

# Optional Parts

## Optional Parts for outdoor unit and branch box

No.	Parts Name	Parts No.	Note
1	Distribution Pipe	MSDD-50AR-E	Branch pipe for flare connection when two branch boxes are used.
2		MSDD-50BR-E	Branch pipe for brazed connection when two branch boxes are used.
3	Joint	CMY-Y62-G-E	2-branch joint
4	Header	CMY-Y64/68-G-E	4-branch header/8-branch header
5	Joint Pipe	PAC-SG71RJ-E	Flare Unit $\phi$ 15.88 → Pipe $\phi$ 22.2 (Brazing needed at main pipe)
6		PAC-SG76RJ-E	Flare Unit $\phi$ 9.52 → Pipe $\phi$ 15.88
7		PAC-493PI	Flare Unit $\phi$ 6.35 → Pipe $\phi$ 9.52
8		MAC-A454JP	Flare Unit $\phi$ 9.52 → Pipe $\phi$ 12.7
9		MAC-A455JP	Flare Unit $\phi$ 12.7 → Pipe $\phi$ 9.52
10		MAC-A456JP	Flare Unit $\phi$ 12.7 → Pipe $\phi$ 15.88
11	Branch Box Outer Cover	PAC-AK350CVR-E	Designed to use when installing Branch box outside
12	Drain Socket	PAC-SG61DS-E	Cap unnecessary holes on the outdoor unit (bottom) and centralize the drainage when using a drain pipe.
13	Centralized Drain Pan	PAC-SH97DP-E	A drain pan for the drain water generated from the outdoor unit.
14	Air Protect Guide (2pcs required)	PAC-SH95AG-E	Enables operation even when the outside temperature is low. Protect the unit from cold wind.
15	Air Outlet Guide	PAC-SH96SG-E	A part to change air direction from outdoor unit. Can also be used to prevent short cycles.
16	Base Heater	PAC-SJ20BH-E	Designed to prevent the ice on the bottom of the outdoor unit heat exchanger and the clogged drain hole caused by freezing in severe winter. *Not applicable for PUMY-P175/200/225YKM1.

\*Optional Parts for indoor units are also available.

### NOTICE

- Do not install indoor units in areas (e.g., mobile phone base stations) where the emission of VOCs such as phthalate compounds and formaldehyde is known to be high as this may result in a chemical reaction.
- When installing or relocating or servicing the air conditioners, use only the specified refrigerant (R410A) to charge the refrigerant lines. Do not mix it with any other refrigerant and do not allow air to remain in the lines. If air is mixed with the refrigerant, then it can be the cause of abnormal high pressure in the refrigerant lines, and may result in an explosion and other hazards. The use of any refrigerant other than that specified for the system will cause mechanical failure, system malfunction or unit breakdown. In the worst case, this could lead to a serious impediment to securing product safety.



