

Model name:

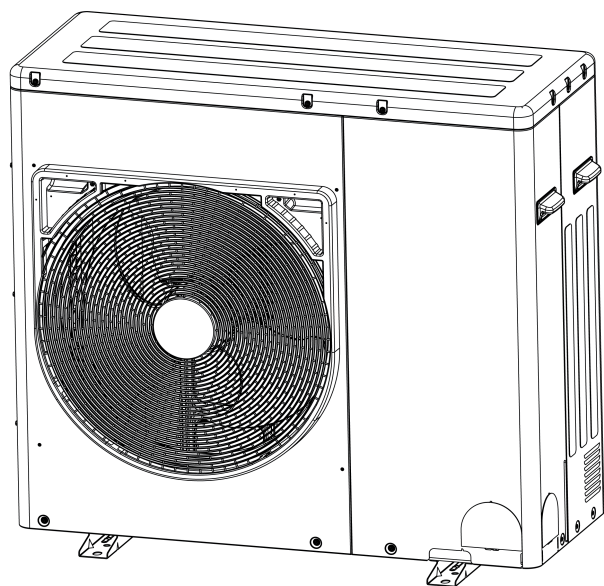
MCY-MHP0406HT-E

MCY-MHP0506HT-E

Side blow VRF

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	WARNING ELECTRICAL SHOCK HAZARD Disconnect all remote electric power supplies before servicing.
	ELECTRICAL SHOCK HAZARD Disconnect all remote electric power supplies	
	WARNING	WARNING Moving parts. Do not operate unit with grille removed. Stop the unit before the servicing.
	Moving parts. Do not operate unit with grille removed.	
	CAUTION	CAUTION High temperature parts. You might get burned when removing this panel.
	High temperature parts. You might get burned when removing this panel.	
	CAUTION	CAUTION Do not touch the aluminium fins of the unit. Doing so may result in injury.
	Do not touch the aluminum fins of the unit. Doing so may result in injury.	
	CAUTION	CAUTION BURST HAZARD Open the service valves before the operation, otherwise there might be the burst.
	BURST HAZARD Open the service valves before the operation,	
	CAUTION	CAUTION Do not climb onto the fan guard. Doing so may result in injury.
	Do not climb onto the fan guard. Doing so may result in	

■ 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.

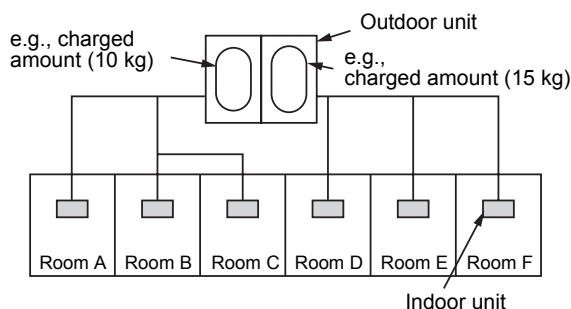
$$\frac{\text{Total amount of refrigerant (kg)}}{\text{Min. volume of the indoor unit installed room (m}^3\text{)}} \leq \text{Concentration limit (kg/m}^3\text{)}$$

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.

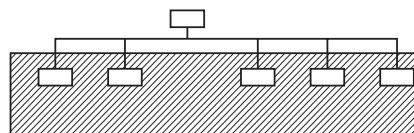
The possible amount of leaked refrigerant gas in rooms D, E and F is 15 kg.

Important

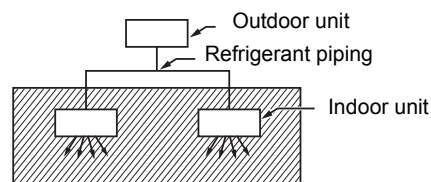
NOTE 2:

The standards for minimum room volume are as follows.

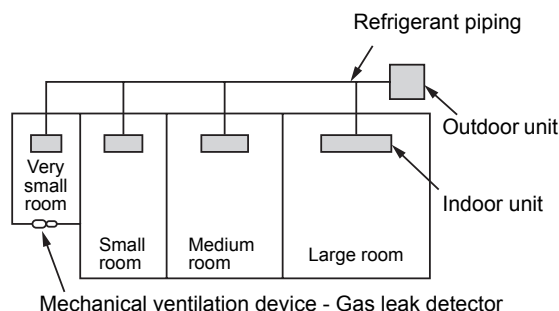
- (1) No partition (shaded portion)

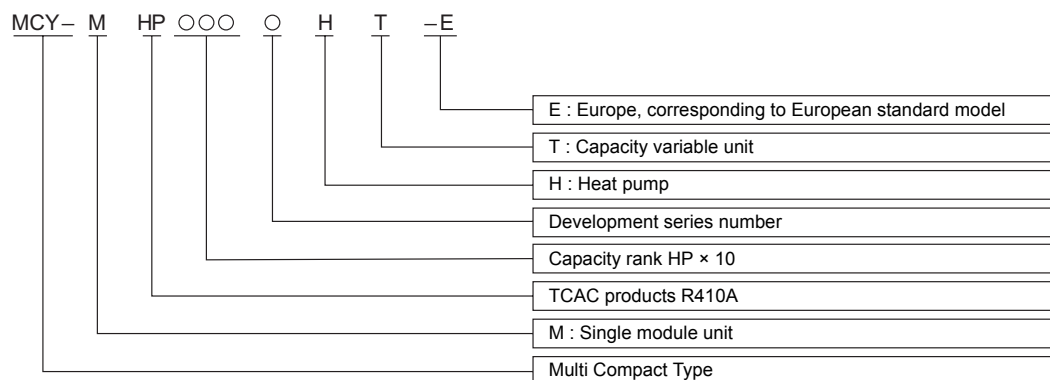


- (2) When there is an effective opening with the adjacent room for ventilation of leaking refrigerant gas (opening without a door, or an opening 0.15 % or larger than the respective floor spaces at the top or bottom of the door).



- (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.



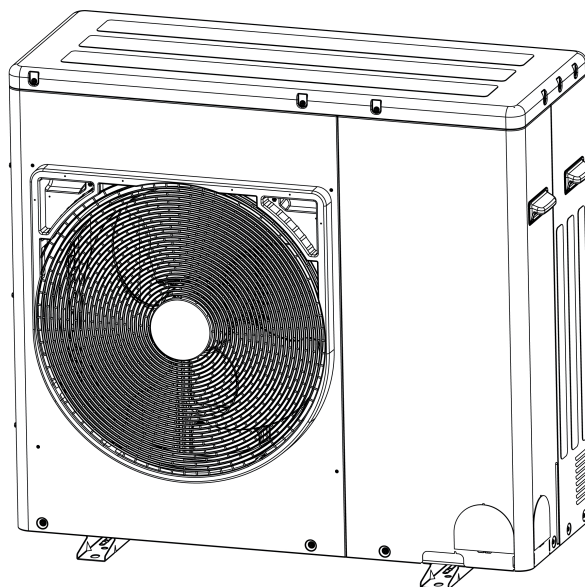
1-1. Allocation standard of model name**1-2. Summary of system equipments****1-2-1. Outdoor units**

Corresponding HP	Inverter unit	
	4HP	5HP
Model name	MCY-MHP0406HT-E	MCY-MHP0506HT-E
Cooling capacity (kW)*1	12.1	14.0
Heating capacity (kW)*1	12.5	16.0
No. of connectable indoor units	8	10

*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.



1-2-2. Indoor units

Type	Model name	Capacity rank	Capacity code	Cooling capacity (kW)	Heating capacity (kW)	PMV kit
4-way Air Discharge Cassette Type	MMU-AP0094HP1-E	009	1.00	2.8	3.2	–
	MMU-AP0124HP1-E	012	1.25	3.6	4.0	–
	MMU-AP0154HP1-E	015	1.70	4.5	5.0	–
	MMU-AP0184HP1-E	018	2.00	5.6	6.3	–
	MMU-AP0244HP1-E	024	2.50	7.1	8.0	–
	MMU-AP0274HP1-E	027	3.00	8.0	9.0	–
	MMU-AP0304HP1-E	030	3.20	9.0	10.0	–
	MMU-AP0364HP1-E	036	4.00	11.2	12.5	–
	MMU-AP0484HP1-E	048	5.00	14.0	16.0	–
Compact 4-way Cassette Type	MMU-AP0057MH-E	005	0.60	1.7	1.9	Available
	MMU-AP0077MH-E	007	0.80	2.2	2.5	Available
	MMU-AP0097MH-E	009	1.00	2.8	3.2	Available
	MMU-AP0127MH-E	012	1.25	3.6	4.0	Available
	MMU-AP0157MH-E	015	1.70	4.5	5.0	Available
	MMU-AP0187MH-E	018	2.00	5.6	6.3	Available
2-way Air Discharge Cassette Type	MMU-AP0072WH1	007	0.80	2.2	2.5	–
	MMU-AP0092WH1	009	1.00	2.8	3.2	–
	MMU-AP0122WH1	012	1.25	3.6	4.0	–
	MMU-AP0152WH1	015	1.70	4.5	5.0	–
	MMU-AP0182WH1	018	2.00	5.6	6.3	–
	MMU-AP0242WH1	024	2.50	7.1	8.0	–
	MMU-AP0272WH1	027	3.00	8.0	9.0	–
	MMU-AP0302WH1	030	3.20	9.0	10.0	–
	MMU-AP0362WH1	036	5.00	14.0	16.0	–
1-way Air Discharge Cassette Type	MMU-AP0074YH1	007	0.80	2.0	2.5	Available
	MMU-AP0094YH1	009	1.00	3.0	3.2	Available
	MMU-AP0124YH1	012	1.30	3.6	4.0	Available
	MMU-AP0154SH1-E	015	1.70	4.5	5.0	Available
	MMU-AP0184SH1-E	018	2.00	5.6	6.3	Available
	MMU-AP0244SH1-E	024	2.50	7.0	8.0	Available
Concealed Duct Type	MMD-AP0076BHP1-E	007	1.00	2.0	2.5	–
	MMD-AP0096BHP1-E	009	1.00	3.0	3.2	–
	MMD-AP0126BHP1-E	012	1.00	4.0	4.0	–
	MMD-AP0156BHP1-E	015	2.00	5.0	5.0	–
	MMD-AP0186BHP1-E	018	2.00	6.0	6.3	–
	MMD-AP0246BHP1-E	024	3.00	7.0	8.0	–
	MMD-AP0276BHP1-E	027	3.00	8.0	9.0	–
	MMD-AP0306BHP1-E	030	3.00	9.0	10.0	–
	MMD-AP0366BHP1-E	036	4.00	11.0	12.5	–
	MMD-AP0486BHP1-E	048	5.00	14.0	16.0	–

1 System overview

Type	Model name	Capacity rank	Capacity code	Cooling capacity (kW)	Heating capacity (kW)	PMV kit
Slim Duct Type	MMD-AP0056SPH1-E	005	0.60	1.7	1.9	Available
	MMD-AP0074SPH1-E	007	1.00	2.0	2.5	Available
	MMD-AP0094SPH1-E	009	1.00	3.0	3.2	Available
	MMD-AP0124SPH1-E	012	1.00	4.0	4.0	Available
	MMD-AP0154SPH1-E	015	2.00	5.0	5.0	Available
	MMD-AP0184SPH1-E	018	2.00	6.0	6.3	Available
	MMD-AP0244SPH1-E	024	3.00	7.0	8.0	Available
	MMD-AP0274SPH1-E	027	3.00	8.0	9.0	Available
Concealed Duct High Static Pressure Type	MMD-AP0186HP1-E	018	2.00	5.6	6.3	–
	MMD-AP0246HP1-E	024	2.50	7.1	8.0	–
	MMD-AP0276HP1-E	027	3.00	8.0	9.0	–
	MMD-AP0366HP1-E	036	4.00	11.2	12.5	–
	MMD-AP0486HP1-E	048	5.00	14.0	16.0	–
Under Ceiling Type	MMC-AP0158HP-E	015	1.70	4.5	5.0	–
	MMC-AP0188HP-E	018	2.00	5.6	6.3	–
	MMC-AP0248HP-E	024	2.50	7.1	8.0	–
	MMC-AP0278HP-E	027	3.00	8.0	9.0	–
	MMC-AP0368HP-E	036	4.00	11.2	12.5	–
	MMC-AP0488HP-E	048	5.00	14.0	16.0	–
High Wall Type 3 series	MMK-AP0073H1	007	1.00	2.0	2.5	Available
	MMK-AP0093H1	009	1.00	3.0	3.2	Available
	MMK-AP0123H1	012	1.30	3.6	4.0	Available
	MMK-AP0153H1	015	1.70	4.5	5.0	Available
	MMK-AP0183H1	018	2.00	5.6	6.3	Available
	MMK-AP0243H1	024	2.50	7.1	8.0	Available
High Wall Type 7series	MMK-AP0057HP-E	005	0.60	1.7	1.9	Available
	MMK-AP0077HP-E	007	1.00	2.0	2.5	Available
	MMK-AP0097HP-E	009	1.00	3.0	3.2	Available
	MMK-AP0127HP-E	012	1.30	3.6	4.0	Available
Floor Standing Concealed Type	MML-AP0074BH1-E	007	0.80	2.2	2.5	–
	MML-AP0094BH1-E	009	1.00	2.8	3.2	–
	MML-AP0124BH1-E	012	1.25	3.6	4.0	–
	MML-AP0154BH1-E	015	1.70	4.5	5.0	–
	MML-AP0184BH1-E	018	2.00	5.6	6.3	–
	MML-AP0244BH1-E	024	2.50	7.1	8.0	–
Floor Standing Cabinet Type	MML-AP0074H1-E	007	0.80	2.2	2.5	Available
	MML-AP0094H1-E	009	1.00	2.8	3.2	Available
	MML-AP0124H1-E	012	1.25	3.6	4.0	Available
	MML-AP0154H1-E	015	1.70	4.5	5.0	Available
	MML-AP0184H1-E	018	2.00	5.6	6.3	Available
	MML-AP0244H1-E	024	2.50	7.1	8.0	Available

1 System overview

Type	Model name	Capacity rank	Capacity code	Cooling capacity (kW)	Heating capacity (kW)	PMV kit
Floor Standing Type	MMF-AP0156H1-E	015	1.70	4.5	5.0	—
	MMF-AP0186H1-E	018	2.00	5.6	6.3	—
	MMF-AP0246H1-E	024	2.50	7.1	8.0	—
	MMF-AP0276H1-E	027	3.00	8.0	9.0	—
	MMF-AP0366H1-E	036	4.00	11.2	12.5	—
	MMF-AP0486H1-E	048	5.00	14.0	16.0	—
Console Type	MML-AP0074NH1-E	007	0.80	2.2	2.5	Available
	MML-AP0094NH1-E	009	1.00	2.8	3.2	Available
	MML-AP0124NH1-E	012	1.30	4.0	4.0	Available
	MML-AP0154NH1-E	015	1.70	5.0	5.0	Available
	MML-AP0184NH1-E	018	2.00	5.6	6.3	Available

