

Model name:

MCY-MHP0806HS8-E

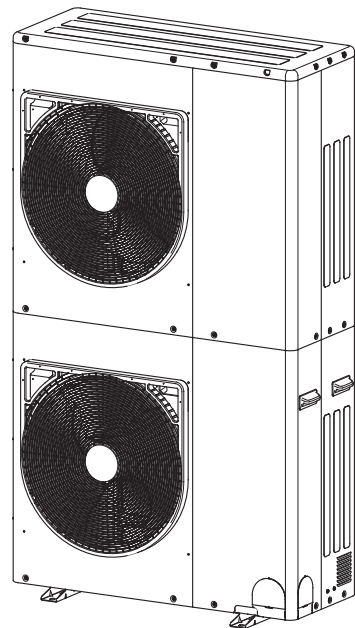
MCY-MHP1006HS8-E

MINI-SMMS



Engineering Data Book

Outdoor units



Notice: Toshiba is committed to continuously improving its products to ensure the highest quality and reliability standards, and to meet local regulations and market requirements. All features and specifications are subject to change without prior notice.

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Safety caution

- Before use, read carefully through the “Safety caution” section to ensure correct operation.
- The important contents concerned to the safety are described in the “Safety cautions”. Be sure to keep them. For Indications and their meanings, see the following description.

Warning Indications on the Air Conditioner Unit

Warning indication	Description
 WARNING ELECTRICAL SHOCK HAZARD Disconnect all remote electric power supplies before servicing.	WARNING ELECTRICAL SHOCK HAZARD Disconnect all remote electric power supplies before servicing.
 WARNING Moving parts. Do not operate unit with grille removed. Stop the unit before the servicing.	WARNING Moving parts. Do not operate unit with grille removed. Stop the unit before the servicing.
 CAUTION High temperature parts. You might get burned when removing this panel.	CAUTION High temperature parts. You might get burned when removing this panel.
 CAUTION Do not touch the aluminum fins of the unit. Doing so may result in injury.	CAUTION Do not touch the aluminium fins of the unit. Doing so may result in injury.
 CAUTION BURST HAZARD Open the service valves before the operation, otherwise there might be the burst.	CAUTION BURST HAZARD Open the service valves before the operation, otherwise there might be the burst.
 CAUTION Never recover the refrigerant into the outdoor unit.	CAUTION Never recover the refrigerant into the outdoor unit.
 CAUTION Do not climb onto the top side. Doing so may result in injury.	CAUTION Do not climb onto the top side. Doing so may result in injury.

■ Explanation of indications

 WARNING

Indicates possibilities that a death or serious injury of personnel is caused by an incorrect handling.

 CAUTION

Indicates contents that an injury (*1) or property damage (*2) only may be caused when an incorrect work has been executed.

*1: "Injury" means a hurt, a burn, or an electric shock which does not require hospitalization or a long-term going to the hospital.

*2: "Property damage means an enlarged damage concerned to property, or breakage of materials.

- **After installation work has finished, check there is no trouble by a test operation, and explain using method and maintenance method to the customers based on the Owner's Manual.**

Please ask the customers to keep this Installation Manual together with the Owner's Manual.

 WARNING

Ask a shop or a professional dealer to install the air conditioner.

If you will install by yourself, a fire, an electric shock, or water leak is caused.

Take measures so that the refrigerant does not exceed the limit concentration even if it leaks when installing the air conditioner in a small room.

For the measures not to exceed the limit of concentration, contact the dealer. If the refrigerant leaks and it exceeds the limit of concentration, an accident of oxygen shortage is caused.

Install the air conditioner at a place which is satisfactorily bearable to weight.

If strength is insufficient, the unit may fall down resulting in human injury.

Perform a specified installation work against a strong wind such as typhoon or earthquake.

If the air conditioner is imperfectly installed, an accident by falling or dropping may be caused.

If refrigerant gas leaks during installation work, ventilate the room.

If the leaked refrigerant gas approaches to fire, noxious gas may generate.

After installation work, confirm that refrigerant gas does not leak.

If refrigerant gas leaks in the room, and approaches to fire such as fan heater, stove or kitchen range, generation of noxious gas may be caused.

Never recover refrigerant in the outdoor unit.

Be sure to use a refrigerant recovery device to recover refrigerant in reinstallation or repair work.

Recovery of refrigerant in the outdoor unit is unavailable; otherwise a serious accident such as crack or human injury is caused.

A person qualified for the electric work should deal with the electric construction conforming to the regulations of the local electric company and the Installation Manual. Be sure to use the exclusive circuit.

If there is capacity shortage of the power supply circuit or incomplete installation, a fire or an electric shock is caused.

For cabling, use the specified cables and connect them securely so that external force of cable does not transmit to the terminal connecting section.

If connection or fixing is incomplete, a fire, etc. may be caused.

Be sure to connect earth wire.

Do not connect earth wire to gas pipe, water pipe, lightning rod, nor earth wire of telephone.

If grounding is incomplete, an electric shock is caused.

 CAUTION

Do not install the air conditioner at a place where combustible gas may leak.

If gas leaks and is collected at surrounding the unit, the production of fire may be caused.

Be sure to attach an earth leakage breaker; otherwise an electric shock may be caused.

Using a torque wrench, tighten the flare nut in the specified method.

If the flare nut is exceedingly tightened, the flare nut is broken and a refrigerant leakage may be caused after a long time has passed.

WARNINGS ON REFRIGERANT LEAKAGE

Check of Concentration Limit

The room in which the air conditioner is to be installed requires a design that in the event of refrigerant gas leaking out, its concentration will not exceed a set limit.

The refrigerant R410A which is used in the air conditioner is safe, without the toxicity or combustibility of ammonia, and is not restricted by laws to be imposed which protect the ozone layer. However, since it contains more than air, it poses the risk of suffocation if its concentration should rise excessively.

Suffocation from leakage of R410A is almost nonexistent. With the recent increase in the number of high concentration buildings, however, the installation of multi air conditioner systems is on the increase because of the need for effective use of floor space, individual control, energy conservation by curtailing heat and carrying power etc.

Most importantly, the multi air conditioner system is able to replenish a large amount of refrigerant compared with conventional individual air conditioners. If a single unit of the multi conditioner system is to be installed in a small room, select a suitable model and installation procedure so that if the refrigerant accidentally leaks out, its concentration does not reach the limit (and in the event of an emergency, measures can be made before injury can occur).

In a room where the concentration may exceed the limit, create an opening with adjacent rooms, or install mechanical ventilation combined with a gas leak detection device.

The concentration is as given below.

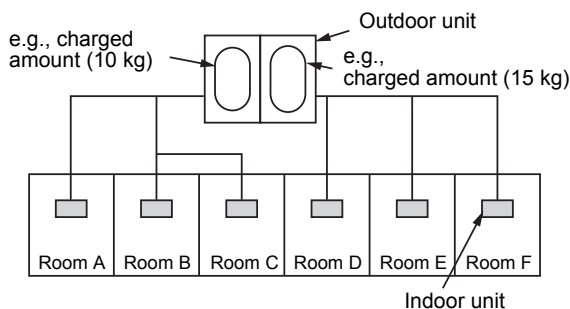
$$\frac{\text{Total amount of refrigerant (kg)}}{\text{Min. volume of the indoor unit installed room (m}^3\text{)}} \leq \text{Concentration limit (kg/m}^3\text{)}$$

Concentration limit

Compliance to the local applicable regulations and standards for the concentration limit is required.

NOTE 1:

If there are 2 or more refrigerating systems in a single refrigerating device, the amounts of refrigerant should be as charged in each independent device.



For the amount of charge in this example:

The possible amount of leaked refrigerant gas in rooms A, B and C is 10 kg.

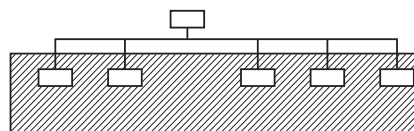
The possible amount of leaked refrigerant gas in rooms D, E and F is 15 kg.

Important

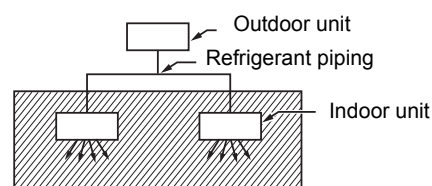
NOTE 2:

The standards for minimum room volume are as follows.

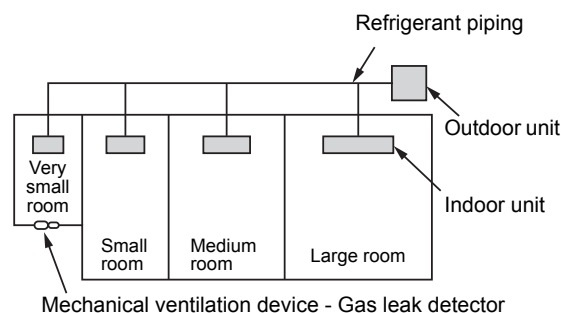
- (1) No partition (shaded portion)



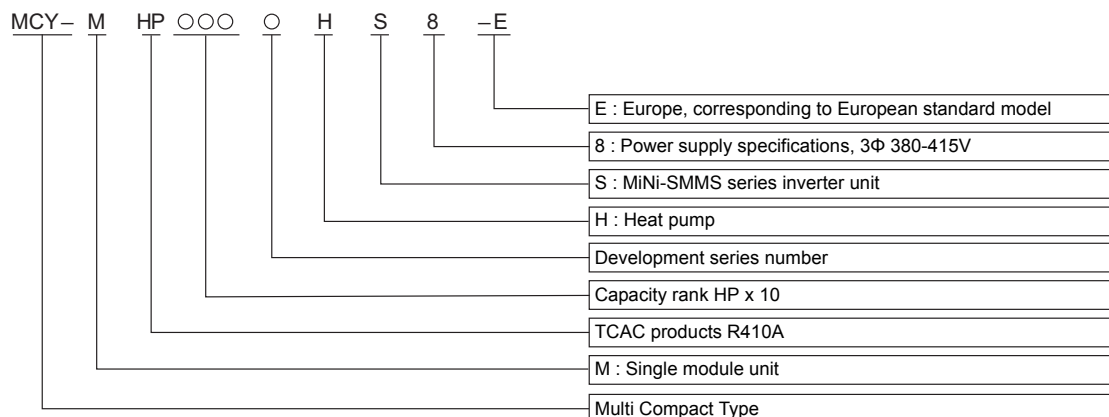
- (2) When there is an effective opening with the adjacent room for ventilation of leaking refrigerant gas (opening without a door, or an opening 0.15 % or larger than the respective floor spaces at the top or bottom of the door).



- (3) If an indoor unit is installed in each partitioned room and the refrigerant tubing is interconnected, the smallest room of course becomes the object. But when a mechanical ventilation is installed interlocked with a gas leakage detector in the smallest room where the density limit is exceeded, the volume of the next smallest room becomes the object.



1-1. Allocation standard of model name



1-2. Summary of system equipments

1-2-1. Outdoor units

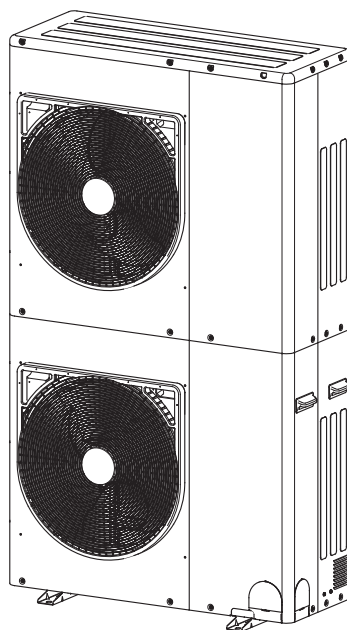
Corresponding HP	Inverter unit	
	8HP	10HP
Model name	MCY-MHP0806HS8-E	MCY-MHP1006HS8-E
Cooling capacity (kW)*1	22.4	28.0
Heating capacity (kW)*1	22.4	28.0
No. of connectable indoor units	12	16*2

*1 Rated conditions

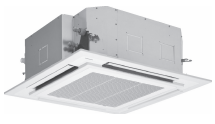
Cooling : Indoor air temperature 27 °C DB / 19 °C WB. Outdoor air temperature 35 °C DB.

Heating : Indoor air temperature 20 °C DB. Outdoor air temperature 7 °C DB / 6 °C WB.

*2 When the No. of connecting indoor units exceeds 12, maximum total capacity code of indoor units will be 11.0HP.



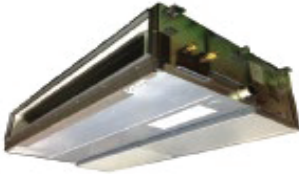
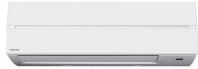
1-2-2. Indoor units

Type	Appearance	Model name	Capacity rank	Capacity code	Cooling capacity(kW)	Heating capacity(kW)	PMV Kit
4-Way Air Discharge Cassette Type		MMU-AP0094HP1-E	009type	1.00	2.8	3.2	-
		MMU-AP0124HP1-E	012type	1.25	3.6	4.0	-
		MMU-AP0154HP1-E	015type	1.70	4.5	5.0	-
		MMU-AP0184HP1-E	018type	2.00	5.6	6.3	-
		MMU-AP0244HP1-E	024type	2.50	7.1	8.0	-
		MMU-AP0274HP1-E	027type	3.00	8.0	9.0	-
		MMU-AP0304HP1-E	030type	3.20	9.0	10.0	-
		MMU-AP0364HP1-E	036type	4.00	11.2	12.5	-
		MMU-AP0484HP1-E	048type	5.00	14.0	16.0	-
		MMU-AP0564HP1-E	056type	6.00	16.0	18.0	-
		MMU-UP0091HP-E	009type	1.00	2.8	3.2	-
		MMU-UP0121HP-E	012type	1.25	3.6	4.0	-
		MMU-UP0151HP-E	015type	1.70	4.5	5.0	-
		MMU-UP0181HP-E	018type	2.00	5.6	6.3	-
		MMU-UP0241HP-E	024type	2.50	7.1	8.0	-
		MMU-UP0271HP-E	027type	3.00	8.0	9.0	-
		MMU-UP0301HP-E	030type	3.20	9.0	10.0	-
		MMU-UP0361HP-E	036type	4.00	11.2	12.5	-
		MMU-UP0481HP-E	048type	5.00	14.0	16.0	-
		MMU-UP0561HP-E	056type	6.00	16.0	18.0	-
Compact 4-way Cassette type		MMU-AP0057MH-E	005type	0.60	1.7	1.9	Available
		MMU-AP0077MH-E	007type	0.80	2.2	2.5	Available
		MMU-AP0097MH-E	009type	1.00	2.8	3.2	Available
		MMU-AP0127MH-E	012type	1.25	3.6	4.0	Available
		MMU-AP0157MH-E	015type	1.70	4.5	5.0	Available
		MMU-AP0187MH-E	018type	2.00	5.6	6.3	Available
		MMU-UP0051MH-E	005type	0.60	1.7	1.9	Available
		MMU-UP0071MH-E	007type	0.80	2.2	2.5	Available
		MMU-UP0091MH-E	009type	1.00	2.8	3.2	Available
		MMU-UP0121MH-E	012type	1.25	3.6	4.0	Available
		MMU-UP0151MH-E	015type	1.70	4.5	5.0	Available
		MMU-UP0181MH-E	018type	2.00	5.6	6.3	Available
2-Way Air Discharge Cassette Type		MMU-AP0072WH1	007type	0.80	2.2	2.5	-
		MMU-AP0092WH1	009type	1.00	2.8	3.2	-
		MMU-AP0122WH1	012type	1.25	3.6	4.0	-
		MMU-AP0152WH1	015type	1.70	4.5	5.0	-
		MMU-AP0182WH1	018type	2.00	5.6	6.3	-
		MMU-AP0242WH1	024type	2.50	7.1	8.0	-
		MMU-AP0272WH1	027type	3.00	8.0	9.0	-
		MMU-AP0302WH1	030type	3.20	9.0	10.0	-
		MMU-AP0362WH1	036type	4.00	11.2	12.5	-
		MMU-AP0482WH1	048type	5.00	14.0	16.0	-
		MMU-AP0562WH1	056type	6.00	16.0	18.0	-
		MMU-UP0071WH-E	007type	0.80	2.2	2.5	-
		MMU-UP0091WH-E	009type	1.00	2.8	3.2	-
		MMU-UP0121WH-E	012type	1.25	3.6	4.0	-
		MMU-UP0151WH-E	015type	1.70	4.5	5.0	-
		MMU-UP0181WH-E	018type	2.00	5.6	6.3	-
		MMU-UP0241WH-E	024type	2.50	7.1	8.0	-
		MMU-UP0271WH-E	027type	3.00	8.0	9.0	-
		MMU-UP0301WH-E	030type	3.20	9.0	10.0	-
		MMU-UP0361WH-E	036type	4.00	11.2	12.5	-
		MMU-UP0481WH-E	048type	5.00	14.0	16.0	-
		MMU-UP0561WH-E	056type	6.00	16.0	18.0	-

1 System overview

Type	Appearance	Model name	Capacity rank	Capacity code	Cooling capacity(kW)	Heating capacity(kW)	PMV Kit
1-Way Air Discharge Cassette Type		MMU-AP0074YH1-E	007type	0.80	2.2	2.5	Available
		MMU-AP0094YH1-E	009type	1.00	2.8	3.2	Available
		MMU-AP0124YH1-E	012type	1.25	3.6	4.0	Available
		MMU-AP0154SH1-E	015type	1.70	4.5	5.0	Available
		MMU-AP0184SH1-E	018type	2.00	5.6	6.3	Available
		MMU-AP0244SH1-E	024type	2.50	7.1	8.0	Available
		MMU-UP0051YHP-E	005type	0.60	1.7	1.9	Available
		MMU-UP0071YHP-E	007type	0.80	2.2	2.5	Available
		MMU-UP0091YHP-E	009type	1.00	2.8	3.2	Available
		MMU-UP0121YHP-E	012type	1.25	3.6	4.0	Available
		MMU-UP0151SH-E	015type	1.70	4.5	5.0	Available
		MMU-UP0181SH-E	018type	2.00	5.6	6.3	Available
		MMU-UP0241SH-E	024type	2.50	7.1	8.0	Available
Concealed Duct Type		MMD-AP0076BHP1-E	007type	0.80	2.2	2.5	-
		MMD-AP0096BHP1-E	009type	1.00	2.8	3.2	-
		MMD-AP0126BHP1-E	012type	1.25	3.6	4.0	-
		MMD-AP0156BHP1-E	015type	1.70	4.5	5.0	-
		MMD-AP0186BHP1-E	018type	2.00	5.6	6.3	-
		MMD-AP0246BHP1-E	024type	2.50	7.1	8.0	-
		MMD-AP0276BHP1-E	027type	3.00	8.0	9.0	-
		MMD-AP0306BHP1-E	030type	3.20	9.0	10.0	-
		MMD-AP0366BHP1-E	036type	4.00	11.2	12.5	-
		MMD-AP0486BHP1-E	048type	5.00	14.0	16.0	-
		MMD-AP0566BHP1-E	056type	6.00	16.0	18.0	-
		MMD-UP0071BHP-E	007type	0.80	2.2	2.5	-
		MMD-UP0091BHP-E	009type	1.00	2.8	3.2	-
		MMD-UP0121BHP-E	012type	1.25	3.6	4.0	-
		MMD-UP0151BHP-E	015type	1.70	4.5	5.0	-
		MMD-UP0181BHP-E	018type	2.00	5.6	6.3	-
		MMD-UP0241BHP-E	024type	2.50	7.1	8.0	-
		MMD-UP0271BHP-E	027type	3.00	8.0	9.0	-
		MMD-UP0301BHP-E	030type	3.20	9.0	10.0	-
		MMD-UP0361BHP-E	036type	4.00	11.2	12.5	-
		MMD-UP0481BHP-E	048type	5.00	14.0	16.0	-
		MMD-UP0561BHP-E	056type	6.00	16.0	18.0	-
Slim Duct Type		MMD-AP0056SPH1-E	005type	0.60	1.7	1.9	Available
		MMD-AP0074SPH1-E	007type	0.80	2.2	2.5	Available
		MMD-AP0094SPH1-E	009type	1.00	2.8	3.2	Available
		MMD-AP0124SPH1-E	012type	1.25	3.6	4.0	Available
		MMD-AP0154SPH1-E	015type	1.70	4.5	5.0	Available
		MMD-AP0184SPH1-E	018type	2.00	5.6	6.3	Available
		MMD-AP0244SPH1-E	024type	2.50	7.1	8.0	Available
		MMD-AP0274SPH1-E	027type	3.00	8.0	9.0	Available
Compact Slim Duct Type		MMD-UP0051SPHY-E	005type	0.60	1.7	1.9	Available
		MMD-UP0071SPHY-E	007type	0.80	2.2	2.5	Available
		MMD-UP0091SPHY-E	009type	1.00	2.8	3.2	Available
		MMD-UP0121SPHY-E	012type	1.25	3.6	4.0	Available
		MMD-UP0151SPHY-E	015type	1.70	4.5	5.0	Available
		MMD-UP0181SPHY-E	018type	2.00	5.6	6.3	Available
		MMD-UP0241SPHY-E	024type	2.50	7.1	8.0	Available
		MMD-UP0271SPHY-E	027type	3.00	8.0	9.0	Available