for a greener tomorrow

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

## MITSUBISHI ELECTRIC CORPORATION

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## AIR CONDITIONING SYSTEM



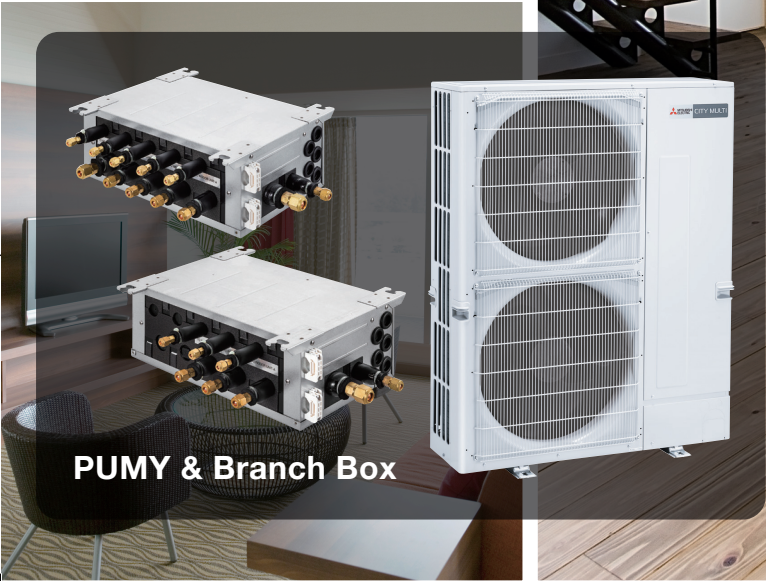
Changes for the Better

Mitsubishi Electric  
**MEQ** quality



## BRANCH BOX SYSTEM

# 2015



PUMY & Branch Box

for a greener tomorrow

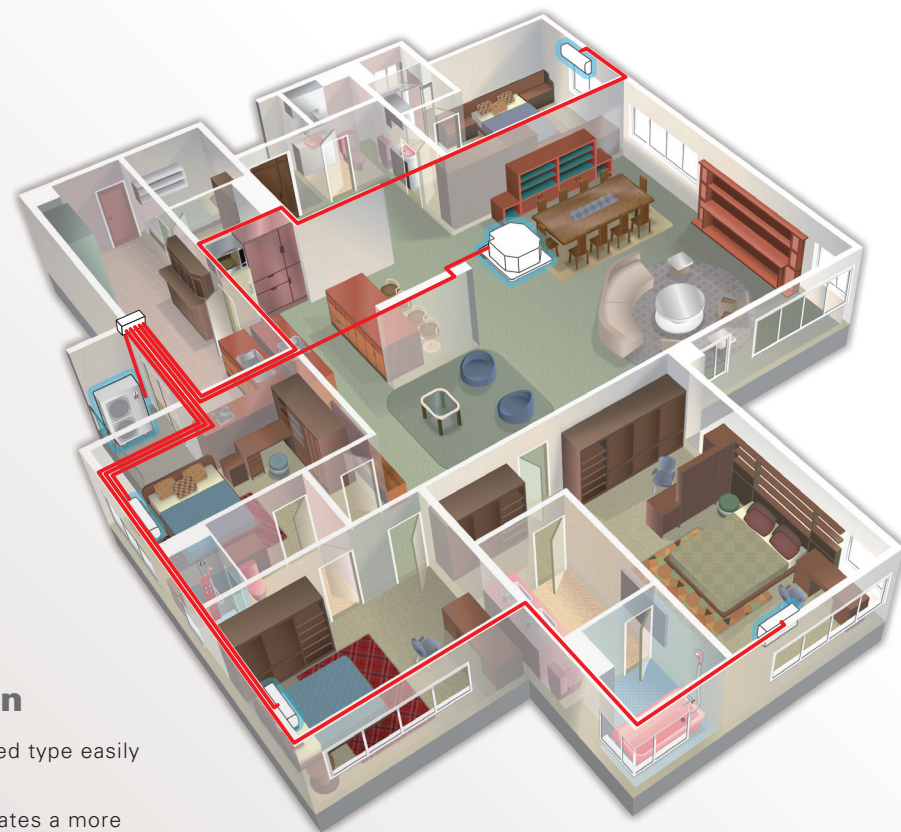


# The New Branch Box System Provides a Quiet, Highly Efficient and Flexible Air Conditioning System for All Your Air Conditioning Needs

The Branch Box System is a new addition to Mitsubishi Electric's popular Inverter Multi series air conditioning systems. The powerful yet silent Branch Box System has been specifically designed for villas, condominiums, shops and offices, and with a long list of features, it is more than enough to make your place ideal and comfortable.



**For  
Residence**

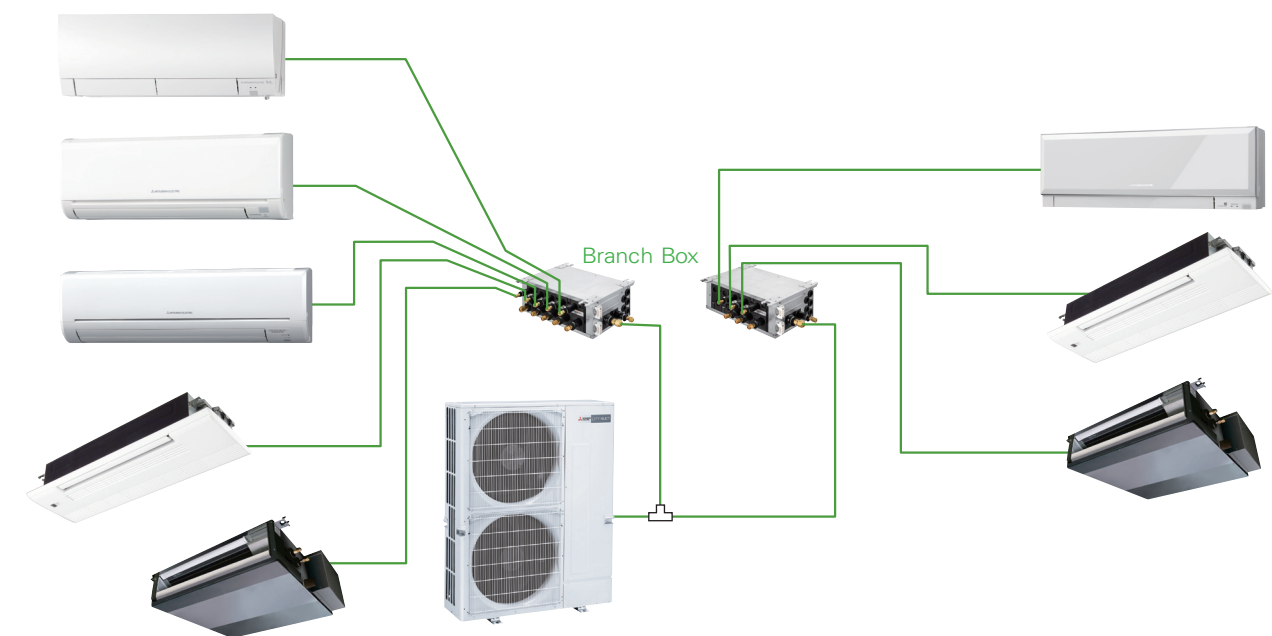


## Suggestion for indoor unit selection

- For a large living room, Ceiling Concealed type easily matches the fancy interior.
- For a bed room, Wall Mounted type creates a more silent atmosphere.

## Silent Operation

With the Branch Box, PUMY runs so smooth and quiet, you get comfort without any of the bothersome noise. Under low operating load, "Low-noise" mode will automatically be selected thus providing quiet operation. Connecting with our latest wall mounted indoor units allows creating a quiet and comfort space where the occupants would not even recognize the existence of air conditioner operation.



## Flexible Choice of Indoor unit

The Branch Box System satisfies all your needs. You can choose an indoor unit optimum for the application, interior and size of your room from the versatile product line up.

## Easy Installation

Not only is heavy installation work a bother, it also costs a bundle of money. This is why we have worked hard to make the system as easy to install and maintain as possible. Not only the branch box simplifies the piping work, the flare connection adopted eliminates the use of fire for easier and safer installation.\*

\*When connecting branch box with PUMY-P175/200/225 YKM1, brazing is required.

# Variety of indoor Units

## A-control indoor unit Cooling Only



### Wall Mounted

F-series



• MSXY-FJ

E-series



• MSY-EF

G-series



• MSY-GE  
• MSY-GH  
• MSY-GK



### 4-way Cassette



PLY-BA(T)



### Ceiling Suspended



PCY-KA(T)



### Ceiling Concealed



PEY-JA(T)

\*The lineup differs by region.  
\*Set to cooling only mode for outdoor unit, branch box, and M-NET control indoor unit when one or more cooling only indoor units are connected. Refer to the manual for details.

## A-control indoor unit Heat Pump



### Wall Mounted

F-series



• MSZ-FH  
• MSZ-FK

E-series



• MSZ-EF

G-series



• MSZ-GE  
• MSZ-GC

H-series



• MSZ-HJ  
• MSZ-HL



### 4-way Cassette



PLA-BA



SLZ-KA



### 1-way Cassette



MLZ-KA



### Ceiling Concealed



SEZ-KD / KH

\*The lineup differs by region.