1-2-3. Branching joints and headers

Name	Model name	Appearance	Remarks
Y-shape branching joint	RBM-BY55E		
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-PMV0903E		

1-2-5. Remote controllers

Name	Model Name	Remarks
Wired remote controller	RBC-AMT32E	
Wired remote controller	RBC-AMS54E-EN/ES	-EN : English, Italian, Polish, Greece, Russian, Turkish -ES : English, Spanish, Portuguese, French, Dutch, German
Simple wired remote controller	RBC-AS41E	
Wireless remote controller kit	RBC-AX32U(W)-E RBC-AX32U(WS)-E	For 4-way Air Discharge Cassette
	TCB-AX33CE	For Under Ceiling 8series, 1-way Air Discharge Cassette SH 4series
	TCB-AX32E2	For Compact 4-way Cassette 4 and 6 series, 1-way Air Discharge Cassette YH, Concealed Duct Standard, Slim Duct, Floor Standing Cabinet, Floor Standing
	RBC-AX23UW(W)-E	For 2-way Air Discharge Cassette
	RBC-AX32UM(W)-E	For Compact 4-way Cassette 7series
ON-OFF controller	TCB-CC163TLE2	
Central remote controller	BMS-CM1280TLE	
Schedule timer	TCB-EXS21TLE	
Remote controller with schedule timer (7-day timer function)	RBC-AMS41E	

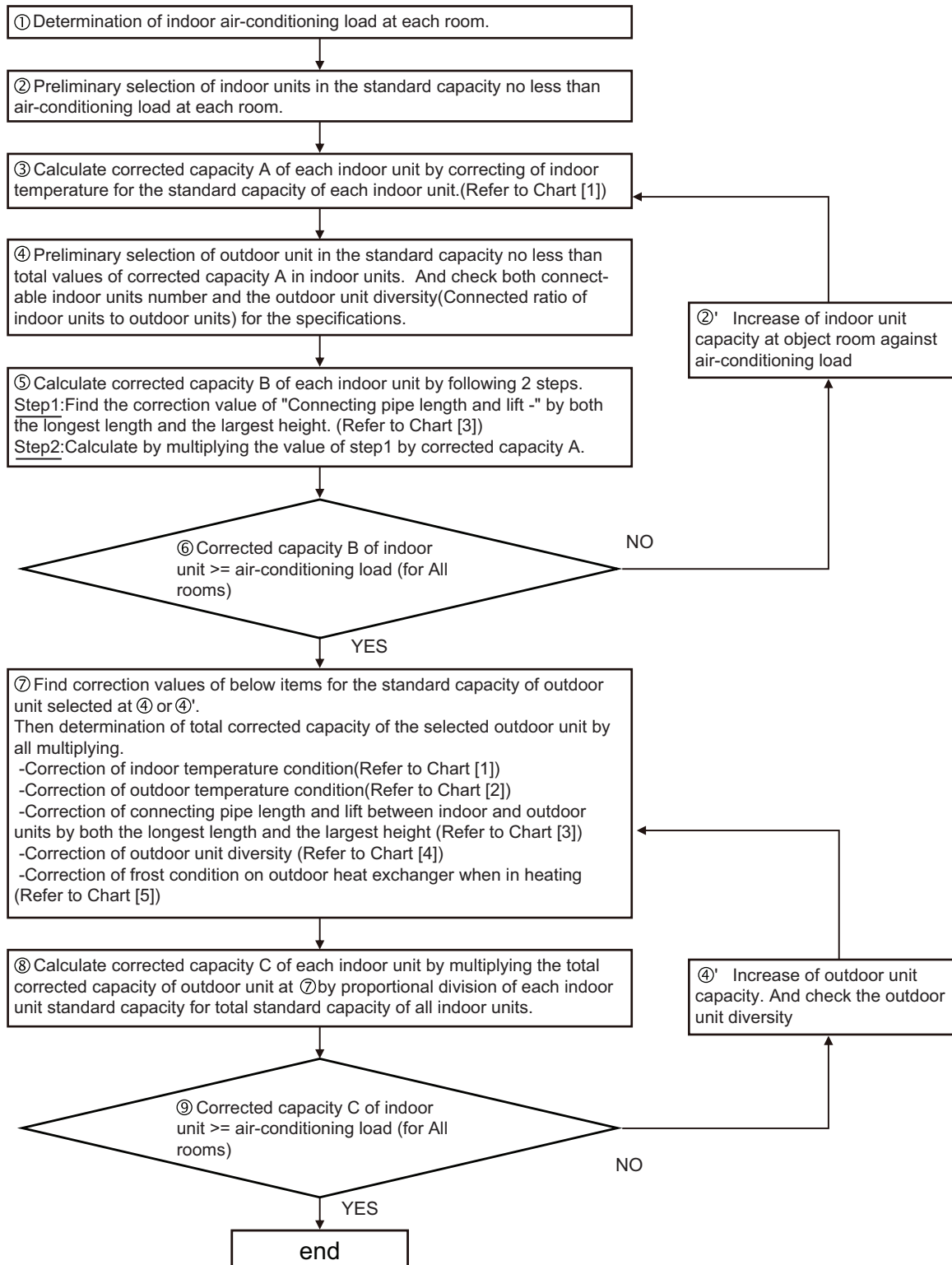
1-2-6. Optional PCB of outdoor unit

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	
Smart manager	BMS-SM1280HTLE	
Smart manager with data analyzer	BMS-SM1281ETLE	
Relay Interface	BMS-IFLSV4E	
Energy Monitoring Relay Interface	BMS-IFWH5E	
Digital I/O Relay Interface	BMS-IFDD03E	
LonWorks LN Interface	TCB-IFLN642TLE	
Modbus Interface	TCB-IFMB641TLE	
Analog Interface	TCB-IFCB640TLE	
BN Interface	BMS-IFBN640TLE	

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
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

NOTE:

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

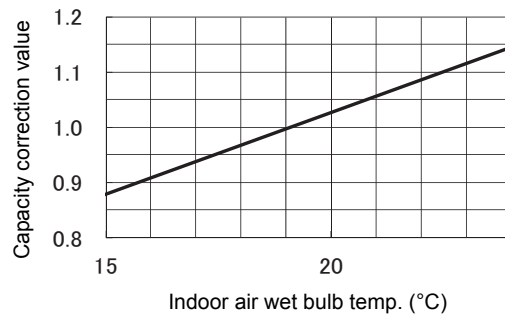
2-2-2. For outdoor unit, maximum No. of connectable indoor units and total capacity code of indoor units are decided.

Outdoor unit	Capacity code of outdoor unit	No. of connectable indoor units	Total capacity code of indoor units
MCY-MHP0406HT-E	4	2 to 8	3.2 to 5.2
MCY-MHP0506HT-E	5	2 to 10	4.0 to 6.5

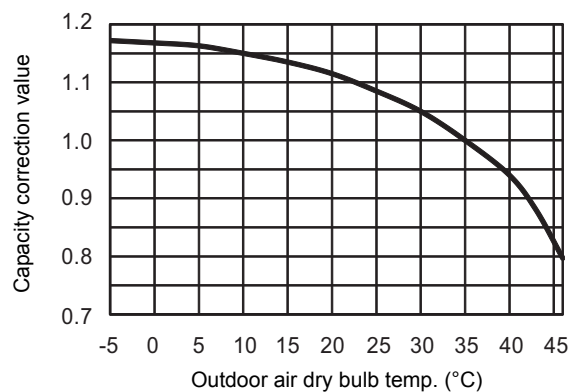
2-3. Cooling / heating capacity characteristics

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

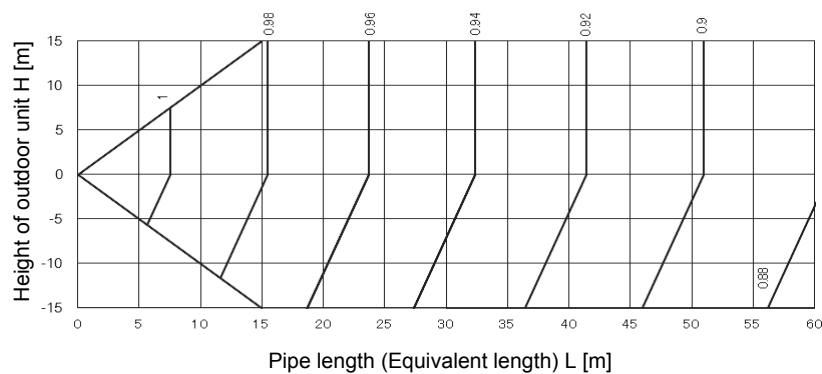
[1] Capacity correction value vs. indoor air wet bulb temperature



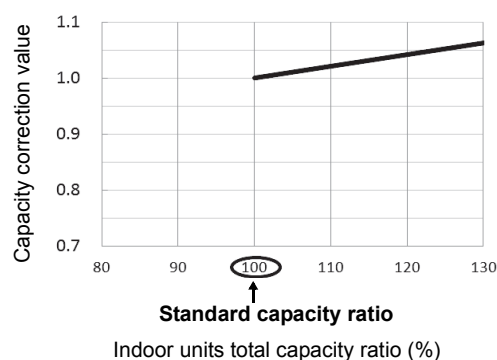
[2] Capacity correction value vs. outdoor air dry bulb temperature



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



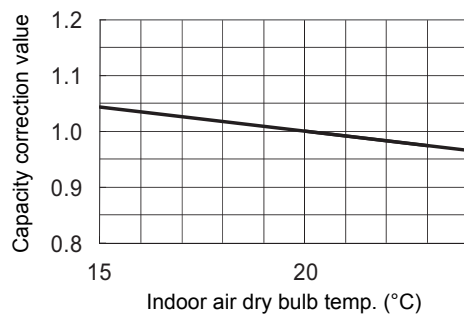
[4]* Correction of outdoor unit diversity



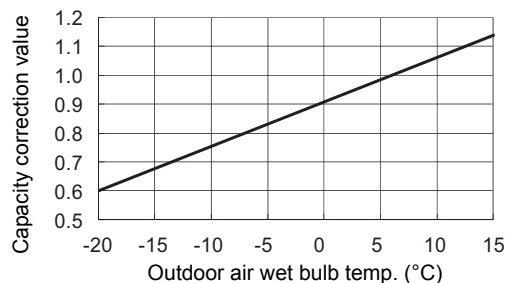
* : Coefficient to use for correction of outdoor unit capacity when total capacity of the indoor units are not equal to the outdoor unit capacity.

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

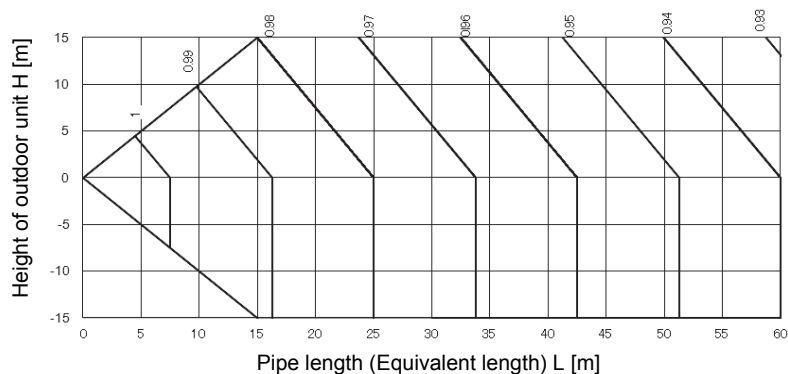
[1] Capacity correction value vs. indoor air dry bulb temperature



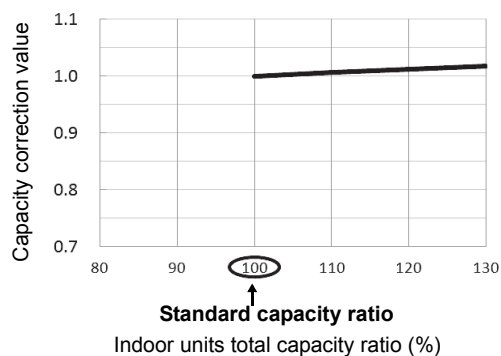
[2] Capacity correction value vs. outdoor air wet bulb temperature



[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

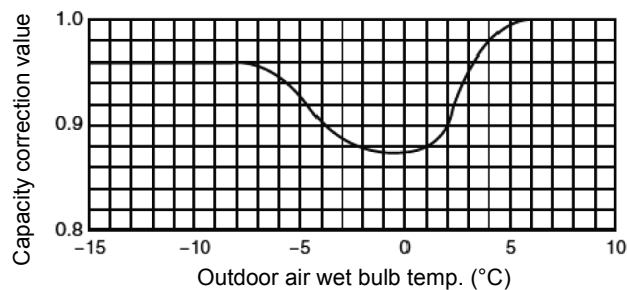
2-3-3. Capacity correction in case of frost on the outdoor heat exchanger in heating

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

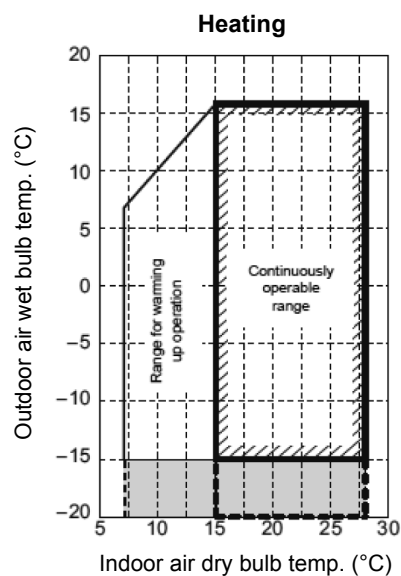
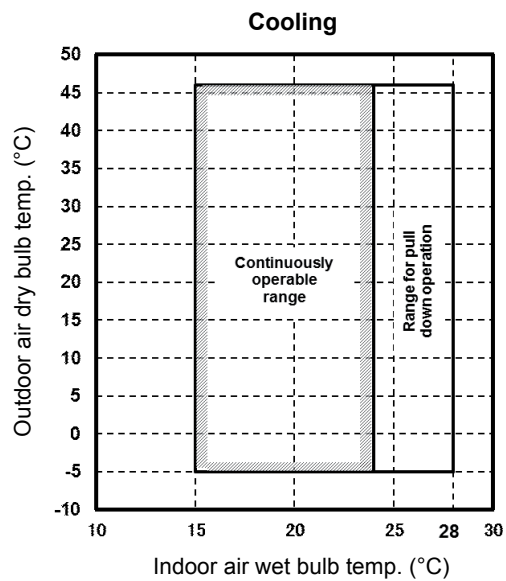
Heating capacity = Capacity after correction of outdoor unit x Correction value of capacity resulted from frost

(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.