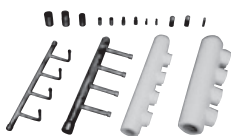
1 System overview

Type	Appearance	Model name	Capacity rank	Capacity code	Cooling capacity(kW)	Heating capacity(kW)	PMV Kit
Concealed Duct High Static Pressure Type		MMD-AP0186HP1-E	018type	2.00	5.6	6.3	-
		MMD-AP0246HP1-E	024type	2.50	7.1	8.0	-
		MMD-AP0276HP1-E	027type	3.00	8.0	9.0	-
		MMD-AP0366HP1-E	036type	4.00	11.2	12.5	-
		MMD-AP0486HP1-E	048type	5.00	14.0	16.0	-
		MMD-AP0566HP1-E	056type	6.00	16.0	18.0	-
		MMD-AP0726HP1-E	072type	8.00	22.4	25.0	-
		MMD-AP0966HP1-E	096type	10.00	28.0	31.5	-
		MMD-UP0181HP-E	018type	2.00	5.6	6.3	-
		MMD-UP0241HP-E	024type	2.50	7.1	8.0	-
		MMD-UP0271HP-E	027type	3.00	8.0	9.0	-
		MMD-UP0361HP-E	036type	4.00	11.2	12.5	-
		MMD-UP0481HP-E	048type	5.00	14.0	16.0	-
		MMD-UP0561HP-E	056type	6.00	16.0	18.0	-
		MMD-UP0721HP-E	072type	8.00	22.4	25.0	-
		MMD-UP0961HP-E	096type	10.00	28.0	31.5	-
Ceiling Type		MMC-AP0158HP-E	015type	1.70	4.5	5.0	-
		MMC-AP0188HP-E	018type	2.00	5.6	6.3	-
		MMC-AP0248HP-E	024type	2.50	7.1	8.0	-
		MMC-AP0278HP-E	027type	3.00	8.0	9.0	-
		MMC-AP0368HP-E	036type	4.00	11.2	12.5	-
		MMC-AP0488HP-E	048type	5.00	14.0	16.0	-
		MMC-AP0568HP-E	056type	6.00	16.0	18.0	-
		MMC-UP0151HP-E	015type	1.70	4.5	5.0	-
		MMC-UP0181HP-E	018type	2.00	5.6	6.3	-
		MMC-UP0241HP-E	024type	2.50	7.1	8.0	-
		MMC-UP0271HP-E	027type	3.00	8.0	9.0	-
		MMC-UP0361HP-E	036type	4.00	11.2	12.5	-
		MMC-UP0481HP-E	048type	5.00	14.0	16.0	-
		MMC-UP0561HP-E	056type	6.00	16.0	18.0	-
High Wall Type (3 series)		MMK-AP0073H1	007type	0.80	2.2	2.5	Available
		MMK-AP0093H1	009type	1.00	2.8	3.2	Available
		MMK-AP0123H1	012type	1.25	3.6	4.0	Available
		MMK-AP0153H1	015type	1.70	4.5	5.0	Available
		MMK-AP0183H1	018type	2.00	5.6	6.3	Available
		MMK-AP0243H1	024type	2.50	7.1	8.0	Available
High Wall Type		MMK-AP0057HP-E	005type	0.60	1.7	1.9	Available
		MMK-AP0077HP-E	007type	0.80	2.2	2.5	Available
		MMK-AP0097HP-E	009type	1.00	2.8	3.2	Available
		MMK-AP0127HP-E	012type	1.25	3.6	4.0	Available
		MMK-AP0157HP-E	015type	1.70	4.5	5.0	Available
		MMK-AP0187HP-E	018type	2.00	5.6	6.3	Available
		MMK-AP0247HP-E	024type	2.50	7.1	8.0	Available
		MMK-UP0051HP-E	005type	0.60	1.7	1.9	Available
		MMK-UP0071HP-E	007type	0.80	2.2	2.5	Available
		MMK-UP0091HP-E	009type	1.00	2.8	3.2	Available
		MMK-UP0121HP-E	012type	1.25	3.6	4.0	Available
		MMK-UP0151HP-E	015type	1.70	4.5	5.0	Available
		MMK-UP0181HP-E	018type	2.00	5.6	6.3	Available
		MMK-UP0241HP-E	024type	2.50	7.1	8.0	Available
Floor Standing Cabinet Type		MML-AP0074H1-E	007type	0.80	2.2	2.5	Available
		MML-AP0094H1-E	009type	1.00	2.8	3.2	Available
		MML-AP0124H1-E	012type	1.25	3.6	4.0	Available
		MML-AP0154H1-E	015type	1.70	4.5	5.0	Available
		MML-AP0184H1-E	018type	2.00	5.6	6.3	Available
		MML-AP0244H1-E	024type	2.50	7.1	8.0	Available
		MML-UP0071H-E	007type	0.80	2.2	2.5	Available
		MML-UP0091H-E	009type	1.00	2.8	3.2	Available
		MML-UP0121H-E	012type	1.25	3.6	4.0	Available
		MML-UP0151H-E	015type	1.70	4.5	5.0	Available
		MML-UP0181H-E	018type	2.00	5.6	6.3	Available
		MML-UP0241H-E	024type	2.50	7.1	8.0	Available

1 System overview

Type	Appearance	Model name	Capacity rank	Capacity code	Cooling capacity(kW)	Heating capacity(kW)	PMV Kit
Floor Standing Concealed Type		MML-AP0074BH1-E	007type	0.80	2.2	2.5	-
		MML-AP0094BH1-E	009type	1.00	2.8	3.2	-
		MML-AP0124BH1-E	012type	1.25	3.6	4.0	-
		MML-AP0154BH1-E	015type	1.70	4.5	5.0	-
		MML-AP0184BH1-E	018type	2.00	5.6	6.3	-
		MML-AP0244BH1-E	024type	2.50	7.1	8.0	-
		MML-UP0071BH-E	007type	0.80	2.2	2.5	-
		MML-UP0091BH-E	009type	1.00	2.8	3.2	-
		MML-UP0121BH-E	012type	1.25	3.6	4.0	-
		MML-UP0151BH-E	015type	1.70	4.5	5.0	-
		MML-UP0181BH-E	018type	2.00	5.6	6.3	-
		MML-UP0241BH-E	024type	2.50	7.1	8.0	-
Floor Standing Type		MMF-AP0156H1-E	015type	1.70	4.5	5.0	-
		MMF-AP0186H1-E	018type	2.00	5.6	6.3	-
		MMF-AP0246H1-E	024type	2.50	7.1	8.0	-
		MMF-AP0276H1-E	027type	3.00	8.0	9.0	-
		MMF-AP0366H1-E	036type	4.00	11.2	12.5	-
		MMF-AP0486H1-E	048type	5.00	14.0	16.0	-
		MMF-AP0566H1-E	056type	6.00	16.0	18.0	-
		MMF-UP0151H-E	015type	1.70	4.5	5.0	-
		MMF-UP0181H-E	018type	2.00	5.6	6.3	-
		MMF-UP0241H-E	024type	2.50	7.1	8.0	-
		MMF-UP0271H-E	027type	3.00	8.0	9.0	-
		MMF-UP0361H-E	036type	4.00	11.2	12.5	-
		MMF-UP0481H-E	048type	5.00	14.0	16.0	-
		MMF-UP0561H-E	056type	6.00	16.0	18.0	-
Console Type		MML-AP0074NH1-E	007type	0.80	2.2	2.5	Available
		MML-AP0094NH1-E	009type	1.00	2.8	3.2	Available
		MML-AP0124NH1-E	012type	1.25	3.6	4.0	Available
		MML-AP0154NH1-E	015type	1.70	4.5	5.0	Available
		MML-AP0184NH1-E	018type	2.00	5.6	6.3	Available
		MML-UP0071NHP-E	007type	0.80	2.2	2.5	Available
		MML-UP0091NHP-E	009type	1.00	2.8	3.2	Available
		MML-UP0121NHP-E	012type	1.25	3.6	4.0	Available
		MML-UP0151NHP-E	015type	1.70	4.5	5.0	Available
		MML-UP0181NHP-E	018type	2.00	5.6	6.3	Available
Hot Water Module		MMW-AP0271LQ-E	027type	2.50	-	8.0	-
		MMW-AP0561LQ-E	056type	5.00	-	16.0	-
		MMW-UP0271LQ-E	027type	2.50	-	8.0	-
		MMW-UP0561LQ-E	056type	5.00	-	16.0	-

1-2-3. Branching joints and headers

Name	Model name	Appearance	Remarks
Y-shape branching joint	RBM-BY55E		
	RBM-BY105E		
4-branching header	RBM-HY1043E		
8-branching header	RBM-HY1083E		

1-2-4. PMV Kits

Name	Model name	Appearance	Remarks
PMV Kits	RBM-PMV0363E RBM-PMV0361U-E		RBM-PMV_U-E is not available for AP indoor unit.
	RBM-PMV0903E RBM-PMV0901U-E		RBM-PMV_U-E is not available for AP indoor unit.

1-2-5. Remote controllers

Name	Model Name	Remarks
Wired remote controller	RBC-AMT32E-E	
	RBC-AMTU31-E	TU2C-LINK Control
	RBC-AMS55E-EN/ES	-EN : English, Italian, Polish, Greece, Russian, Turkish -ES : English, Spanish, Portuguese, French, Dutch, German
	RBC-AMSU51-EN/ES	TU2C-LINK Control -EN : English, Italian, Polish, Greece, Russian, Turkish -ES : English, Spanish, Portuguese, French, Dutch, German
Compact wired remote controller	RBC-ASCU11-E	TU2C-LINK Control
Remote controller with schedule timer (7-day timer function)	RBC-AMS41E	
Simple wired remote controller	RBC-AS41E	
Wireless remote controller kit	RBC-AX32U(W)-E	For 4-way Air Discharge Cassette
	RBC-AXU31U-E	For 4-way Air Discharge Cassette (TU2C-LINK Control)
	RBC-AX32UM(W)-E	For Compact 4-way Cassette
	RBC-AXU31UM-E	For Compact 4-way Cassette (TU2C-LINK Control)
	RBC-AX32UW(W)-E	For 2-way Air Discharge Cassette
	RBC-AXU31UW-E	For 2-way Air Discharge Cassette (TU2C-LINK Control)
	TCB-AX33CE	For Under Ceiling 8series, 1-way Air Discharge Cassette SH 4series
	RBC-AXU31C-E	For Under Ceiling, 1-way Air Discharge Cassette (TU2C-LINK Control)
	TCB-AX32E2	For All other units
	TCB-AXU31-E	For All other units (TU2C-LINK Control)
Schedule timer	TCB-EXS21TLE	
64 Central remote controller	TCB-SC643TLE	
	TCB-SC640U-E	TU2C-LINK Control

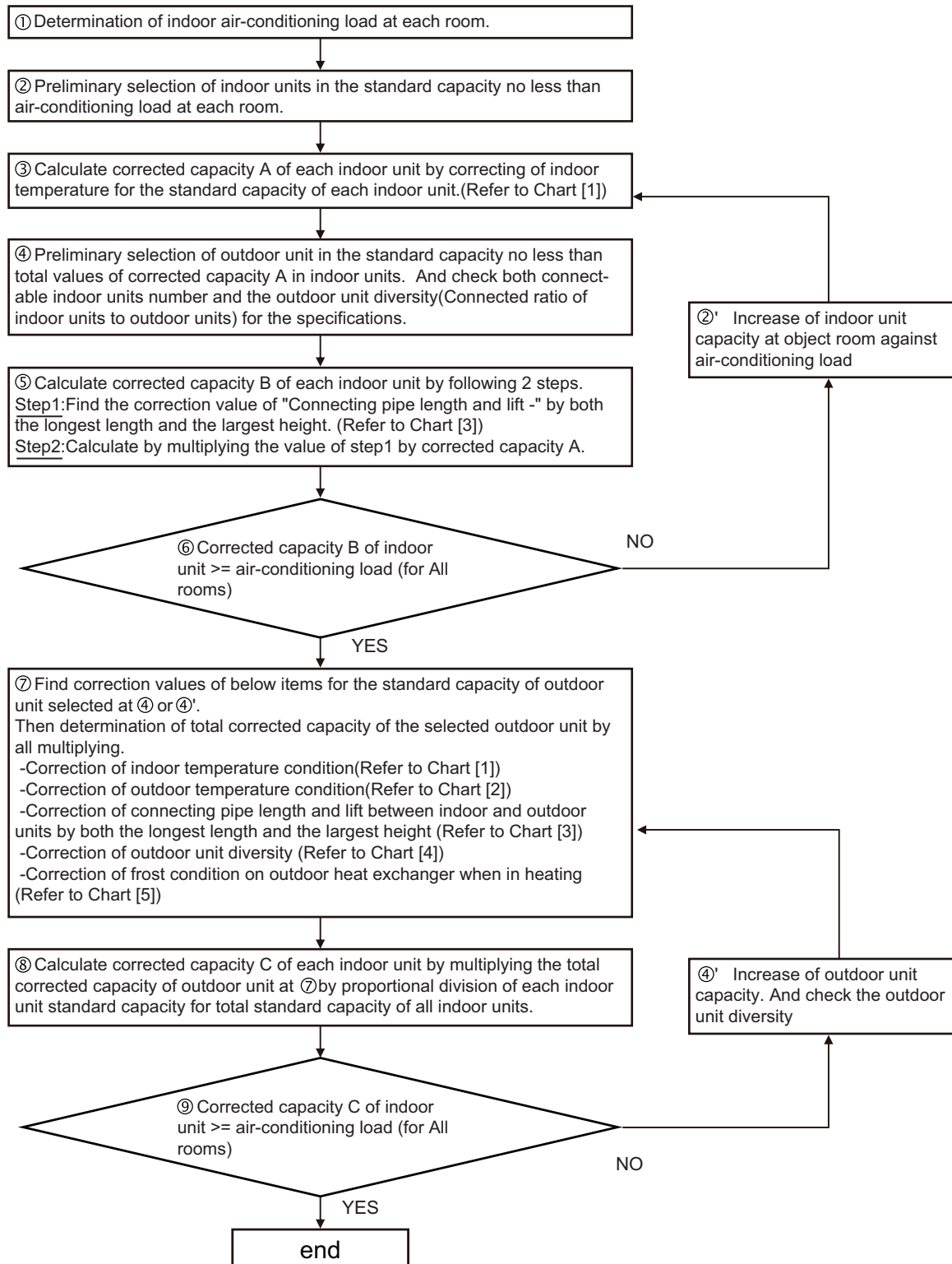
1-2-6. Optional PCB of outdoor unit

Name	Model Name	Remarks
Power peak-cut control board	TCB-PCDM4E	
External master ON/OFF control board	TCB-PCMO4E	
Output control board	TCB-PCIN4E	

1-2-7. Controls

Name	Model Name	Remarks
Touch Screen Controller	BMS-CT5121E	
	BMS-CT2560U-E	TU2C-LINK Control
Smart manager	BMS-SM1280HTLE	
Smart manager with data analyzer	BMS-SM1281ETLE	
Energy Monitoring Relay Interface	BMS-IFWH5E	
Relay Interface	BMS-IFLSV4E	
Digital I/O Relay Interface	BMS-IFDD03E	
LonWorks LN Interface	TCB-IFLN642TLE	
Modbus Interface	TCB-IFMB641TLE	
	BMS-IFMB1280U-E	TU2C-LINK Control
Analog Interface	TCB-IFCB640TLE	
BN Interface	BMS-IFBN640TLE	
	BMS-IFBN1280U-E	TU2C-LINK Control

2-1. Selection flow chart



2-2. Combination conditions for indoor unit and outdoor unit

Indoor unit can connect 80 % to 130 % of Outdoor unit capacity.

2-2-1. For indoor unit, the capacity code is decided for each capacity rank.

Capacity rank type		005	007	009	012	015	018	024	027	030	036	048	056	072	096
Capacity code	Equivalent to HP	0.6	0.8	1.0	1.25	1.7	2.0	2.5	3.0	3.2	4.0	5.0	6.0	8.0	10.0

NOTE:

Capacity rank : Correspondence to Btu/h. Capacity code : Correspondence to Horsepower.

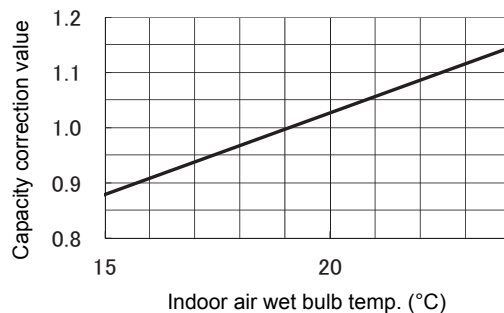
2-2-2. For outdoor unit, maximum No. of connectable indoor units and total capacity code of indoor units are decided.

Outdoor unit capacity type	Capacity code	No. of connectable indoor units	Total capacity code of connectable indoor units	
	Equivalent to HP		Min. (HP)	Max. (HP)
MCY-MHP0806HS*	8	2 to 12	6.4	10.4
MCY-MHP1006HS*	10	2 to 16	8.0	13.0 (When the number of indoor units is 2 to 12)
				11.0 (When the number of indoor units is 13 to 16)

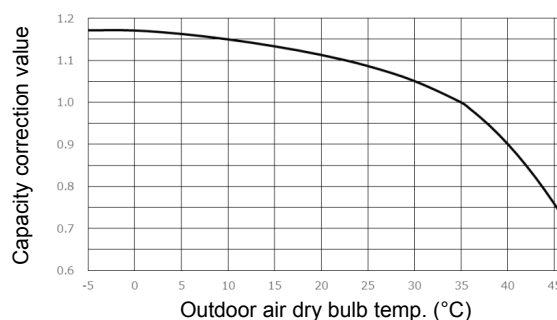
2-3. Cooling / heating capacity characteristics

2-3-1. Correction charts for cooling capacity calculation

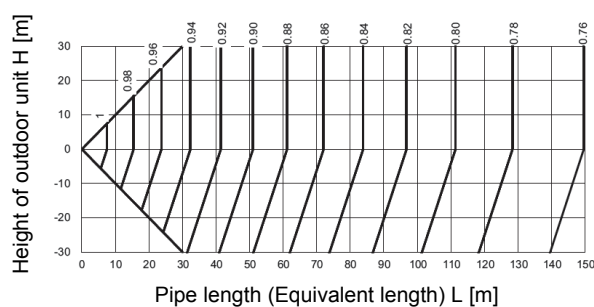
[1] Capacity correction value vs. indoor air wet bulb temperature



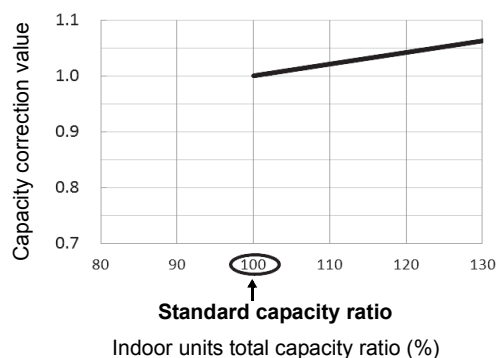
[2] Capacity correction value vs. outdoor air dry bulb temperature



[3] Capacity correction value vs. connecting pipe length and lift difference between indoor and outdoor units



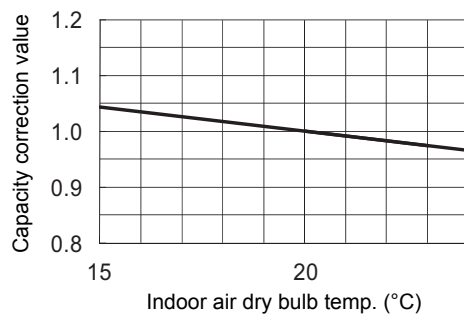
[4]* Correction of outdoor unit diversity



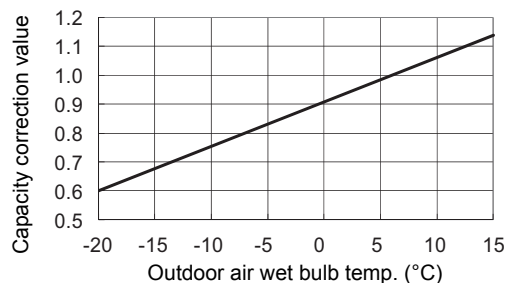
* : Coefficient to use for correction of outdoor unit capacity when total capacity of the indoor units are not equal to the outdoor unit capacity.

2-3-2. Correction charts for heating capacity calculation

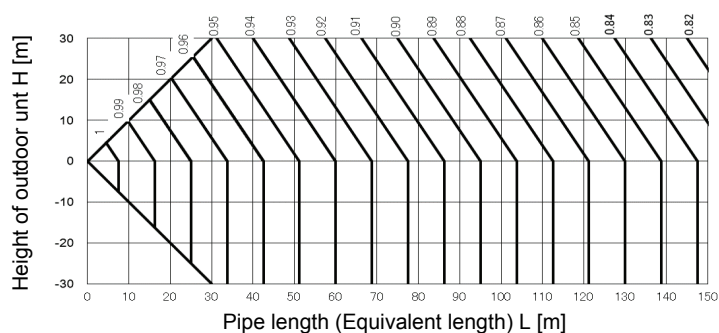
[1] Capacity correction value vs. indoor air dry bulb temperature



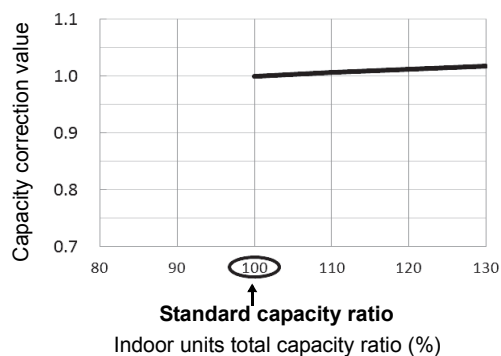
[2] Capacity correction value vs. outdoor air wet bulb temperature



[3] Capacity correction value vs. connecting pipe length and lift difference between indoor and outdoor units



[4]* Correction of outdoor unit diversity



* : Coefficient to use for correction of outdoor unit capacity when total capacity of the indoor units are not equal to the outdoor unit capacity.

2 Equipment selection procedure

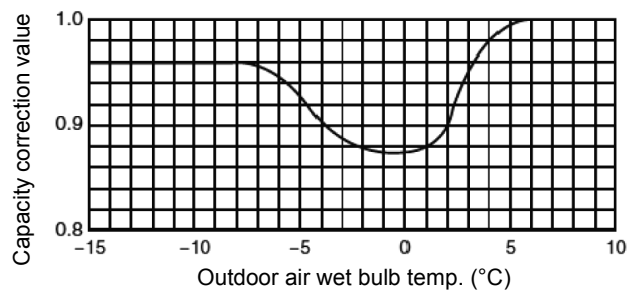
2-3-3. Capacity correction in case of frost on the outdoor heat exchanger in heating

Correct the heating capacity when frost was found on the outdoor heat exchanger.

