TOSHIBA

Super-HRM (2 series)

Engineering Data Book

Super Heat Recovery Multi System

1 Foreword

The engineering data book details all specific data, charts and drawings to enable you to get the best performance from the Toshiba Super Heat Recovery Multi System (2 Series) for the various different applications.

The information is aimed to assist you with greater detail of the system and the wider applications that the system will cover.

It is recommended the use of the data book is used in accordance with the following as references.

Design manual : File No.A04-017
Installation manual : File No.A05-018

2 Contents

Appendix

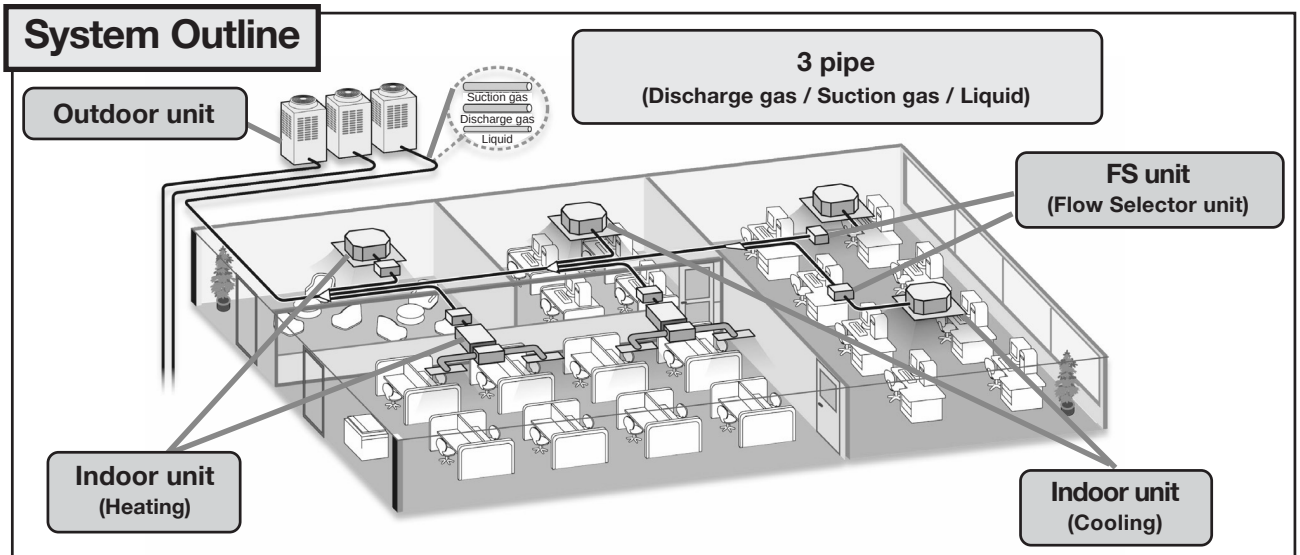
3

Introduction

The World's Best Technology for Energy Saving, Heat Recovery VRF

Toshiba is proud to introduce the Super HRM system, 3pipe heat recovery VRF operating on R410A. Incorporating advanced technology in all aspects of efficiency, durability, flexibility and comfort. Super HRM will meet various different site applications.

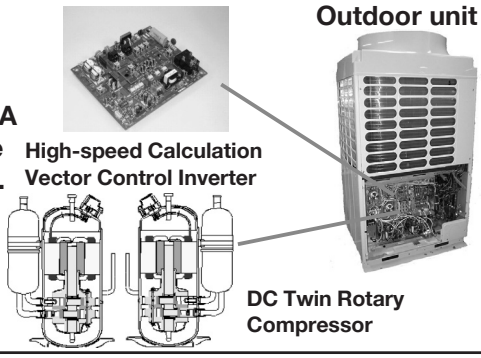
System Outline



Energy saving

No.1 COP in heat recovery VRF industry.
DC twin rotary compressors are most congenial with R410A and are used within the outdoor units. All compressors are driven by a High-speed Calculation Vector Control Inverter.

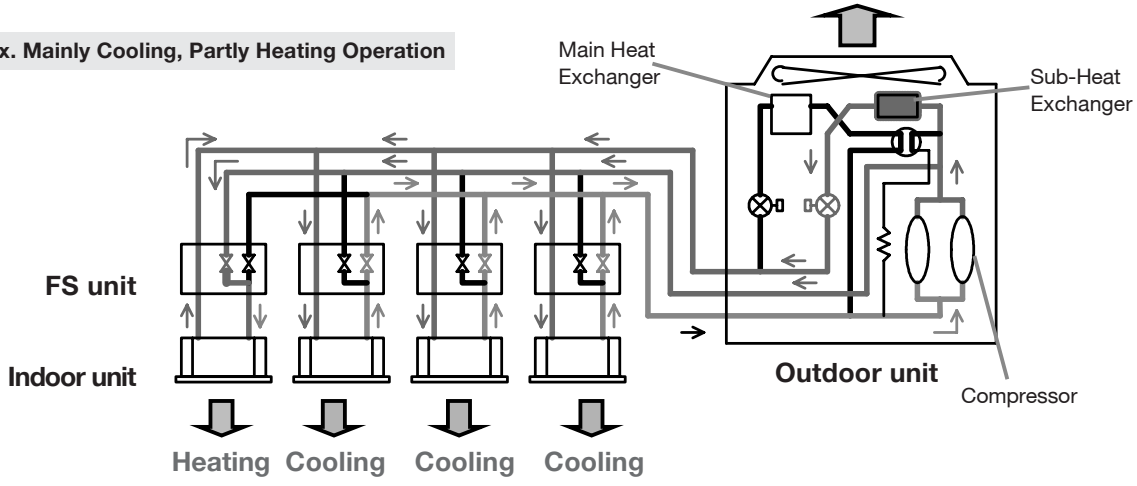
Average COP	Super-HRM(R410A)
8HP System	3.83
10HP System	3.45



Simultaneous Operation

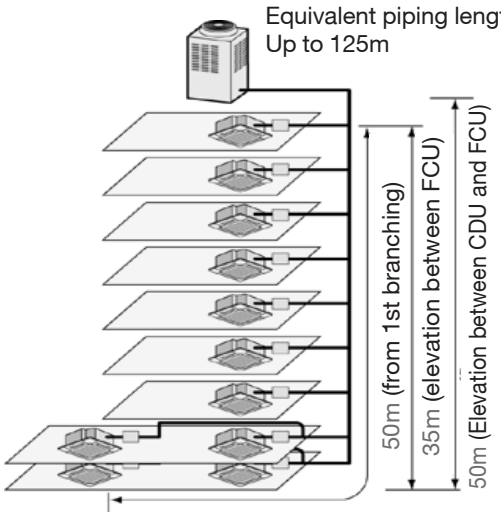
By control of the FS unit, Super HRM enables simultaneous operation of cooling and heating. Super HRM also improves the energy efficiency by the recycling of exhaust heat.

Ex. Mainly Cooling, Partly Heating Operation



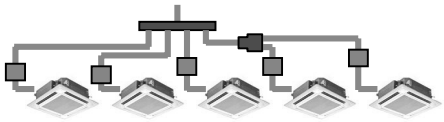
Design Flexibility

Piping flexibility

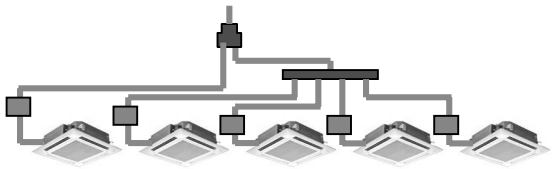


- Elevation between indoor units = 35m(No.1!)
- Furthest piping length from 1st branch = 50m(No.1!)

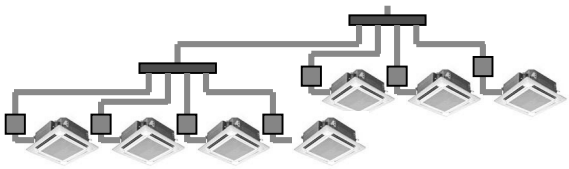
Flexibile Joint Combination



Y Branch after header branch
(Toshiba unique technology)



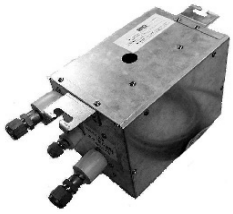
Header branch after Y joint



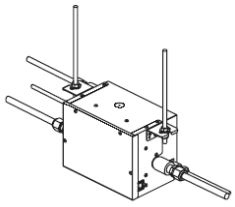
Header after header branch
(Toshiba unique technology)

FS Unit Design

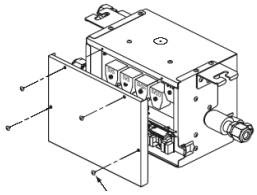
The compact and light weight design of the FS unit(Flow Selector Unit)allows it to be easily installed within a limited space.



190H x 250W x 160D
5kg



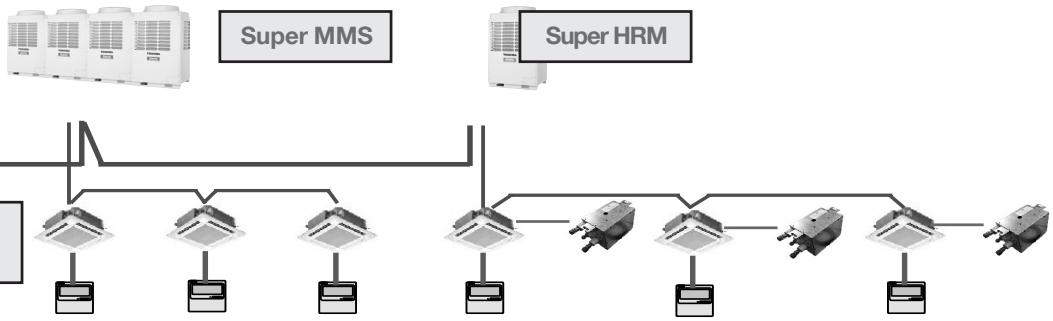
Easy of hanging
(Only 2 hangers)



Easy maintenance
(Valve coil and P.C. board are on the same side)

Centralized Control System

By using the central control devices, individual control of indoor units is possible throughout multiple systems. Centralized control systems with Super MMS can also be integrated with Building Management System (BMS).



4

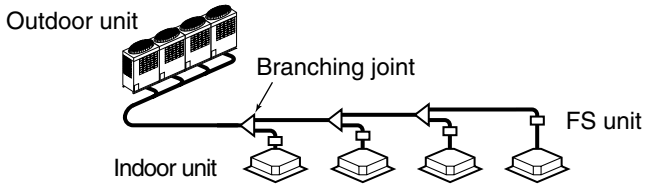
System overview

1. OUTLINE OF TOSHIBA SUPER HRM (Super Heat Recovery Multi System)

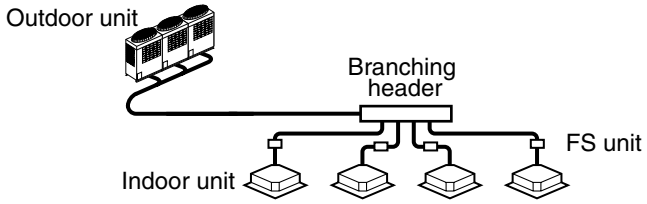
◆ Shortest route design by free branching

The Combination of line and header branching is highly flexible. This follows for the shortest design route possible, thereby saving on installation time and cost. Line/header branching after the header branching is only available with TOSHIBA Super HRM.

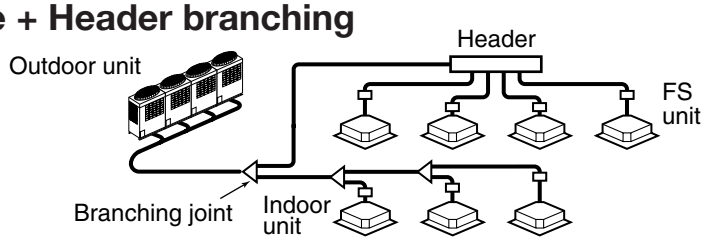
Line branching



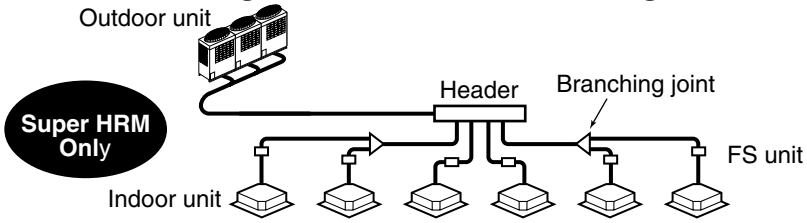
Header branching



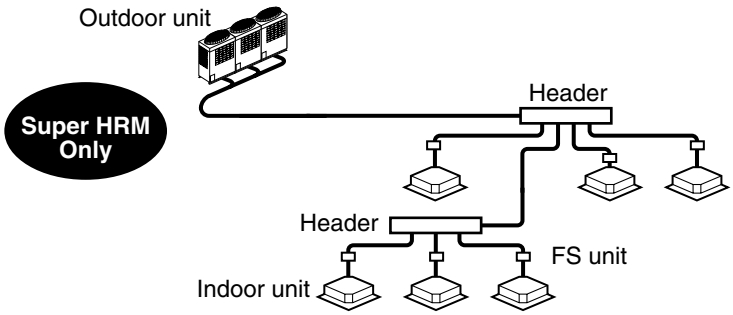
Line + Header branching

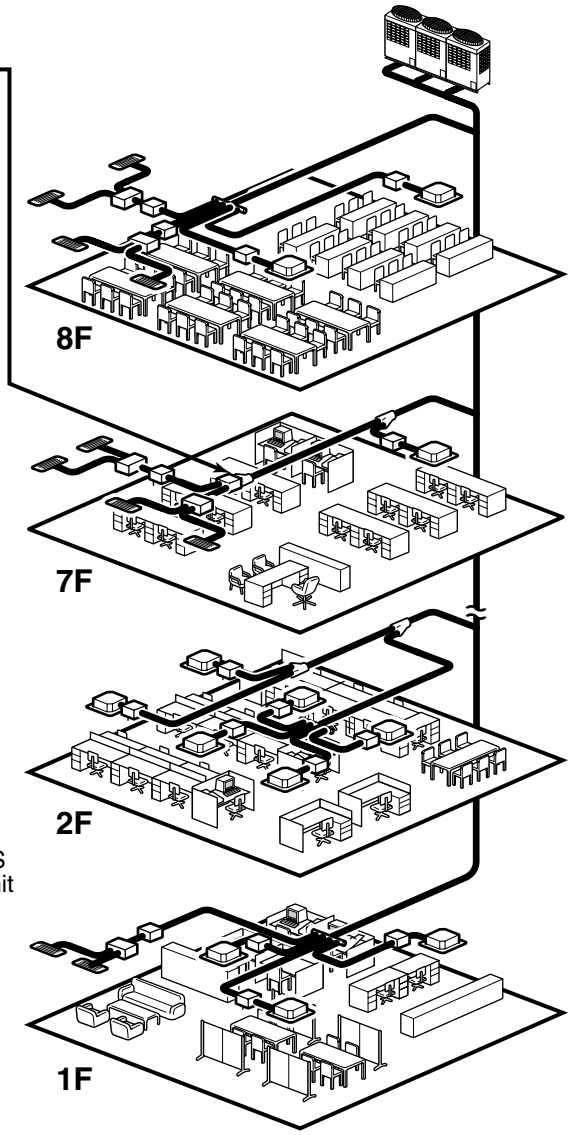


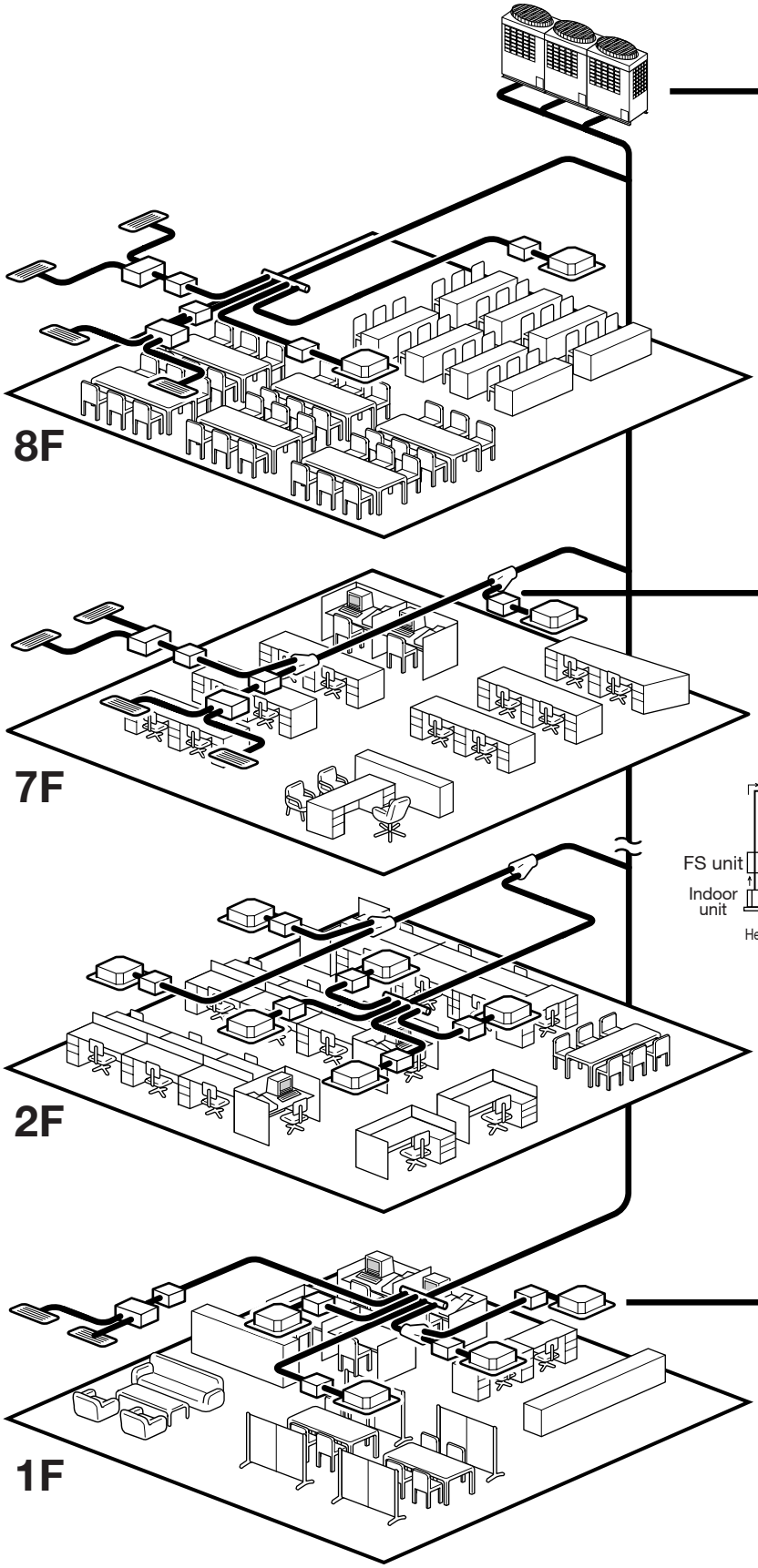
Line branching after header branching



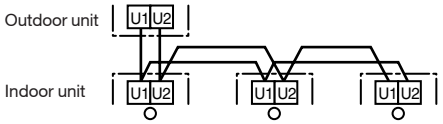
Header branching after header branching

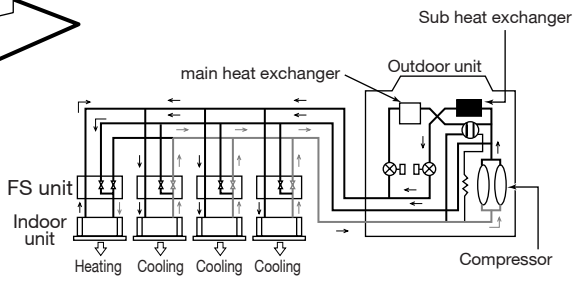




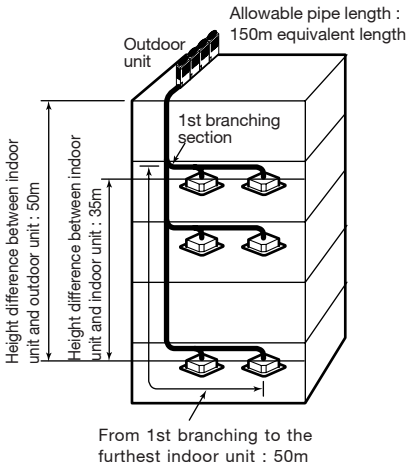


Non-polarized control wiring between outdoor and indoor units





Simultaneous operation



◆Energy saving

No.1 COP in heat recovery VRF industry.Compared with the conventional chiller fan coil system, a large energy saving can be achieved.

◆Advanced bus communication system

Wiring between indoor and outdoor units is a simple 2 core wire system.
Communication of addresses is also automatically configured.
A default test mode operation is available.

◆Self diagnostics system

Comprehensive troubleshooting codes allows for a timely identification of possible problems arising.

◆High lift and flexible piping design

Equivalent pipe length of 150m and vertical lift of 50m is possible with TOSHIBA Super HRM.
Vertical lift between indoor units of 35m is the highest in the industry.
Also the maximum piping length from the 1st branch is 50m.
This allows for greater flexibility within the building design of the system.

◆Simultaneous operation

By controlling the FS unit, Super HRM enables simultaneous operation of cooling and heating.
This operation meets the various requirements of modern buildings that are highly airtight or have an increasing heat load due to the use of computers. Super HRM also improves energy efficiency by recycling of the exhaust heat.

◆Extended outdoor temperature operating range

By use of sophisticated system control with inverter driven compressors, the operating range in cooling has been increased from -5℃ to -10℃.

◆Compact FS unit design

The compact and light weight design of the FS unit (Flow selector unit) allows it to be easily installed with in a limited space.

◆Group control by one FS unit

Up to 8 indoor units can be group controlled by the use of only one FS unit, this gives greater flexibility for various different types and sizes of rooms.

◆Intelligent control

TOSHIBA Super HRM intelligent controls and modulating valves deliver the required capacity according to the load variation from 50% to 100%.
The intelligent controls and modulating valves limit or increase the cooling capacity dynamically so humidity and temperature are kept within the comfort zone.

◆Conforms to building control law

IAQ (Indoor Air Quality) is also achieved by combining various accessories required by the Building Control Law.

◆Wide control applications

Artificial Intelligence Network system.
Central control and monitoring system available.
Weekly schedule operation through weekly timer.

Integration with Building Management System (BMS) is available.

2. SUMMARY OF SYSTEM EQUIPMENTS

Equipment

1. Outdoor units

Corresponding HP	Inverter unit			Appearance
	8HP	10HP	12HP	
Model name MMY-	MAP0802FT8	MAP1002FT8	MAP1202FT8	
Cooling capacity (kW)	22.4	28.0	33.5	
Heating capacity (kW)	25.0	31.5	35.5	

2. Outdoor units (Combination of outdoor units)

Corresponding HP		8HP	10HP	12HP	16HP	18HP
Combined model	MMY-	MAP0802FT8	MAP1002FT8	MAP1202FT8	AP1602FT8	AP1802FT8
Cooling capacity (kW)		22.4	28	33.5	45	50.4
Heating capacity (kW)		25	31.5	35.5	50	56.5
Combined outdoor units		8HP	10HP	12HP	8HP	10HP
					8HP	8HP
No. of connectable indoor units		13	16	16	27	30

Corresponding HP		20HP	24HP	26HP	28HP	30HP
Combined model	MMY-	AP2002FT8	AP2402FT8	AP2602FT8	AP2802FT8	AP3002FT8
Cooling capacity (kW)		56	68	73	78.5	84
Heating capacity (kW)		63	76.5	81.5	88	95
Combined outdoor units		10HP	8HP	10HP	10HP	10HP
		10HP	8HP	8HP	10HP	10HP
			8HP	8HP	8HP	10HP
No. of connectable indoor units		33	40	43	47	48

3. FS units (Flow selector units)

Model name	Usage	Appearance
RBM-Y1122FE	Total capacity for indoor unit : Below 11.2 kw	
RBM-Y1802FE	Total capacity for indoor unit : 11.2 to below 18.0 kw	
RBM-Y2802FE	Total capacity for indoor unit : 18.0 to 28.0 kw or less	

*Accessory part (Sold separately): Connection cable kit (RBC-CBK15FE) up to 15m.

4. Branching joints and headers

	Model name	Usage		Appearance
Y-shape branching joint (*3)	RBM-BY53FE	Indoor unit capacity code (*1) : Total below 6.4	For 3 piping	
	RBM-BY103FE	Indoor unit capacity code (*1) : Total 6.4 or more and below 14.2		
	RBM-BY203FE	Indoor unit capacity code (*1) : Total 14.2 or more and below 25.2		
	RBM-BY303FE	Indoor unit capacity code (*1) : Total 25.2 or more		
	RBM-BY53E	Indoor unit capacity code (*1) : Total below 6.4	For 2 piping (*6)	
	RBM-BY103E	Indoor unit capacity code (*1) : Total 6.4 or more and below 14.2		
	RBM-BY203E	Indoor unit capacity code (*1) : Total 14.2 or more and below 25.2		
	RBM-BY303E	Indoor unit capacity code (*1) : Total 25.2 or more		
4-branching header (*4) (*5)	RBM-HY1043FE	Indoor unit capacity code (*1) : Total below 14.2	For 3 piping	
	RBM-HY2043FE	Indoor unit capacity code (*1) : Total 14.2 or more and below 25.2		
	RBM-HY1043E	Indoor unit capacity code (*1) : Total below 14.2	For 2 piping (*6)	
	RBM-HY2043E	Indoor unit capacity code (*1) : Total 14.2 or more and below 25.2		
8-branching header (*4) (*5)	RBM-HY1083FE	Indoor unit capacity code (*1) : Total below 14.2	For 3 piping	
	RBM-HY2083FE	Indoor unit capacity code (*1) : Total 14.2 or more and below 25.2		
	RBM-HY1083E	Indoor unit capacity code (*1) : Total below 14.2	For 2 piping (*6)	
	RBM-HY2083E	Indoor unit capacity code (*1) : Total 14.2 or more and below 25.2		
T-shape branching joint (For connection of outdoor units)	RBM-BT13FE	1 set 4 types T-shape joint pipes as described below: The required quantity is arranged and they are combined on site.		

Connection piping	Corresponded dia. (mm)	Q'ty
Balance pipe	Ø9.5	1
Piping at liquid side	Ø12.7 to Ø22.2	1
Piping at discharge gas side	Ø19.1 to Ø28.6	1
Piping at suction gas side	Ø22.2 to Ø38.1	1

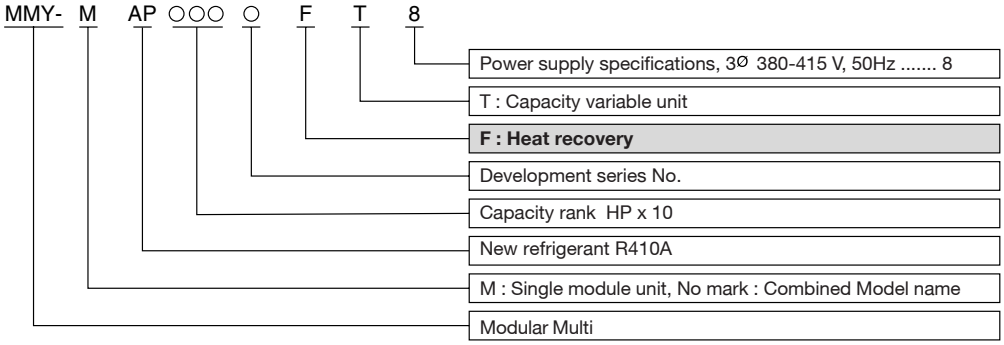
*1 `Capacity code` can be obtained from page 8. (Capacity code is not actual capacity)
*2 If total capacity code value of indoor unit exceeds that of outdoor unit, apply capacity code of outdoor unit.
*3 When using Y-shape branching joint for 1st branching, select according to the capacity code of outdoor unit.
*4 Max. capacity code of 6.0 in total can be connected.
*5 If capacity code of outdoor unit is 26 or more, it is not used for the 1st branching.
*6 This is used for branching to `cooling only` indoor unit.
*7 Model names for outdoor and indoor units described in this guide are shortened because of the space constraint.

Super Heat Recovery Multi System Outdoor Unit

HP (Capacity code)	Model name MMY-	No. of combined units	Inverter 8 HP MMY-	Used Qty	Inverter 10 HP MMY-	Used Qty	Inverter 12 HP MMY-	Used Qty
8HP (8)	**MAP0802HT8**	1	**MAP0802FT8**	1				
10HP (10)	**MAP1002HT8**	1			**MAP1002FT8**	1		
12HP (12)	**MAP1202HT8**	1					**MAP1202FT8***	1
16HP (16)		2	**MAP0802FT8**	2				
18HP (18)		2	**MAP0802FT8**	1	**MAP1002FT8**	1		
20HP (20)		2			**MAP1002FT8**	2		
24HP (24)			**MAP0802FT8**	3				
26HP (26)			**MAP0802FT8**	2	**MAP1002FT8**	1		
28HP (28)			**MAP0802FT8**	1	**MAP1002FT8**	2		
30HP (30)					**MAP1002FT8**	3		

* 12HP unit is for stand-alone use only.
Outdoor unit combination with a 12HP unit is not available.

1. Allocation standard of model name



2. Rated conditions (Rated mode : Condition)

Cooling : Indoor air temperature 27℃ DB/19℃ WB, Outdoor air temperature 35℃ DB
Heating : Indoor air temperature 20℃ DB, Outdoor air temperature 7℃ DB/6℃ WB

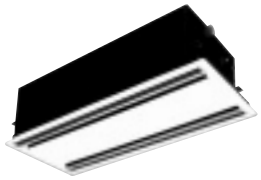
3. Compatibility with 1 Series

		Oudoor unit MMY-	
		1 Series	2 Series*
		-MAP**1FT8	-MAP**2FT8
FS unit	1 Series RBM-Y***1E	OK	NG
	2 Series RBM-Y***2E	OK	OK

* 2 series outdoor units cannot be used with 1 series outdoor units.

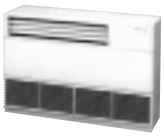
4. Indoor unit

*1) China market only *2) European market only *3) Korea market only

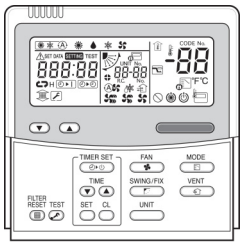
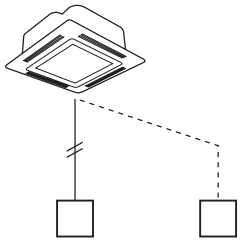
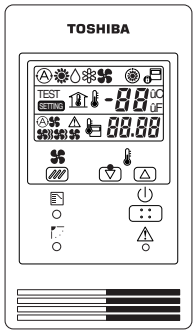
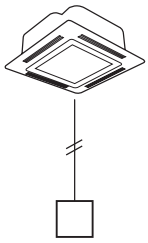
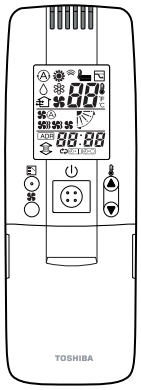
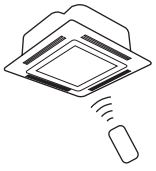
Type	Appearance	Model name	Capacity rank	Capacity code	Cooling capacity (kW)	Heating capacity (kW)
4-way Air Discharge Cassette Type		**MMU-AP0091H**	009 type	1.00	2.8	3.2
		MMU-AP0121H	012 type	1.25	3.6	4.0
		MMU-AP0151H	015 type	1.70	4.5	5.0
		MMU-AP0181H	018 type	2.00	5.6	6.3
		MMU-AP0241H	024 type	2.50	7.1	8.0
		MMU-AP0271H	027 type	3.00	8.0	9.0
		MMU-AP0301H	030 type	3.20	9.0	10.0
		MMU-AP0361H	036 type	4.00	11.2	12.5
		MMU-AP0481H	048 type	5.00	14.0	16.0
		MMU-AP0561H	056 type	6.00	16.0	18.0
2-way Air Discharge Cassette Type		**MMU-AP0071WH**	007 type	0.8	2.2	2.5
		MMU-AP0091WH	009 type	1.00	2.8	3.2
		MMU-AP0121WH	012 type	1.25	3.6	4.0
		MMU-AP0151WH	015 type	1.70	4.5	5.0
		MMU-AP0181WH	018 type	2.00	5.6	6.3
		MMU-AP0241WH	024 type	2.50	7.1	8.0
		MMU-AP0271WH	027 type	3.00	8.0	9.0
		MMU-AP0301WH	030 type	3.20	9.0	10.0
		MMU-AP0481WH[*1)]	048 type	5.00	14.0	16.0
1-way Air Discharge Cassette Type		**MMU-AP0071YH**	007 type	0.80	2.2	2.5
		MMU-AP0091YH	009 type	1.00	2.8	3.2
		MMU-AP0121YH	012 type	1.25	3.6	4.0
		MMU-AP0151SH	015 type	1.70	4.5	5.0
		MMU-AP0181SH	018 type	2.00	5.6	6.3
		MMU-AP0241SH	024 type	2.50	7.1	8.0
		MMU-AP0152SH	015 type	1.70	4.5	5.0
		MMU-AP0182SH	018 type	2.00	5.6	6.3
		MMU-AP0242SH	024 type	2.50	7.1	8.0
Slim Duct Type		**MMD-AP0071SPH**	007 type	0.80	2.2	2.5
		MMD-AP0091SPH	009 type	1.00	2.8	3.2
		MMD-AP0121SPH	012 type	1.25	3.6	4.0
		MMD-AP0151SPH	015 type	1.70	4.5	5.0
		MMD-AP0181SPH	018 type	2.00	5.6	6.3
		MMD-AP0071SPH(SH)-C[*1)]	007 type	0.80	2.2	2.5
		MMD-AP0091SPH(SH)-C[*1)]	009 type	1.00	2.8	3.2
		MMD-AP0121SPH(SH)-C[*1)]	012 type	1.25	3.6	4.0
		MMD-AP0151SPH(SH)-C[*1)]	015 type	1.70	4.5	5.0
		MMD-AP0181SPH(SH)-C[*1)]	018 type	2.00	5.6	6.3
		MMD-AP0071SPH-K[*3)]	007 type	0.80	2.2	2.5
		MMD-AP0091SPH-K[*3)]	009 type	1.00	2.8	3.2
		MMD-AP0121SPH-K[*3)]	012 type	1.25	3.6	4.0
		MMD-AP0151SPH-K[*3)]	015 type	1.70	4.5	5.0
		MMD-AP0181SPH-K[*3)]	018 type	2.00	5.6	6.3
Concealed Duct Standard Type		**MMD-AP0071BH**	007 type	0.80	2.2	2.5
		MMD-AP0091BH	009 type	1.00	2.8	3.2
		MMD-AP0121BH	012 type	1.25	3.6	4.0
		MMD-AP0151BH	015 type	1.70	4.5	5.0
		MMD-AP0181BH	018 type	2.00	5.6	6.3
		MMD-AP0241BH	024 type	2.50	7.1	8.0
		MMD-AP0271BH	027 type	3.00	8.0	9.0
		MMD-AP0301BH	030 type	3.20	9.0	10.0
		MMD-AP0361BH	036 type	4.00	11.2	12.5
		MMD-AP0481BH	048 type	5.00	14.0	16.0
		MMD-AP0561BH	056 type	6.00	16.0	18.0
Concealed Duct High Static Pressure Type		**MMD-AP0181H**	018 type	2.00	5.6	6.3
		MMD-AP0241H	024 type	2.50	7.1	8.0
		MMD-AP0271H	027 type	3.00	8.0	9.0
		MMD-AP0361H	036 type	4.00	11.2	10.0
		MMD-AP0481H	048 type	5.00	14.0	16.0
		MMD-AP0721H	072 type	8.00	22.4	25.0
		MMD-AP0961H	096 type	10.00	28.0	31.5
Under Ceilling Type		**MMC-AP0151H**	015 type	1.70	4.5	5.0
		MMC-AP0181H	018 type	2.00	5.6	6.3
		MMC-AP0241H	024 type	2.50	7.1	8.0
		MMC-AP0271H	027 type	3.00	8.0	9.0
		MMC-AP0361H	036 type	4.00	11.2	12.5
		MMC-AP0481H	048 type	5.00	14.0	16.0

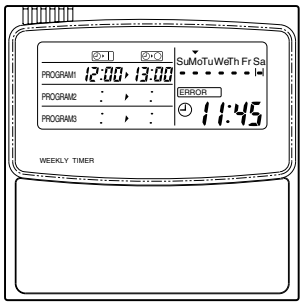
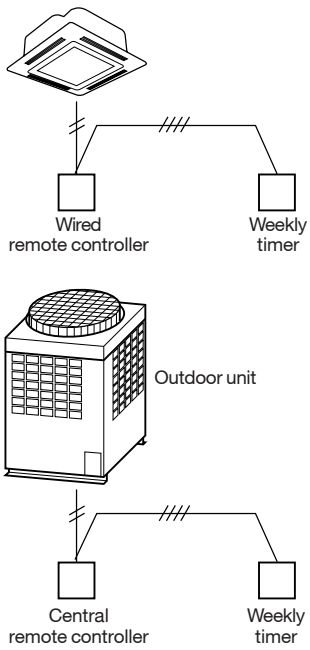
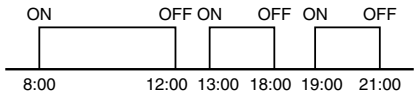
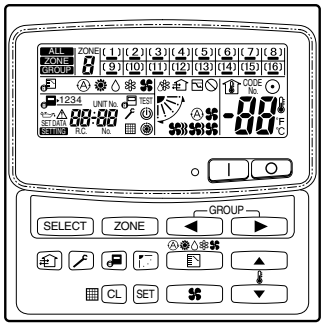
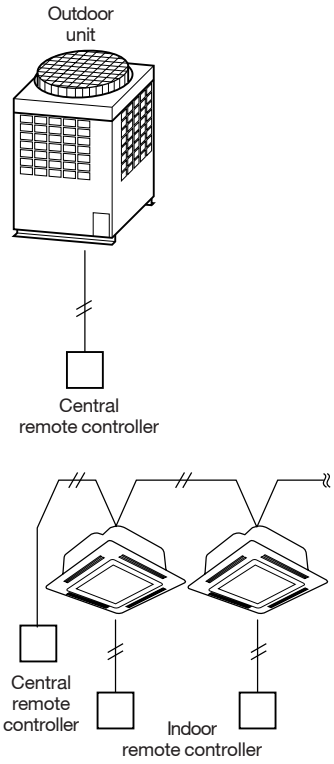
4. Indoor unit

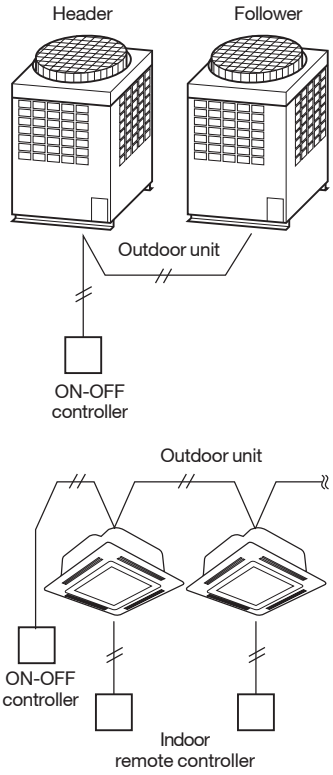
*1) China market only *2) European market only *3) Korea market only

Type	Appearance	Model name	Capacity rank	Capacity code	Cooling capacity (kW)	Heating capacity (kW)
High Wall Type (1 series)		**MMK-AP0071H**	007 type	0.80	2.2	2.5
		MMK-AP0091H	009 type	1.00	2.8	3.2
		MMK-AP0121H	012 type	1.25	3.6	4.0
		MMK-AP0151H	015 type	1.70	4.5	5.0
		MMK-AP0181H	018 type	2.00	5.6	6.3
		MMK-AP0241H	024 type	2.50	7.1	8.0
High Wall Type (2 series)		**MMK-AP0072H**[*2)]	007 type	0.80	2.2	2.5
		MMK-AP0092H[*2)]	009 type	1.00	2.8	3.2
		MMK-AP0122H[*2)]	012 type	1.25	3.6	4.0
Floor Standing Cabinet Type		**MML-AP0071H**	007 type	0.80	2.2	2.5
		MML-AP0091H	009 type	1.00	2.8	3.2
		MML-AP0121H	012 type	1.25	3.6	4.0
		MML-AP0151H	015 type	1.70	4.5	5.0
		MML-AP0181H	018 type	2.00	5.6	6.3
		MML-AP0241H	024 type	2.50	7.1	8.0
Floor Standind Concealed Type		**MML-AP0071H**	007 type	0.80	2.2	2.5
		MML-AP0091H	009 type	1.00	2.8	3.2
		MML-AP0121H	012 type	1.25	3.6	4.0
		MML-AP0151H	015 type	1.70	4.5	5.0
		MML-AP0181H	018 type	2.00	5.6	6.3
		MML-AP0241H	024 type	2.50	7.1	8.0
Floor Standind Type		**MMF-AP0151H**	015 type	1.70	4.5	5.0
		MMF-AP0181H	018 type	2.00	5.6	6.3
		MMF-AP0241H	024 type	2.50	7.1	8.0
		MMF-AP0271H	027 type	3.00	8.0	9.0
		MMF-AP0361H	036 type	4.00	11.2	10.0
		MMF-AP0481H	048 type	5.00	14.0	16.0
		MMF-AP0561H	056 type	6.00	16.0	18.0

5. Remote controller

Name	Model name	Appearance	Application	Function
Wired remote controller	RBC-AMT21E/RBC-AMT31E		**Connected to indoor unit**  Wired remote controller Wired remote controller (In case of control by 2 remote controllers)	• Start / Stop • Mode Change • Temperature setting • Change of air flow • Timer function ① On or off timer operation, setting in 30 minute increments. Automatic Off function. ② Combined with the weekly timer, weekly schedule operation can be operated. • Filter sign Displays automatically maintenance time of indoor filter. Filter sign flashes. • Self-diagnosis function Pressing `CHECK` button displays cause of fault on the check code. • Control by 2 remote controllers is available. Two remote controllers can be connected to one indoor unit. The indoor unit can be separately operated from a different location.
Simple wired remote controller	RBC-AS21E/RBC-AS21E2		**Connected to indoor unit**  Simple remote controller	• Start / Stop • Temperature setting • Change of air flow • Check code display
Wireless remote controller kit	TCB-AX21U(W)-E TCB-AX21U(W)-E2 RBC-AX22CE RBC-AX22CE2 TCB-AX21E TCB-AX21E2		**Connected to indoor unit** 	• Start / Stop • Mode change • Temperature setting • Change of air flow • Timer function On or off timer operation, setting in 30 minute increments. Automatic Off function. • Control by 2 remote controllers is available. Two wireless remote controllers can operate one indoor unit. The indoor unit can be separately operated from a different location. • Check code display TCB-AX21U(W)-E2 (for 4-way airdischarge cassette) RBC-AX22CE2 (for under ceiling) TCB-AX21-E2 (for other units except for the concealed duct high static pressure)

Name	Model name	Appearance	Application	Performance
Weekly timer	RBC-EXW21E RBC-EXW21E2		**Connected to central remote controller or wired remote controller** 	Weekly schedule operation ① Setting different start / stop time for each day of the week ② ON / OFF can be set 3 times a day.  ③ `CHECK` `PROGRAM` `DAY` button copying of settings easy. ④ Two different schedules for a week can be specified. (Summer schedule and winter schedule, etc.) ⑤ `CANCEL` `DAY` button enables holiday setting. ⑥ If power supply fails, the setting contents are stored in the memory for 100 hours.
Central remote controller	TCB-SC642TLE TCB-SC642TLE2		**Connected to outdoor unit, indoor unit** 	Individual control up to 64 indoor units. Individual control for max. 64 indoor units divided into 4 zones. (Up to 16 indoor units for each zone) Up to 16 outdoor header units are connectable. Four selectable central control settings to restrict individual remote controller operations. Setting for one of 1 to 4 zones is available. Can be used with other central control devices (Up to 10 central control devices with in one control circuit) Two selectable control modes (Central controller mode Remote controller mode) Setting of simultaneous ON/OFF 3 times for each day of the week combined with a weekly timer.

Name	Model name	Appearance	Application	Performance
ON-OFF controller	TCB-CC163TLE2		**Connected to outdoor unit, indoor unit** 	• Individual control up to 16 indoor units. • Setting of simultaneous ON-OFF 3 times for each day of the week when combined with a weekly timer. • Connected to 2 remote controllers is possible.

5

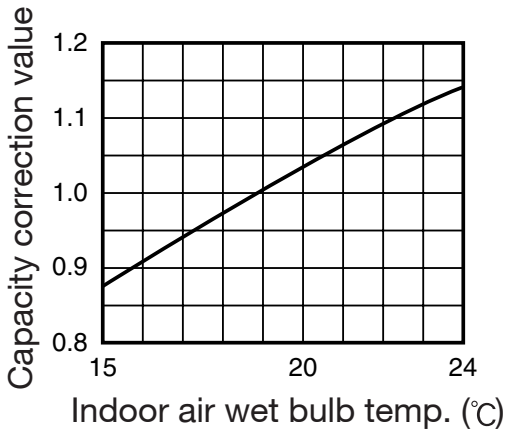
Capacity compensation chart

5 Capacity compensation chart

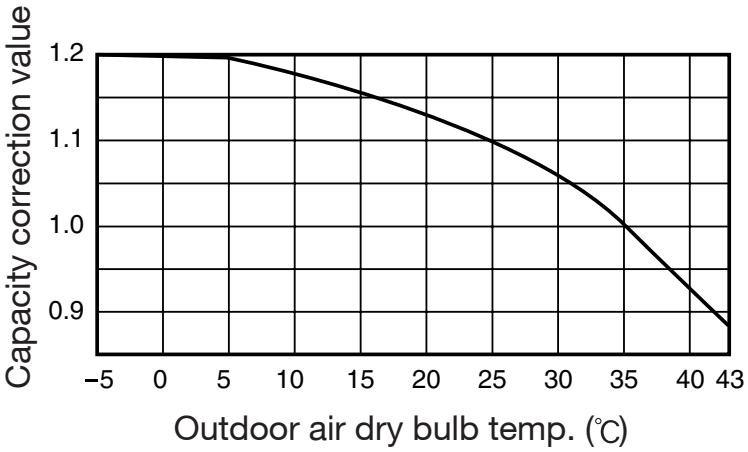
Cooling/heating capacity characteristics

1. Cooling capacity calculation method :
Required cooling capacity = Cooling capacity x Factor (①, ②, ③, ④, ⑤*1) kW

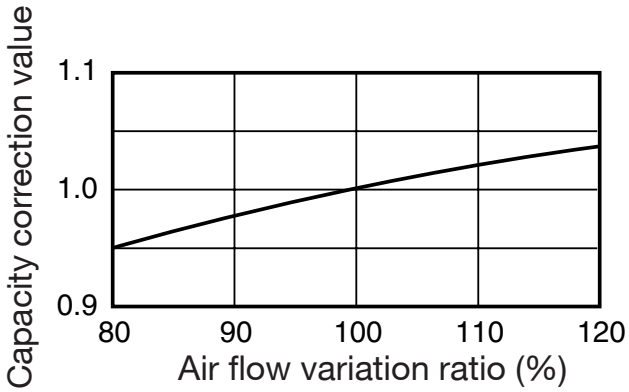
① Indoor air wet bulb temperature vs. capacity correction value



② Outdoor air dry bulb temperature vs.capacity correction value

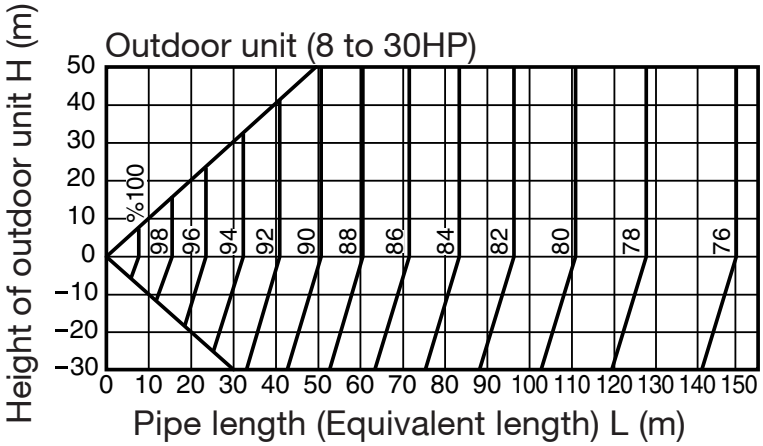


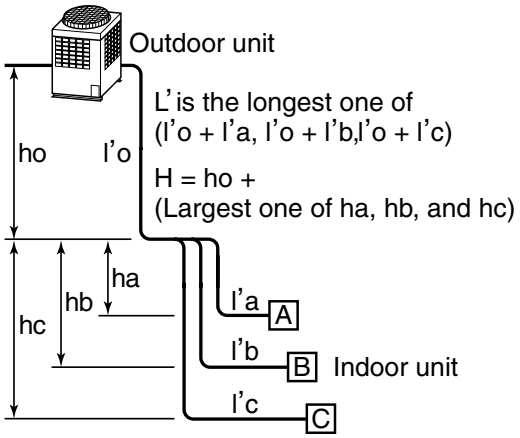
③ Air flow variation ratio of indoor unit vs. capacity correction (For concealed duct type only)



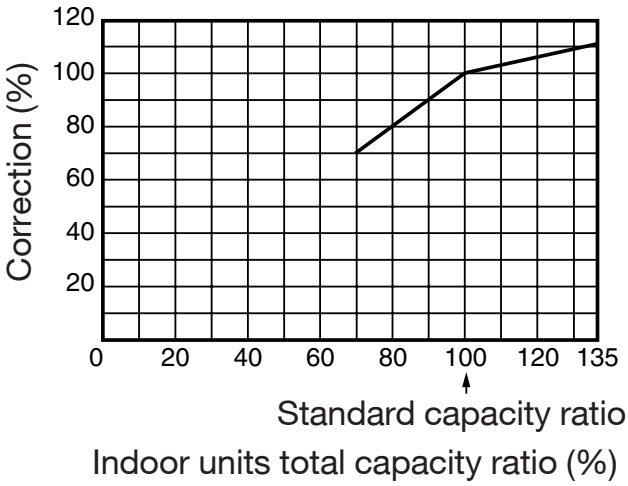
*1: Coefficient to use for the correction of the outdoor unit capacity when the total capacity of the indoor units are not equal to the outdoor unit capacity.

④ Connecting pipe length and lift difference between indoor and outdoor units vs. capacity correction value





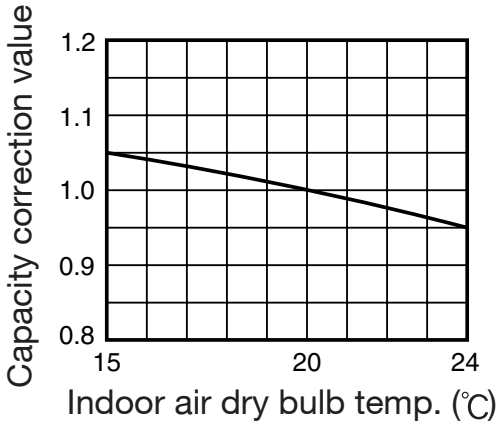
⑤ Correction of outdoor unit diversity



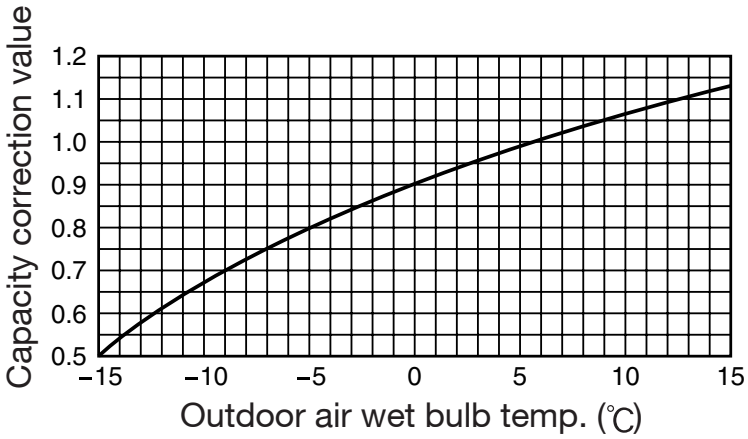
*1: Coefficient to use for the correction of the outdoor unit capacity when the total capacity of the indoor units are not equal to the outdoor unit capacity.

2. Heating capacity calculation method :
Required heating capacity = Heating capacity x Factor (①,②,③,④,⑤*1,⑥*2) kW

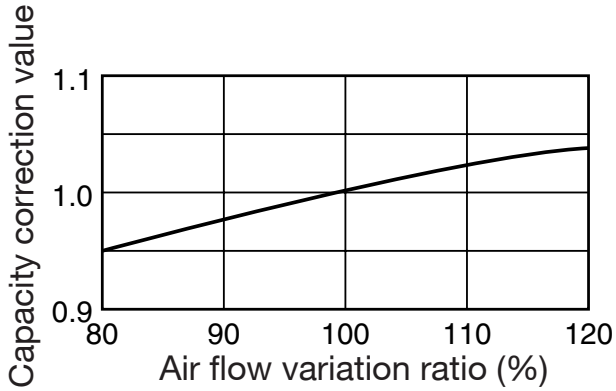
① Indoor air dry bulb temperature vs. capacity correction value



② Outdoor air wet bulb temperature vs. capacity correction value



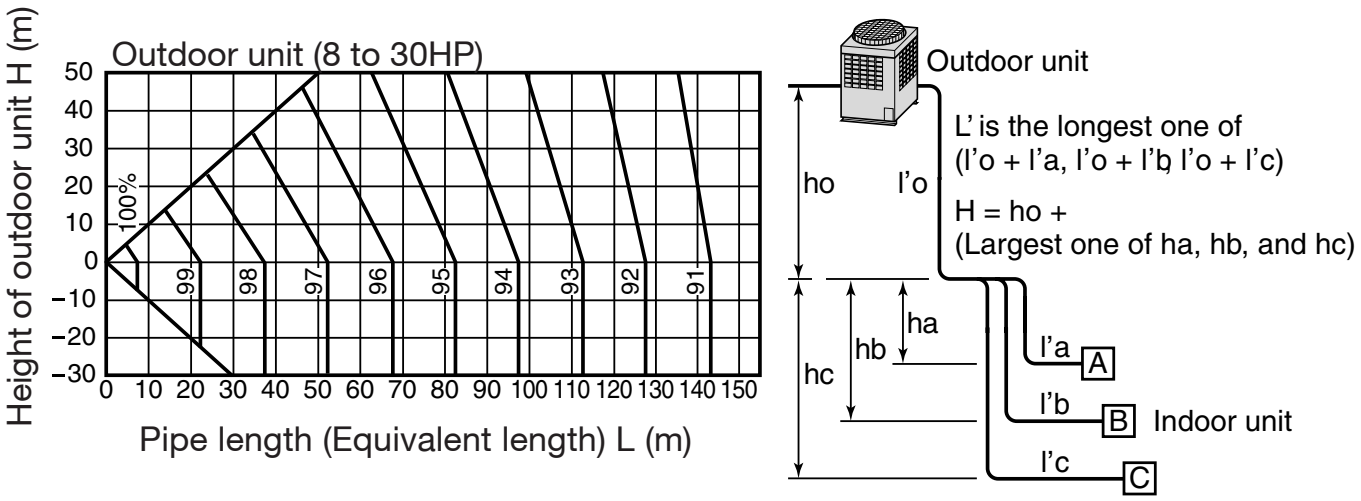
③ Air flow variation ratio of indoor unit vs. capacity correction (For concealed duct type only)



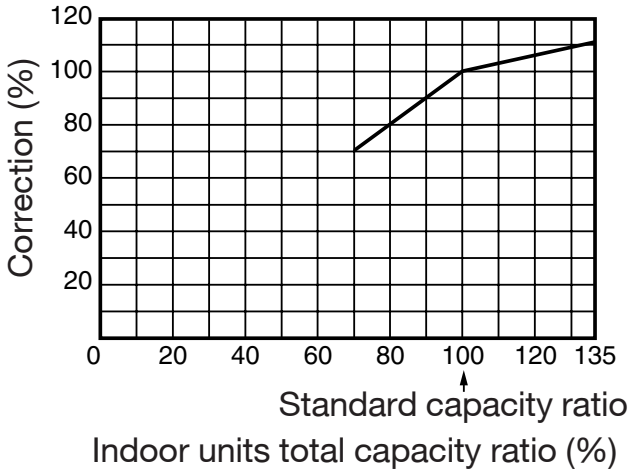
*1: Coefficient to use for the correction of the outdoor unit capacity when the total capacity of the indoor units are not equal to the outdoor unit capacity.