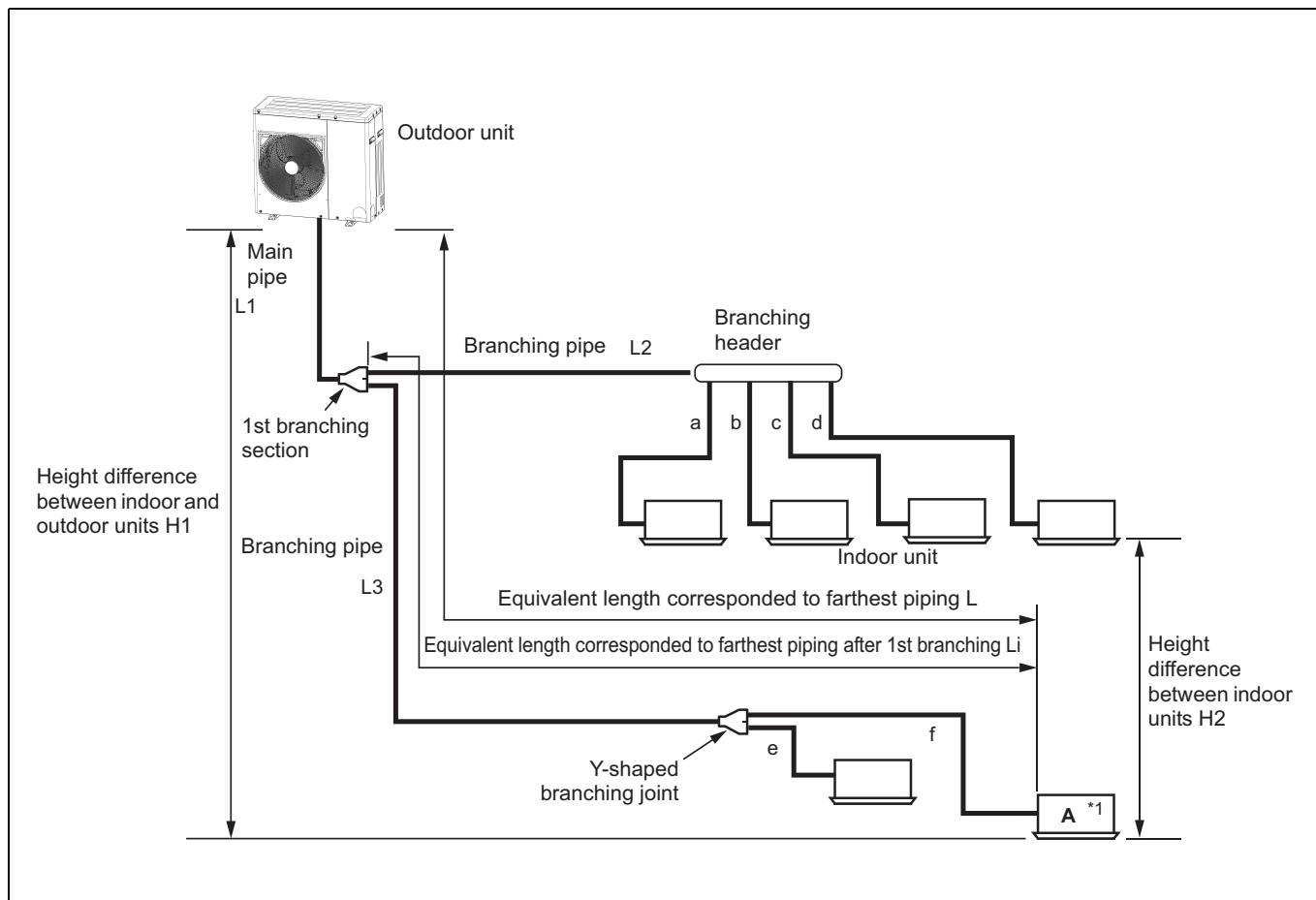
3-1. Free branching system

- [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	

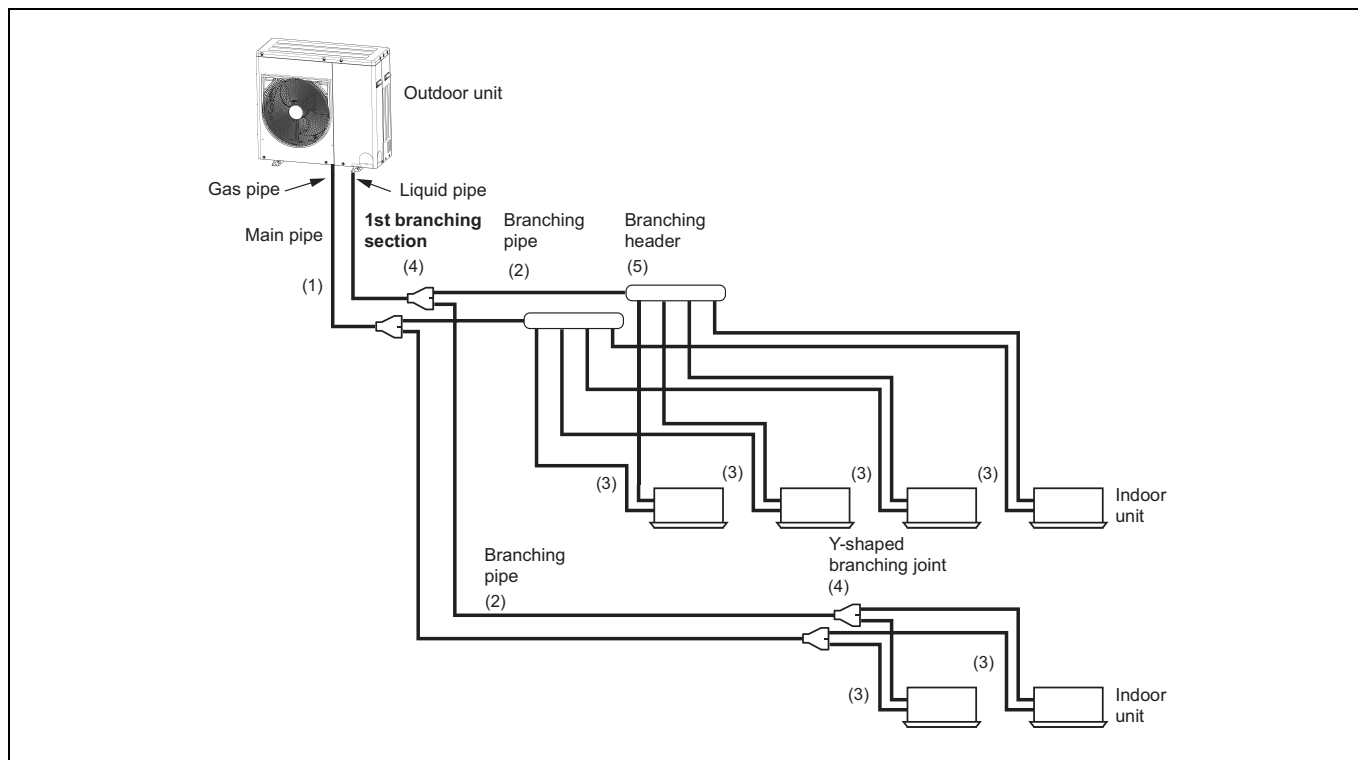
3-2. Allowable length / height difference of refrigerant piping



			Allowable value	Piping section
Pipe Length	Total extension of pipe (Liquid pipe, real length)		90 m	$L1 + L2 + L3 + a + b + c + d + e + f$
	Furthest piping length L (*1)	Real length	50 m	$L1 + L3 + f$
		Equivalent length	60 m	
	Max. equivalent length of main pipe		30 m	L1
	Max. equivalent length of furthest piping from 1st branching Li (*1)		20 m	$L3 + f$
Height Difference	Max. real length of indoor unit connecting pipe		10 m	a, b, c, d, e, f
	Height between indoor and outdoor units H1	Upper outdoor unit	15 m	—
		Lower outdoor unit	15 m	—
	Height between indoor units H2		10 m	—

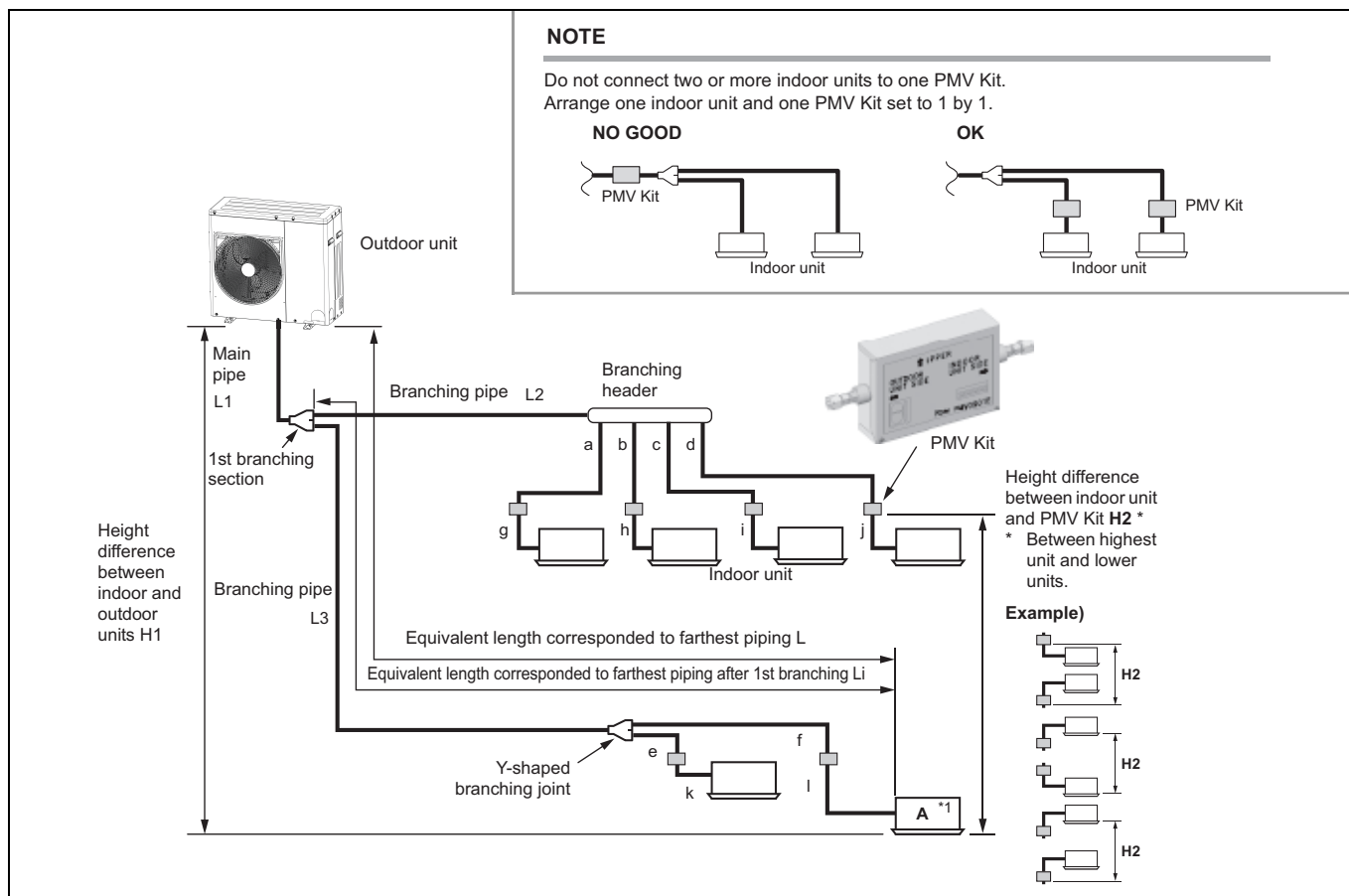
*1 Furthest indoor unit from 1st branch to be named "A"

3-3. Selection of refrigerant piping



No.	Piping parts	Name	Selection of pipe size	Remarks																
(1)	Outdoor unit ↓ 1st branching section	Main pipe	<table><tr><th colspan="3">Size of main pipe</th></tr><tr><th>Outdoor unit capacity type</th><th>Gas pipe</th><th>Liquid pipe</th></tr><tr><td>0406 type</td><td>15.9</td><td>9.5</td></tr><tr><td>0506 type</td><td>15.9</td><td>9.5</td></tr></table>	Size of main pipe			Outdoor unit capacity type	Gas pipe	Liquid pipe	0406 type	15.9	9.5	0506 type	15.9	9.5	Same as connecting pipe size of the outdoor unit.				
Size of main pipe																				
Outdoor unit capacity type	Gas pipe	Liquid pipe																		
0406 type	15.9	9.5																		
0506 type	15.9	9.5																		
(2)	Branching section ↓ Branching section	Branching pipe	<table><tr><th colspan="3">Pipe size between branching sections</th></tr><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>12.7</td><td>9.5</td></tr><tr><td>2.4 to below 6.4</td><td>6.6 to below 18.0</td><td>15.9</td><td>9.5</td></tr></table>	Pipe size between branching sections			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	12.7	9.5	2.4 to below 6.4	6.6 to below 18.0	15.9	9.5
Pipe size between branching sections																				
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	12.7	9.5																	
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(3)	Branching section ↓ Indoor unit	Indoor unit connecting pipe	<table><tr><th colspan="3">Connecting pipe size of indoor unit</th></tr><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 048 type</td><td>15.9</td><td>9.5</td></tr></table>	Connecting pipe size of indoor unit			Capacity rank	Gas pipe	Liquid pipe	005 to 012 type	9.5	6.4	015 to 018 type	12.7	6.4	024 to 048 type	15.9	9.5		
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Capacity rank	Gas pipe	Liquid pipe																		
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015 to 018 type	12.7	6.4																		
024 to 048 type	15.9	9.5																		
(4)	Branching section	Y-shaped branching joint	<table><tr><th colspan="2">Selection of branching section (Y-shaped branching joint)</th></tr><tr><td></td><th>Model name</th></tr><tr><td>Y-shape branch joint</td><td>RBM-BY55E</td></tr></table>	Selection of branching section (Y-shaped branching joint)			Model name	Y-shape branch joint	RBM-BY55E											
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Y-shape branch joint	RBM-BY55E																			
(5)	Branching section	Branching header	<table><tr><th colspan="2">Selection of branching section (Branching header)</th></tr><tr><td></td><th>Model name</th></tr><tr><td rowspan="2">Branching header</td><td>For 4 branches</td><td>RBM-HY1043E</td></tr><tr><td>For 8 branches</td><td>RBM-HY1083E</td></tr></table>	Selection of branching section (Branching header)			Model name	Branching header	For 4 branches	RBM-HY1043E	For 8 branches	RBM-HY1083E								
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Branching header	For 4 branches	RBM-HY1043E																		
	For 8 branches	RBM-HY1083E																		