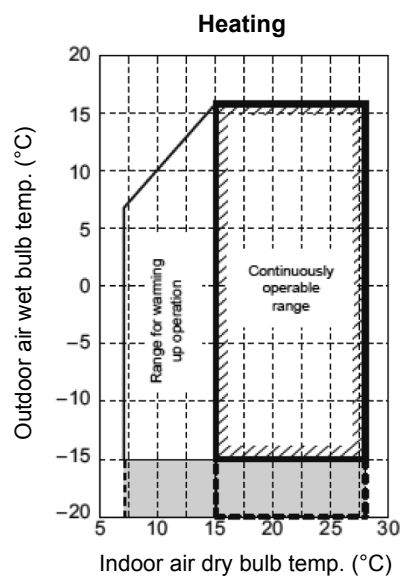
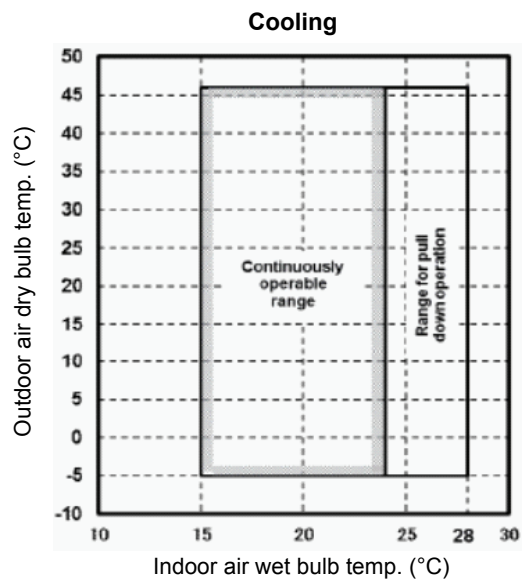
Heating capacity = Capacity after correction of outdoor unit x Correction value of capacity resulted from frost

(Capacity after correction of outdoor unit: Heating capacity calculated in the above item 2.)

[5] capacity correction in case of frost on the outdoor heat exchanger



2-4. Operational temperature range

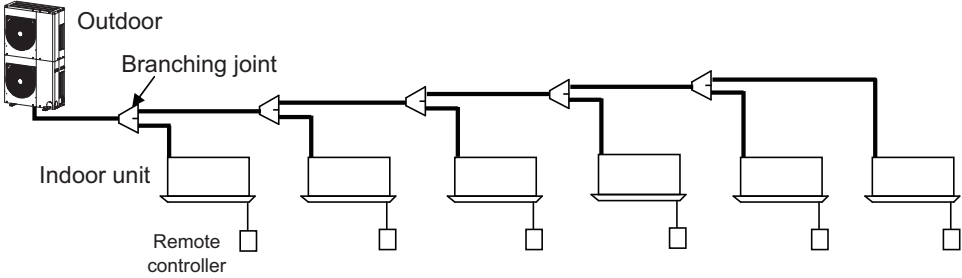
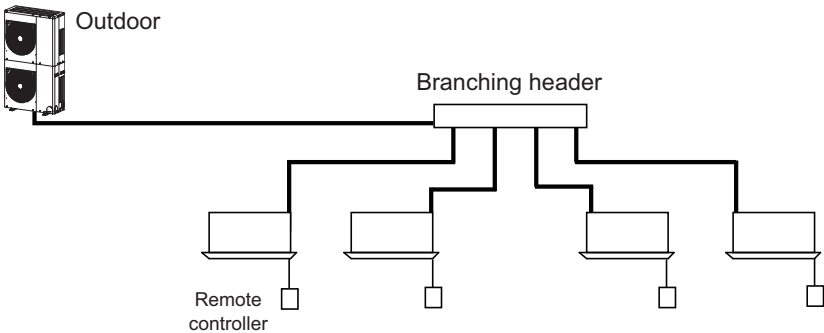
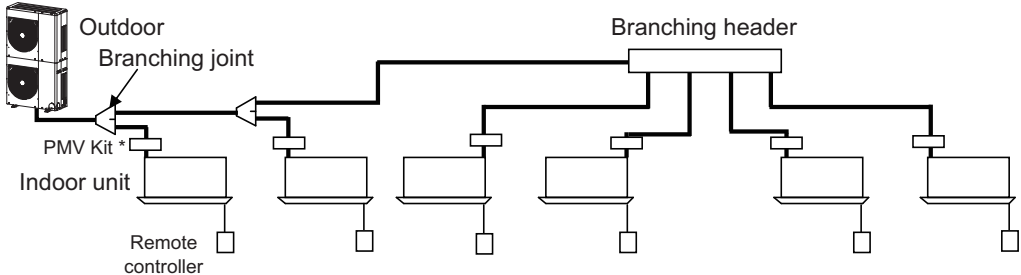
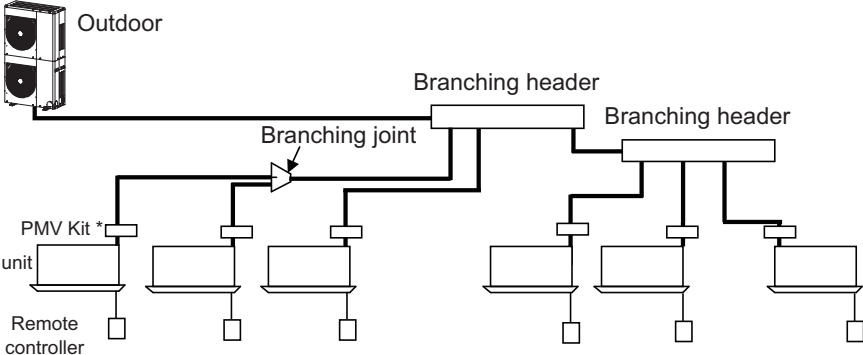
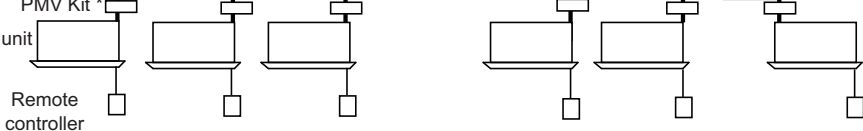


The unit will operate down to an outdoor temperature of -20 °C, however considerable performance decrease will be expected below -15 °C. Therefore please consider installation location/surroundings and system design when expected to operate between -15 °C and -20 °C.

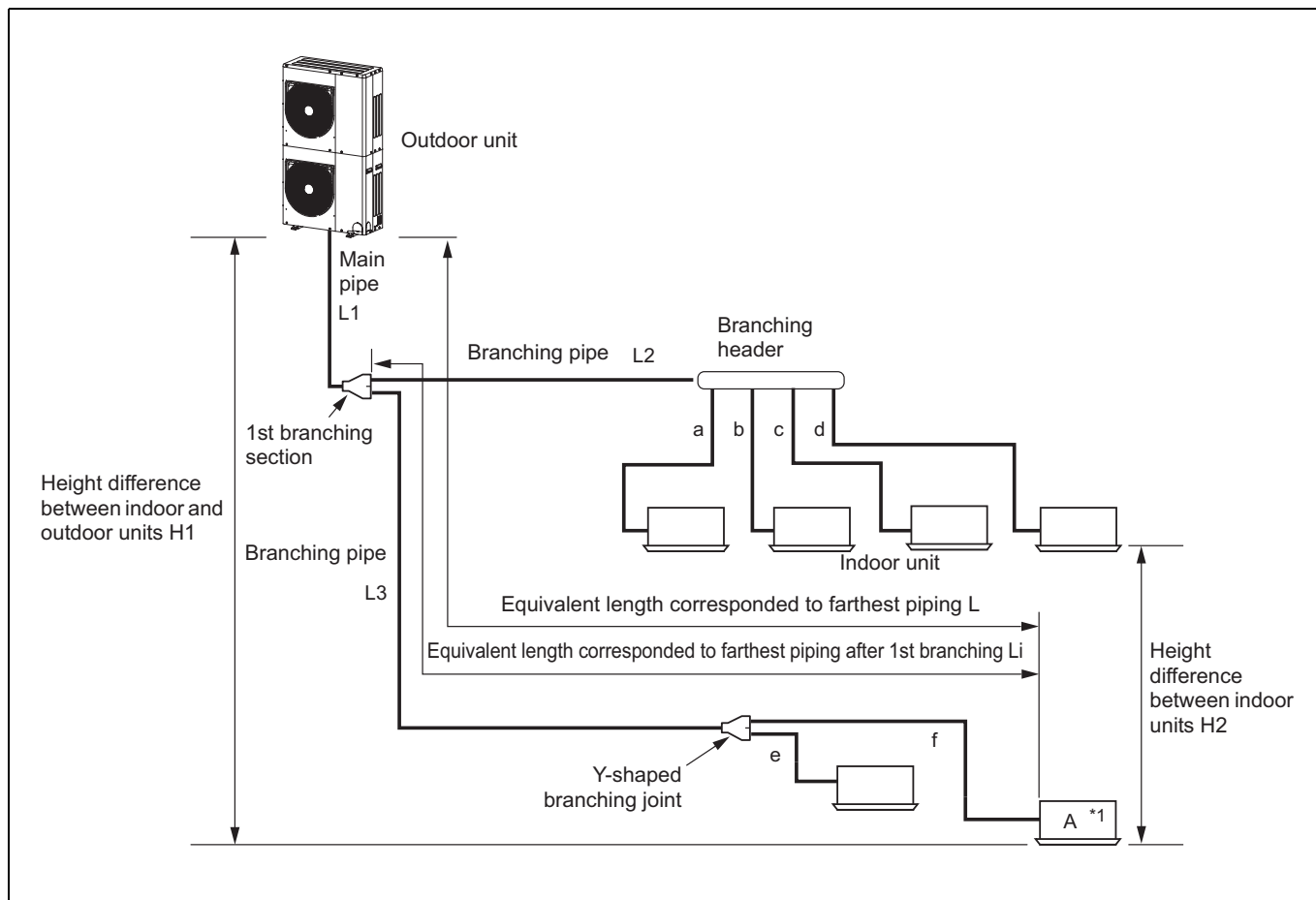
3-1. Free branching system

- [1] Line branching system
- [2] Header branching system
- [3] Header branching system after line branching
- [4] Line branching system after header branching
- [5] Header branching system after header branching

The above five branching systems enable to dramatically increase the flexibility of refrigerant piping design.

Line branching system	
Header branching system	
Header branching system	* In case of "PMV Kit" 
Line branching system after header branching	* In case of "PMV Kit" 
Header branching system after header branching	

3-2. Allowable length / height difference of refrigerant piping

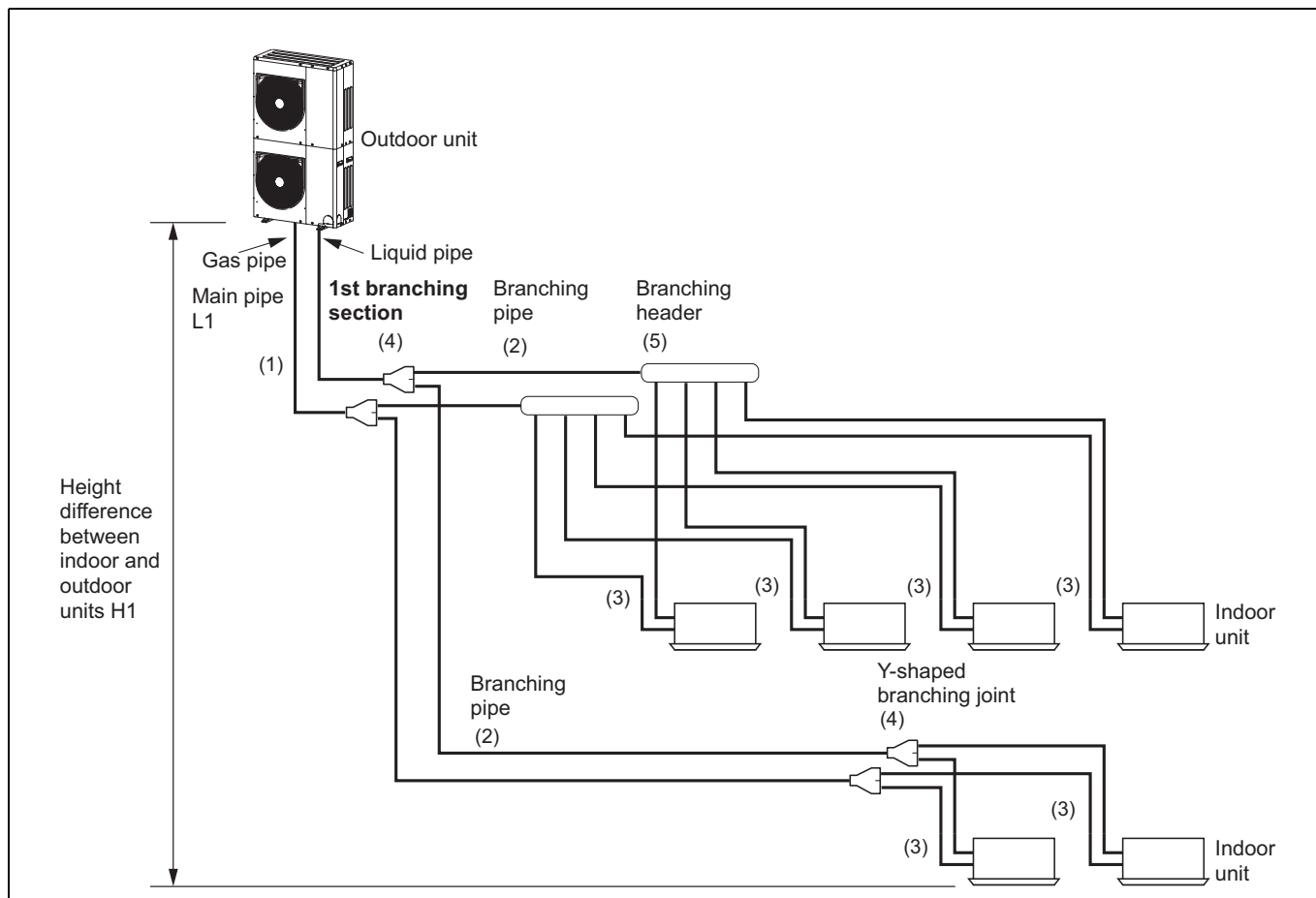


			Allowable value	Pipes
Piping Length	Total extension of pipe (liquid pipe, real length)		300 m	L1 + L2 + L3 + a + b + c + d + e + f
	Furthest piping length L (*1)	Real length	120 m	L1 + L3 + f
		Equivalent length	150 m	
	Max. equivalent length of main pipe		80 m *2	L1
	Max. equivalent length of furthest piping from 1st branching Li (*1)		40 m	L3 + f
	Max. real length of indoor unit connecting pipe		15 m	a, b, c, d, e, f
Height Difference	Height between indoor and outdoor units H1	Upper outdoor unit	30 m *2	
		Lower outdoor unit	30 m *2	
	Height between indoor units H2		15 m	

*1 Furthest indoor unit from 1st branch to be named "A".

*2 The main liquid pipe size varies depending on L1 and H1. See the page of "Selection of refrigerant piping" for details.

3-3. Selection of refrigerant piping



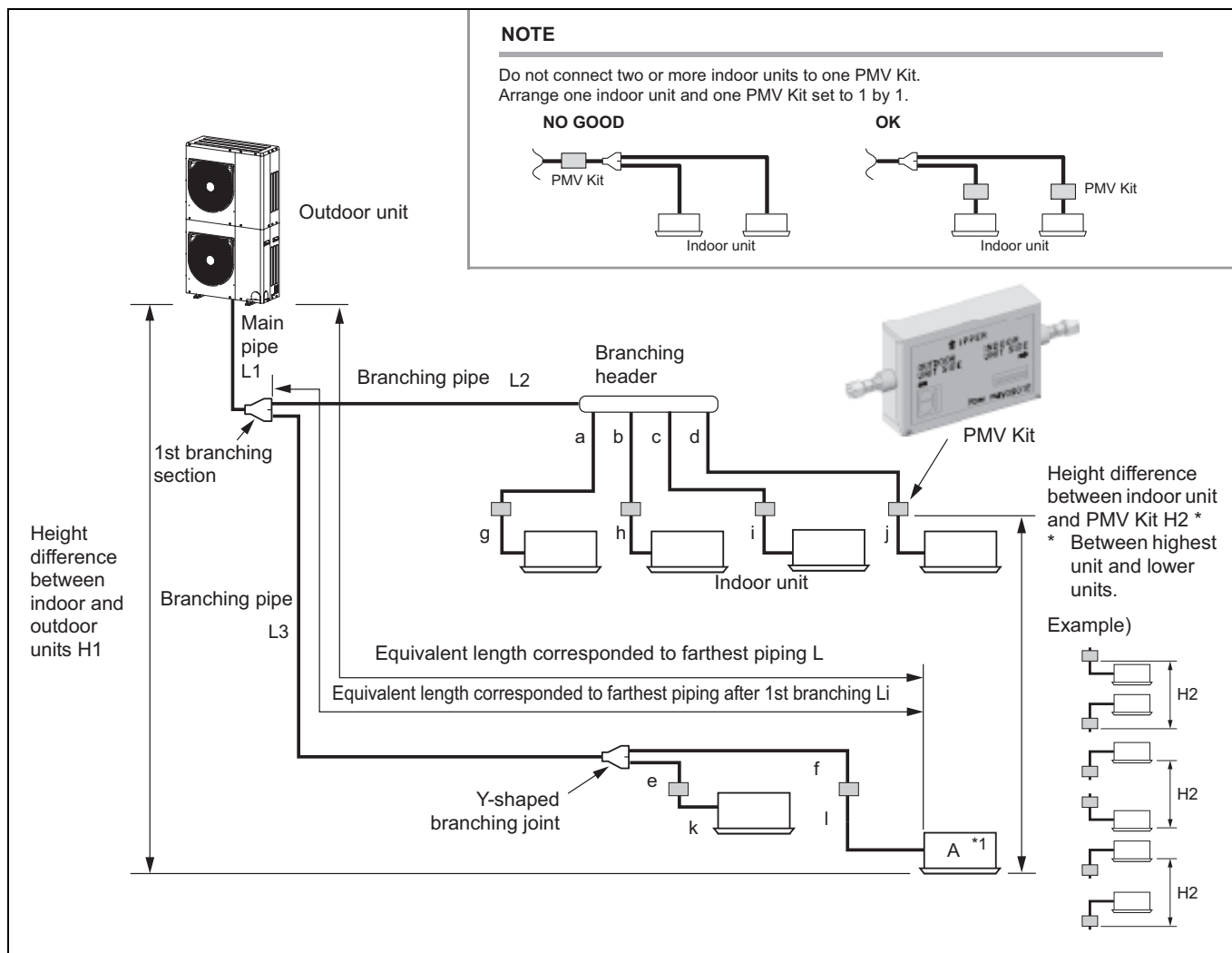
No.	Piping parts	Name	Selection of pipe size	Remarks																								
(1)	Outdoor unit ↓ 1st branching section	Main pipe	0806 type	* The main liquid pipe size differs based on outdoor unit capacity type, equivalent length of main pipe, and hight difference between outdoor and indoor units.																								
			<table><tr><th colspan="2">Conditions for size of main pipe selection *</th><th colspan="2">Size of main pipe</th></tr><tr><th>Height between indoor and outdoor units H1(m)</th><th>Equivalent length of main pipe L1(m)</th><th>Gas pipe</th><th>Liquid pipe</th></tr><tr><td rowspan="2">30 ≥ H1 > 20</td><td>40 > L1</td><td rowspan="5">19.05</td><td>9.52</td></tr><tr><td>L1 ≥ 40</td><td>12.70</td></tr><tr><td rowspan="2">20 ≥ H1 > 10</td><td>60 > L1</td><td>9.52</td></tr><tr><td>L1 ≥ 60</td><td>12.70</td></tr><tr><td>10 ≥ H1 > 0</td><td>No condition</td><td>9.52</td></tr></table>		Conditions for size of main pipe selection *		Size of main pipe		Height between indoor and outdoor units H1(m)	Equivalent length of main pipe L1(m)	Gas pipe	Liquid pipe	30 ≥ H1 > 20	40 > L1	19.05	9.52	L1 ≥ 40	12.70	20 ≥ H1 > 10	60 > L1	9.52	L1 ≥ 60	12.70	10 ≥ H1 > 0	No condition	9.52		
			Conditions for size of main pipe selection *		Size of main pipe																							
			Height between indoor and outdoor units H1(m)		Equivalent length of main pipe L1(m)	Gas pipe	Liquid pipe																					
			30 ≥ H1 > 20		40 > L1	19.05	9.52																					
					L1 ≥ 40		12.70																					
			20 ≥ H1 > 10		60 > L1		9.52																					
					L1 ≥ 60		12.70																					
			10 ≥ H1 > 0		No condition		9.52																					
			1006 type																									
			<table><tr><th colspan="2">Conditions for size of main pipe selection *</th><th colspan="2">Size of main pipe</th></tr><tr><th>Height between indoor and outdoor units H1(m)</th><th>Equivalent length of main pipe L1(m)</th><th>Gas pipe</th><th>Liquid pipe</th></tr><tr><td rowspan="2">30 ≥ H1 > 20</td><td>30 > L1</td><td rowspan="6">22.22</td><td>9.52</td></tr><tr><td>L1 ≥ 30</td><td>12.70</td></tr><tr><td rowspan="2">20 ≥ H1 > 10</td><td>40 > L1</td><td>9.52</td></tr><tr><td>L1 ≥ 40</td><td>12.70</td></tr><tr><td rowspan="2">10 ≥ H1 > 0</td><td>50 > L1</td><td>9.52</td></tr><tr><td>L1 ≥ 50</td><td>12.70</td></tr></table>		Conditions for size of main pipe selection *		Size of main pipe		Height between indoor and outdoor units H1(m)	Equivalent length of main pipe L1(m)	Gas pipe	Liquid pipe	30 ≥ H1 > 20	30 > L1	22.22	9.52	L1 ≥ 30	12.70	20 ≥ H1 > 10	40 > L1	9.52	L1 ≥ 40	12.70	10 ≥ H1 > 0	50 > L1	9.52	L1 ≥ 50	12.70
			Conditions for size of main pipe selection *		Size of main pipe																							
Height between indoor and outdoor units H1(m)	Equivalent length of main pipe L1(m)	Gas pipe	Liquid pipe																									
30 ≥ H1 > 20	30 > L1	22.22	9.52																									
	L1 ≥ 30		12.70																									
20 ≥ H1 > 10	40 > L1		9.52																									
	L1 ≥ 40		12.70																									
10 ≥ H1 > 0	50 > L1		9.52																									
	L1 ≥ 50		12.70																									
(2)	Branching section ↓ Branching section	Branching pipe	Pipe size between branching sections	Pipe size differs based on the total capacity code value of indoor units at the downstream side. If the total value exceeds the capacity code of the outdoor unit, apply the capacity code of the outdoor unit.																								
			<table><tr><th colspan="2">Total capacity codes of indoor units at down stream side</th><th rowspan="2">Gas pipe</th><th rowspan="2">Liquid pipe</th></tr><tr><th>Equivalent to HP</th><th>Equivalent to capacity</th></tr><tr><td>Below 2.4</td><td>Below 6.6</td><td>12.70</td><td>9.52</td></tr><tr><td>2.4 to below 6.4</td><td>6.6 to below 18.0</td><td>15.88</td><td>9.52</td></tr><tr><td>6.4 or more</td><td>18.0 or more</td><td>22.22</td><td>12.70</td></tr></table>		Total capacity codes of indoor units at down stream side		Gas pipe	Liquid pipe	Equivalent to HP	Equivalent to capacity	Below 2.4	Below 6.6	12.70	9.52	2.4 to below 6.4	6.6 to below 18.0	15.88	9.52	6.4 or more	18.0 or more	22.22	12.70						
			Total capacity codes of indoor units at down stream side		Gas pipe	Liquid pipe																						
			Equivalent to HP				Equivalent to capacity																					
			Below 2.4		Below 6.6	12.70	9.52																					
			2.4 to below 6.4		6.6 to below 18.0	15.88	9.52																					
			6.4 or more		18.0 or more	22.22	12.70																					
* When exceed the main pipe size, use the same size as the main pipe.																												