*2: Refer to item 3 on the next page.

④ Connecting pipe length and lift difference between indoor and outdoor units vs. capacity correction value



⑤ Correction of outdoor unit diversity

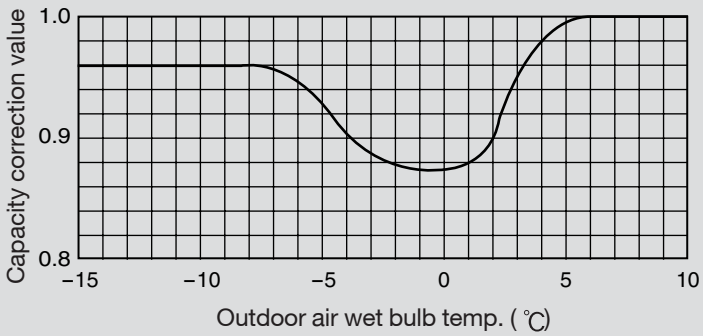


*1: Coefficient to use for the correction of the outdoor unit capacity when the total capacity of the indoor units are not equal to the outdoor unit capacity.

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

Correct the heating capacity when frost can be found on the outdoor heat exchanger.
Heating capacity =Capacity after correction of outdoor unit Correction value of capacity resulted from frost
(Capacity after correction of outdoor unit : Heating capacity calculated in the above item 2.)

⑥ Capacity correction in case of frost on the outdoor heat exchanger

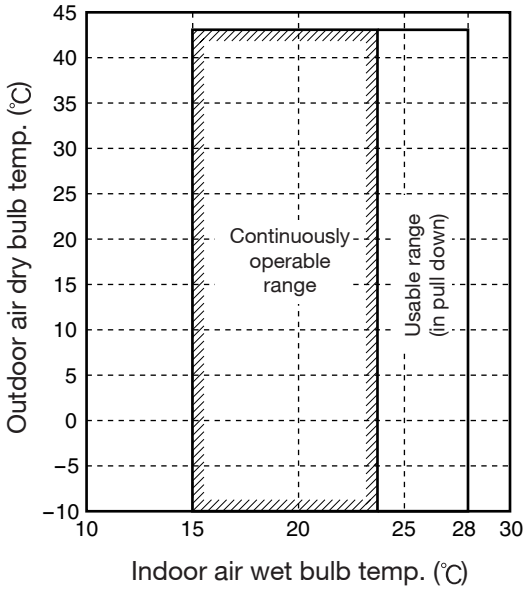


4. Capacity calculation for each indoor unit

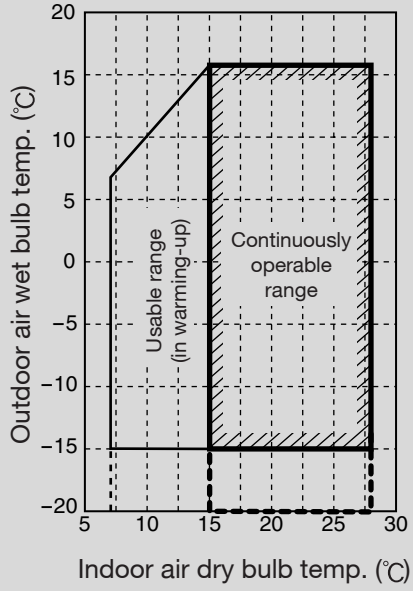
Capacity for each indoor unit
= Capacity after correction of outdoor unit x $\frac{\text{Required standard capacity of indoor unit}}{\text{Total value of standard indoor unit capacity}}$

5. Operating temperature range

In cooling time



In heating time



* The unit can be operated even if the outdoor temperature goes below -20℃, however you must note that the warranty only covers down to -15℃ this is because operation beyond this temperature is outside of specification.
* When outdoor air temperature falls to below -15℃, it may shorten the lifespan of the product.
* When outdoor temperature goes out of the specified range ` ❁or ⏻` mark is indicated on the remote controller display and the required operation will stop.
` ❁ & ⏻` : When heating operation
` ⏻` : When cooling operation

[Notice]
• This indication is not a failure.
• When outdoor temperature goes back to within the specified range, ` ❁ or ⏻` disappear and normal operation will start.
• Operation stops because the concurrent operation can not be kept in the condition, as it is out of specification for Super HRM.
(Outdoor temp.(DB) <-10℃: Cooling,
>21℃: Heating)

* Do not use `Super HRM` other than for personal usage where the ambient temperature may go down below -10℃. (For example, fresh air intake equipment/Electric device/Food/Animals and plants/Art object)

6. Rated conditions

Cooling :
Indoor air temperature 27℃ DB/19.0℃ WB, Outdoor air temperature 35℃ DB

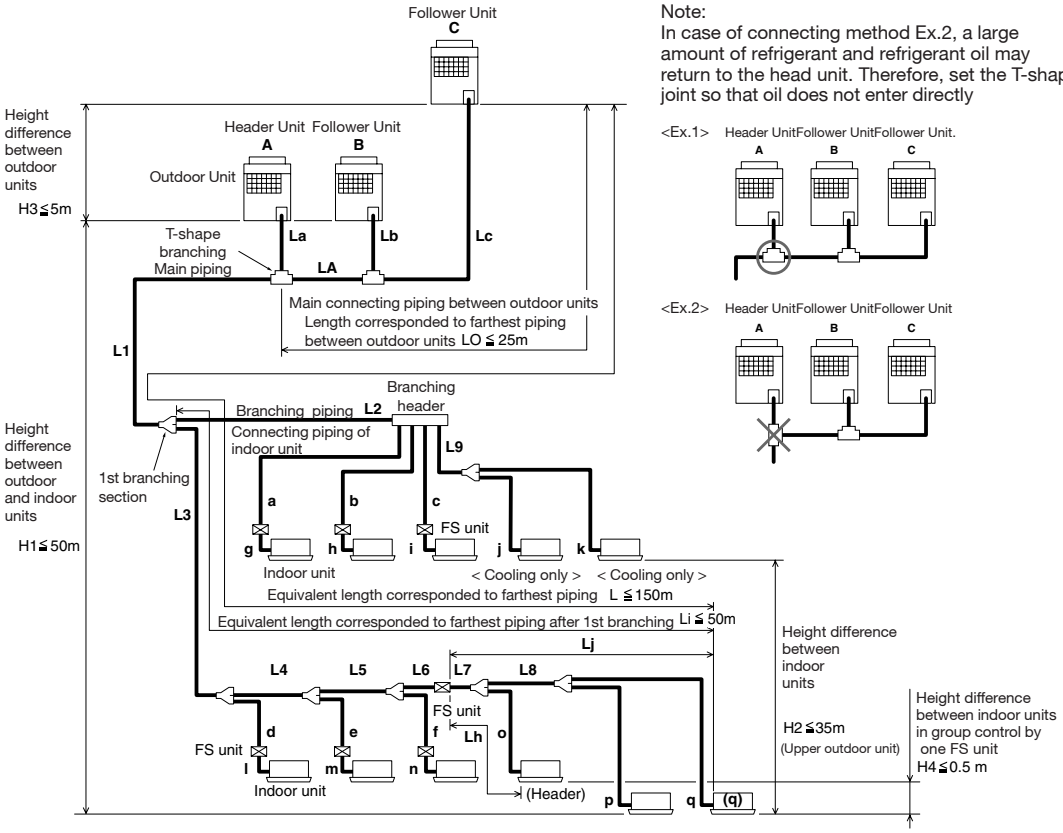
Heating :
Indoor air temperature 20℃ DB, Outdoor air temperature 7℃ DB/6℃ WB

6

Piping requirements

6 Piping requirements

1. Allowable length/height difference of refrigerant piping



Note:
In case of connecting method Ex.2, a large amount of refrigerant and refrigerant oil may return to the head unit. Therefore, set the T-shape joint so that oil does not enter directly

<Ex.1> Header UnitFollower UnitFollower Unit.

<Ex.2> Header UnitFollower UnitFollower Unit

* Allowable length and height difference of refrigerant piping

			Allowable value	Piping section
Pipe Length	Total extension of pipe (Liquid pipe, real length)		300 m	LA+La+Lb+Lc+L1+L2+L3+L4+L5+L6+L7+L8+9 +a+b+c+d+e+f+g+h+i+j+k+l+m+n+o+p+q
	Farthest piping length L (*1)	Real length	125 m	LA+Lc+L1+L3+L4+L5+L6+L7+L8+q
		Equivalent length	150 m	
	Max. equivalent length of main piping		85 m	L1
	Equivalent length of farthest piping from 1st branching Li (*1)		50 m	L3+L4+L5+L6+L7+L8+q
	Max. real length of indoor unit connecting piping		30 m	a+g, b+h, c+i, d+l, e+m, f+n, j, k
	Max. real length between FS unit and indoor unit (*2)		15 m	g, h, i, l, m, n, L7+o, L7+L8+p, L7+L8+q
	Max. Equivalent length of outdoor unit connecting piping LO (*1)		25 m	LA+Lc (LA+Lb)
	Max. real length of outdoor unit connecting piping		10 m	La, Lb, Lc
	Max. equivalent length between FS unit and indoor unit Lj		30 m	L7+L8+q, L7+L8+p
	Max. real length between FS unit and header indoor unit Lh (*2)		15 m	L7+o
Height Difference	Height between indoor and outdoor units H1	Upper outdoor unit	50 m	—
		Lower outdoor unit	30 m	—
	Height between indoor units H2	Upper outdoor unit	35 m	—
		Lower outdoor unit	15 m	—
	Height between outdoor units H3		5 m	—
	Height difference between indoor units in group control by one FS unit H4		0.5 m	—

*1 : The furthest outdoor unit from 1st branch is to be named C, and furthest indoor unit from 1st branch to be named (q).

*2 : The supplied connection cable can be used up to 5 m in pipe length between the indoor and FS unit. When the pipe length between the indoor and FS unit exceeds 5 m, you must use the connection cable kit (RBC-CBK15FE).

* System restrictions

Max. No. of combined outdoor units	3 units	
Max. capacity of combined outdoor units	84.0 kW	
Max. No. of connected indoor units	48 units	
Max. capacity of combined indoor units	H2 ≦ 15m	135% (*1)
	H2 > 15m	105%

*1 : MMY-MAP1201HT8 : UP to 120 %

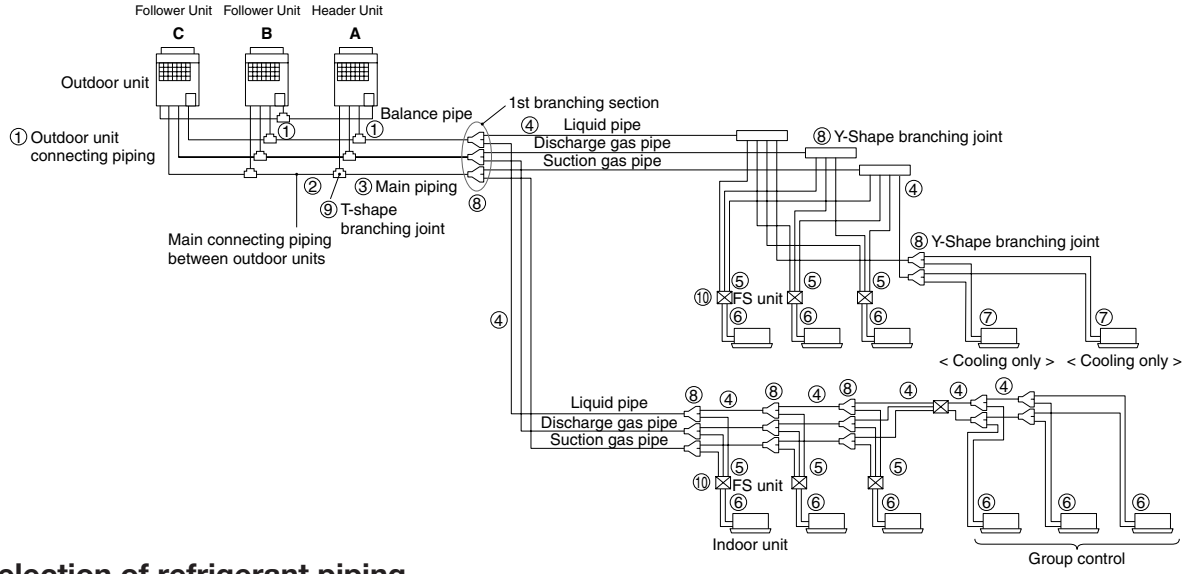
Note 1) Combination of outdoor units : Header unit (1 unit) + Follower unit (0 to 2 units). Header unit is outdoor unit nearest to the connected indoor units

Note 2) Install the outdoor units in order of capacity. (Header unit ≧ Follower unit 1≧ Follower unit 2)

Note 3) Refer to outdoor unit combination table in page.6.

Note 4) Piping to indoor units shall be perpendicular to piping to the head outdoor unit as Ex.1. Do not connect piping to indoor units in the same direction of head outdoor unit as Ex.2.

2. Selection of refrigerant piping



* Selection of refrigerant piping

No.	Item	Suction gas side	Discharge gas side	Liquid side		Outdoor unit model name
①	Pipe size of outdoor unit	Ø 22.2	Ø 19.1	Ø 12.7	—	MMY-MAP0802FT8
		Ø 22.2	Ø 19.1	Ø 12.7		MMY-MAP1002FT8
		Ø 28.6	Ø 19.1	Ø 12.7		MMY-MAP1202FT8

No.	Item	Suction gas side	Discharge gas side	Liquid side	Balance pipe	Total capacity code of indoor units at downstream side	
						Equivalent to capacity	Equivalent to HP
②	Connecting pipe size between outdoor units	Ø 28.6	Ø 22.2	Ø 15.9	Ø 9.5	Below 61.5	Below 22

No.	Item	Suction gas side	Discharge gas side	Liquid side		Total capacity code of all outdoor units	
						Equivalent to capacity	Equivalent to HP
③	Size of main pipe	Ø 22.2	Ø 19.1	Ø 12.7	—	Below 33.5	Below 12
		Ø 28.6	Ø 19.1	Ø 12.7		33.5	12
		Ø 28.6	Ø 22.2	Ø 19.1		45.0 to below 61.5	16 to below 22
		Ø 34.9	Ø 28.6	Ø 19.1		61.5 to below 73.0	22 to below 26
		Ø 34.9	Ø 28.6	Ø 22.2		73.0 or more	26 or more

No.	Item	Suction gas side	Discharge gas side	Liquid side		Total capacity code of all outdoor units	
						Equivalent to capacity	Equivalent to HP
④	Pipe size between branching sections *1 *2 *3	Ø 15.9	Ø 12.7	Ø 9.5	—	Below 18.0	Below 6.4
		Ø 22.2	Ø 19.1	Ø 12.7		18.0 to below 34.0	6.4 to below 12.2
		Ø 28.6	Ø 22.2	Ø 15.9		34.0 to below 56.5	12.2 to below 20.2
		Ø 34.9	Ø 28.6	Ø 15.9		56.5 to below 70.5	20.2 to below 25.2
		Ø 34.9	Ø 28.6	Ø 19.1		70.5 or more	25.2 or more
⑤	Pipe size between the end of branch and FS unit	Ø 15.9	Ø 12.7	Ø 9.5	—	Below 18.0	Below 6.4
		Ø 22.2	Ø 19.1	Ø 12.7		18.0 or more	6.4 or more

No.	Item	Suction gas side	Discharge gas side	Liquid side		Capacity rank of indoor unit	
⑥	Piping of indoor unit	Ø 9.5	–	Ø 6.4	—	007 to 012 Type	
		Ø 12.7	–	Ø 6.4		015 to 018 Type	
		Ø 15.9	–	Ø 9.5		024 to 056 Type	
		Ø 22.2	–	Ø 12.7		072 to 096 Type	
⑦	Piping of cooling only indoor unit (Between branching and indoor unit) *2	Ø 9.5	–	Ø 6.4	—	15m or less	007 to 012 Type
		Ø 12.7		Ø 9.5		15m above	
		Ø 12.7	–	Ø 6.4		15m or less	015 to 018 Type
		Ø 15.9		Ø 9.5		15m above	
		Ø 15.9	–	Ø 9.5		024 to 056 Type	
		Ø 22.2	–	Ø 12.7	—	072 to 096 Type	

⑩ Selection of FS unit

Model Name	Total capacity code of indoor unit		Max.No. of connected indoor units
	Equivalent to capacity (kW)	Equivalent to HP	
RBM-Y1122FE	Below 11.2	Below 4.0	5
RBM-Y1802FE	11.2 to below 18.0	4.0 to below 6.4	8
RBM-Y2802FE	18.0 to 28.0 or less	6.4 to 10.0 or less	8

* Minimum wall thickness for R410A application

Soft	Half Hard or Hard	Outer dia. (Inch)	Outer dia. (mm)	Minimum Wall Thickness (mm)
OK	OK	1/4"	6.35	0.80
OK	OK	3/8"	9.52	0.80
OK	OK	1/2"	12.70	0.80
OK	OK	5/8"	15.88	1.00
NG	OK	3/4"	19.05	1.00
NG	OK	7/8"	22.20	1.00
NG	OK	1.1/8"	28.58	1.00
NG	OK	1.3/8"	34.92	1.10

*1 In case the pipe exceeds the main pipe size, it should be the same as the main pipe size.
*2 2 pipes for cooling only indoor unit shall be used with liquid pipe and suction gas pipe.
*3 2 pipes from the FS unit to the branching section shallbe used with liquid pipe and suction gas pipe.
*4 Branching pipe on the 1st branch should be selected according to the capacity code of the outdoor unit.
*5 In case total capacity code of indoor units exceeds the capacity code of the outdoor unit, the pipe size should be selected based on the capacity of the outdoor unit.
*6 For 1 line after header branching, indoor units with a total maximum capacity code of 6.0 in total can be connected.

* Selection for branching section

No.			Total capacity code of indoor unit		Model Name	
			Equivalent to capacity	Equivalent to HP	For 3 piping	For 2 piping
⑧	Y-Shape branching joint *4 *5		Below 18.0	Below 6.4	RBM-BY53FE	RBM-BY53E
			18.0 to below 40.0	6.4 to below 14.2	RBM-BY103FE	RBM-BY103E
			40.0 to below 70.5	14.2 to below 25.2	RBM-BY203FE	RBM-BY203E
			70.5 or more	25.2 or more	RBM-BY303FE	RBM-BY303E
	Branching Header *4, *5, *6	For 4 Branching	Below 40.0	Below 14.2	RBM-HY1043FE	RBM-HY1043E
			40.0 to below 70.5	14.2 to below 25.2	RBM-HY2043FE	RBM-HY2043E
		For 8 Branching	Below 40.0	Below 14.2	RBM-HY1083FE	RBM-HY1083E
			40.0 to below 70.5	14.2 to below 25.2	RBM-HY2083FE	RBM-HY2083E
⑨	T-Shape branching joint (For connecting outdoor unit)		**1 set of 4 types of T-shape joint pipes as described below** - Balance pipe (Ø 9.52) X 1 - Piping at liquid side (Ø 12.7 to Ø 22.2) X 1 - Piping at discharge gas side (Ø 19.1 to Ø 28.6) X 1 - Piping at suction gas side (Ø 22.2 to Ø 38.1) X 1		RBM-BT13FE	

3. Charging requirement with additional refrigerant

After the system has been vacuumed, replace the vacuum pump with a refrigerant cylinder and charge the system with additional refrigerant.

Calculating the amount of additional refrigerant required

HFC
R410A

Refrigerant in the system when shipped from the factory

		8HP	10HP	12HP
Refrigerant amount charged in factory	Heat recovery model	11.5kg	11.5kg	11.5kg

When the system is charged with refrigerant at the factory, the amount of refrigerant needed for the pipes at the site is not included. Therefore, calculate the additional amount needed and add the required amount to the system.

(Calculation)

Additional refrigerant charge amount is calculated based on the size of liquid pipe at site and its real length.

[Additional refrigerant charge amount at site] =
[Real length of liquid pipe] x [Additional refrigerant charge amount per liquid pipe 1m **(Table 1)**] x 1.3 + [Compensation by system HP **(Table 2)**]

Example : Additional charge amount R (kg) ={(L1 x 0.025kg/m) + (L2 x 0.055kg/m) + (L3 x 0.105kg/m) + (L4 x 0.160kg/m) + (L5 x 0.250kg/m)} x 1.3

L1 : Real total length of liquid pipe Ø 6.4 (m)
L2 : Real total length of liquid pipe Ø 9.5 (m)
L3 : Real total length of liquid pipe Ø 12.7 (m)
L4 : Real total length of liquid pipe Ø 15.9 (m)
L5 : Real total length of liquid pipe Ø 19.1 (m)
System : 24HP

Table 1

Pipe dia. at liquid side	Ø 6.4	Ø 9.5	Ø 12.7	Ø 15.9	Ø 19.1	Ø 22.2
Additional refrigerant amount/1m	0.025kg	0.055kg	0.105kg	0.160kg	0.250kg	0.350kg

Table 2

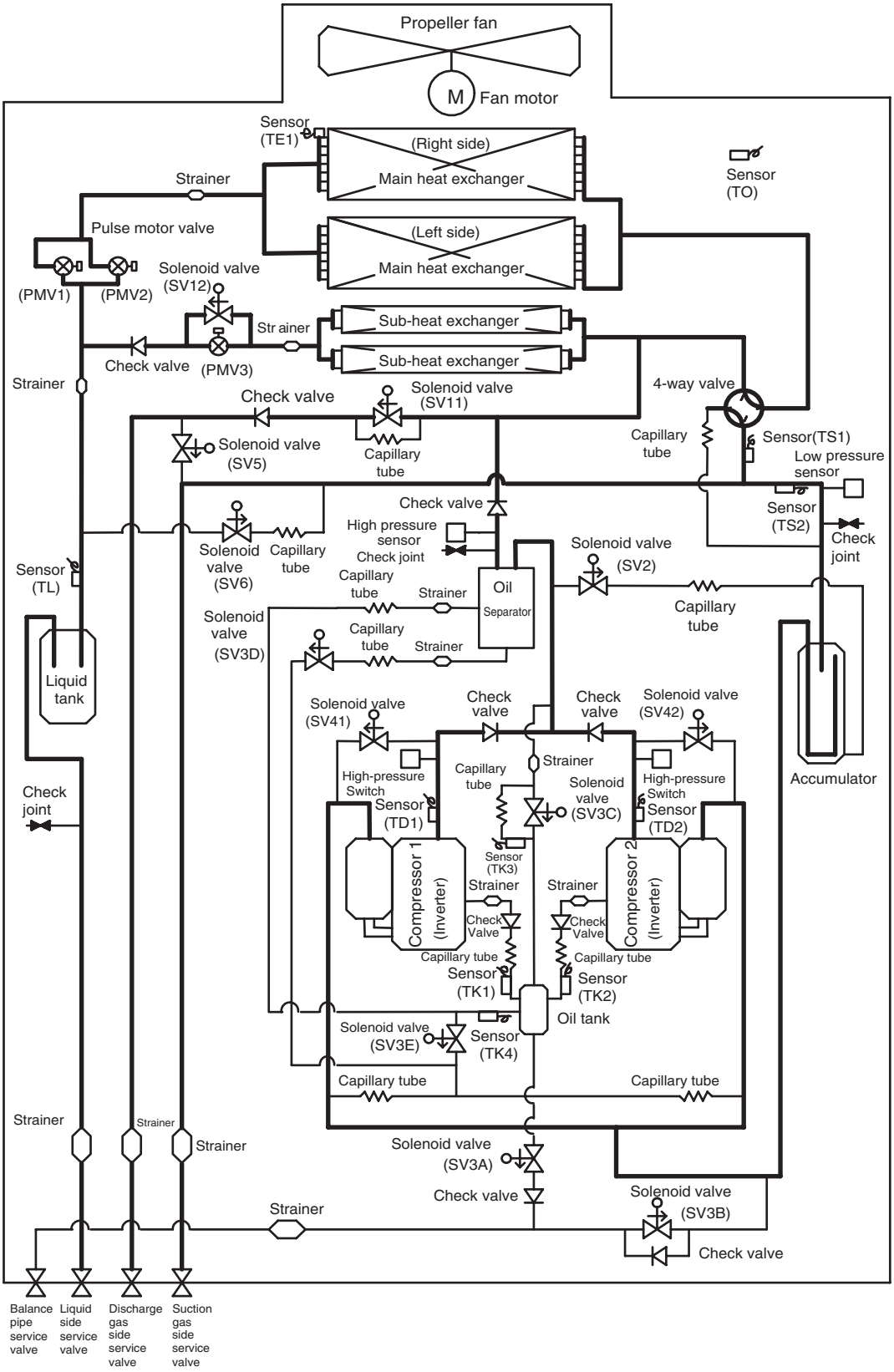
Combined horse power (HP)	**Outdoor combination (HP)**			**Compensation by system HP (kg)**
8	8			2.0
10	10			2.5
12	12			3.0
16	8	8		-1.5
18	10	8		0.0
20	10	10		2.0
24	8	8	8	-4.5
26	10	8	8	-3.0
28	10	10	8	-1.5
30	10	10	10	0.0

7

Refrigerant cycle diagram

1. Inverter Unit (8,10,12HP)

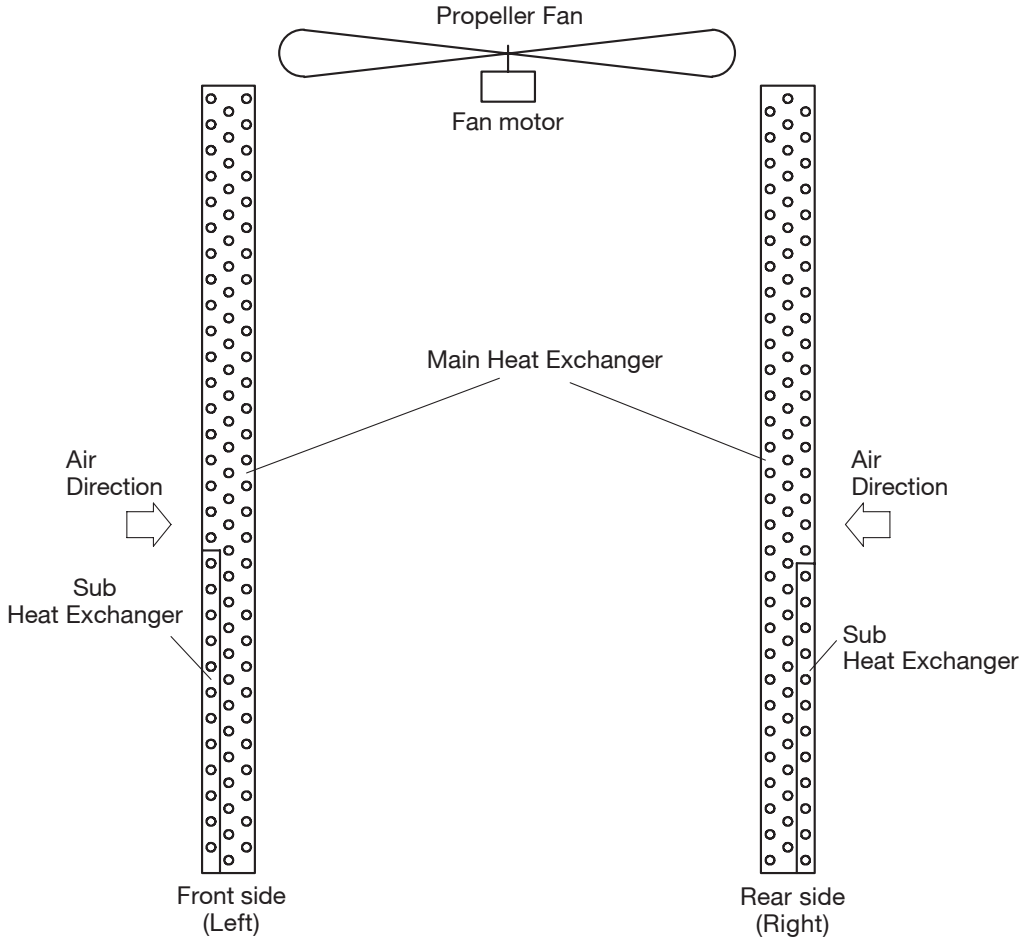
Model : MMY-MAP0802FT8, MAP1002FT8, MAP1202FT8



2. Explanation of Functional Parts

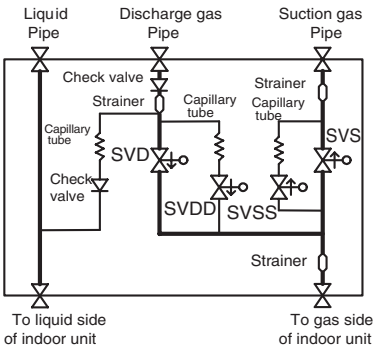
Functional part name		Functional outline
Solenoid valve	1.SV3A	(Connector CN324: Red) 1) Collects oil in the oil tank during OFF time.
	2.SV3B	(Connector CN313: Blue) 1) Returns oil in the balance pipe to the compressor.
	3.SV3C	(Connector CN314: Black) 1) Pressurizes oil reserved in the oil tank during operation.
	4.SV3D	(Connector CN323: White) 1) Reserves oil in the oil separator during OFF time, and supplies oil during operation.
	5.SV3E	(Connector CN323: White) 1) Turns on during operation and balances oil between the compressors.
	6.SV2	(Hot gas bypass) (Connector CN312: White) 1) Low pressure release function 2) High pressure release function 3) Gas balance function during off time
	7.SV4(n)	(Start compensation valve of compressor) (Connector CN311: Blue) 1) For gas balance start 2) High pressure release function 3) Low pressure release function
	8.SV5	(Connector CN310: White) 1) For gas balance during operation mode change 2) For low pressure balance in all cooling operation
	9.SV6	(Connector CN309 : White) 1) Liquid bypass function for releasing discharge temperature
	10.SV11	(Connector CN322 : White) 1) Discharge gas line shut-down function in all cooling and defrosting operation
	11.SV12	(Connector CN319 : White) 1) Controls flow rate for sub-heat exchanger in simultaneous operation 2) Controls flow rate for sub-heat exchanger when defrosting
4-way valve		(Connector CN317: Blue) 1) Cooling/heating exchange 2)Reverse defrost 3) Main/sub heat exchager exchange
Pulse motor valve	PMV1,2	(Connector CN300, 301: White) 1) Super heat control function in all heating and majority heating operation 2) Sub-cool adjustment function in cooling operation 3) Distribution control in simultaneous operation
	PMV3	(Connector CN302 : Red) 1) Controls flow rate for sub-heat exchanger in simultaneous operation 2) Preventive function for high-pressure rising in all cooling and all heating operation
Oil separator		1) Prevention for rapid decreasing of oil (Decreases oil flowing into the refrigeration cycle) 2) Reserve function of surplus oil
Temp. sensor	1.TD1 TD2	(TD1: Connector, CN502: White, TD2: Connector, CN503: Pink) 1) Protection of compressor discharge temp. Used for release
	2.TS1	(Connector CN504: White) 1) Controls super heat in heating operation
	3.TS2	(Connector CN522 : Black) 1) For refrigerant recovery control in all cooling and majority cooling operation 2) Detects overheating on refigeration cycle.
	4.TE1	(Connector CN505: Green) 1) Controls defrost in all heating and majority heating operation 2) Controls outdoor fan in all heating and simultaneous operation
	5.TK1,TK2, TK3,TK4	(TK1 Connector CN514: Black, TK2 Connector CN515: Green, TK3 Connector CN516: Red, TK4 Connector CN523: Yellow) 1) Determines oil level of the compressor
	6.TL	(Connector CN521: White) 1) Detects sub-cool in all cooling and simultaneous operation
	7.TO	(Connector CN507: Yellow) 1) Detects outside temperature
Pressure sensor	1.High pressure sensor	(Connector CN501: Red) 1) Detects high pressure and controls compressor capacity 2) Detects high pressure in all cooling operation, and controls the fan in low ambient cooling operation 3) Controls sub-cool of heating indoor unit. 4) Controls outdoor fan speed in majority cooling operation.
	2. Low pressure sensor	(Connector CN500: White) 1) Detects low pressure in all cooling and simultaneous operation and controls compressor capacity 2) Detects low pressure in all heating and simultaneous operation, and controls the super heat
Heater	Compressor case heater	(Compressor 1 Connector CN316: White, Compressor 2 Connector CN315: Blue) 1) Prevents liquid accumulation to the compressor
	Accumulator case heater	(Connector CN321: Red) 1) Prevents liquid accumulation to the accumulator
Balance pipe		1) Oil balancing in each outdoor unit (This model doesn't use balance pipe)

3. Heat Exchanger of Outdoor Unit

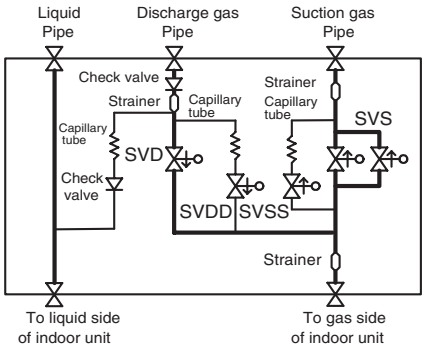


4. FS Unit (Flow Selector Unit)

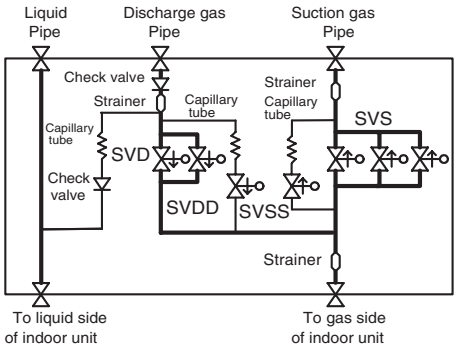
Model RBM-Y1122FE



Model RBM-Y1802FE

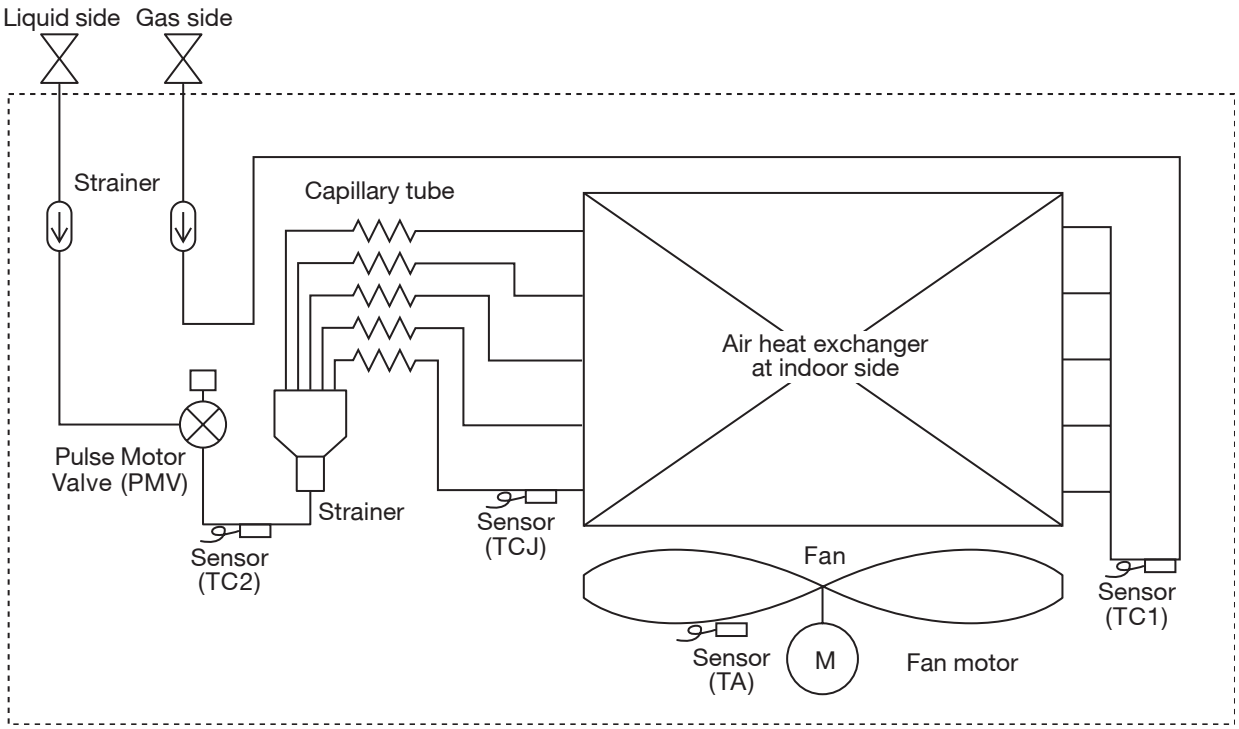


Model RBM-Y2802FE



Functional part name		Functional outline
Solenoid Valve	SVD	(Discharge gas pipe shut-down valve) 1) High pressure line in heating
	SVS	(Suction gas pipe shut-down valve) 1) Low pressure line in cooling
	SVDD	(Pressurization valve) 1) Pressurizes indoor unit during the ON operation when indoor unit starts heating.
	SVSS	(Depressurization valve) 1) Returns refrigerant in indoor unit when stopped or in thermo-OFF status. 2) Depressurizes indoor unit during the ON operation when the indoor unit stops heating.

5. Indoor Unit

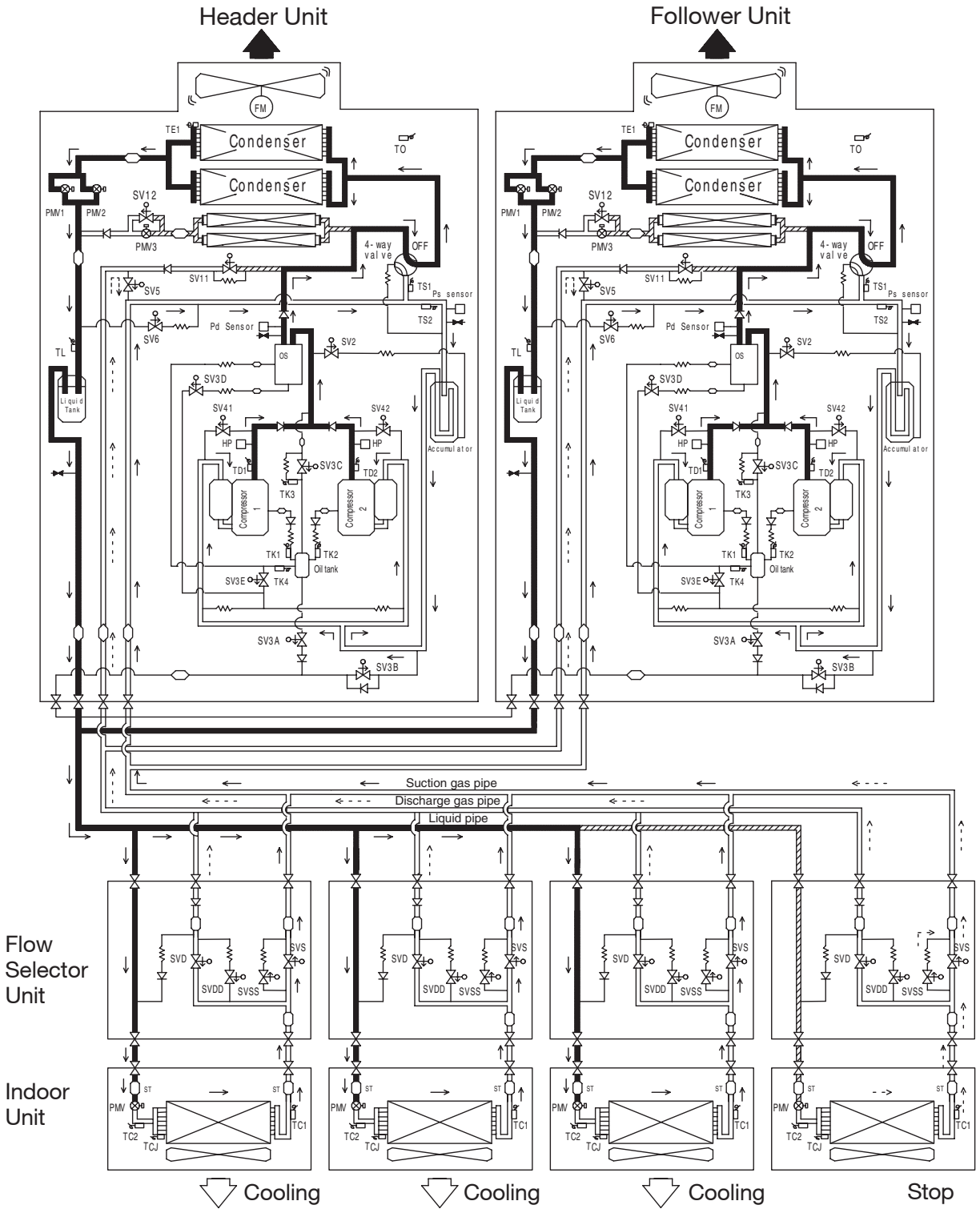


(NOTE) MMU-AP0071YH to AP0121YH type air conditioners do not have a TC2 sensor.

Functional part name		Functional outline
Pulse Motor Valve	PMV	(Connector CN082 (6P): Blue) 1)Controls super heat in cooling operation 2)Controls sub-cooling in heating operation 3)Recovers refrigerant oil in cooling operation 4)Recovers refrigerant oil in heating operation
Temp. sensor	1. TA	(Connector CN104 (2P): Yellow) 1)Detects indoor suction temperature
	2. TC1	(Connector CN100 (3P): Brown) 1)Controls PMV super heat in cooling operation
	3. TC2	(Connector CN101 (2P): Black) 1)Controls PMV sub-cool in heating operation
	4. TCJ	(Connector CN102 (2P): Red) 1)Controls PMV super heat in cooling operation 2)[MMU-AP0071 to AP0121YH only] Controls PMV sub-cool in heating operation

6. SYSTEMATIC DRAWING

1. All Cooling Operation (Outdoor temperature : 10˚C or more)



Outdoor unit			
4WV	OFF	SV3A	Control
SV4(n)	(*1)	SV3B	Control
SV5	ON	SV3C	Control
SV6	Control	SV3D	Control
SV11	OFF	SV3E	ON
SV12	OFF	PMV1,2	Control
Fan	Control	PMV3	Close

(*1) Turns on during compressor off status.

FS unit and Indoor unit			
Cooling thermo-ON		Stop	
SVD	OFF	SVD	OFF
SVS	ON	SVS	OFF
SVDD	OFF	SVDD	OFF
SVSS	ON	SVSS	ON
PMV	Control	PMV	Close

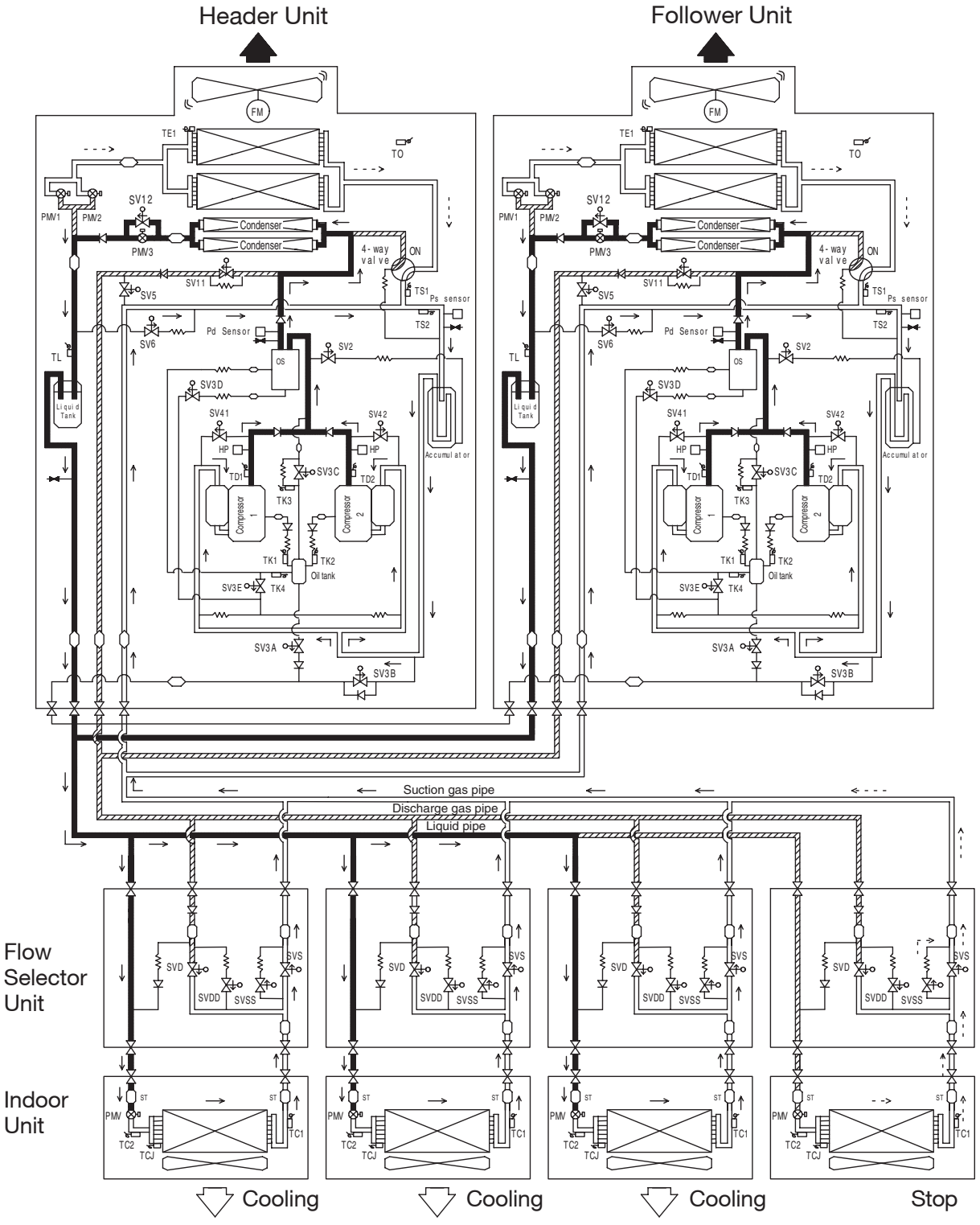
High-pressure gas or condensate liquid refrigerant

Low-pressure gas

Low-pressure gas (refrigerant recovery line)

High-pressure refrigerant (plunging circuit)

2. All Cooling Operation (Outdoor temperature : 10˚C or more)



Outdoor unit			
4WV	ON	SV3A	Control
SV4(n)	(*1)	SV3B	Control
SV5	OFF	SV3C	Control
SV6	Control	SV3D	Control
SV11	ON	SV3E	ON
SV12	Control	PMV1,2	Control(*2)
Fan	Control	PMV3	Close

FS unit and Indoor unit			
Cooling thermo-ON		Stop	
SVD	OFF	SVD	OFF
SVS	ON	SVS	OFF
SVDD	OFF	SVDD	OFF
SVSS	ON	SVSS	ON
PMV	Control	PMV	Close

High-pressure gas or condensate liquid refrigerant

Low-pressure gas

Low-pressure gas (refrigerant recovery line)

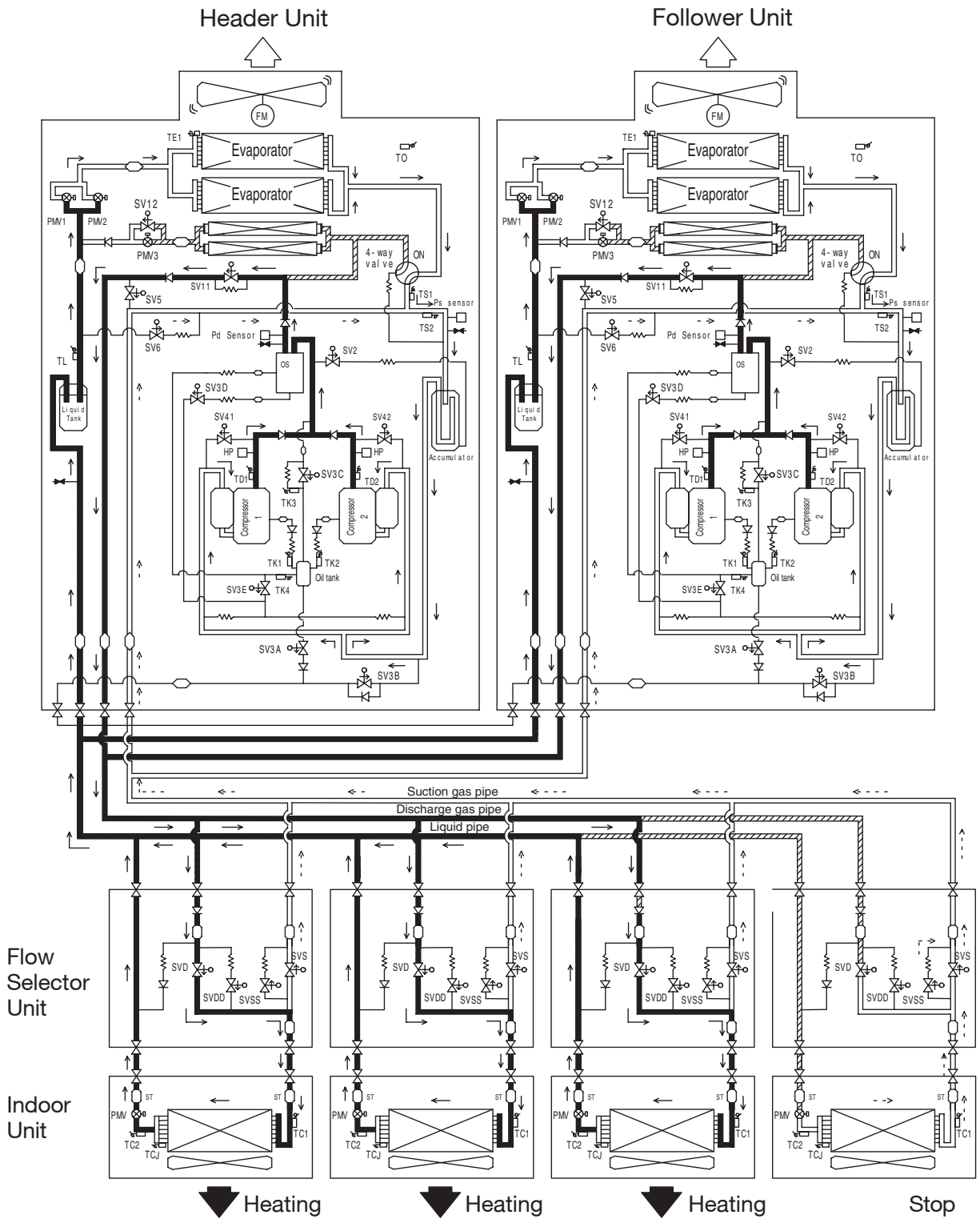
High-pressure refrigerant (plunging circuit)

(*1) Turns on during compressor off status.

(*2) Control depends on the operation status.

3. All Heating Operation

High-pressure gas or condensate liquid refrigerant
Low-pressure gas
Low-pressure gas (refrigerant recovery line)
High-pressure refrigerant (plunging circuit)

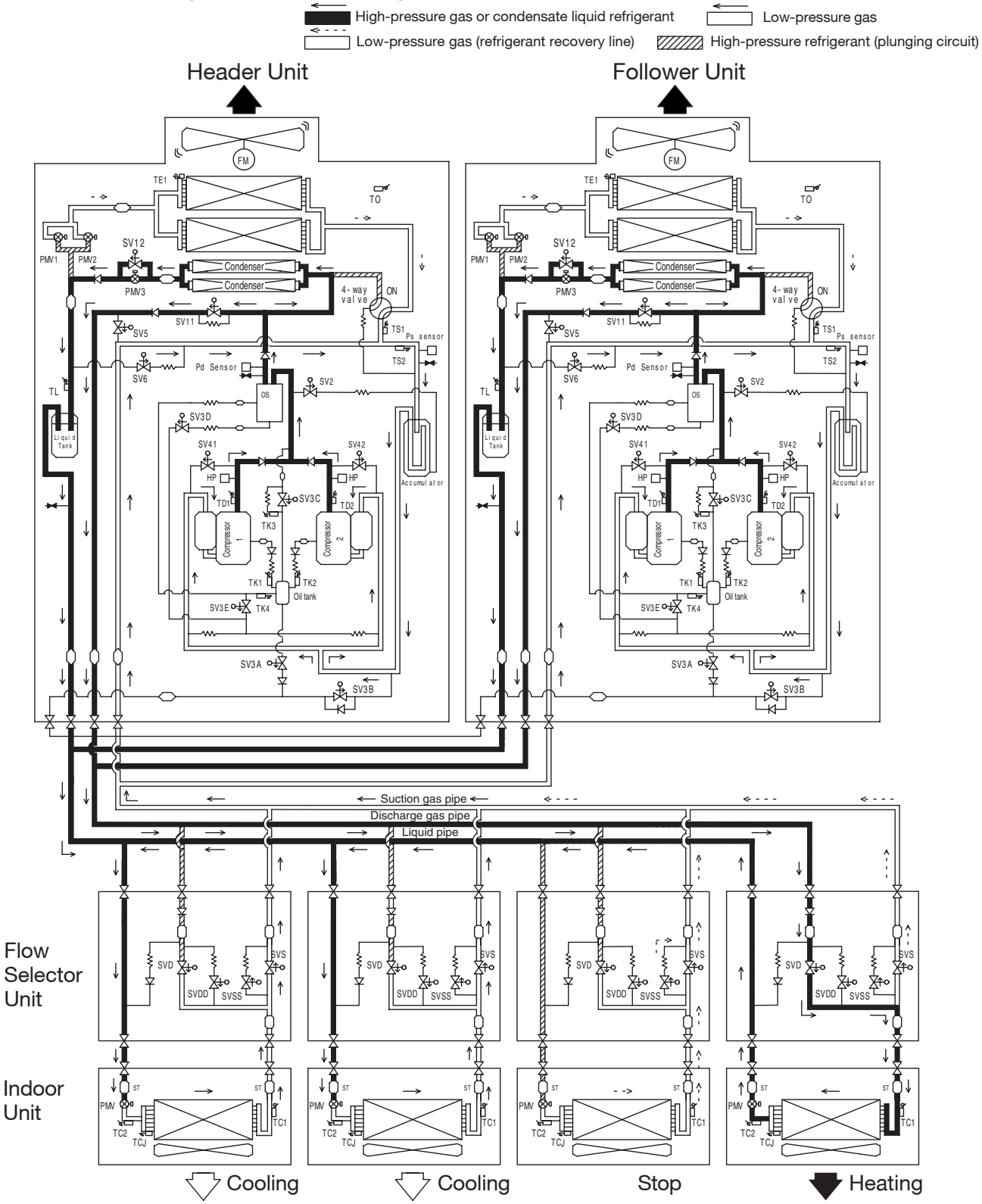


Outdoor unit			
4WV	ON	SV3A	Control
SV4(n)	(*1)	SV3B	ON
SV5	OFF	SV3C	Control
SV6	Control	SV3D	Control
SV11	ON	SV3E	ON
SV12	OFF	PMV1,2	Control
Fan	Control	PMV3	Close(*2)

FS unit and Indoor unit					
Heating thermo-ON		Heating thermo-OFF		Stop	
SVD	ON	SVD	OFF	SVD	OFF
SVS	OFF	SVS	OFF	SVS	OFF
SVDD	OFF	SVDD	OFF	SVDD	OFF
SVSS	OFF	SVSS	OFF	SVSS	ON
PMV	Control	PMV	Close	PMV	Close

(*1) Turn on during compressor stop status.
(*2) Control based on operation status.