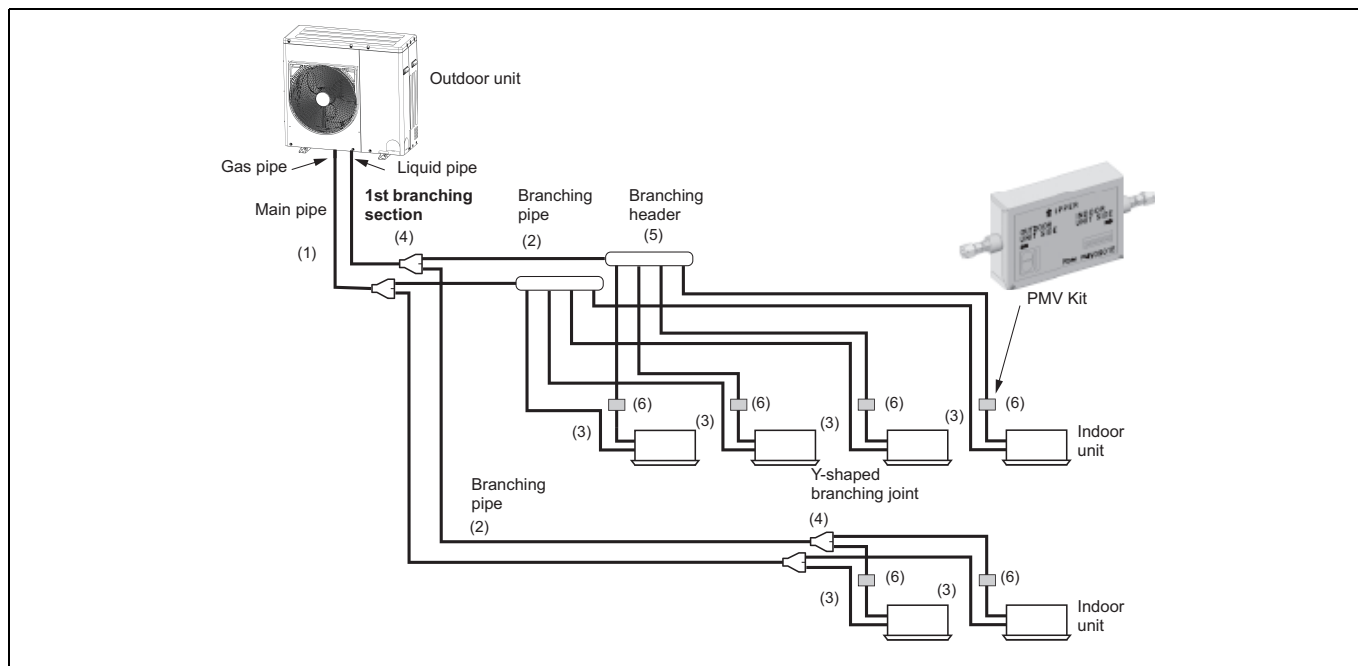
3-4. Allowable length / height difference of refrigerant piping with PMV Kit



			Allowable value	Piping section
Pipe Length	Total extension of pipe (Liquid pipe, real length)		75 m	$L1 + L2 + L3 + a + b + c + d + e + f + g + h + i + j + k + l$
	Furthest piping length L (*1)	Real length	40 m	$L1 + L3 + f + l$
		Equivalent length	50 m	
	Max. equivalent length of main pipe		25 m	L1
	Max. equivalent length of furthest piping from 1st branching Li (*1)		15 m	$L3 + f + l$
	Max. real length of indoor unit connecting pipe		10 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	15 m	—
		Lower outdoor unit	15 m	—
	Height between indoor unit and PMV Kit H2		10 m	—

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

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	<table><tr><th colspan="3">Size of main pipe</th></tr><tr><th>Outdoor unit capacity type</th><th>Gas pipe</th><th>Liquid pipe</th></tr><tr><td>0406 type</td><td>15.9</td><td>9.5</td></tr><tr><td>0506 type</td><td>15.9</td><td>9.5</td></tr></table>	Size of main pipe			Outdoor unit capacity type	Gas pipe	Liquid pipe	0406 type	15.9	9.5	0506 type	15.9	9.5	Same as connecting pipe size of the outdoor unit.						
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(2)	Branching section ↓ Branching section	Branching pipe	<table><tr><th colspan="4">Pipe size between branching sections</th></tr><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>12.7</td><td>9.5</td></tr><tr><td>2.4 to below 6.4</td><td>6.6 to below 18.0</td><td>15.9</td><td>9.5</td></tr></table>	Pipe size between branching sections				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	12.7	9.5	2.4 to below 6.4	6.6 to below 18.0	15.9	9.5	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.
Pipe size between branching sections																						
Total capacity codes of indoor units at down stream side		Gas pipe	Liquid pipe																			
Equivalent to HP	Equivalent to capacity																					
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(3)	Branching section ↓ Indoor unit	Indoor unit connecting pipe	<table><tr><th colspan="3">Connecting pipe size of indoor unit</th></tr><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 048 type</td><td>15.9</td><td>9.5</td></tr></table>	Connecting pipe size of indoor unit			Capacity rank	Gas pipe	Liquid pipe	005 to 012 type	9.5	6.4	015 to 018 type	12.7	6.4	024 to 048 type	15.9	9.5				
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(6)	PMV Kit	PMV Kit	<table><tr><th colspan="2">Selection of PMV Kit</th></tr><tr><th>Indoor unit capacity type</th><th>Model name</th></tr><tr><td>005 to 012 type</td><td>RBM-PMV0363E</td></tr><tr><td>015 to 027 type</td><td>RBM-PMV0903E</td></tr></table>	Selection of PMV Kit		Indoor unit capacity type	Model name	005 to 012 type	RBM-PMV0363E	015 to 027 type	RBM-PMV0903E											
Selection of PMV Kit																						
Indoor unit capacity type	Model name																					
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015 to 027 type	RBM-PMV0903E																					

* PMV kit can be connected less than 027 type FCU.

* 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	MHP0406	MHP0506
Charging amount (kg)	3.3	3.3

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 diameter (mm)	6.4	9.5
Additional refrigerant amount /1 m liquid pipe (kg/m)	0.025	0.055

Table2

		Capacity rank	005	007	009	012	015	018	024	027	030	036	048
		Capacity code (Equivalent to HP)	0.8	0.8	1.0	1.25	1.7	2.0	2.5	3.0	3.2	4.0	5.0
Indoor unit model name	4-way cassette	MMU-AP****H/HP*	-	-	0.4	0.4	0.8	0.8	0.8	0.8	0.8	1.2	1.2
		MMU-AP****MH*	0.4	0.4	0.4	0.4	0.6	0.6	-	-	-	-	-
	2-way cassette	MMU-AP****WH*	-	0.4	0.4	0.4	0.5	0.7	0.7	0.7	0.7	1.1	1.1
	1-way cassette	MMU-AP****YH / SH*	-	0.4	0.4	0.4	0.5	0.5	0.6	-	-	-	-
	Duct	MMD-AP****BH*	-	0.3	0.3	0.5	0.5	0.5	0.7	0.7	0.7	1.1	1.1
		MMD-AP****BHP*	-	0.5	0.5	0.5	0.5	0.5	0.8	0.8	0.8	1.1	1.1
		MMD-AP****S(P)H*	0.3	0.3	0.3	0.3	0.5	0.5	0.8	0.8	-	-	-
		MMD-AP****HP*	-	-	-	-	-	0.7	0.7	0.7	-	1.1	1.1
	Under-ceiling	MMC-AP****HP*	-	-	-	-	0.6	0.6	0.8	0.8	-	1.2	1.2
	High wall	MMK-AP****H*	-	0.5	0.5	0.5	0.7	0.7	0.7	-	-	-	-
		MMK-AP****HP*	-	0.5	0.5	0.5	0.7	0.7	0.7	-	-	-	-
		MMK-AP****7HP*	0.3	0.3	0.3	0.3	-	-	-	-	-	-	-
		MMK-AP****MHP*	0.3	0.3	0.3	0.3	-	-	-	-	-	-	-
		MMK-AP****MH*	-	0.3	0.3	0.3	-	-	-	-	-	-	-
	Floor standing	MMF-AP****H*	-	-	-	-	0.7	0.7	1.0	1.0	-	1.3	1.3
		MML-AP****H*	-	0.5	0.5	0.5	0.5	0.8	0.8	-	-	-	-
		MML-AP****BH*	-	0.3	0.3	0.3	0.5	0.5	0.7	-	-	-	-
		MML-AP****NH*	-	0.5	0.5	0.5	0.5	0.5	-	-	-	-	-

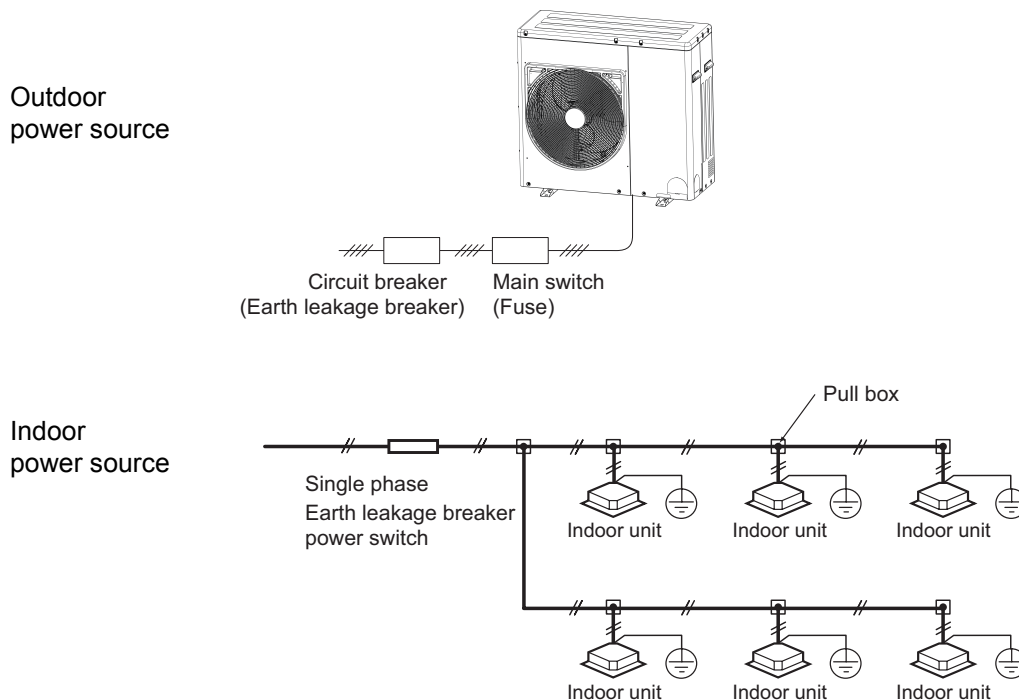
(kg)

Table 3

Outdoor unit capacity type	MCY-	MHP0406	MHP0506
Compensation by outdoor HP (kg)		-1.6	-1.6

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-MHP0406HT-E	220 - 1 - 50	198	242	3.75	0.100 × 1	26.5	32.0
MCY-MHP0506HT-E	220 - 1 - 50	198	242	3.75	0.100 × 1	28.0	32.0

MCA : Maximum Circuit Amps

MOCP : Maximum Overcurrent Protection (Amps)

4-4. Indoor unit power supply

Electrical characteristics

Type	Model	Nominal 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	1.14	15
	MMU-AP0304HP1-E	230-1-50	198	264	0.020	0.87	1.14	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
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
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
1-way Air Discharge Cassette Type	MMU-AP0074YH1	230-1-50	198	264	0.022	0.28	0.35	15
	MMU-AP0094YH1	230-1-50	198	264	0.022	0.28	0.35	15
	MMU-AP0124YH1	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
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

Type	Model	Nominal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
			Min	Max	kW	FLA	MCA	MOCP
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
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	1.33	1.66	15
	MMD-AP0366HP1-E	230-1-50	198	264	0.350	2.22	2.78	15
	MMD-AP0486HP1-E	230-1-50	198	264	0.350	2.40	2.99	15
Under Ceiling Type	MMC-AP0158HP-E	230-1-50	198	264	0.030	0.33	0.41	15
	MMC-AP0188HP-E	230-1-50	198	264	0.030	0.37	0.46	15
	MMC-AP0248HP-E	230-1-50	198	264	0.040	0.48	0.60	15
	MMC-AP0278HP-E	230-1-50	198	264	0.040	0.48	0.60	15
	MMC-AP0368HP-E	230-1-50	198	264	0.080	0.90	1.13	15
	MMC-AP0488HP-E	230-1-50	198	264	0.080	0.96	1.20	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
High Wall Type 7 series	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
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	0.60	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	0.52	0.65	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

Type	Model	Nominal 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
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

For Indoor Unit power supply (Must be independent from the outdoor unit power supply)

Item	Power supply wiring		
	Wire size		Field fuse
All models of indoor units	2.0 mm ² (AWG#14) Max.20 m	3.5 mm ² (AWG#12) Max.50 m	15 A

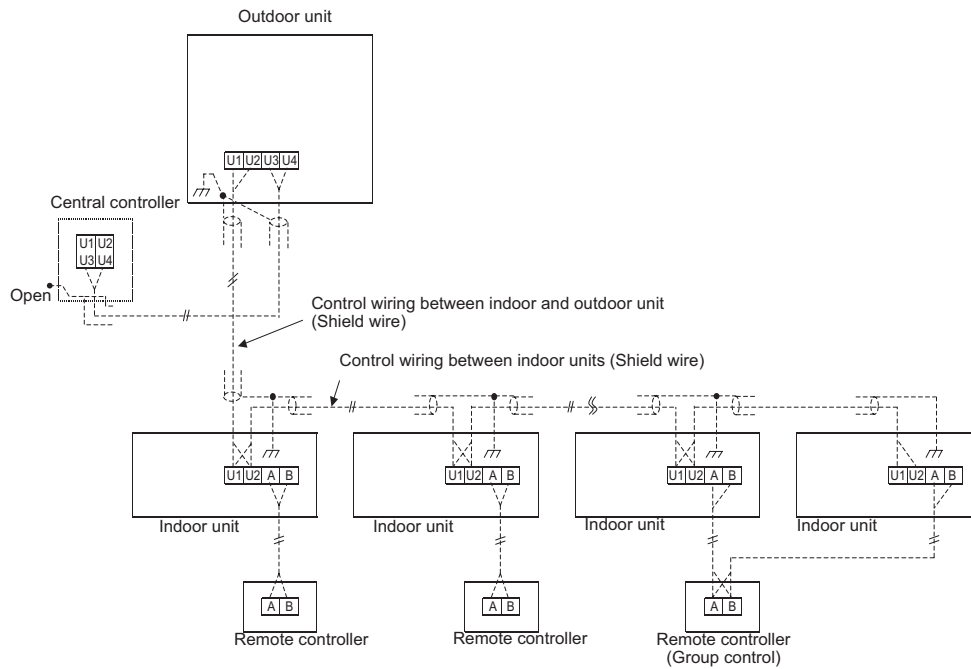
NOTE:

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.