* When exceed the main pipe size, use the same size as the main pipe.

3 Refrigerant piping design

No.	Piping parts	Name	Selection of pipe size	Remarks
(3)	Branching section ↓ Indoor unit	Indoor unit connecting pipe	Connecting pipe size of indoor unit	
			Capacity rank	Gas pipe Liquid pipe
			005 to 012 type	9.52 6.35
			015 to 018 type	12.70 6.35
			024 to 056 type	15.88 9.52
			072 to 096 type	22.2 12.7
(4)	Branching section	Y-shaped branching joint	Selection of branching section (Y-shaped branching joint)	
			Total capacity codes of indoor units at down stream side	
			Equivalent to HP	Equivalent to capacity
			Y-shape branch joint	Below 6.4 Below 18.0 RBM-BY55E
			6.4 or more	18.0 or more RBM-BY105E
(5)	Branching section	Branching header	Selection of branching section (Branching header)	
			Model name	
			Branching header	For 4 branches RBM-HY1043E For 8 branches RBM-HY1083E

3-4. Allowable length / height difference of refrigerant piping with PMV Kit

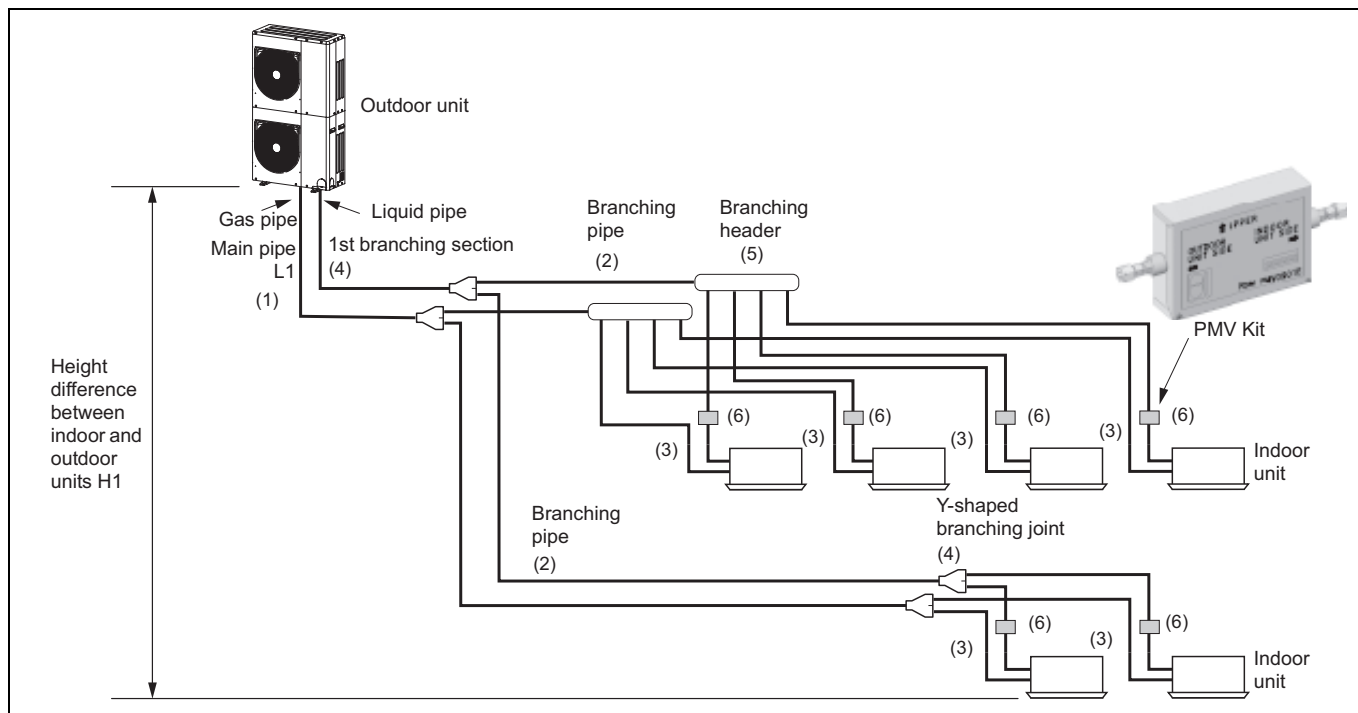


			Allowable value	Pipes
Piping Length	Total extension of pipe (Liquid pipe, real length)		250 m	$L1 + L2 + L3 + a + b + c + d + e + f + g + h + i + j + k + l$
	Furthest piping length L (*1)	Real length	100 m	$L1 + L3 + f + l$
		Equivalent length	130 m	
	Max. equivalent length of main pipe		70 m *2	L1
	Max. equivalent length of furthest piping from 1st branching Li (*1)		30 m	$L3 + f + l$
	Max. real length of indoor unit connecting pipe		15 m	$a + g, b + h, c + i, d + j, e + k, f + l$
Height Difference	Real length between PMV Kit and indoor unit		2 m or more Below 10 m	g, h, i, j, k, l
	Height between indoor and outdoor units H1	Upper outdoor unit	30 m *2	
		Lower outdoor unit	30 m *2	
	Height between indoor units (PMV Kit) H2		15 m	

*1 Furthest indoor unit from 1st branch to be named "A".

*2 The main liquid pipe size varies depending on L1 and H1. See the page of "Selection of refrigerant piping" for details.

3-5. Selection of refrigerant piping with PMV Kit



No.	Piping parts	Name	Selection of pipe size	Remarks																						
(1)	Outdoor unit ↓ 1st branching section	Main pipe	0806 type	* The main liquid pipe size differs based on outdoor unit capacity type, equivalent length of main pipe, and hight difference between outdoor and indoor units.																						
			<table><tr><th colspan="2">Conditions for size of main pipe selection *</th><th colspan="2">Size of main pipe</th></tr><tr><th>Height between indoor and outdoor units H1(m)</th><th>Equivalent length of main pipe L1(m)</th><th>Gas pipe</th><th>Liquid pipe</th></tr><tr><td rowspan="2">30 ≥ H1 > 20</td><td>40 > L1</td><td rowspan="5">19.05</td><td>9.52</td></tr><tr><td>L1 ≥ 40</td><td>12.70</td></tr><tr><td rowspan="2">20 ≥ H1 > 10</td><td>60 > L1</td><td>9.52</td></tr><tr><td>L1 ≥ 60</td><td>12.70</td></tr><tr><td>10 ≥ H1 > 0</td><td>No condition</td><td>9.52</td></tr></table>		Conditions for size of main pipe selection *		Size of main pipe		Height between indoor and outdoor units H1(m)	Equivalent length of main pipe L1(m)	Gas pipe	Liquid pipe	30 ≥ H1 > 20	40 > L1	19.05	9.52	L1 ≥ 40	12.70	20 ≥ H1 > 10	60 > L1	9.52	L1 ≥ 60	12.70	10 ≥ H1 > 0	No condition	9.52
			Conditions for size of main pipe selection *		Size of main pipe																					
			Height between indoor and outdoor units H1(m)		Equivalent length of main pipe L1(m)	Gas pipe	Liquid pipe																			
			30 ≥ H1 > 20		40 > L1	19.05	9.52																			
					L1 ≥ 40		12.70																			
			20 ≥ H1 > 10		60 > L1		9.52																			
					L1 ≥ 60		12.70																			
			10 ≥ H1 > 0		No condition		9.52																			
			1006 type																							
<table><tr><th colspan="2">Conditions for size of main pipe selection *</th><th colspan="2">Size of main pipe</th></tr><tr><th>Height between indoor and outdoor units H1(m)</th><th>Equivalent length of main pipe L1(m)</th><th>Gas pipe</th><th>Liquid pipe</th></tr><tr><td rowspan="2">30 ≥ H1 > 20</td><td>30 > L1</td><td rowspan="6">22.22</td><td>9.52</td></tr><tr><td>L1 ≥ 30</td><td>12.70</td></tr><tr><td rowspan="2">20 ≥ H1 > 10</td><td>40 > L1</td><td>9.52</td></tr><tr><td>L1 ≥ 40</td><td>12.70</td></tr><tr><td rowspan="2">10 ≥ H1 > 0</td><td>50 > L1</td><td>9.52</td></tr><tr><td>L1 ≥ 50</td><td>12.70</td></tr></table>	Conditions for size of main pipe selection *		Size of main pipe		Height between indoor and outdoor units H1(m)	Equivalent length of main pipe L1(m)	Gas pipe	Liquid pipe	30 ≥ H1 > 20	30 > L1	22.22	9.52	L1 ≥ 30	12.70	20 ≥ H1 > 10	40 > L1	9.52	L1 ≥ 40	12.70	10 ≥ H1 > 0	50 > L1	9.52	L1 ≥ 50	12.70		
Conditions for size of main pipe selection *		Size of main pipe																								
Height between indoor and outdoor units H1(m)	Equivalent length of main pipe L1(m)	Gas pipe	Liquid pipe																							
30 ≥ H1 > 20	30 > L1	22.22	9.52																							
	L1 ≥ 30		12.70																							
20 ≥ H1 > 10	40 > L1		9.52																							
	L1 ≥ 40		12.70																							
10 ≥ H1 > 0	50 > L1		9.52																							
	L1 ≥ 50		12.70																							
(2)	Branching section ↓ Branching section	Branching pipe	Pipe size between branching sections	Pipe size differs based on the total capacity code value of indoor units at the downstream side. If the total value exceeds the capacity code of the outdoor unit, apply the capacity code of the outdoor unit.																						
			<table><tr><th colspan="2">Total capacity codes of indoor units at down stream side</th><th rowspan="2">Gas pipe</th><th rowspan="2">Liquid pipe</th></tr><tr><th>Equivalent to HP</th><th>Equivalent to capacity</th></tr><tr><td>Below 2.4</td><td>Below 6.6</td><td>12.70</td><td>9.52</td></tr><tr><td>2.4 to below 6.4</td><td>6.6 to below 18.0</td><td>15.88</td><td>9.52</td></tr><tr><td>6.4 or more</td><td>18.0 or more</td><td>22.22</td><td>12.70</td></tr></table>		Total capacity codes of indoor units at down stream side		Gas pipe	Liquid pipe	Equivalent to HP	Equivalent to capacity	Below 2.4	Below 6.6	12.70	9.52	2.4 to below 6.4	6.6 to below 18.0	15.88	9.52	6.4 or more	18.0 or more	22.22	12.70				
			Total capacity codes of indoor units at down stream side		Gas pipe	Liquid pipe																				
			Equivalent to HP				Equivalent to capacity																			
			Below 2.4		Below 6.6	12.70	9.52																			
			2.4 to below 6.4		6.6 to below 18.0	15.88	9.52																			
6.4 or more	18.0 or more	22.22	12.70																							
* When exceed the main pipe size, use the same size as the main pipe.																										
(3)	Branching section ↓ Indoor unit	Indoor unit connecting pipe	Connecting pipe size of indoor unit																							
			<table><tr><th>Capacity rank</th><th>Gas pipe</th><th>Liquid pipe</th></tr><tr><td>005 to 012 type</td><td>9.5</td><td>6.4</td></tr><tr><td>015 to 018 type</td><td>12.7</td><td>6.4</td></tr><tr><td>024 to 056 type</td><td>15.9</td><td>9.5</td></tr><tr><td>072 to 096 type</td><td>22.2</td><td>12.7</td></tr></table>		Capacity rank	Gas pipe	Liquid pipe	005 to 012 type	9.5	6.4	015 to 018 type	12.7	6.4	024 to 056 type	15.9	9.5	072 to 096 type	22.2	12.7							
			Capacity rank		Gas pipe	Liquid pipe																				
			005 to 012 type		9.5	6.4																				
			015 to 018 type		12.7	6.4																				
			024 to 056 type		15.9	9.5																				
072 to 096 type	22.2	12.7																								

3 Refrigerant piping design

No.	Piping parts	Name	Selection of pipe size			Remarks
(4)	Branching section	Y-shaped branching joint	Selection of branching section (Y-shaped branching joint)			
				Total capacity codes of indoor units at down stream side		Model name
				Equivalent to HP	Equivalent to capacity	
				Y-sharp branch joint	Below 6.4	Below 18.0
			6.4 or more		18.0 or more	RBM-BY105E
(5)	Branching section	Branching header	Selection of branching section (Branching header)			
					Model name	
			Branching header	For 4 branches	RBM-HY1043E	
				For 8 branches	RBM-HY1083E	
(6)	PMV Kit	PMV Kit	Selection of PMV Kit			
			Indoor unit capacity type		Model name	
			005 to 012 type		RBM-PMV0363E RBM-PMV0361U-E	
			015 to 027 type		RBM-PMV0903E RBM-PMV0901U-E	
			* PMV kit can be connected less than 027 type FCU.			

3-6. Charging requirement with additional refrigerant

After finishing vacuuming, exchange the vacuum pump with a refrigerant canister and start additional charging of refrigerant.

Refrigerant amount charged in factory

Outdoor unit type	0806HS8	1006HS8
Charging amount (kg)	4.4	4.4

Calculation of additional refrigerant charge amount

Refrigerant charge amount factory default does not include the refrigerant for pipes at the local site.

For refrigerant to be charged in pipes at the local site, calculate the amount and charge it additionally.

NOTE

When the additional refrigerant amount indicates minus as the result of calculation, it is not necessary to subtract any refrigerant.

Calculating formula

$$\text{Additional refrigerant charge amount at local site (kg)} = \text{Real length of liquid pipe} \times \text{Additional refrigerant charge amount per 1 m liquid pipe (Table 1)} + \text{Corrective amount of refrigerant depending on the indoor units (Table 2)} + \text{Compensation by outdoor HP (Table 3)}$$

Table 1

Liquid pipe dia. (mm)	6.35	9.52	12.70
Additional refrigerant amount /1 m liquid pipe (kg / m)	0.025	0.055	0.105

Table 2

		Capacity rank	005	007	009	012	015	018	024	027	030	036	048	056	072	096
		Capacity code (Equivalent to HP)	0.6	0.8	1.0	1.25	1.7	2.0	2.5	3.0	3.2	4.0	5.0	6.0	8.0	10.0
Indoor unit model name	4-way cassette	MMU-*P****HP*	-	-	0.4	0.4	0.8	0.8	0.8	0.8	0.8	1.2	1.2	1.2	-	-
	Compact 4-way cassette	MMU-*P****MH*	0.3	0.4	0.4	0.4	0.6	0.6	-	-	-	-	-	-	-	-
	2-way cassette	MMU-*P****WH*	-	0.4	0.4	0.4	0.5	0.7	0.7	0.7	0.7	1.1	1.1	1.1	-	-
	1-way cassette	MMU-*P****YH / SH*	-	0.4	0.4	0.4	0.5	0.5	0.6	-	-	-	-	-	-	-
		MMU-*P****YHP*	0.3	0.3	0.3	0.3	-	-	-	-	-	-	-	-	-	-
	Concealed duct	MMD-*P****BHP*	-	0.3	0.3	0.3	0.5	0.5	0.8	0.8	0.8	1.1	1.1	1.1	-	-
	Slim duct	MMD-AP****SPH*	0.3	0.3	0.3	0.3	0.5	0.5	0.8	0.8	-	-	-	-	-	-
	Compact slim duct	MMD-*P****SPHY*	0.3	0.4	0.4	0.4	0.5	0.5	0.7	0.7	-	-	-	-	-	-
	Concealed duct High static pressure	MMD-*P****HP*	-	-	-	-	-	0.7	0.7	0.7	-	1.1	1.1	1.1	2.1	2.1
	Ceiling	MMC-*P****HP*	-	-	-	-	0.6	0.6	0.8	0.8	-	1.2	1.2	1.2	-	-
	High wall	MMK-AP****H*	-	0.5	0.5	0.5	0.7	0.7	0.7	-	-	-	-	-	-	-
		MMK-*P****HP*	0.3	0.3	0.3	0.3	0.7	0.7	0.7	-	-	-	-	-	-	-
	Floor standing	MMF-*P****H*	-	-	-	-	0.7	0.7	1.0	1.0	-	1.3	1.3	1.3	-	-
	Floor standing cabinet	MML-*P****H*	-	0.5	0.5	0.5	0.5	0.8	0.8	-	-	-	-	-	-	-
	Console	MML-*P****NH(P)*	-	0.5	0.5	0.5	0.5	0.5	-	-	-	-	-	-	-	-

(Unit: kg)

		Capacity rank	027	056
		Capacity code (Equivalent to HP)	2.5	5.0
Hot water module	MMW-AP****LQ*		0.2	0.4

Table 3

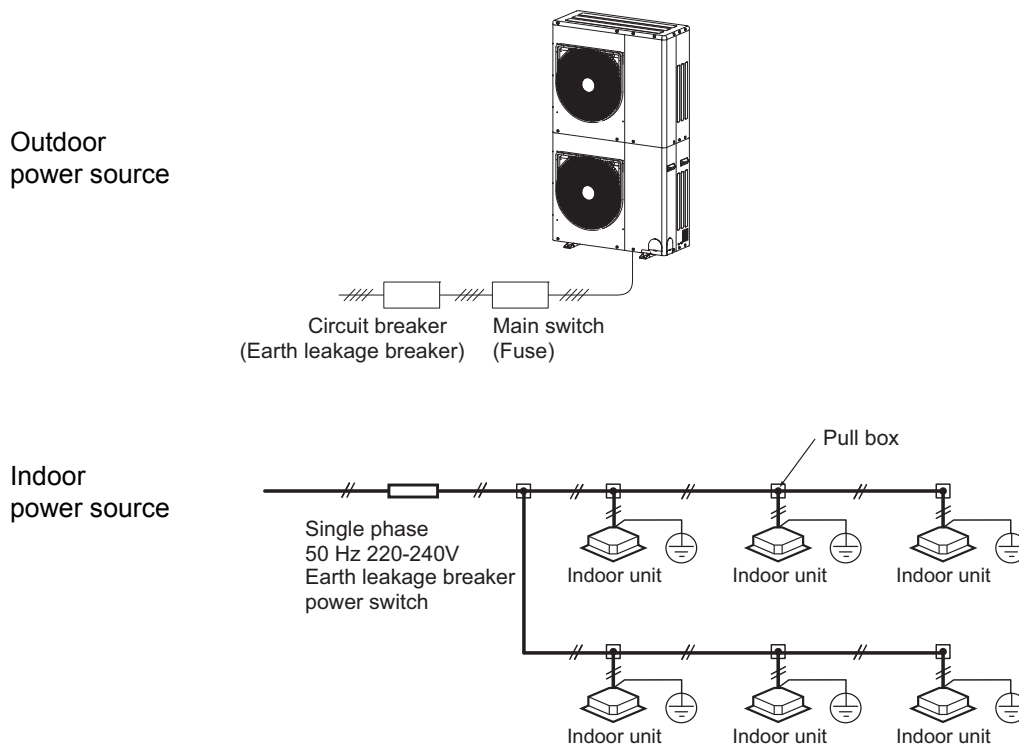
Outdoor unit type	0806HS8	1006HS8
Compensation by outdoor HP (kg)	-1.0	-1.0

4-1. General

- The appliance shall be installed in accordance with national wiring regulations.

Capacity shortages of the power circuit or an incomplete installation may cause an electric shock or fire.

- Perform wiring of power supply complying with the rules and regulations of the local electric company.
- Never connect AC voltage power to the control wiring terminal block (U1, U2, U3, U4); otherwise the unit may break down.
- Be sure that electric wiring does not come into contact with high-temperature parts of piping; otherwise the coating of cables may melt and cause an accident.
- Locate wiring system for the control and refrigerant piping system in the same line.
- Do not turn on the power supply of the indoor units until vacuuming of the refrigerant pipe has finished.
- For the wiring of power to indoor units and that between indoor and outdoor units, follow the instructions in the installation manual of each indoor unit.

4-2. Electrical wiring design

Determine the wire size for the indoor unit according to the number of connected indoor units downstream.