4. Mainly Cooling, Partly Heating Operation



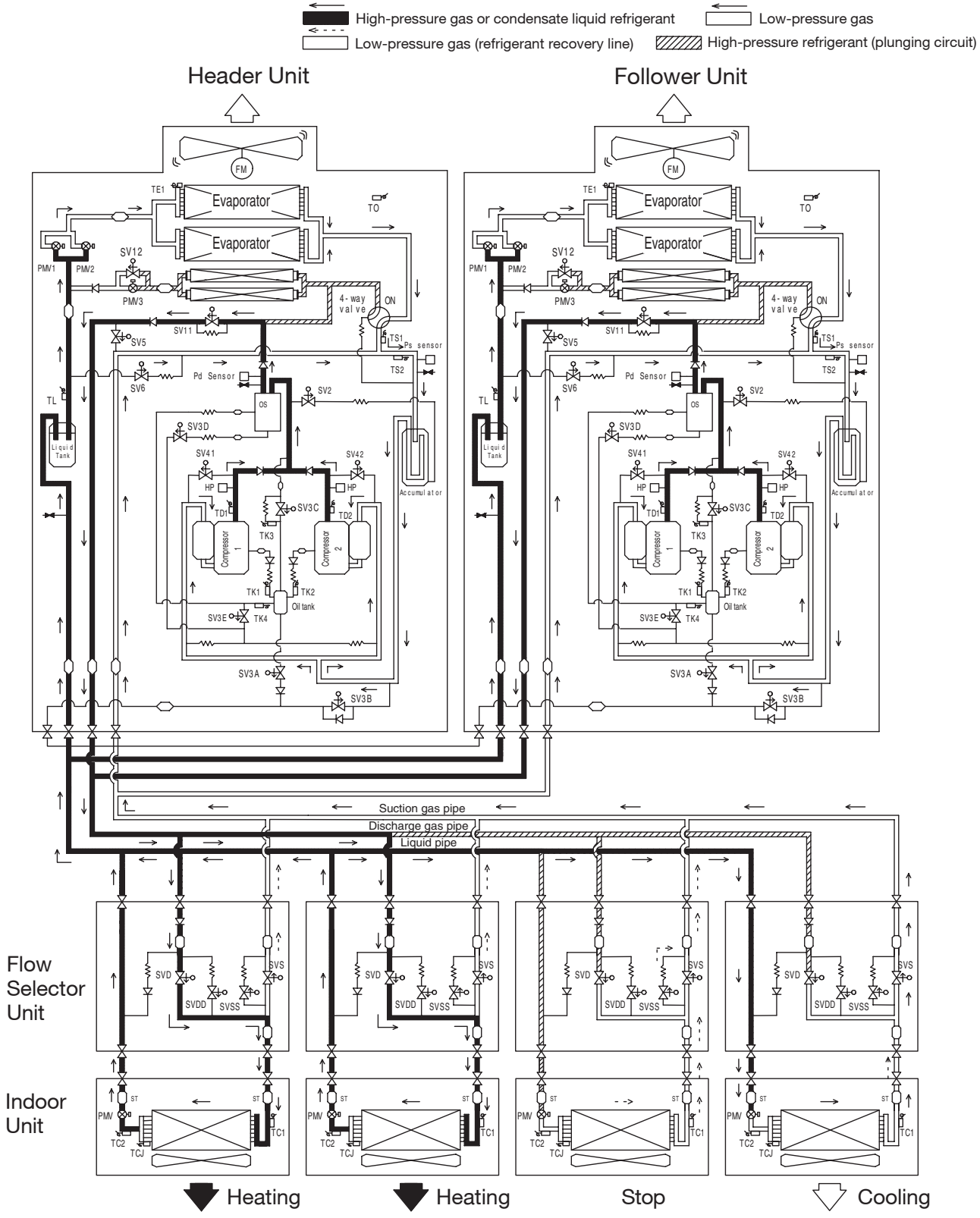
Outdoor unit			
4WV	ON	SV3A	Control
SV4(n)	(*1)	SV3B	Control
SV5	OFF	SV3C	Control
SV6	Control	SV3D	Control
SV11	ON	SV3E	ON
SV12	Control	PMV1,2	Close(*2)
Fan	Control	PMV3	Close

FS unit and Indoor unit					
Cooling, thermo-ON		Heating thermo-ON		Stop	
SVD	OFF	SVD	ON	SVD	OFF
SVS	ON	SVS	OFF	SVS	OFF
SVDD	OFF	SVDD	OFF	SVDD	OFF
SVSS	ON	SVSS	OFF	SVSS	ON
PMV	Control	PMV	Control	PMV	Close

(*1) Turns on during compressor off status.

(*2) Control based on operation status.

5. Mainly Heating, Partly Cooling Operation



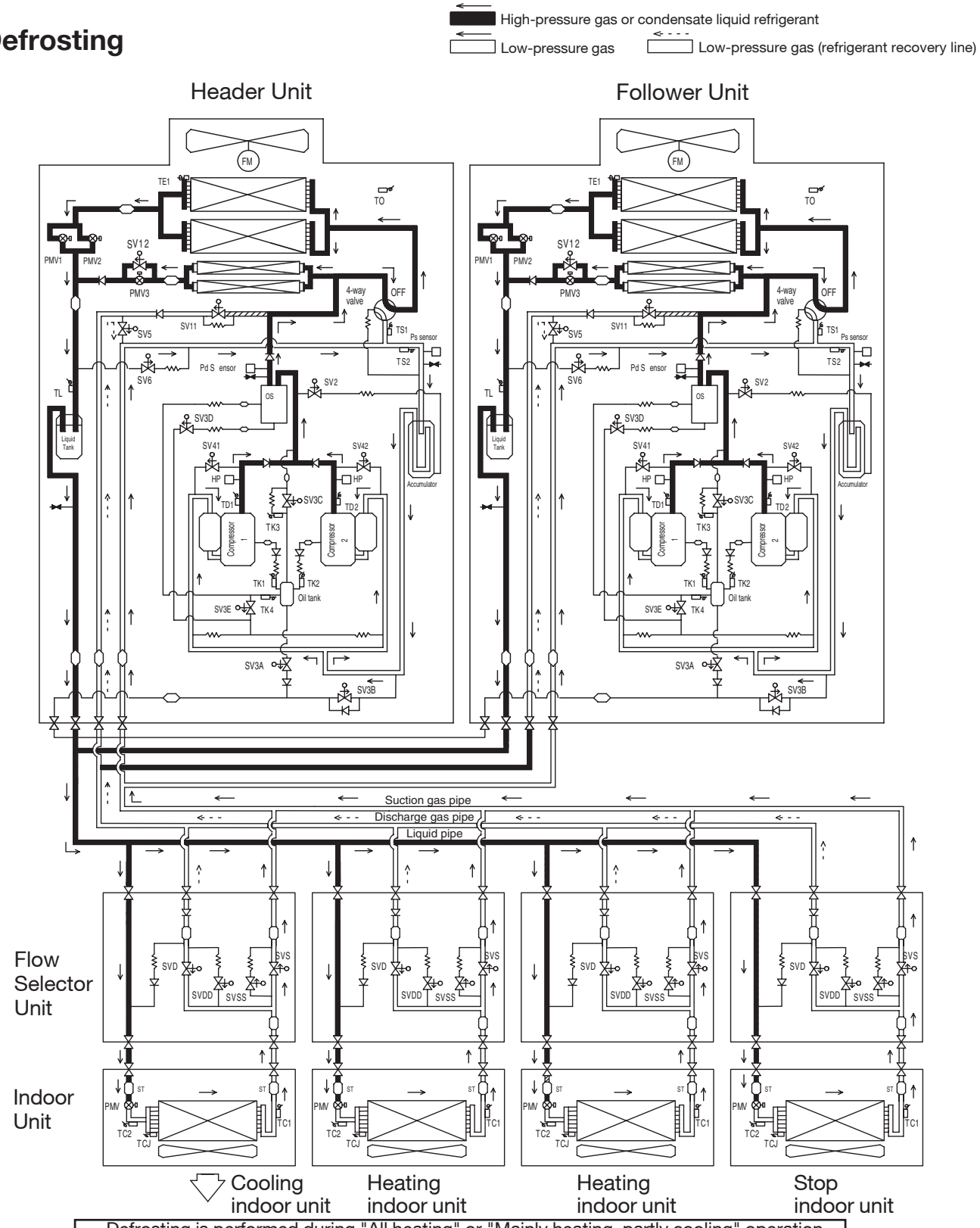
Outdoor unit			
4WV	ON	SV3A	Control
SV4(n)	(*1)	SV3B	Control
SV5	OFF	SV3C	Control
SV6	Control	SV3D	Control
SV11	ON	SV3E	ON
SV12	Close(*2)	PMV1,2	Control
Fan	Control	PMV3	Close(*2)

FS unit and Indoor unit					
Heating thermo-ON		Heating thermo-OFF		Stop	
SVD	OFF	SVD	ON	SVD	OFF
SVS	ON	SVS	OFF	SVS	OFF
SVDD	OFF	SVDD	OFF	SVDD	OFF
SVSS	ON	SVSS	OFF	SVSS	ON
PMV	Control	PMV	Control	PMV	Close

(*1) Turns on during compressor off status.

(*2) Control based on operation status.

6. Defrosting



Defrosting is performed during "All heating" or "Mainly heating, partly cooling" operation.

Outdoor unit			
4WV	OFF	SV3A	OFF
SV4(n)	(*1)	SV3B	OFF
SV5	ON	SV3C	OFF
SV6	Control	SV3D	Control
SV11	OFF	SV3E	ON
SV12	Close	PMV1,2	Control
Fan	Stop(*2)	PMV3	Control

FS unit and Indoor unit			
Cooling thermo-ON		Others	
SVD	OFF	SVD	OFF
SVS	ON	SVS	ON
SVDD	OFF	SVDD	OFF
SVSS	ON	SVSS	ON
PMV	Control	PMV	Control
Fan	Control	Fan	Stop

(*1) Turns on during compressor off status.

(*2) Control based on operation status.

8

Sensible capacity table

8 Sensible capacity table

4-way Discharge Cassette Type (MMU-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp.	indoor air temp.													
		14.0˚CWB		16.0˚CWB		18.0˚CWB		19.0˚CWB		20.0˚CWB		22.0˚CWB		24.0˚CWB	
		20˚CDB		23˚CDB		26˚CDB		27˚CDB		28˚CDB		30˚CDB		32˚CDB	
	˚CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
009	10.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	12.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	14.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	16.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	18.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	20.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	21.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	23.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	25.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	27.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	29.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	31.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	33.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	35.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	37.0	2.2	1.8	2.5	1.9	2.6	2.0	2.7	2.0	2.8	2.0	3.0	2.0	3.1	2.0
	39.0	2.2	1.8	2.4	1.9	2.6	2.0	2.6	2.0	2.7	2.0	2.9	2.0	3.0	1.9
012	10.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	12.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	14.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	16.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	18.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	20.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	21.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	23.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	25.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	27.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	29.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	31.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	33.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	35.0	3.0	2.3	3.3	2.5	3.5	2.6	3.6	2.6	3.7	2.6	3.9	2.6	4.1	2.5
	37.0	2.9	2.2	3.2	2.4	3.4	2.5	3.5	2.5	3.6	2.5	3.8	2.5	4.0	2.4
	39.0	2.8	2.2	3.1	2.3	3.3	2.5	3.4	2.4	3.5	2.4	3.7	2.4	3.9	2.4
015	10.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	12.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	14.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	16.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	18.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	20.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	21.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	23.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	25.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	27.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	29.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	31.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	33.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	35.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	37.0	3.6	2.7	4.0	2.9	4.2	3.1	4.4	3.1	4.5	3.1	4.7	3.1	5.0	3.0
	39.0	3.5	2.7	3.8	2.8	4.1	3.0	4.2	3.0	4.4	3.0	4.6	3.0	4.8	2.9
018	10.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	12.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	14.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	16.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	18.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	20.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	21.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	23.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	25.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	27.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	29.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	31.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	33.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	35.0	4.6	3.5	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	37.0	4.5	3.4	4.9	3.7	5.3	3.9	5.4	3.9	5.6	3.9	5.9	3.8	6.2	3.7
	39.0	4.3	3.3	4.8	3.6	5.1	3.8	5.3	3.8	5.4	3.8	5.7	3.7	6.0	3.6

4-way Discharge Cassette Type (MMU-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp.	indoor air temp.													
		14.0˚CWB		16.0˚CWB		18.0˚CWB		19.0˚CWB		20.0˚CWB		22.0˚CWB		24.0˚CWB	
		20˚CDB		23˚CDB		26˚CDB		27˚CDB		28˚CDB		30˚CDB		32˚CDB	
	˚CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
024	10.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	12.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	14.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	16.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	18.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	20.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	21.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	23.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	25.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	27.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	29.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	31.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	33.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	35.0	5.8	4.3	6.4	4.6	6.9	4.9	7.1	4.9	7.3	4.9	7.7	4.9	8.1	4.7
	37.0	5.6	4.2	6.2	4.5	6.7	4.8	6.9	4.7	7.1	4.7	7.5	4.7	7.8	4.6
	39.0	5.5	4.1	6.1	4.4	6.5	4.6	6.7	4.6	6.9	4.6	7.3	4.6	7.6	4.5
027	10.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	12.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	14.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	16.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	18.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	20.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	21.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	23.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	25.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	27.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	29.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	31.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	33.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	35.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	37.0	6.4	4.7	7.0	5.0	7.5	5.3	7.7	5.3	8.0	5.3	8.4	5.3	8.8	5.2
	39.0	6.2	4.6	6.8	4.9	7.3	5.2	7.5	5.2	7.8	5.2	8.2	5.1	8.6	5.0
030	10.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	12.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	14.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	16.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	18.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	20.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	21.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	23.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	25.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	27.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	29.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	31.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	33.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	35.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	37.0	7.2	5.3	7.9	5.7	8.5	6.0	8.7	6.0	9.0	6.0	9.5	5.9	9.9	5.8
	39.0	7.0	5.2	7.7	5.5	8.2	5.9	8.5	5.8	8.7	5.8	9.2	5.8	9.7	5.6
036	10.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	12.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	14.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	16.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	18.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	20.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	21.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	23.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	25.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	27.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	29.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	31.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	33.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	35.0	9.2	6.8	10.2	7.3	10.9	7.7	11.2	7.7	11.5	7.7	12.2	7.6	12.8	7.5
	37.0	8.9	6.6	9.8	7.0	10.5	7.5	10.8	7.5	11.2	7.5	11.8	7.4	12.4	7.2
	39.0	8.7	6.4	9.6	6.8	10.2	7.3	10.5	7.2	10.9	7.2	11.5	7.2	12.0	7.0

4-way Discharge Cassette Type (MMU-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp.													
		14.0˚CWB		16.0˚CWB		18.0˚CWB		19.0˚CWB		20.0˚CWB		22.0˚CWB		24.0˚CWB	
		20˚CDB		23˚CDB		26˚CDB		27˚CDB		28˚CDB		30˚CDB		32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
048	10.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	12.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	14.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	16.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	18.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	20.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	21.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	23.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	25.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	27.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	29.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	31.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	33.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	35.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	37.0	11.1	8.4	12.3	9.0	13.1	9.5	13.6	9.5	14.0	9.5	14.8	9.4	15.4	9.2
	39.0	10.8	8.2	12.0	8.7	12.8	9.2	13.2	9.2	13.6	9.2	14.4	9.1	15.0	8.9
056	10.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	12.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	14.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	16.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	18.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	20.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	21.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	23.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	25.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	27.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	29.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	31.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	33.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	35.0	13.1	9.8	14.5	10.4	15.5	11.0	16.0	11.0	16.5	11.0	17.4	10.9	18.2	10.6
	37.0	12.7	9.4	14.1	10.1	15.0	10.7	15.5	10.6	16.0	10.6	16.9	10.5	17.7	10.3
	39.0	12.4	9.2	13.7	9.8	14.6	10.4	15.1	10.4	15.5	10.4	16.4	10.3	17.2	10.0

2-way Air Discharge Cassette Type (MMU-AP****WH) TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
007	10.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	12.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	14.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	16.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	18.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	20.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	21.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	23.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	25.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	27.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	29.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	31.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	33.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	35.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	37.0	1.7	1.5	1.9	1.6	2.1	1.7	2.1	1.6	2.2	1.6	2.3	1.6	2.4	1.6
	39.0	1.7	1.4	1.9	1.5	2.0	1.6	2.1	1.6	2.1	1.6	2.3	1.6	2.4	1.5
009	10.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	12.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	14.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	16.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	18.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	20.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	21.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	23.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	25.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	27.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	29.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	31.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	33.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	35.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	37.0	2.2	1.7	2.5	1.8	2.6	1.9	2.7	1.9	2.8	1.9	3.0	1.9	3.1	1.9
	39.0	2.2	1.7	2.4	1.8	2.6	1.9	2.6	1.9	2.7	1.9	2.9	1.9	3.0	1.8
012	10.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	12.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	14.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	16.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	18.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	20.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	21.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	23.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	25.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	27.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	29.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	31.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	33.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	35.0	3.0	2.0	3.3	2.2	3.5	2.3	3.6	2.3	3.7	2.3	3.9	2.3	4.1	2.2
	37.0	2.9	2.0	3.2	2.1	3.4	2.2	3.5	2.2	3.6	2.2	3.8	2.2	4.0	2.2
	39.0	2.8	1.9	3.1	2.0	3.3	2.2	3.4	2.2	3.5	2.2	3.7	2.1	3.9	2.1
015	10.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	12.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	14.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	16.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	18.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	20.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	21.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	23.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	25.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	27.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	29.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	31.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	33.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	35.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	37.0	3.6	2.6	4.0	2.8	4.2	3.0	4.4	3.0	4.5	3.0	4.7	2.9	5.0	2.9
	39.0	3.5	2.5	3.8	2.7	4.1	2.9	4.2	2.9	4.4	2.9	4.6	2.8	4.8	2.8

2-way Air Discharge Cassette Type (MMU-AP****WH) TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
018	10.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	12.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	14.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	16.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	18.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	20.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	21.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	23.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	25.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	27.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	29.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	31.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	33.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	35.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	37.0	4.5	3.3	4.9	3.5	5.3	3.7	5.4	3.7	5.6	3.7	5.9	3.6	6.2	3.6
	39.0	4.3	3.2	4.8	3.4	5.1	3.6	5.3	3.6	5.4	3.6	5.7	3.5	6.0	3.5
024	10.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	12.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	14.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	16.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	18.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	20.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	21.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	23.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	25.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	27.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	29.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	31.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	33.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	35.0	5.8	4.3	6.4	4.5	6.9	4.8	7.1	4.8	7.3	4.8	7.7	4.8	8.1	4.6
	37.0	5.6	4.1	6.2	4.4	6.7	4.7	6.9	4.6	7.1	4.6	7.5	4.6	7.8	4.5
	39.0	5.5	4.0	6.1	4.3	6.5	4.5	6.7	4.5	6.9	4.5	7.3	4.5	7.6	4.4
027	10.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	12.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	14.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	16.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	18.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	20.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	21.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	23.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	25.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	27.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	29.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	31.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	33.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	35.0	6.6	4.9	7.3	5.2	7.8	5.5	8.0	5.5	8.2	5.5	8.7	5.4	9.1	5.3
	37.0	6.4	4.7	7.0	5.0	7.5	5.3	7.7	5.3	8.0	5.3	8.4	5.3	8.8	5.2
	39.0	6.2	4.6	6.8	4.9	7.3	5.2	7.5	5.2	7.8	5.2	8.2	5.1	8.6	5.0
030	10.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	12.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	14.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	16.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	18.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	20.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	21.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	23.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	25.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	27.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	29.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	31.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	33.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	35.0	7.4	5.3	8.2	5.7	8.7	6.0	9.0	6.0	9.3	6.0	9.8	5.9	10.3	5.8
	37.0	7.2	5.1	7.9	5.5	8.5	5.8	8.7	5.8	9.0	5.8	9.5	5.8	9.9	5.6
	39.0	7.0	5.0	7.7	5.3	8.2	5.7	8.5	5.6	8.7	5.6	9.2	5.6	9.7	5.5

2-way Air Discharge Cassette Type (MMU-AP****WH) TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp.													
		14.0˚CWB		16.0˚CWB		18.0˚CWB		19.0˚CWB		20.0˚CWB		22.0˚CWB		24.0˚CWB	
		20˚CDB		23˚CDB		26˚CDB		27˚CDB		28˚CDB		30˚CDB		32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
048	10.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	12.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	14.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	16.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	18.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	20.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	21.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	23.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	25.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	27.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	29.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	31.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	33.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	35.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	37.0	11.1	8.2	12.3	8.7	13.1	9.2	13.6	9.2	14.0	9.2	14.8	9.1	15.4	8.9
	39.0	10.8	7.9	12.0	8.4	12.8	9.0	13.2	8.9	13.6	8.9	14.4	8.9	15.0	8.7

1-way Air Discharge Cassette Type (MMU-AP****YH [007～012] , -AP****SH [015～024])

TC : Total capacity [kW]　SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
007	10.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	12.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	14.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	16.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	18.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	20.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	21.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	23.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	25.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	27.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	29.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	31.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	33.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	35.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	37.0	1.7	1.5	1.9	1.6	2.1	1.7	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7
	39.0	1.7	1.5	1.9	1.6	2.0	1.7	2.1	1.7	2.1	1.7	2.3	1.7	2.4	1.6
009	10.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	12.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	14.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	16.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	18.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	20.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	21.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	23.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	25.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	27.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	29.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	31.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	33.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	35.0	2.3	2.0	2.5	2.1	2.7	2.2	2.8	2.2	2.9	2.2	3.1	2.2	3.2	2.1
	37.0	2.2	1.9	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.1	3.0	2.1	3.1	2.1
	39.0	2.2	1.8	2.4	2.0	2.6	2.1	2.6	2.1	2.7	2.1	2.9	2.1	3.0	2.0
012	10.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	12.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	14.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	16.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	18.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	20.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	21.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	23.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	25.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	27.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	29.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	31.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	33.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	35.0	3.0	2.4	3.3	2.5	3.5	2.7	3.6	2.7	3.7	2.7	3.9	2.7	4.1	2.6
	37.0	2.9	2.3	3.2	2.5	3.4	2.6	3.5	2.6	3.6	2.6	3.8	2.6	4.0	2.5
	39.0	2.8	2.3	3.1	2.4	3.3	2.5	3.4	2.5	3.5	2.5	3.7	2.5	3.9	2.5
015	10.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	12.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	14.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	16.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	18.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	20.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	21.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	23.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	25.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	27.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	29.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	31.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	33.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	35.0	3.7	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.0	5.1	3.0
	37.0	3.6	2.6	4.0	2.8	4.2	3.0	4.4	3.0	4.5	3.0	4.7	2.9	5.0	2.9
	39.0	3.5	2.5	3.8	2.7	4.1	2.9	4.2	2.9	4.4	2.9	4.6	2.8	4.8	2.8

1-way Air Discharge Cassette Type (MMU-AP****YH [007～012] , -AP****SH [015～024])

TC : Total capacity [kW]　SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
018	10.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	12.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	14.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	16.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	18.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	20.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	21.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	23.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	25.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	27.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	29.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	31.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	33.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	35.0	4.6	3.4	5.1	3.6	5.4	3.8	5.6	3.8	5.8	3.8	6.1	3.8	6.4	3.7
	37.0	4.5	3.3	4.9	3.5	5.3	3.7	5.4	3.7	5.6	3.7	5.9	3.6	6.2	3.6
	39.0	4.3	3.2	4.8	3.4	5.1	3.6	5.3	3.6	5.4	3.6	5.7	3.5	6.0	3.5
024	10.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	12.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	14.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	16.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	18.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	20.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	21.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	23.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	25.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	27.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	29.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	31.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	33.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	35.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	37.0	5.6	4.3	6.2	4.6	6.7	4.9	6.9	4.8	7.1	4.8	7.5	4.8	7.8	4.7
	39.0	5.5	4.2	6.1	4.4	6.5	4.7	6.7	4.7	6.9	4.7	7.3	4.7	7.6	4.6

Concealed Duct Standard Type (MMD-AP****BH)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
007	10.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	12.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	14.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	16.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	18.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	20.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	21.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	23.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	25.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	27.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	29.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	31.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	33.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	35.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	37.0	1.7	1.5	1.9	1.6	2.1	1.7	2.1	1.6	2.2	1.6	2.3	1.6	2.4	1.6
	39.0	1.7	1.4	1.9	1.5	2.0	1.6	2.1	1.6	2.1	1.6	2.3	1.6	2.4	1.5
009	10.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	12.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	14.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	16.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	18.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	20.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	21.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	23.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	25.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	27.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	29.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	31.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	33.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	35.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	37.0	2.2	1.8	2.5	1.9	2.6	2.0	2.7	2.0	2.8	2.0	3.0	2.0	3.1	2.0
	39.0	2.2	1.8	2.4	1.9	2.6	2.0	2.6	2.0	2.7	2.0	2.9	2.0	3.0	1.9
012	10.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	12.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	14.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	16.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	18.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	20.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	21.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	23.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	25.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	27.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	29.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	31.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	33.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	35.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	37.0	2.9	2.1	3.2	2.3	3.4	2.4	3.5	2.4	3.6	2.4	3.8	2.4	4.0	2.3
	39.0	2.8	2.1	3.1	2.2	3.3	2.4	3.4	2.4	3.5	2.4	3.7	2.3	3.9	2.3
015	10.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	12.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	14.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	16.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	18.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	20.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	21.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	23.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	25.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	27.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	29.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	31.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	33.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	35.0	3.7	2.7	4.1	2.8	4.4	3.0	4.5	3.0	4.6	3.0	4.9	3.0	5.1	2.9
	37.0	3.6	2.6	4.0	2.7	4.2	2.9	4.4	2.9	4.5	2.9	4.7	2.9	5.0	2.8
	39.0	3.5	2.5	3.8	2.7	4.1	2.8	4.2	2.8	4.4	2.8	4.6	2.8	4.8	2.7

Concealed Duct Standard Type (MMD-AP***BH)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
018	10.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	12.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	14.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	16.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	18.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	20.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	21.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	23.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	25.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	27.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	29.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	31.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	33.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	35.0	4.6	3.3	5.1	3.5	5.4	3.7	5.6	3.7	5.8	3.7	6.1	3.7	6.4	3.6
	37.0	4.5	3.2	4.9	3.4	5.3	3.6	5.4	3.6	5.6	3.6	5.9	3.5	6.2	3.5
	39.0	4.3	3.1	4.8	3.3	5.1	3.5	5.3	3.5	5.4	3.5	5.7	3.4	6.0	3.4
024	10.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	12.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	14.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	16.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	18.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	20.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	21.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	23.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	25.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	27.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	29.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	31.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	33.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	35.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	37.0	5.6	4.3	6.2	4.6	6.7	4.9	6.9	4.8	7.1	4.8	7.5	4.8	7.8	4.7
	39.0	5.5	4.2	6.1	4.4	6.5	4.7	6.7	4.7	6.9	4.7	7.3	4.7	7.6	4.6
027	10.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	12.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	14.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	16.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	18.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	20.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	21.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	23.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	25.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	27.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	29.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	31.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	33.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	35.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	37.0	6.4	4.8	7.0	5.1	7.5	5.4	7.7	5.4	8.0	5.4	8.4	5.4	8.8	5.2
	39.0	6.2	4.7	6.8	5.0	7.3	5.3	7.5	5.3	7.8	5.3	8.2	5.2	8.6	5.1
030	10.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	12.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	14.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	16.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	18.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	20.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	21.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	23.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	25.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	27.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	29.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	31.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	33.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	35.0	7.4	5.5	8.2	5.9	8.7	6.2	9.0	6.2	9.3	6.2	9.8	6.1	10.3	6.0
	37.0	7.2	5.3	7.9	5.7	8.5	6.0	8.7	6.0	9.0	6.0	9.5	5.9	9.9	5.8
	39.0	7.0	5.2	7.7	5.5	8.2	5.9	8.5	5.8	8.7	5.8	9.2	5.8	9.7	5.6

Concealed Duct Standard Type (MMD-AP***BH)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
036	10.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	12.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	14.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	16.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	18.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	20.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	21.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	23.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	25.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	27.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	29.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	31.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	33.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	35.0	9.2	6.5	10.2	6.9	10.9	7.3	11.2	7.3	11.5	7.3	12.2	7.2	12.8	7.1
	37.0	8.9	6.3	9.8	6.7	10.5	7.1	10.8	7.1	11.2	7.1	11.8	7.0	12.4	6.8
	39.0	8.7	6.1	9.6	6.5	10.2	6.9	10.5	6.9	10.9	6.9	11.5	6.8	12.0	6.6
048	10.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	12.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	14.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	16.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	18.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	20.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	21.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	23.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	25.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	27.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	29.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	31.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	33.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	35.0	11.5	8.2	12.7	8.7	13.6	9.2	14.0	9.2	14.4	9.2	15.3	9.1	16.0	8.9
	37.0	11.1	7.9	12.3	8.4	13.1	8.9	13.6	8.9	14.0	8.9	14.8	8.8	15.4	8.6
	39.0	10.8	7.7	12.0	8.2	12.8	8.7	13.2	8.7	13.6	8.7	14.4	8.6	15.0	8.4
056	10.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	12.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	14.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	16.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	18.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	20.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	21.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	23.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	25.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	27.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	29.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	31.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	33.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	35.0	13.1	9.6	14.5	10.2	15.5	10.8	16.0	10.8	16.5	10.8	17.4	10.7	18.2	10.5
	37.0	12.7	9.3	14.1	9.9	15.0	10.5	15.5	10.5	16.0	10.5	16.9	10.4	17.7	10.1
	39.0	12.4	9.0	13.7	9.6	14.6	10.2	15.1	10.2	15.5	10.2	16.4	10.1	17.2	9.8

Concealed Duct High Static Pressure Type (MMD-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp.	indoor air temp.													
		14.0˚CWB		16.0˚CWB		18.0˚CWB		19.0˚CWB		20.0˚CWB		22.0˚CWB		24.0˚CWB	
		20˚CDB		23˚CDB		26˚CDB		27˚CDB		28˚CDB		30˚CDB		32˚CDB	
	˚CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
018	10.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	12.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	14.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	16.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	18.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	20.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	21.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	23.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	25.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	27.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	29.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	31.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	33.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	35.0	4.6	3.6	5.1	3.8	5.4	4.0	5.6	4.0	5.8	4.0	6.1	4.0	6.4	3.9
	37.0	4.5	3.5	4.9	3.7	5.3	3.9	5.4	3.9	5.6	3.9	5.9	3.9	6.2	3.8
	39.0	4.3	3.4	4.8	3.6	5.1	3.8	5.3	3.8	5.4	3.8	5.7	3.8	6.0	3.7
024	10.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	12.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	14.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	16.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	18.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	20.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	21.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	23.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	25.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	27.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	29.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	31.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	33.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	35.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	37.0	5.6	4.3	6.2	4.6	6.7	4.9	6.9	4.8	7.1	4.8	7.5	4.8	7.8	4.7
	39.0	5.5	4.2	6.1	4.4	6.5	4.7	6.7	4.7	6.9	4.7	7.3	4.7	7.6	4.6
027	10.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	12.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	14.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	16.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	18.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	20.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	21.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	23.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	25.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	27.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	29.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	31.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	33.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	35.0	6.6	4.8	7.3	5.1	7.8	5.4	8.0	5.4	8.2	5.4	8.7	5.3	9.1	5.2
	37.0	6.4	4.6	7.0	4.9	7.5	5.2	7.7	5.2	8.0	5.2	8.4	5.2	8.8	5.1
	39.0	6.2	4.5	6.8	4.8	7.3	5.1	7.5	5.1	7.8	5.1	8.2	5.0	8.6	4.9
036	10.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	12.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	14.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	16.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	18.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	20.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	21.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	23.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	25.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	27.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	29.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	31.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	33.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	35.0	9.2	6.9	10.2	7.4	10.9	7.8	11.2	7.8	11.5	7.8	12.2	7.7	12.8	7.5
	37.0	8.9	6.7	9.8	7.1	10.5	7.6	10.8	7.6	11.2	7.5	11.8	7.5	12.4	7.3
	39.0	8.7	6.5	9.6	6.9	10.2	7.4	10.5	7.3	10.9	7.3	11.5	7.3	12.0	7.1

Concealed Duct High Static Pressure Type (MMD-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
048	10.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	12.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	14.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	16.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	18.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	20.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	21.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	23.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	25.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	27.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	29.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	31.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	33.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	35.0	11.5	8.4	12.7	9.0	13.6	9.5	14.0	9.5	14.4	9.5	15.3	9.4	16.0	9.2
	37.0	11.1	8.2	12.3	8.7	13.1	9.2	13.6	9.2	14.0	9.2	14.8	9.1	15.4	8.9
	39.0	10.8	7.9	12.0	8.4	12.8	9.0	13.2	8.9	13.6	8.9	14.4	8.9	15.0	8.7
072	10.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	12.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	14.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	16.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	18.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	20.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	21.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	23.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	25.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	27.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	29.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	31.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	33.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	35.0	18.4	13.2	20.3	14.1	21.7	14.9	22.4	14.9	23.1	14.9	24.4	14.8	25.5	14.4
	37.0	17.8	12.8	19.7	13.6	21.0	14.5	21.7	14.4	22.3	14.4	23.6	14.3	24.7	14.0
	39.0	17.3	12.4	19.1	13.2	20.4	14.1	21.1	14.0	21.7	14.0	23.0	13.9	24.0	13.6
096	10.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	12.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	14.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	16.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	18.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	20.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	21.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	23.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	25.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	27.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	29.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	31.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	33.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	35.0	23.0	16.2	25.4	17.3	27.2	18.4	28.0	18.3	28.8	18.3	30.5	18.1	31.9	17.7
	37.0	22.3	15.7	24.6	16.7	26.3	17.8	18.3	17.7	27.9	17.7	29.5	17.6	30.9	17.1
	39.0	21.6	15.3	23.9	16.3	25.6	17.3	26.3	17.2	27.1	17.2	28.7	17.1	30.0	16.7

Under Ceiling Type (MMC-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
015	10.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	12.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	14.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	16.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	18.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	20.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	21.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	23.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	25.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	27.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	29.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	31.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	33.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	35.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	37.0	3.6	2.7	4.0	2.9	4.2	3.1	4.4	3.1	4.5	3.1	4.7	3.1	5.0	3.0
	39.0	3.5	2.7	3.8	2.8	4.1	3.0	4.2	3.0	4.4	3.0	4.6	3.0	4.8	2.9
018	10.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	12.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	14.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	16.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	18.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	20.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	21.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	23.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	25.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	27.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	29.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	31.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	33.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	35.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	37.0	4.5	3.3	4.9	3.6	5.3	3.8	5.4	3.8	5.6	3.8	5.9	3.7	6.2	3.7
	39.0	4.3	3.3	4.8	3.5	5.1	3.7	5.3	3.7	5.4	3.7	5.7	3.6	6.0	3.6
024	10.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	12.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	14.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	16.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	18.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	20.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	21.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	23.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	25.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	27.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	29.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	31.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	33.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	35.0	5.8	4.5	6.4	4.8	6.9	5.1	7.1	5.1	7.3	5.1	7.7	5.1	8.1	4.9
	37.0	5.6	4.4	6.2	4.7	6.7	5.0	6.9	4.9	7.1	4.9	7.5	4.9	7.8	4.8
	39.0	5.5	4.3	6.1	4.5	6.5	4.8	6.7	4.8	6.9	4.8	7.3	4.8	7.6	4.6
027	10.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	12.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	14.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	16.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	18.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	20.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	21.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	23.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	25.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	27.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	29.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	31.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	33.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	35.0	6.6	5.0	7.3	5.3	7.8	5.6	8.0	5.6	8.2	5.6	8.7	5.5	9.1	5.4
	37.0	6.4	4.8	7.0	5.1	7.5	5.4	7.7	5.4	8.0	5.4	8.4	5.4	8.8	5.2
	39.0	6.2	4.7	6.8	5.0	7.3	5.3	7.5	5.3	7.8	5.3	8.2	5.2	8.6	5.1

Under Ceiling Type (MMC-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp.													
		14.0˚CWB		16.0˚CWB		18.0˚CWB		19.0˚CWB		20.0˚CWB		22.0˚CWB		24.0˚CWB	
		20˚CDB		23˚CDB		26˚CDB		27˚CDB		28˚CDB		30˚CDB		32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
036	10.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	12.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	14.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	16.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	18.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	20.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	21.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	23.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	25.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	27.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	29.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	31.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	33.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	35.0	9.2	6.7	10.2	7.2	10.9	7.6	11.2	7.6	11.5	7.6	12.2	7.5	12.8	7.4
	37.0	8.9	6.5	9.8	6.9	10.5	7.4	10.8	7.4	11.2	7.4	11.8	7.3	12.4	7.1
	39.0	8.7	6.3	9.6	6.8	10.2	7.2	10.5	7.2	10.9	7.2	11.5	7.1	12.0	6.9
048	10.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	12.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	14.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	16.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	18.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	20.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	21.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	23.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	25.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	27.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	29.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	31.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	33.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	35.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	9.7	16.0	9.5
	37.0	11.1	8.4	12.3	9.0	13.1	9.5	13.6	9.5	14.0	9.5	14.8	9.4	15.4	9.2
	39.0	10.8	8.2	12.0	8.7	12.8	9.2	13.2	9.2	13.6	9.2	14.4	9.1	15.0	8.9

High Wall Type (MMK-AP***1H, 1 series)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
007	10.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	12.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	14.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	16.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	18.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	20.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	21.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	23.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	25.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	27.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	29.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	31.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	33.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	35.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	37.0	1.7	1.5	1.9	1.6	2.1	1.7	2.1	1.6	2.2	1.6	2.3	1.6	2.4	1.6
	39.0	1.7	1.4	1.9	1.5	2.0	1.6	2.1	1.6	2.1	1.6	2.3	1.6	2.4	1.5
009	10.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	12.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	14.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	16.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	18.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	20.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	21.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	23.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	25.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	27.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	29.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	31.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	33.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	35.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	37.0	2.2	1.7	2.5	1.8	2.6	1.9	2.7	1.9	2.8	1.9	3.0	1.9	3.1	1.9
	39.0	2.2	1.7	2.4	1.8	2.6	1.9	2.6	1.9	2.7	1.9	2.9	1.9	3.0	1.8
012	10.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	12.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	14.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	16.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	18.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	20.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	21.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	23.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	25.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	27.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	29.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	31.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	33.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	35.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	37.0	2.9	2.1	3.2	2.3	3.4	2.4	3.5	2.4	3.6	2.4	3.8	2.4	4.0	2.3
	39.0	2.8	2.1	3.1	2.2	3.3	2.4	3.4	2.4	3.5	2.4	3.7	2.3	3.9	2.3
015	10.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	12.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	14.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	16.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	18.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	20.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	21.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	23.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	25.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	27.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	29.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	31.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	33.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	35.0	3.7	2.6	4.1	2.7	4.4	2.9	4.5	2.9	4.6	2.9	4.9	2.9	5.1	2.8
	37.0	3.6	2.5	4.0	2.6	4.2	2.8	4.4	2.8	4.5	2.8	4.7	2.8	5.0	2.7
	39.0	3.5	2.4	3.8	2.6	4.1	2.7	4.2	2.7	4.4	2.7	4.6	2.7	4.8	2.6

High Wall Type (MMK-AP***1H, 1 series)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
018	10.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	12.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	14.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	16.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	18.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	20.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	21.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	23.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	25.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	27.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	29.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	31.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	33.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	35.0	4.6	3.2	5.1	3.4	5.4	3.6	5.6	3.6	5.8	3.6	6.1	3.6	6.4	3.5
	37.0	4.5	3.1	4.9	3.3	5.3	3.5	5.4	3.5	5.6	3.5	5.9	3.5	6.2	3.4
	39.0	4.3	3.0	4.8	3.2	5.1	3.4	5.3	3.4	5.4	3.4	5.7	3.4	6.0	3.3
024	10.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	12.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	14.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	16.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	18.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	20.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	21.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	23.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	25.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	27.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	29.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	31.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	33.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	35.0	5.8	4.2	6.4	4.4	6.9	4.7	7.1	4.7	7.3	4.7	7.7	4.7	8.1	4.5
	37.0	5.6	4.0	6.2	4.3	6.7	4.6	6.9	4.5	7.1	4.5	7.5	4.5	7.8	4.4
	39.0	5.5	3.9	6.1	4.2	6.5	4.4	6.7	4.4	6.9	4.4	7.3	4.4	7.6	4.3

High Wall Type (MMK-AP****2H) 2 series

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp.	indoor air temp.													
		14.0˚CWB		16.0˚CWB		18.0˚CWB		19.0˚CWB		20.0˚CWB		22.0˚CWB		24.0˚CWB	
		20˚CDB		23˚CDB		26˚CDB		27˚CDB		28˚CDB		30˚CDB		32˚CDB	
	˚CDB	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
007	10.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	12.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	14.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	16.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	18.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	20.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	21.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	23.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	25.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	27.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	29.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	31.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	33.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	35.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	37.0	1.7	1.5	1.9	1.6	2.1	1.7	2.1	1.6	2.2	1.6	2.3	1.6	2.4	1.6
	39.0	1.7	1.4	1.9	1.5	2.0	1.6	2.1	1.6	2.1	1.6	2.3	1.6	2.4	1.5
009	10.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	12.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	14.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	16.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	18.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	20.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	21.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	23.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	25.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	27.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	29.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	31.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	33.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	35.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	37.0	2.2	1.7	2.5	1.8	2.6	1.9	2.7	1.9	2.8	1.9	3.0	1.9	3.1	1.9
	39.0	2.2	1.7	2.4	1.8	2.6	1.9	2.6	1.9	2.7	1.9	2.9	1.9	3.0	1.8
012	10.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	12.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	14.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	16.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	18.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	20.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	21.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	23.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	25.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	27.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	29.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	31.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	33.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	35.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	37.0	2.9	2.1	3.2	2.3	3.4	2.4	3.5	2.4	3.6	2.4	3.8	2.4	4.0	2.3
	39.0	2.8	2.1	3.1	2.2	3.3	2.4	3.4	2.4	3.5	2.4	3.7	2.3	3.9	2.3

Floor Standing Cabinet Type (MML-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB TC	SHC	16.0˚CWB 23˚CDB TC	SHC	18.0˚CWB 26˚CDB TC	SHC	19.0˚CWB 27˚CDB TC	SHC	20.0˚CWB 28˚CDB TC	SHC	22.0˚CWB 30˚CDB TC	SHC	24.0˚CWB 32˚CDB TC	SHC
007	10.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	12.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	14.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	16.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	18.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	20.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	21.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	23.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	25.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	27.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	29.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	31.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	33.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	35.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	37.0	1.7	1.2	1.9	1.3	2.1	1.4	2.1	1.4	2.2	1.4	2.3	1.3	2.4	1.3
	39.0	1.7	1.2	1.9	1.2	2.0	1.3	2.1	1.3	2.1	1.3	2.3	1.3	2.4	1.3
009	10.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	12.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	14.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	16.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	18.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	20.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	21.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	23.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	25.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	27.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	29.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	31.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	33.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	35.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	37.0	2.2	1.4	2.5	1.5	2.6	1.6	2.7	1.5	2.8	1.5	3.0	1.5	3.1	1.5
	39.0	2.2	1.3	2.4	1.4	2.6	1.5	2.6	1.5	2.7	1.5	2.9	1.5	3.0	1.5
012	10.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	12.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	14.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	16.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	18.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	20.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	21.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	23.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	25.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	27.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	29.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	31.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	33.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	35.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	37.0	2.9	1.9	3.2	2.0	3.4	2.1	3.5	2.1	3.6	2.1	3.8	2.1	4.0	2.1
	39.0	2.8	1.8	3.1	2.0	3.3	2.1	3.4	2.1	3.5	2.1	3.7	2.1	3.9	2.0
015	10.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	12.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	14.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	16.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	18.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	20.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	21.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	23.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	25.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	27.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	29.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	31.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	33.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	35.0	3.6	2.4	4.0	2.6	4.2	2.7	4.5	2.8	4.5	2.7	4.7	2.7	5.0	2.6
	37.0	3.5	2.3	3.8	2.5	4.1	2.6	4.4	2.7	4.3	2.6	4.6	2.6	4.8	2.6
	39.0	3.4	2.3	3.7	2.4	4.0	2.6	4.2	2.6	4.2	2.6	4.5	2.5	4.7	2.5

Floor Standing Cabinet Type (MML-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
018	10.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	12.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	14.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	16.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	18.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	20.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	21.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	23.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	25.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	27.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	29.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	31.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	33.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	35.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	37.0	4.5	3.0	4.9	3.2	5.3	3.4	5.4	3.4	5.6	3.4	5.9	3.4	6.2	3.3
	39.0	4.3	2.9	4.8	3.1	5.1	3.3	5.3	3.3	5.4	3.3	5.7	3.3	6.0	3.2
024	10.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	12.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	14.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	16.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	18.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	20.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	21.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	23.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	25.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	27.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	29.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	31.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	33.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	35.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	37.0	5.6	3.9	6.2	4.1	6.7	4.4	6.9	4.4	7.1	4.4	7.5	4.3	7.8	4.2
	39.0	5.5	3.8	6.1	4.0	6.5	4.2	6.7	4.2	6.9	4.2	7.3	4.2	7.6	4.1

Floor Standing Concealed Type (MML-AP****BH)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
007	10.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	12.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	14.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	16.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	18.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	20.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	21.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	23.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	25.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	27.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	29.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	31.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	33.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	35.0	1.8	1.2	2.0	1.3	2.1	1.4	2.2	1.4	2.3	1.4	2.4	1.4	2.5	1.4
	37.0	1.7	1.2	1.9	1.3	2.1	1.4	2.1	1.4	2.2	1.4	2.3	1.3	2.4	1.3
	39.0	1.7	1.2	1.9	1.2	2.0	1.3	2.1	1.3	2.1	1.3	2.3	1.3	2.4	1.3
009	10.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	12.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	14.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	16.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	18.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	20.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	21.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	23.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	25.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	27.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	29.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	31.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	33.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	35.0	2.3	1.4	2.5	1.5	2.7	1.6	2.8	1.6	2.9	1.6	3.1	1.6	3.2	1.5
	37.0	2.2	1.4	2.5	1.5	2.6	1.6	2.7	1.5	2.8	1.5	3.0	1.5	3.1	1.5
	39.0	2.2	1.3	2.4	1.4	2.6	1.5	2.6	1.5	2.7	1.5	2.9	1.5	3.0	1.5
012	10.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	12.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	14.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	16.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	18.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	20.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	21.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	23.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	25.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	27.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	29.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	31.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	33.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	35.0	3.0	2.0	3.3	2.1	3.5	2.2	3.6	2.2	3.7	2.2	3.9	2.2	4.1	2.1
	37.0	2.9	1.9	3.2	2.0	3.4	2.1	3.5	2.1	3.6	2.1	3.8	2.1	4.0	2.1
	39.0	2.8	1.8	3.1	2.0	3.3	2.1	3.4	2.1	3.5	2.1	3.7	2.1	3.9	2.0
015	10.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	12.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	14.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	16.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	18.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	20.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	21.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	23.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	25.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	27.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	29.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	31.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	33.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	35.0	3.7	2.5	4.1	2.7	4.4	2.8	4.5	2.8	4.6	2.8	4.9	2.8	5.1	2.7
	37.0	3.6	2.4	4.0	2.6	4.2	2.7	4.4	2.7	4.5	2.7	4.7	2.7	5.0	2.6
	39.0	3.5	2.3	3.8	2.5	4.1	2.7	4.2	2.6	4.4	2.6	4.6	2.6	4.8	2.6

Floor Standing Concealed Type (MML-AP****BH)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp.													
		14.0˚CWB		16.0˚CWB		18.0˚CWB		19.0˚CWB		20.0˚CWB		22.0˚CWB		24.0˚CWB	
		20˚CDB		23˚CDB		26˚CDB		27˚CDB		28˚CDB		30˚CDB		32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
018	10.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	12.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	14.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	16.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	18.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	20.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	21.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	23.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	25.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	27.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	29.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	31.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	33.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	35.0	4.6	3.1	5.1	3.3	5.4	3.5	5.6	3.5	5.8	3.5	6.1	3.5	6.4	3.4
	37.0	4.5	3.0	4.9	3.2	5.3	3.4	5.4	3.4	5.6	3.4	5.9	3.4	6.2	3.3
	39.0	4.3	2.9	4.8	3.1	5.1	3.3	5.3	3.3	5.4	3.3	5.7	3.3	6.0	3.2
024	10.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	12.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	14.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	16.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	18.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	20.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	21.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	23.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	25.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	27.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	29.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	31.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	33.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	35.0	5.8	4.0	6.4	4.2	6.9	4.5	7.1	4.5	7.3	4.5	7.7	4.5	8.1	4.4
	37.0	5.6	3.9	6.2	4.1	6.7	4.4	6.9	4.4	7.1	4.4	7.5	4.3	7.8	4.2
	39.0	5.5	3.8	6.1	4.0	6.5	4.2	6.7	4.2	6.9	4.2	7.3	4.2	7.6	4.1

Floor Standing Type (MMF-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
015	10.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	12.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	14.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	16.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	18.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	20.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	21.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	23.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	25.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	27.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	29.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	31.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	33.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	35.0	3.7	3.0	4.1	3.2	4.4	3.4	4.5	3.4	4.6	3.4	4.9	3.4	5.1	3.3
	37.0	3.6	2.9	4.0	3.1	4.2	3.3	4.4	3.3	4.5	3.3	4.7	3.3	5.0	3.2
	39.0	3.5	2.8	3.8	3.0	4.1	3.2	4.2	3.2	4.4	3.2	4.6	3.2	4.8	3.1
018	10.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	12.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	14.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	16.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	18.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	20.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	21.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	23.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	25.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	27.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	29.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	31.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	33.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	35.0	4.6	3.6	5.1	3.9	5.4	4.1	5.6	4.1	5.8	4.1	6.1	4.1	6.4	4.0
	37.0	4.5	3.5	4.9	3.7	5.3	4.0	5.4	4.0	5.6	4.0	5.9	3.9	6.2	3.8
	39.0	4.3	3.4	4.8	3.6	5.1	3.9	5.3	3.9	5.4	3.9	5.7	3.8	6.0	3.7
024	10.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	12.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	14.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	16.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	18.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	20.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	21.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	23.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	25.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	27.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	29.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	31.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	33.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	35.0	5.8	4.7	6.4	5.0	6.9	5.3	7.1	5.3	7.3	5.3	7.7	5.3	8.1	5.1
	37.0	5.6	4.5	6.2	4.8	6.7	5.1	6.9	5.1	7.1	5.1	7.5	5.1	7.8	5.0
	39.0	5.5	4.4	6.1	4.7	6.5	5.0	6.7	5.0	6.9	5.0	7.3	4.9	7.6	4.8
027	10.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	12.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	14.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	16.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	18.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	20.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	21.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	23.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	25.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	27.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	29.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	31.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	33.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	35.0	6.6	5.2	7.3	5.6	7.8	5.9	8.0	5.9	8.2	5.9	8.7	5.8	9.1	5.7
	37.0	6.4	5.1	7.0	5.4	7.5	5.7	7.7	5.7	8.0	5.7	8.4	5.7	8.8	5.5
	39.0	6.2	4.9	6.8	5.2	7.3	5.6	7.5	5.6	7.8	5.6	8.2	5.5	8.6	5.4

Floor Standing Type (MMF-AP****H)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

unit size	outdoor air temp. ˚CDB	indoor air temp. 14.0˚CWB 20˚CDB		16.0˚CWB 23˚CDB		18.0˚CWB 26˚CDB		19.0˚CWB 27˚CDB		20.0˚CWB 28˚CDB		22.0˚CWB 30˚CDB		24.0˚CWB 32˚CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
036	10.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	12.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	14.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	16.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	18.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	20.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	21.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	23.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	25.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	27.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	29.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	31.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	33.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	35.0	9.2	7.1	10.2	7.6	10.9	8.0	11.2	8.0	11.5	8.0	12.2	7.9	12.8	7.7
	37.0	8.9	6.9	9.8	7.3	10.5	7.8	10.8	7.7	11.2	7.7	11.8	7.7	12.4	7.5
	39.0	8.7	6.7	9.6	7.1	10.2	7.6	10.5	7.5	10.9	7.5	11.5	7.5	12.0	7.3
048	10.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	12.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	14.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	16.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	18.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	20.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	21.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	23.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	25.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	27.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	29.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	31.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	33.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	35.0	11.5	8.8	12.7	9.3	13.6	9.9	14.0	9.9	14.4	9.9	15.3	9.8	16.0	9.6
	37.0	11.1	8.5	12.3	9.0	13.1	9.6	13.6	9.6	14.0	9.6	14.8	9.5	15.4	9.3
	39.0	10.8	8.3	12.0	8.8	12.8	9.3	13.2	9.3	13.6	9.3	14.4	9.2	15.0	9.0
056	10.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	12.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	14.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	16.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	18.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	20.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	21.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	23.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	25.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	27.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	29.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	31.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	33.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	35.0	13.1	10.1	14.5	10.8	15.5	11.4	16.0	11.4	16.5	11.4	17.4	11.3	18.2	11.0
	37.0	12.7	9.8	14.1	10.4	15.0	11.1	15.5	11.0	16.0	11.0	16.9	10.9	17.7	10.7
	39.0	12.4	9.5	13.7	10.1	14.6	10.8	15.1	10.7	15.5	10.7	16.4	10.6	17.2	10.4

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Part load performance

Part Load Performance

MMY-MAP0802FT8 (8HP, 22.4kW system)

Cooling

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit100% Cooling Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
40°C	20.8	6.42	5.25	4.23	3.36	2.64	2.07	1.64	1.37
35°C	22.4	6.07	4.96	3.99	3.17	2.48	1.94	1.54	1.27
30°C	22.4	5.02	4.12	3.33	2.66	2.11	1.67	1.35	1.14
25°C	22.4	4.34	3.57	2.90	2.32	1.85	1.48	1.21	1.04
20°C	22.4	4.03	3.32	2.70	2.17	1.74	1.40	1.15	1.00
15°C	22.4	3.75	3.09	2.52	2.03	1.63	1.32	1.09	0.95

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

Heating

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Heating Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
15°C	25.0	5.48	4.59	3.80	3.11	2.51	2.02	1.62	1.32
11°C	25.0	5.91	4.93	4.06	3.30	2.64	2.09	1.65	1.32
7°C	25.0	6.29	5.23	4.29	3.47	2.76	2.17	1.69	1.33
1°C	23.3	6.40	5.31	4.35	3.50	2.77	2.17	1.68	1.31
-5°C	20.0	5.94	4.94	4.05	3.26	2.59	2.03	1.58	1.23
-10°C	17.0	5.34	4.45	3.66	2.96	2.36	1.86	1.46	1.16

Indoor air temperature conditions : 20.0°C dry-bulb

Part Load Performance

MMY-MAP1002FT8 (10HP, 28kW system)