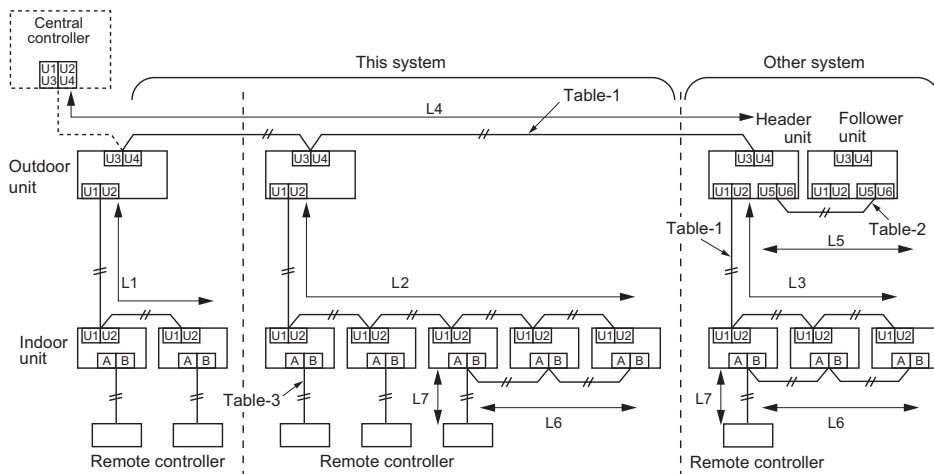


Table-1 Control wiring between indoor and outdoor units (L1, L2, L3), Central control wiring (L4)

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)

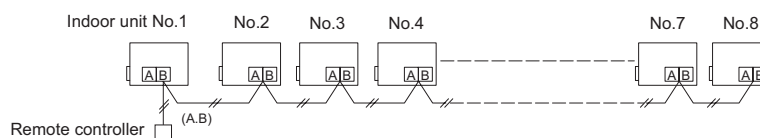
Wiring	2-core, non-polarity
Type	Shield wire
Size/Length	1.25 mm ² to 2.0 mm ² Up to 100 m (L5)

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-MHP0406HT-E		MCY-MHP0506HT-E	
Outdoor unit type				Inverter		Inverter	
Capacity code			HP	4	5		
Cooling Capacity			(*1)	kW	12.1	14.0	
Heating Capacity			(*1)	kW	12.5	16.0	
Electrical characteristics (Nominal) (*1)	Power supply		(*2)	1phase 50Hz 220 / 230 / 240V 1phase 60Hz 220V		1phase 50Hz 220 / 230 / 240V 1phase 60Hz 220V	
	Cooling	Running current	A	14.4/13.8/13.2		18.7/17.9/17.1	
		Power consumption	kW	3.24		3.94	
		Power factor	%	94		95	
		EER			3.73		3.55
	Heating	Running current	A	13.4/12.8/12.3		18.3/17.5/16.8	
		Power consumption	kW	2.83		3.86	
		Power factor	%	93		95	
		COP			4.42		4.15
Starting Current			A	Soft start		Soft start	
Dimension	Unit	Height	mm	910		910	
		Width	mm	990		990	
		Depth	mm	390		390	
	Packing	Height	mm	1,024		1,024	
		Width	mm	1,102		1,102	
		Depth	mm	552		552	
Total Weight	Unit	kg	100		100		
	Packed unit	kg	108		108		
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	3.75		3.75	
Fan unit	Fan			Propeller fan (Quantity 1)		Propeller fan (Quantity 1)	
	Motor output		W	100		100	
	Air volume		m³/h	4,020		4,260	
Heat exchanger				Finned tube		Finned tube	
Refrigerant R410A (Charged refrigerant amount (kg))			(*3)	3.3		3.3	
High-pressure switch			MPa	ON:4.15, OFF:3.20		ON:4.15, OFF:3.20	
Protective devices				(*4)			
Electrical specifications	Unit	MCA (*5)	A	26.5		28.0	
		MOCP (*6)	A	32.0		32.0	
Refrigerant piping	Connecting port diameter	Gas side (main pipe)	mm	15.9		15.9	
		Liquid side (main pipe)	mm	9.5		9.5	
	Connecting method	Gas side		Flare		Flare	
		Liquid side		Flare		Flare	
Max. No. of connected indoor units				8		10	
Sound pressure level		Cooling	dB(A)	54		54	
		Heating	dB(A)	57		58	
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 WetBulb.

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

(*) The source voltage must not fluctuate more than $\pm 10\%$.

(*) The amount dose not consider extra piping length and indoor unit type.

Refrigerant must be added on site in accordance with the actual piping length and indoor unit type.

(*) Discharge temp. sensor / Suction temp. sensor / High-pressure sensor

Low-pressure sensor / High-pressure switch / Compressor case thermostat / PC board fuse

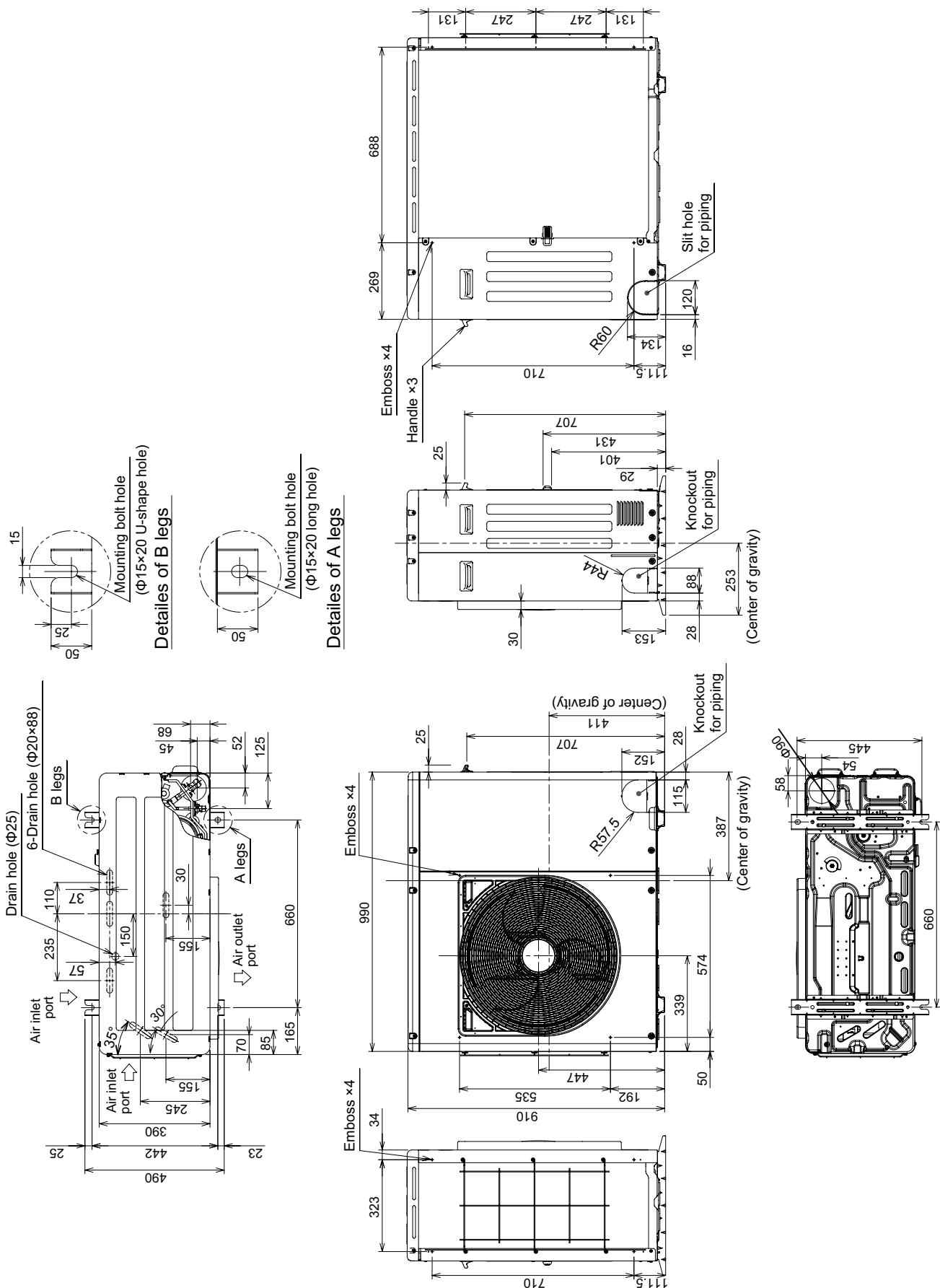
(*) Select wire size base on the larger value of MCA.

MCA : Minimum Circuit Amps

(*) MOCP:Maximum overcurrent protection (Amps)