# Variety of indoor Units

M-NET control indoor unit

Heat Pump

Model name		Model name	Model	P15	P20	P25	P32		P40	P50	P63	P71	P80	P100	P125	P140	P200	P250
Ceiling Cassette	4-way air flow	PLFY-P-VBM-E																
		PLFY-P-VCM-E2																
	2-way air flow	PLFY-P-VLMD-E																
	1-way air flow	PMFY-P-VBM-E																
Ceiling Concealed		PEFY-P-VMR-E-L/R																
		PEFY-P-VMS1(L)-E																
		PEFY-P-VMA(L)-E																
		PEFY-P-VMH(S)-E																
	Fresh Air Intake	PEFY-P-VMH-E-F																
Ceiling Suspended		PCFY-P-VKM-E																
Wall Mounted		PKFY-P-VBM-E																
		PKFY-P-VHM-E																
	Note:A-control wall mounted indoor units via branch box are recommended where quiet atmosphere is important.	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																

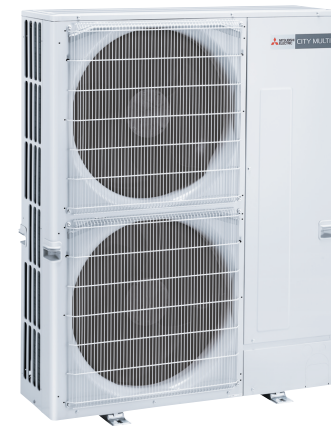
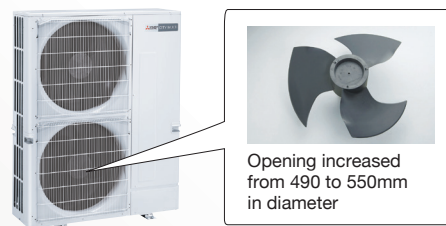
# Feature of Outdoor Units

## Highly efficient fan and grille for outdoor unit

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.

### Outdoor unit fan opening increased

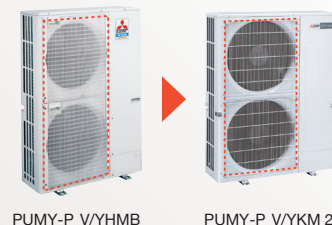
The diameter of the opening for the fan in the outdoor unit has been increased from 490 to 550mm. Blowing capacity has been increased while maintaining the same fan rotation speed.



PUMY-P112/125/140 V(Y)KM2  
PUMY-P175/200/225 YKM1

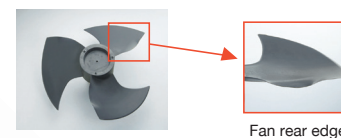
### Grille shape changed

The shape of the air outlet grille has been changed to reduce pressure loss. This has helped to improve heat exchange performance.



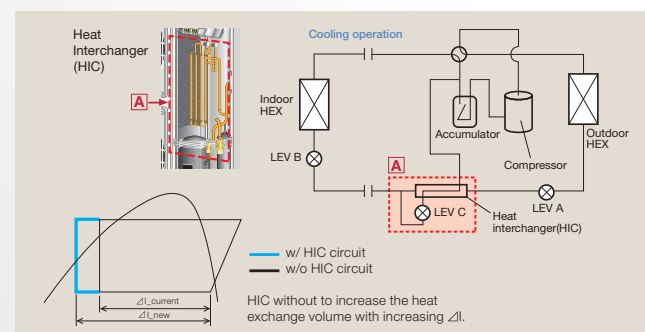
### Inflexed fan

Adoption of a fan with improved ventilation characteristics and a newly designed rear edge that suppresses wind turbulence raises fan operation efficiency.



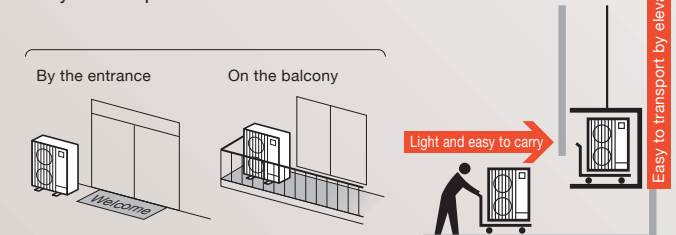
## Heat Interchanger (HIC) Added

A HIC circuit has been added to improve energy efficiency during cooling operation. Liquid refrigerant is rerouted, transformed into a gas state and injected back into the system to increase overall pressure of the refrigerant being sent to the compressor, thereby reducing the load on the compressor and raising efficiency.



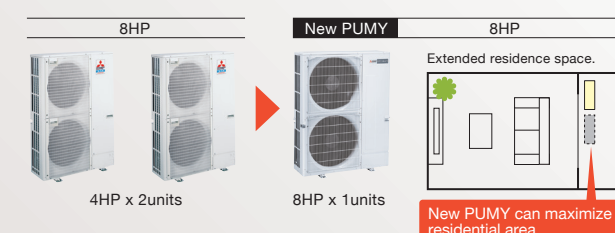
## Light weight

Easy to transport and install at site.



## Smaller footprint

Flexible choice and suitable for the limited outdoor space.