Cooling

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Cooling Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
40°C	26.0	9.04	7.39	5.95	4.73	3.71	2.91	2.31	1.93
35°C	28.0	8.54	6.98	5.61	4.45	3.49	2.73	2.16	1.79
30°C	28.0	7.07	5.80	4.69	3.74	2.96	2.35	1.90	1.61
25°C	28.0	6.10	5.02	4.07	3.27	2.61	2.09	1.71	1.47
20°C	28.0	5.37	4.43	3.60	2.91	2.33	1.88	1.55	1.35
15°C	28.0	4.99	4.12	3.36	2.71	2.18	1.77	1.47	1.28

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

Heating

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Heating Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
15°C	31.5	7.61	6.37	5.27	4.31	3.49	2.80	2.25	1.83
11°C	31.5	8.20	6.84	5.63	4.58	3.67	2.91	2.30	1.84
7°C	31.5	8.73	7.26	5.96	4.82	3.83	3.01	2.35	1.85
1°C	29.3	8.88	7.37	6.03	4.86	3.85	3.01	2.33	1.81
-5°C	25.2	8.25	6.85	5.62	4.53	3.60	2.81	2.19	1.71
-10°C	21.4	7.42	6.18	5.08	4.11	3.28	2.59	2.03	1.61

Indoor air temperature conditions : 20.0°C dry-bulb

Part Load Performance

MMY-MAP1202FT8 (12HP, 33.5kW system)

Cooling

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Cooling Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
40°C	31.2	13.65	10.44	8.30	6.47	4.93	3.70	2.76	2.13
35°C	33.5	12.90	9.87	7.84	6.10	4.65	3.47	2.59	1.99
30°C	33.5	10.68	8.16	6.50	5.08	3.90	2.95	2.24	1.76
25°C	33.5	9.22	7.03	5.62	4.41	3.40	2.60	1.99	1.59
20°C	33.5	8.57	6.54	5.23	4.11	3.18	2.44	1.88	1.51
15°C	33.5	7.97	6.07	4.86	3.83	2.97	2.29	1.77	1.44

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

Heating

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Heating Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
15°C	35.5	8.41	7.36	6.26	5.16	4.10	3.22	2.51	1.97
11°C	35.5	9.06	7.92	6.72	5.51	4.35	3.37	2.59	1.99
7°C	35.5	9.65	8.43	7.13	5.82	4.57	3.51	2.67	2.02
1°C	33.0	9.81	8.57	7.24	5.89	4.60	3.52	2.65	1.99
-5°C	28.4	9.12	7.96	6.73	5.49	4.29	3.29	2.49	1.87
-10°C	24.1	8.20	7.16	6.07	4.96	3.90	3.01	2.30	1.75

Indoor air temperature conditions : 20.0°C dry-bulb

Part Load Performance

MMY-AP1602FT8 (16HP, 45kW system)

Cooling

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Cooling Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
40°C	41.9	13.76	10.70	8.66	6.92	5.48	4.33	3.49	2.94
35°C	45.0	13.01	10.12	8.18	6.53	5.16	4.07	3.27	2.75
30°C	45.0	10.77	8.44	6.86	5.52	4.41	3.54	2.90	2.49
25°C	45.0	9.30	7.33	5.99	4.85	3.91	3.17	2.63	2.29
20°C	45.0	8.65	6.84	5.60	4.55	3.68	3.00	2.50	2.19
15°C	45.0	8.04	6.38	5.24	4.26	3.46	2.83	2.38	2.10

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

Heating

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Heating Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
15°C	50.0	11.42	9.40	7.82	6.44	5.25	4.25	3.46	2.86
11°C	50.0	12.30	10.08	8.34	6.81	5.50	4.41	3.53	2.87
7°C	50.0	13.10	10.69	8.81	7.16	5.74	4.56	3.61	2.89
1°C	46.5	13.32	10.84	8.91	7.22	5.77	4.55	3.57	2.83
-5°C	40.0	12.37	10.10	8.31	6.75	5.40	4.28	3.37	2.69
-10°C	34.0	11.13	9.12	7.53	6.14	4.95	3.95	3.14	2.54

Indoor air temperature conditions : 20.0°C dry-bulb

Part Load Performance

MMY-AP1802FT8 (18HP, 50.4kW system)

Cooling

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Cooling Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
40°C	46.9	16.31	12.84	10.39	8.29	6.55	5.18	4.16	3.50
35°C	50.4	15.42	12.13	9.81	7.82	6.17	4.86	3.90	3.27
30°C	50.4	12.76	10.12	8.22	6.61	5.27	4.22	3.44	2.95
25°C	50.4	11.02	8.79	7.17	5.80	4.66	3.77	3.12	2.71
20°C	50.4	9.70	7.95	6.51	5.28	4.27	3.48	2.90	2.55
15°C	50.4	9.02	7.41	6.08	4.95	4.02	3.29	2.76	2.43

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

Heating

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Heating Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
15°C	56.5	13.54	10.33	8.59	7.06	5.75	4.66	3.78	3.12
11°C	56.5	14.60	11.07	9.16	7.48	6.04	4.83	3.86	3.13
7°C	56.5	15.54	11.74	9.67	7.86	6.30	5.00	3.95	3.16
1°C	52.5	15.80	11.92	9.79	7.93	6.33	4.99	3.91	3.10
-5°C	45.2	14.68	11.09	9.13	7.41	5.92	4.69	3.69	2.94
-10°C	38.4	13.20	10.02	8.27	6.74	5.42	4.32	3.44	2.77

Indoor air temperature conditions : 20.0°C dry-bulb

Part Load Performance

MMY-AP2002FT8 (20HP, 56kW system)

Cooling

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Cooling Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
40°C	52.1	18.93	14.98	12.11	9.66	7.63	6.02	4.83	4.06
35°C	56.0	17.89	14.15	11.43	9.11	7.18	5.65	4.52	3.79
30°C	56.0	14.81	11.79	9.58	7.69	6.13	4.90	3.99	3.42
25°C	56.0	12.79	10.24	8.35	6.74	5.42	4.37	3.61	3.14
20°C	56.0	11.26	9.05	7.41	6.01	4.86	3.96	3.31	2.90
15°C	56.0	10.46	8.44	6.92	5.63	4.57	3.74	3.14	2.77

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

Heating

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Heating Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
15°C	63.0	15.67	12.97	10.77	8.85	7.20	5.82	4.71	3.88
11°C	63.0	16.89	13.90	11.49	9.37	7.55	6.03	4.81	3.89
7°C	63.0	17.98	14.75	12.14	9.85	7.89	6.24	4.92	3.92
1°C	58.6	18.28	14.97	12.29	9.94	7.92	6.23	4.87	3.85
-5°C	50.4	16.98	13.93	11.45	9.28	7.41	5.85	4.59	3.64
-10°C	42.8	15.27	12.58	10.37	8.44	6.78	5.39	4.28	3.44

Indoor air temperature conditions : 20.0°C dry-bulb

Part Load Performance

MMY-AP2402FT8 (24HP, 68.0kW system)

Cooling

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Cooling Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
40°C	63.2	20.80	16.06	13.00	10.38	8.22	6.50	5.23	4.41
35°C	68.0	19.66	15.17	12.27	9.80	7.74	6.11	4.91	4.12
30°C	68.0	16.27	12.66	10.30	8.28	6.62	5.31	4.34	3.73
25°C	68.0	14.05	11.00	8.99	7.27	5.86	4.75	3.94	3.43
20°C	68.0	13.07	10.26	8.40	6.82	5.52	4.49	3.75	3.29
15°C	68.0	12.15	9.57	7.85	6.39	5.19	4.25	3.57	3.14

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

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Heating

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Heating Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
15°C	76.5	17.46	14.10	11.73	9.65	7.87	6.38	5.19	4.29
11°C	76.5	18.82	15.12	12.51	10.22	8.25	6.61	5.29	4.30
7°C	76.5	20.04	16.03	13.21	10.74	8.61	6.84	5.41	4.33
1°C	71.1	20.38	16.27	13.37	10.83	8.65	6.83	5.36	4.25
-5°C	61.2	18.93	15.15	12.47	10.12	8.10	6.41	5.06	4.03
-10°C	52.0	17.02	13.68	11.30	9.21	7.42	5.92	4.72	3.81

Indoor air temperature conditions : 20.0°C dry-bulb

Part Load Performance

MMY-AP2602FT8 (26HP, 73kW system)

Cooling

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Cooling Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
40°C	67.9	23.23	18.19	14.72	11.75	9.29	7.34	5.90	4.97
35°C	73.0	21.96	17.19	13.90	11.08	8.75	6.90	5.53	4.64
30°C	73.0	18.18	14.34	11.65	9.37	7.48	5.99	4.89	4.19
25°C	73.0	15.70	12.45	10.17	8.22	6.62	5.35	4.43	3.86
20°C	73.0	14.59	11.37	9.31	7.55	6.11	4.98	4.15	3.64
15°C	73.0	13.57	10.60	8.70	7.08	5.75	4.70	3.95	3.48

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

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Heating

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Heating Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
15°C	81.5	19.25	15.89	13.21	10.86	8.84	7.16	5.81	4.80
11°C	81.5	20.75	17.03	14.08	11.50	9.28	7.43	5.94	4.81
7°C	81.5	22.09	18.06	14.88	12.08	9.69	7.68	6.07	4.85
1°C	75.8	22.46	18.33	15.06	12.19	9.73	7.67	6.01	4.76
-5°C	65.2	20.87	17.06	14.04	11.39	9.11	7.20	5.67	4.51
-10°C	55.4	18.77	15.41	12.72	10.36	8.34	6.64	5.28	4.26

Indoor air temperature conditions : 20.0°C dry-bulb

Part Load Performance

MMY-AP2802FT8 (28HP, 78.5kW system)

Cooling

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Cooling Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
40°C	73.0	25.82	20.33	16.44	13.12	10.37	8.18	6.57	5.53
35°C	78.5	24.40	19.21	15.52	12.37	9.76	7.69	6.16	5.16
30°C	78.5	20.19	16.01	13.01	10.45	8.34	6.67	5.44	4.66
25°C	78.5	17.44	13.90	11.34	9.17	7.37	5.96	4.93	4.28
20°C	78.5	15.35	12.48	10.21	8.29	6.70	5.46	4.56	4.00
15°C	78.5	14.27	11.63	9.54	7.76	6.30	5.16	4.33	3.81

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

9

Heating

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Heating Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
15°C	88.0	21.38	17.67	14.68	12.06	9.82	7.94	6.44	5.31
11°C	88.0	23.04	18.94	15.66	12.78	10.30	8.24	6.58	5.33
7°C	88.0	24.53	20.09	16.54	13.43	10.76	8.52	6.73	5.37
1°C	81.8	24.94	20.39	16.74	13.55	10.81	8.51	6.66	5.26
-5°C	70.4	23.17	18.98	15.61	12.65	10.11	7.99	6.28	4.99
-10°C	59.8	20.84	17.14	14.14	11.51	9.25	7.37	5.85	4.70

Indoor air temperature conditions : 20.0°C dry-bulb

Part Load Performance

MMY-AP3002FT8 (30HP, 84kW system)

Cooling

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Cooling Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
40°C	78.1	28.40	22.47	18.16	14.48	11.44	9.02	7.24	6.09
35°C	84.0	26.84	21.23	17.14	13.66	10.77	8.48	6.78	5.68
30°C	84.0	22.21	17.69	14.36	11.53	9.19	7.34	5.99	5.12
25°C	84.0	19.18	15.36	12.52	10.11	8.13	6.56	5.42	4.71
20°C	84.0	16.89	13.58	11.11	9.02	7.29	5.94	4.96	4.35
15°C	84.0	15.70	12.66	10.38	8.44	6.85	5.61	4.71	4.15

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

Heating

		Compressor + Oudoor Fan Power consumption (kW)							
Outdoor Unit Dry-Bulb (°C)	Outdoor Unit 100% Heating Capacity (kW)	100% Capacity	90% Capacity	80% Capacity	70% Capacity	60% Capacity	50% Capacity	40% Capacity	30% Capacity
15°C	95.0	23.62	19.45	16.15	13.27	10.79	8.73	7.07	5.82
11°C	95.0	25.46	20.86	17.23	14.06	11.33	9.05	7.22	5.84
7°C	95.0	27.11	22.12	18.21	14.78	11.83	9.36	7.38	5.89
1°C	88.4	27.57	22.45	18.43	14.91	11.88	9.35	7.31	5.77
-5°C	76.0	25.61	20.89	17.18	13.92	11.12	8.77	6.89	5.47
-10°C	64.6	23.03	18.86	15.56	12.66	10.17	8.09	6.42	5.15

Indoor air temperature conditions : 20.0°C dry-bulb

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Wiring guideline

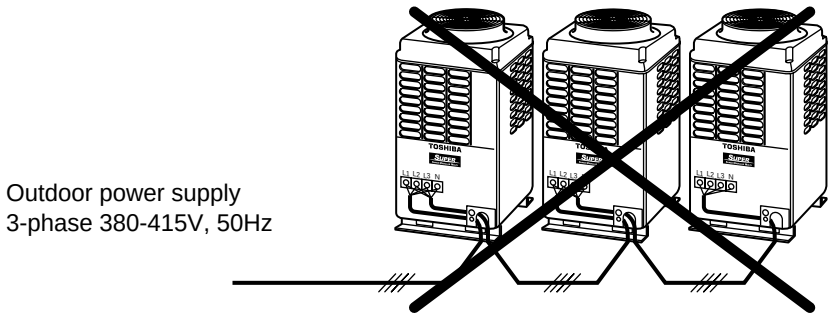
WIRING DESIGN

1. General

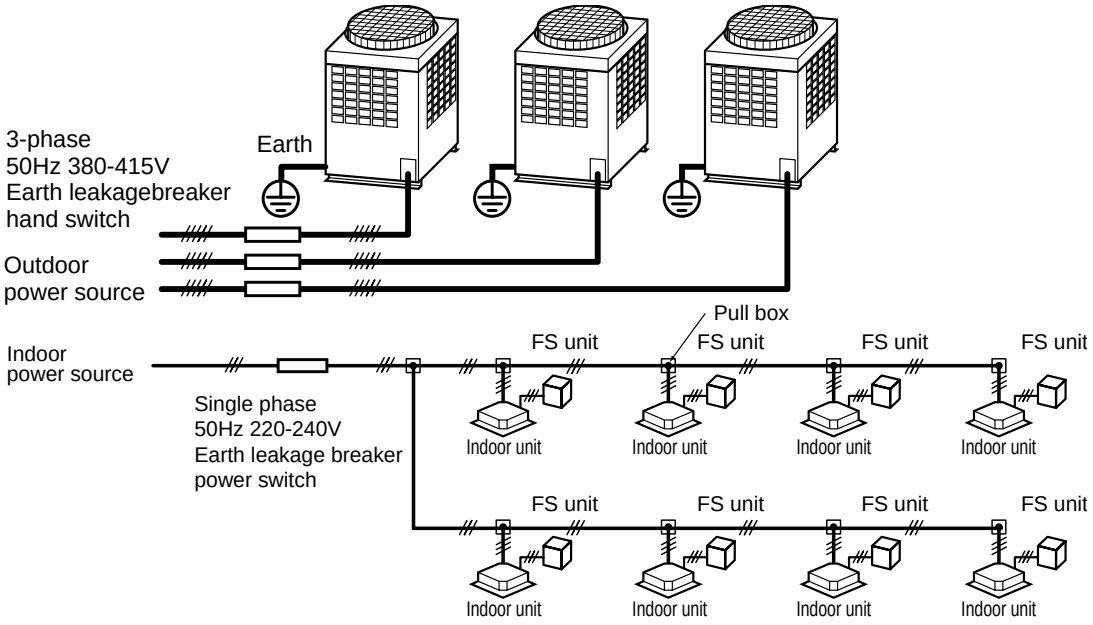
(1) Perform wiring of the power supplies in conformance with the regulations of the local electrical company.
(2) Use a 2 core shielded wire for control wiring on connecting indoor units, and connecting of indoor units to outdoor units. This is recommended to prevent possible noise issues.
(3) Be sure to connect an earth leakage breaker to the power supply of the indoor units.
(4) Supply a separate power supply to each outdoor unit ensuring use of an earth leakage breaker and isolator.
(5) Never connect 220-240V power to the control wiring terminal block (U1, U2, U3, U4, U5, U6) (Fault will be caused.)
(6) Locate wiring system for the control and refrigerant piping system in the same line.
(7) Arrange the cables so that the electrical wires do not come in to contact with high-temperature parts of the pipework ; otherwise insulation will melt and an accident may be caused.
(8) Do not turn on the power supply of the indoor units until vacuuming of the refrigerant pipe has finished.

2. For outdoor unit power supply

• Select the power supply cabling and fuse of each outdoor unit from the following specifications:
• 5 core cable, in conformance with Design 60245 IEC 66
Do not connect them via the terminal block (L1, L2, L3, N).



3. Electrical wiring design



• Unit capacities and power supply wire sizes (Reference)

Model MMY-	Power supply wiring	
	Wire size	Field fuse
MAP0802FT8	3.5 mm (AWG #10) Max. 20 m	30 A
MAP1002FT8	5.5 mm (AWG #10) Max. 28 m	30 A
MAP1202FT8	5.5 mm (AWG #10) Max. 27 m	30 A

• Determine the wire size for the indoor unit according to the number of connected indoor units downstream.
• Observe local regulations in reference to the wire size selection and installation.

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

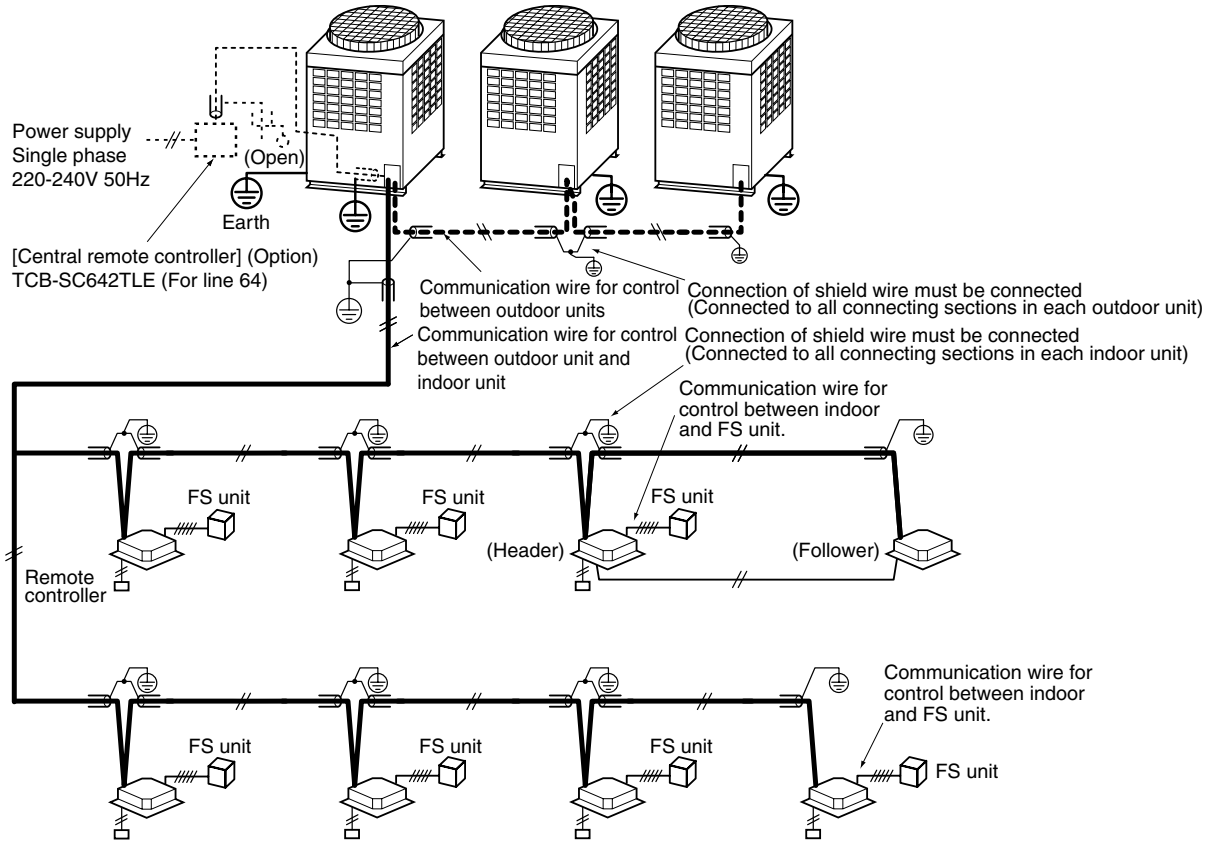
Item / Model	Power supply wiring		
	Wire size		Field fuse
All models of indoor units	2.0mm (AWG#14) Max. 20m	3.5mm (AWG#12) Max. 50m	15A
FS unit	Be sure to use the supplied cable. If the length between the indoor and FS unit exceeds 5 m, connect by using the connection cable kit (RBC-CBK15FE). (Sold separately)		

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.

⚠ CAUTIONS

(1) Keep the refrigerant piping system and the indoor-indoor/indoor-outdoor control wiring systems together.
(2) When running power supplies and control wires parallel to each other, run them through separate conduits or maintain a suitable distance between them.
(Current capacity of power supplies: 10A or less for 300m, 50A or less for 500m)

5. Design of control wiring

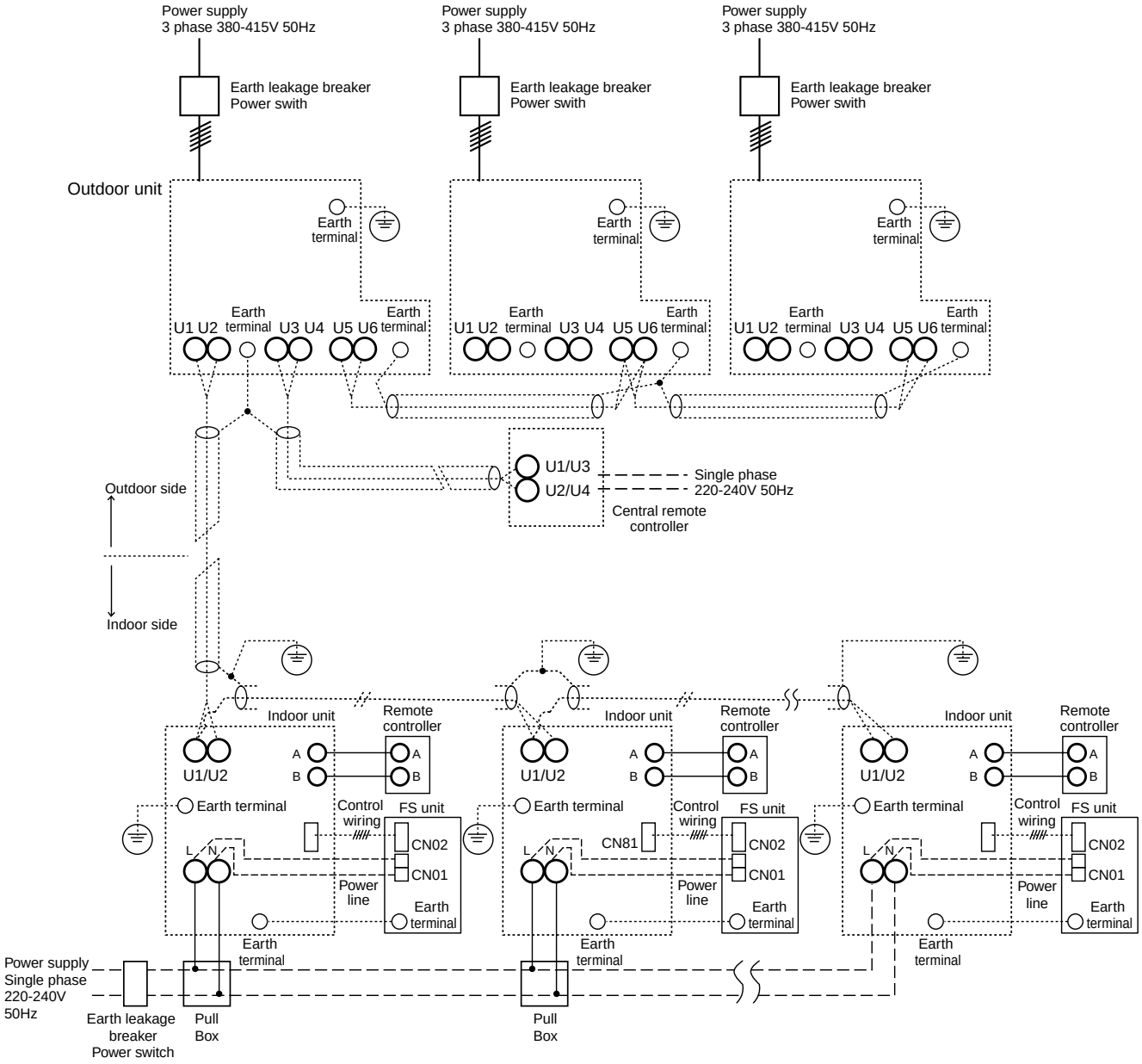


• Wire specification, quantity, size of crossover wiring and remote controller wiring

Name	Q'ty	Size			Specification
		Up to 500m	Up to 1000m	1000 to 2000m	
Crossover wiring (indoor-indoor / indoor-outdoor / control wiring, central control wiring)	2 cores	1.25mm^2		2.0mm^2	Shield wire
Remote controller wiring	2 cores	0.5 to 2.0mm^2	–	–	–
Control wiring between indoor and FS unit	Be sure to use the supplied connection cable. If the length between the indoor unit and FS unitexceeds 5 m, connect by using the connection cable kit (RBC-CBK15FE). (Sold separately)				

(1) The crossover wiring and central control wiring uses a 2-core non-polarity communication wire. Use 2-core shielded wire to prevent possible noise issues. Connect the end of the shielded wires and earth(ground) at both the outdoor and indoor unit. Where the shielded wire is connected between a central controller and a outdoor unit, only earth(ground) at one end of the central control line.
(2) 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)

6. System Wiring Design



NOTE :

Control wire and power supply wire between the FS unit and the indoor unit are supplied as an accessory complete with the FS unit. (Wire length : 6m)

If the length between indoor and FS unit exceeds 5m, connect by using the connection cable kit sold separately (RBC-CBK15FE).

■ Indoor unit

50Hz

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-AP0091H	230-1-50	198	264	0.060	0.20	0.25	15
	MMU-AP0121H	230-1-50	198	264	0.060	0.20	0.25	15
	MMU-AP0151H	230-1-50	198	264	0.060	0.22	0.28	15
	MMU-AP0181H	230-1-50	198	264	0.060	0.24	0.30	15
	MMU-AP0241H	230-1-50	198	264	0.060	0.28	0.35	15
	MMU-AP0271H	230-1-50	198	264	0.060	0.28	0.35	15
	MMU-AP0301H	230-1-50	198	264	0.060	0.40	0.50	15
	MMU-AP0361H	230-1-50	198	264	0.090	0.68	0.85	15
	MMU-AP0481H	230-1-50	198	264	0.090	0.93	1.16	15
	MMU-AP0561H	230-1-50	198	264	0.090	0.95	1.19	15
2-Way Air Discharge Cassette Type	MMU-AP0071WH	230-1-50	198	264	0.053	0.36	0.45	15
	MMU-AP0091WH	230-1-50	198	264	0.053	0.36	0.45	15
	MMU-AP0121WH	230-1-50	198	264	0.053	0.36	0.45	15
	MMU-AP0151WH	230-1-50	198	264	0.039	0.37	0.46	15
	MMU-AP0181WH	230-1-50	198	264	0.039	0.37	0.46	15
	MMU-AP0241WH	230-1-50	198	264	0.053	0.53	0.66	15
	MMU-AP0271WH	230-1-50	198	264	0.053	0.53	0.66	15
	MMU-AP0301WH	230-1-50	198	264	0.053	0.54	0.68	15
	MMU-AP0481WH	220-1-50	198	242	0.092	1.33	1.67	15
1-Way Air Discharge Cassette Type	MMU-AP0071YH	230-1-50	198	264	0.022	0.28	0.35	15
	MMU-AP0091YH	230-1-50	198	264	0.022	0.28	0.35	15
	MMU-AP0121YH	230-1-50	198	264	0.022	0.28	0.35	15
	MMU-AP0151SH	230-1-50	198	264	0.034	0.55	0.69	15
	MMU-AP0181SH	230-1-50	198	264	0.034	0.55	0.69	15
	MMU-AP0241SH	230-1-50	198	264	0.034	0.63	0.79	15
Concealed Duct Type	MMD-AP0071BH	230-1-50	198	264	0.120	0.33	0.41	15
	MMD-AP0091BH	230-1-50	198	264	0.120	0.33	0.41	15
	MMD-AP0121BH	230-1-50	198	264	0.120	0.39	0.49	15
	MMD-AP0151BH	230-1-50	198	264	0.120	0.39	0.49	15
	MMD-AP0181BH	230-1-50	198	264	0.120	0.50	0.62	15
	MMD-AP0241BH	230-1-50	198	264	0.120	0.60	0.75	15
	MMD-AP0271BH	230-1-50	198	264	0.120	0.60	0.75	15
	MMD-AP0301BH	230-1-50	198	264	0.120	0.70	0.88	15
	MMD-AP0361BH	230-1-50	198	264	0.120	0.96	1.20	15
	MMD-AP0481BH	230-1-50	198	264	0.120	1.13	1.41	15
	MMD-AP0561BH	230-1-50	198	264	0.120	1.13	1.41	15
Concealed Duct High Static Pressure Type	MMD-AP0181H	230-1-50	198	264	0.160	0.93	1.16	15
	MMD-AP0241H	230-1-50	198	264	0.160	1.55	1.94	15
	MMD-AP0271H	230-1-50	198	264	0.160	1.55	1.94	15
	MMD-AP0361H	230-1-50	198	264	0.260	1.87	2.34	15
	MMD-AP0481H	230-1-50	198	264	0.260	2.12	2.65	15
	MMD-AP0721H	230-1-50	198	264	0.3703	6.04	7.55	15
	MMD-AP0961H	230-1-50	198	264	0.3703	6.35	7.94	15
Under Ceiling Type	MMC-AP0151H	230-1-50	198	264	0.030	0.33	0.41	15
	MMC-AP0181H	230-1-50	198	264	0.030	0.37	0.46	15
	MMC-AP0241H	230-1-50	198	264	0.040	0.48	0.60	15
	MMC-AP0271H	230-1-50	198	264	0.040	0.48	0.60	15
	MMC-AP0361H	230-1-50	198	264	0.080	0.90	1.13	15
	MMC-AP0481H	230-1-50	198	264	0.080	0.96	1.20	15
High Wall Type (1 series)	MMK-AP0071H	230-1-50	198	264	0.030	0.35	0.44	15
	MMK-AP0091H	230-1-50	198	264	0.030	0.35	0.44	15
	MMK-AP0121H	230-1-50	198	264	0.030	0.35	0.44	15
	MMK-AP0151H	230-1-50	198	264	0.030	0.37	0.46	15
	MMK-AP0181H	230-1-50	198	264	0.030	0.37	0.46	15
	MMK-AP0241H	230-1-50	198	264	0.030	0.40	0.50	15
High Wall Type (2 series)	MMK-AP0072H	230-1-50	198	264	0.030	0.20	0.24	15
	MMK-AP0092H	230-1-50	198	264	0.030	0.21	0.26	15
	MMK-AP0122H	230-1-50	198	264	0.030	0.22	0.27	15
Floor Standing Cabinet Type	MML-AP0071H	230-1-50	198	264	0.045	0.30	0.37	15
	MML-AP0091H	230-1-50	198	264	0.045	0.30	0.37	15
	MML-AP0121H	230-1-50	198	264	0.045	0.49	0.62	15
	MML-AP0151H	230-1-50	198	264	0.045	0.49	0.62	15
	MML-AP0181H	230-1-50	198	264	0.070	0.54	0.68	15
	MML-AP0241H	230-1-50	198	264	0.070	0.54	0.68	15
Floor Standing Concealed Type	MML-AP0071BH	230-1-50	198	264	0.019	0.29	0.36	15
	MML-AP0091BH	230-1-50	198	264	0.019	0.29	0.36	15
	MML-AP0121BH	230-1-50	198	264	0.019	0.29	0.36	15
	MML-AP0151BH	230-1-50	198	264	0.070	0.52	0.65	15
	MML-AP0181BH	230-1-50	198	264	0.070	0.52	0.65	15
	MML-AP0241BH	230-1-50	198	264	0.070	0.53	0.66	15
Floor Standing Type	MMF-AP0151H	230-1-50	198	264	0.037	0.77	0.96	15
	MMF-AP0181H	230-1-50	198	264	0.037	0.77	0.96	15
	MMF-AP0241H	230-1-50	198	264	0.063	1.01	1.27	15
	MMF-AP0271H	230-1-50	198	264	0.063	1.01	1.27	15
	MMF-AP0361H	230-1-50	198	264	0.110	1.48	1.85	15
	MMF-AP0481H	230-1-50	198	264	0.160	1.84	2.30	15
	MMF-AP0561H	230-1-50	198	264	0.160	1.84	2.30	15

Legend

MCA : Minimum Circuit Amps
MOCP : Maximum Overcurrent Protection (Amps)
FLA : Full Load Amps
kW : Fan Motor Rated Output (kW)

■ Single outdoor unit

50Hz

Heat Pump Model MMY-	Nominal Voltage (V-Ph-Hz)	Voltage Range		Compressor		Fan Motor		Power Supply		
		Min	Max	RLA	LRA	kW	FLA	MCA	MOCP	ICF
MAP0802FT8	400-3-50	342	457	5.2 + 5.2	–	0.60	1.0	20.0	30	–
MAP1002FT8	400-3-50	342	457	6.5 + 6.5	–	0.60	1.1	22.5	30	–
MAP1202FT8	400-3-50	342	457	9.5 + 9.5	–	0.60	1.1	24.5	30	–

■ Combination of outdoor unit

Heat Pump Model MMY-	Nominal Voltage (V-Ph-Hz)	Voltage Range		Compressor						Fan Motor		Power Supply		
				Unit No.1		Unit No.2		Unit No.3						
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	kW	FLA	MCA	MOCP	ICF
AP1602FT8	400-3-50	342	457	5.2 + 5.2	–	5.2 + 5.2	–	–	–	0.60 x 2	1.0 + 1.0	40.0	50	–
AP1802FT8	400-3-50	342	457	6.5 + 6.5	–	5.2 + 5.2	–	–	–	0.60 x 2	1.1 + 1.0	42.5	50	–
AP2002FT8	400-3-50	342	457	6.5 + 6.5	–	6.5 + 6.5	–	–	–	0.60 x 2	1.1 + 1.1	45.0	60	–
AP2402FT8	400-3-50	342	457	5.2 + 5.2	–	5.2 + 5.2	–	5.2 + 5.2	–	0.60 x 3	1.0 + 1.0 + 1.0	60.0	70	–
AP2602FT8	400-3-50	342	457	6.5 + 6.5	–	5.2 + 5.2	–	5.2 + 5.2	–	0.60 x 3	1.1 + 1.0 + 1.0	62.5	70	–
AP2802FT8	400-3-50	342	457	6.5 + 6.5	–	6.5 + 6.5	–	5.2 + 5.2	–	0.60 x 3	1.1 + 1.1 + 1.0	65.0	80	–
AP3002FT8	400-3-50	342	457	6.5 + 6.5	–	6.5 + 6.5	–	6.5 + 6.5	–	0.60 x 3	1.1 + 1.1 + 1.1	67.5	80	–

Legend

MCA : Minimum Circuit Amps
MOCP : Maximum Overcurrent Protection (Amps)
ICF : Maximum Instantaneous Current Flow Start
RLA : Rated Load Amps
LRA : Locked Rotor Amps
FLA : Full Load Amps
kW : Fan Motor Rated Output (kW)

NOTE :
RLA is based on the following conditions.
Indoor temperature : 27°C DB/19°C WB
Outdoor temperature: 35°C DB

11

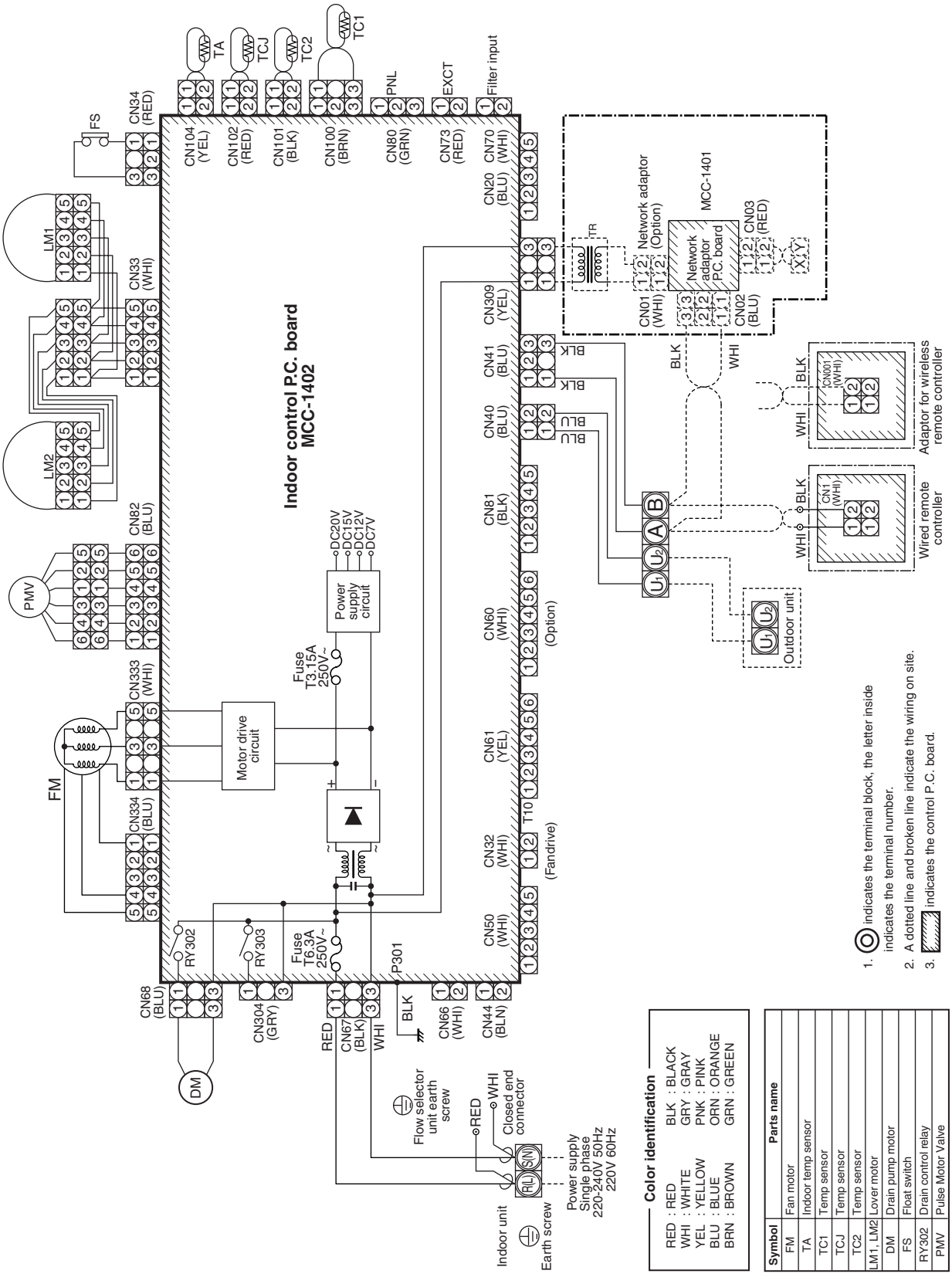
Wiring diagram

11 Wiring diagram

1. Indoor Unit

1-1. 4-way Air Discharge Cassette Type

Model: MMU-AP0091H, AP0121H, AP0151H, AP0181H, AP0241H, MMU-AP0271H, AP0301H, AP0361H, AP0481H, AP0561H



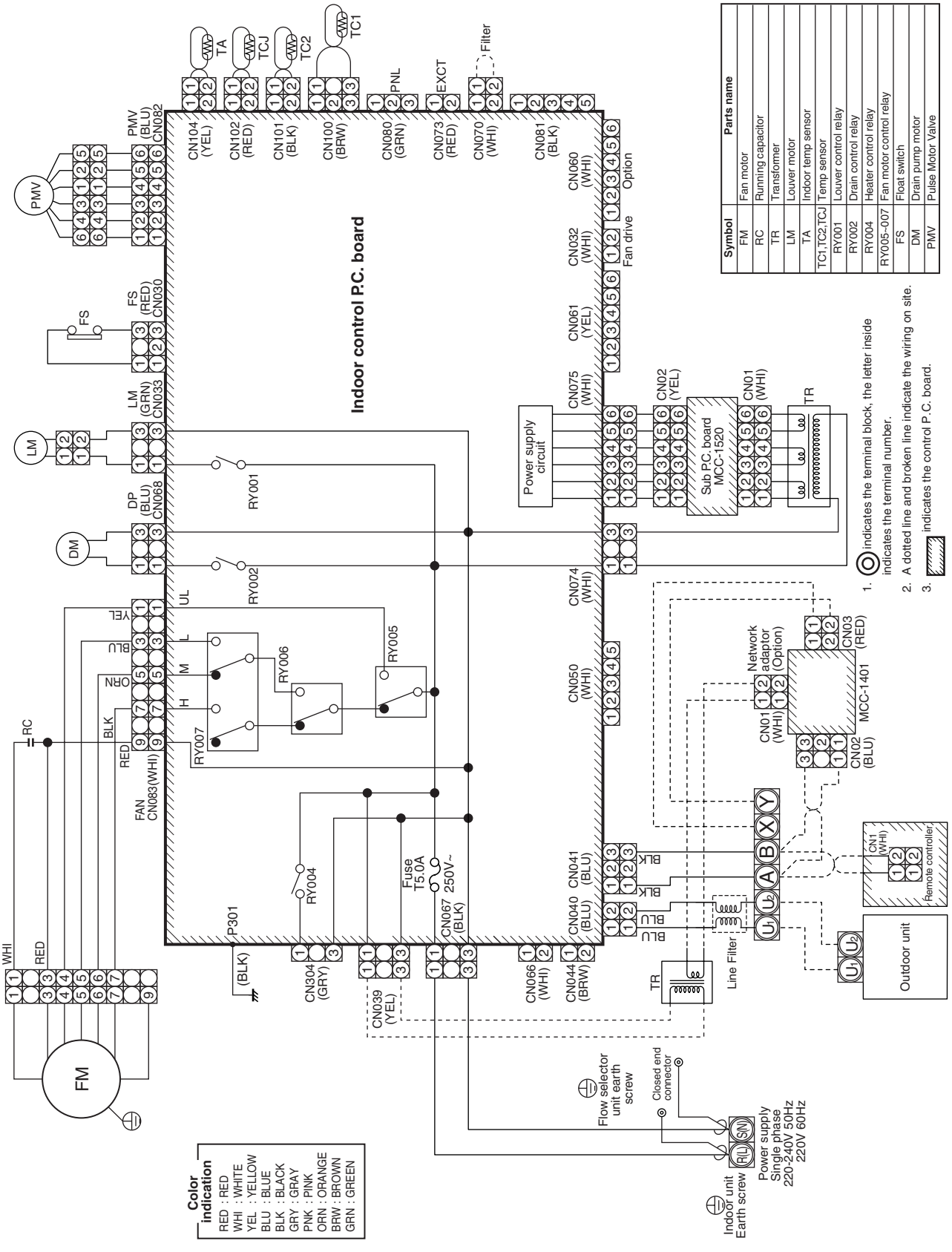
Color identification

RED	: RED	BLK	: BLACK
WHI	: WHITE	GRY	: GRAY
YEL	: YELLOW	PNK	: PINK
BLU	: BLUE	ORN	: ORANGE
BRN	: BROWN	GRN	: GREEN

Symbol	Parts name
FM	Fan motor
TA	Indoor temp sensor
TC1	Temp sensor
TCJ	Temp sensor
TC2	Temp sensor
LM1, LM2	Lover motor
DM	Drain pump motor
FS	Float switch
RY302	Drain control relay
PMV	Pulse Motor Valve

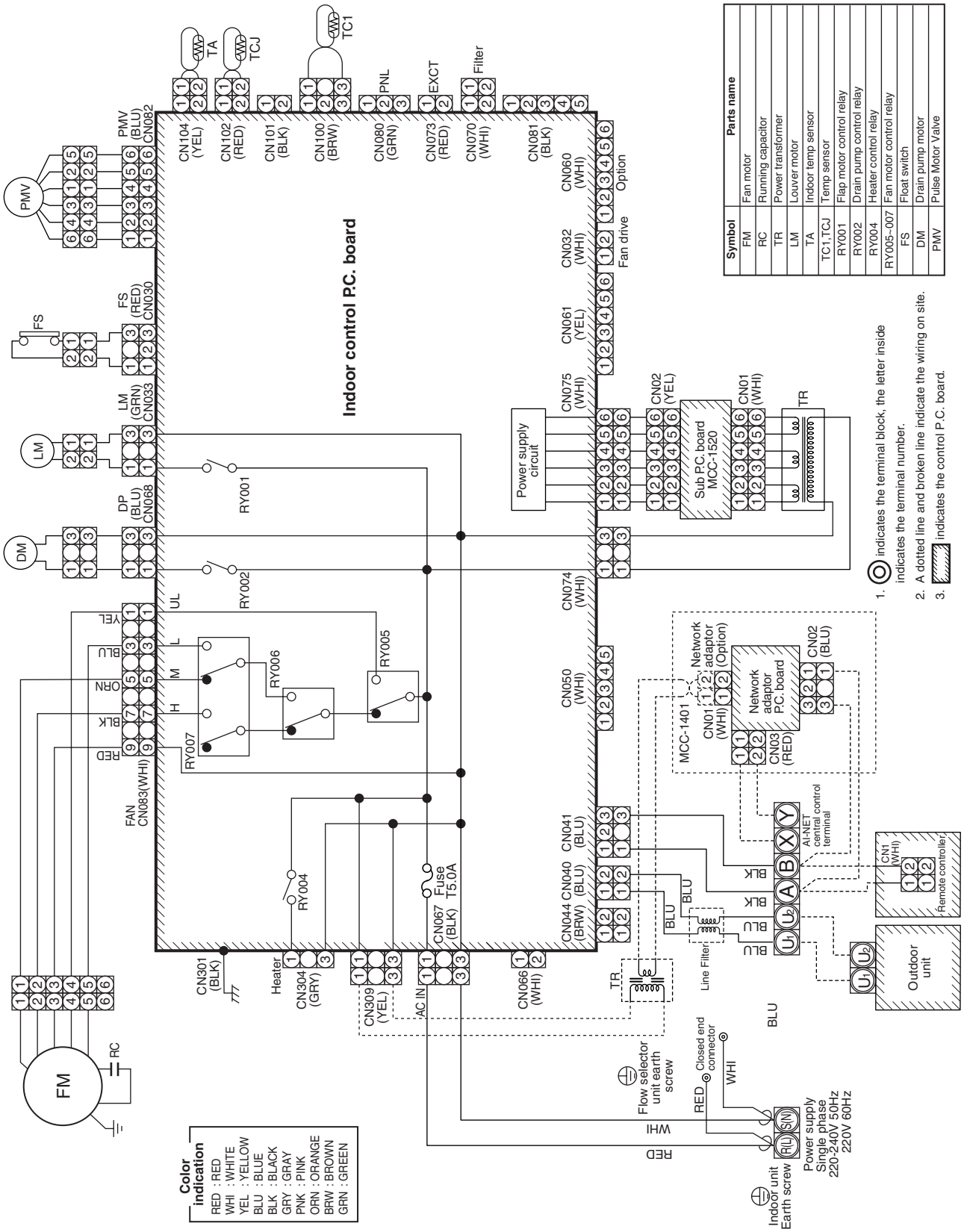
1-2. 2-way Air Discharge Cassette Type

Model: MMU-AP0071WH, AP0091WH, AP0121WH, AP0151WH, AP0181WH, MMU-AP0241WH, AP0271WH, AP0301WH, AP0481WH

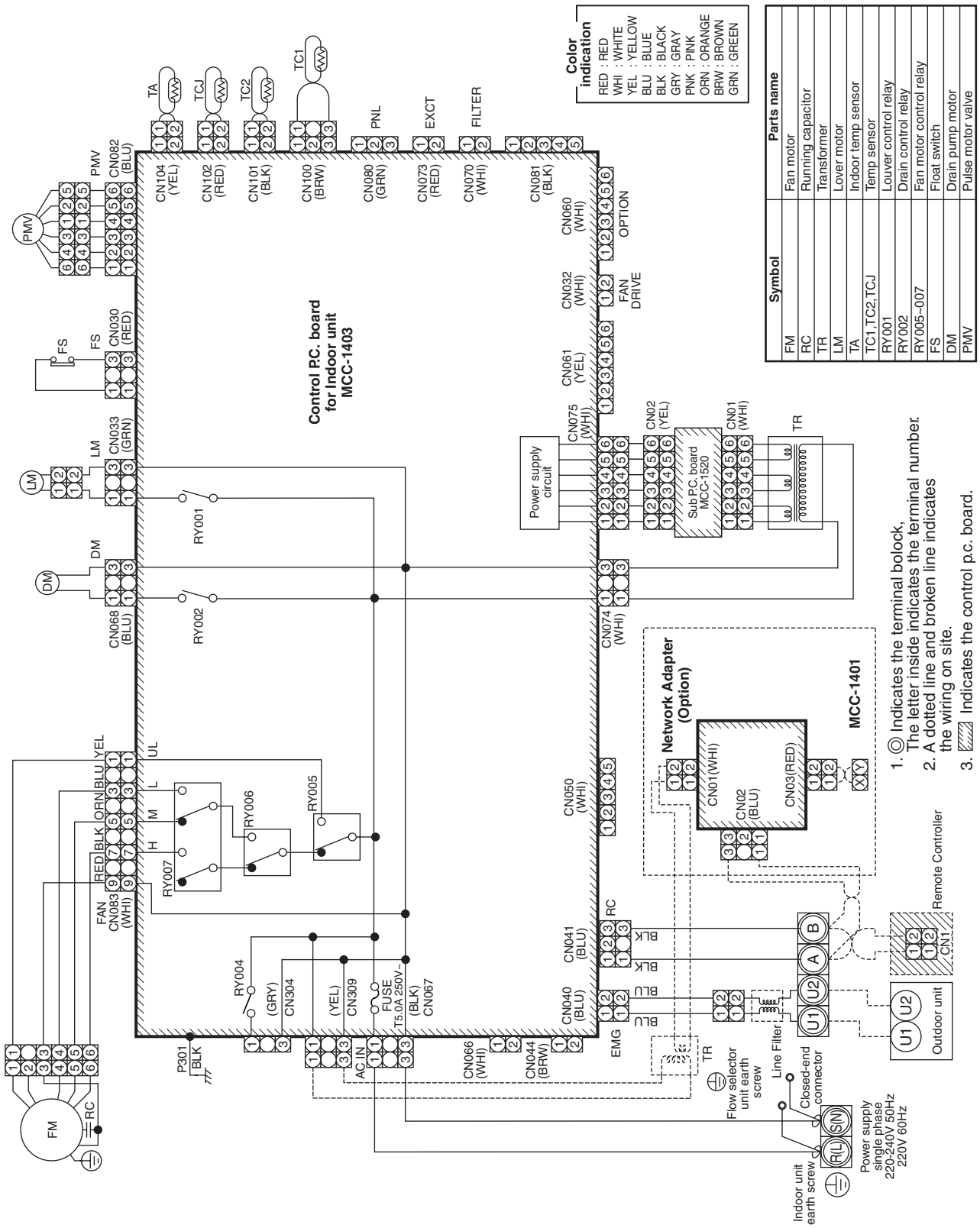


1-3. 1-way Air Discharge Cassette Type (Compact type)

Model: MMU-AP0071YH, AP0091YH, AP0121YH

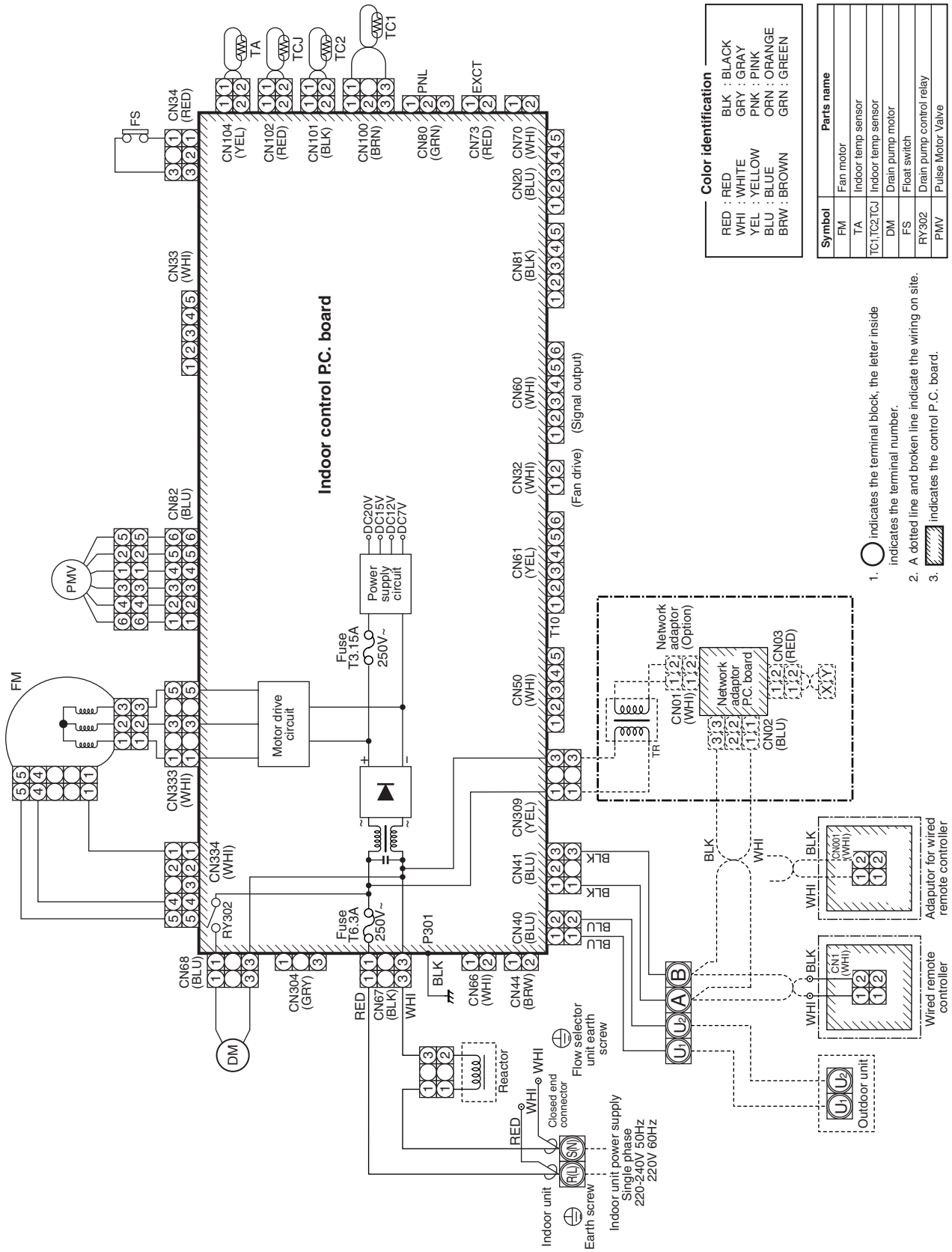


Model: MMU-AP0151SH, AP0181SH, AP0241SH



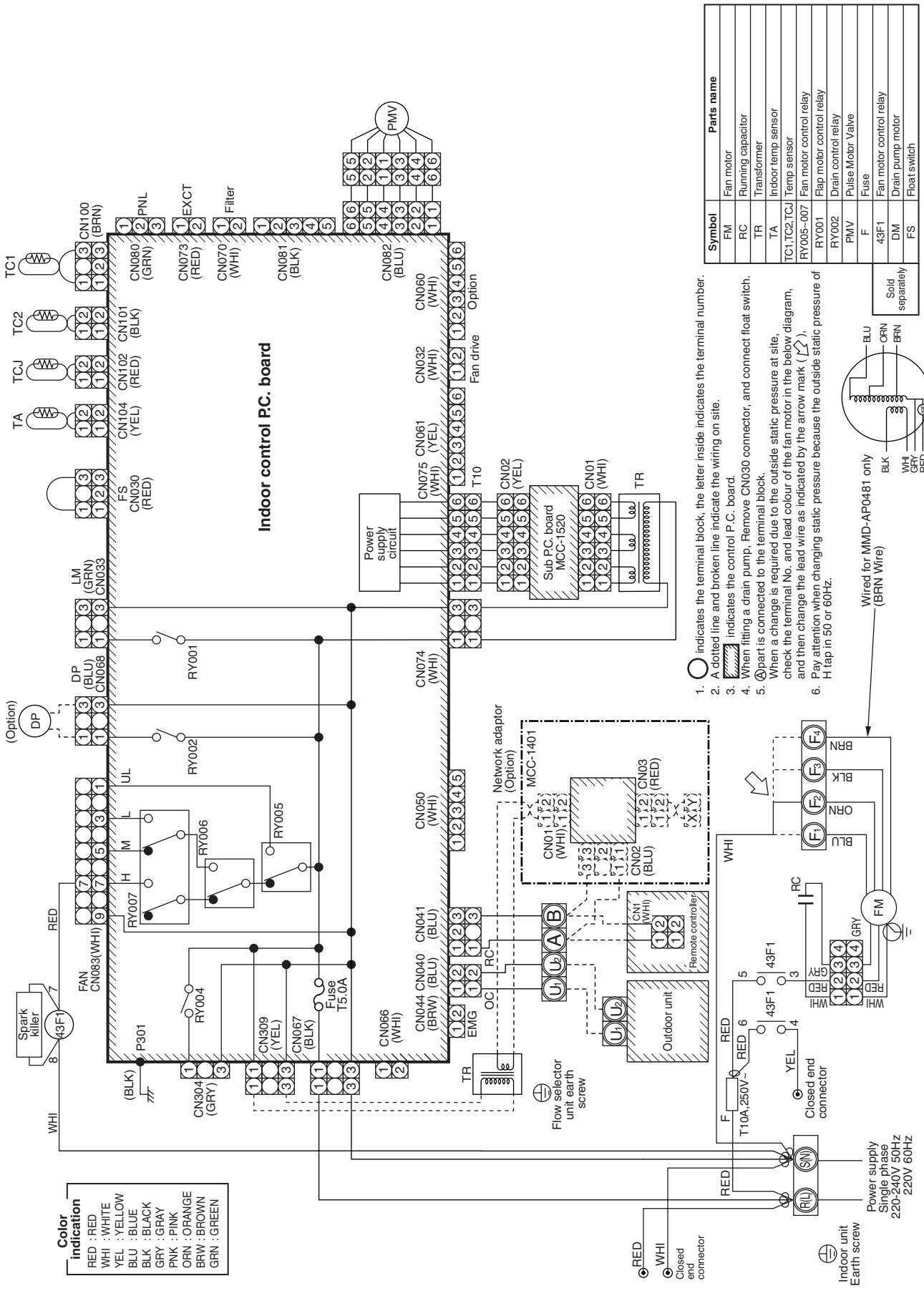
1-4. Concealed Duct Standard Type

Model: MMD-AP0071BH, AP0091BH, AP0121BH, AP0151BH, AP0181BH, AP0241BH
MMD-AP0271BH, AP0301BH, AP0361BH, AP0481BH, AP0561BH