5-2. Dimensional drawing

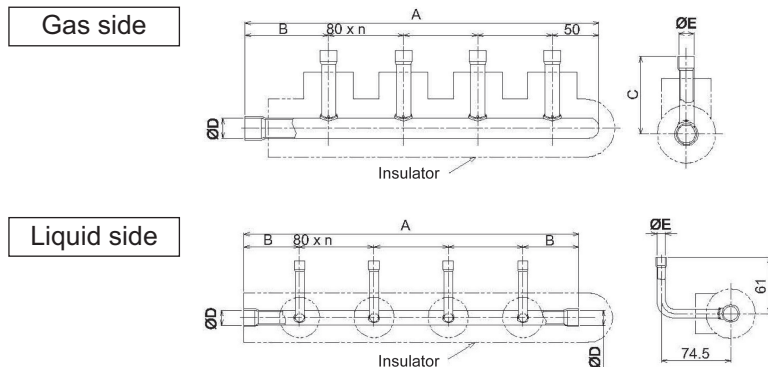
MCY-MHP0406HT-E, MCY-MHP0506HT-E



5-3. Branch header / branch joint

• Branch header

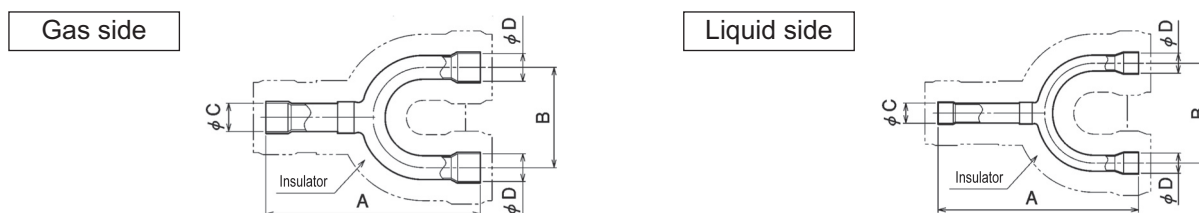
RBM-HY1043E, HY1083E



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

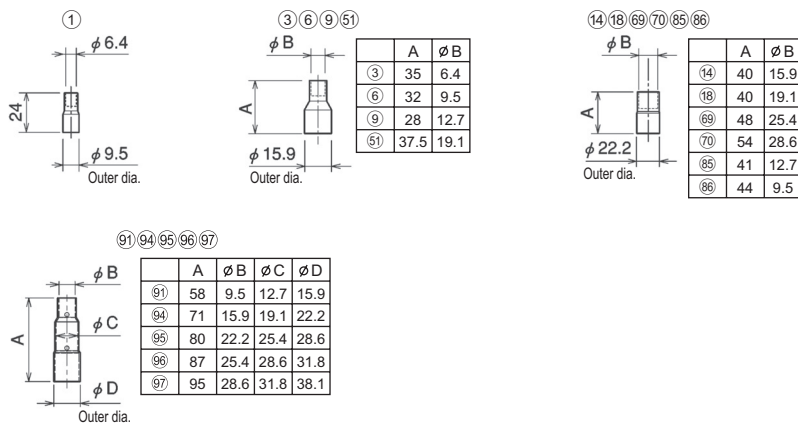
• Y-shape branch joint

RBM-BY55E

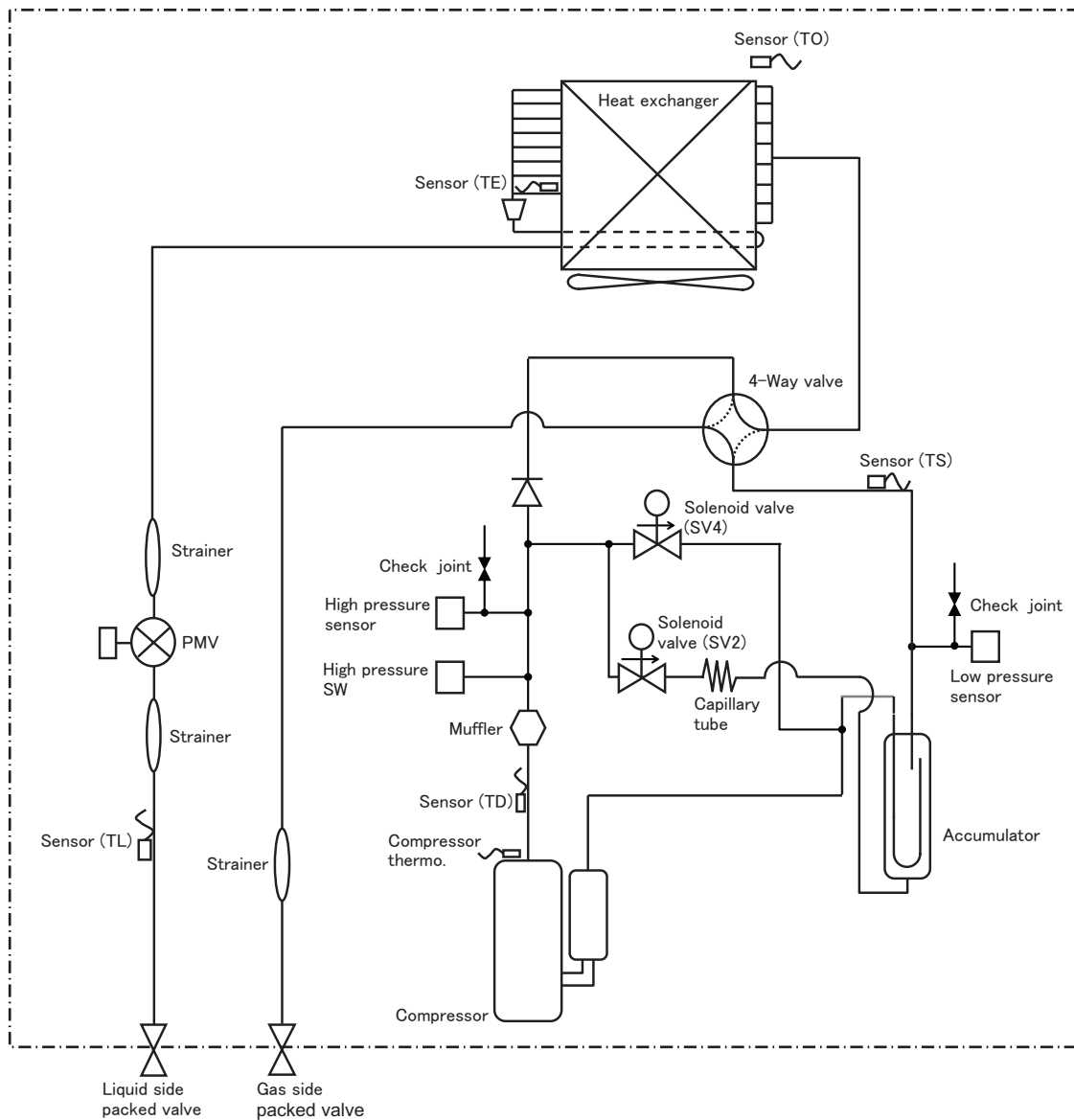


Model		A	B	ØC	ØD	Accessory socket Qty
BY55E	Gas side	160	80	15.9	15.9	⑨ x 1, ⑤① x 2, ⑨① x 2
	Liquid side	130	70	9.5	9.5	① x 2

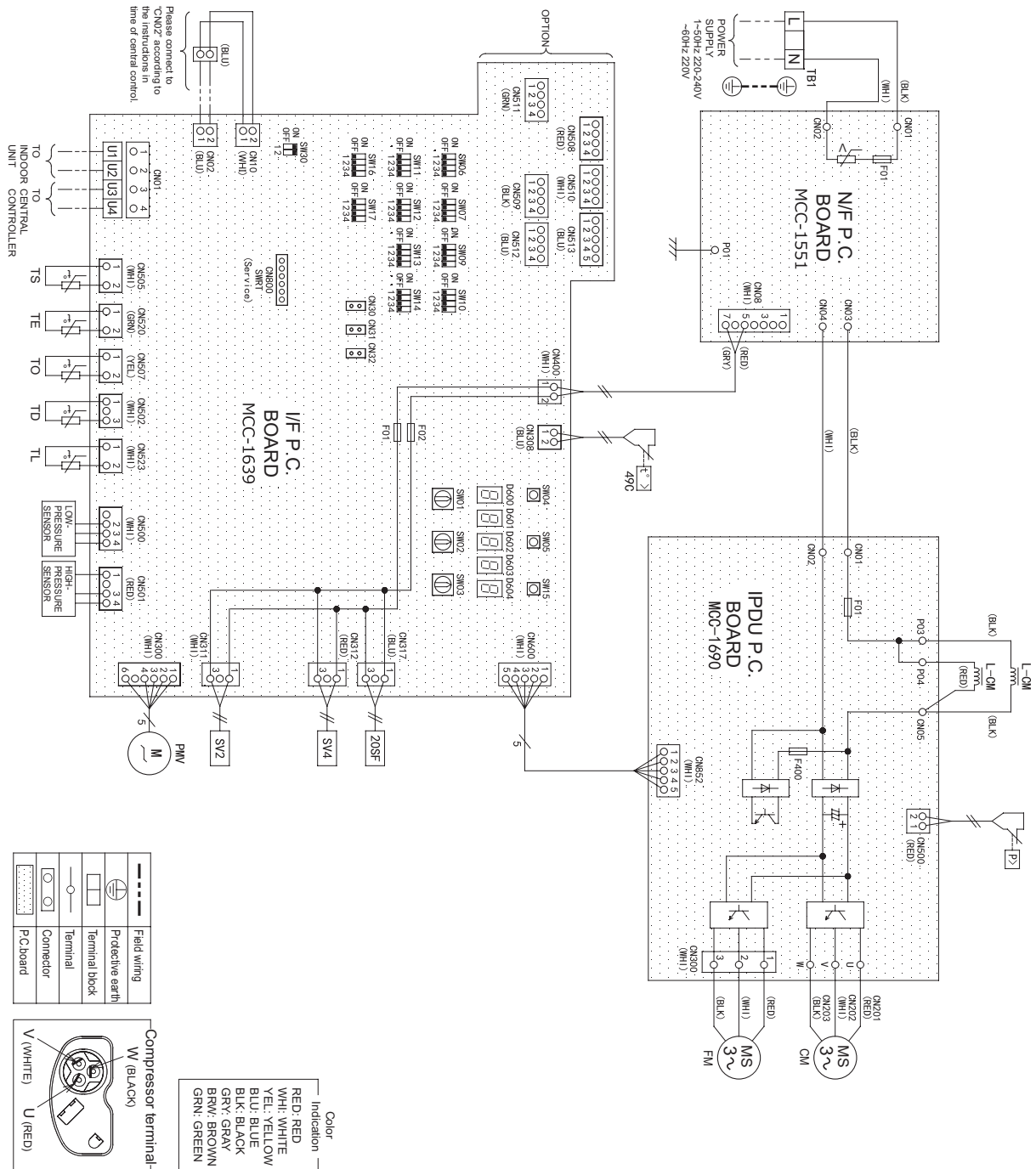
• Accessory socket



5-4. Refrigerant cycle diagram



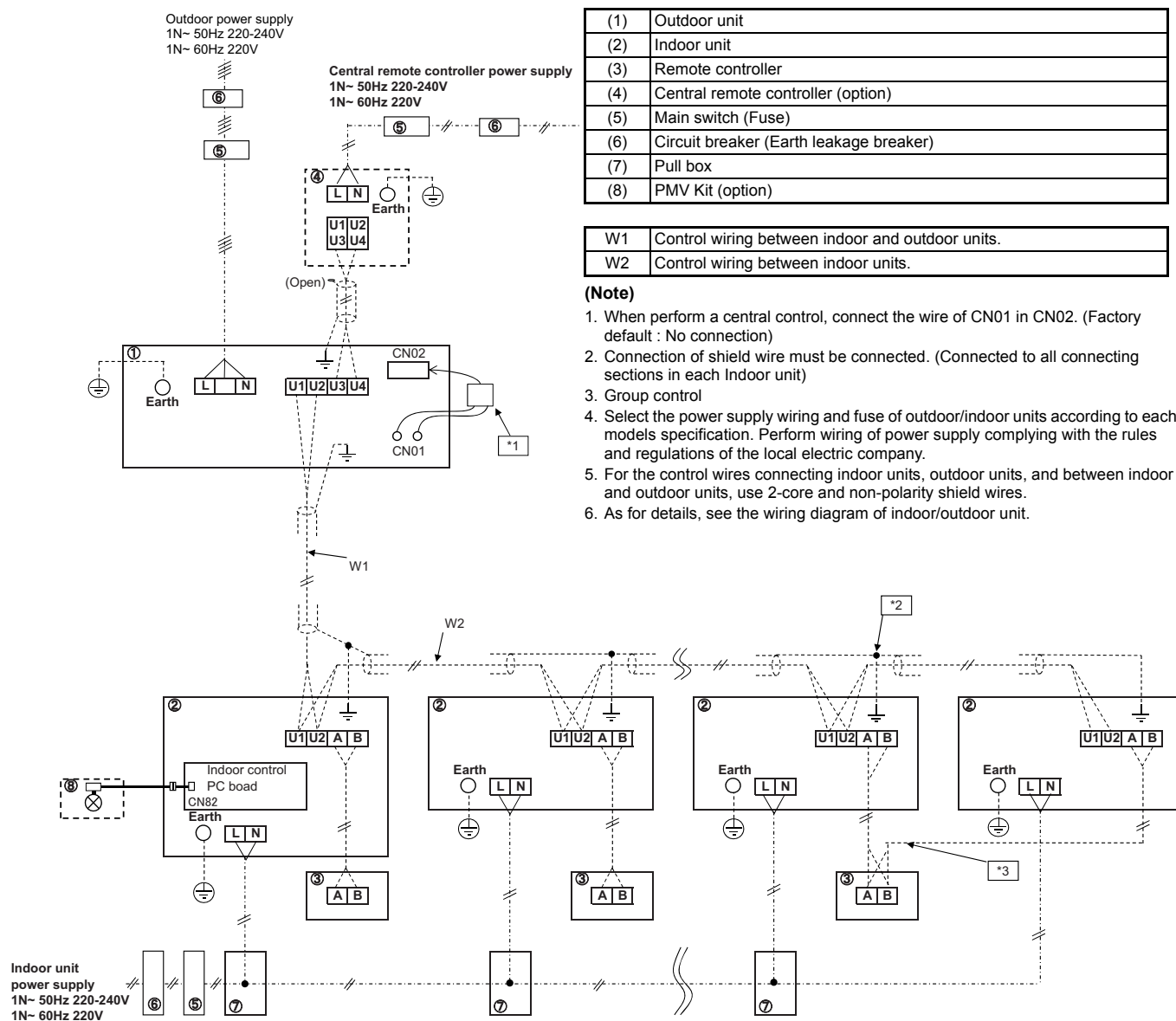
5-5. Wiring diagram MCY-MHP0406HT-E, MCY-MHP0506HT-E



P.C. Board	
Symbol	Part name
MCC-1690	IPDU P.C. BOARD
MCC-1639	I/F P.C. BOARD
MCC-1551	N/P.C. BOARD

Symbol	Part name
20SF	4-way valve coil
49C	Compressor thermo
CM	Compressor
CM***	Compressor
(MCC-1690)	Fuse (IPDU)
F01	50.0A 250V~
F400	Fuse (I/F)
(MCC-1639)	T6.3A 250V~
F01, F02	Fuse (N/P)
(MCC-1551)	T6.3A 250V~
F01	Fan motor
FM	Reactor (CH47)
L-CM	High-pressure switch
P>	Pulse motor valve (main)
PMV	2-way valve coil
SV2, SV4	Rotary switch
SW01	Push button switch
SW02	
SW03	
SW04	
SW05	
SW15	
SW06, SW07	Dip switch
SW09, SW10	
SW11, SW12	
SW13, SW14	
SW16, SW17	
SW20	
TD	Terminal block (power supply)
TE	Pipe temp. sensor (discharge)
TL	Heat exchange temp. sensor
TO	Liquid temp. sensor
TS	Air temp. sensor (suction)

MCY-MHP0406HT-E, MCY-MHP0506HT-E



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

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

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

Power peak-cut Control

Standard Specifications

(Wiring example)

L1: Display lamp during power peak cut control

Locally procured

Outdoor unit interface PCB

Optional PCB Display relay

Power supply

Shield wire

Connection cable (attached in this optional PCB)

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)

L1: Display lamp during power peak cut control

Locally procured

Outdoor unit interface PCB

Optional PCB Display relay

Power supply

Shield wire

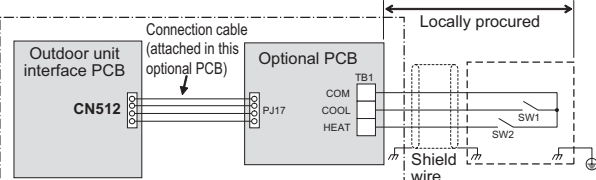
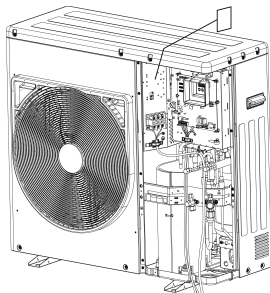
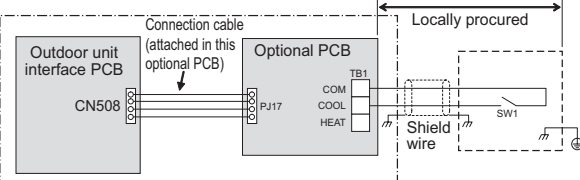
Connection cable (attached in this optional PCB)

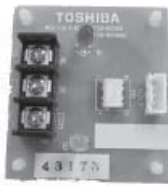
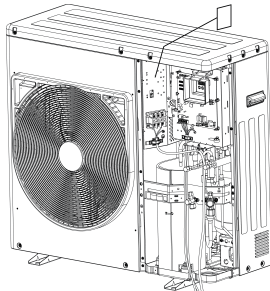
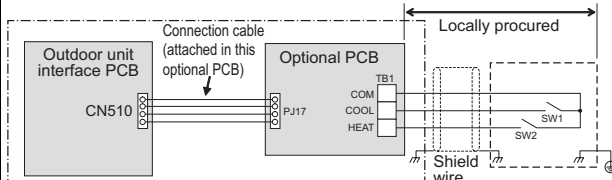
For SW1 and SW2, be sure to provide no-voltage contacts for each terminal.