# Features of the Branch Box

## Flexible Installation

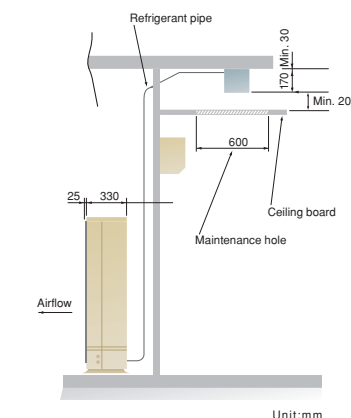


PAC-MK51BC



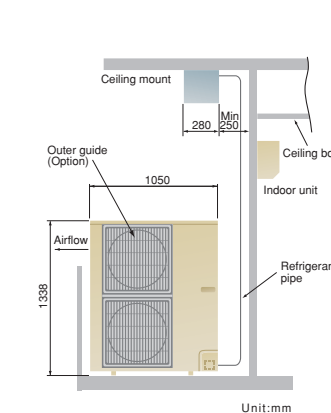
PAC-MK31BC

### Indoor Installation



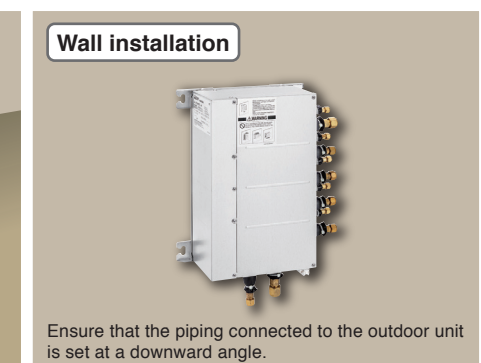
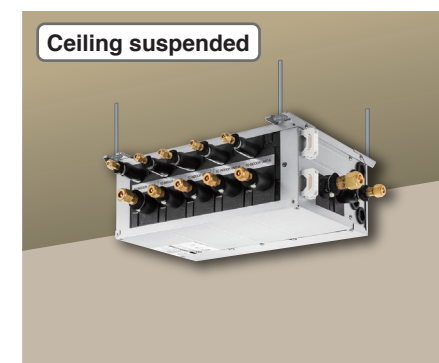
The branch box can be installed inside above the ceiling. The only 2 pipes(liquid and gas) to the branch box can be seen on the wall. Piping length to the indoor units is also reduced. By only removing the side and bottom covers, you can access the inner parts like the circuit board providing a great convenience in servicing.

### Outdoor Installation



Using branch box outer cover (PAC-AK350CVR-E) allows you to install the branch box outdoors. Install the branch box outdoors suspended from the eaves above the outdoor unit if you are looking to make maintenance easy. There is no need for a maintenance hole in your ceiling.

## Types of Installation Method



## Other Features

- Noise kept to a minimum as LEV located in the branch box
- Direct M-NET connection to outdoor unit
- No optional interface required to connect to centralized system
- Easy pipe installation without drain pipe construction

# Procedures to Select Indoor Branch Box System / in Mix

# Unit in ed System

## UNIT CONSTRUCTION (BRANCH BOX SYSTEM)

### 1. Check the number of Indoor units and applicable capacity in accordance with the outdoor unit capacity and number of Branch box.

Outdoor unit		PUMY-P112VKM2 PUMY-P112YKM2	PUMY-P125VKM2 PUMY-P125YKM2	PUMY-P140VKM2 PUMY-P140YKM2	PUMY-P175YKM1	PUMY-P200YKM1	PUMY-P225YKM1
		4HP	5HP	6HP	7HP	8HP	9HP
Applicable Indoor unit	Capacity	Type22 to Type71 (kW), Type09 to Type30 (Btu / h)					
	Number of units	2 to 8 unit					
	Total system capacity range	24% to 130% of outdoor unit capacity	21% to 130% of outdoor unit capacity	19% to 130% of outdoor unit capacity	50% to 130% of outdoor unit capacity	50% to 130% of outdoor unit capacity	50% to 130% of outdoor unit capacity
	Model capacity (kW)	3.0 to 16.2	3.0 to 18.2	3.0 to 20.2	10.0 to 26.0	11.2 to 29.1	12.5 to 32.5
Branch Box	Number of Branch Box	1 to 2 units*1					

\*1 Distribution pipe(MSDD-50) is required when connecting with two branch boxes.  
One branch box can connect to indoor units which sum up to 20.2kW  
Different diameter joint pipe (PAC-SG71RJ-E) is required when using branch box for PUMY-P175 / 200 / 225YKM1

### 2. Choose from the Indoor unit below

Connectable A-control indoor unit lineup			Capacity class (kW type)						
Model type			22	25	35	42	50	60	71
Heat Pump	Wall mounted	MSZ-FH-VE		●	●		●		
		MSZ-EF-VE		●	●	●	●		
		MSZ-EF-VA		●	●		●		
		MSZ-GE-VA		●	●		●	●	●
		MSZ-GC-NA	●	●	●		●	●	●
		MSZ-HJ-VA		●	●		●		●
		MSZ-HL-VA		●	●		●		
	1-way cassette	MLZ-KA-VA		●	●		●		
	4-way cassette	PLA-RP-BA			●		●	●	●
	2 x 2 cassette	SLZ-KA-VA(L)		●	●		●		
	Ceiling concealed	SEZ-KD-VA(L)		●	●		●	●	●

Note: The lineup of connectable Indoor units differs by region.

Connectable A-control indoor unit lineup			Capacity class (Btu / h type)							
Model type			09	10	13	15	18	24	26	30
Heat Pump	Wall mounted	MSZ-FH-VA		●	●		●			
		MSZ-FK-VA	●		●		●			
		MSZ-EF-VA	●		●					
	Ceiling concealed	SEZ-KH-VALT			●		●	●	●	
Cooling Only	Wall mounted	MSXY-FJ-VE					●	●		
		MSY-EF-VA		●	●		●			
		MSY-GE-VA		●	●	●	●	●	●	
		MSY-GH-VA	●		●		●	●		
		MSY-GK-VA					●	●		
	4-way cassette	PLY-P-BA(T)					●	●		●
	Ceiling suspended	PCY-P-KA(T)					●	●		●
	Ceiling concealed	PEY-P-JA(T)					●	●		●

Note: The lineup of connectable indoor units differs by region.