1-5. Concealed Duct High Static Pressure Type

Model: MMD-AP0181H, AP0241H, AP0271H, AP0361H, AP0481H

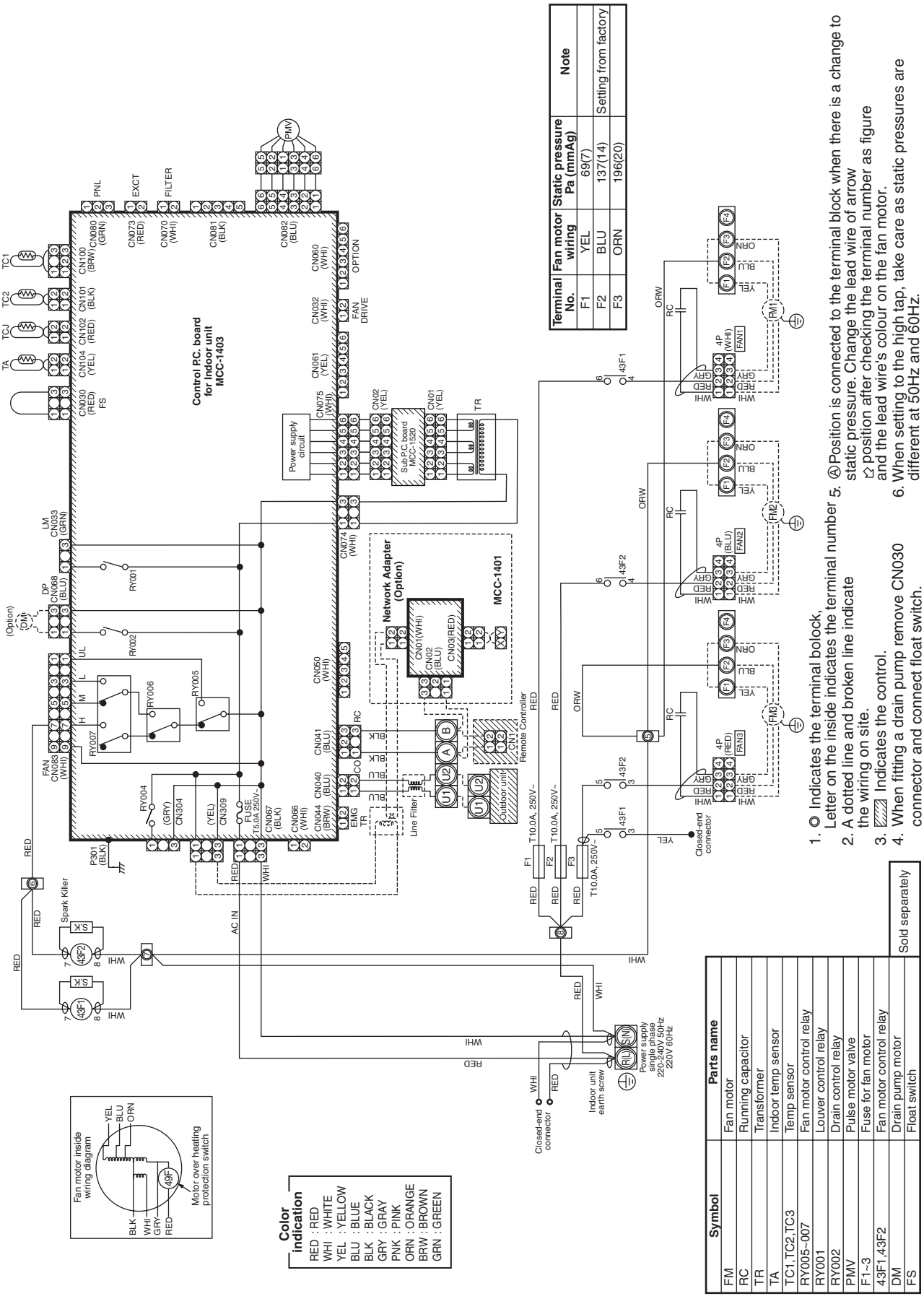


Symbol	Parts name
FM	Fan motor
RC	Running capacitor
TR	Transformer
TA	Indoor temp sensor
TC1,TC2,TCJ	Temp sensor
RY005~007	Fan motor control relay
RY001	Flap motor control relay
RY002	Drain control relay
PMV	Pulse Motor Valve
F	Fuse
43F1	Fan motor control relay
DM	Drain pump motor
FS	Float switch

Sold separately

1. ○ indicates the terminal block, the letter inside indicates the terminal number.
2. A dotted line and broken line indicate the wiring on site.
3. ▨ indicates the control P.C. board.
4. When fitting a drain pump, Remove CN030 connector, and connect float switch.
5. Ⓐpart is connected to the terminal block.
   When a change is required due to the outside static pressure at site, check the terminal No. and lead colour of the fan motor in the below diagram, and then change the lead wire as indicated by the arrow mark ( ), and then change the lead wire as indicated by the arrow mark ( ),
6. Pay attention when changing static pressure because the outside static pressure of H tap in 50 or 60Hz.

Model: MMD-AP0721H, AP0961H



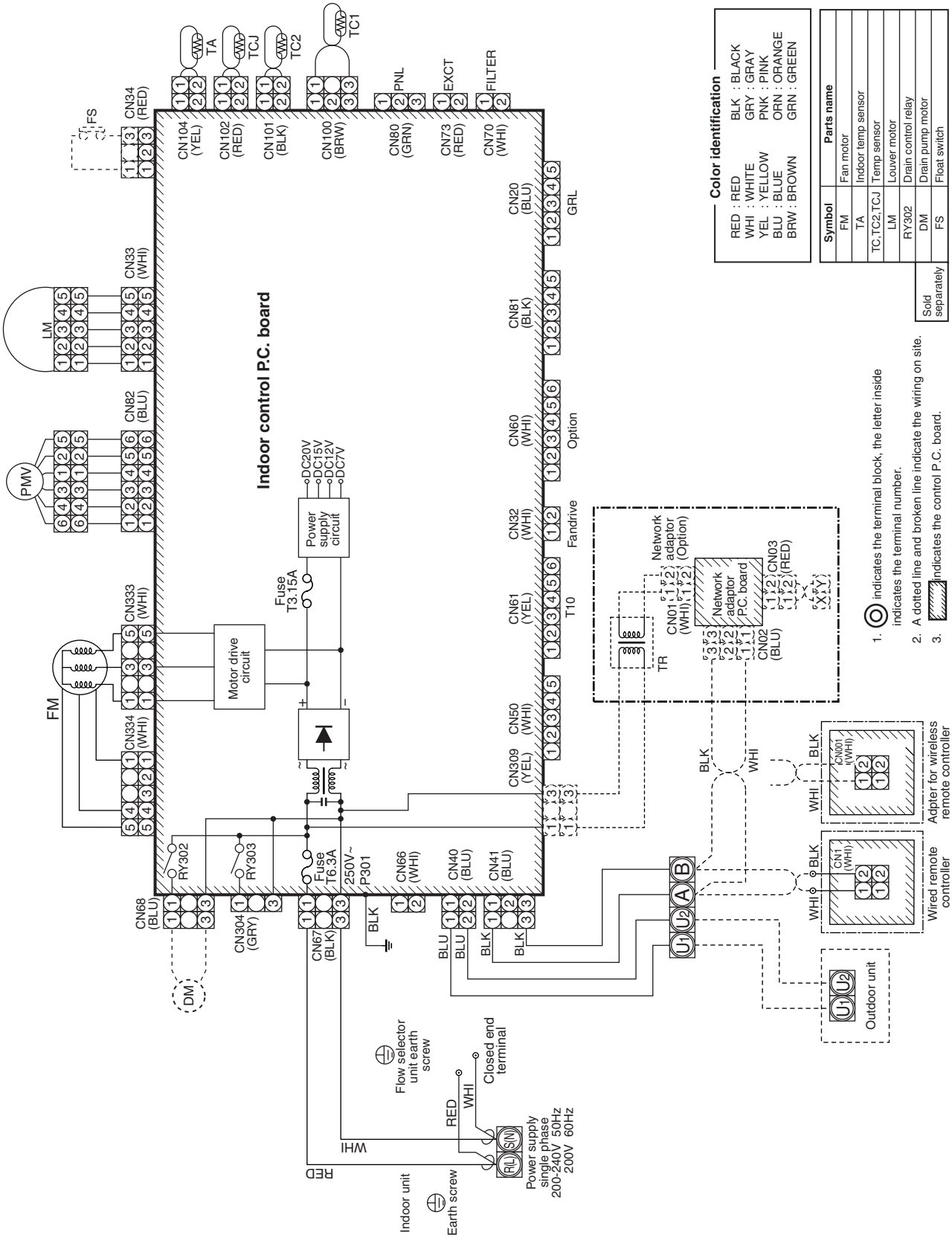
Terminal No.	Fan motor wiring	Static pressure Pa (mmAg)	Note
F1	YEL	69(7)	
F2	BLU	137(14)	Setting from factory
F3	ORN	196(20)	

1. ○ Indicates the terminal bolock, Letter on the inside indicates the terminal number
2. A dotted line and broken line indicate the wiring on site.
3. ▨ Indicates the control.
4. When fitting a drain pump remove CN030 connector and connect float switch.
5. ⓐPosition is connected to the terminal block when there is a change to static pressure. Change the lead wire of arrow ⇨ position after checking the terminal number as figure and the lead wire's colour on the fan motor.
6. When setting to the high tap, take care as static pressures are different at 50Hz and 60Hz.

Symbol	Parts name	
FM	Fan motor	
RC	Running capacitor	
TR	Transformer	
TA	Indoor temp sensor	
TC1,TC2,TC3	Temp sensor	
RY005~007	Fan motor control relay	
RY001	Louver control relay	
RY002	Drain control relay	
PMV	Pulse motor valve	
F1~3	Fuse for fan motor	
43F1,43F2	Fan motor control relay	
DM	Drain pump motor	Sold separately
FS	Float switch	

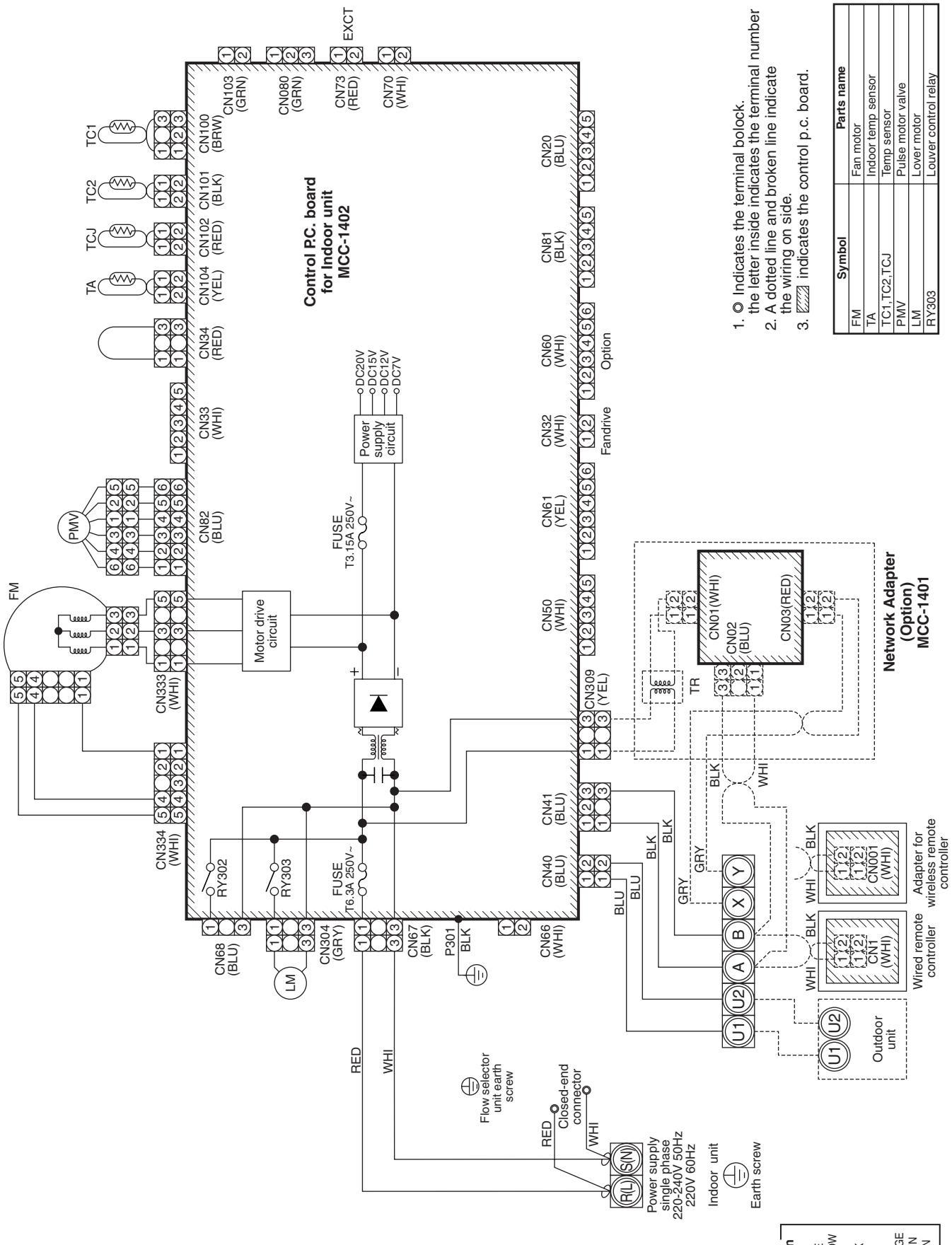
1-6. Under Ceiling Type

Model: MMC-AP0151H, AP0181H, AP0241H, AP0271H, AP0361H, AP0481H



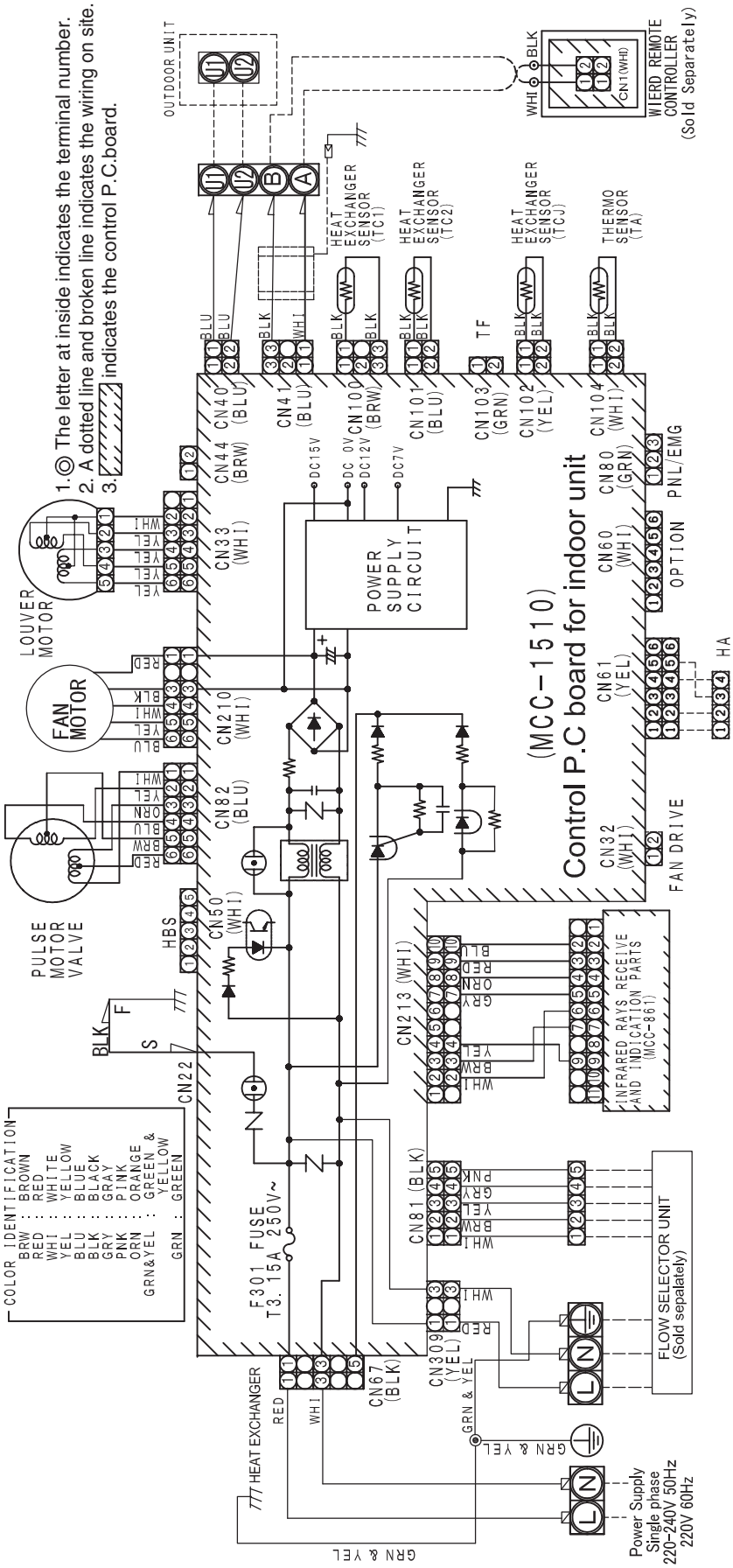
1-7. High Wall Type (1 series)

Model: MMK-AP0071H, AP0091H, AP0121H, AP0151H, AP0181H, AP0241H



1-7. High Wall Type (2 series)

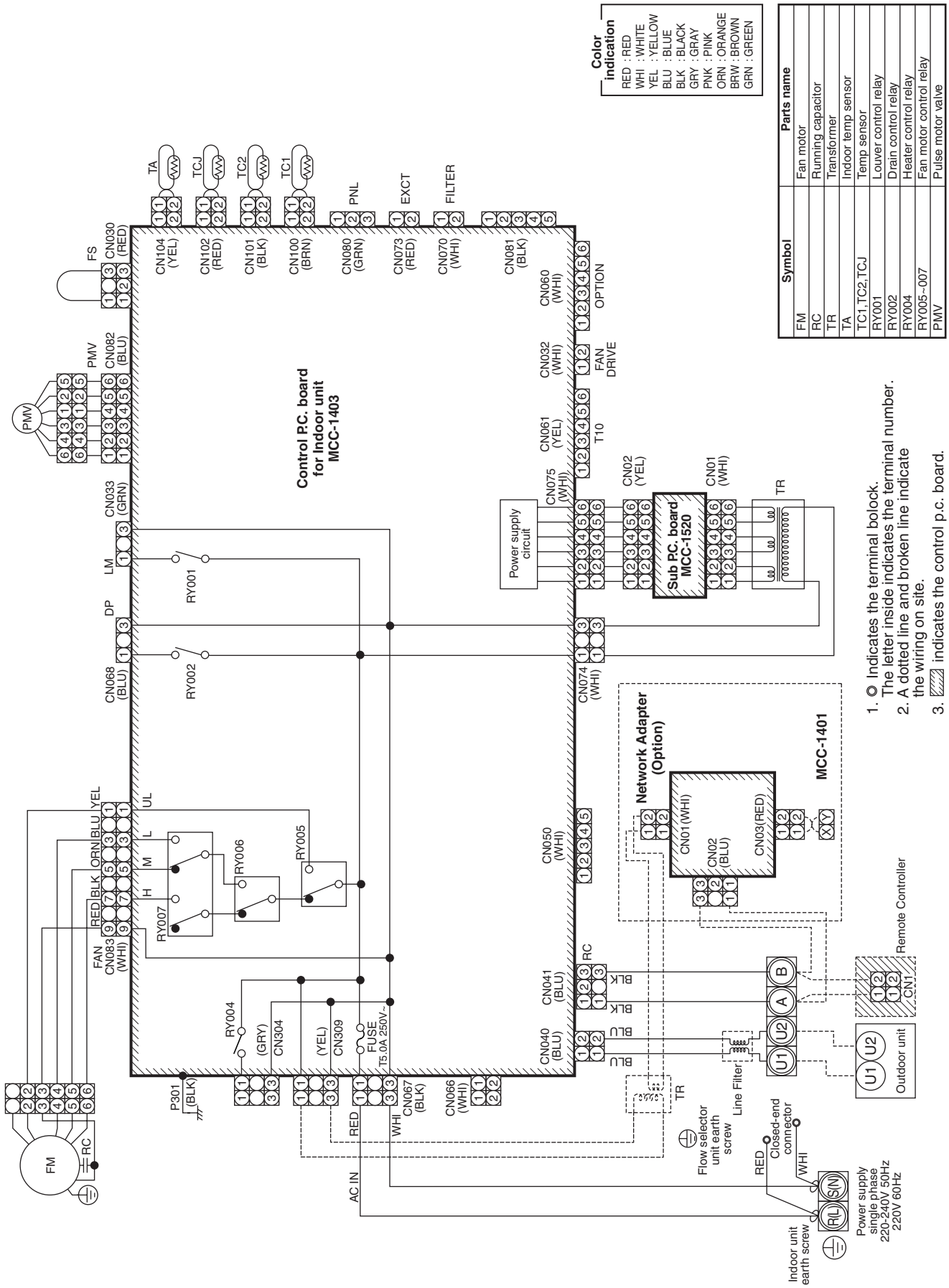
Model: MMK-AP0072H, AP0092H, AP0122H



11

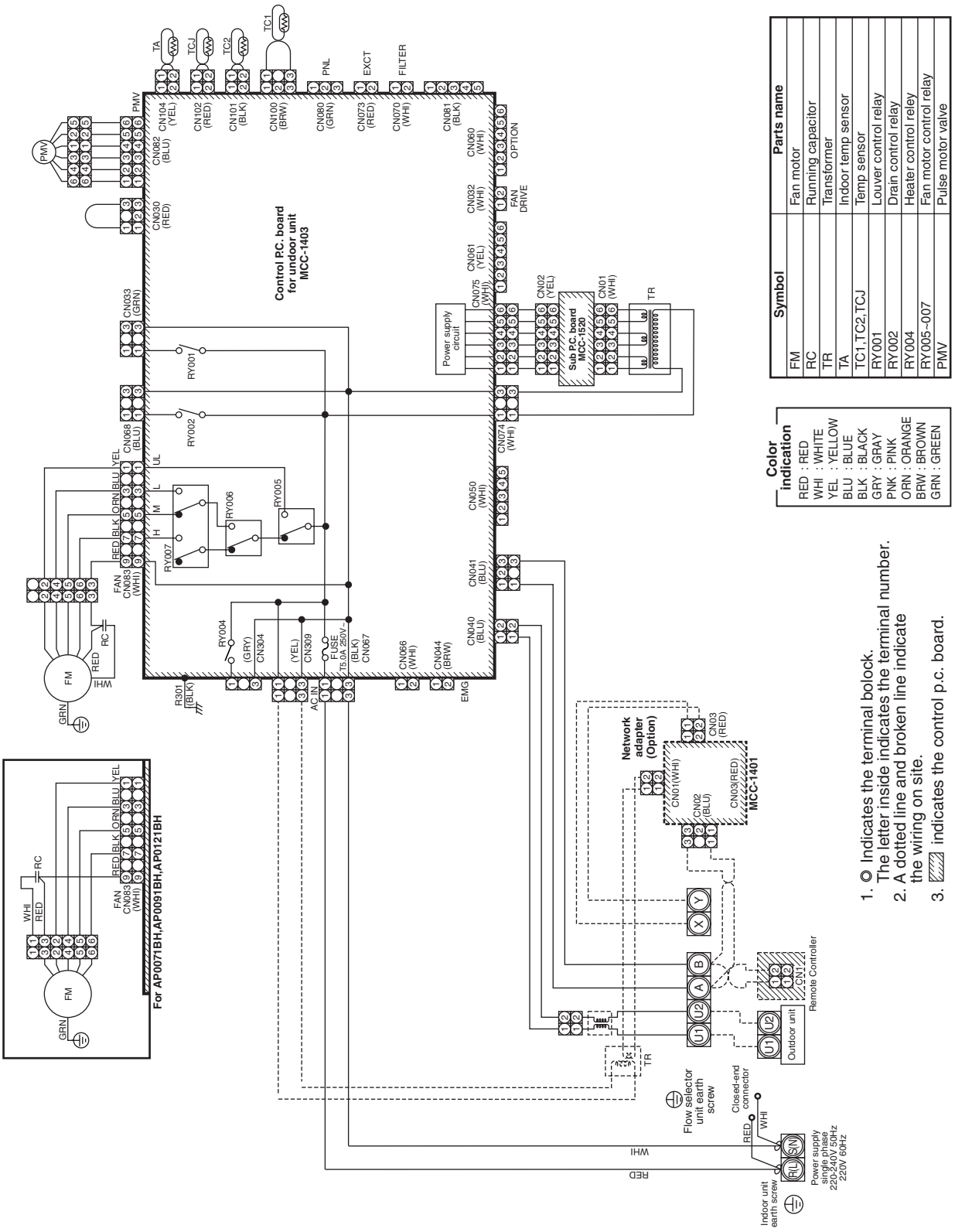
1-8. Floor Standing Cabinet Type

Model: MML-AP0071H, AP0091H, AP0121H, AP0151H, AP0181H, AP0241H



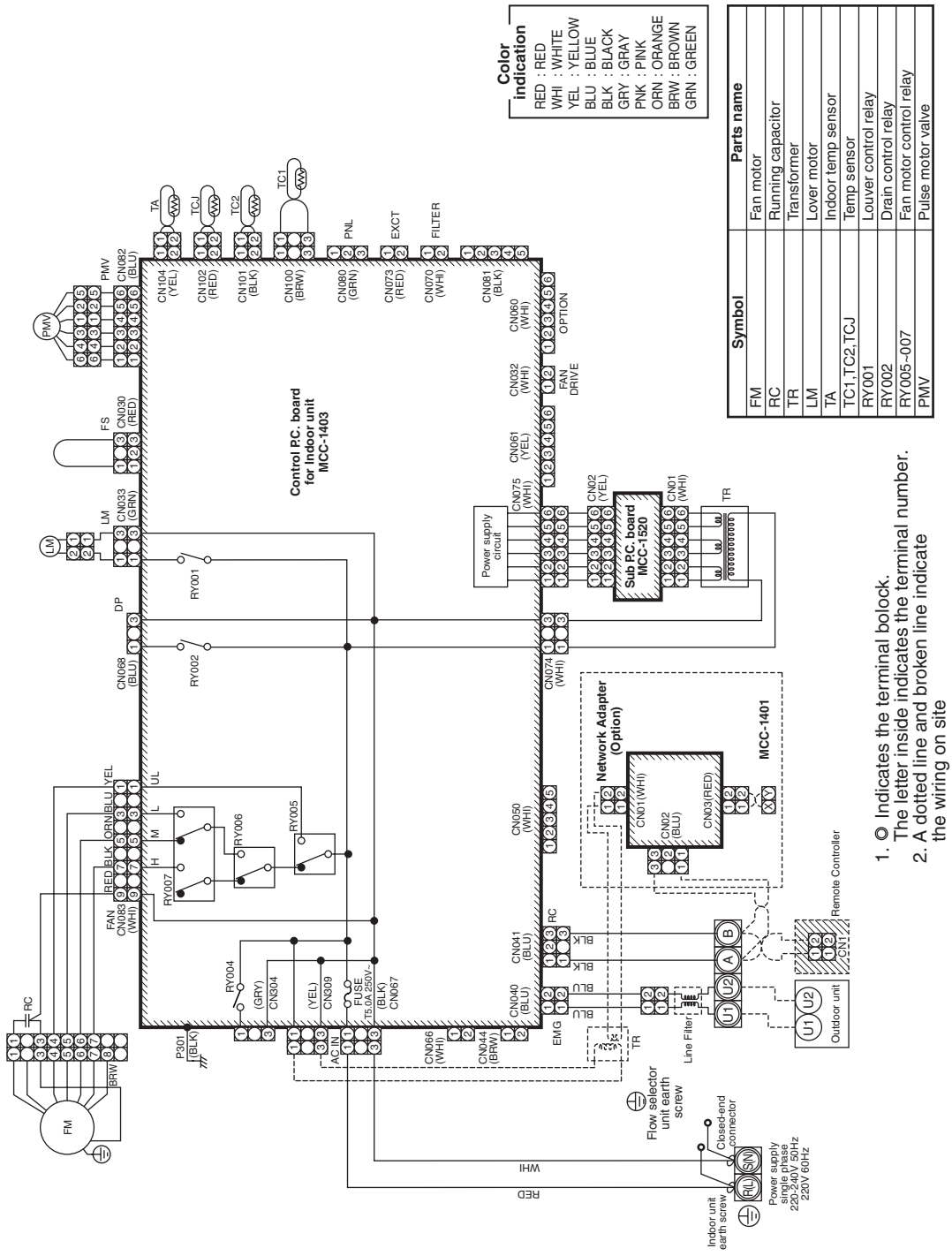
1-9. Floor Standing Concealed Type

Model: MML-AP0071BH, AP0091BH, AP0121BH, AP0151BH, AP0181BH, AP0241BH



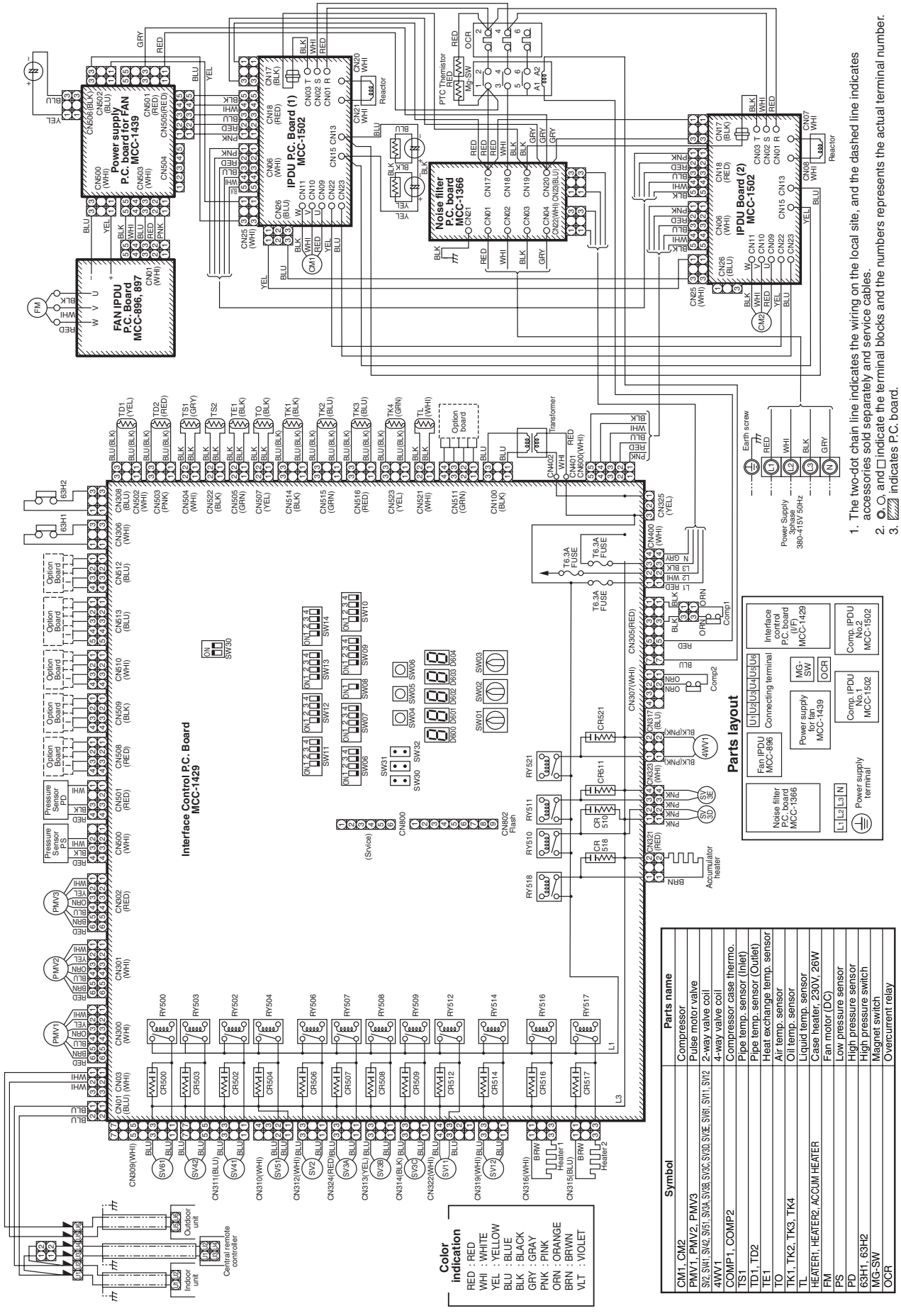
1-10. Floor Standing Type

Model: MMF-AP0151H, AP0181H, AP0241H, AP0271H, AP0361H, AP0481H, AP0561H



2. Outdoor Unit

Model: MMY-MAP0802FT8, MAP1002FT8, MAP1202FT8



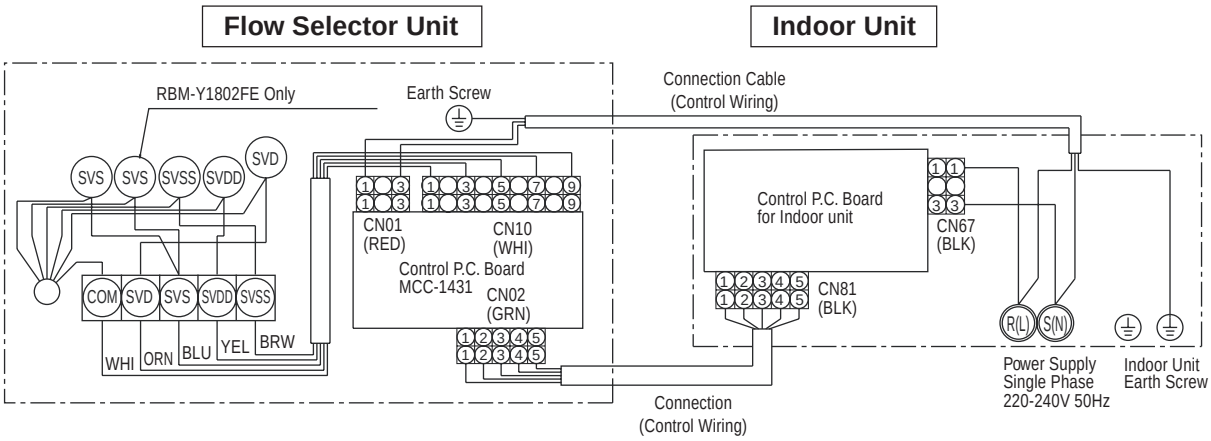
Symbol	Parts name
CM1, CM2	Compressor
PMV1, PMV2, PMV3	Pulse motor valve
SV2, SV41, SV42, SV51, SV9A, SV9B, SV9C, SV30, SV9E, SV61, SV11, SV12	2-way valve coil
4WV1	4-way valve coil
COMP1, COMP2	Compressor case thermo.
TS1	Pipe temp. sensor (Inlet)
TD1, TD2	Pipe temp. sensor (Outlet)
TE1	Heat exchange temp. sensor
TO	Air temp. sensor
TK1, TK2, TK3, TK4	Oil temp. sensor
TL	Liquid temp. sensor
HEATER1, HEATER2, ACCUM.HEATER	Case heater, 230V, 26W
FM	Fan motor (DC)
PS	Low pressure sensor
PD	High pressure sensor
63H1, 63H2	High pressure switch
MG-SW	Magnet switch
OCR	Overcurrent relay

1. The two-dot chain line indicates the wiring on the local site, and the dashed line indicates accessories sold separately and service cables.
2. ○, ○ and □ indicate the terminal blocks and the numbers represents the actual terminal number.
3. ▨ indicates P.C. board.
   * Ensure fixing of the electric parts cover with the supplied two screws. (Otherwise water will enter the box resulting in possible failure).

3. FS Unit (Flow Selector Unit)

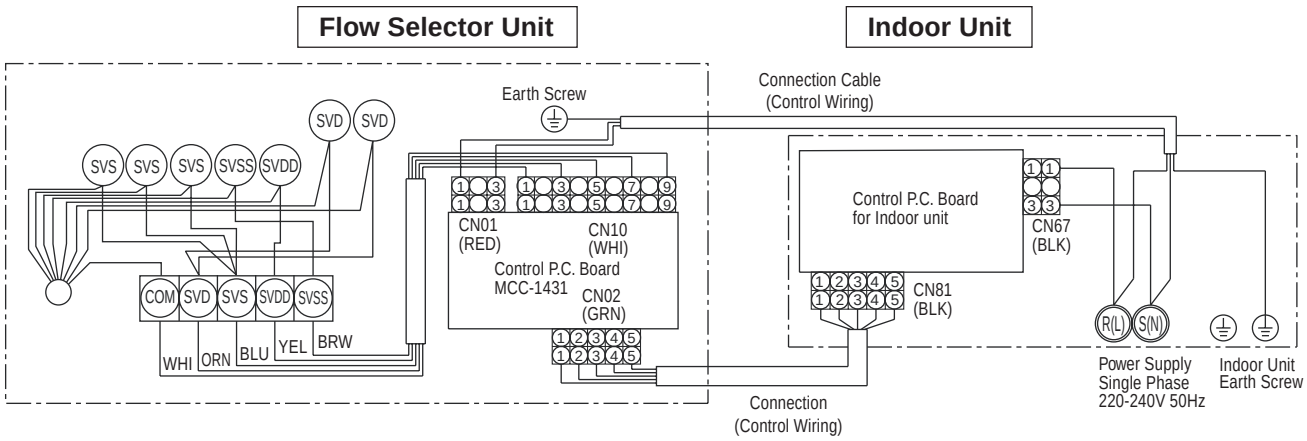
Model: RBM-Y1122FE, Y1802FE

■ Connection Wiring Diagram



Model: RBM-Y2802FE

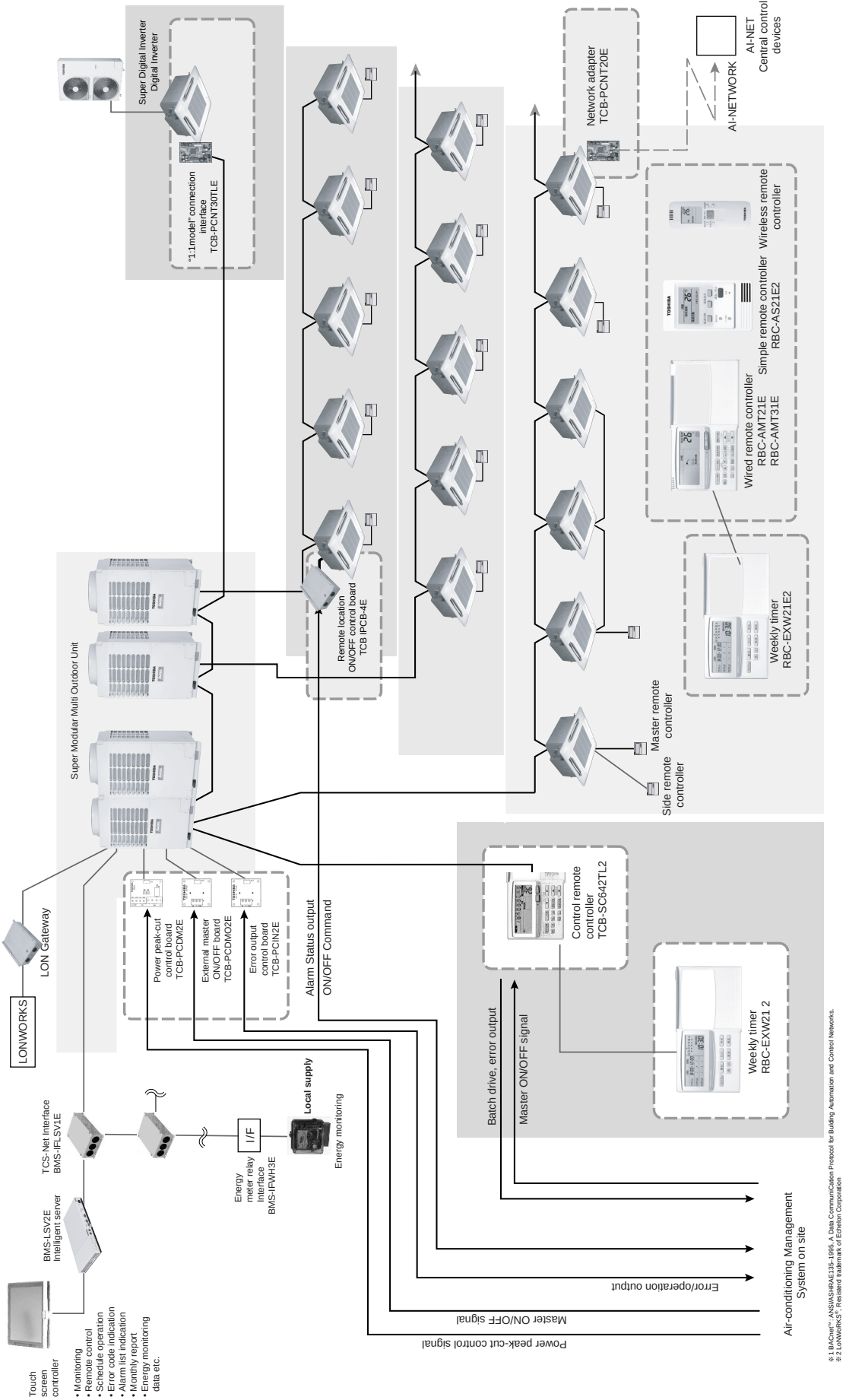
■ Connection Wiring Diagram



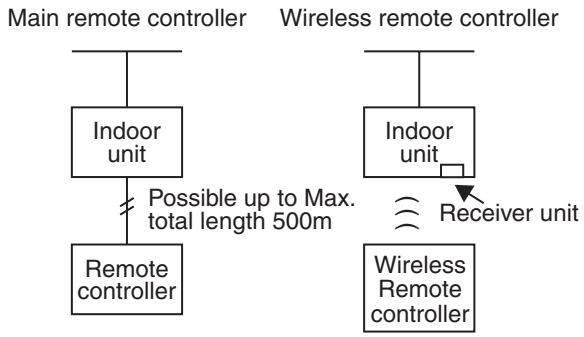
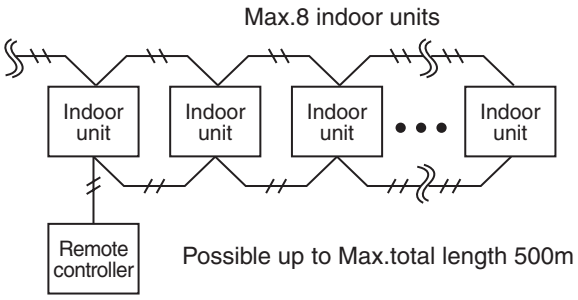
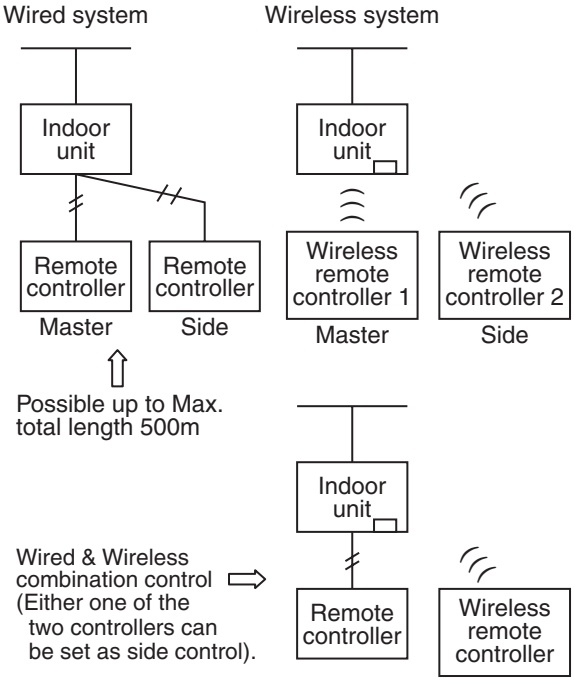
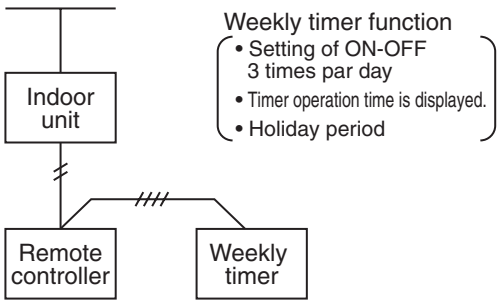
12

Controls

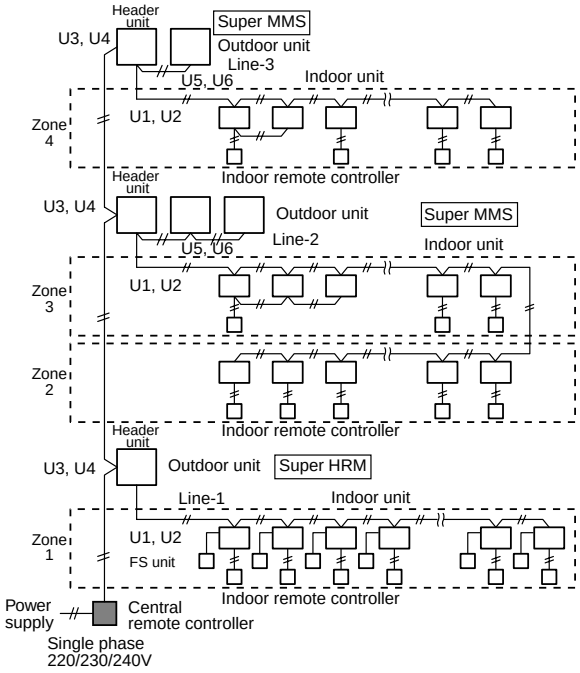
Outline of application Control



1. Applications for indoor remote controller

	Basic function	System diagram	Model
1-1	**Individual control** Air conditioner is individually operated at a distance.		• Wired remote controller **RBC-AMT21E** **RBC-AMT31E** • Simple remote controller **RBC-AS21E2** • Wireless remote controller kit **TCB-AX21U(W)-E2** **RBC-AX22CE2** **TCB-AX21E2**
1-2	**GROUP control** One remote controller can control a group of up to a maximum. 8 indoor units.Operating on the same setting		• Wired remote controller **RBC-AMT21E** **RBC-AMT31E** • Simple remote controller **RBC-AS21E2**
1-3	**Two remote control** Air conditioner is controlled by two remote controllers in two locations.		• Wired remote controller **RBC-AMT21E** **RBC-AMT31E** • Simple remote controller **RBC-AS21E2** • Wireless remote controller kit **TCB-AX21U(W)-E2** **RBC-AX22CE2** **TCB-AX21E2**
1-4	**Control by weekly timer** Weekly schedule operation		• Wired remote controller **RBC-AMT21E** **RBC-AMT31E** + • Weekly timer **RBC-EXW21E2**

2. Application controls for central remote controller

<table>
<tr><th></th><th>Basic function</th><th>System diagram</th><th>Model</th></tr>
<tr>
<td>2-1</td>
<td>Central management controller for 64 units</td>
<td>


Function of central remote controller

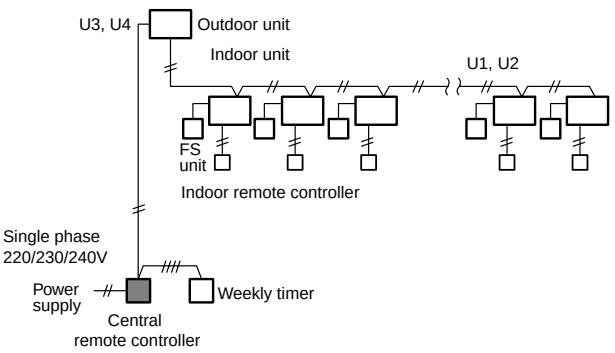
Individual control for up to 64 indoor units.
Individual control for max. 64 indoor units divided in to 4 zones. (Up to 16 indoor units for each zone.)
Up to 16 outdoor header units are connectable.
4 specific central control settings to restrict individual operation by remote controller are selectable.
Different settings for one of 1 to 4 zones.
Usable with other central control devices (Up to 10 central control devices in one control circuit)
Two selectable control modes Central controller mode/Remote controller mode
Setting of simultaneous ON/OFF 3 times per day when a controller is combined with using a weekly timer.

