets during the day.

New fan

Diameter increased from 490 mm to 550 mm.

The new fan has longer, differently shaped blades to direct air more effectively, reduce turbulence and increase efficiency.



Total flexibility for installation and maintenance

With increased geometric limits for piping, the SMALL Y (PUMY) series offers unparalleled flexibility for installation.

INCREASED GEOMETRICAL LIMITS FOR PIPING	
PUMY P112-P125-P140 Y(V)KM4	
Total effective length	300 m
Effective length of a single circuit	150 m
Maximum vertical difference between indoor units	15 m
“Maximum vertical difference between indoor and outdoor units (with outdoor unit in lower position)”	40 m

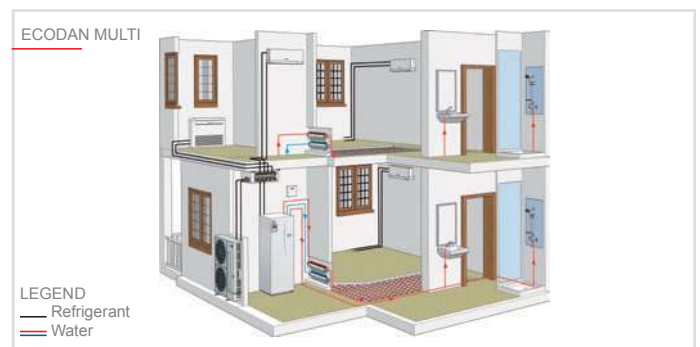
New PUMY Y(V)KM with Replace Technology

The EU regulation 2037/2000/EC has banned the use of virgin HCFC refrigerants (R22) since 1/1/2010. As a result, in the event of a fault or even just a refrigerant leak in an air conditioning system using R22, it is no longer possible to recharge the system. With small to medium-sized installations in particular, the most cost effective solution is to replace the entire air conditioning system. This is because of the following reasons:

- New generation outdoor units with R410A are much more efficient, with lower electric power consumption;
- They are quieter and offer more effective air filtration;
- Taking advantage of tax rebates offered for replacing winter air conditioning systems will minimise the time necessary to recoup the initial outlay.

The main problem in replacing an existing air conditioner using R22 fluid with a system using new R410A refrigerant is posed by the residue of chlorine and mineral oils remaining in the existing piping onto which the air conditioner system containing R22 was connected. This residue is extremely harmful for the new air conditioner, and unless the circuit is flushed out extremely thoroughly, may degrade the new oil and/or cause obstructions in the refrigerant circuit and, as a result, lead to system malfunctions. Moreover, the diameters and thickness of the existing piping may not be compatible with the new units.

The **SMALL Y (PUMY) Lines** of outdoor units features **Mitsubishi Electric Replace Technology**, which allows the **existing piping to be used** without modification, even with piping with different diameters and wall thicknesses. By using exclusive HAB oil and special low friction technology for the compressor, the majority of our air conditioners may operate with the original piping, cutting installation times and costs and material costs while minimising environmental impact.



AC PRE-HEATING compressor pre-heating system

AC pre-heating system is used for the compressor. The pre-heat routine is based on the temperature of the refrigerant and of the compressor. AC control reduces power absorption in stand-by state, increasing seasonal efficiency.

Technical specifications					
MODEL			PUMY-P112VKM6(-BS)	PUMY-P125VKM6(-BS)	PUMY-P140VKM6(-BS)
HP			4.5	5.0	6.0
Power	Phases/Voltage/Freq.		1-phase 220-230-240V 50Hz, 220-230V 60Hz		
Cooling	Nominal capacity* ¹	kW	12.5	14.0	15.5
	Power absorption	kW	4.34	5.00	5.17
	SEER		6.40	6.33	7.29
	Operating temperature range	Indoor WB	°C	15.0~24.0°C(59~75°F)	15.0~24.0°C(59~75°F)
Outdoor DB		°C	-5.0~52.0°C(23~126°F)	-5.0~52.0°C(23~126°F)	-5.0~52.0°C(23~126°F)
Heating	Nominal capacity* ²	kW	14.0	16.0	18.0
	Power absorption	kW	3.04	3.74	4.47
	SCOP		4.25	4.37	4.38
	Operating temperature range	Indoor DB	°C	15.0~27.0°C(59~81°F)	15.0~27.0°C(59~81°F)
Outdoor WB		°C	-20.0~15.0°C(-4~59°F)	-20.0~15.0°C(-4~59°F)	-20.0~15.0°C(-4~59°F)
Sound pressure* ³	Heating mode	dB(A)	51	52	53
	Cooling mode	dB(A)	49	50	51
Connectable indoor units	Total capacity		50~130 % of outdoor unit capacity	50~130 % of outdoor unit capacity	50~130 % of outdoor unit capacity
	Model/Quantity	CITY MULTI	P10-P140, M20-M140/9	P10-P140, M20-M140/10	P10-P140, M20-M140/12
		Branch Box	P15~P100/8	P15~P100/8	P15~P100/8
		Mixed System	please refer to databook		
External diameter of refrigerant connectors	Liquid	mm	9.52	9.52	9.52
	Gas	mm	15.88	15.88	15.88
Fan air flow rate		m ³ /min	110	110	110
External dimensions (HxLxW)		mm	1338 x 1050 x 330 (+40)	1338 x 1050 x 330 (+40)	1338 x 1050 x 330 (+40)
Net weight		kg	123	123	123
Ref. Charge R410A*/CO ₂ Eq		kg/Tons	4.8/10.02	4.8/10.02	4.8/10.02