### 3. Find the model capacity of Indoor unit

A-control indoor unit	Model number for indoor unit <kW type>	Model 18	Model 22	Model 25	Model 35	Model 42	Model 50	Model 60	Model 71						
	Model capacity	1.8	2.2	2.5	3.5	4.2	5.0	6.0	7.1						
	Model number for indoor unit <Btu / h type>	Model 09	Model 10	Model 13	Model 15	Model 18	Model 24	Model 26	Model 30						
	Model capacity	2.2	2.5	3.5	4.2	5.0	7.1	7.6	8.8						
M-NET control indoor unit	Model number for indoor unit	Model 15	Model 20	Model 25	Model 32	Model 40	Model 50	Model 63	Model 71	Model 80	Model 100	Model 125	Model 140	Model 200	Model 250
	Model capacity	1.7	2.2	2.8	3.6	4.5	5.6	7.1	8.0	9.0	11.2	14.0	16.0	22.4	28.0

### 4. System Capacity Caluculation

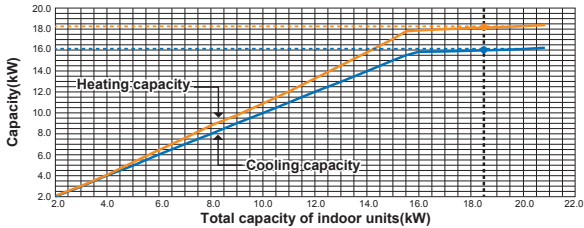
(1) Method of obtaining system capacity

To obtain the system capacity, first add up the ratings of all the indoor units connected and then find the standard capacity with the help of the figures below. The unit's quantities are limited in 2 to 8 units. Make sure that the total capacity selected will stay in a range obtained in 1.

Example:

- Outdoor unit PUMY-P140VKM2
- Indoor unit SEZ-KD35VA, SEZ-KD50VA, MSZ-GE25VA x 4
- Branch Box

Total capacity of the indoor unit will be : 3.5 + 5.0 + 2.5 x 4 = 18.5 ≤ 20.2kW



1. System capacity of cooling and heating can be obtained from the graph.

Cooling : 16.0kW Heating : 18.3kW

2. The capacity of each indoor unit (kW) = System capacity obtained above. ×  $\frac{\text{Rated capacity of the indoor unit in question}}{\text{Total model capacity of all indoor units}}$

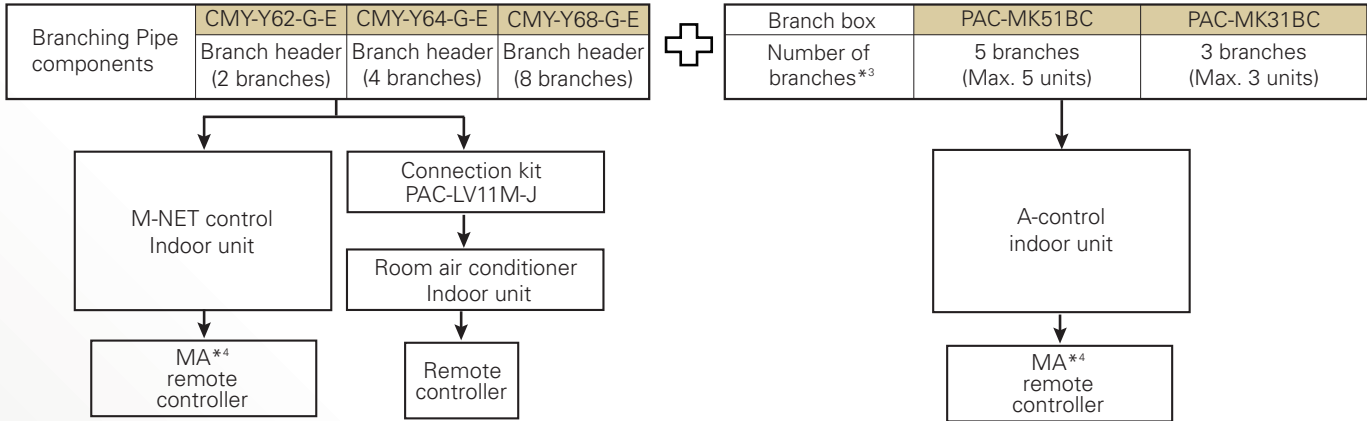
\*Please refer to the service manual for more details.

## UNIT CONSTRUCTION (MIXED SYSTEM)

### 1. Check the number of Indoor units (both A-control and M-NET control indoor unit) and applicable capacity in accordance with the Outdoor unit capacity and number of branch box.

Outdoor unit		PUMY-P112VKM2 PUMY-P112YKM2		PUMY-P125VKM2 PUMY-P125YKM2		PUMY-P140VKM2 PUMY-P140YKM2		PUMY-P175YKM1		PUMY-P200YKM1		PUMY-P225YKM1	
		4HP		5HP		6HP		7HP		8HP		9HP	
Capacity	M-NET control indoor unit	Type15 to Type125		Type15 to Type140				Type15 to Type224		Type15 to Type250			
	A-control indoor unit	Type22 to Type71 (kW), Type09 to Type30 (Btu)											
Number of indoor units		A-control indoor unit	M-NET control indoor unit	A-control indoor unit	M-NET control indoor unit	A-control indoor unit	M-NET control indoor unit	A-control indoor unit	M-NET control indoor unit	A-control indoor unit	M-NET control indoor unit	A-control indoor unit	M-NET control indoor unit
		1-Branch box	5	5	5	5	5	5	5	5	5	5	5
		2-Branch box	7 or 8*2	3 or 2*2	8	3	8	3	8	3	8	3	8
Total system capacity range		50 to 130% of outdoor unit capacity											
Model Capacity		6.3 to 16.2		7.1 to 18.2		8.0 to 20.2		10.0 to 26.0		11.2 to 29.1		12.5 to 32.5	

\*2 When you connect 7 A-control indoor units, 3 M-NET control indoor units can be connected. When you connect 8 A-control indoor units, 2 M-NET control indoor units can be connected.



\*3 Different diameter joint pipe (PAC-SG71RJ-E) is required when using branch box for PUMY-P175 / 200 / 225YKM1.

\*4 M-NET remote controller is not applicable when branch box is connected.