</td>
<td>

Central remote controller TCB-SC642TLE2

Indoor remote controller

Wired remote controller RBC-AMT21E RBC-AMT31E
Simple remote controller RBC-AS21E2

</td>
</tr>
<tr>
<td>2-2</td>
<td>Central remote controller
+
Weekly timer
[Weekly operation schedule can be set by connecting a weekly timer to the central remote controller]</td>
<td>


</td>
<td>

Central remote controller TCB-SC642TLE2

+

Weekly timer RBC-EXW21E2

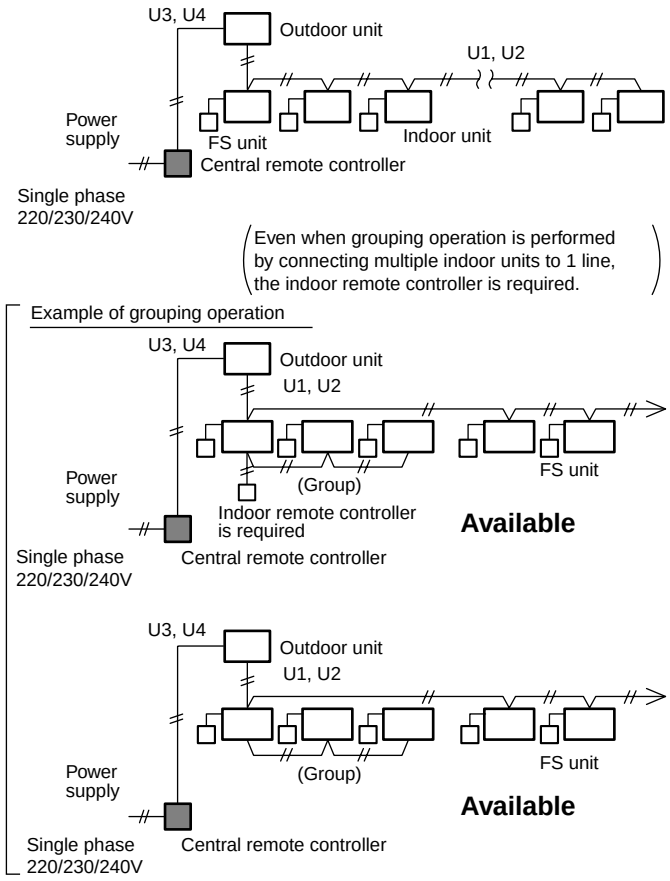
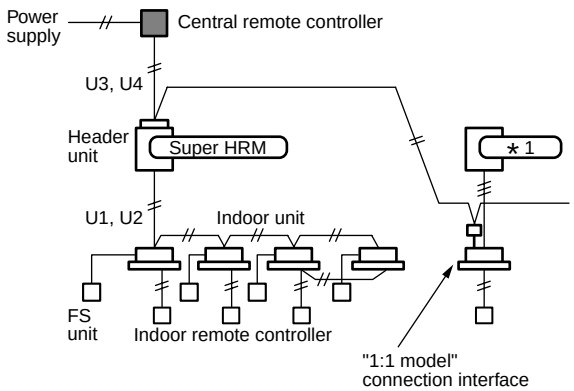
Indoor remote controller

Wired remote controller RBC-AMT21E RBC-AMT31E

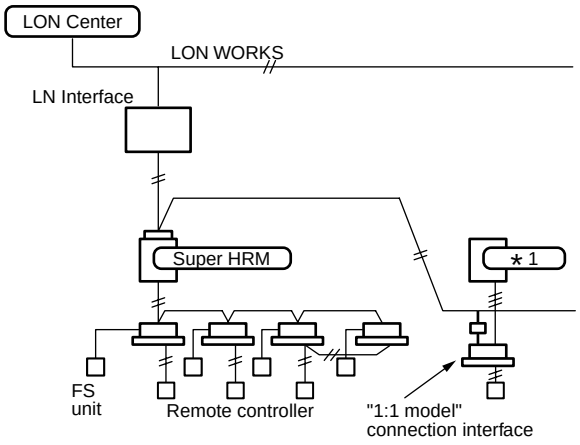
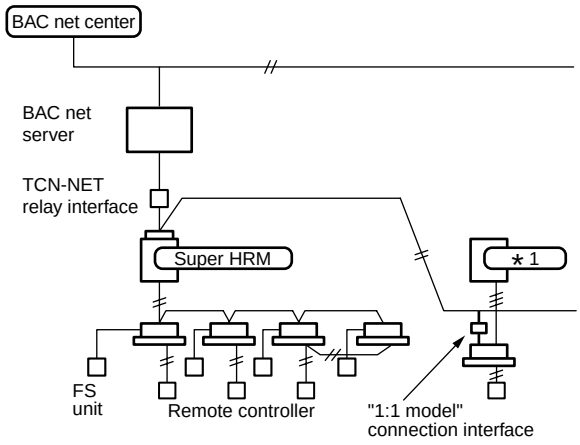
or

Simple remote controller RBC-AS21E2

</td>
</tr>
</table>

	Basic function	System diagram	Model
2-3	Central remote controller without indoor remote controller		• Central remote controller **TCB-SC642TLE2** **Indoor remote controller** • Wired remote controller **RBC-AMT21E** **RBC-AMT31E**
2-4	Central management control with “1 : 1 model”	 * TOSHIBA Digital Inverter System and Super Digital Inverter System	• Central remote controller **TCB-SC642TLE2** **TCB-SC163TLE2** • “1 : 1 model” connection interface **TCB-PCNT30TLE2** [RAV-SM560KRT-E, SM800KRT-E are not compatible to connect] **Indoor remote controller** • Wired remote controller **RBC-AMT21E** **RBC-AMT31E** • Simple remote controller **RBC-AS21E2**

3. Application control for network

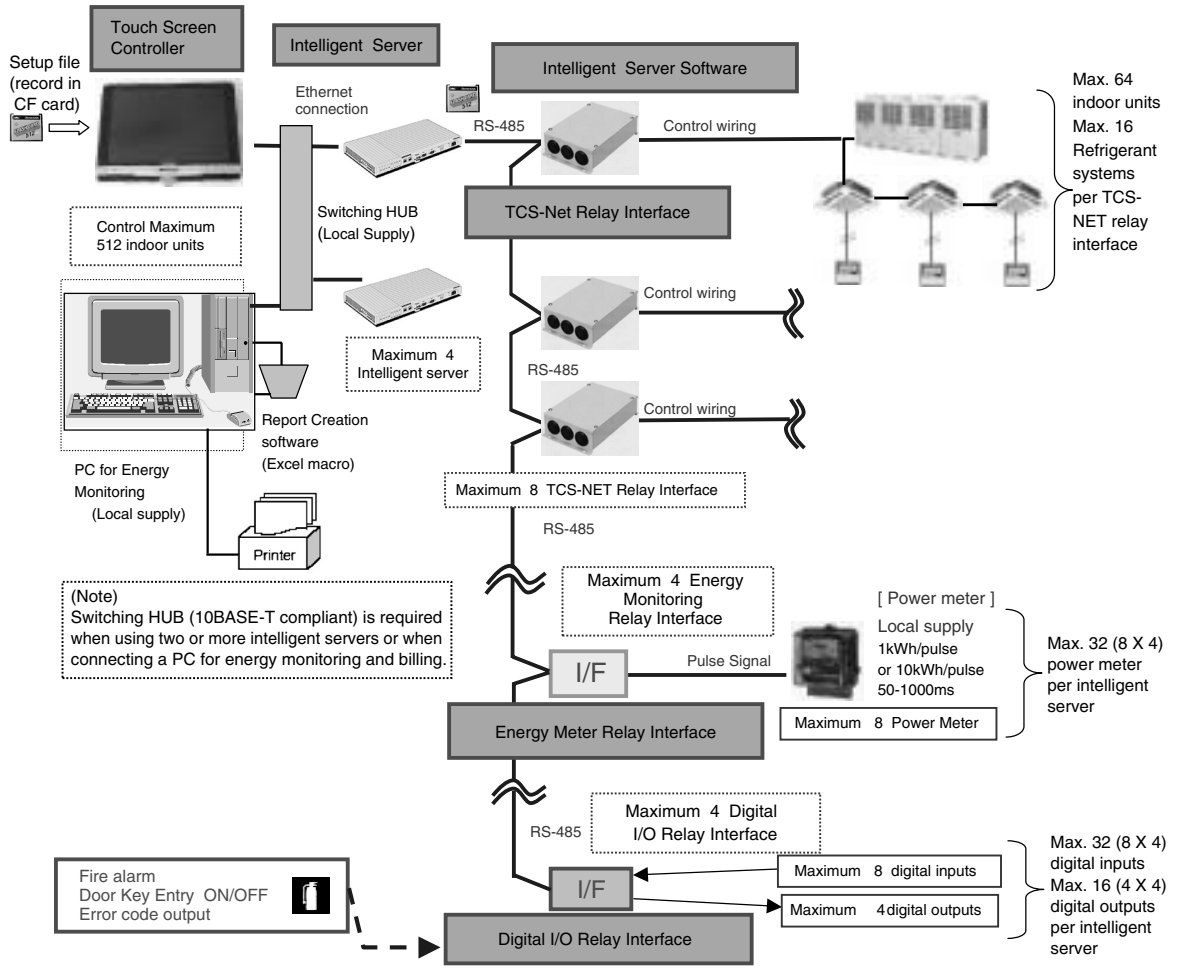
	Basic function	System diagram	Model
3-1-1	LONWORKS® (*1)	 *1 TOSHIBA Digital Inverter System and Super Digital Inverter System The LONWORKS interface should be connected between a building management computer and a Super HRM / Super MMS system. Max. 64 indoor units are connectable per interface.	• LN interface **TCB-IFLN640TLE** • "1 : 1 model" connection interface **TCB-PCNT30TLE2** [RAV-SM560KRT-E, SM800KRT-E are not compatible to connect] **Indoor remote controller** • Wired remote controller **RBC-AMT21E** **RBC-AMT31E** or • Simple remote controller **RBC-AS21E2**
3-1-2	BACnet® (*2)	 *1 TOSHIBA Digital Inverter System and Super Digital Inverter System The local server should be connected to the BACnet network and the Super HRM and Super MMS system will be connected through the interface.	• BACnet server **BMS-LSV2E** • TCS-Net Relay Interface **BMS-IFLSV1E** • "1 : 1 model" connection interface **TCB-PCNT30TLE2** [RAV-SM560KRT-E, SM800KRT-E are not compatible to connect.] **Indoor remote controller** • Wired remote controller **RBC-AMT21E** **RBC-AMT31E** • Simple remote controller **RBC-AS21E2**

*1) LONWORKS : Registerd trademark Echelon corporation.
*2) BACnet™: ANSI/ASHRAE 135-1995, A Data Communication Protocol for Building Automation and Control Networks.

Touch screen controller system

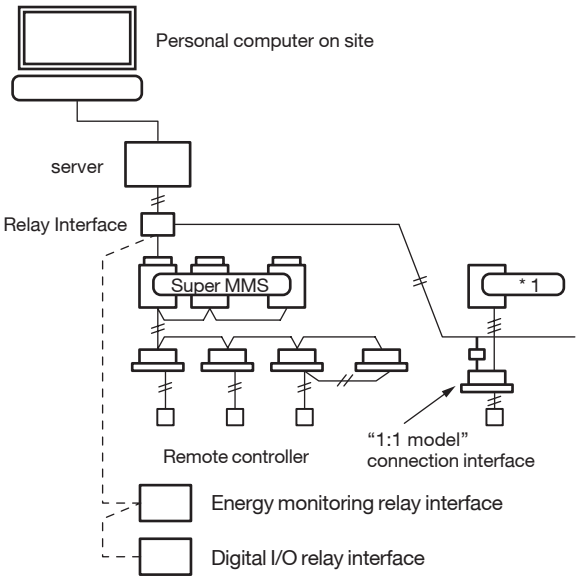
3-3

System diagram



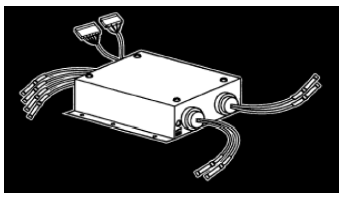
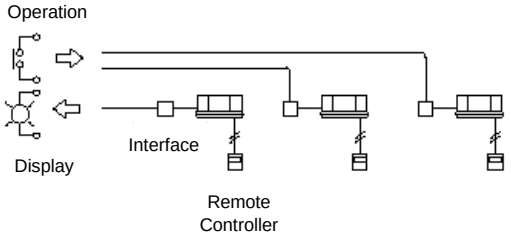
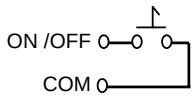
	Model Name	Model Name	Specification
Devices	Touch Screen controller (English version)	BMS-TP0640ACE	Max 64 indoor units , without energy monitoring and billing
		BMS-TP5120ACE	Max 512 indoor units , without energy monitoring and billing
		BMS-TP0640PWE	Max 64 indoor units , with energy monitoring and billing
		BMS-TP5120PWE	Max 512 indoor units , with energy monitoring and billing
	Intelligent Server	BMS-LSV2E	Server in between Touch Screen controller and RS-485
	Intelligent Server Software	BMS-STCC01E	Installed on Intelligent Server
	TCS-Net Relay Interface	BMS-IFLSV1E	Interface between intelligent Server Control wiring(TCC-LINK)
	Energy Monitoring Relay Interface	BMS-IFWH3E	Interface for power meter
	Digital I/O Relay Interface	BMS-IFDD01E	Interface for input / output signal

Function	(1) Monitoring air-conditioners	Operation status can be viewed according to a unit. [Unit] All building, All tenants, Each tenant, Each area, Each remote controller group [Monitoring contents] Operation and alarm status, Setting status for each remote controller group
	(2) Operating of air-conditioners	Header / individual control can be performed according to a unit. [Operating contents] ON/OFF, Operation setting (operation mode, air volume, louver position, setting temp., restricted setting from remote location)
	(3) Schedule operation	Air-conditioners are operated according to the set-up schedule / operation pattern. Schedule opretaion can be performed according to a unit. [Operation pattern]Weekly pattern, special day pattern (4 pattern), Non-operation days pattern
	(4) Alarm list display	The present alarm contents are displayed. [Display contents] Alarm contents, Unit number, Generated time
	(5) Alarm record display	The alarm history records are displayed. [Display contents] Alarm contents, Unit number, Generated time
	(6) Monthly report data extraction	Monthly report data is written to "Compact Flash". Monthly reports can be created according to a unit using the monthly report software. [Monthly report contents] The number of ON/OFF, Operating time, Results of energy monitoring
	(7) Energy monitoring data extraction	Power consumption data is written to "Compact Flash". Energy monitoring can be performed according to a unit using the energy monitoring software. [Energy monitoring data] Power consumption according to the power meter

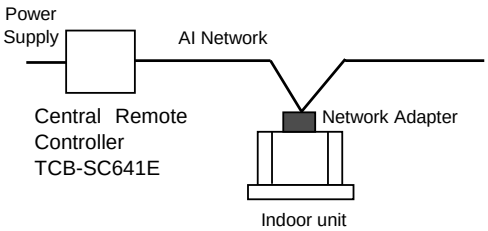
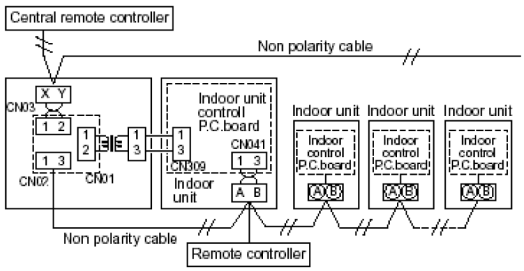
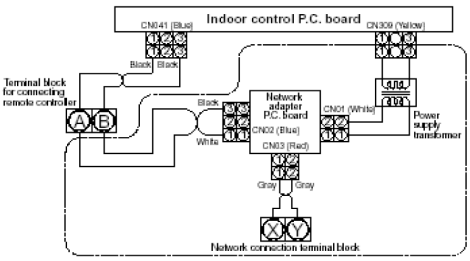
	Basic function	System diagram	Model
3-2-2	Windows based central controller (Now planning)	 *1 TOSHIBA Digital Inverter System and Super Digital Inverter System	

4. Application control of optional devices connectable to indoor units

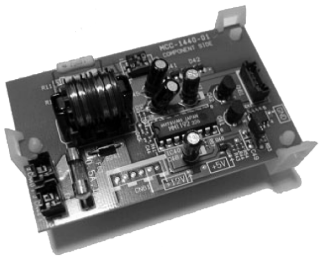
[1] Remote location ON/OFF control box

Model Name	Appearance	Features
TCB-IFCB-4E		● Start and stop of the air conditioner is possible by a external signal and indication of operation/alarm externally.
	Application	**Function**
		•Monitoring ON/OFF status (for indoor unit) Alarm status (system & indoor unit stop) •ON/OFF command Air conditioner can be turned ON/OFF by external signals. The external ON/OFF signals will initiate the signals shown below.  Non-voltage ON /OFF continious signal

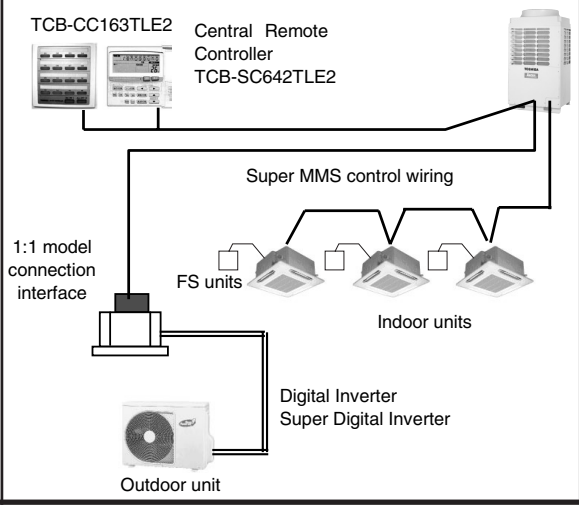
[2] Network adapter

Model Name	Appearance	Features
TCB-PCNT20E	 Install optional P.C. board in Electrical parts box of indoor unit.	● Indoor units of Super HRM system are controled by AI-NETWORK central remote controller. Connectable indoor units per group.
	Application	**Connection of cables**
		
		Wiring diagram of indoor P.C. board
		

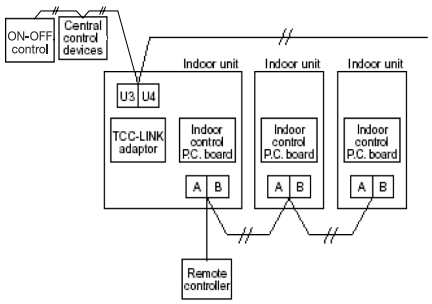
[3] "1:1 model" connection interface

Model Name	Appearance	Features
TCB-PCNT30TLE2	 Install optional P.C. board in electrical parts box of indoor unit.	● Link adapter for "1:1 model" into a VRF system network 1:1 model : Super digital inverter Digital inverter

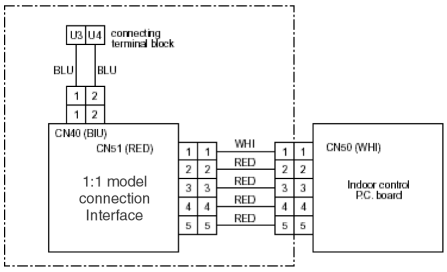
Application



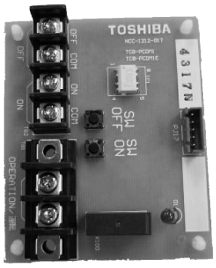
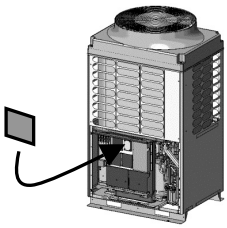
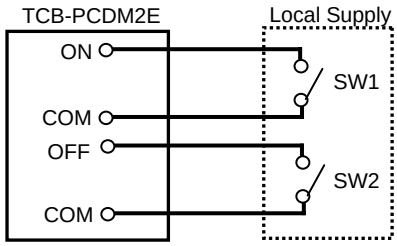
Connection of cables



Wiring diagram of indoor P.C. board



5. Application controls by optional P.C. board of outdoor unit

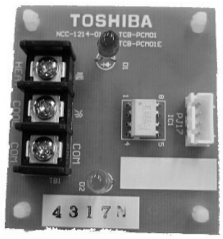
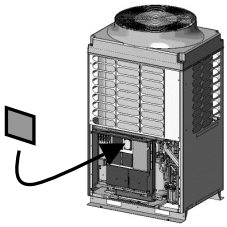
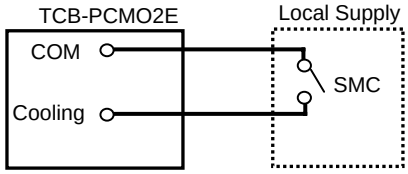
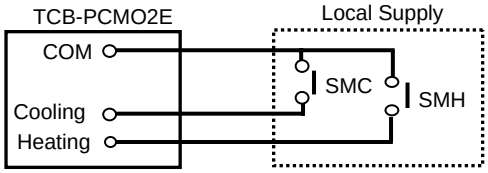
Model Name	Appearance	Function
TCB-PCDM2E	 Size : 71 x 85 **Application**  *Install this optional P.C. board in the inverter assembly of the outdoor unit.	[1] Power peak-cut Control ● **Feature** The upper limit capacity of the outdoor unit is restricted based on the power peak cut signal from outside. ● **Function** Two types of control can be selected by setting SW07 on the interface P.C. board on the outdoor unit.  [Standard funciton] SW07-2 OFF

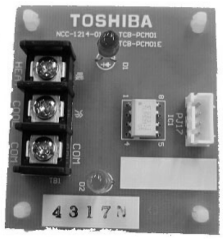
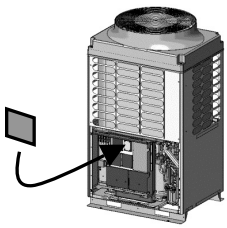
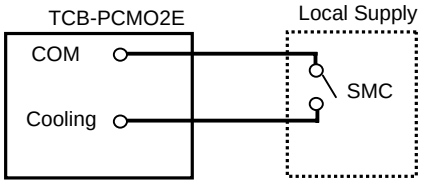
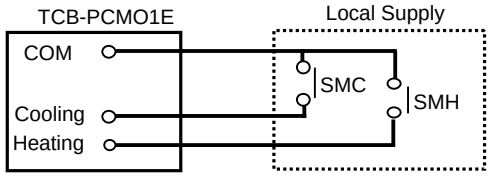
Input		SW07-1	
SW01	SW02	OFF	ON
ON	OFF	0% (stop)	Up to 60%
OFF	ON	100% (Nomal)	100% (Normal)

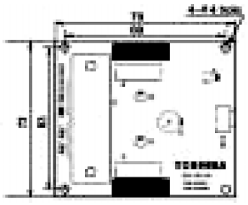
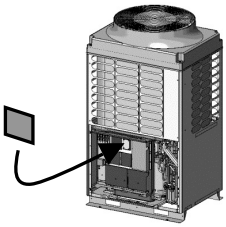
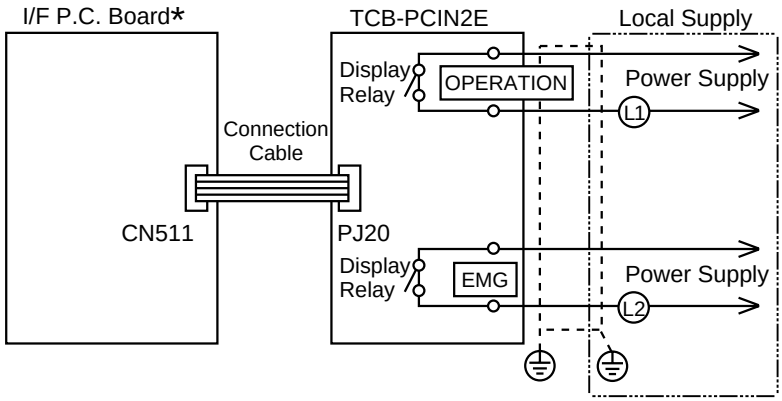
[Expansion function]
SW07-2 ON

Input		SW07-1	
SW01	SW02	OFF	ON
OFF	OFF	100% (Nomal)	100% (Normal)
ON	OFF	Up to 80%	Up to 85%
OFF	ON	Up to 60%	Up to 75%
ON	ON	0% (stop)	Up to 60%

- Ensure terminal contacts are securely fixed.
- Do not turn on both SW1 and SW2 terminals simultaneously.

Model Name	Appearance	Function
TCB-PCMO2E	 Size : 55.5 x 60 **Application**  *Install this optional P.C. board in the inverter assembly of the outdoor unit.	[2] Snowfall fan control ● **Feature** Outdoor fan is operated by the snowfall signal from outside. ● **Function**  SMC : Cooling mode select input (switch) Terminal / Input signal / Operation SMC — ON / OFF — Snowfall fan control (Operates outdoor fan.) SMC — ON / OFF — Usual operation This control is activated when a input signal increases or decreases. (The increasing or decreasing signal needs to be held for a minimum of 100m/sec in order to activate the control) [3] External master ON/OFF control ● **Feature** The outdoor unit starts or stops the system. ● **Function**  SMC : Input signal for start SMH : Input signal for stop Terminal / Input signal / Operation SMC — ON / OFF — Starts all indoor units. SMH — ON / OFF — Stops all indoor units. • Ensure terminal contacts are securely fixed. This control is activated when the input signal increases or decreases (The increasing or decreasing signal needs to be held for a minimum of 100m/sec in order to activate the control.)

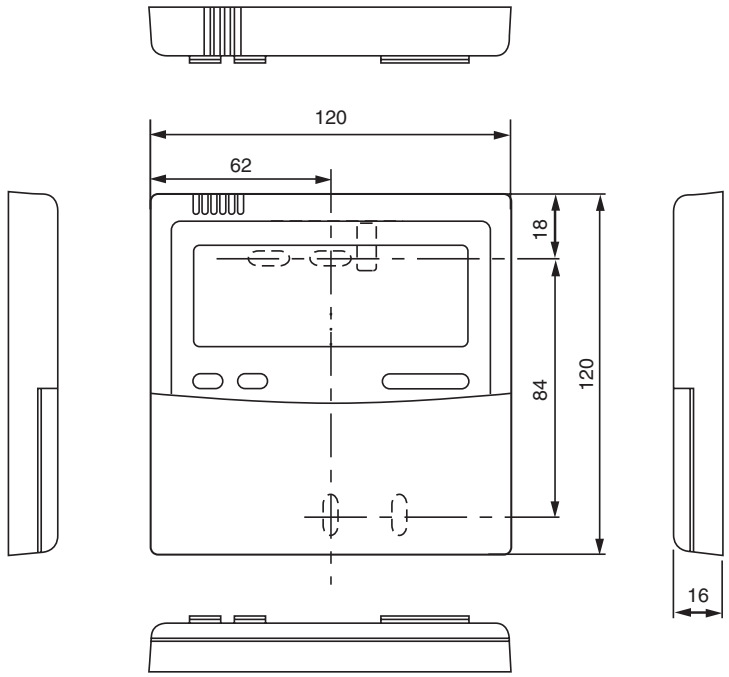
Model Name	Appearance	Function
TCB-PCMO2E	 Size : 55.5 x 60 **Application**  *Install this optional P.C. board in the inverter assembly of the outdoor unit.	[4] Night operation (Sound reduction) control ● **Feature** Sound level can be reduced by restricting the compressor and fan speeds. ● **Function**  SMC : Cooling mode designated input switch Terminal / Input signal / Operation SMC — ON / OFF — Night operation control SMC — ON / OFF — Usual Operation This control is activated when the input signal increases or decreases. (The increasing or decreasing signal needs to be held for a minimum of 100m/sec in order to activate the control). [5] Operation mode selection control ● **Feature** This control can restrict the selectable operation mode. ● **Function**  SMC : Cooling mode designated input switch SMH : Heating mode designated input switch SMC / SMH / Selected operation mode ON / OFF / Only cooling mode permitted OFF / ON / Only heating mode permitted Ensure terminal contacts are securely fixed.

Model Name	Appearance	Function
TCB-PCIN2E	 Size : 73.0 x 79 **Application**  *Install this optional P.C. board in to the inverter assembly of the header outdoor unit.	[6] Error / Operation output control  (L1) : Operation monitoring lamp (L2) : Error monitoring lamp • Ensure terminal contacts are securely fixed. • Display Relay capacity of "OPERATION" and "EMG" Below AC240V 0.5A(COSϕ=100%) When connecting a load such as a relay coil to "L1,L2", insert the noise surge absorber. Below DC24V 1A(Non-inductive load) When connecting a load such as a relay coil to "L1,L2", insert the byass circuit.

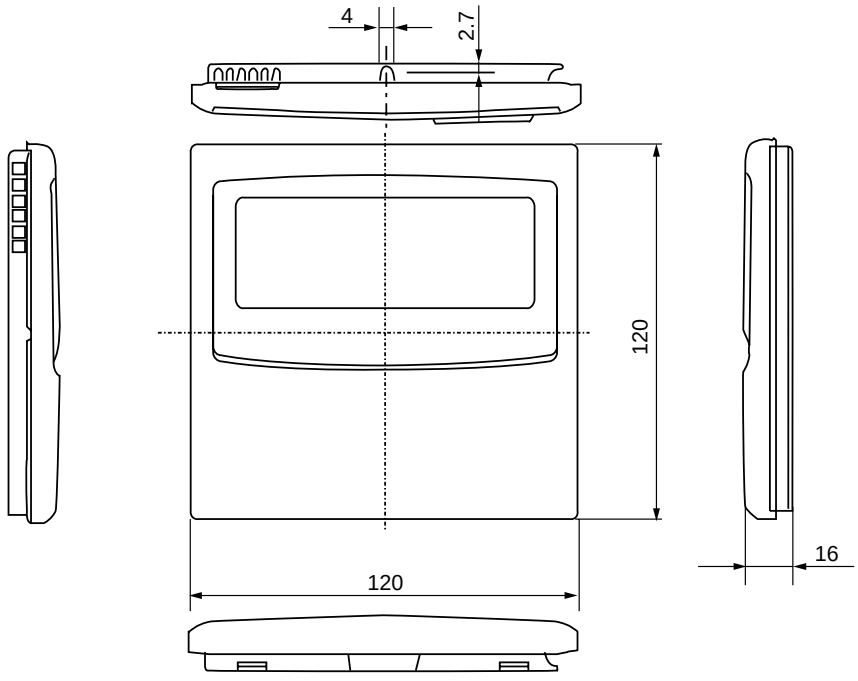
Remote controller

• Wired remote controller

RBC-AMT31E

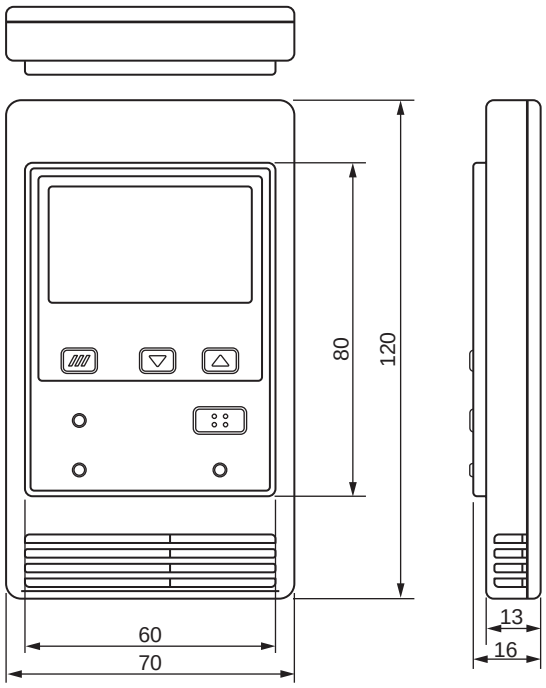


RBC-AMT21E



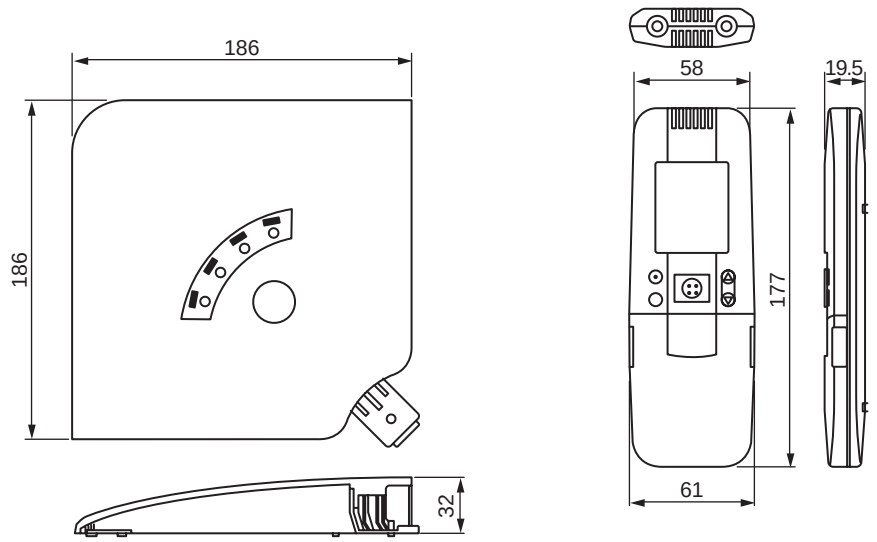
• Simple wired remote controller

RBC-AS21E / RBC-AS21E2

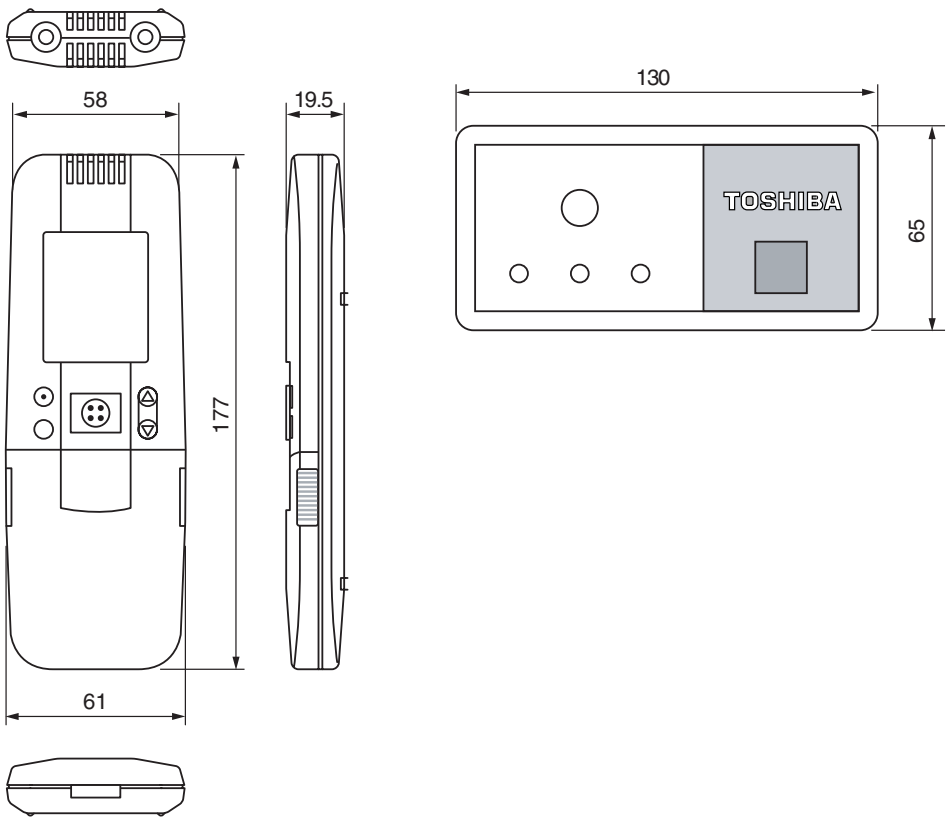


• Wireless remote controller kit

TCB-AX21U (W)-E / TCB-AX21U (W)-E2

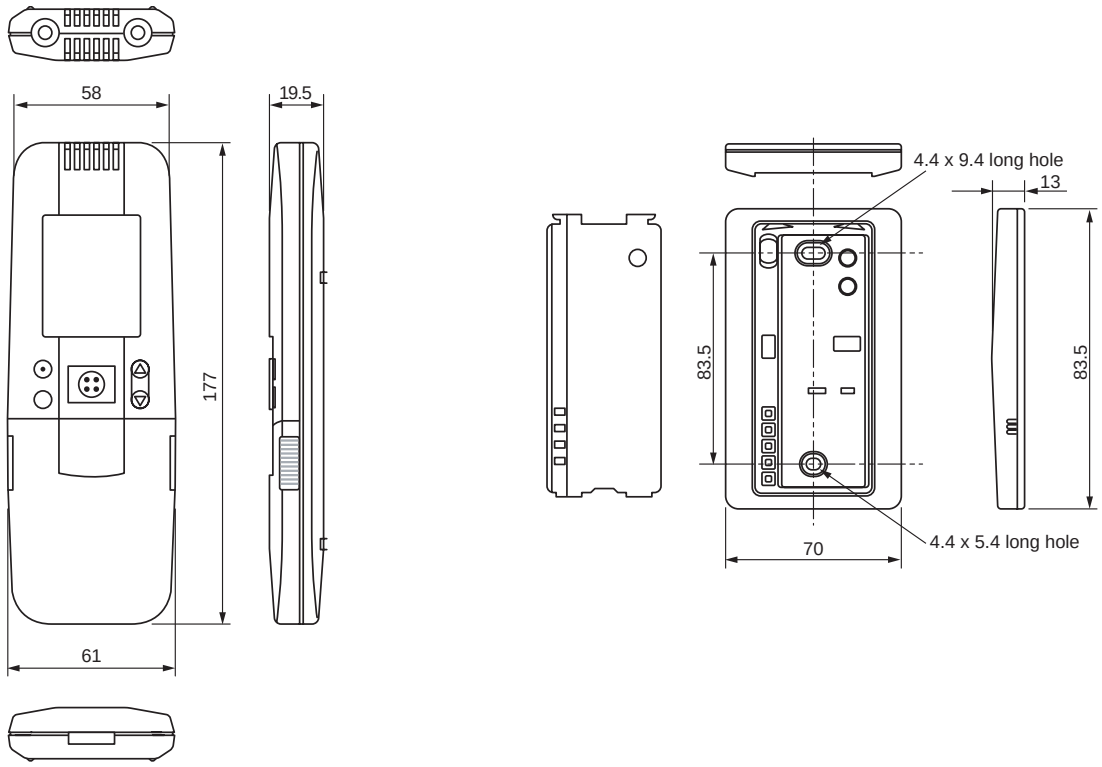


RBC-AX22CE / RBC-AX22CE2



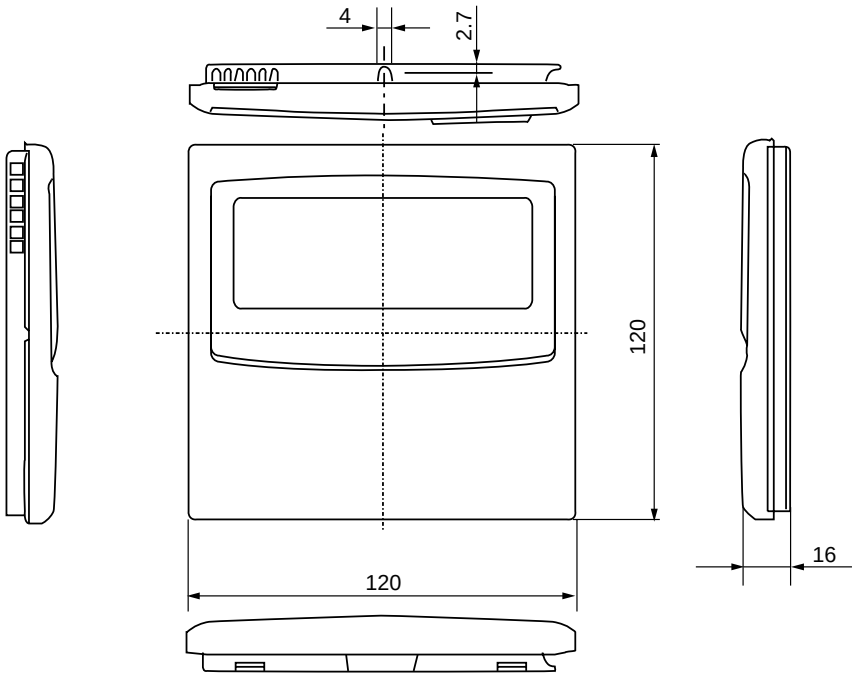
• Wireless remote controller kit

TCB-AX21E / TCB-AX21E2



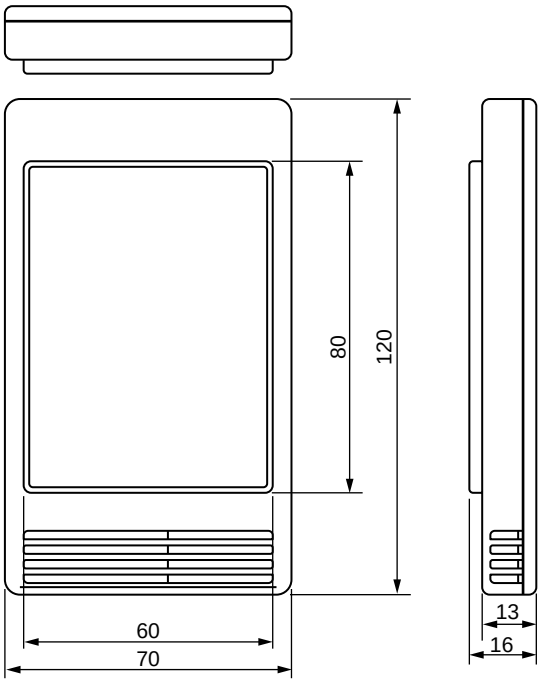
• Weekly timer

RBC-EXW21E / RBC-EXW21E2



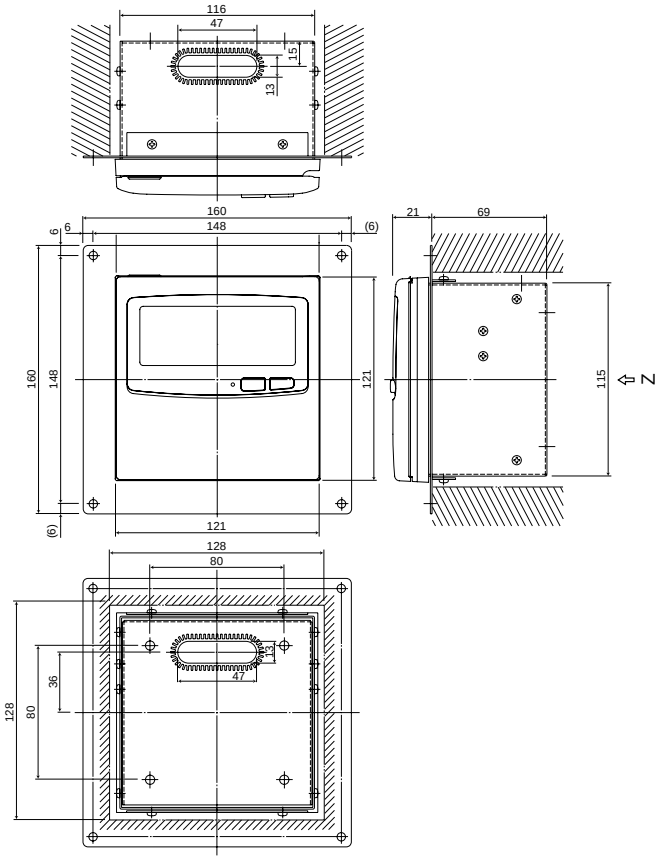
• Remote sensor

TCB-TC21LE / TCB-TC21LE2



• Contral remote controller

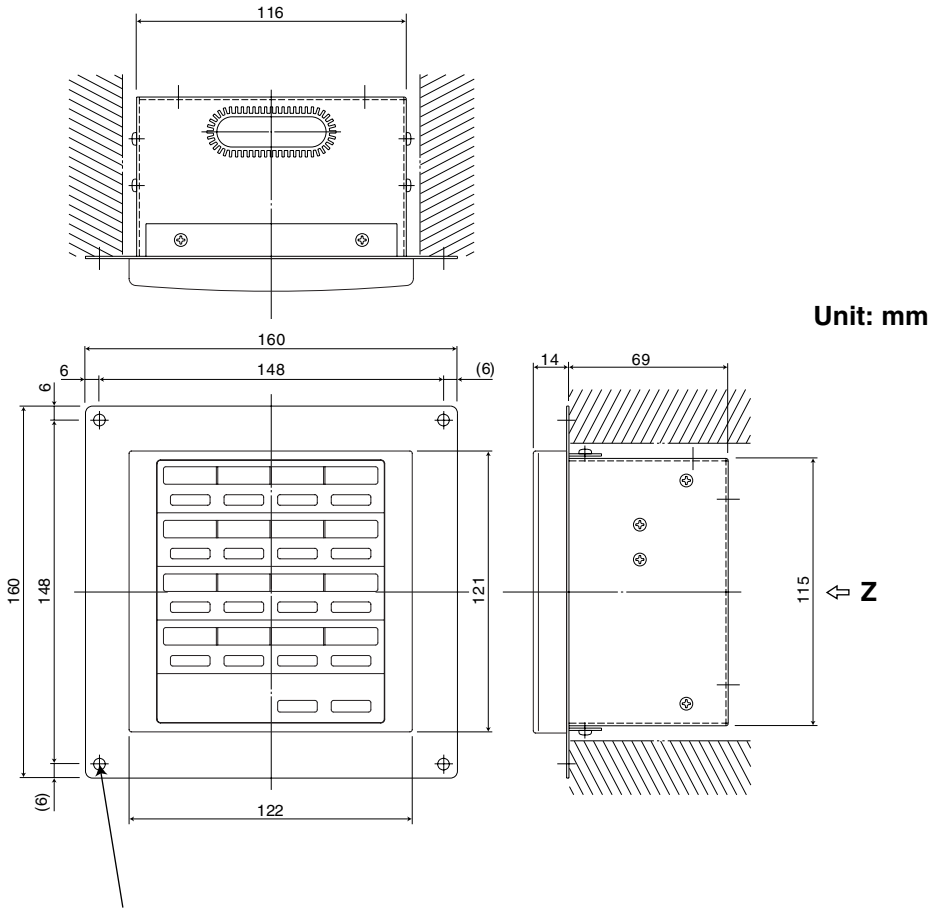
TCB-SC642TLE / TCB-SC642TLE2



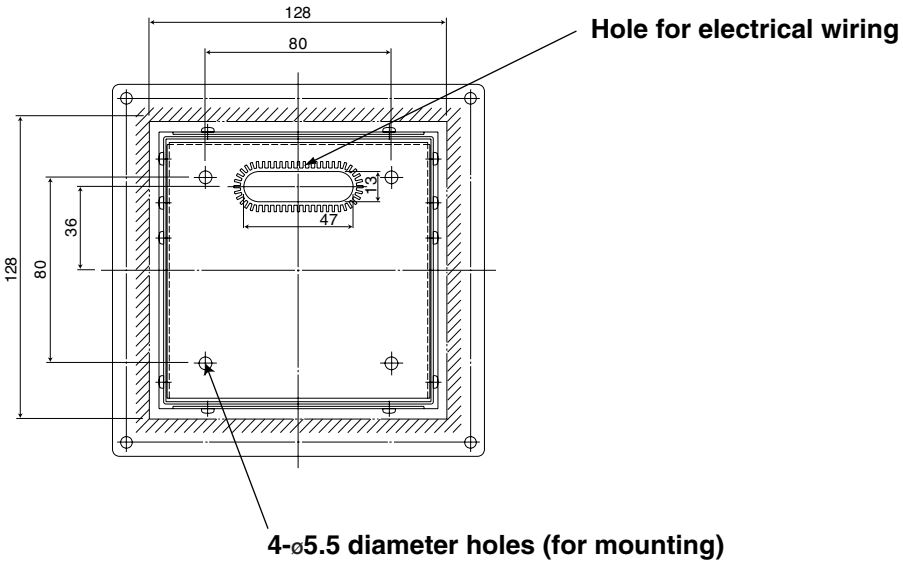
Z view (back side)

• ON-OFF controller

TCB-CC163TLE2



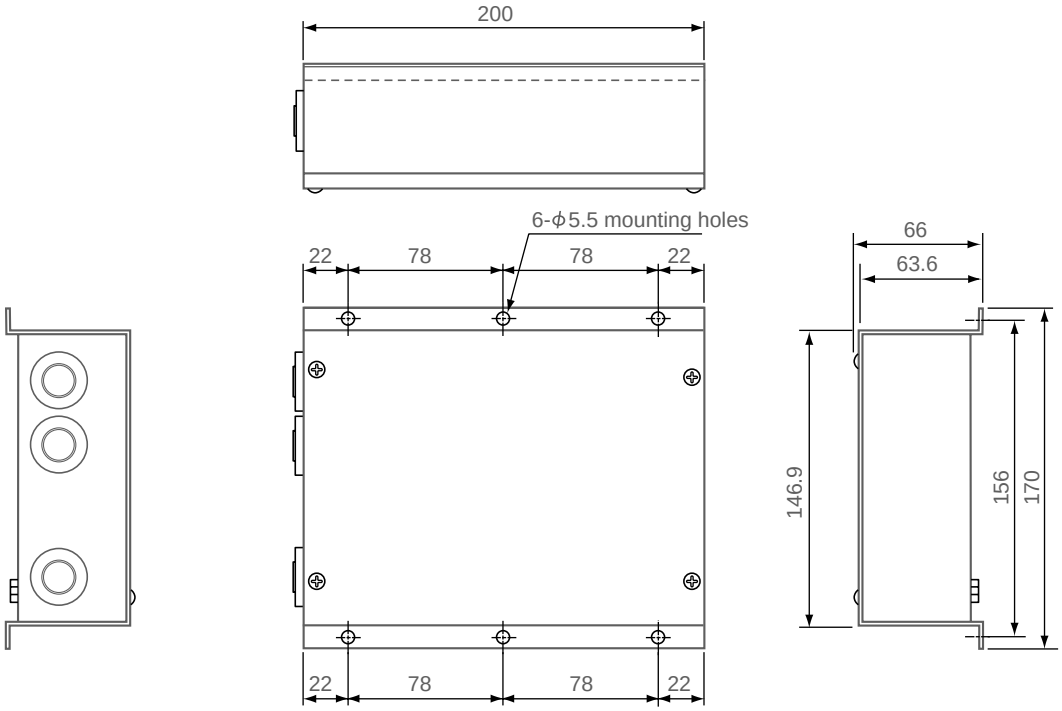
Unit: mm



Z-view (back side)

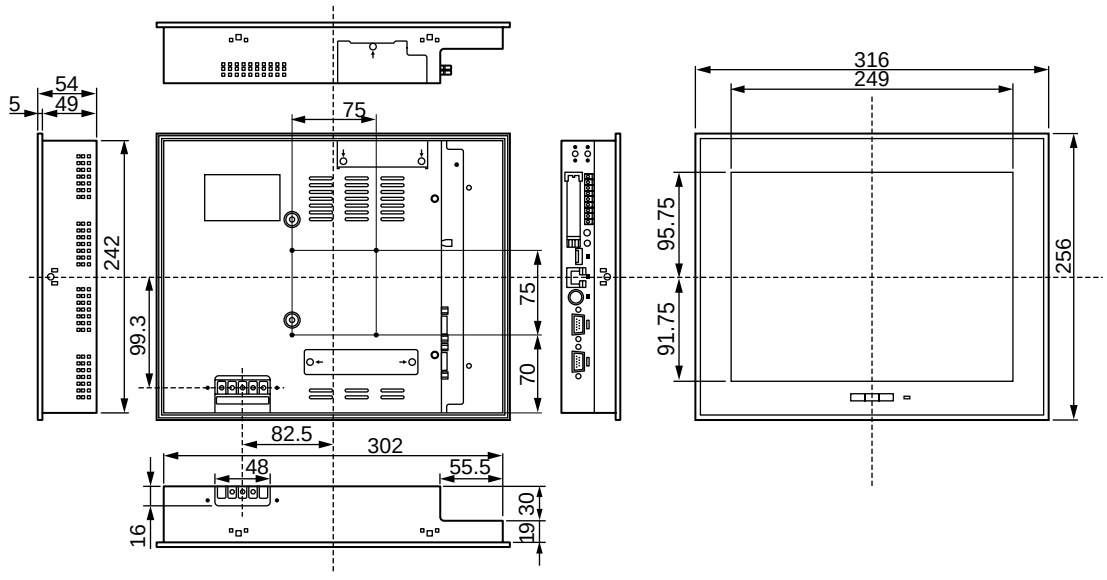
• TCS-Net relay interface

BMS-IFLSV1E



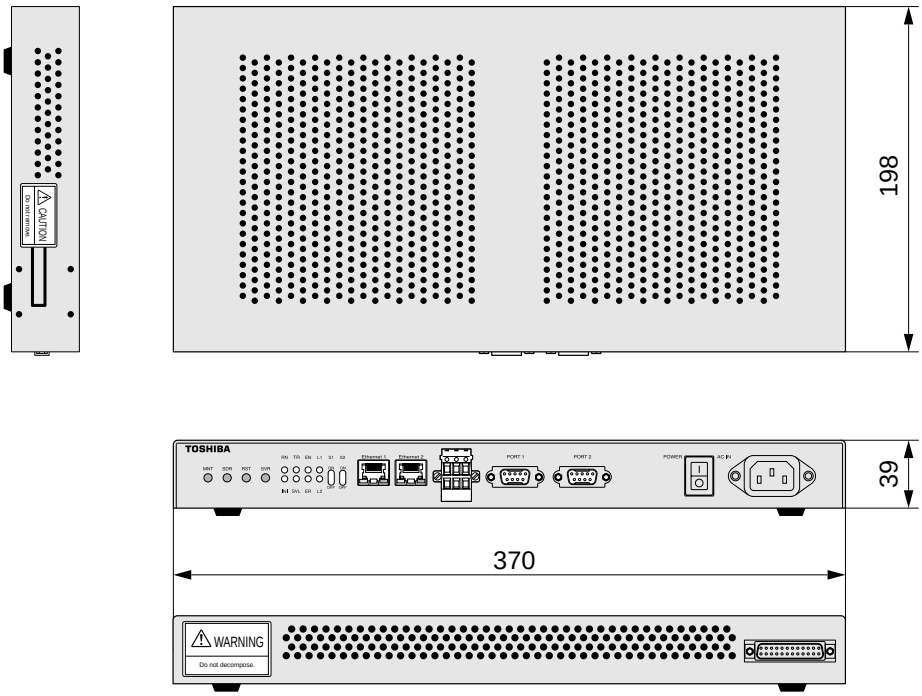
• Touch screen controller

BMS-TP0640ACE
BMS-TP5120ACE
BMS-TP0640PWE
BMS-TP5120PWE



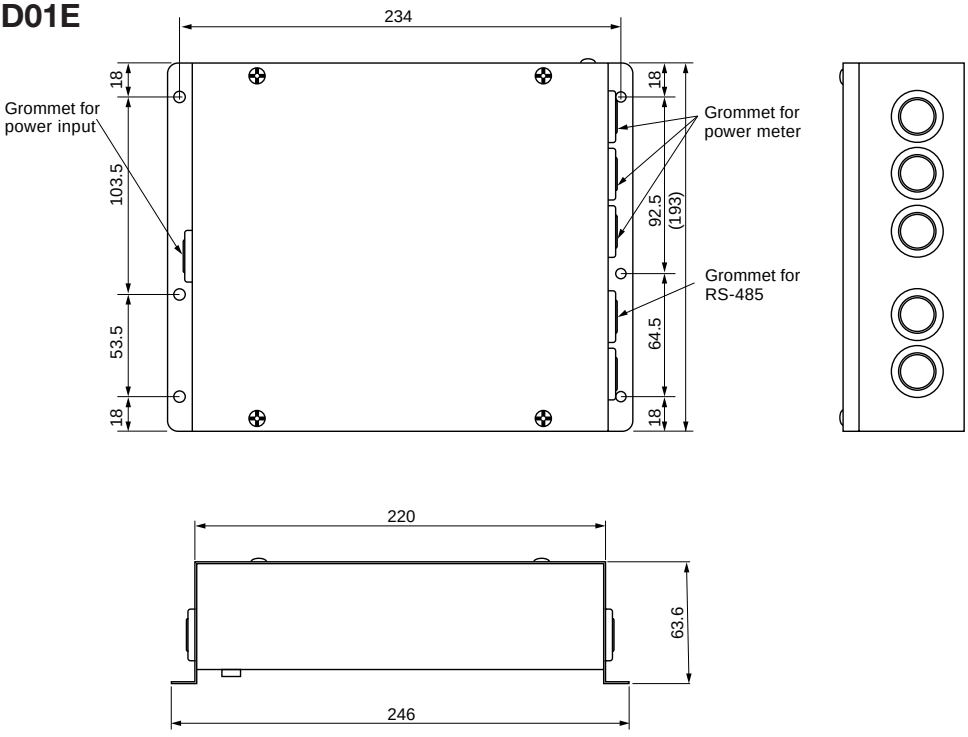
• Intelligent server

BMS-LSV2E



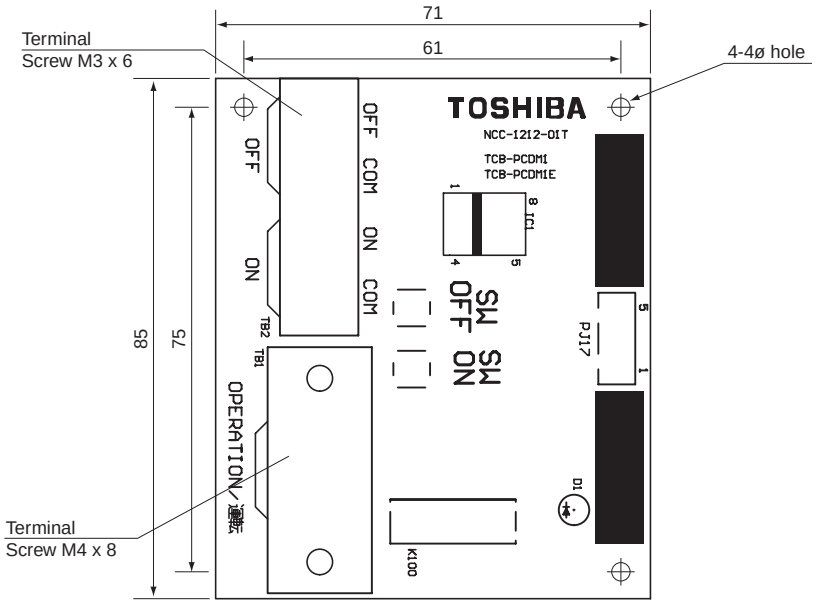
• Energy mountoring relay interface/Digital I/O relay interface