4-3. Outdoor unit power supply**Electrical characteristics**

Model name	Normal Voltage (V-Ph-Hz)	Voltage Range		Compressor kW	Fan Motor kW	Power Supply	
		Min	Max			MCA	MOCP
MCY-MHP0806HS8-E	380 to 415 - 3 - 50	342	456	5.60	0.100 × 2	17.0	20.0
MCY-MHP1006HS8-E	380 to 415 - 3 - 50	342	456	5.60	0.100 × 2	20.0	25.0

MCA : Maximum Circuit Amps

MOCP : Maximum Overcurrent Protection (Amps)

4-4. Indoor unit power supply

Electrical characteristics (50Hz)

Type	Model name	Normal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
			Min	Max	kW	FLA	MCA	MOCP
4-Way Air Discharge Cassette Type	MMU-AP0094HP1-E	230-1-50	198	264	0.014	0.63	0.79	15
	MMU-AP0124HP1-E	230-1-50	198	264	0.014	0.63	0.79	15
	MMU-AP0154HP1-E	230-1-50	198	264	0.014	0.80	1.00	15
	MMU-AP0184HP1-E	230-1-50	198	264	0.014	0.80	1.00	15
	MMU-AP0244HP1-E	230-1-50	198	264	0.020	0.87	1.09	15
	MMU-AP0274HP1-E	230-1-50	198	264	0.020	0.87	1.09	15
	MMU-AP0304HP1-E	230-1-50	198	264	0.020	0.87	1.09	15
	MMU-AP0364HP1-E	230-1-50	198	264	0.068	1.15	1.44	15
	MMU-AP0484HP1-E	230-1-50	198	264	0.072	1.15	1.44	15
	MMU-AP0564HP1-E	230-1-50	198	264	0.072	1.15	1.44	15
	MMU-UP0091HP-E	230-1-50	198	264	0.060	0.63	0.79	15
	MMU-UP0121HP-E	230-1-50	198	264	0.060	0.63	0.79	15
	MMU-UP0151HP-E	230-1-50	198	264	0.060	0.80	1.00	15
	MMU-UP0181HP-E	230-1-50	198	264	0.060	0.80	1.00	15
	MMU-UP0241HP-E	230-1-50	198	264	0.060	0.87	1.09	15
	MMU-UP0271HP-E	230-1-50	198	264	0.060	0.87	1.09	15
	MMU-UP0301HP-E	230-1-50	198	264	0.060	0.87	1.09	15
	MMU-UP0361HP-E	230-1-50	198	264	0.130	1.15	1.44	15
	MMU-UP0481HP-E	230-1-50	198	264	0.130	1.15	1.44	15
	MMU-UP0561HP-E	230-1-50	198	264	0.130	1.15	1.44	15
Compact 4-way Cassette type	MMU-AP0057MH-E	230-1-50	198	264	0.060	0.18	0.23	15
	MMU-AP0077MH-E	230-1-50	198	264	0.060	0.26	0.33	15
	MMU-AP0097MH-E	230-1-50	198	264	0.060	0.28	0.35	15
	MMU-AP0127MH-E	230-1-50	198	264	0.060	0.29	0.36	15
	MMU-AP0157MH-E	230-1-50	198	264	0.060	0.47	0.59	15
	MMU-AP0187MH-E	230-1-50	198	264	0.060	0.53	0.66	15
	MMU-UP0051MH-E	230-1-50	198	264	0.060	0.18	0.23	15
	MMU-UP0071MH-E	230-1-50	198	264	0.060	0.26	0.33	15
	MMU-UP0091MH-E	230-1-50	198	264	0.060	0.28	0.35	15
	MMU-UP0121MH-E	230-1-50	198	264	0.060	0.29	0.36	15
	MMU-UP0151MH-E	230-1-50	198	264	0.060	0.32	0.40	15
	MMU-UP0181MH-E	230-1-50	198	264	0.060	0.53	0.66	15

Type	Model name	Normal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
			Min	Max	kW	FLA	MCA	MOCP
2-Way Air Discharge Cassette Type	MMU-AP0072WH1	230-1-50	198	264	0.020	0.32	0.40	15
	MMU-AP0092WH1	230-1-50	198	264	0.020	0.32	0.40	15
	MMU-AP0122WH1	230-1-50	198	264	0.020	0.32	0.40	15
	MMU-AP0152WH1	230-1-50	198	264	0.020	0.32	0.40	15
	MMU-AP0182WH1	230-1-50	198	264	0.030	0.70	0.88	15
	MMU-AP0242WH1	230-1-50	198	264	0.040	0.81	1.01	15
	MMU-AP0272WH1	230-1-50	198	264	0.040	0.81	1.01	15
	MMU-AP0302WH1	230-1-50	198	264	0.050	0.81	1.01	15
	MMU-AP0362WH1	230-1-50	198	264	0.070	0.87	1.09	15
	MMU-AP0482WH1	230-1-50	198	264	0.070	0.87	1.09	15
	MMU-AP0562WH1	230-1-50	198	264	0.070	0.87	1.09	15
	MMU-UP0071WH-E	230-1-50	198	264	0.060	0.24	0.30	15
	MMU-UP0091WH-E	230-1-50	198	264	0.060	0.24	0.30	15
	MMU-UP0121WH-E	230-1-50	198	264	0.060	0.24	0.30	15
	MMU-UP0151WH-E	230-1-50	198	264	0.060	0.25	0.31	15
	MMU-UP0181WH-E	230-1-50	198	264	0.094	0.32	0.40	15
	MMU-UP0241WH-E	230-1-50	198	264	0.094	0.43	0.54	15
	MMU-UP0271WH-E	230-1-50	198	264	0.094	0.43	0.54	15
	MMU-UP0301WH-E	230-1-50	198	264	0.094	0.50	0.63	15
	MMU-UP0361WH-E	230-1-50	198	264	0.139	0.58	0.73	15
	MMU-UP0481WH-E	230-1-50	198	264	0.139	0.65	0.81	15
	MMU-UP0561WH-E	230-1-50	198	264	0.139	0.89	1.11	15
1-Way Air Discharge Cassette Type	MMU-AP0074YH1-E	230-1-50	198	264	0.022	0.28	0.35	15
	MMU-AP0094YH1-E	230-1-50	198	264	0.022	0.28	0.35	15
	MMU-AP0124YH1-E	230-1-50	198	264	0.022	0.28	0.35	15
	MMU-AP0154SH1-E	230-1-50	198	264	0.030	0.40	0.49	15
	MMU-AP0184SH1-E	230-1-50	198	264	0.030	0.42	0.53	15
	MMU-AP0244SH1-E	230-1-50	198	264	0.030	0.71	0.88	15
	MMU-UP0051YHP-E	230-1-50	198	264	0.030	0.32	0.40	15
	MMU-UP0071YHP-E	230-1-50	198	264	0.030	0.32	0.40	15
	MMU-UP0091YHP-E	230-1-50	198	264	0.030	0.32	0.40	15
	MMU-UP0121YHP-E	230-1-50	198	264	0.030	0.32	0.40	15
	MMU-UP0151SH-E	230-1-50	198	264	0.094	0.39	0.49	15
	MMU-UP0181SH-E	230-1-50	198	264	0.094	0.41	0.51	15
	MMU-UP0241SH-E	230-1-50	198	264	0.094	0.62	0.78	15

Type	Model name	Normal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
			Min	Max	kW	FLA	MCA	MOCP
Concealed Duct Type	MMD-AP0076BHP1-E	230-1-50	198	264	0.150	0.30	0.37	15
	MMD-AP0096BHP1-E	230-1-50	198	264	0.150	0.34	0.42	15
	MMD-AP0126BHP1-E	230-1-50	198	264	0.150	0.34	0.42	15
	MMD-AP0156BHP1-E	230-1-50	198	264	0.150	0.48	0.61	15
	MMD-AP0186BHP1-E	230-1-50	198	264	0.150	0.48	0.61	15
	MMD-AP0246BHP1-E	230-1-50	198	264	0.150	0.60	0.75	15
	MMD-AP0276BHP1-E	230-1-50	198	264	0.150	0.60	0.75	15
	MMD-AP0306BHP1-E	230-1-50	198	264	0.150	0.70	0.88	15
	MMD-AP0366BHP1-E	230-1-50	198	264	0.250	1.23	1.54	15
	MMD-AP0486BHP1-E	230-1-50	198	264	0.250	1.41	1.77	15
	MMD-AP0566BHP1-E	230-1-50	198	264	0.250	1.41	1.77	15
	MMD-UP0071BHP-E	230-1-50	198	264	0.150	0.75	0.94	15
	MMD-UP0091BHP-E	230-1-50	198	264	0.150	0.75	0.94	15
	MMD-UP0121BHP-E	230-1-50	198	264	0.150	0.75	0.94	15
	MMD-UP0151BHP-E	230-1-50	198	264	0.150	1.24	1.55	15
	MMD-UP0181BHP-E	230-1-50	198	264	0.150	1.24	1.55	15
	MMD-UP0241BHP-E	230-1-50	198	264	0.150	1.58	1.98	15
	MMD-UP0271BHP-E	230-1-50	198	264	0.150	1.58	1.98	15
	MMD-UP0301BHP-E	230-1-50	198	264	0.150	1.78	2.23	15
	MMD-UP0361BHP-E	230-1-50	198	264	0.250	2.19	2.74	15
	MMD-UP0481BHP-E	230-1-50	198	264	0.250	2.66	3.33	15
	MMD-UP0561BHP-E	230-1-50	198	264	0.250	2.66	3.33	15
Slim Duct Type	MMD-AP0056SPH1-E	230-1-50	198	264	0.060	0.35	0.44	15
	MMD-AP0074SPH1-E	230-1-50	198	264	0.060	0.35	0.44	15
	MMD-AP0094SPH1-E	230-1-50	198	264	0.060	0.35	0.44	15
	MMD-AP0124SPH1-E	230-1-50	198	264	0.060	0.37	0.47	15
	MMD-AP0154SPH1-E	230-1-50	198	264	0.060	0.38	0.48	15
	MMD-AP0184SPH1-E	230-1-50	198	264	0.060	0.47	0.59	15
	MMD-AP0244SPH1-E	230-1-50	198	264	0.120	0.86	1.08	15
	MMD-AP0274SPH1-E	230-1-50	198	264	0.120	0.86	1.08	15
Compact Slim Duct Type	MMD-UP0051SPHY-E	230-1-50	198	264	0.050	0.41	0.51	15
	MMD-UP0071SPHY-E	230-1-50	198	264	0.050	0.46	0.57	15
	MMD-UP0091SPHY-E	230-1-50	198	264	0.050	0.48	0.60	15
	MMD-UP0121SPHY-E	230-1-50	198	264	0.050	0.51	0.63	15
	MMD-UP0151SPHY-E	230-1-50	198	264	0.094	0.54	0.67	15
	MMD-UP0181SPHY-E	230-1-50	198	264	0.094	0.61	0.76	15
	MMD-UP0241SPHY-E	230-1-50	198	264	0.094	0.80	1.00	15
	MMD-UP0271SPHY-E	230-1-50	198	264	0.094	0.85	1.06	15

Type	Model name	Normal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
			Min	Max	kW	FLA	MCA	MOCp
Concealed Duct High Static Pressure Type	MMD-AP0186HP1-E	230-1-50	198	264	0.250	1.02	1.28	15
	MMD-AP0246HP1-E	230-1-50	198	264	0.250	1.33	1.66	15
	MMD-AP0276HP1-E	230-1-50	198	264	0.250	1.66	1.66	15
	MMD-AP0366HP1-E	230-1-50	198	264	0.350	2.78	2.78	15
	MMD-AP0486HP1-E	230-1-50	198	264	0.350	2.99	2.99	15
	MMD-AP0566HP1-E	230-1-50	198	264	0.350	2.57	3.22	15
	MMD-AP0726HP-E	230-1-50	198	264	0.37x3	6.04	7.55	15
	MMD-AP0966HP-E	230-1-50	198	264	0.37x3	6.35	7.94	15
	MMD-UP0181HP-E	230-1-50	198	264	0.250	1.43	1.79	15
	MMD-UP0241HP-E	230-1-50	198	264	0.250	1.55	1.94	15
	MMD-UP0271HP-E	230-1-50	198	264	0.250	1.86	2.33	15
	MMD-UP0361HP-E	230-1-50	198	264	0.350	2.02	2.53	15
	MMD-UP0481HP-E	230-1-50	198	264	0.350	2.57	3.21	15
	MMD-UP0561HP-E	230-1-50	198	264	0.350	3.25	4.06	15
	MMD-UP0721HP-E	230-1-50	198	264	0.800	4.90	6.13	15
	MMD-UP0961HP-E	230-1-50	198	264	0.800	6.74	8.43	15
Ceiling Type	MMC-AP0158HP-E	230-1-50	198	264	0.094	0.41	0.52	15
	MMC-AP0188HP-E	230-1-50	198	264	0.094	0.42	0.53	15
	MMC-AP0248HP-E	230-1-50	198	264	0.094	0.75	0.93	15
	MMC-AP0278HP-E	230-1-50	198	264	0.094	0.75	0.93	15
	MMC-AP0368HP-E	230-1-50	198	264	0.139	0.89	1.11	15
	MMC-AP0488HP-E	230-1-50	198	264	0.139	0.89	1.11	15
	MMC-AP0568HP-E	230-1-50	198	264	0.139	1.14	1.43	15
	MMC-UP0151HP-E	230-1-50	198	264	0.094	0.42	0.53	15
	MMC-UP0181HP-E	230-1-50	198	264	0.094	0.42	0.53	15
	MMC-UP0241HP-E	230-1-50	198	264	0.094	0.75	0.94	15
	MMC-UP0271HP-E	230-1-50	198	264	0.094	0.75	0.94	15
	MMC-UP0361HP-E	230-1-50	198	264	0.139	0.89	1.11	15
	MMC-UP0481HP-E	230-1-50	198	264	0.139	0.89	1.11	15
	MMC-UP0561HP-E	230-1-50	198	264	0.139	0.89	1.11	15
High Wall Type (3 series)	MMK-AP0073H1	230-1-50	198	264	0.030	0.20	0.22	15
	MMK-AP0093H1	230-1-50	198	264	0.030	0.22	0.24	15
	MMK-AP0123H1	230-1-50	198	264	0.030	0.22	0.24	15
	MMK-AP0153H1	230-1-50	198	264	0.030	0.37	0.40	15
	MMK-AP0183H1	230-1-50	198	264	0.030	0.37	0.40	15
	MMK-AP0243H1	230-1-50	198	264	0.030	0.43	0.47	15

Type	Model name	Normal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
			Min	Max	kW	FLA	MCA	MOCP
High Wall Type	MMK-AP0057HP-E	230-1-50	198	264	0.030	0.16	0.20	15
	MMK-AP0077HP-E	230-1-50	198	264	0.030	0.17	0.21	15
	MMK-AP0097HP-E	230-1-50	198	264	0.030	0.18	0.23	15
	MMK-AP0127HP-E	230-1-50	198	264	0.030	0.20	0.25	15
	MMK-AP0157HP-E	230-1-50	198	264	0.420	0.29	0.36	15
	MMK-AP0187HP-E	230-1-50	198	264	0.420	0.32	0.40	15
	MMK-AP0247HP-E	230-1-50	198	264	0.420	0.46	0.58	15
	MMK-UP0051HP-E	230-1-50	198	264	0.030	0.17	0.21	15
	MMK-UP0071HP-E	230-1-50	198	264	0.030	0.17	0.21	15
	MMK-UP0091HP-E	230-1-50	198	264	0.030	0.18	0.23	15
	MMK-UP0121HP-E	230-1-50	198	264	0.030	0.20	0.25	15
	MMK-UP0151HP-E	230-1-50	198	264	0.030	0.30	0.38	15
	MMK-UP0181HP-E	230-1-50	198	264	0.030	0.33	0.41	15
	MMK-UP0241HP-E	230-1-50	198	264	0.030	0.48	0.60	15
Floor Standing Cabinet Type	MML-AP0074H1-E	230-1-50	198	264	0.045	0.30	0.37	15
	MML-AP0094H1-E	230-1-50	198	264	0.045	0.30	0.37	15
	MML-AP0124H1-E	230-1-50	198	264	0.045	0.49	0.62	15
	MML-AP0154H1-E	230-1-50	198	264	0.045	0.49	0.62	15
	MML-AP0184H1-E	230-1-50	198	264	0.070	0.54	0.68	15
	MML-AP0244H1-E	230-1-50	198	264	0.070	0.54	0.68	15
	MML-UP0071H-E	230-1-50	198	264	0.045	0.30	0.37	15
	MML-UP0091H-E	230-1-50	198	264	0.045	0.30	0.37	15
	MML-UP0121H-E	230-1-50	198	264	0.045	0.49	0.62	15
	MML-UP0151H-E	230-1-50	198	264	0.045	0.49	0.62	15
	MML-UP0181H-E	230-1-50	198	264	0.070	0.54	0.68	15
	MML-UP0241H-E	230-1-50	198	264	0.070	0.54	0.68	15
Floor Standing Concealed Type	MML-AP0074BH1-E	230-1-50	198	264	0.019	0.29	0.36	15
	MML-AP0094BH1-E	230-1-50	198	264	0.019	0.29	0.36	15
	MML-AP0124BH1-E	230-1-50	198	264	0.019	0.29	0.36	15
	MML-AP0154BH1-E	230-1-50	198	264	0.070	0.52	0.65	15
	MML-AP0184BH1-E	230-1-50	198	264	0.070	0.52	0.65	15
	MML-AP0244BH1-E	230-1-50	198	264	0.070	0.53	0.66	15
	MML-UP0071BH-E	230-1-50	198	264	0.019	0.29	0.36	15
	MML-UP0091BH-E	230-1-50	198	264	0.019	0.29	0.36	15
	MML-UP0121BH-E	230-1-50	198	264	0.019	0.29	0.36	15
	MML-UP0151BH-E	230-1-50	198	264	0.070	0.52	0.65	15
	MML-UP0181BH-E	230-1-50	198	264	0.070	0.52	0.65	15
	MML-UP0241BH-E	230-1-50	198	264	0.070	0.53	0.66	15

Type	Model name	Normal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
			Min	Max	kW	FLA	MCA	MOCP
Floor Standing Type	MMF-AP0156H1-E	230-1-50	198	264	0.062	0.44	0.55	15
	MMF-AP0186H1-E	230-1-50	198	264	0.062	0.44	0.55	15
	MMF-AP0246H1-E	230-1-50	198	264	0.062	0.69	0.86	15
	MMF-AP0276H1-E	230-1-50	198	264	0.062	0.69	0.86	15
	MMF-AP0366H1-E	230-1-50	198	264	0.109	1.04	1.29	15
	MMF-AP0486H1-E	230-1-50	198	264	0.109	1.27	1.58	15
	MMF-AP0566H1-E	230-1-50	198	264	0.109	1.27	1.58	15
	MMF-UP0151H-E	230-1-50	198	264	0.062	0.42	0.53	15
	MMF-UP0181H-E	230-1-50	198	264	0.062	0.42	0.53	15
	MMF-UP0241H-E	230-1-50	198	264	0.062	0.63	0.79	15
	MMF-UP0271H-E	230-1-50	198	264	0.062	0.63	0.79	15
	MMF-UP0361H-E	230-1-50	198	264	0.109	0.94	1.18	15
	MMF-UP0481H-E	230-1-50	198	264	0.109	1.12	1.40	15
	MMF-UP0561H-E	230-1-50	198	264	0.109	1.12	1.40	15
Console Type	MML-AP0074NH1-E	230-1-50	198	264	0.041	0.21	0.26	15
	MML-AP0094NH1-E	230-1-50	198	264	0.041	0.21	0.26	15
	MML-AP0124NH1-E	230-1-50	198	264	0.041	0.25	0.31	15
	MML-AP0154NH1-E	230-1-50	198	264	0.041	0.32	0.40	15
	MML-AP0184NH1-E	230-1-50	198	264	0.041	0.46	0.58	15
	MML-UP0071NHP-E	230-1-50	198	264	0.041	0.21	0.26	15
	MML-UP0091NHP-E	230-1-50	198	264	0.041	0.21	0.26	15
	MML-UP0121NHP-E	230-1-50	198	264	0.041	0.25	0.32	15
	MML-UP0151NHP-E	230-1-50	198	264	0.041	0.32	0.40	15
	MML-UP0181NHP-E	230-1-50	198	264	0.041	0.46	0.58	15
Hot Water Module	MMW-AP0271LQ-E	230-1-50	198	264	-	-	0.90	15
	MMW-AP0561LQ-E	230-1-50	198	264	-	-	0.90	15
	MMW-UP0271LQ-E	230-1-50	198	264	-	-	0.90	15
	MMW-UP0561LQ-E	230-1-50	198	264	-	-	0.90	15

MCA : Minimum Circuit Amps FLA : Full Load Amps

MOCP : Maximum Overcurrent Protection (Amps) kW : Fan motor Rated Output (kW)

• Wiring size

Must be independent from the outdoor unit power supply

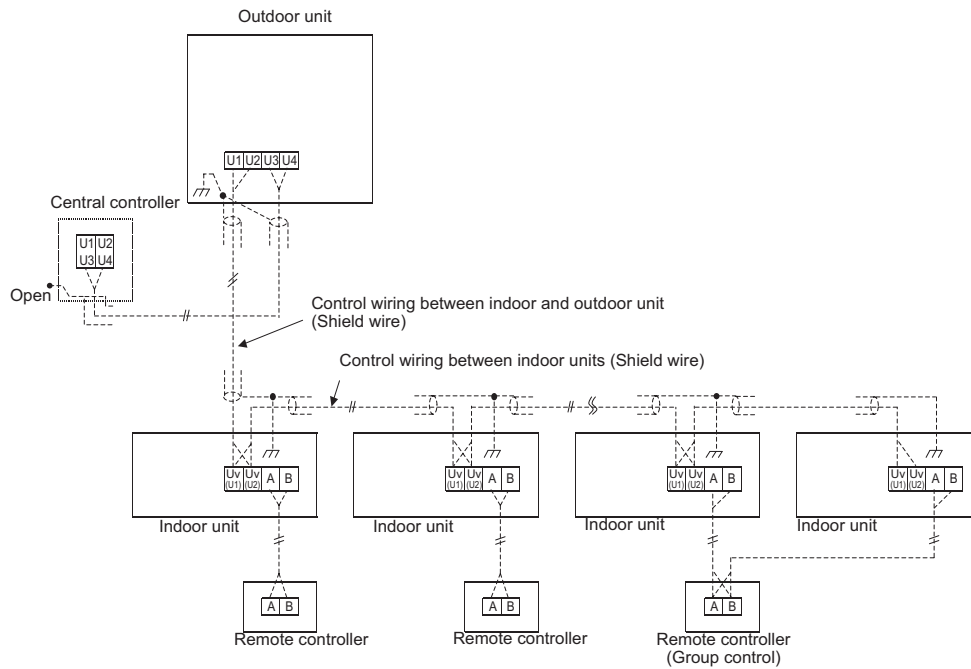
Model \ Item	Power supply wiring			
	Wire size			
All models of indoor units	2.0 mm ² (AWG#14)	Max. 20 m	3.5 mm ² (AWG#12)	Max. 50 m

NOTE:

The above connecting lengths stated in the table, indicate the length from the isolator to the outdoor unit. When the power supply of the indoor units are connected in parallel, it is assumed that no more than a 2 % voltage drop will occur. If the connecting length is to exceed the stated lengths, select a suitable wire in accordance with the local wiring standards.

4-5. Design of control wiring

4-5-1. Summary of control wiring



Control wiring and central control wiring use 2-core non-polarity wires.

Use 2-core shield wires to prevent noise trouble.

In this case, for the system grounding, close (connect) the end of shield wires, and isolate the end of terminal.

Use 2-core non-polarity wire for remote controller. (A, B terminals)

Use 2-core non-polarity wire for wiring of group control. (A, B terminals)

4-5-2. Restriction of control wiring

Keep the rule of below tables about size and length of Control wiring.