# Specifications

## PUMY-P112/125/140V(Y)KM2

Model			PUMY-P112VKM2	PUMY-P125VKM2	PUMY-P140VKM2	PUMY-P112YKM2	PUMY-P125YKM2	PUMY-P140YKM2	
Power source			1-phase 220-240V 50Hz/60Hz	1-phase 220-240V 50Hz/60Hz	1-phase 220-240V 50Hz/60Hz	3-phase 380-415V 50Hz/60Hz	3-phase 380-415V 50Hz/60Hz	3-phase 380-415V 50Hz/60Hz	
Cooling capacity (Nominal)	*1	kW	12.5	14.0	15.5	12.5	14.0	15.5	
	*1	BTU / h	42,700	47,800	52,900	42,700	47,800	52,900	
	Power input		kW	2.79	3.46	4.52	2.79	3.46	
	Current input (220-230-240V)		A	12.87-12.32-11.80	15.97-15.27-14.64	20.86-19.95-19.12	4.46-4.24-4.09	5.53-5.26-5.07	7.23-6.87-6.62
	EER		kW / kW	4.48	4.05	3.43	4.48	4.05	3.43
Temp. range of cooling *6	Indoor temp.	W.B.	15.0~24.0°C	15.0~24.0°C	15.0~24.0°C	15.0~24.0°C	15.0~24.0°C	15.0~24.0°C	
	Outdoor temp.	D.B.	-5.0~46.0°C	-5.0~46.0°C	-5.0~46.0°C	-5.0~46.0°C	-5.0~46.0°C	-5.0~46.0°C	
Heating capacity (Nominal)	*2	kW	14.0	16.0	18.0	14.0	16.0	18.0	
	*2	BTU / h	47,800	54,600	61,400	47,800	54,600	61,400	
	Power input		kW	3.04	3.74	4.47	3.04	3.74	4.47
	Current input (220-230-240V)		A	14.03-13.42-12.86	17.26-16.51-15.82	20.63-19.73-18.91	4.86-4.62-4.45	5.98-5.68-5.48	7.15-6.79-6.55
	COP		kW / kW	4.61	4.28	4.03	4.61	4.28	4.03
Temp. range of heating	Indoor temp.	D.B.	15.0~27.0°C	15.0~27.0°C	15.0~27.0°C	15.0~27.0°C	15.0~27.0°C	15.0~27.0°C	
	Outdoor temp.	W.B.	-20.0~15.0°C	-20.0~15.0°C	-20.0~15.0°C	-20.0~15.0°C	-20.0~15.0°C	-20.0~15.0°C	
Indoor unit connectable	Total capacity		50 to 130 % of outdoor unit capacity						
	Model / Quantity	M-NET control	15 - 140 / 9	15 - 140 / 10	15 - 140 / 12	15 - 140 / 9	15 - 140 / 10	15 - 140 / 12	
		A-control	22 - 71(kW type) / 8 09 - 30(Btu/h type) / 8	22 - 71(kW type) / 8 09 - 30(Btu/h type) / 8	22 - 71(kW type) / 8 09 - 30(Btu/h type) / 8	22 - 71(kW type) / 8 09 - 30(Btu/h type) / 8	22 - 71(kW type) / 8 09 - 30(Btu/h type) / 8	22 - 71(kW type) / 8 09 - 30(Btu/h type) / 8	
		Mixed system	15 - 140*4 / 10	15 - 140*4 / 10*5	15 - 140*4 / 10*5	15 - 140*4 / 10	15 - 140*4 / 10*5	15 - 140*4 / 10*5	
Sound pressure level (measured in anechoic room)		dB <A>	49 / 51	50 / 52	51 / 53	49 / 51	50 / 52	51 / 53	
Refrigerant piping diameter	Liquid pipe	mm	9.52 Flare	9.52 Flare	9.52 Flare	9.52 Flare	9.52 Flare	9.52 Flare	
	Gas pipe	mm	15.88 Flare	15.88 Flare	15.88 Flare	15.88 Flare	15.88 Flare	15.88 Flare	
FAN	Air flow rate	m3/min	110	110	110	110	110	110	
External dimension HxWxD		mm	1,338 x 1,050 x 330 (+25)	1,338 x 1,050 x 330 (+25)	1,338 x 1,050 x 330 (+25)	1,338 x 1,050 x 330 (+25)	1,338 x 1,050 x 330 (+25)	1,338 x 1,050 x 330 (+25)	
Net weight		kg	122	122	122	125	125	125	

Notes: \*1,\*2 Nominal conditions

	Indoor	Outdoor
Cooling	27°C DB/19°CWB	35°C DB
Heating	20°C DB	7°C DB/6°C WB

	Pipe length	Level difference
Cooling	7.5m	0m
Heating	7.5m	0m

\*Nominal condition \*1,\*2 are subject to ISO 15042.

\*3 Liquid pipe diameter:12.7mm in case that the farthest piping length is longer than 60m or piping length from outdoor unit to first joint is longer than 20m.

\*4 Up to P100 when connecting via branch box

\*5 Up to 11 units when connecting via 2 branch boxes (Refer to P.10 for details.)

\*6 10 to 46°C D.B. (52°C D.B. for PUMY-P175/200/225YKM1), when connecting PKFY-P15/20/25VBM, PFFY-P20/25/32VKM, and PFFY-P20/25/32VLE(R)M type indoor unit.

\*7 10 to 52°C D.B., when connecting MSY and MSZ indoor unit to PUMY-P175/200/225YKM1.