BMS-IFWH3E
BMS-IFDD01E

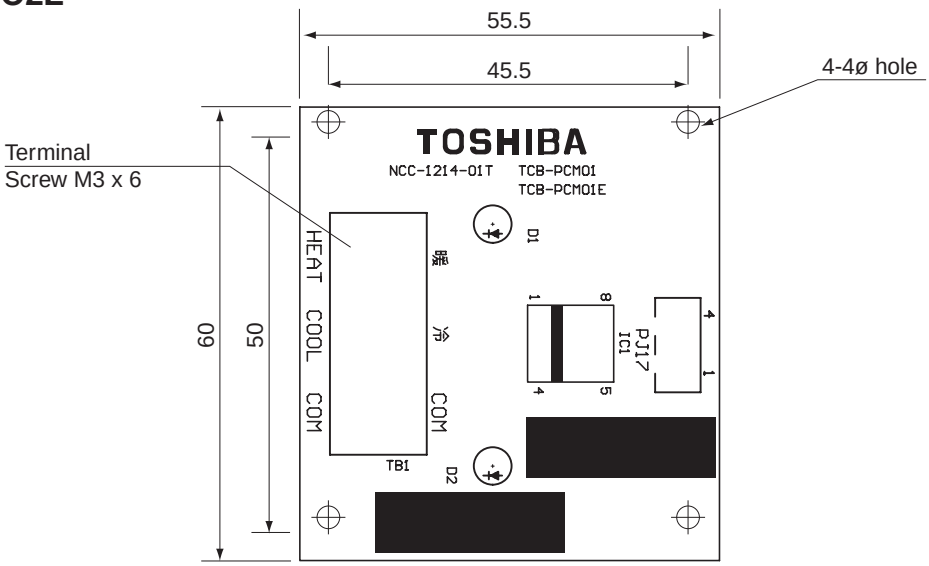


Dimension

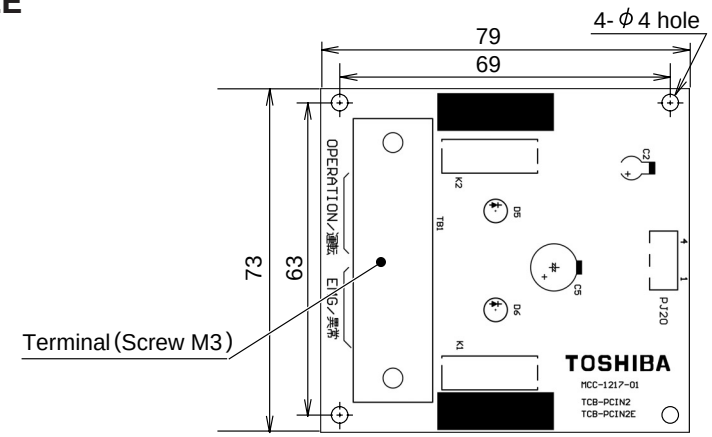
TCB-PCDM2E



TCB-PCMO2E



TCB-PCIN2E



12

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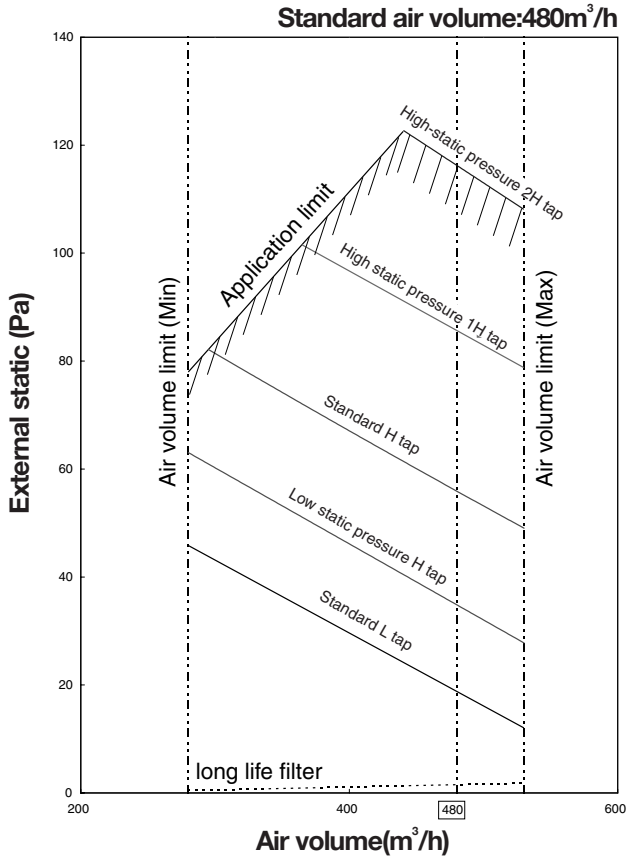
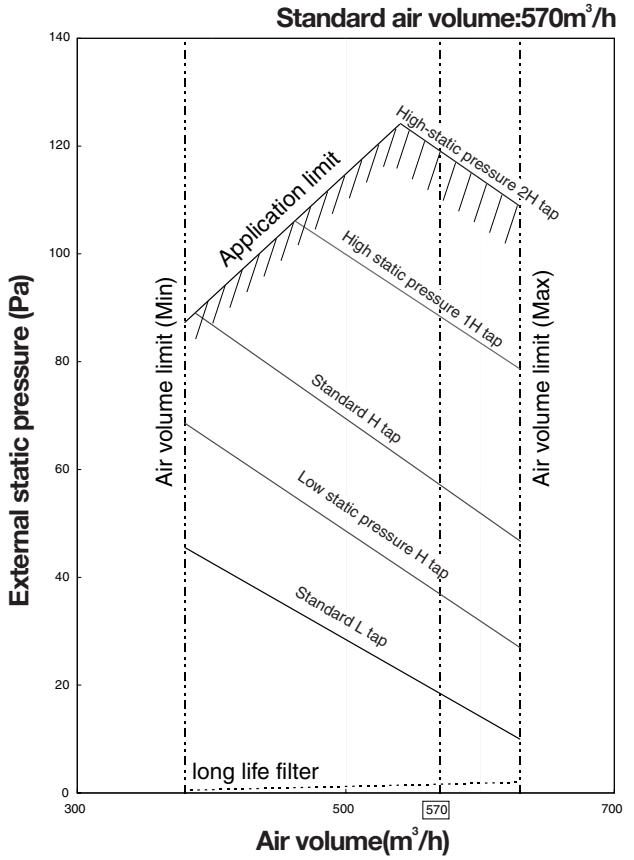
Fan characteristics

• Concealed Duct Standard type

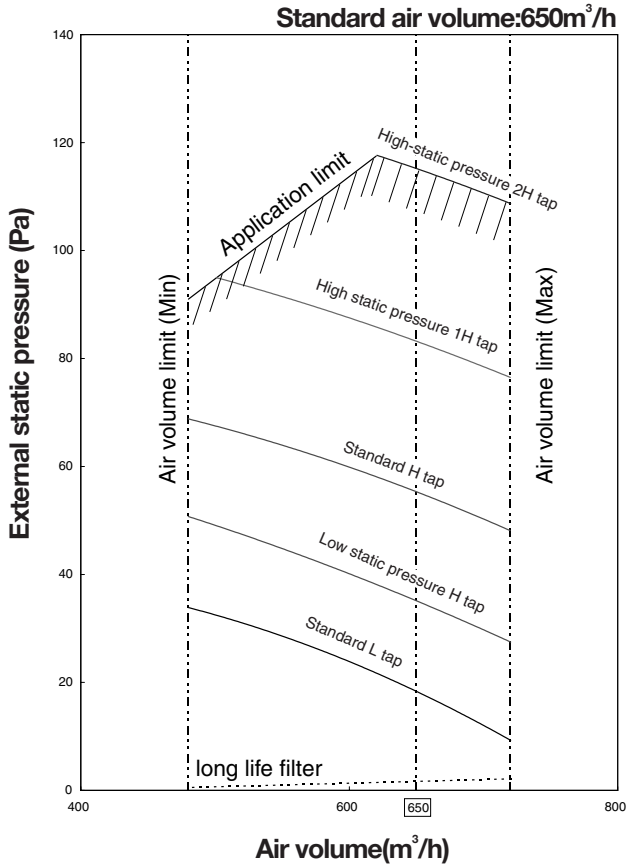
MMD-AP0071BH, AP0091BH



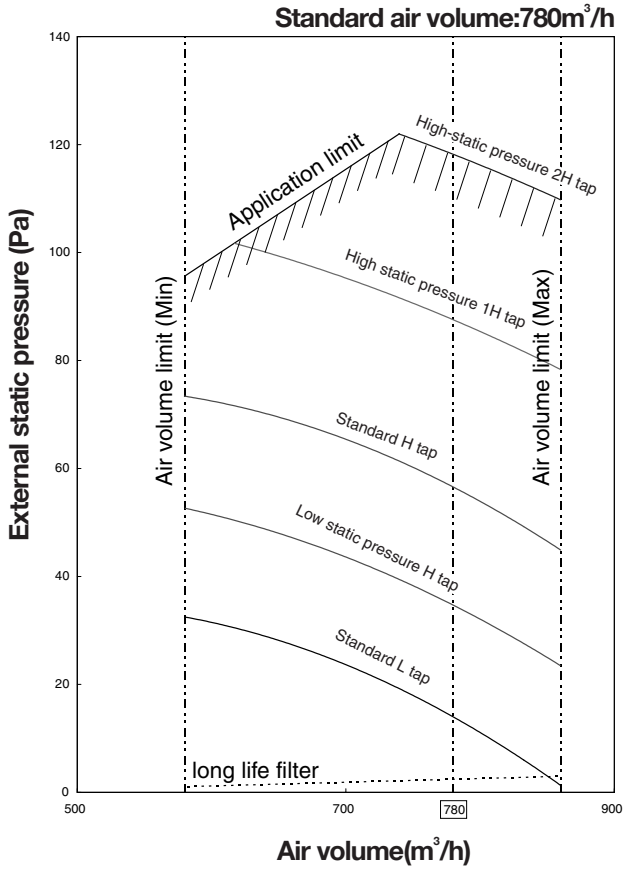
MMD-AP0121BH



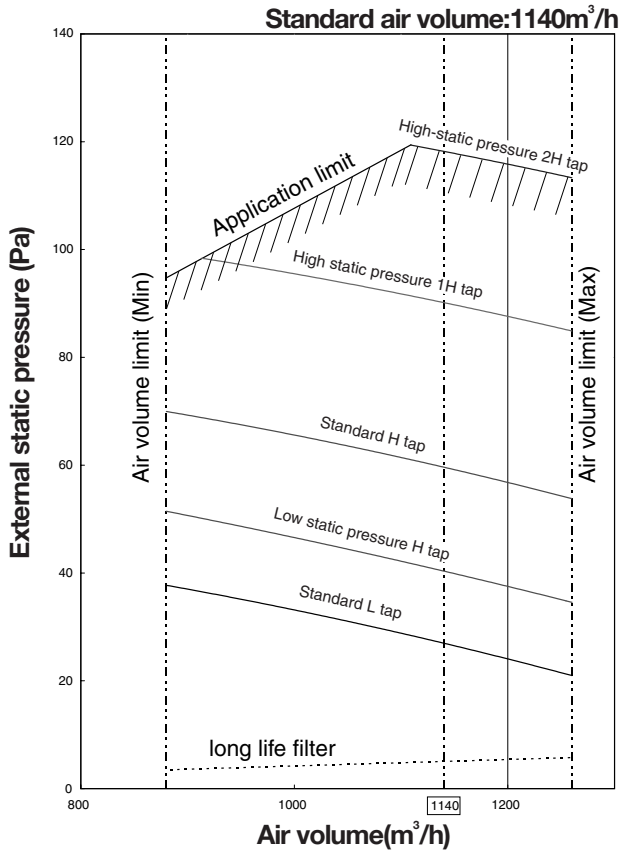
MMD-AP0151BH



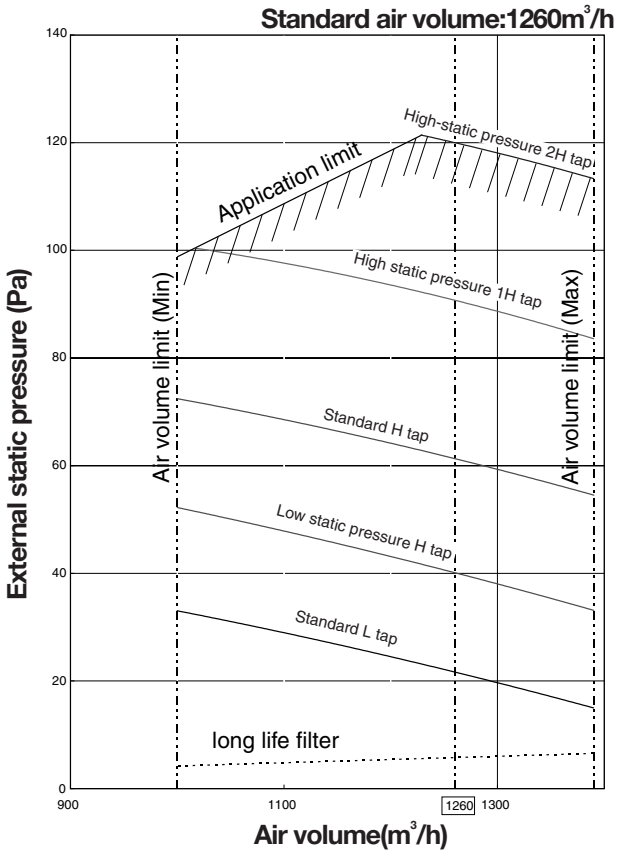
MMD-AP0181BH



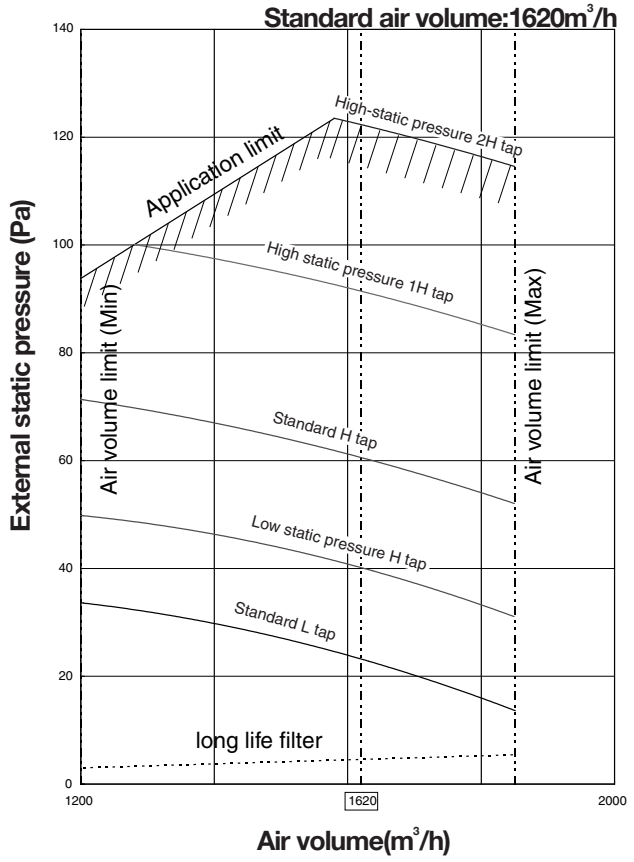
MMD-AP0241BH, AP0271BH



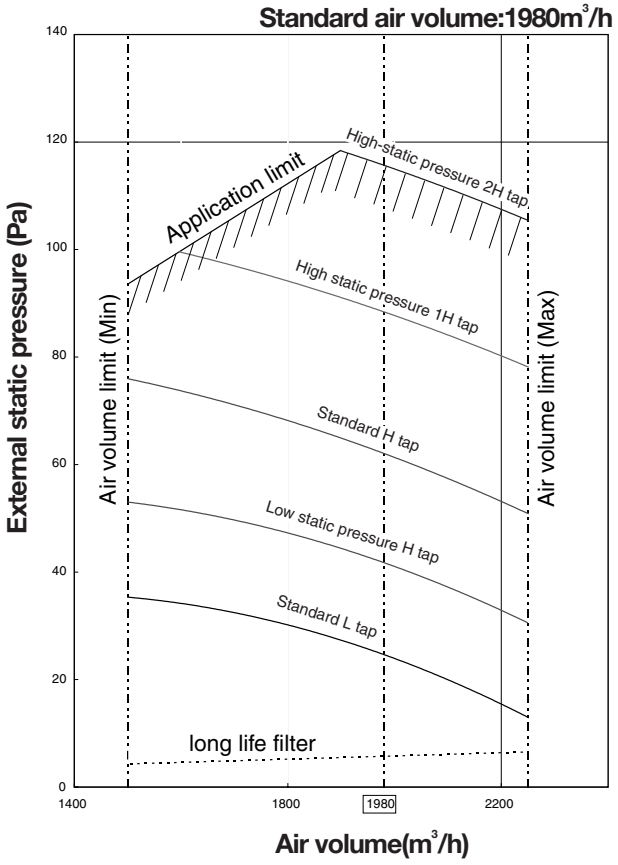
MMD-AP0301BH



MMD-AP0361BH

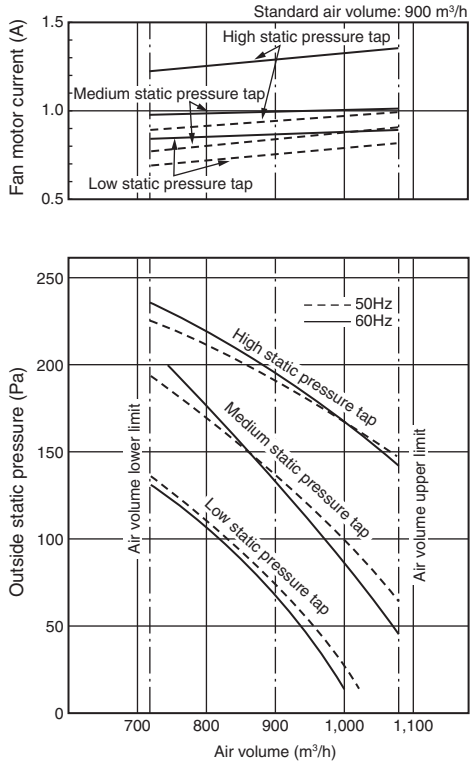


MMD-AP0481BH, AP0561BH

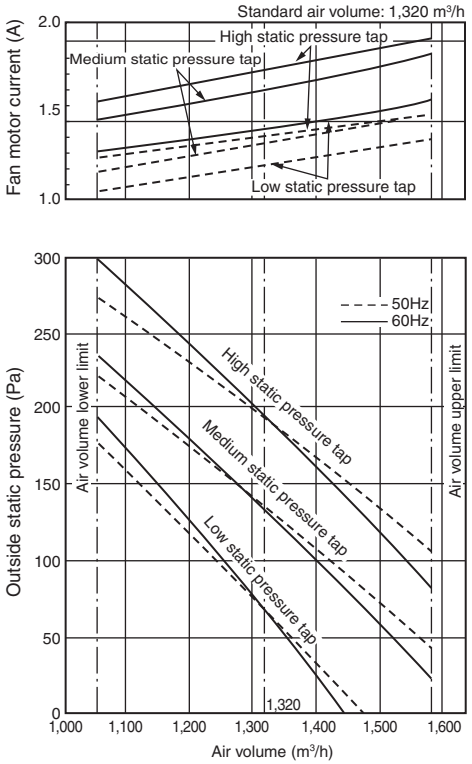


• Concealed Duct High Static Pressure type

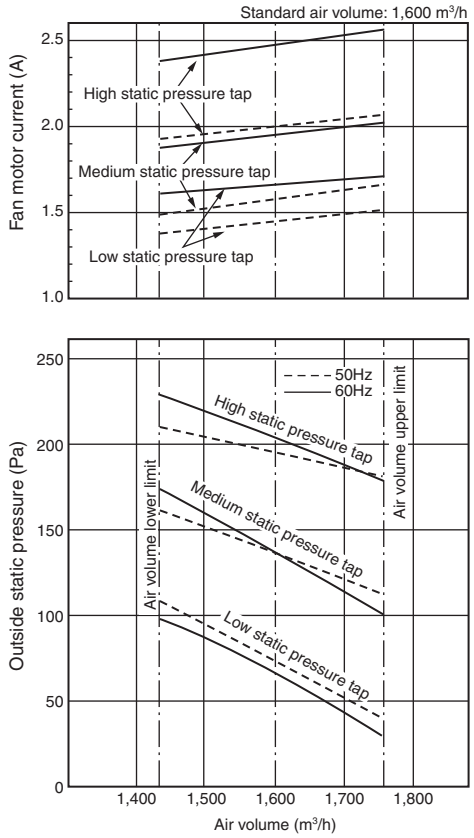
MMD-AP0181H



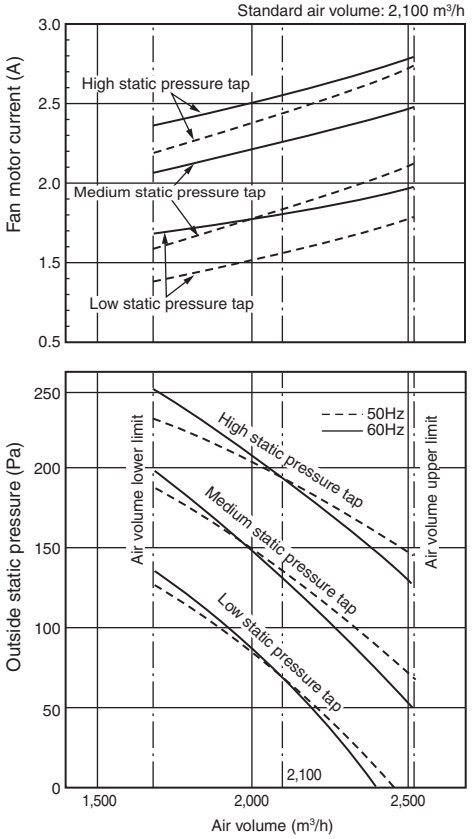
MMD-AP0241H, AP0271H



MMD-AP0361H



MMD-AP0481H

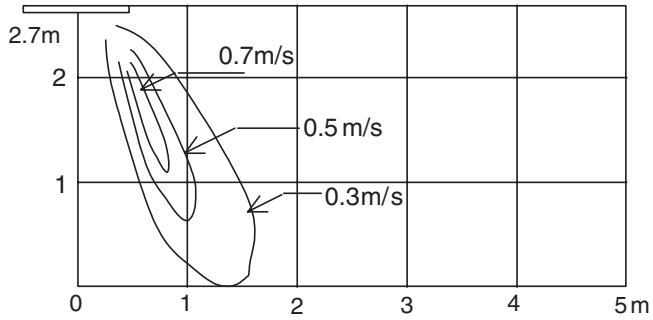


AIR SPEED CHARACTERISTICS

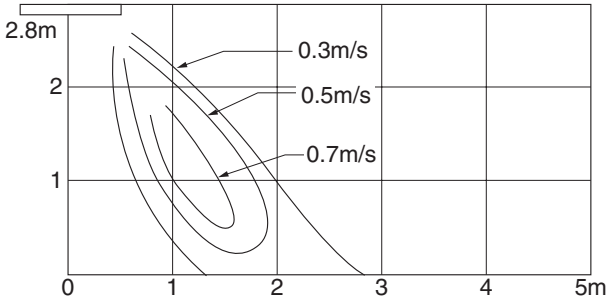
Air Speed Distribution

4-way air discharge cassette type

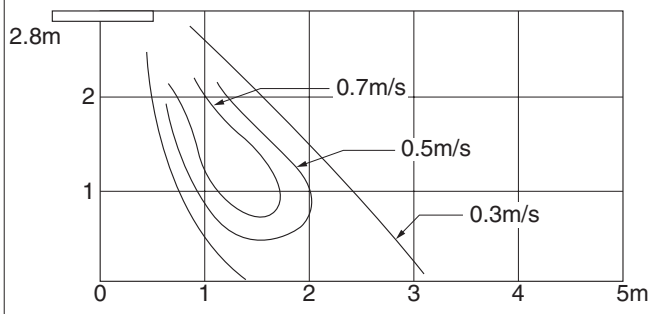
MMU-AP0091H, AP0121H



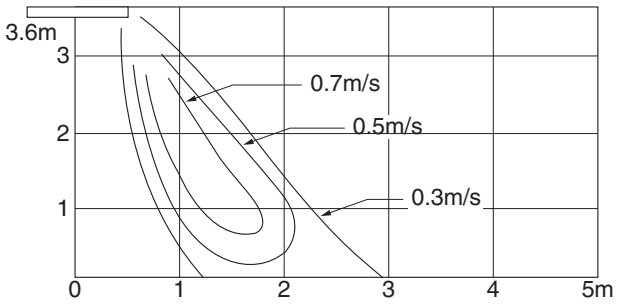
MMU-AP0151H



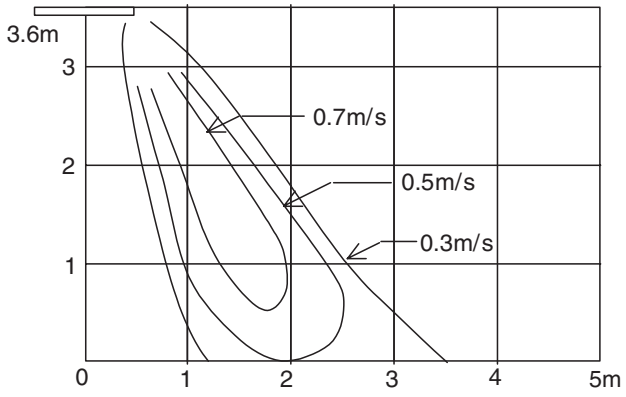
MMU-AP0181H



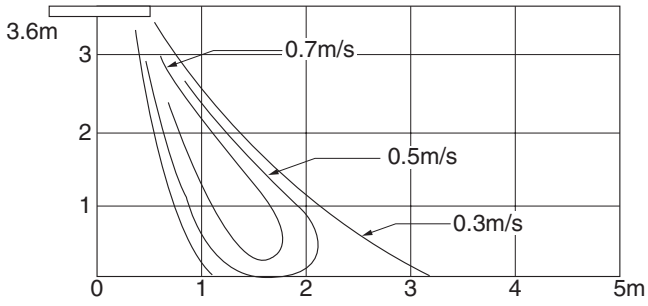
MMU-AP0241H, AP0271H



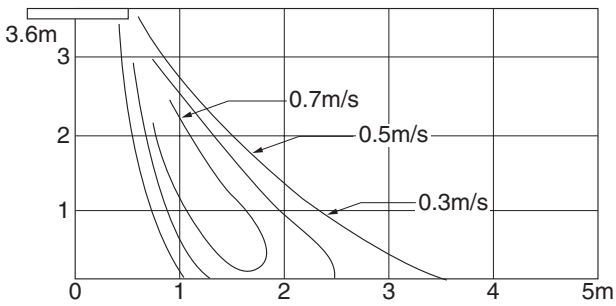
MMU-AP0301H



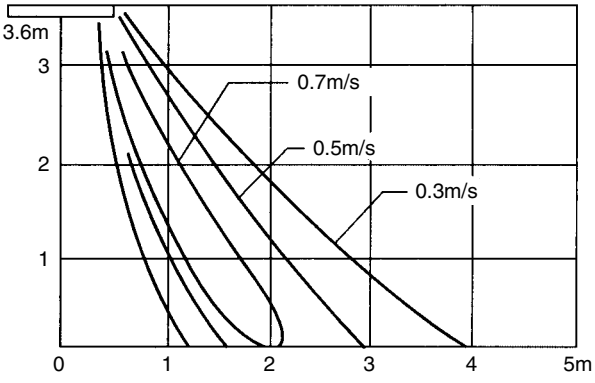
MMU-A0361H



MMU-A0481H



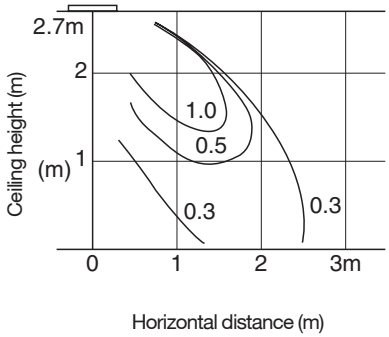
MMU-AP0561H



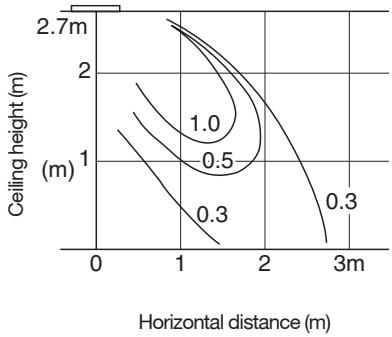
Air Speed Distribution

2-way air discharge cassette type

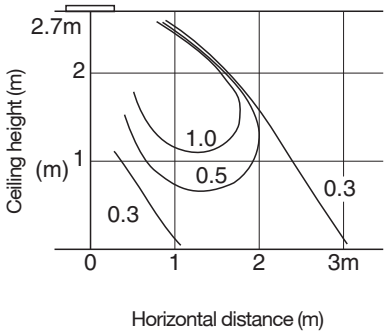
MMU-AP0071WH, AP0091WH, AP0121WH



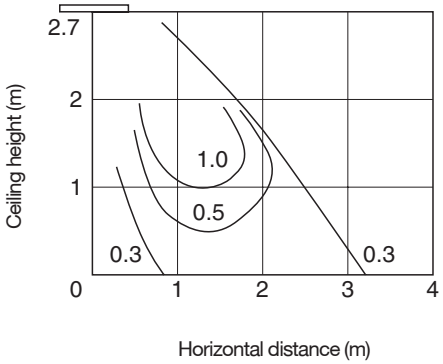
MMU-AP0151WH, AP0181WH



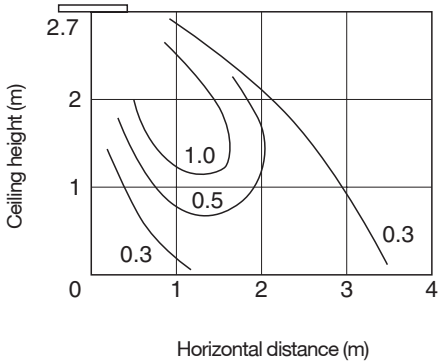
MMU-AP0241WH, AP0271WH



MMU-AP0301WH



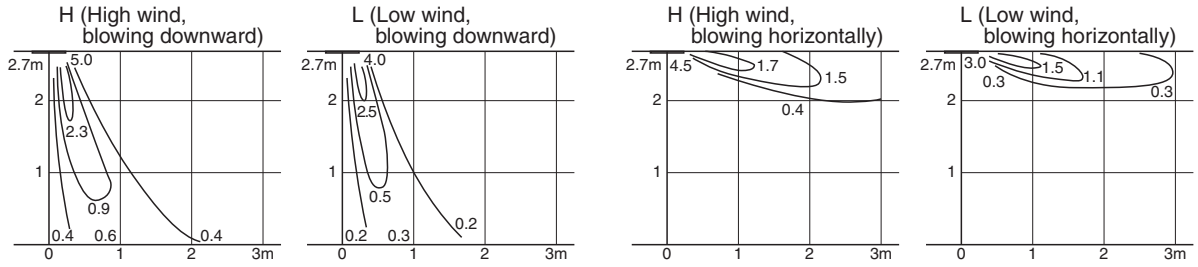
MMU-AP0481WH



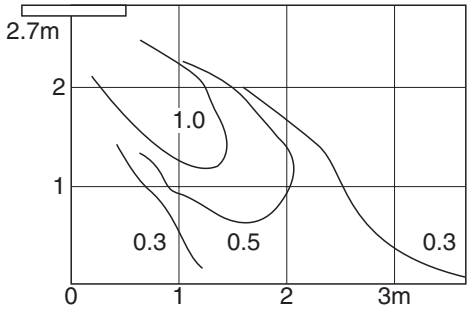
Air Speed Distribution

1-way air discharge cassette type

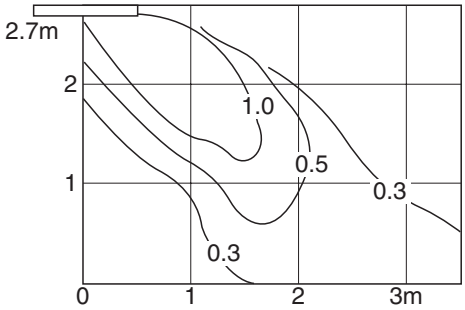
MMU-AP0071YH, AP0091YH, AP0121YH



MMU-AP0151SH, AP0181SH

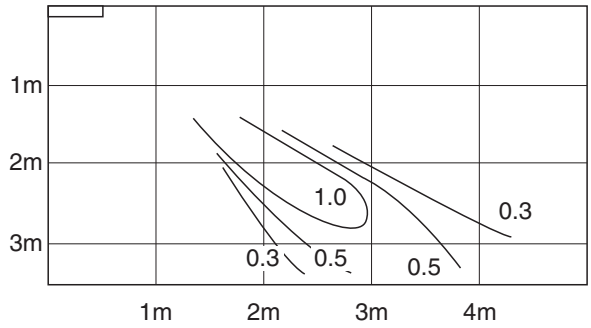


MMU-AP0241SH

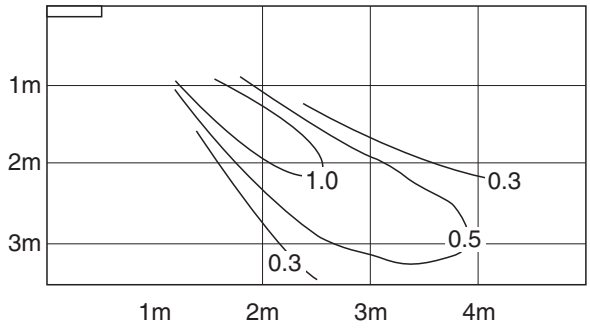


Under ceiling type

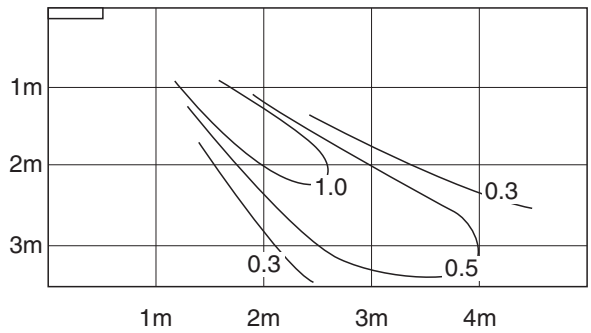
MMC-AP0181H, AP0481H



MMC-AP0361H



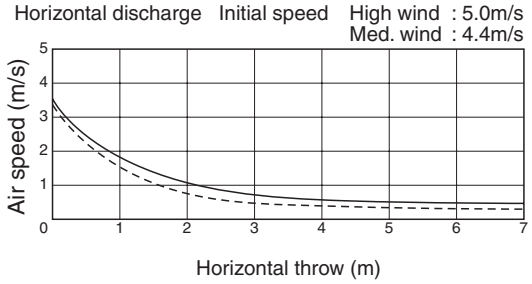
MMC-AP015H, AP0241H, AP0271H



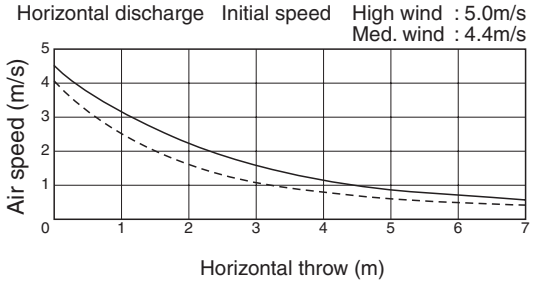
Discharge Air Speed and Air Throw

High wall type

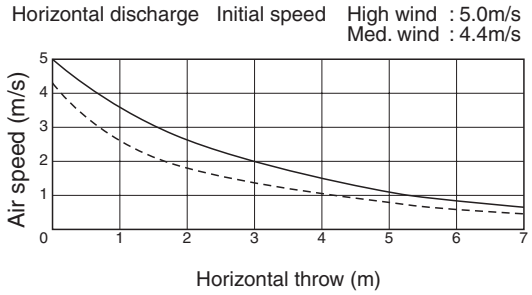
MMK-AP0071H, AP0091H, AP0121H



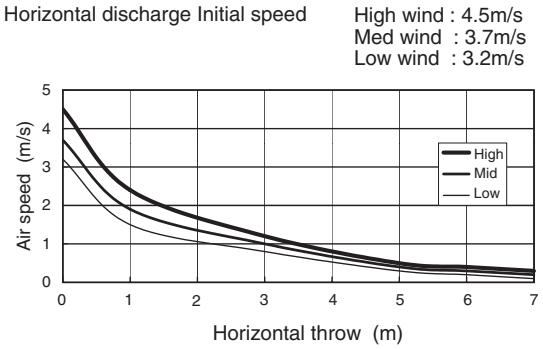
MMK-AP0151H, AP0181H



MMK-AP0241H

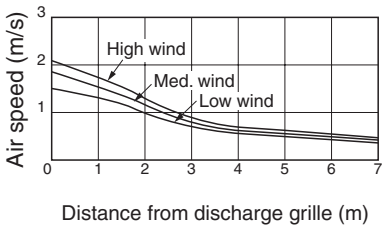


MMK-AP0072H, AP0092H, AP0122H

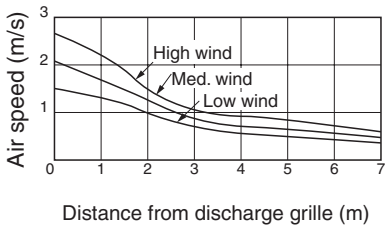


Floor standing cabinet type

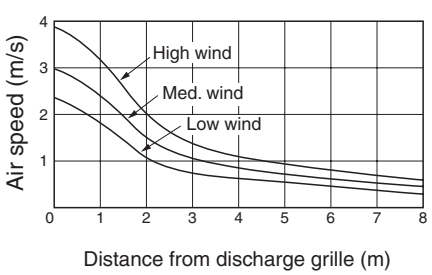
MML-AP0071H, AP0091H



MML-AP0121H, AP0151H



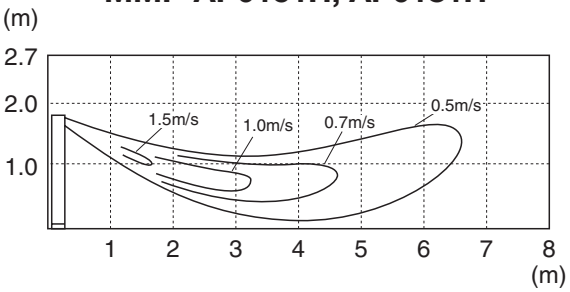
MML-AP0181H, AP0241H



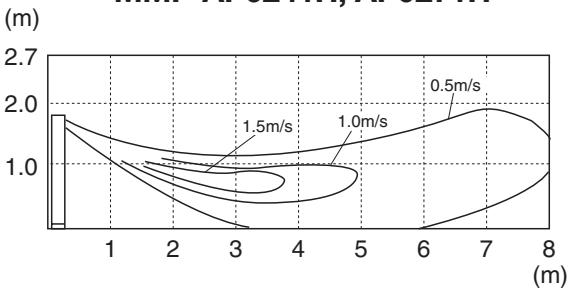
Air Speed Distribution

Floor standing type

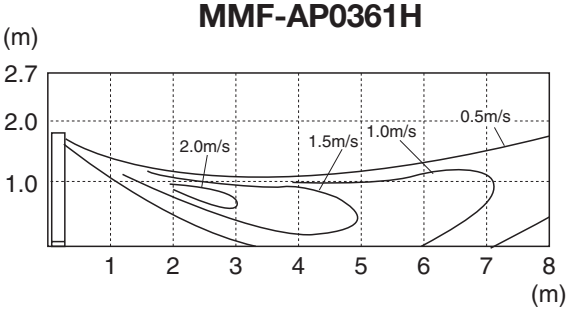
MMF-AP0151H, AP0181H



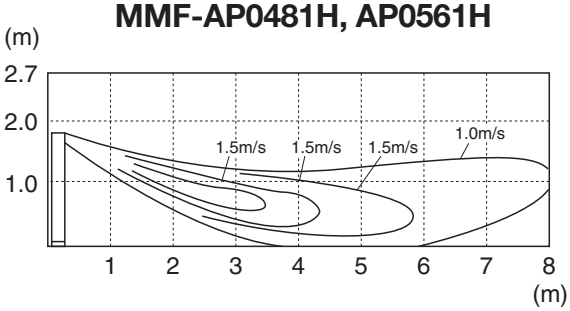
MMF-AP0241H, AP0271H



MMF-AP0361H



MMF-AP0481H, AP0561H



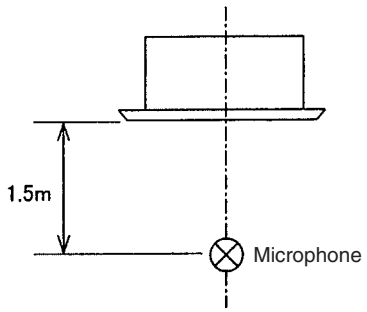
14

Sound characteristics (NC CURVE)

14 Sound characteristics (NC CURVE)

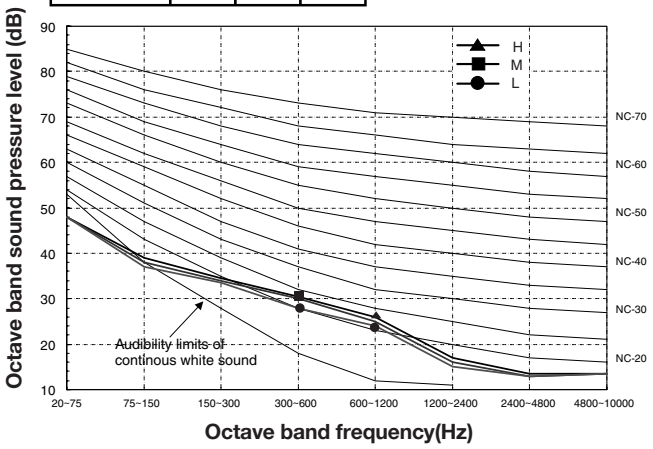
Sound level data (NC CURVE)

Sound level values shown are based on a measurement in a non resound room.



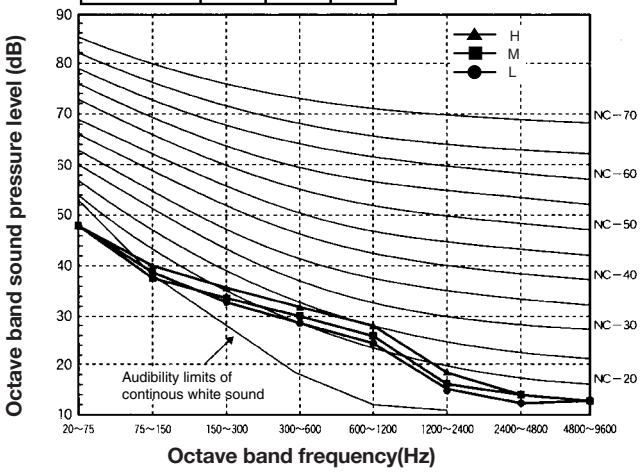
MMU-AP0091H, AP0121H

Fan Tap	H	M	L
Sound pressure level(dB(A))	30	29	27



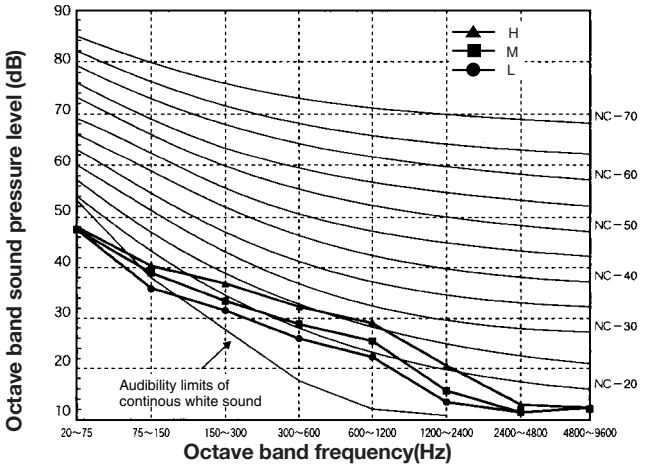
MMU-AP0151H

Fan Tap	H	M	L
Sound pressure level(dB(A))	31	29	27



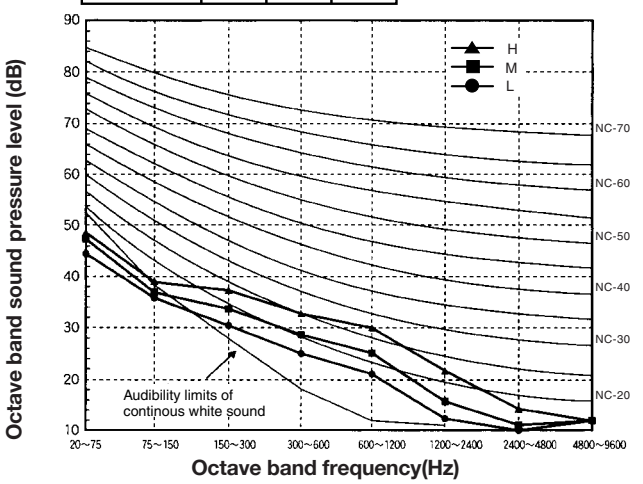
MMU-AP0181H

Fan Tap	H	M	L
Sound pressure level(dB(A))	32	29	28



MMU-AP0241H, AP0271H

Fan Tap	H	M	L
Sound pressure level(dB(A))	34	31	28

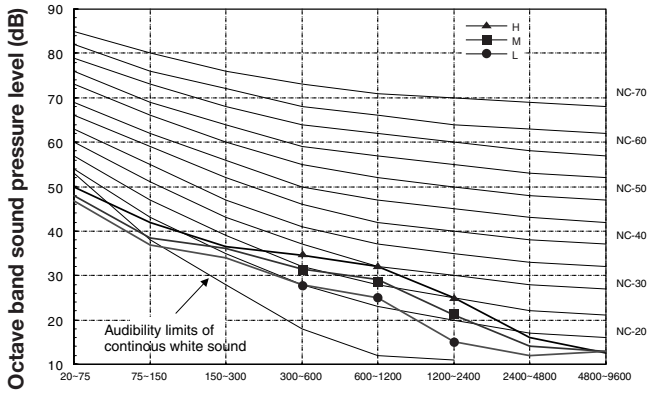


Sound level data (NC CURVE)

Sound level values shown are based on a measurement in a non resound room.

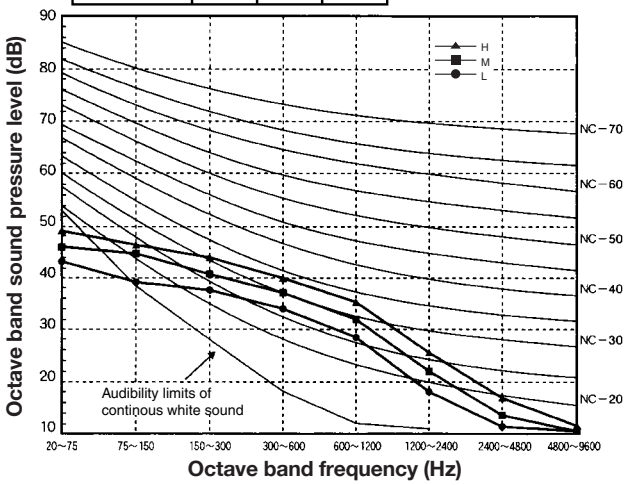
MMU-AP0301H

Fan Tap	H	M	L
Sound pressure level(dB(A))	37	33	30



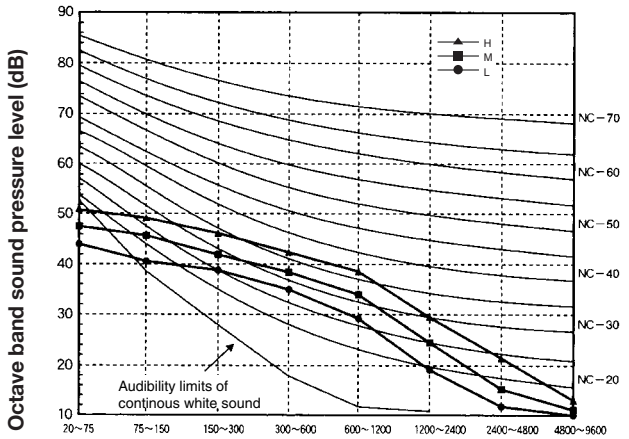
MMU-AP0361H

Fan Tap	H	M	L
Sound pressure level(dB(A))	40	36	33



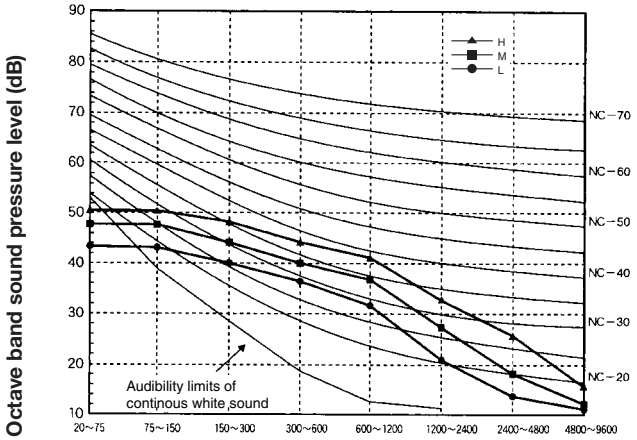
MMU-AP0481H

Fan Tap	H	M	L
Sound pressure level(dB(A))	44	38	34



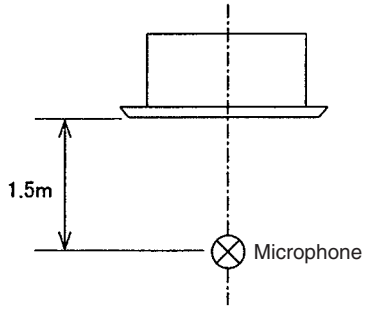
MMU-AP0561H

Fan Tap	H	M	L
Sound pressure level(dB(A))	45	48	34



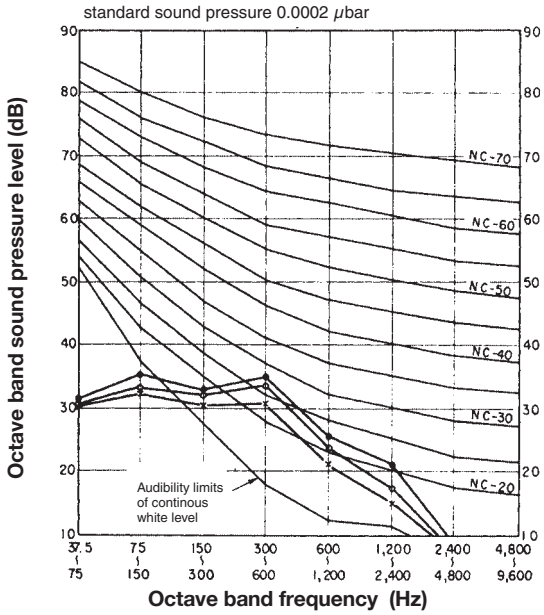
Sound level data (NC CURVE)

Sound level values shown are based on a measurement in a non resound room.