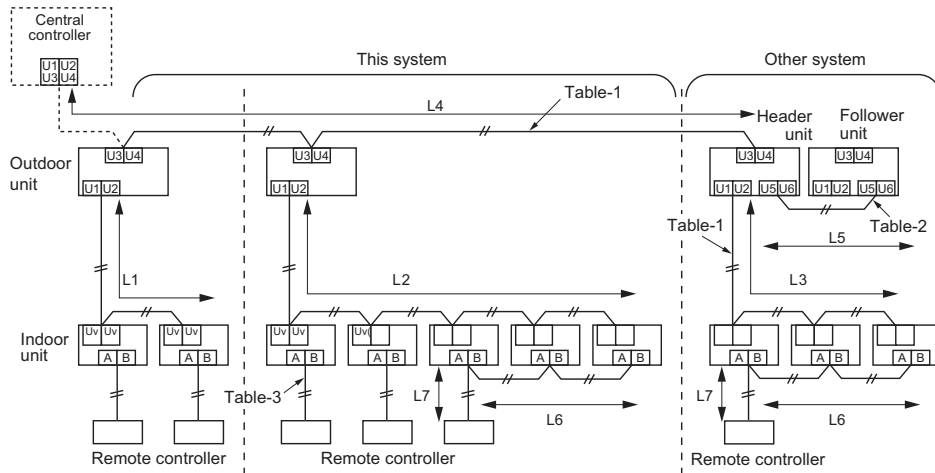


Table-1 Control wiring between indoor and outdoor units (L1, L2, L3), Central control wiring (L4)

Wiring	2-core, non-polarity
Type	Shield wire
Size/Length*1	1.25 mm ² : Up to 1000 m 2.0 mm ² : Up to 2000 m

(*1): Total of control wiring length for all refrigerant circuits (L1 + L2 + L3 + L4)

Table-2 Control wiring between outdoor units (L5) (Other system)

Wiring	2-core, non-polarity
Type	Shield wire
Size/Length	1.25 mm ² to 2.0 mm ² Up to 100 m (L5)

Table-3 Remote controller wiring (L6, L7)

Wire	2-core
Size	0.5 mm ² to 2.0 mm ²
Length	Up to 500 m (L6 + L7) Up to 400 m with of wireless remote controller in group control. Up to 200 m total length of control wiring between indoor units (L6)

4-5-3. Group control through a remote controller

Group control of multiple indoor units (8 units) through a single remote controller

5-1. Specifications

Outdoor unit model name				MCY-MHP0806HS8-E		MCY-MHP1006HS8-E		
Outdoor unit type				Inverter		Inverter		
Capacity code			HP	8		10		
Cooling Capacity			(*1) kW	22.4		28.0		
Heating Capacity			(*1) kW	22.4		28.0		
Heating Capacity Max			kW	25.0		31.5		
Electrical characteristics (Nominal) (*1)	Power supply		(*2)	3phase 50Hz 380/400/415V		3phase 50Hz 380/400/415V		
	Cooling	Running current		A	11.1/10.6/10.2		15.3/14.5/14.0	
		Power consumption		kW	6.67		9.34	
		Power factor		%	91		93	
		EER			3.36		3.00	
		SEER (Erp lot6/21)			8.09		7.40	
	Heating	Running current		A	8.7/8.2/7.9		11.4/10.9/10.5	
		Power consumption		kW	5.20		7.00	
		Power factor		%	91		93	
		COP			4.31		4.00	
		SCOP (Erp lot6/21)			4.50		4.38	
Starting Current			A	Soft start		Soft start		
Dimension	Unit	Height	mm	1740		1740		
		Width	mm	990		990		
		Depth	mm	390		390		
	Packing	Height	mm	1860		1860		
		Width	mm	1130		1130		
		Depth	mm	522		522		
Total Weight	Unit	kg	147		147			
	Packed unit	kg	166		166			
Appearance (Color)				Silky shade (Munsell 1Y8.5/0.5)		Silky shade (Munsell 1Y8.5/0.5)		
Compressor	Type			Hermetic twin rotary compressor		Hermetic twin rotary compressor		
	Motor output		kW	6.60		6.60		
Fan unit	Fan			Propeller fan (Quantity 2)		Propeller fan (Quantity 2)		
	Motor output		W	100+100		100+100		
	Air volume		m³/h	8,460		8,820		
Heat exchanger				Finned tube		Finned tube		
Refrigerant R410A (Charged refrigerant amount (kg))				(*3)	4.4		4.4	
High-pressure switch			MPa	ON:4.15, OFF:3.20		ON:4.15, OFF:3.20		
Protective devices				Discharge temp. sensor / Suction temp. sensor / High-pressure sensor		Discharge temp. sensor / Suction temp. sensor / High-pressure sensor		
				Low-pressure sensor / P.C. board fuse		Low-pressure sensor / P.C. board fuse		
Electrical specifications	Unit	MCA	(*4) A	17.0		20.0		
		MOCP	(*5) A	20.0		25.0		
Refrigerant piping	Connecting port diameter	Gas side (main pipe)		mm	19.1		19.1	
		Liquid side (main pipe)		mm	9.5		9.5	
	Connecting method	Gas side			Flare		Flare	
		Liquid side			Flare		Flare	
	Connecting piping diameter	Gas side		mm	19.1		22.2 (*6)	
			Liquid side		mm	9.5 (*7)		
Total extension of piping			m	300		300		
Max. No. of connected indoor units				12		16 (*8)		
Connectable FCU diversity				80 % - 130 %		80 % - 130 %		
Sound pressure level			Cooling	dB(A)	58		59	
			Heating	dB(A)	59		60	
	Night operation (*9) (Sound reduction) control		Cooling	dB(A)	50		50	
			Heating	dB(A)	50		50	
Sound power level			Cooling	dB(A)	75		77	
			Heating	dB(A)	75		77	
	Night operation (*9) (Sound reduction) control		Cooling	dB(A)	67		67	
			Heating	dB(A)	67		67	
Operation temperature range		Cooling	CDB	-5 to 46		-5 to 46		
		Heating	CWB	-20 to 15		-20 to 15		

(*) Rated conditions Cooling : Indoor 27 degC Dry Bulb / 19 degC Wet Bulb, Outdoor 35 degC Dry Bulb.
Heating : Indoor 20 degC Dry Bulb, Outdoor 7 degC Dry Bulb / 6 degC Wet Bulb.

The standard pipe means that equivalent piping length of 7.5 m and standard 0 m piping height difference.

(*) The source voltage must not fluctuate more than ± 10 %.

(*) The amount dose not consider extra piping length.

Refrigerant must be added on site in accordance with the actual piping length.

(*) Select wire size base on the larger value of MCA.

(*) MOCP : Maximum overcurrent protection (Amps)

(*) Attach a socket of 19.1 - 22.2 mm to the ball valve. For its details, refer to Installation Manual.

(*) Depending on the installation conditions, the liquid pipe dia. needs to be increased. For its details, refer to Installation Manual.

(*) When the No. of connecting indoor units exceeds 12, maximum total capacity code of indoor units will be 11.

(*) Need to prepare for optional control P.C. board.

MCY-MHP0806HS8-E, MCY-MHP1006HS8-E

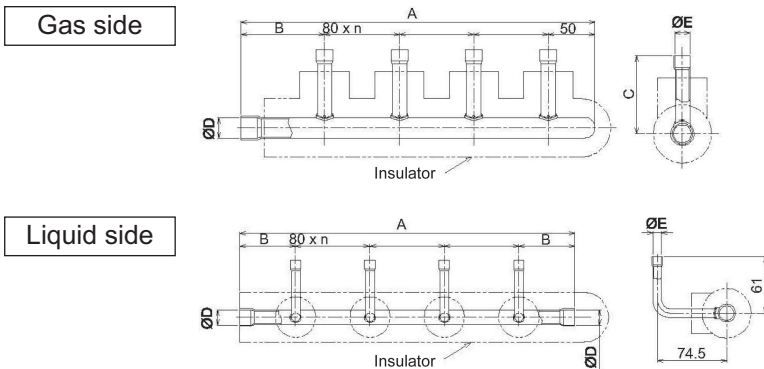
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(Unit : mm)

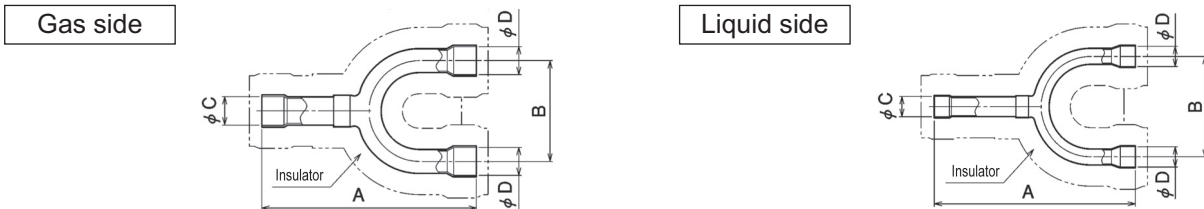
5-3. Branch header / branch joint

- Branch header
RBM-HY1043E, HY1083E



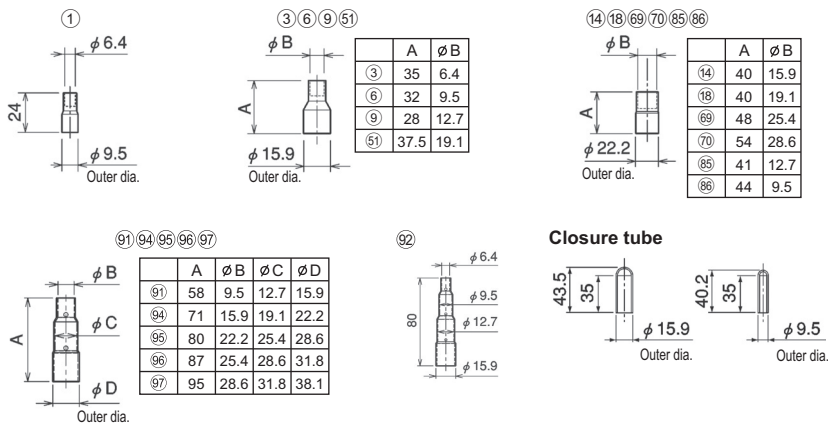
Model		A	B	C	ØD	ØE	n	Accessory socket Qty
RBM-HY1043E	Gas side	380	90	83.6	22.2	15.9	3	⑥ x 4, ⑨ x 4, ⑭ x 1, ⑰ x 1, ⑰ x 1
	Liquid side	360	60	-	15.9	9.5	3	① x 4, ⑥ x 1, ⑨ x 1
RBM-HY1083E	Gas side	700	90	83.6	22.2	15.9	7	⑥ x 8, ⑨ x 8, ⑭ x 1, ⑰ x 1, ⑰ x 1
	Liquid side	680	60	-	15.9	9.5	7	① x 8, ⑥ x 1, ⑨ x 1

- Y-shape branch joint
RBM-BY55E, BY105E



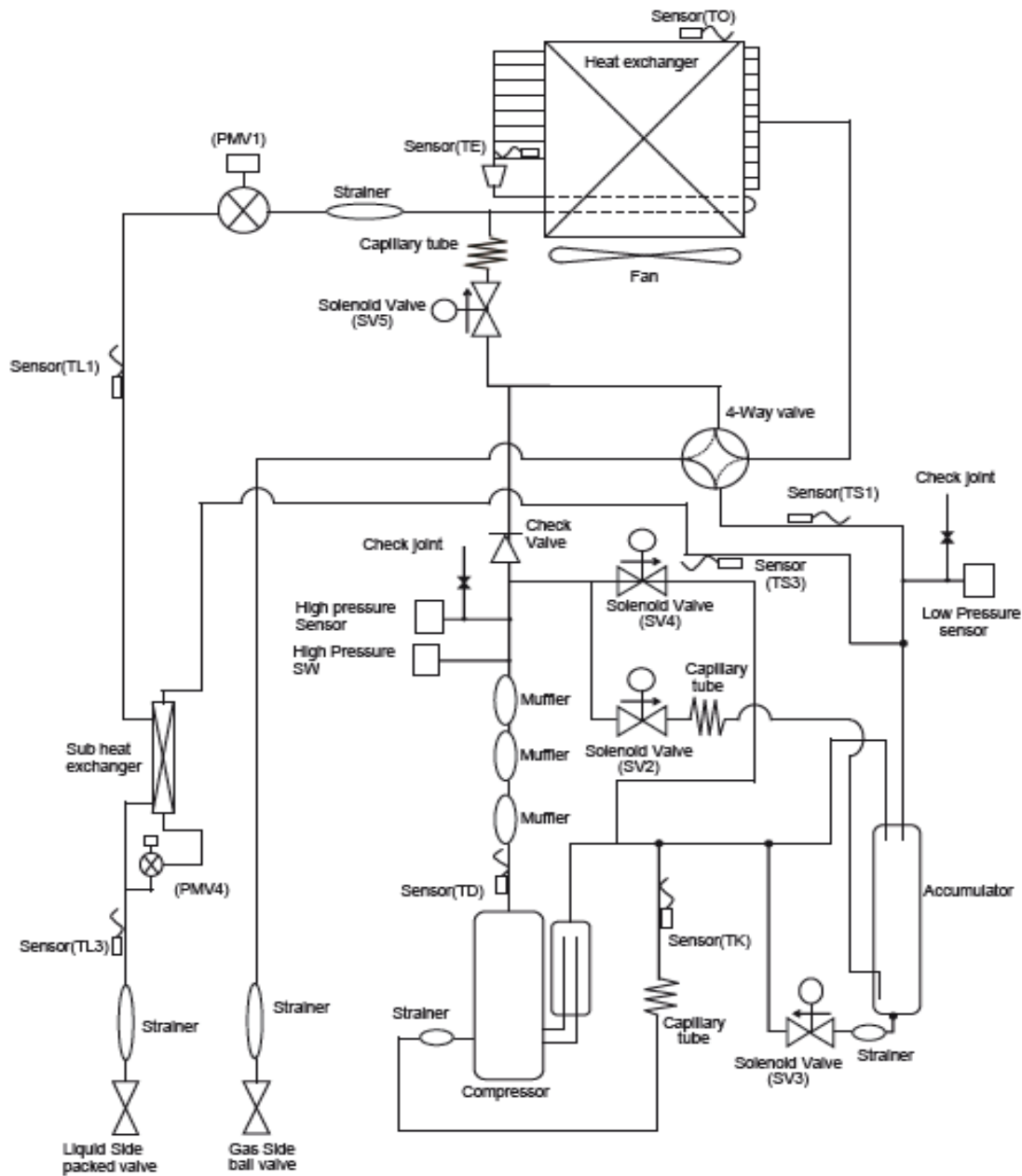
Model		A	B	ØC	ØD	Accessory socket Qty
BY55E	Gas side	160	80	15.9	15.9	⑨ x 1, ⑤① x 2, ⑨① x 2
	Liquid side	130	70	9.5	9.5	① x 2
BY105E	Gas side	170	80	22.2	22.2	⑭ x 2, ⑰ x 2, ⑨① x 1
	Liquid side	160	80	15.9	15.9	⑨ x 1, ⑨① x 1, ⑨② x 1

- Accessory socket



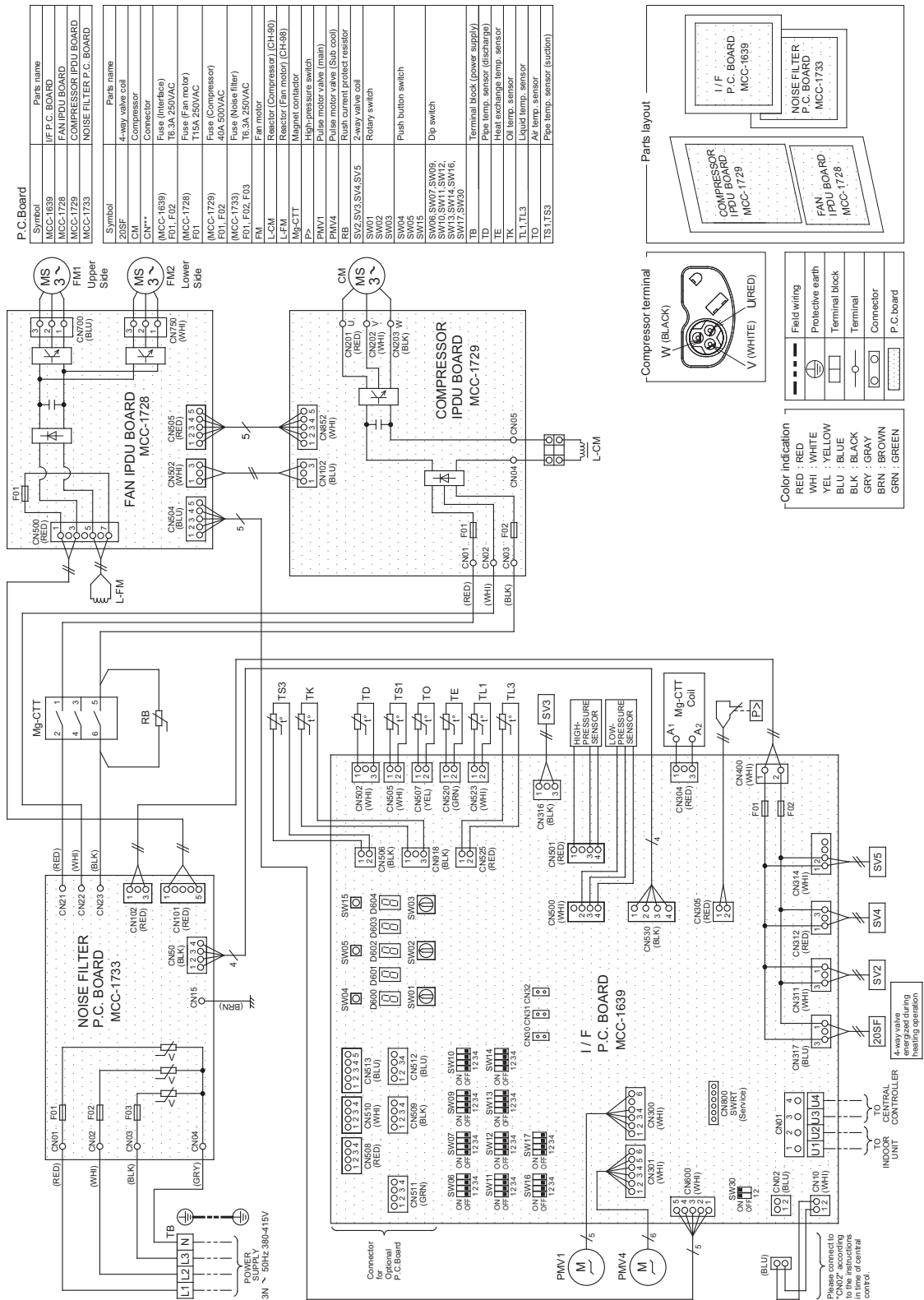
5-4. Refrigerant cycle diagram

MCY-MHP0806HS8-E, MCY-MHP1006HS8-E

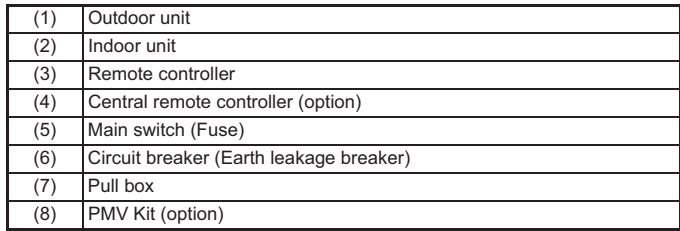


5-5. Wiring diagram

MCY-MHP0806HS8-E, MCY-MHP1006HS8-E



MCY-MHP0806HS8-E, MCY-MHP1006HS8-E



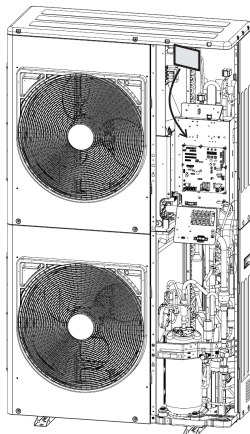
W1	Control wiring between indoor and outdoor units.
W2	Control wiring between indoor units.

(Note)

1. When perform a central control, connect the wire of CN10 in CN02. (Factory default : No connection)
2. Connection of shield wire must be connected. (Connected to all connecting sections in each Indoor unit)
3. Group control
4. Select the power supply wiring and fuse of outdoor/indoor units according to each models specification. Perform wiring of power supply complying with the rules and regulations of the local electric company.
5. Fro the control wires connecting indoor units, outdoor units, and between indoor and outdoor units, use 2-core and non-polarity shield wires.
6. As for details, see the wiring diagram of indoor/outdoor unit.

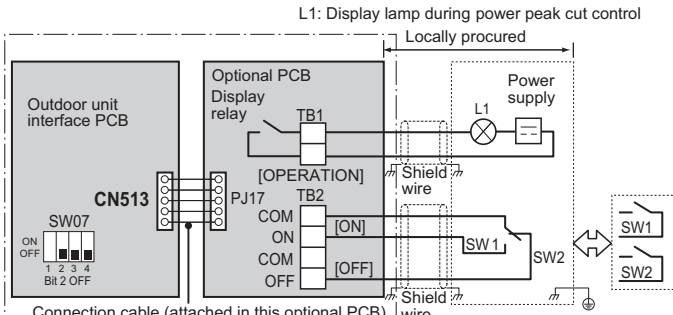
5-7. Optional printed circuit board (PCB) of outdoor unit

Model name	Appearance
	 Size : 71 x 85 (mm)
	Application



TCB-PCDM4E

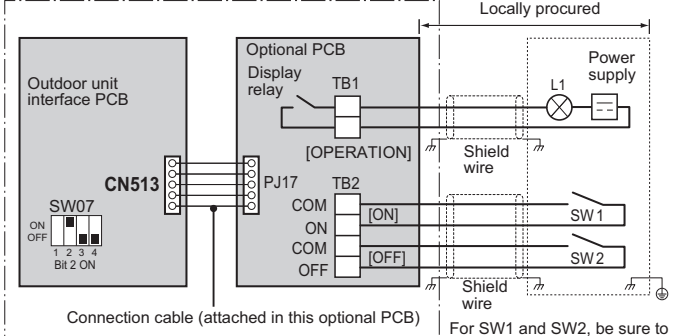
* Installation the optional PCB in the interface board of the outdoor unit.