## PUMY-P175/200/225KM1

Model			PUMY-P175YKM1	PUMY-P200YKM1	PUMY-P225YKM1
Power source			3-phase 380-415V 50Hz/60Hz	3-phase 380-415V 50Hz/60Hz	3-phase 380-415V 50Hz/60Hz
Cooling capacity (Nominal)	*1	kW	20.0	22.4	25.0
	*1	BTU / h	68,200	76,400	85,300
	Power input	kW	5.48	6.91	9.62
	Current input (220-230-240V)	A	8.95-8.51-8.20	11.29-10.72-10.34	15.72-14.93-14.39
	EER	kW / kW	3.65	3.24	2.60
Temp. range of cooling *6*7	Indoor temp.	W.B.	15.0~24.0°C	15.0~24.0°C	15.0~24.0°C
	Outdoor temp.	D.B.	-5.0~52.0°C	-5.0~52.0°C	-5.0~52.0°C
Heating capacity (Nominal)	*2	kW	22.4	25.0	27.3
	*2	BTU / h	76,400	85,300	93,200
	Power input	kW	5.73	6.96	7.65
	Current input (220-230-240V)	A	9.36-8.89-8.57	11.37-10.80-10.41	12.50-11.87-11.44
	COP	kW / kW	3.91	3.59	3.57
Temp. range of heating	Indoor temp.	D.B.	15.0~27.0°C	15.0~27.0°C	15.0~27.0°C
	Outdoor temp.	W.B.	-20.0~15.0°C	-20.0~15.0°C	-20.0~15.0°C
Indoor unit connectable	Total capacity		50 to 130 % of outdoor unit capacity		
	Model / Quantity	M-NET control	15 - 224 / 12	15 - 250 / 12	15 - 250 / 12
		A-control	22 - 71(kW type) / 8 09 - 30(Btu/h type) / 8	22 - 71(kW type) / 8 09 - 30(Btu/h type) / 8	22 - 71(kW type) / 8 09 - 30(Btu/h type) / 8
		Mixed system	15 - 140*4 / 10*5	15 - 140*4 / 10*5	15 - 140*4 / 10*5
Sound pressure level (measured in anechoic room)		dB <A>	56/ 61	56 / 61	58 / 63
Refrigerant piping diameter	Liquid pipe	mm	9.52 Flare *3	9.52 Flare *3	9.52 Flare *3
	Gas pipe	mm	22.2 Brazed	22.2 Brazed	22.2 Brazed
FAN	Air flow rate	m3/min	134	134	143.8
External dimension HxWxD		mm	1,338 x 1,050 x 330 (+25)	1,338 x 1,050 x 330 (+25)	1,338 x 1,050 x 330 (+25)
Net weight		kg	138	138	138

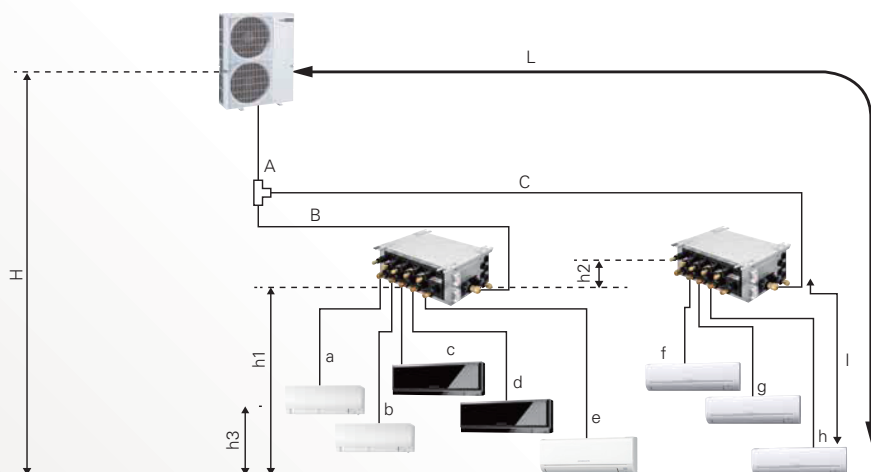
Model Name			PAC-MK51BC		PAC-MK31BC		
Connectable number of indoor units			Maximum 5		Maximum 3		
Power supply (from outdoor unit)			Single phase, 220/230/240 V, 50 Hz, Single phase, 220 V, 60 Hz				
Input			kW	0.003			
Running current			A	0.05 (Max. 6)			
Dimensions	Width	mm	450				
	Depth	mm	280				
	Height	mm	170				
Weight			kg	7.4		6.7	
Piping connection (Flare)	Branch (indoor side)*	Liquid	mm	φ 6.35 x 5 {A,B,C,D,E}		φ 6.35 x 3 {A,B,C}	
		Gas	mm	φ 9.52 x 4 {A,B,C,D}, φ 12.7 x 1{E}		φ 9.52 x 3 {A,B,C}	
	Main (outdoor side)	Liquid	mm	φ 9.52			
		Gas	mm	φ 15.88			
Max. rated capacity of connectable indoor units (each branch box)			kW	20.2			

\* The piping connection size differs according to the type and capacity of indoor units. Match the piping connection size for indoor and branch box. If the piping connection size of branch box does not match the piping connection size of indoor units, use optional different-diameter joints to the branch box side. (Connect joint directly to the branch box side.)

\* When connecting branch boxes with PUMY-P175/200/225YKM1, different diameter joint (PAC-SG71RJ-E) is required.