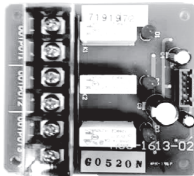
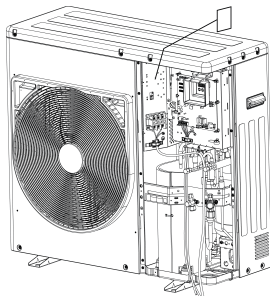
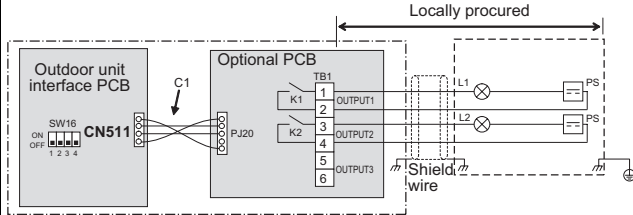
<SW07 (bit 2) ON [4-stage switching]>

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

TCB-PCDM4E

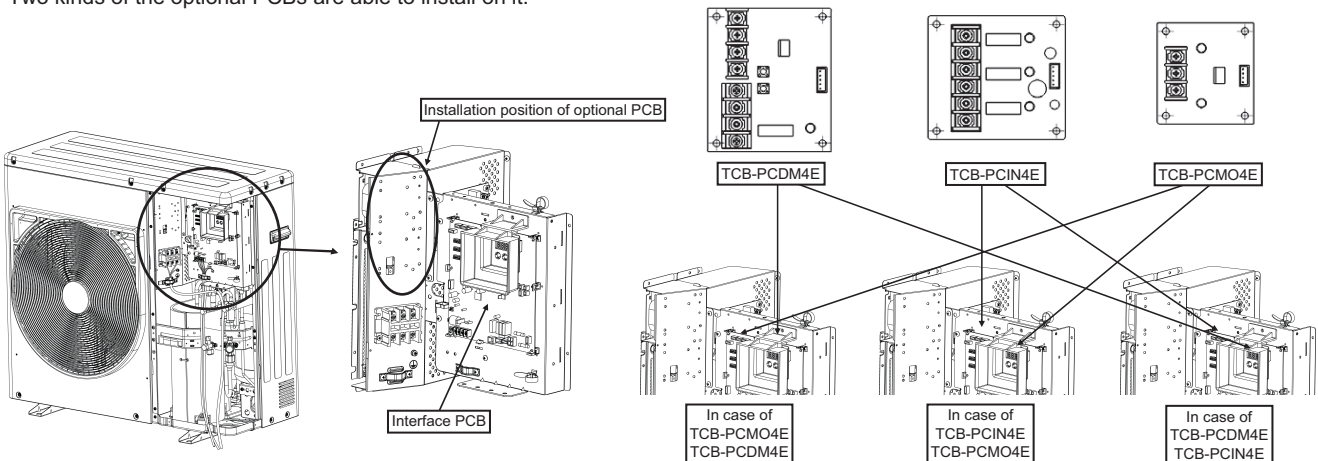
Model name	Appearance	Function									
TCB-PCMO4E	 Size : 55.5 x 60 (mm)	[1] External master ON/OFF control ▼ Function By connecting the cable (attached in this optional PCB) to the interface PC board on an outdoor unit, all indoor units connected to the outdoor unit enable to operate simultaneously.  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><th rowspan="4">Relative to maximum capacity</th></tr><tr><th>Cooling</th><th>Heating</th><th>Cooling</th><th>Heating</th></tr><tr><td>Model 0406*</td><td>50</td><td>50</td><td>approx. 95 %</td><td>approx. 80 %</td></tr><tr><td>Model 0506*</td><td>50</td><td>50</td><td>approx. 85 %</td><td>approx. 75 %</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		Relative to maximum capacity	Cooling	Heating	Cooling	Heating	Model 0406*	50	50	approx. 95 %	approx. 80 %	Model 0506*	50	50	approx. 85 %	approx. 75 %							
	Outdoor unit (base unit)	During low-noise mode dB(A)		Capacity		Relative to maximum capacity																							
		Cooling	Heating	Cooling	Heating																								
	Model 0406*	50	50	approx. 95 %	approx. 80 %																								
	Model 0506*	50	50	approx. 85 %	approx. 75 %																								
	Application	 * Installation the optional PCB in the interface board of the outdoor unit.	[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																											
		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																				

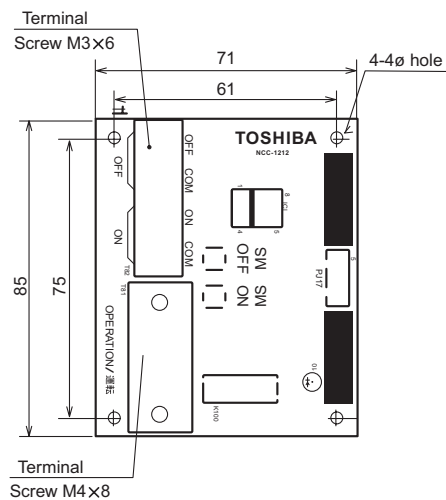
[PCB Installation Position]

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.

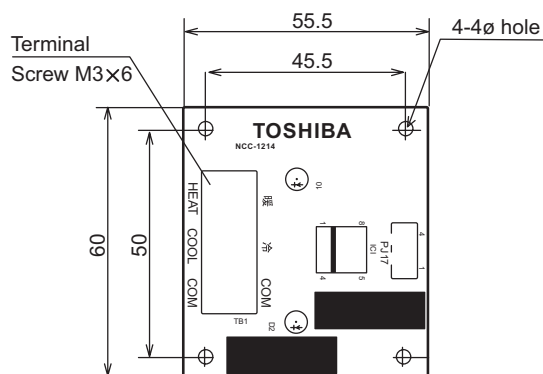


Dimensions of PCB

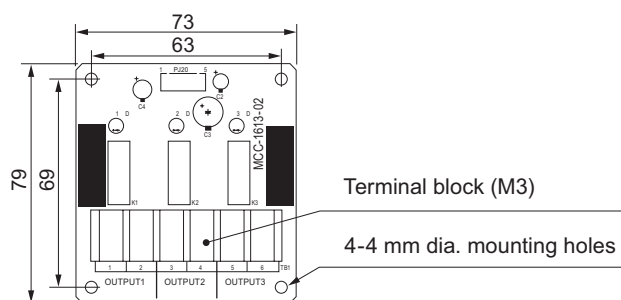
TCB-PCDM4E



TCB-PCMO4E



TCB-PCIN4E



5-8. Part load performance

MCY-MHP0406HT-E (4HP, 12.1kW 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	11.4	11.4	3.9	10.2	3.0	9.1	2.4	7.9	1.9	6.8	1.5	5.7	1.2	4.5	0.9	3.4	0.6
39	11.5	11.5	3.7	10.4	2.9	9.2	2.3	8.1	1.8	6.9	1.5	5.8	1.2	4.6	0.9	3.5	0.6
37	11.8	11.8	3.5	10.6	2.7	9.5	2.2	8.3	1.7	7.1	1.4	5.9	1.1	4.7	0.8	3.5	0.5
35	12.1	12.1	3.2	10.9	2.5	9.7	2.0	8.5	1.6	7.3	1.3	6.1	1.0	4.8	0.8	3.6	0.5
33	12.1	12.1	3.0	10.9	2.4	9.7	1.9	8.5	1.5	7.3	1.2	6.1	0.9	4.8	0.7	3.6	0.5
31	12.1	12.1	2.8	10.9	2.2	9.7	1.7	8.5	1.4	7.3	1.1	6.1	0.9	4.8	0.7	3.6	0.4
30	12.1	12.1	2.7	10.9	2.1	9.7	1.7	8.5	1.3	7.3	1.1	6.1	0.8	4.8	0.6	3.6	0.4
29	12.1	12.1	2.6	10.9	2.1	9.7	1.6	8.5	1.3	7.3	1.0	6.1	0.8	4.8	0.6	3.6	0.4
27	12.1	12.1	2.4	10.9	1.9	9.7	1.5	8.5	1.2	7.3	1.0	6.1	0.8	4.8	0.6	3.6	0.4
25	12.1	12.1	2.3	10.9	1.8	9.7	1.4	8.5	1.1	7.3	0.9	6.1	0.7	4.8	0.5	3.6	0.3
23	12.1	12.1	2.1	10.9	1.7	9.7	1.3	8.5	1.1	7.3	0.8	6.1	0.7	4.8	0.5	3.6	0.3
21	12.1	12.1	2.0	10.9	1.6	9.7	1.2	8.5	1.0	7.3	0.8	6.1	0.6	4.8	0.5	3.6	0.3
20	12.1	12.1	1.9	10.9	1.5	9.7	1.2	8.5	0.9	7.3	0.8	6.1	0.6	4.8	0.4	3.6	0.3
19	12.1	12.1	1.8	10.9	1.4	9.7	1.1	8.5	0.9	7.3	0.7	6.1	0.6	4.8	0.4	3.6	0.3
17	12.1	12.1	1.7	10.9	1.3	9.7	1.1	8.5	0.9	7.3	0.7	6.1	0.5	4.8	0.4	3.6	0.3
15	12.1	12.1	1.6	10.9	1.3	9.7	1.0	8.5	0.8	7.3	0.6	6.1	0.5	4.8	0.4	3.6	0.2

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% 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)
15.0	13.7	12.5	12.5	2.4	11.3	2.1	10.0	1.7	8.8	1.5	7.5	1.2	6.3	1.0	5.0	0.8	3.8	0.6
13.0	11.8	12.5	12.5	2.5	11.3	2.1	10.0	1.8	8.8	1.5	7.5	1.3	6.3	1.0	5.0	0.8	3.8	0.6
11.0	9.9	12.5	12.5	2.6	11.3	2.2	10.0	1.9	8.8	1.6	7.5	1.3	6.3	1.1	5.0	0.9	3.8	0.7
9.0	7.9	12.5	12.5	2.7	11.3	2.3	10.0	1.9	8.8	1.6	7.5	1.4	6.3	1.1	5.0	0.9	3.8	0.7
7.0	6.0	12.5	12.5	2.8	11.3	2.4	10.0	2.0	8.8	1.7	7.5	1.4	6.3	1.2	5.0	0.9	3.8	0.7
5.0	4.1	12.1	12.1	2.8	10.9	2.4	9.7	2.0	8.5	1.7	7.3	1.4	6.0	1.1	4.8	0.9	3.6	0.7
3.0	2.2	11.7	11.7	2.7	10.5	2.3	9.4	2.0	8.2	1.6	7.0	1.4	5.8	1.1	4.7	0.9	3.5	0.7
0.0	-0.7	11.1	11.1	2.7	10.0	2.3	8.9	1.9	7.8	1.6	6.7	1.3	5.5	1.1	4.4	0.9	3.3	0.7
-3.0	-3.7	10.5	10.5	2.6	9.4	2.2	8.4	1.9	7.3	1.6	6.3	1.3	5.2	1.1	4.2	0.8	3.1	0.6
-5.0	-5.6	10.1	10.1	2.6	9.1	2.2	8.1	1.8	7.1	1.5	6.0	1.3	5.0	1.0	4.0	0.8	3.0	0.6
-7.0	-7.6	9.7	9.7	2.5	8.7	2.1	7.7	1.8	6.8	1.5	5.8	1.3	4.8	1.0	3.9	0.8	2.9	0.6
-10.0	-10.5	9.1	9.1	2.5	8.2	2.1	7.3	1.7	6.3	1.5	5.4	1.2	4.5	1.0	3.6	0.8	2.7	0.6
-14.5	-15.0	8.2	8.2	2.4	7.3	2.0	6.5	1.7	5.7	1.4	4.9	1.2	4.1	1.0	3.3	0.8	2.4	0.6

TC : Total Capacity

PI : Power Input

Indoor air temperature conditions : 20.0 °C dry-bulb

All indoor unit operation

MCY-MHP0506HT-E (5HP, 14.0kW 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 %	
		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	13.2	13.2	4.70	11.9	3.65	10.6	2.88	9.2	2.30	7.9	1.88	6.6	1.54
39	13.3	13.3	4.54	12.0	3.53	10.7	2.78	9.3	2.23	8.0	1.81	6.7	1.48
37	13.7	13.7	4.23	12.3	3.29	10.9	2.59	9.6	2.07	8.2	1.69	6.8	1.38
35	14.0	14.0	3.94	12.6	3.07	11.2	2.41	9.8	1.93	8.4	1.58	7.0	1.29
33	14.0	14.0	3.67	12.6	2.86	11.2	2.25	9.8	1.80	8.4	1.47	7.0	1.20
31	14.0	14.0	3.42	12.6	2.66	11.2	2.10	9.8	1.68	8.4	1.37	7.0	1.12
30	14.0	14.0	3.31	12.6	2.57	11.2	2.03	9.8	1.62	8.4	1.32	7.0	1.08
29	14.0	14.0	3.19	12.6	2.48	11.2	1.96	9.8	1.57	8.4	1.28	7.0	1.05
27	14.0	14.0	2.98	12.6	2.32	11.2	1.82	9.8	1.46	8.4	1.19	7.0	0.97
25	14.0	14.0	2.77	12.6	2.16	11.2	1.70	9.8	1.36	8.4	1.11	7.0	0.91
23	14.0	14.0	2.59	12.6	2.01	11.2	1.58	9.8	1.27	8.4	1.03	7.0	0.85
21	14.0	14.0	2.41	12.6	1.88	11.2	1.48	9.8	1.18	8.4	0.96	7.0	0.79
20	14.0	14.0	2.33	12.6	1.81	11.2	1.43	9.8	1.14	8.4	0.93	7.0	0.76
19	14.0	14.0	2.25	12.6	1.75	11.2	1.38	9.8	1.10	8.4	0.90	7.0	0.74
17	14.0	14.0	2.10	12.6	1.63	11.2	1.28	9.8	1.03	8.4	0.84	7.0	0.69
15	14.0	14.0	1.95	12.6	1.52	11.2	1.20	9.8	0.96	8.4	0.78	7.0	0.64

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 %	
			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	16.0	16.0	3.33	14.4	2.74	12.8	2.26	11.2	1.85	9.6	1.51	8.0	1.22
13.0	11.8	16.0	16.0	3.46	14.4	2.85	12.8	2.34	11.2	1.92	9.6	1.57	8.0	1.27
11.0	9.8	16.0	16.0	3.59	14.4	2.96	12.8	2.43	11.2	1.99	9.6	1.62	8.0	1.31
9.0	7.9	16.0	16.0	3.72	14.4	3.07	12.8	2.52	11.2	2.06	9.6	1.68	8.0	1.36
7.0	6.0	16.0	16.0	3.86	14.4	3.18	12.8	2.61	11.2	2.14	9.6	1.75	8.0	1.41
5.0	4.1	15.5	15.5	3.80	13.9	3.13	12.4	2.57	10.8	2.11	9.3	1.72	7.7	1.39
3.0	2.2	15.0	15.0	3.74	13.5	3.08	12.0	2.53	10.5	2.08	9.0	1.69	7.5	1.37
0.0	-0.7	14.2	14.2	3.65	12.8	3.01	11.4	2.47	9.9	2.03	8.5	1.65	7.1	1.34
-3.0	-3.7	13.4	13.4	3.56	12.1	2.93	10.7	2.41	9.4	1.97	8.0	1.61	6.7	1.30
-5.0	-5.6	12.9	12.9	3.50	11.6	2.88	10.3	2.37	9.0	1.94	7.7	1.58	6.4	1.28
-7.0	-7.6	12.4	12.4	3.44	11.1	2.83	9.9	2.33	8.7	1.91	7.4	1.56	6.2	1.26
-10.0	-10.5	11.6	11.6	3.35	10.4	2.76	9.3	2.27	8.1	1.86	7.0	1.52	5.8	1.23
-14.5	-15.0	10.4	10.4	3.21	9.4	2.65	8.3	2.18	7.3	1.78	6.3	1.45	5.2	1.18