Function
Power peak-cut Control Standard Specifications (Wiring example)  For SW1 and SW2, be sure to provide no-voltage contacts for each terminal. The input signals of SW1 and SW2 may be pulse input (100 msec or more) or continuous make. Do not turn on [SW1] and [SW2] simultaneously.

<SW07 (bit 2) OFF [2-stage switching]>

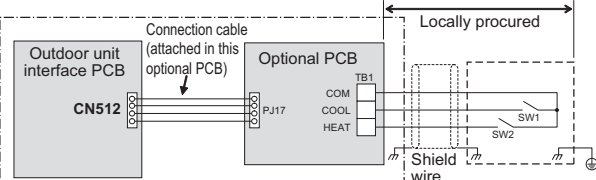
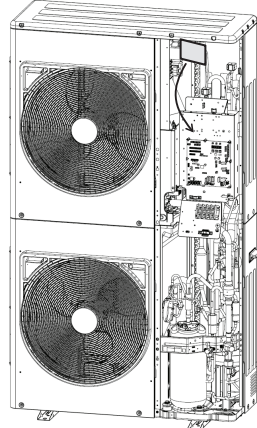
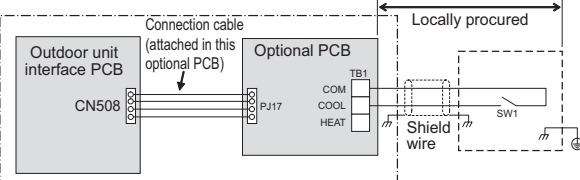
Input		SW07 (bit 1)		Display relay (L1)
SW1	SW2	Bit 1 OFF	Bit 1 ON	
OFF	ON	100 % (normal operation)	100 % (normal operation)	OFF
ON	OFF	0 % (forced stop)	Approx. 60 % (upper limit regulated)	ON

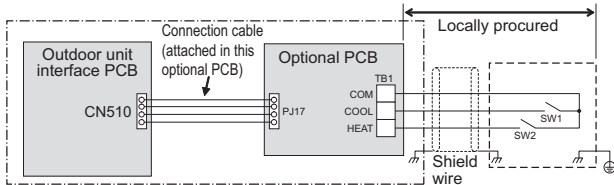
Enhanced Specifications
(Wiring example)

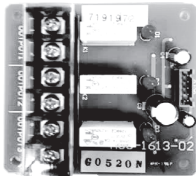
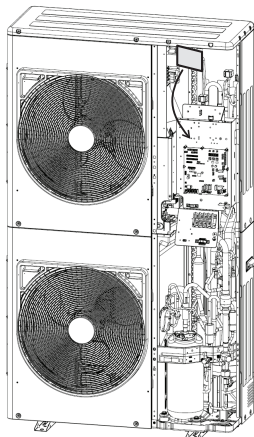
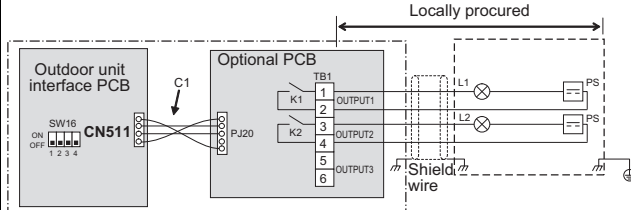
 For SW1 and SW2, be sure to provide no-voltage contacts for each terminal.
--

<SW07 (bit 2) ON [4-stage switching]>

Input		SW07 (bit 1)		Display relay (L1)
SW1	SW2	Bit 1 OFF	Bit 1 ON	
OFF	OFF	100 % (normal operation)	100 % (normal operation)	OFF
ON	OFF	Approx. 80 % (upper limit regulated)	Approx. 85 % (upper limit regulated)	ON
OFF	ON	Approx. 60 % (upper limit regulated)	Approx. 75 % (upper limit regulated)	ON
ON	ON	0 % (forced stop)	Approx. 60 % (upper limit regulated)	ON

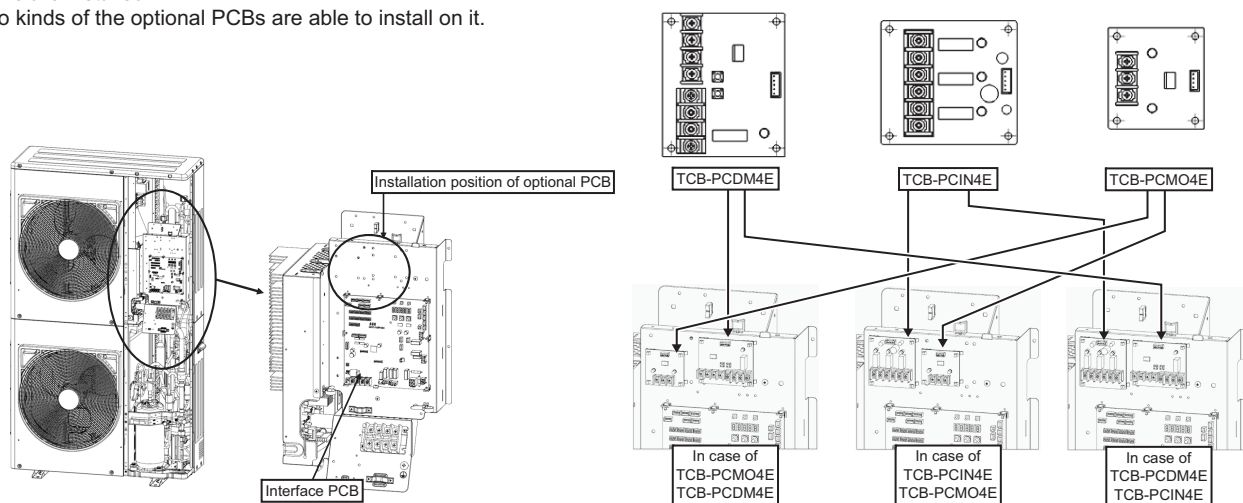
Model name	Appearance	Function									
TCB-PCMO4E	 Size : 55.5 x 60 (mm)	[1] External master ON/OFF control ▼ Function By connecting the cable (attached in this optional PCB) to the interface PC board on an outdoor unit, all indoor units connected to the outdoor unit enable to operate simultaneously.  SW1: Operation input switch SW2: Stop input switch <table><thead><tr><th>Terminal</th><th>Input signal</th><th>Operation</th></tr></thead><tbody><tr><td>COOL (SW1)</td><td>ON OFF </td><td>All indoor units operate together</td></tr><tr><td>HEAT (SW2)</td><td>ON OFF </td><td>All indoor units stop together</td></tr></tbody></table> Provide no-voltage pulse contacts for each terminal. Hold the ON state for at least 100 msec. Do not turn SW1 and SW2 ON simultaneously.	Terminal	Input signal	Operation	COOL (SW1)	ON OFF 	All indoor units operate together	HEAT (SW2)	ON OFF 	All indoor units stop together
	Terminal	Input signal	Operation								
	COOL (SW1)	ON OFF 	All indoor units operate together								
HEAT (SW2)	ON OFF 	All indoor units stop together									
 * Installation the optional PCB in the interface board of the outdoor unit.	[2] Night time operation (sound reduction) control ▼ Function As the cable (attached in this optional PCB) is connected to the “Interface PCB” on an outdoor unit, both compressor speed and fan speed are restricted while the signal of the night operation control is input. It makes the noise reduction during the night time operation.  SW1: Night time signal switch <table><thead><tr><th>Terminal</th><th>Input signal</th><th>Operation</th></tr></thead><tbody><tr><td rowspan="2">COOL (SW1)</td><td>ON OFF </td><td>Night time control</td></tr><tr><td>ON OFF </td><td>Normal operation</td></tr></tbody></table> Each terminal should be connected to dry contact. The input signal is recognized during its rising/falling phase. (After reaching the top/bottom of the rising/falling edge, the signal must remain there for at least 100 ms.)	Terminal	Input signal	Operation	COOL (SW1)	ON OFF 	Night time control	ON OFF 	Normal operation		
Terminal	Input signal	Operation									
COOL (SW1)	ON OFF 	Night time control									
	ON OFF 	Normal operation									

Model name	Appearance	Function																											
TCB-PCMO4E	 Size : 55.5 x 60 (mm)	▼ Sound reduction and approximation capacity (reference) <table><tr><th rowspan="2">Outdoor unit (base unit)</th><th colspan="2">During low-noise mode dB(A)</th><th colspan="2">Capacity</th></tr><tr><th>Cooling</th><th>Heating</th><th>Cooling</th><th>Heating</th></tr><tr><td>Model 0806*</td><td>50</td><td>50</td><td>approx. 80 %</td><td>approx. 75 %</td></tr><tr><td>Model 1006*</td><td>50</td><td>50</td><td>approx. 65 %</td><td>approx. 60 %</td></tr></table> * Position of noise measuring device: 1 m from the front face of the set and 1.5 m above ground (anechoic sound)	Outdoor unit (base unit)	During low-noise mode dB(A)		Capacity		Cooling	Heating	Cooling	Heating	Model 0806*	50	50	approx. 80 %	approx. 75 %	Model 1006*	50	50	approx. 65 %	approx. 60 %								
	Outdoor unit (base unit)	During low-noise mode dB(A)		Capacity																									
		Cooling	Heating	Cooling	Heating																								
	Model 0806*	50	50	approx. 80 %	approx. 75 %																								
	Model 1006*	50	50	approx. 65 %	approx. 60 %																								
	Application	[3] Operation mode selection control ▼ Function The heating/cooling mode of the system can be selected by connecting to the interface PCB of outdoor units.  SW1: Cooling mode specified input switch SW2: Heating mode specified input switch <table><tr><th colspan="2">Input Signal</th><th rowspan="2">Operation: Selected operation mode</th></tr><tr><th>Cooling (SW1)</th><th>Heating (SW2)</th></tr><tr><td>ON</td><td>OFF</td><td>Cooling operation only</td></tr><tr><td>OFF</td><td>ON</td><td>Heating operation only</td></tr><tr><td>OFF</td><td>OFF</td><td>Normal operation</td></tr></table> Each terminal should be connected to dry contact.	Input Signal		Operation: Selected operation mode	Cooling (SW1)	Heating (SW2)	ON	OFF	Cooling operation only	OFF	ON	Heating operation only	OFF	OFF	Normal operation													
	Input Signal		Operation: Selected operation mode																										
	Cooling (SW1)	Heating (SW2)																											
	ON	OFF	Cooling operation only																										
	OFF	ON	Heating operation only																										
OFF	OFF	Normal operation																											
	* Installation the optional PCB in the interface board of the outdoor unit.	Indoor unit operation intervention function The statuses of indoor units operating in a mode different from the selected operation mode can be changed by changing the status of a jumper wire (J01) provided on the interface P.C. board of outdoor unit. <table><tr><th>Jumper wire</th><th colspan="3">Description of intervention</th></tr><tr><td>J01 connected (factory default)</td><td colspan="3">All indoor units operating in a mode different from the selected operation mode (prohibited-mode indoor units) become non-priority units (thermostat OFF). The display “ (operation ready)” appears on the remote controller of prohibited-mode indoor units.</td></tr><tr><td>J01 cut</td><td colspan="3">The selected operation mode is imposed on all indoor units operating in a different mode.</td></tr><tr><td></td><td>Mode selected at P.C. board</td><td colspan="2">Remote controller operation / display</td></tr><tr><td></td><td>Normal</td><td>All modes (COOL, DRY, HEAT and FAN) available</td><td></td></tr><tr><td></td><td>COOL</td><td>Only COOL, DRY and FAN available</td><td rowspan="2">“ operation mode control” (turned on during remote controller operation)</td></tr><tr><td></td><td>HEAT</td><td>Only HEAT and FAN available</td></tr></table>	Jumper wire	Description of intervention			J01 connected (factory default)	All indoor units operating in a mode different from the selected operation mode (prohibited-mode indoor units) become non-priority units (thermostat OFF). The display “  (operation ready)” appears on the remote controller of prohibited-mode indoor units.			J01 cut	The selected operation mode is imposed on all indoor units operating in a different mode.				Mode selected at P.C. board	Remote controller operation / display			Normal	All modes (COOL, DRY, HEAT and FAN) available			COOL	Only COOL, DRY and FAN available	“  operation mode control” (turned on during remote controller operation)		HEAT	Only HEAT and FAN available
Jumper wire	Description of intervention																												
J01 connected (factory default)	All indoor units operating in a mode different from the selected operation mode (prohibited-mode indoor units) become non-priority units (thermostat OFF). The display “  (operation ready)” appears on the remote controller of prohibited-mode indoor units.																												
J01 cut	The selected operation mode is imposed on all indoor units operating in a different mode.																												
	Mode selected at P.C. board	Remote controller operation / display																											
	Normal	All modes (COOL, DRY, HEAT and FAN) available																											
	COOL	Only COOL, DRY and FAN available	“  operation mode control” (turned on during remote controller operation)																										
	HEAT	Only HEAT and FAN available																											

Model name	Appearance	Function																			
TCB-PCIN4E	 Size : 73 x 79 (mm)	Error / Operation Output ▼ Function The operation error output PCB can indicate operation and error states by connecting to the interface PCB of outdoor units. ▼ Operation Operation output: The operation indicator is on while any indoor unit in the system is operating. Error output: The error indicator is on when an error is occurred on even one of the indoor or outdoor units in the system.																			
	Application	Wiring example																			
	 * Installation the optional PCB in the interface board of the outdoor unit.	 <table><tr><td>C1</td><td>Attached connection cable 1 (4wires)</td></tr><tr><td>CN511</td><td>Connector on interface side (green)</td></tr><tr><td>K1, K2</td><td>Relays</td></tr><tr><td>L1</td><td>Error indication Lamp</td></tr><tr><td>L2</td><td>Operation indication Lamp</td></tr><tr><td>OUTPUT1</td><td>Error output</td></tr><tr><td>OUTPUT2</td><td>Operation output</td></tr><tr><td>PJ20</td><td>Connector on optional PCB side</td></tr><tr><td>PS</td><td>Power supply unit</td></tr><tr><td>TB1</td><td>Terminal block</td></tr></table> * [OUTPUT3] is displayed when power is turned on.	C1	Attached connection cable 1 (4wires)	CN511	Connector on interface side (green)	K1, K2	Relays	L1	Error indication Lamp	L2	Operation indication Lamp	OUTPUT1	Error output	OUTPUT2	Operation output	PJ20	Connector on optional PCB side	PS	Power supply unit	TB1
C1	Attached connection cable 1 (4wires)																				
CN511	Connector on interface side (green)																				
K1, K2	Relays																				
L1	Error indication Lamp																				
L2	Operation indication Lamp																				
OUTPUT1	Error output																				
OUTPUT2	Operation output																				
PJ20	Connector on optional PCB side																				
PS	Power supply unit																				
TB1	Terminal block																				

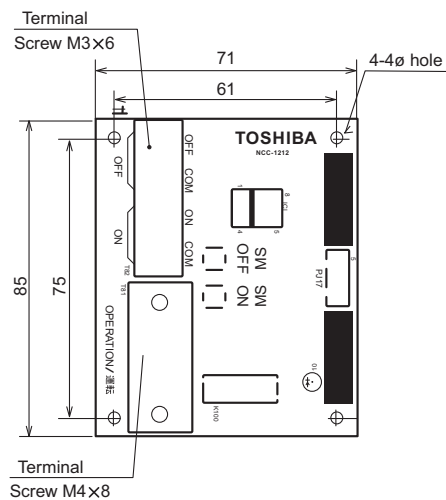
[PCB Installation Position]

There are holes on the metal of interface PCB, and the optional PCBs are installed.
Two kinds of the optional PCBs are able to install on it.

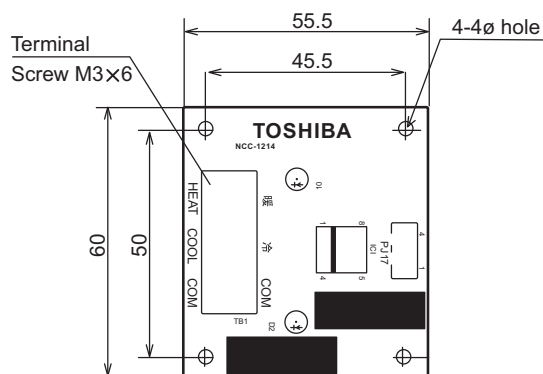


Dimensions of PCB

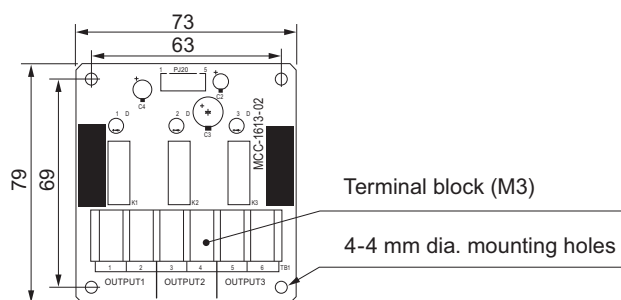
TCB-PCDM4E



TCB-PCMO4E



TCB-PCIN4E



5-8. Part load performance

MCY-MHP0806HS8* (8HP, 22.4 kW system)

Cooling		Compressor + Outdoor Fan Power consumption (kW)															
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100 % Cooling Capacity (kW)	100 %		90 %		80 %		70 %		60 %		50 %		40 %		30 %	
		TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)
40	20.2	20.2	7.16	18.2	5.86	16.1	4.71	14.1	3.70	12.1	2.84	10.1	2.12	8.1	1.55	6.1	1.11
39	20.7	20.7	7.06	18.6	5.78	16.6	4.65	14.5	3.65	12.4	2.80	10.4	2.09	8.3	1.52	6.2	1.10
37	21.6	21.6	6.86	19.5	5.62	17.3	4.52	15.1	3.55	13.0	2.72	10.8	2.03	8.7	1.48	6.5	1.07
35	22.4	22.4	6.67	20.2	5.46	17.9	4.39	15.7	3.45	13.4	2.64	11.2	1.97	9.0	1.44	6.7	1.04
33	22.4	22.4	6.35	20.2	5.20	17.9	4.18	15.7	3.29	13.4	2.52	11.2	1.88	9.0	1.37	6.7	0.99
31	22.4	22.4	6.04	20.2	4.95	17.9	3.98	15.7	3.12	13.4	2.40	11.2	1.79	9.0	1.30	6.7	0.94
30	22.4	22.4	5.89	20.2	4.82	17.9	3.87	15.7	3.04	13.4	2.33	11.2	1.74	9.0	1.27	6.7	0.92
29	22.4	22.4	5.73	20.2	4.69	17.9	3.77	15.7	2.96	13.4	2.27	11.2	1.70	9.0	1.24	6.7	0.89
27	22.4	22.4	5.42	20.2	4.44	17.9	3.56	15.7	2.80	13.4	2.15	11.2	1.60	9.0	1.17	6.7	0.84
25	22.4	22.4	5.11	20.2	4.18	17.9	3.36	15.7	2.64	13.4	2.02	11.2	1.51	9.0	1.10	6.7	0.79
23	22.4	22.4	4.79	20.2	3.92	17.9	3.15	15.7	2.48	13.4	1.90	11.2	1.42	9.0	1.03	6.7	0.75
21	22.4	22.4	4.48	20.2	3.67	17.9	2.95	15.7	2.32	13.4	1.78	11.2	1.33	9.0	0.97	6.7	0.70
20	22.4	22.4	4.32	20.2	3.54	17.9	2.85	15.7	2.24	13.4	1.71	11.2	1.28	9.0	0.93	6.7	0.67
19	22.4	22.4	4.17	20.2	3.41	17.9	2.74	15.7	2.16	13.4	1.65	11.2	1.23	9.0	0.90	6.7	0.65
17	22.4	22.4	3.86	20.2	3.16	17.9	2.54	15.7	1.99	13.4	1.53	11.2	1.14	9.0	0.83	6.7	0.60
15	22.4	22.4	3.54	20.2	2.90	17.9	2.33	15.7	1.83	13.4	1.41	11.2	1.05	9.0	0.76	6.7	0.55

TC : Total Capacity

PI : Power Input

Indoor air temperature conditions : 27.0 °C dry-bulb / 19.0 °C wet bulb

Heating			Compressor + Outdoor Fan Power consumption (kW)															
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit Wet-Bulb (°C)	Outdoor Unit 100 % Heating Capacity (kW)	100 %		90 %		80 %		70 %		60 %		50 %		40 %		30 %	
			TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)
15.0	13.7	22.4	22.4	4.08	20.2	3.45	17.9	2.88	15.7	2.35	13.4	1.87	11.2	1.45	9.0	1.08	6.7	0.76
13.0	11.8	22.4	22.4	4.36	20.2	3.69	17.9	3.07	15.7	2.51	13.4	2.00	11.2	1.55	9.0	1.15	6.7	0.81
11.0	9.8	22.4	22.4	4.64	20.2	3.93	17.9	3.27	15.7	2.67	13.4	2.13	11.2	1.65	9.0	1.23	6.7	0.86
9.0	7.9	22.4	22.4	4.92	20.2	4.16	17.9	3.47	15.7	2.83	13.4	2.26	11.2	1.75	9.0	1.30	6.7	0.91
7.0	6.0	22.4	22.4	5.20	20.2	4.40	17.9	3.66	15.7	2.99	13.4	2.39	11.2	1.85	9.0	1.37	6.7	0.96
5.0	4.1	21.5	21.5	5.12	19.4	4.33	17.2	3.60	15.1	2.94	12.9	2.35	10.8	1.82	8.6	1.35	6.5	0.95
3.0	2.2	20.6	20.6	5.03	18.6	4.26	16.5	3.54	14.4	2.89	12.4	2.31	10.3	1.79	8.3	1.33	6.2	0.93
0.0	-0.7	19.3	19.3	4.90	17.4	4.15	15.5	3.45	13.5	2.82	11.6	2.25	9.7	1.74	7.7	1.29	5.8	0.91
-3.0	-3.7	18.0	18.0	4.78	16.2	4.04	14.4	3.36	12.6	2.75	10.8	2.19	9.0	1.70	7.2	1.26	5.4	0.89
-5.0	-5.6	17.1	17.1	4.69	15.4	3.97	13.7	3.30	12.0	2.70	10.3	2.15	8.6	1.67	6.8	1.24	5.1	0.87
-7.0	-7.6	16.2	16.2	4.61	14.6	3.90	13.0	3.24	11.4	2.65	9.7	2.11	8.1	1.64	6.5	1.22	4.9	0.85
-10.0	-10.5	14.9	14.9	4.48	13.4	3.79	11.9	3.16	10.4	2.58	9.0	2.06	7.5	1.59	6.0	1.18	4.5	0.83
-14.5	-15.0	12.9	12.9	4.29	11.7	3.63	10.4	3.02	9.1	2.47	7.8	1.97	6.5	1.52	5.2	1.13	3.9	0.80