# Piping Installation (Branch Box System)

Using 2 branch boxes

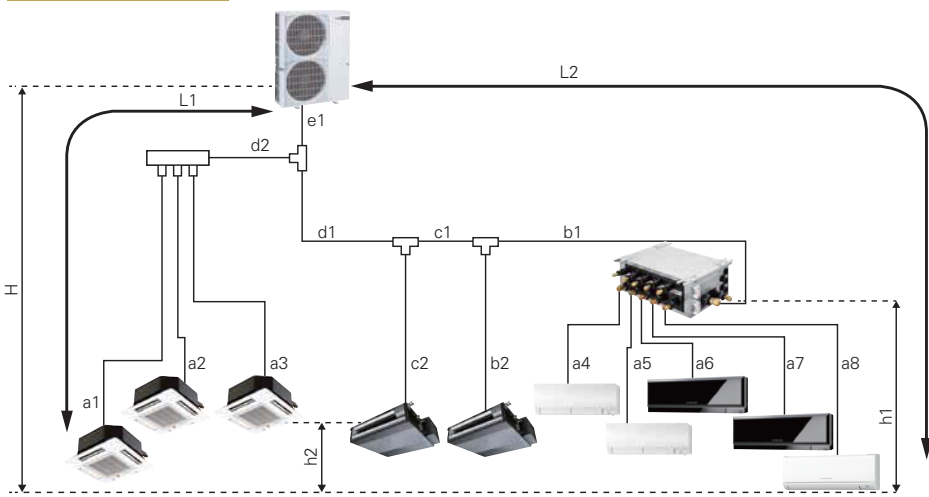


Permissible length (One-way)	Total piping length	$A + B + C + a + b + c + d + e + f + g + h \leq 150 \text{ m}$
	Farthest piping length (L)	$A + C + h \leq 80 \text{ m}$ ( $A + C \leq 55 \text{ m}$ , $h \leq 25 \text{ m}$ )
	Piping length between Outdoor unit and Branch boxes	$A + B + C \leq 55 \text{ m}$
	Farthest piping length after Branch box (I)	$I \leq 25 \text{ m}$
Permissible height difference (One-way)	Total piping length between Branch boxes and Indoor units	$a + b + c + d + e + f + g + h \leq 95 \text{ m}$
	In Indoor/Outdoor section (H)*1	$H \leq 50 \text{ m}$ (In case that outdoor unit is set higher than indoor unit)
	In Branch box/Indoor unit section (h1)	$H \leq 40 \text{ m}$ (In case that outdoor unit is set lower than indoor unit)
	In each Branch unit (h2)	$h1 + h2 \leq 15 \text{ m}$
Number of bends	In each Indoor unit (h3)	$h2 \leq 15 \text{ m}$
		$h3 \leq 12 \text{ m}$

\*1 Branch box should be placed within the level between the outdoor unit and indoor units.

# Piping Installation (Mixed System)

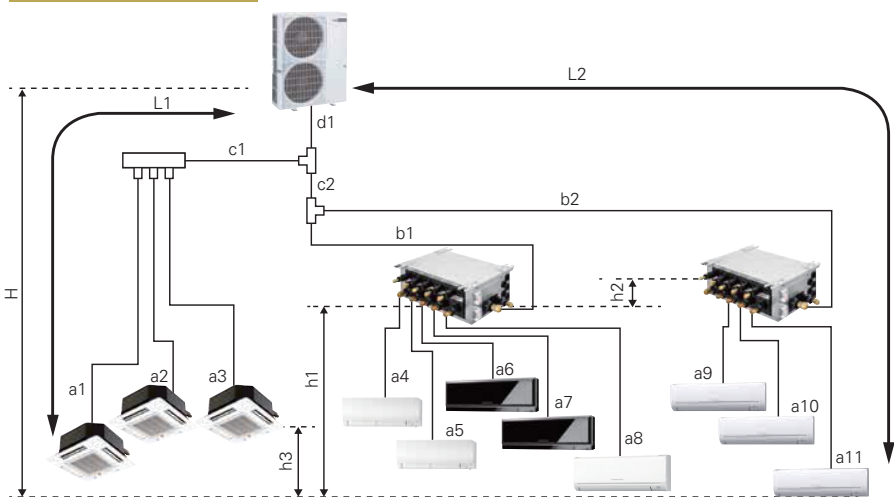
Using 1 Branch box



Permissible length (One-way)	Total piping length	$e1 + d1 + d2 + c1 + c2 + b1 + b2 + a1 + a2 + a3 + a4 + a5 + a6 + a7 + a8 \leq 300 \text{ m}$ (4-6HP), 150m (7-9HP)
	Longest piping length (L1)	$e1 + d1 + c1 + b2$ or $e1 + d2 + a1 \leq 85 \text{ m}$ (4-6HP), 80m (7-9HP)
	Longest piping length Via Branch box (L2)	$e1 + d1 + c1 + b1 + a8 \leq 80 \text{ m}$
	Piping length between Outdoor unit and Branch box	$e1 + d1 + c1 + b1 \leq 55 \text{ m}$
Permissible height difference (One-way)	Longest piping length from the first joint	$d1 + c1 + b1, d1 + c1 + b2$ or $d2 + a1 \leq 30 \text{ m}$
	Longest piping length after Branch box	$a8 \leq 25 \text{ m}$
	Total piping length between Branch boxes and Indoor units	$a4 + a5 + a6 + a7 + a8 \leq 95 \text{ m}$
	In Indoor/Outdoor section (H)*1	$H \leq 50 \text{ m}$ (In case that outdoor unit is set higher than indoor unit)
Number of bends	For Branch box/Indoor unit section (h1)	$H \leq 40 \text{ m}$ (In case that outdoor unit is set lower than indoor unit)
	For each Indoor unit (h2)	$h1 \leq 15 \text{ m}$

\*1: Branch box should be installed on a plane within the levels of the outdoor and indoor units.

Using 2 Branch boxes



Permissible length (one-way)	Total piping length	$d1 + c1 + c2 + b1 + b2 + a1 + a2 + a3 + a4 + a5 + a6 + a7 + a8 + a9 + a10 + a11 \leq 240 \text{ m}$ (4-6HP), 150m (7-9HP)
	Longest piping length (L1)	$d1 + c1 + a1 \leq 85 \text{ m}$ (4-6HP), 80m (7-9HP)
	Longest piping length Via Branch box (L2)	$d1 + c2 + b2 + a11 \leq 80 \text{ m}$
	Piping length between Outdoor unit and Branch boxes	$d1 + c2 + b1 + b2 \leq 55 \text{ m}$
Permissible height difference (one-way)	Longest piping length from the first joint	$c2 + b2$ or $c1 + a1 \leq 30 \text{ m}$
	Longest piping length after Branch box	$a11 \leq 25 \text{ m}$
	Farthest Branch box from Outdoor unit	$d1 + c2 + b2 \leq 55 \text{ m}$
	Total piping length between Branch boxes and Indoor units	$a4 + a5 + a6 + a7 + a8 + a9 + a10 + a11 \leq 95 \text{ m}$
Number of bends	For Indoor/Outdoor section (H)*1	$H \leq 50 \text{ m}$ (In case that outdoor unit is set higher than indoor unit)
	For Branch box/Indoor unit section (h1)	$H \leq 40 \text{ m}$ (In case that outdoor unit is set lower than indoor unit)
Number of bends	For each Branch unit (h2)	$h1 + h2 \leq 15 \text{ m}$
	For each Indoor unit (h3)	$h2 \leq 15 \text{ m}$

\*1: Branch box should be installed on a plane within the levels of the outdoor and indoor units.