TC : Total Capacity

PI : Power Input

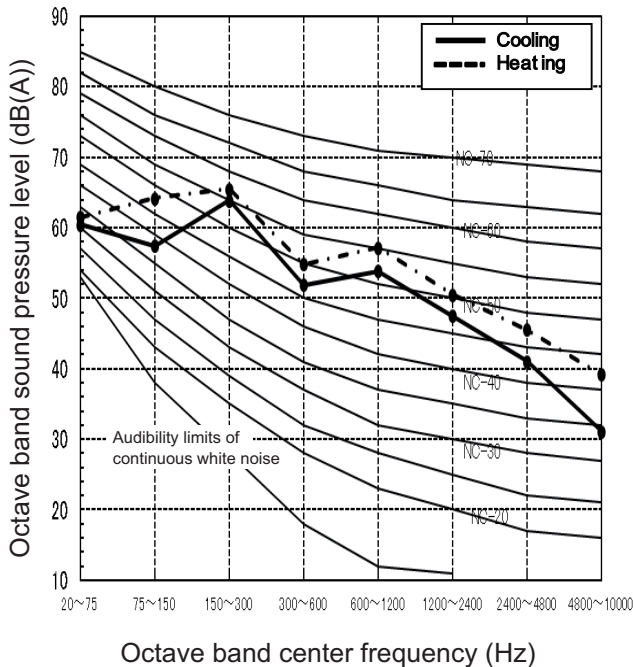
Indoor air temperature conditions : 20.0 °C dry-bulb

All indoor unit operation

5-9. Sound pressure level data

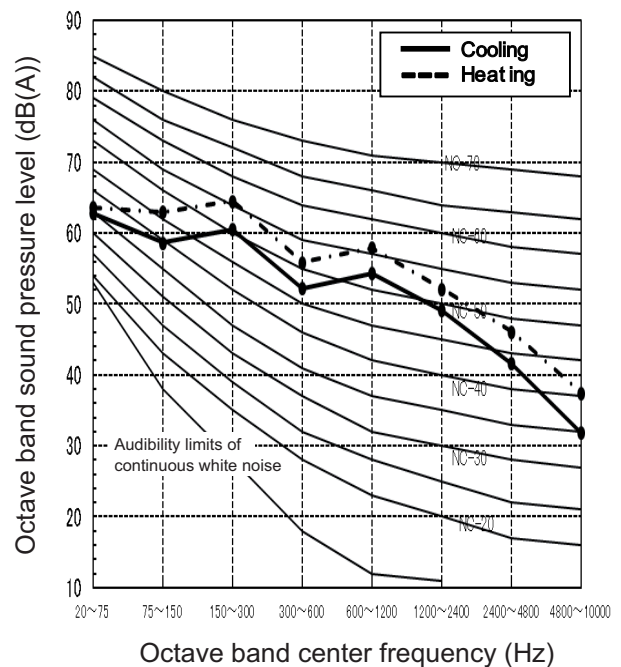
MCY-MHP0406HT-E

Sound pressure level (dB(A))	Cooling	Heating
	54	57



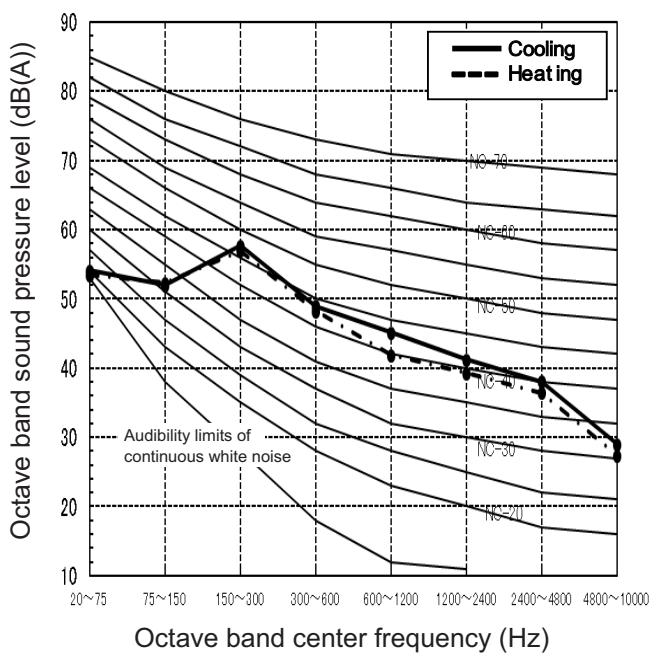
MCY-MHP0506HT-E

Sound pressure level (dB(A))	Cooling	Heating
	55	58

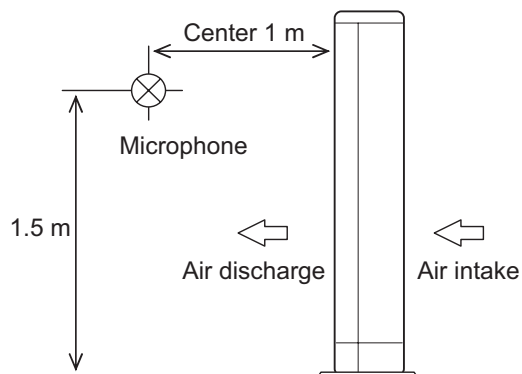


Night operation (sound reduction) control

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



[Measuring location]



[Conditions]

Cooling

Outdoor temperature: 35 °CDB, 24 °CWB
Indoor air temperature: 27 °CDB, 19 °CWB

Heating

Outdoor temperature: 7 °CDB, 6 °CWB
Indoor air temperature: 20 °CDB

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

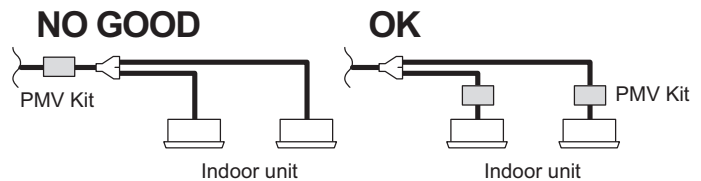
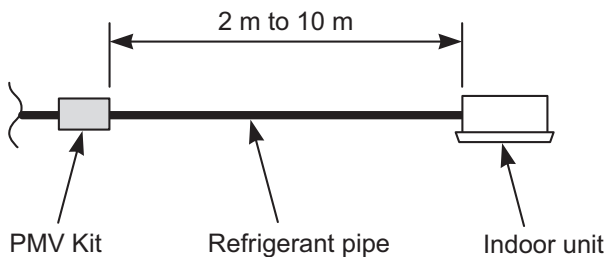
5-10. PMV Kit

PMV-Kit (RBM-PMV0363E, RBM-PMV0903E) 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	005 to 012 type	ø6.4
RBM-PMV0903E	015 to 018 type	ø6.4
	024 to 027 type	ø9.5

Allowable length of refrigerant piping

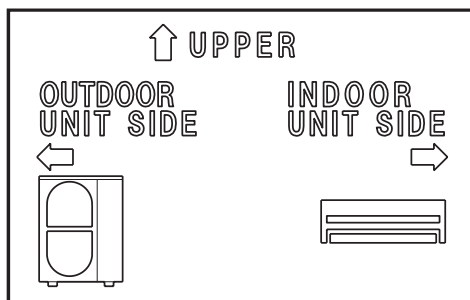


Note)

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.

- 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.

Label

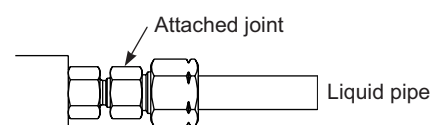
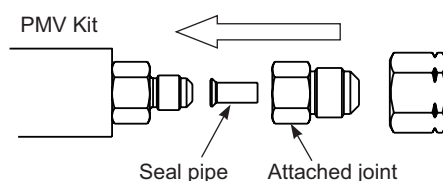


Piping material and dimensions

Model name	Indoor unit capacity type	Diameter of refrigerant pipe	Notes
RBM-PMV0363E	005 to 012 type	ø6.4	
RBM-PMV0903E	015 to 018 type	ø6.4	
	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.



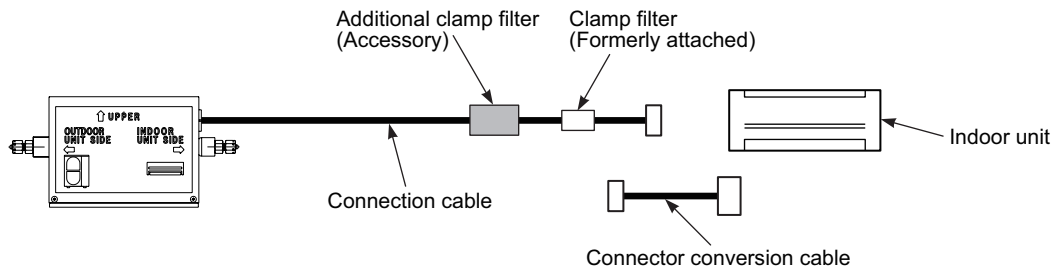
5-10-2. Wiring connections

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.

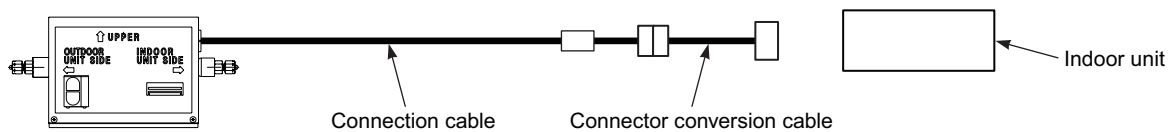
High Wall Type 3 series (MMK-AP***3H*)



- 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.

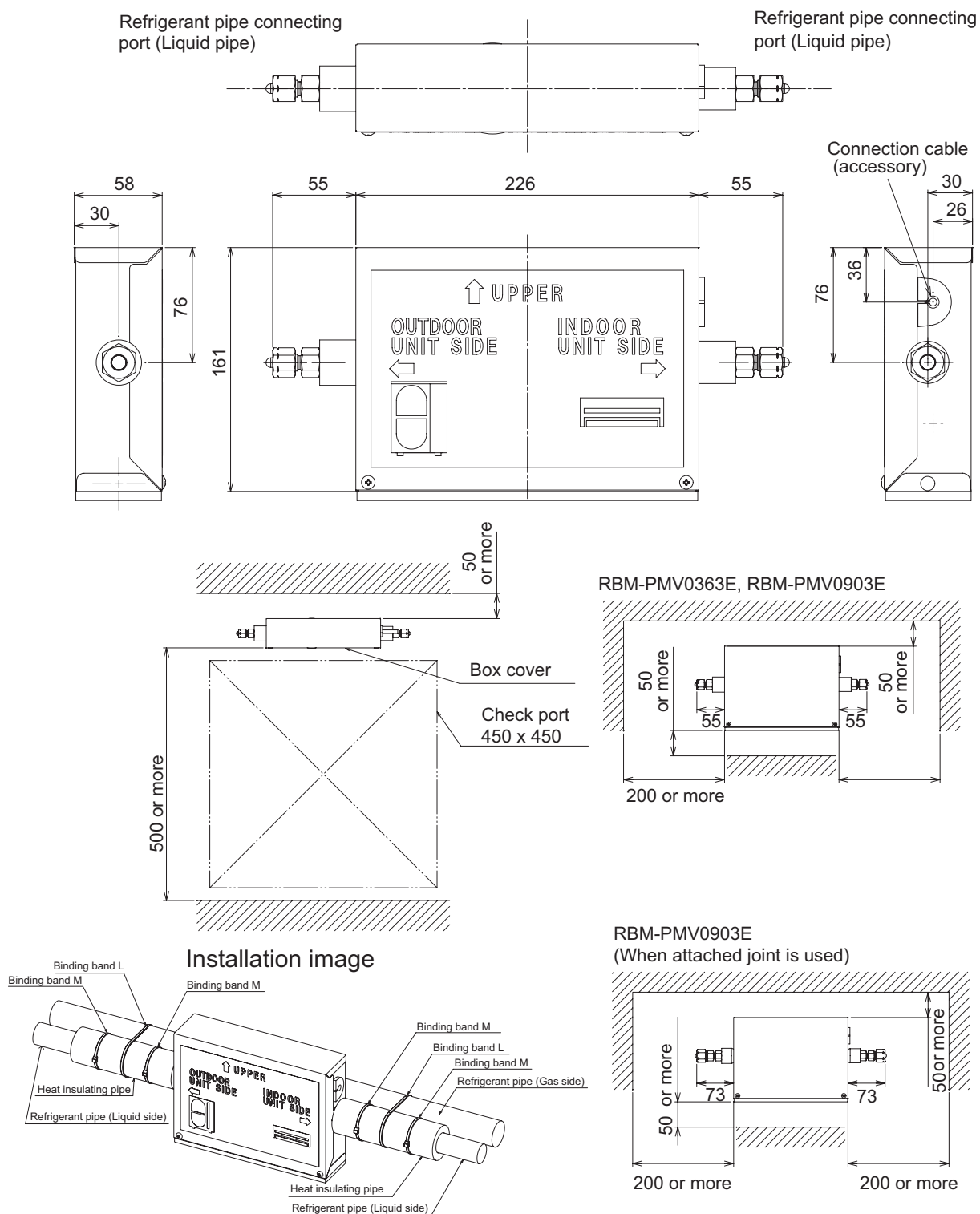
Indoor unit except above indoor units



5-10-3. Dimensional drawing

• PMV Kit

RBM-PMV0363E, RBM-PMV0903E



Note: All dimensions are in mm.

Side blow VRF 4-5HP Engineering Data Book

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First Edition

TOSHIBA CARRIER CORPORATION