*¹ Nominal cooling conditions: Indoor: 27°C DB / 19°C WB. Outdoor 35°C DB. Piping length 7.5 m, vertical difference 0 m.

*² Nominal heating conditions: Indoor 20°C DB. Outdoor 7°C DB / 6°C WB. Piping length 7.5 m, vertical difference 0 m.

*³ Values measured in anechoic chamber.

*⁴ GWP value of HFC R410A 2088 according to 517 / 2014.

The SEER and SCOP data are based on the EN14825 measurement standard

Technical specifications					
MODEL			PUMY-P112YKM5(-BS)	PUMY-P125YKM5(-BS)	PUMY-P140YKM5(-BS)
HP			4.5	5.0	6.0
Power	Phases/Voltage/Freq.		3-phase 380-400-415V 50Hz, 380V 60Hz		
Cooling	Nominal capacity* ¹	kW	12.5	14.0	15.5
	Power absorption	kW	4.34	5.00	5.17
	SEER		6.42	6.36	7.28
	Operating temperature range	Indoor WB	°C	15.0~24.0°C(59~75°F)	15.0~24.0°C(59~75°F)
Outdoor DB		°C	-5.0~52.0°C(23~126°F)	-5.0~52.0°C(23~126°F)	-5.0~52.0°C(23~126°F)
Heating	Nominal capacity* ²	kW	14.0	16.0	18.0
	Power absorption	kW	3.49	4.06	4.63
	SCOP		4.30	4.40	4.38
	Operating temperature range	Indoor DB	°C	15.0~27.0°C(59~81°F)	15.0~27.0°C(59~81°F)
Outdoor WB		°C	-20.0~15.0°C(-4~59°F)	-20.0~15.0°C(-4~59°F)	-20.0~15.0°C(-4~59°F)
Sound pressure* ³	Heating mode	dB(A)	51	52	53
	Cooling mode	dB(A)	49	50	51
Connectable indoor units	Total capacity		50~130 % of outdoor unit capacity	50~130 % of outdoor unit capacity	50~130 % of outdoor unit capacity
	Model/Quantity	CITY MULTI	P10-P140, M20-M140/9	P10-P140, M20-M140/10	P10-P140, M20-M140/12
		Branch Box	P15~P100/8	P15~P100/8	P15~P100/8
		Mixed System	please refer to databook		
External diameter of refrigerant connectors	Liquid	mm	9.52	9.52	9.52
	Gas	mm	15.88	15.88	15.88
Fan air flow rate		m ³ /min	110	110	110
External dimensions (HxLxW)		mm	1338 x 1050 x 330 (+40)	1338 x 1050 x 330 (+40)	1338 x 1050 x 330 (+40)
Net weight		kg	125	125	125
Ref. Charge R410A*/CO ₂ Eq		kg/Tons	4.8/10.02	4.8/10.02	4.8/10.02

*¹ Nominal cooling conditions: Indoor: 27°C DB / 19°C WB. Outdoor 35°C DB. Piping length 7.5 m, vertical difference 0 m.

*² Nominal heating conditions: Indoor 20°C DB. Outdoor 7°C DB / 6°C WB. Piping length 7.5 m, vertical difference 0 m.

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The SEER and SCOP data are based on the EN14825 measurement standard