TC : Total Capacity

PI : Power Input

Indoor air temperature conditions : 20.0 °C dry-bulb

All indoor unit operation

MCY-MHP1006HS8* (10HP, 28.0 kW system)

Cooling		Compressor + Outdoor Fan Power consumption (kW)															
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100 % Cooling Capacity (kW)	100 %		90 %		80 %		70 %		60 %		50 %		40 %		30 %	
		TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)
40	25.2	25.2	10.0	22.7	8.20	20.2	6.58	17.7	5.15	15.1	3.93	12.6	2.90	10.1	2.07	7.6	1.44
39	25.9	25.9	9.89	23.3	8.09	20.7	6.49	18.1	5.08	15.5	3.87	12.9	2.86	10.4	2.04	7.8	1.42
37	27.0	27.0	9.61	24.3	7.86	21.6	6.31	18.9	4.94	16.2	3.76	13.5	2.78	10.8	1.98	8.1	1.38
35	28.0	28.0	9.34	25.2	7.64	22.4	6.13	19.6	4.80	16.8	3.66	14.0	2.70	11.2	1.93	8.4	1.34
33	28.0	28.0	8.90	25.2	7.28	22.4	5.84	19.6	4.57	16.8	3.48	14.0	2.57	11.2	1.84	8.4	1.28
31	28.0	28.0	8.46	25.2	6.92	22.4	5.55	19.6	4.35	16.8	3.31	14.0	2.45	11.2	1.75	8.4	1.21
30	28.0	28.0	8.24	25.2	6.74	22.4	5.41	19.6	4.24	16.8	3.23	14.0	2.38	11.2	1.70	8.4	1.18
29	28.0	28.0	8.02	25.2	6.56	22.4	5.27	19.6	4.12	16.8	3.14	14.0	2.32	11.2	1.66	8.4	1.15
27	28.0	28.0	7.59	25.2	6.21	22.4	4.98	19.6	3.90	16.8	2.97	14.0	2.19	11.2	1.57	8.4	1.09
25	28.0	28.0	7.15	25.2	5.85	22.4	4.69	19.6	3.67	16.8	2.80	14.0	2.07	11.2	1.47	8.4	1.02
23	28.0	28.0	6.71	25.2	5.49	22.4	4.40	19.6	3.45	16.8	2.63	14.0	1.94	11.2	1.38	8.4	0.96
21	28.0	28.0	6.27	25.2	5.13	22.4	4.12	19.6	3.22	16.8	2.46	14.0	1.81	11.2	1.29	8.4	0.90
20	28.0	28.0	6.06	25.2	4.95	22.4	3.97	19.6	3.11	16.8	2.37	14.0	1.75	11.2	1.25	8.4	0.87
19	28.0	28.0	5.84	25.2	4.78	22.4	3.83	19.6	3.00	16.8	2.29	14.0	1.69	11.2	1.20	8.4	0.84
17	28.0	28.0	5.40	25.2	4.42	22.4	3.54	19.6	2.78	16.8	2.11	14.0	1.56	11.2	1.11	8.4	0.77
15	28.0	28.0	4.96	25.2	4.06	22.4	3.26	19.6	2.55	16.8	1.94	14.0	1.43	11.2	1.02	8.4	0.71

TC : Total Capacity

PI : Power Input

Indoor air temperature conditions : 27.0 °C dry-bulb / 19.0 °C wet bulb

Heating			Compressor + Outdoor Fan Power consumption (kW)															
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit Wet-Bulb (°C)	Outdoor Unit 100 % Heating Capacity (kW)	100 %		90 %		80 %		70 %		60 %		50 %		40 %		30 %	
			TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)	TC (kW)	PI (kW)
15.0	13.7	28.0	28.0	5.50	25.2	4.65	22.4	3.87	19.6	3.16	16.8	2.52	14.0	1.95	11.2	1.45	8.4	1.02
13.0	11.8	28.0	28.0	5.87	25.2	4.97	22.4	4.14	19.6	3.38	16.8	2.70	14.0	2.09	11.2	1.55	8.4	1.09
11.0	9.8	28.0	28.0	6.25	25.2	5.29	22.4	4.40	19.6	3.60	16.8	2.87	14.0	2.22	11.2	1.65	8.4	1.16
9.0	7.9	28.0	28.0	6.62	25.2	5.60	22.4	4.67	19.6	3.81	16.8	3.04	14.0	2.35	11.2	1.75	8.4	1.22
7.0	6.0	28.0	28.0	7.00	25.2	5.92	22.4	4.93	19.6	4.03	16.8	3.21	14.0	2.49	11.2	1.85	8.4	1.29
5.0	4.1	26.9	26.9	6.89	24.2	5.83	21.5	4.85	18.8	3.96	16.1	3.16	13.5	2.45	10.8	1.82	8.1	1.27
3.0	2.2	25.8	25.8	6.77	23.2	5.73	20.6	4.77	18.1	3.90	15.5	3.11	12.9	2.41	10.3	1.79	7.7	1.25
0.0	-0.7	24.2	24.2	6.60	21.7	5.58	19.3	4.65	16.9	3.80	14.5	3.03	12.1	2.34	9.7	1.74	7.2	1.22
-3.0	-3.7	22.5	22.5	6.43	20.3	5.44	18.0	4.53	15.8	3.70	13.5	2.95	11.3	2.28	9.0	1.70	6.8	1.19
-5.0	-5.6	21.4	21.4	6.32	19.3	5.34	17.1	4.45	15.0	3.64	12.8	2.90	10.7	2.24	8.6	1.67	6.4	1.17
-7.0	-7.6	20.3	20.3	6.20	18.3	5.25	16.2	4.37	14.2	3.57	12.2	2.85	10.2	2.20	8.1	1.64	6.1	1.15
-10.0	-10.5	18.7	18.7	6.03	16.8	5.10	14.9	4.25	13.1	3.47	11.2	2.77	9.3	2.14	7.5	1.59	5.6	1.11
-14.5	-15.0	16.2	16.2	5.77	14.6	4.88	12.9	4.07	11.3	3.32	9.7	2.65	8.1	2.05	6.5	1.52	4.9	1.07

TC : Total Capacity

PI : Power Input

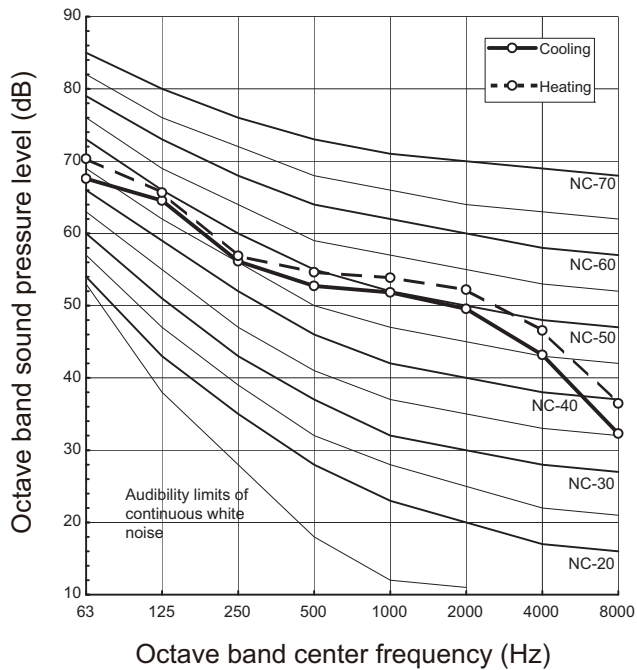
Indoor air temperature conditions : 20.0 °C dry-bulb

All indoor unit operation

5-9. Sound pressure level data

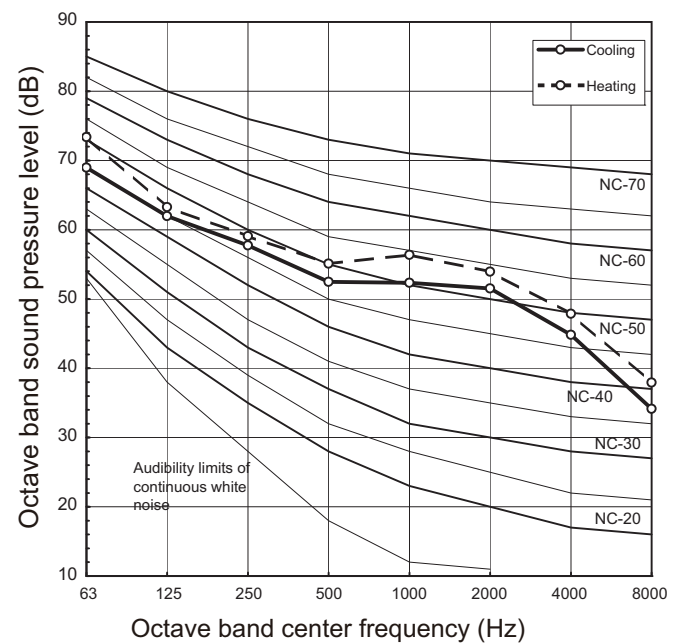
MCY-MHP0806HS8-E

Sound pressure level (dB(A))	Cooling	Heating
	58	59

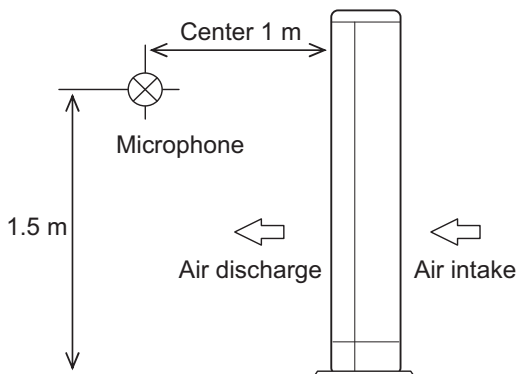


MCY-MHP1006HS8-E

Sound pressure level (dB(A))	Cooling	Heating
	59	60



[Measuring location]



[Conditions]

Cooling

Outdoor temperature: 35 °C DB, 24 °C WB
Indoor air temperature: 27 °C DB, 19 °C WB

Heating

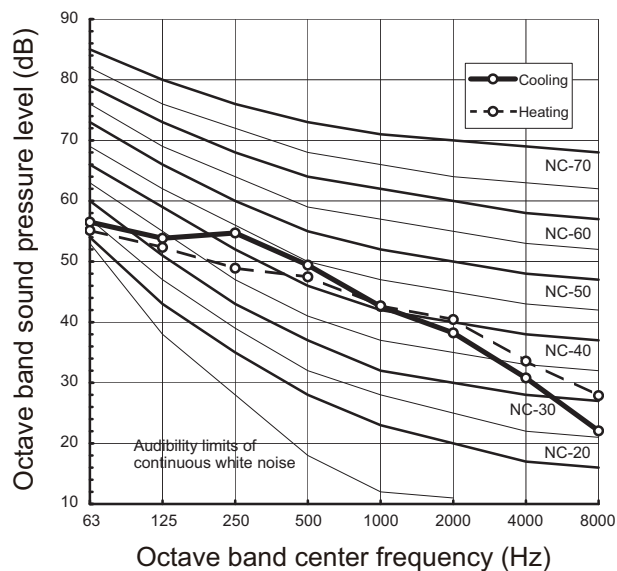
Outdoor temperature: 7 °C DB, 6 °C WB
Indoor air temperature: 20 °C DB

This sound pressure level are measured in an anechoic chamber in accordance.

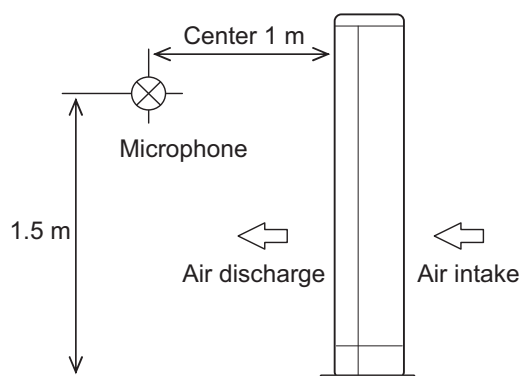
- Night operation (sound reduction) control

MCY-MHP0806HS8-E, MCY-MHP1006HS8-E

Sound pressure level (dB(A))	Cooling	Heating
	50	50



[Measuring location]



[Conditions]

Cooling

Outdoor temperature: 25 °C DB, 16 °C WB
Indoor air temperature: 27 °C DB, 19 °C WB

Heating

Outdoor temperature: 7 °C DB, 6 °C WB
Indoor air temperature: 20 °C DB

This sound pressure level are measured in an anechoic chamber in accordance.

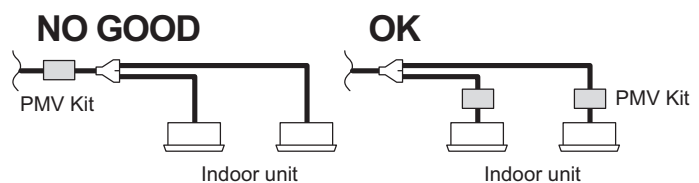
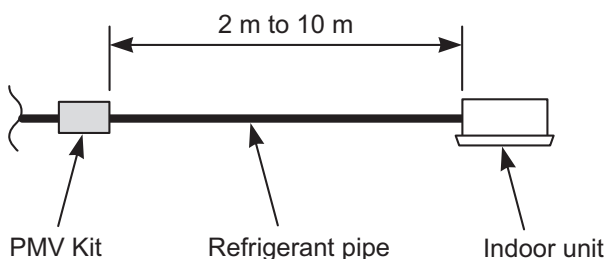
5-10. PMV Kit

PMV-Kit (RBM-PMV0363E, RBM-PMV0903E, RBM-PMV0361U-E, RBM-PMV0901U-E) shall be required for quieter place application as an optional to reduce refrigerant sound especially in oil retrieval control or in transient operation as start up.

5-10-1. Selection

Model name	Indoor unit capacity type	Diameter of refrigerant pipe
RBM-PMV0363E, RBM-PMV0361U-E	005 to 012 type	ø6.4
RBM-PMV0903E, RBM-PMV0901U-E	015 to 018 type	ø6.4
	024 to 027 type	ø9.5

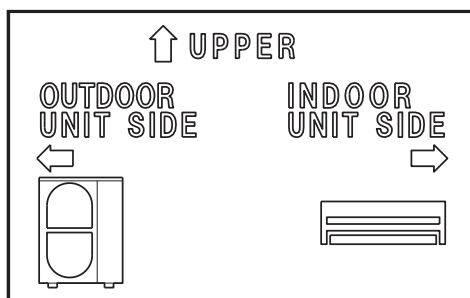
Allowable length of refrigerant piping



Note)

Do not connect two or more indoor units to one PMV Kit. Arrange one indoor unit and one PMV Kit set to 1 by 1.

Label



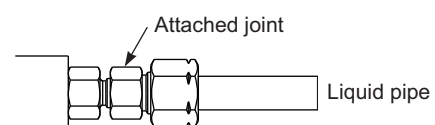
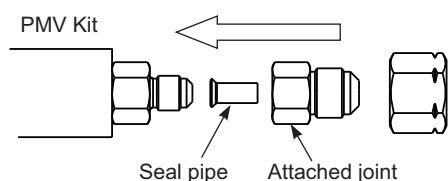
- Connecting direction of refrigerant pipe
When connecting pipes, be careful of direction of the main unit. Be sure to install the main unit so that [↑UPPER] mark in the label directs upward.
For connection of the refrigerant pipes, follow the arrow mark in the label and connect pipes after confirming directions of indoor unit and outdoor unit.

Piping material and dimensions

Model name	Indoor unit capacity type	Diameter of refrigerant pipe	Notes
RBM-PMV0363E, RBM-PMV0361U-E	005 to 012 type	ø6.4	
RBM-PMV0903E, RBM-PMV0901U-E	015 to 018 type	ø6.4	Attached joint Attached joint
	024 to 027 type	ø9.5	

CAUTION

When connecting ø9.5 refrigerant pipes, be sure to insert a seal pipe between PMV main unit and the joint. If the seal pipe is not inserted, refrigerant leakage is caused.



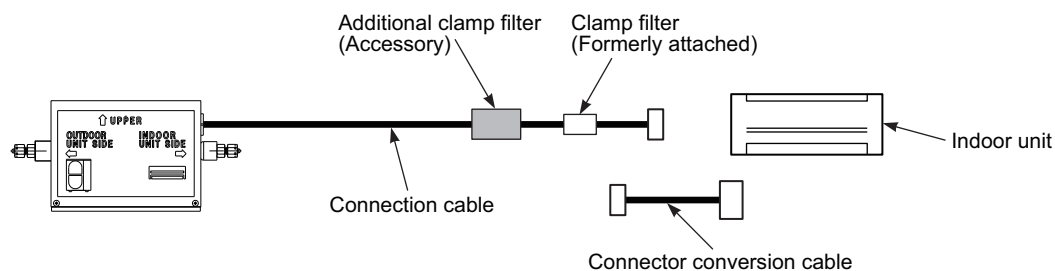
5-10-2. Wiring connections

For this product, the connector conversion cable and additional clamp filter (Accessory) are used according to the indoor unit to be connected.

For the corresponding unit and how to use the conversion cable and clamp filter, refer to the following description.

The connector conversion cable is not used for the indoor unit, but the additional clamp filter is used.

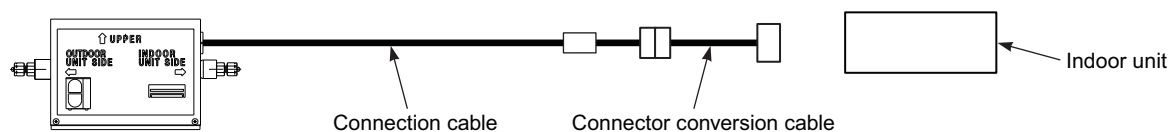
High Wall Type 3 series (MMK-AP***3H*)



- Mount the clamp filter (Accessory) to the connection wire (11 m) out of the PMV kit main body. Refer to the mounting method.
- Remove the connector conversion cable mounted to the connection cable out of the PMV kit main body and then connect it.

The additional clamp filter is not used for the indoor unit, but the connector conversion cable is used.

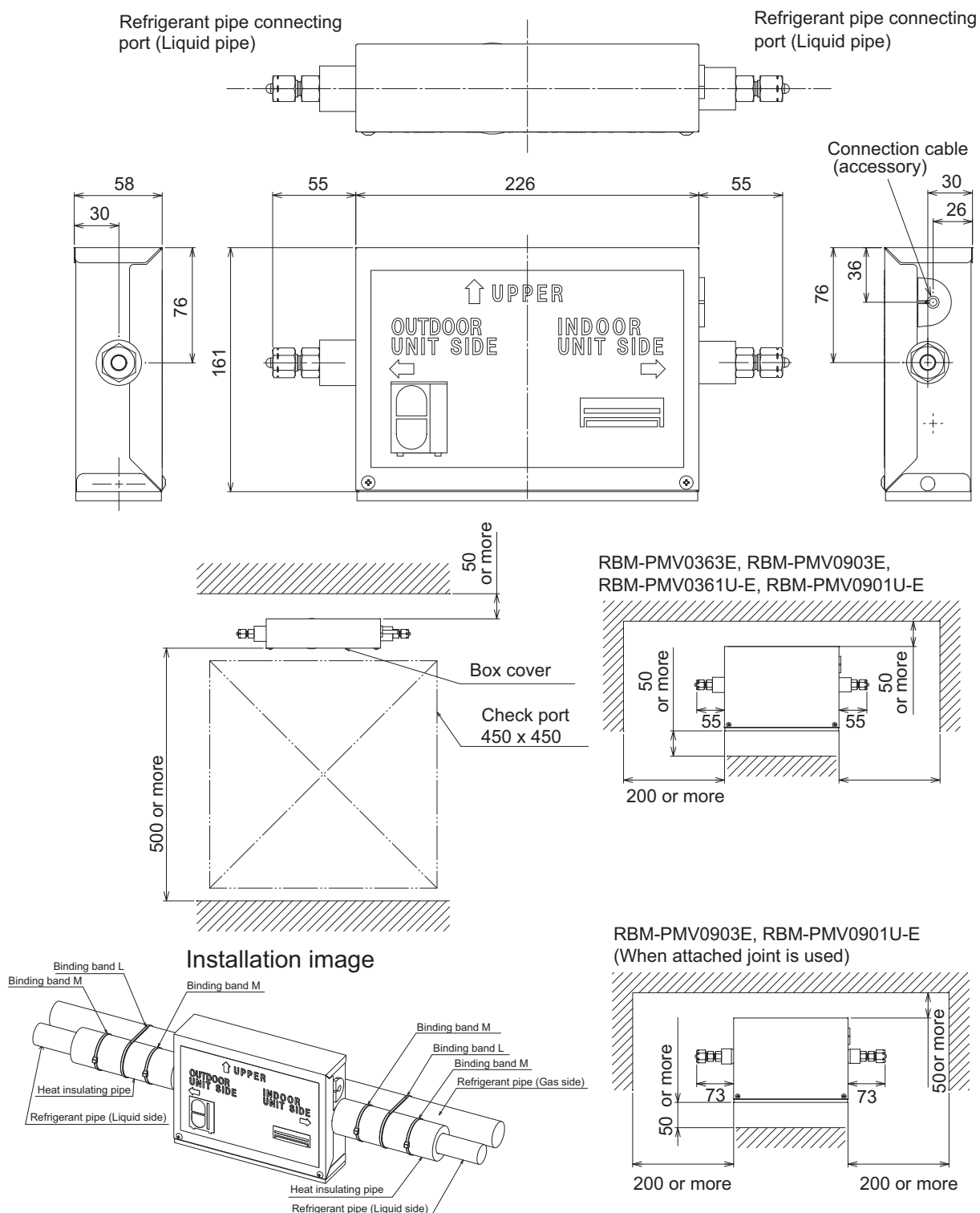
Indoor unit except above indoor units



5-10-3. Dimensional drawing

• PMV Kit

RBM-PMV0363E, RBM-PMV0903E, RBM-PMV0361U-E, RBM-PMV0901U-E



Note: All dimensions are in mm.

MiNi-SMMS-e 8-10HP Engineering Data Book

MCY-MHP_6HS8-E

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Toshiba Carrier Corporation