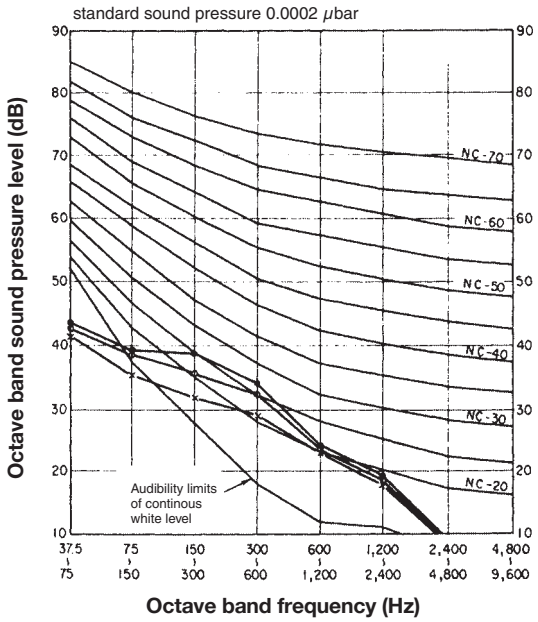
MMU-AP0071WH, AP0091WH, AP0121WH

Fan Tap	H	M	L
Sound pressure level(dB(A))	34	32	30



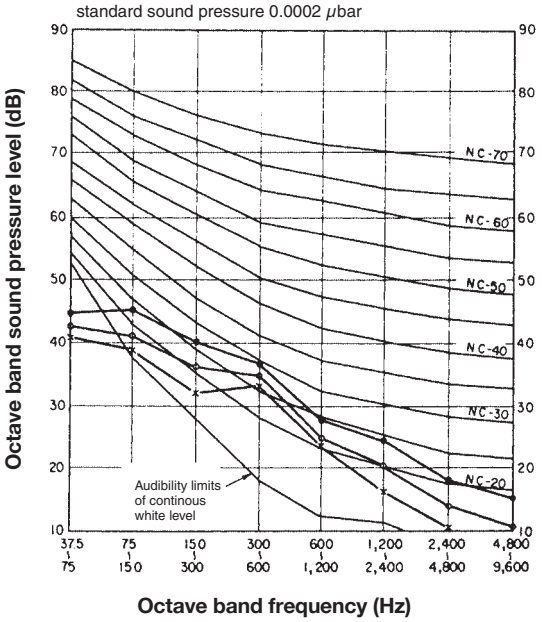
MMU-AP0151WH, AP0181WH

Fan Tap	H	M	L
Sound pressure level(dB(A))	35	33	30



MMU-AP0241WH, AP0271WH

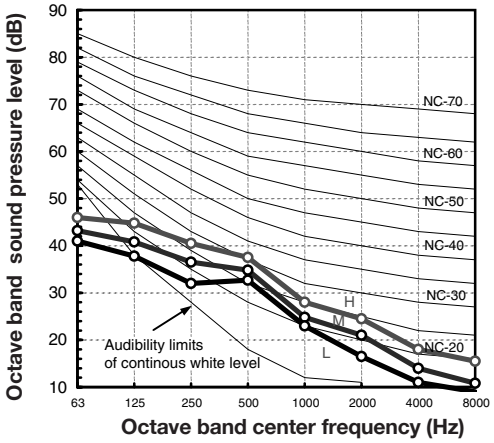
Fan Tap	H	M	L
Sound pressure level(dB(A))	38	35	33



Sound level data (NC CURVE)

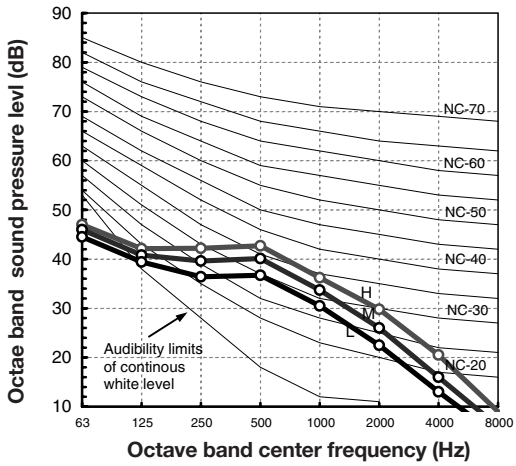
MMU-AP0301WH

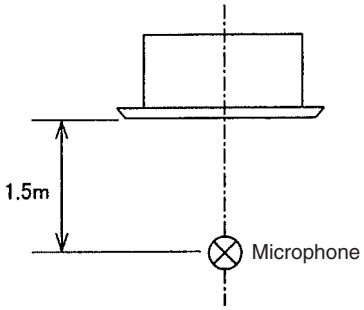
Fan Tap	H	M	L
Sound pressure level(dB(A))	40	37	34



MMU-AP0481WH

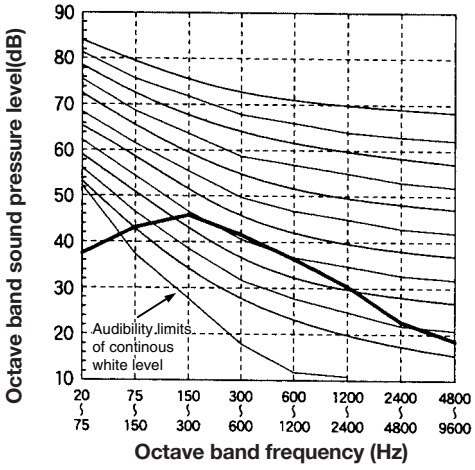
Fan Tap	H	M	L
Sound pressure level(dB(A))	45	42	39





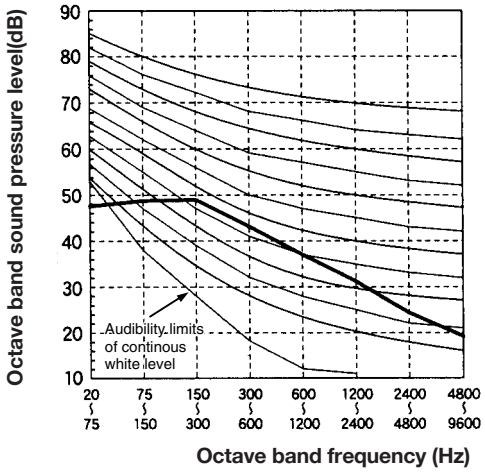
MMU-AP0151SH, AP0181SH

Fan Tap	H	M	L
Sound pressure level(dB(A))	42	39	36

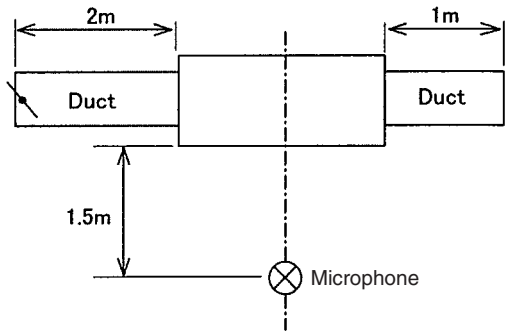


MMU-AP0241SH

Fan Tap	H	M	L
Sound pressure level(dB(A))	43	41	37

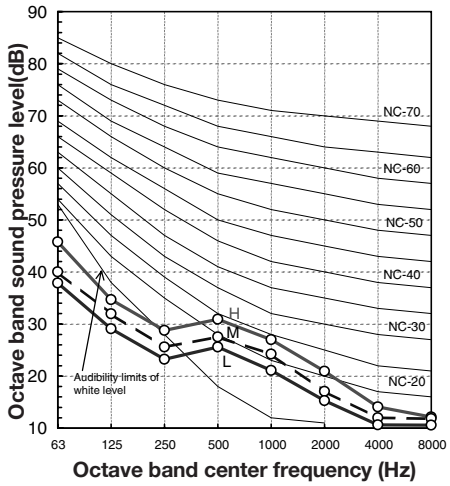


Sound level data (NC CURVE)



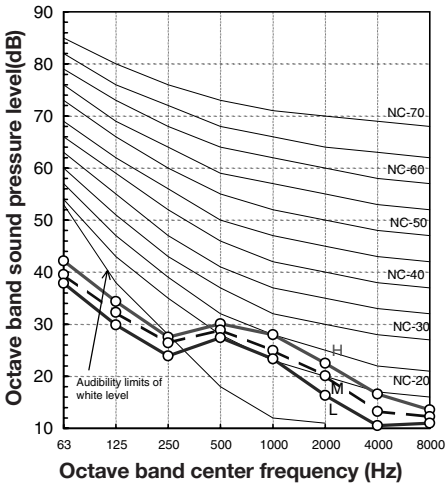
MMD-AP0071BH, AP0091BH

Fan Tap	H	M	L
Sound pressure level (dB(A))	30	28	26



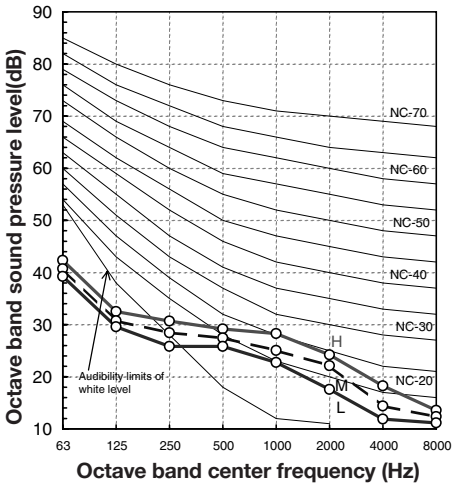
MMD-AP0121BH

Fan Tap	H	M	L
Sound pressure level (dB(A))	31	29	27



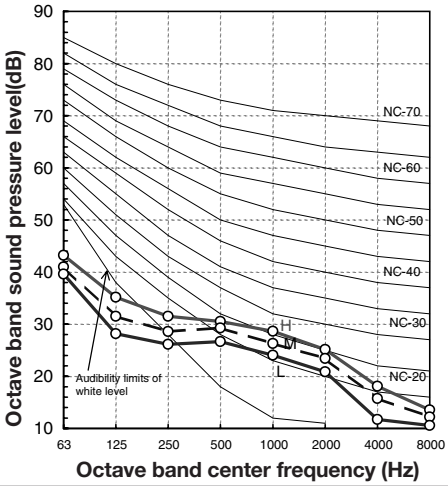
MMD-AP0151BH

Fan Tap	H	M	L
Sound pressure level (dB(A))	31	29	27



MMD-AP0181BH

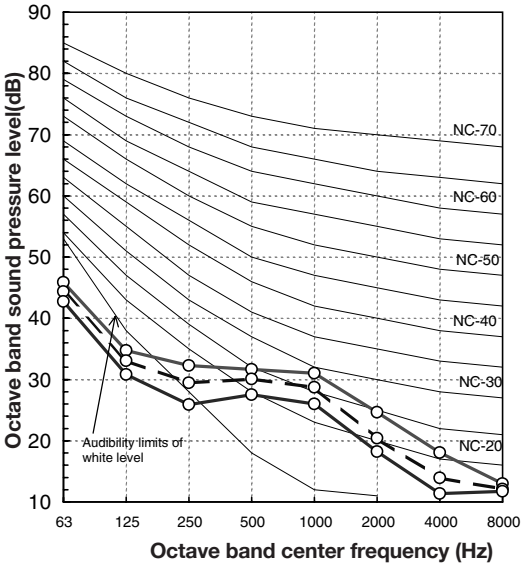
Fan Tap	H	M	L
Overall level dB(A)	32	30	28



Sound level data (NC CURVE)

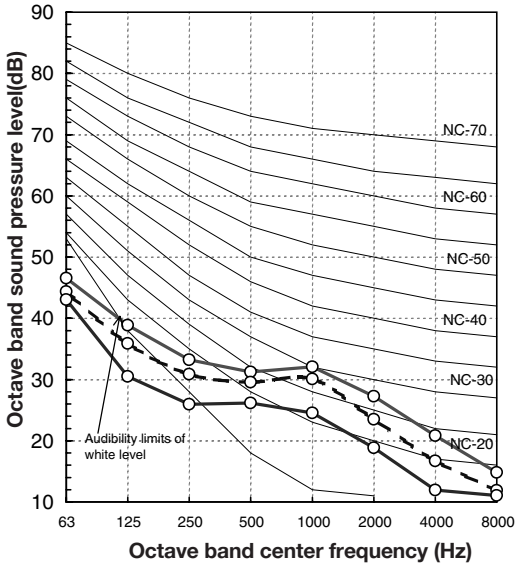
MMD-AP0241BH, AP0271BH

Fan Tap	H	M	L
Sound pressure level (dB(A))	33	31	29



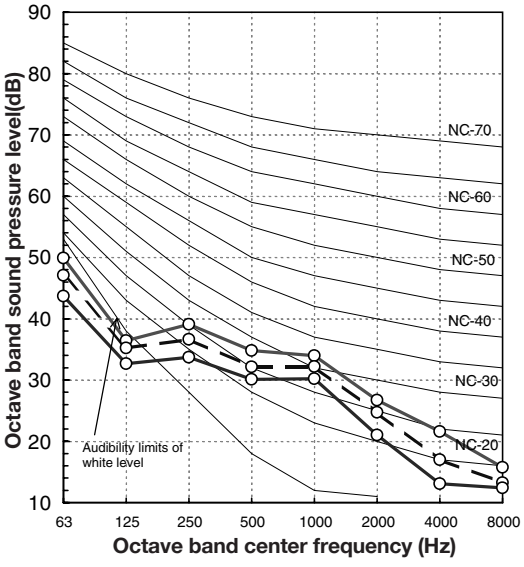
MMD-AP0301BH

Fan Tap	H	M	L
Sound pressure level (dB(A))	34	32	29



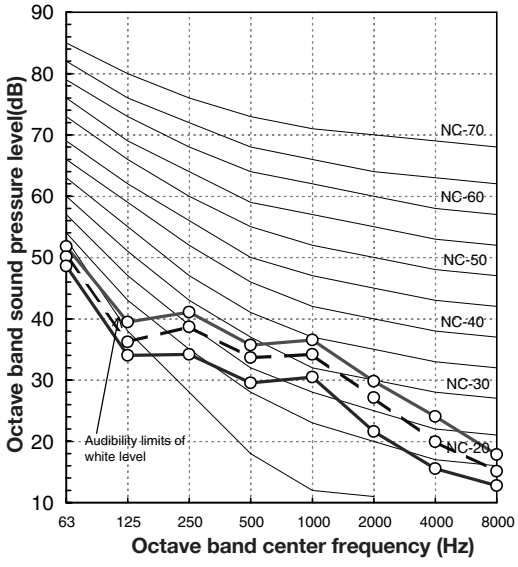
MMD-AP0361BH

Fan Tap	H	M	L
Sound pressure level (dB(A))	36	34	32



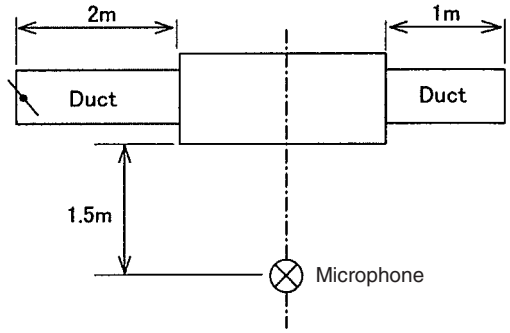
MMD-AP0481BH, AP0561BH

Fan Tap	H	M	L
Sound pressure level (dB(A))	38	36	32



Sound level data (NC CURVE)

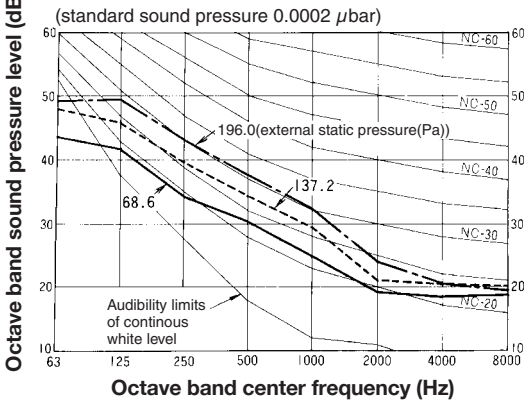
Sound level values shown are based on a measurement in a non resound room.



MMD-AP0181H

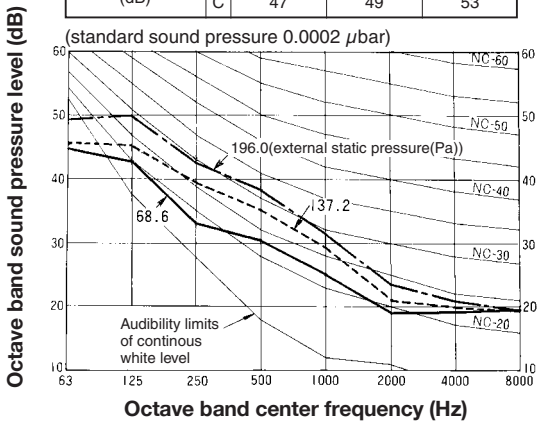
(dB)

Outside still pressure		68.6 (Pa)	137.2 (Pa)	196.0 (Pa)
Overall level (dB)	A	33	37	40
	C	46	51	53



(dB)

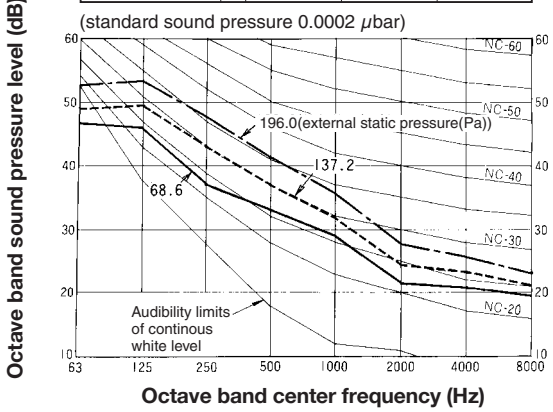
Outside still pressure		68.6 (Pa)	137.2 (Pa)	196.0 (Pa)
Overall level (dB)	A	33	37	40
	C	47	49	53



MMD-AP0241H, AP0271H

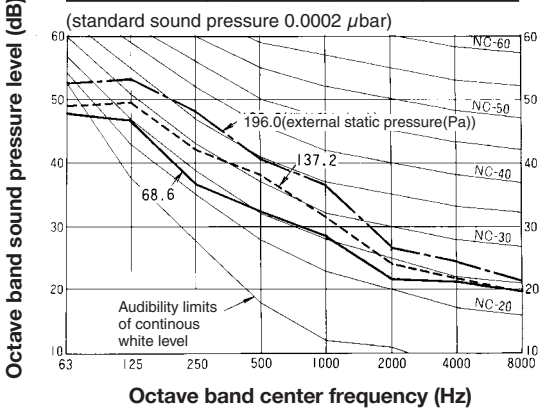
(dB)

Outside still pressure		68.6 (Pa)	137.2 (Pa)	196.0 (Pa)
Overall level (dB)	A	36	40	44
	C	50	53	57



(dB)

Outside still pressure		68.6 (Pa)	137.2 (Pa)	196.0 (Pa)
Overall level (dB)	A	36	40	44
	C	50.5	53	57

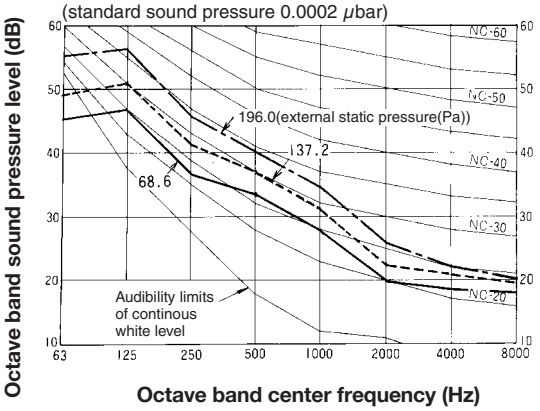


MMD-AP0361H

(dB)

Outside still pressure		68.6 (Pa)	137.2 (Pa)	196.0 (Pa)
Overall level (dB)	A	36	40	44
	C	49.5	54	59

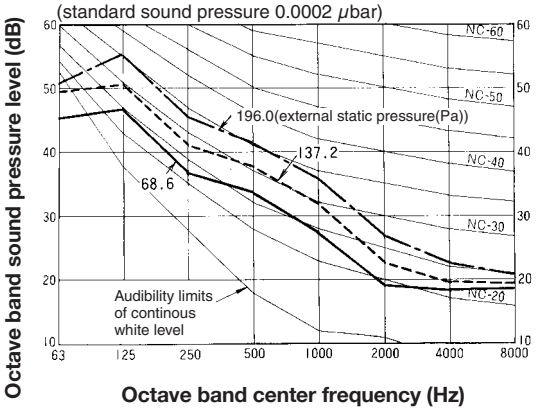
(standard sound pressure 0.0002 μbar)



(dB)

Outside still pressure		68.6 (Pa)	137.2 (Pa)	196.0 (Pa)
Overall level (dB)	A	36	40	44
	C	49	53.5	57

(standard sound pressure 0.0002 μbar)

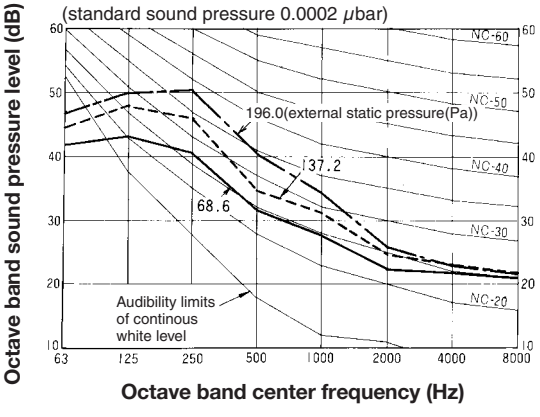


MMD-AP0481H

(dB)

Outside still pressure		68.6 (Pa)	137.2 (Pa)	196.0 (Pa)
Overall level (dB)	A	36	40	44
	C	47	51	54

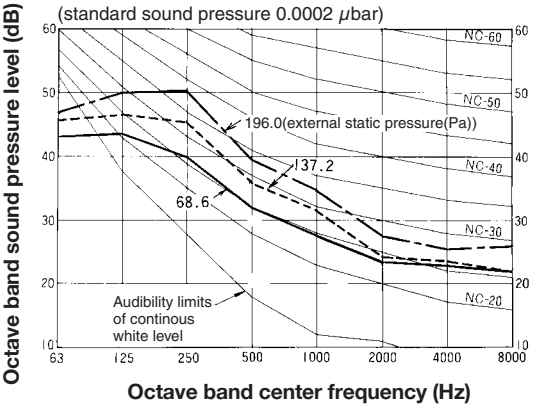
(standard sound pressure 0.0002 μbar)



(dB)

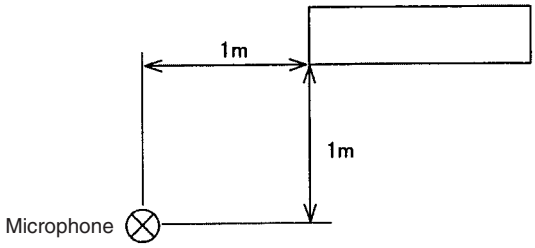
Outside still pressure		68.6 (Pa)	137.2 (Pa)	196.0 (Pa)
Overall level (dB)	A	36	40	44
	C	47	51	54

(standard sound pressure 0.0002 μbar)



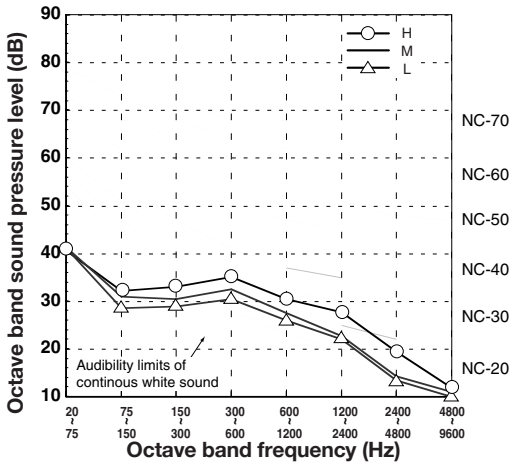
Sound level data (NC CURVE)

Sound level values shown are based on a measurement in a non resound room.



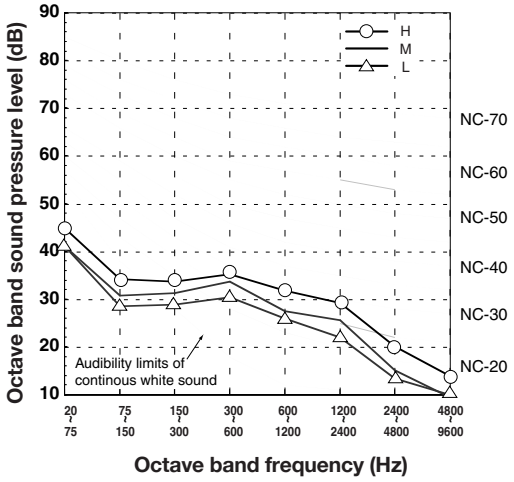
MMC-AP0151H

Fan Tap	H	M	L
Sound pressure level(dB(A))	35	32	30



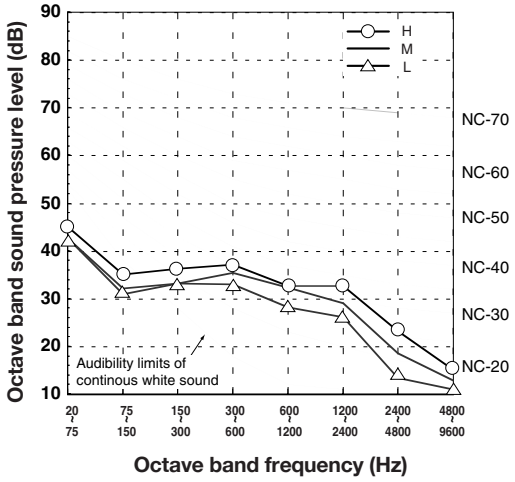
MMC-AP0181H

Fan Tap	H	M	L
Sound pressure level(dB(A))	36	33	30



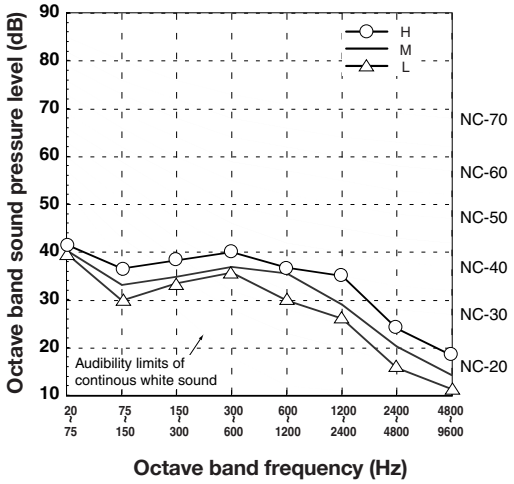
MMC-AP0241H, AP0271H

Fan Tap	H	M	L
Sound pressure level(dB(A))	38	36	33



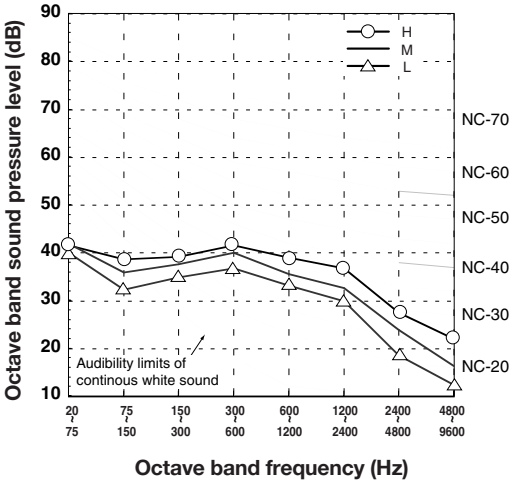
MMC-AP0361H

Fan Tap	H	M	L
Sound pressure level(dB(A))	41	38	35

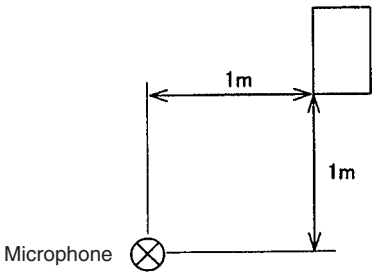


MMC-AP0481H

Fan Tap	H	M	L
Sound pressure level(dB(A))	43	40	37

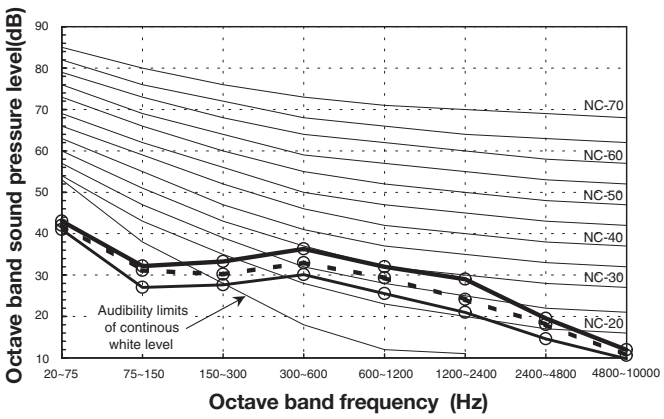


Sound level data (NC CURVE)



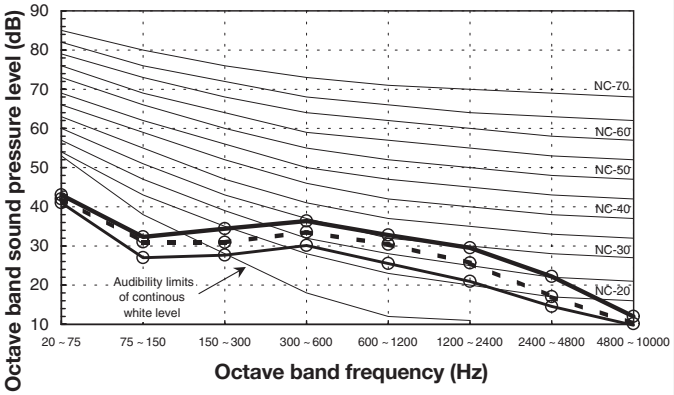
MMK-AP0072H

Fan tap	H	M	L
Sound pressure level (dB(A))	35	32	29



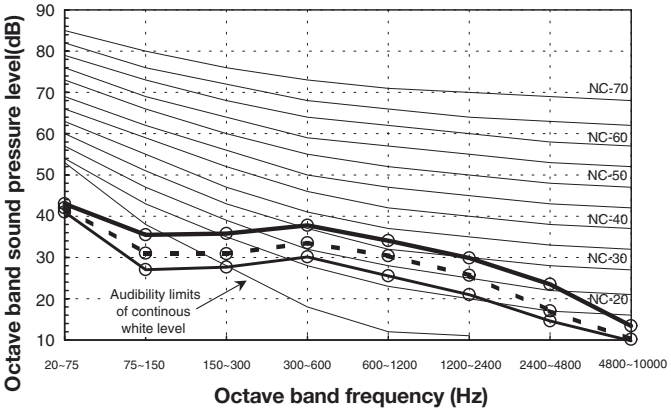
MMK-AP0092H

Fan tap	H	M	L
Sound pressure level (dB(A))	36	33	29



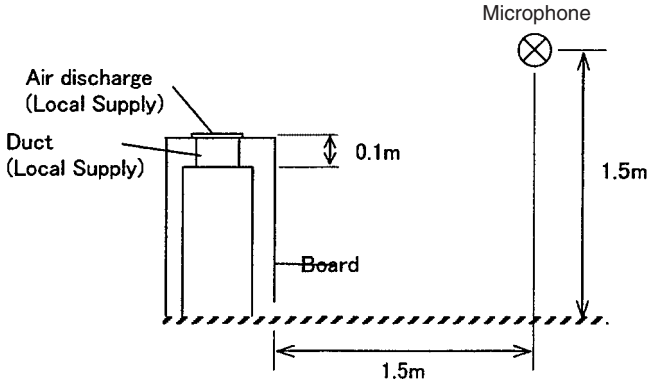
MMK-AP0122H

Fan tap	H	M	L
Sound pressure level (dB(A))	37	33	29



Sound level data (NC CURVE)

Sound level values shown are based on a measurement in a non resound room.

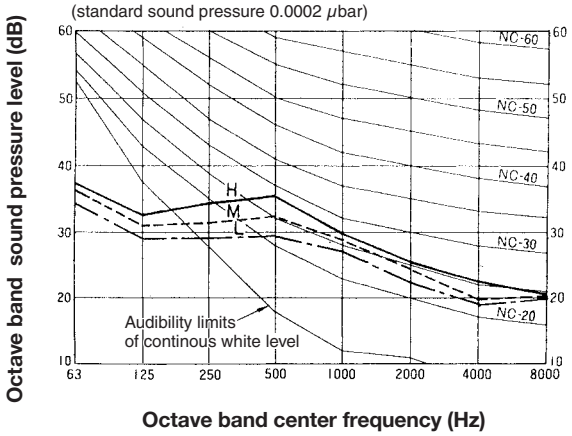


MML-AP0071BH, AP0091BH, AP0121BH

50 Hz

Fan Tap		H	M	L
Overall level (dB)	A	36.0	34.0	32.0
	C	41.7	40.2	37.9

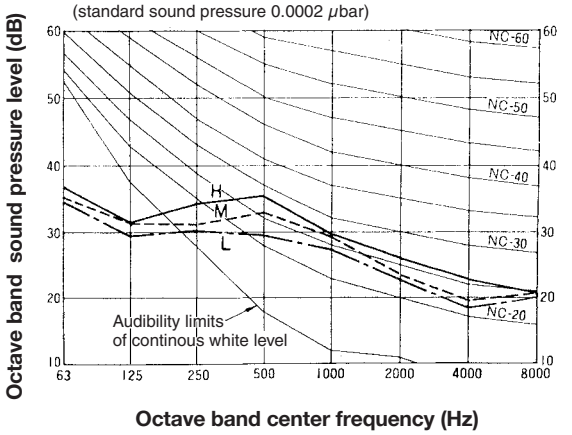
(standard sound pressure 0.0002 μbar)



60 Hz

Fan Tap		H	M	L
Overall level (dB)	A	36.0	34.0	32.0
	C	41.6	39.8	38.1

(standard sound pressure 0.0002 μbar)

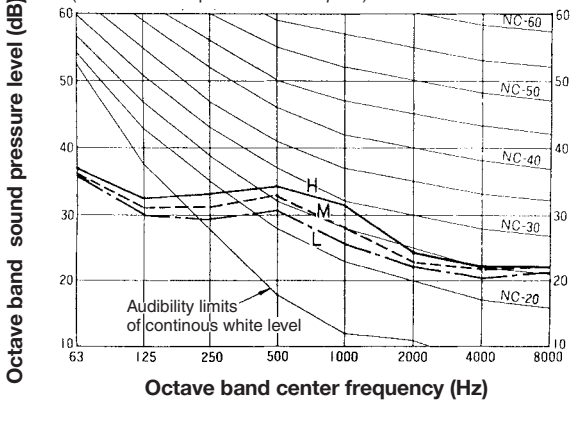


MML-AP0151BH, AP0181BH

50 Hz

Fan Tap		H	M	L
Overall level (dB)	A	36.0	34.0	32.0
	C	41.4	40.0	38.8

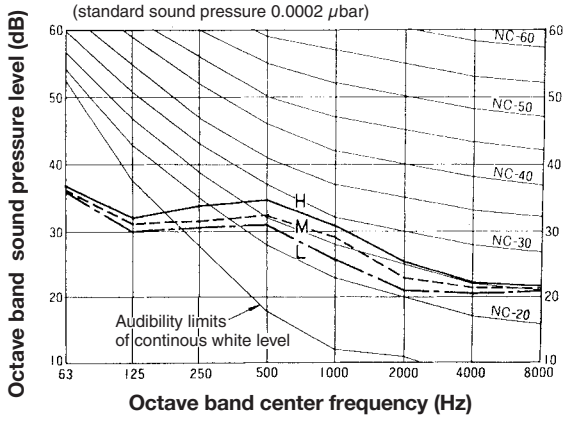
(standard sound pressure 0.0002 μbar)



60 Hz

Fan Tap		H	M	L
Overall level (dB)	A	36.0	34.0	32.0
	C	41.4	40.0	39.0

(standard sound pressure 0.0002 μbar)

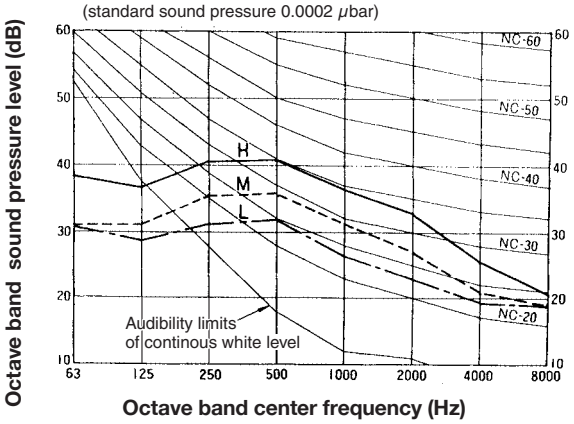


MML-AP0241BH

50 Hz

Fan Tap		H	M	L
Overall level (dB)	A	42.0	37.0	33.0
	C	46.4	41.0	37.7

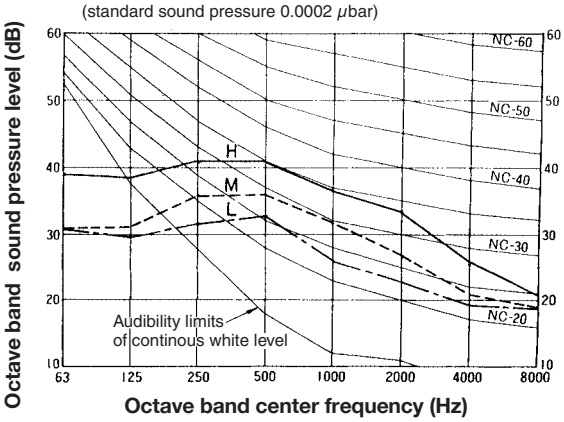
(standard sound pressure 0.0002 μbar)



60 Hz

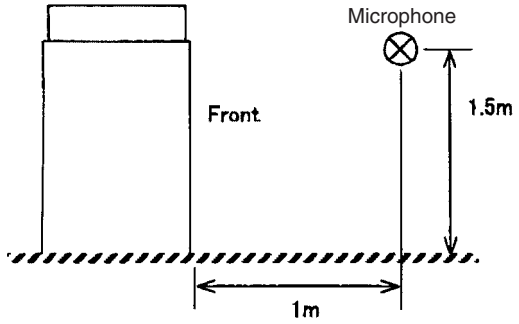
Fan Tap		H	M	L
Overall level (dB)	A	42.0	37.0	33.0
	C	46.6	41.0	38.0

(standard sound pressure 0.0002 μbar)



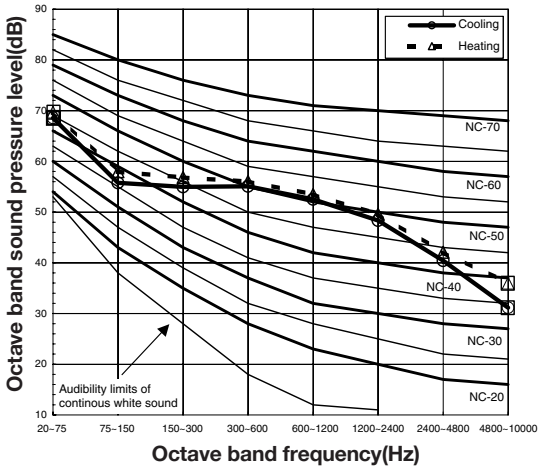
Sound level data (NC CURVE)

Sound level values shown are based on a measurement in a non resound room.



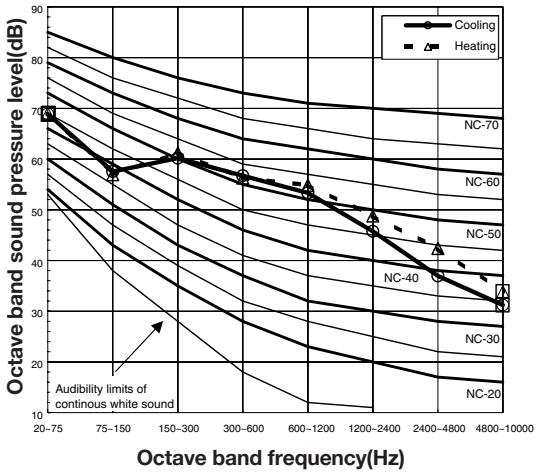
MMY-MAP0802FT8

Sound pressure Level (dB(A))	57



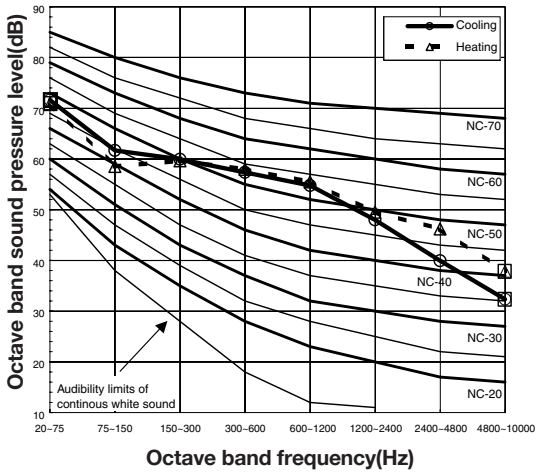
MMY-MAP1002FT8

Sound pressure Level (dB(A))	58



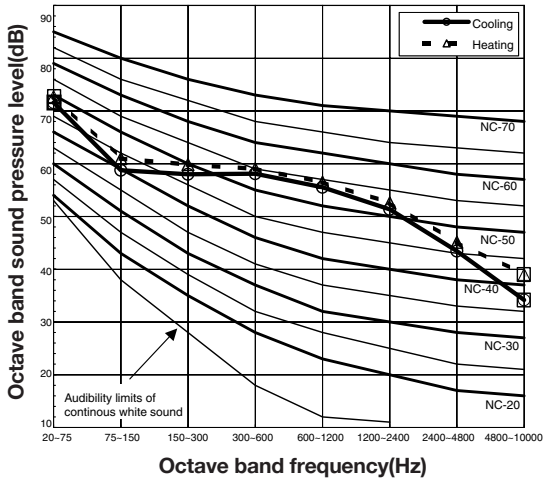
MMY-MAP1202FT8

Sound pressure Level (dB(A))	59



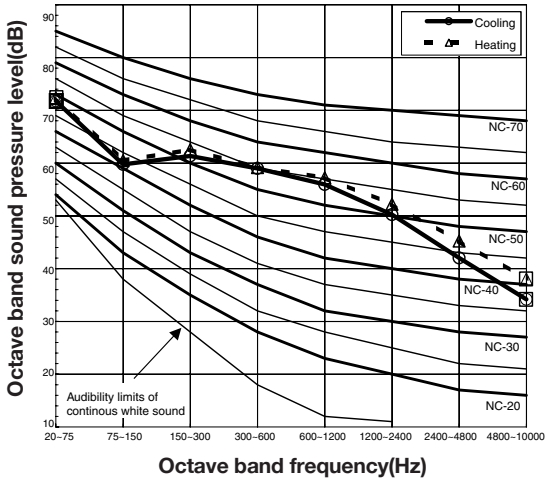
MMY-AP1602FT8

Sound pressure Level (dB(A))	60



MMY-AP1802FT8

Sound pressure Level (dB(A))	60.5

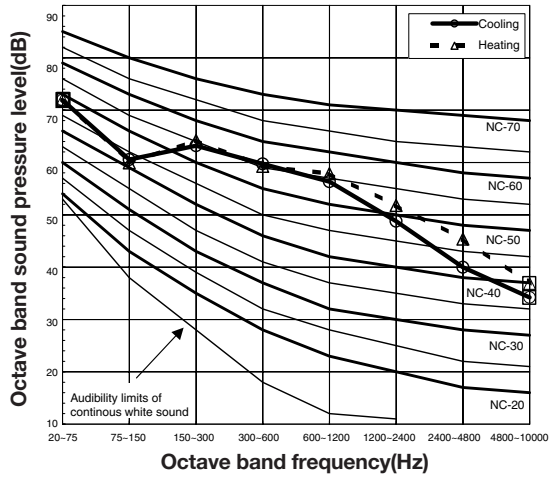


Sound level data (NC CURVE)

Sound level values shown are based on a measurement in a non resound room.

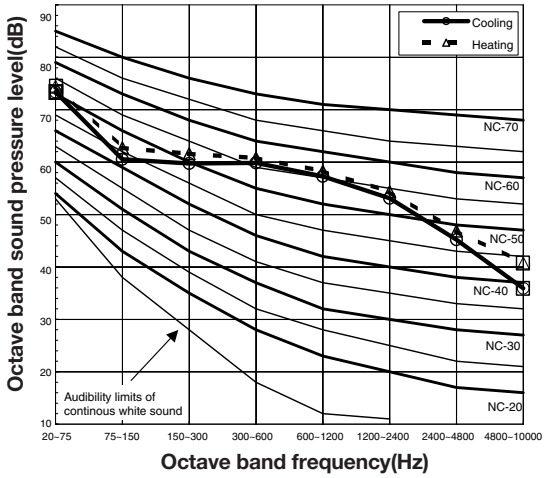
MMY-AP2002FT8

Sound pressure Level (dB(A))	61



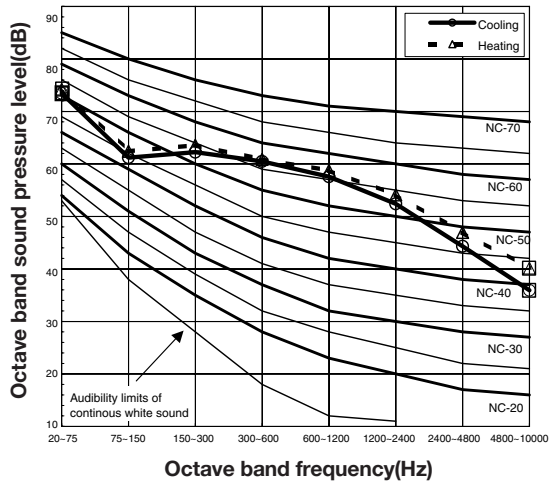
MMY-AP2402FT8

Sound pressure Level (dB)A))	62



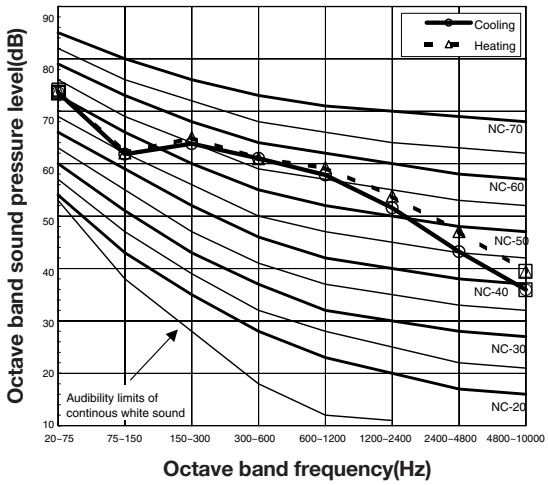
MMY-AP2602FT8

Sound pressure Level (dB(A))	62



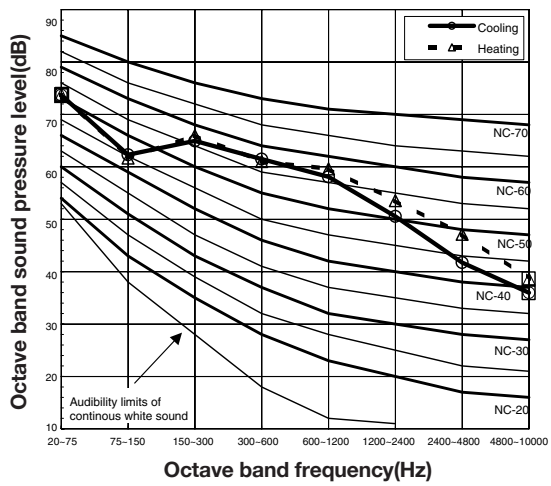
MMY-AP2802FT8

Sound pressure Level (dB(A))	62.5



MMY-AP3002FT8

Sound pressure Level (dB(A))	63



15

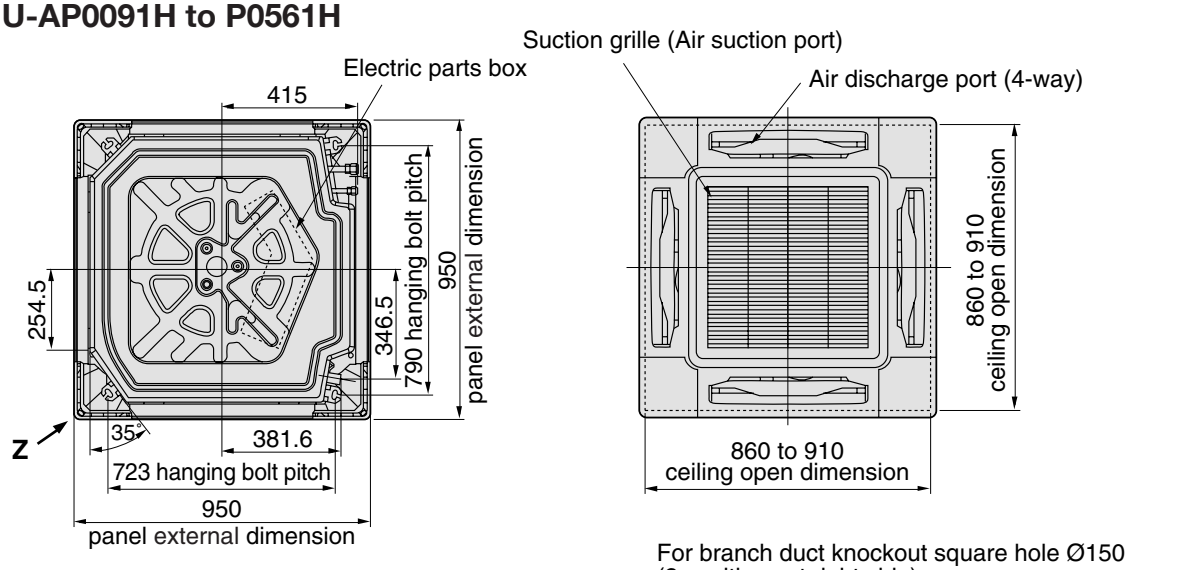
Dimensional drawing

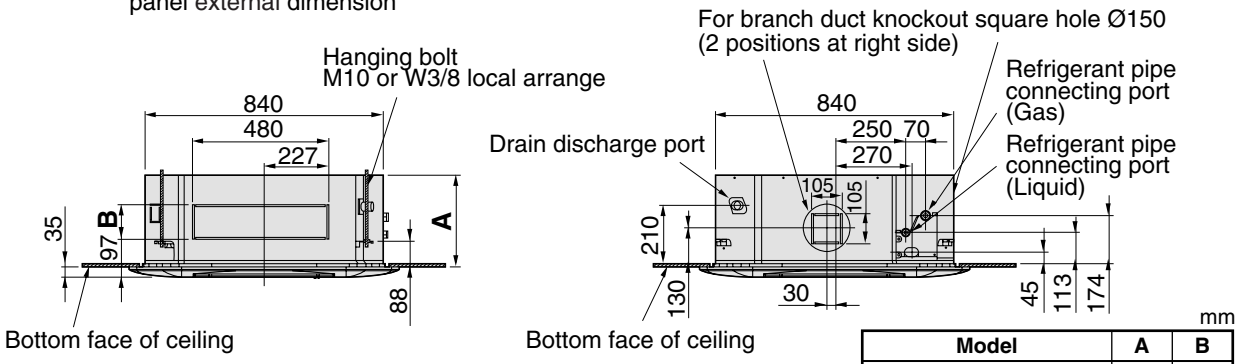
15 Dimensional drawing

1. Indoor unit

• 4-way Air Discharge Cassette Type

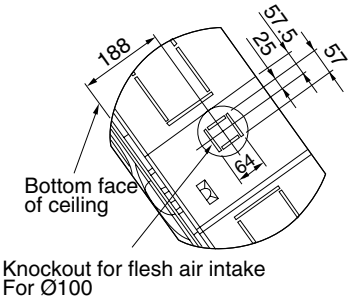
MMU-AP0091H to P0561H

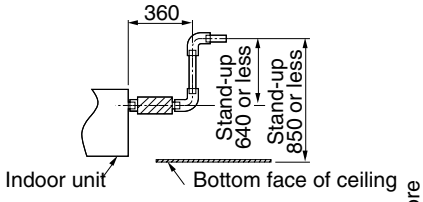




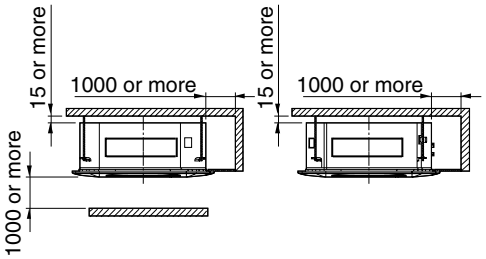
mm

Model	A	B
AP0091H to AP0301H	256	120
AP0361H to AP0561H	319	183



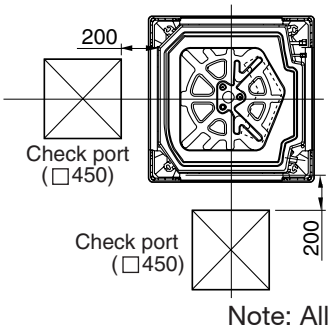


(NOTE)
As ABS is used for the drain discharge port of the main unit, the vinyl chloride paste cannot be used.
Use the flexible hose (Band fix) included in the package.



Z view | **Drain-up standing-up size** | **Space required for installation and servicing**

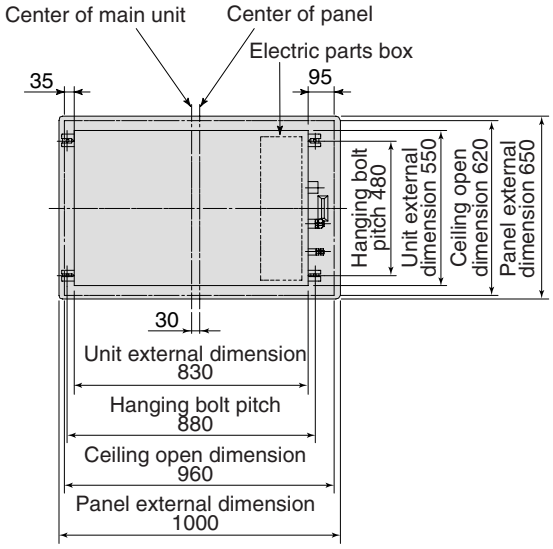
- **Wired remote controller**
  - **RBC-AMT21E**
  - **RBC-AMT31E**
- **Simple wired remote controller**
  - **RBC-AS21E**
  - **RBC-AS21E2**
- **Wireless remote controller kit**
  - **TCB-AX21U(W)-E**
  - **TCB-AX21U(W)-E2**
- **Weekly timer application**
  - **RBC-AMT31E and RBC-EXW21E2**



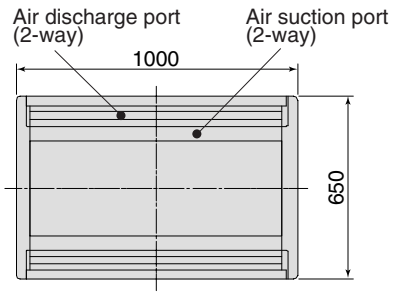
Note: All dimensions are in mm.

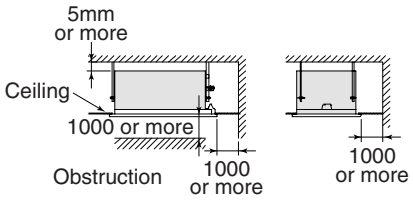
• 2-way Air Discharge Cassette Type

MMU-AP0071WH, AP0091WH, AP0121WH

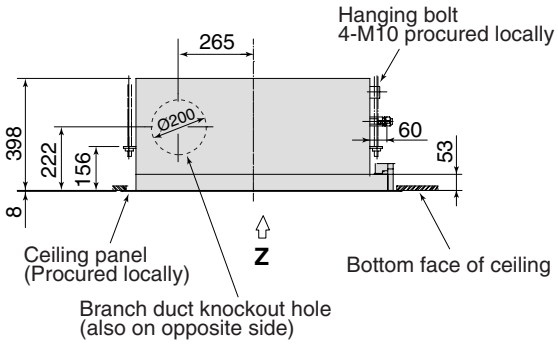


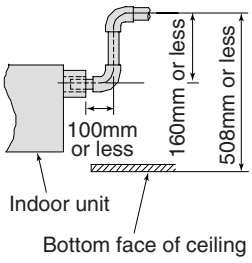
Z view

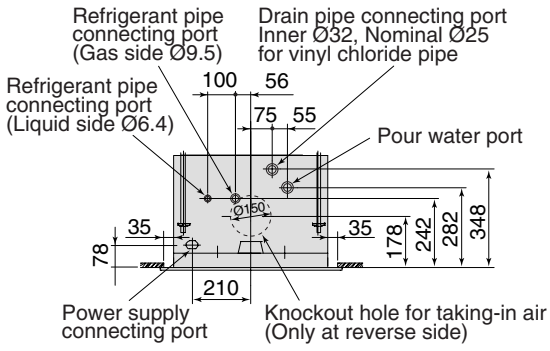




Space required for installation and servicing



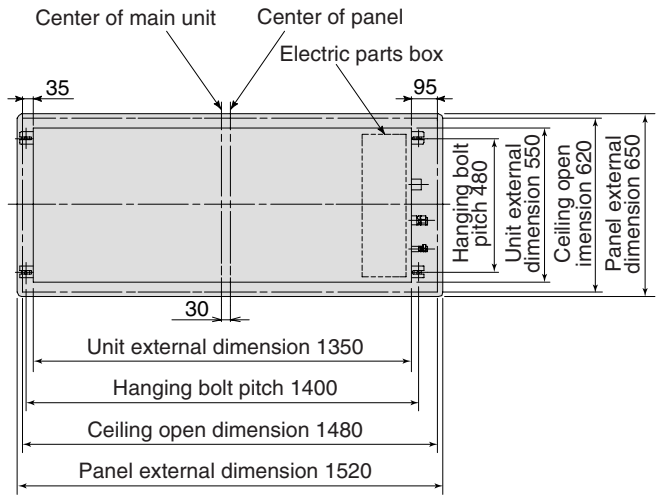




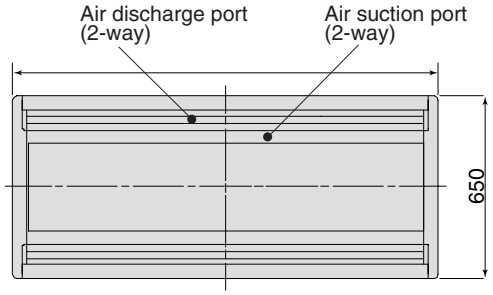
- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

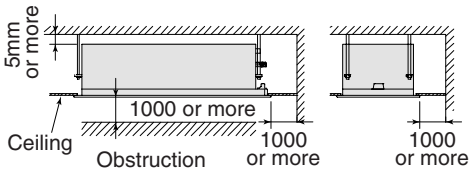
Note: All dimensions are in mm.

MMU-AP0151WH, AP0181WH, AP0241WH, AP0271WH. AP0301WH

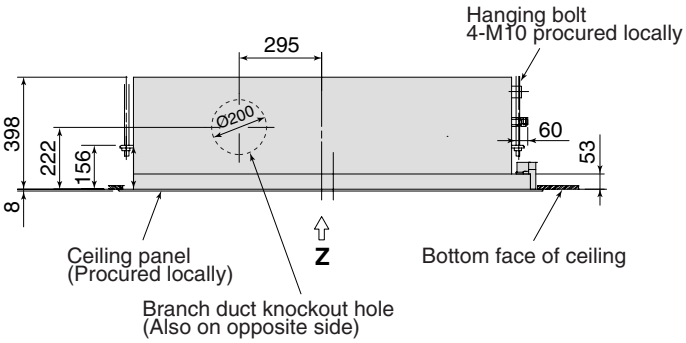


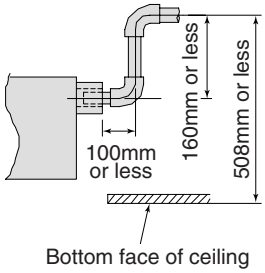
Z view

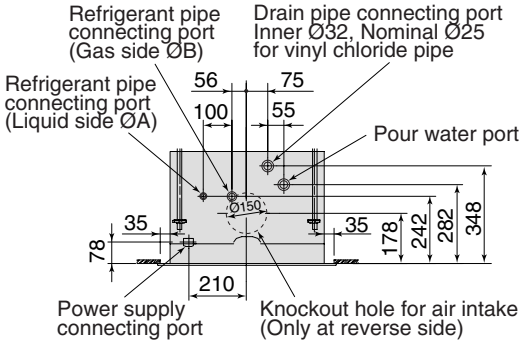




Space required for installation and servicing





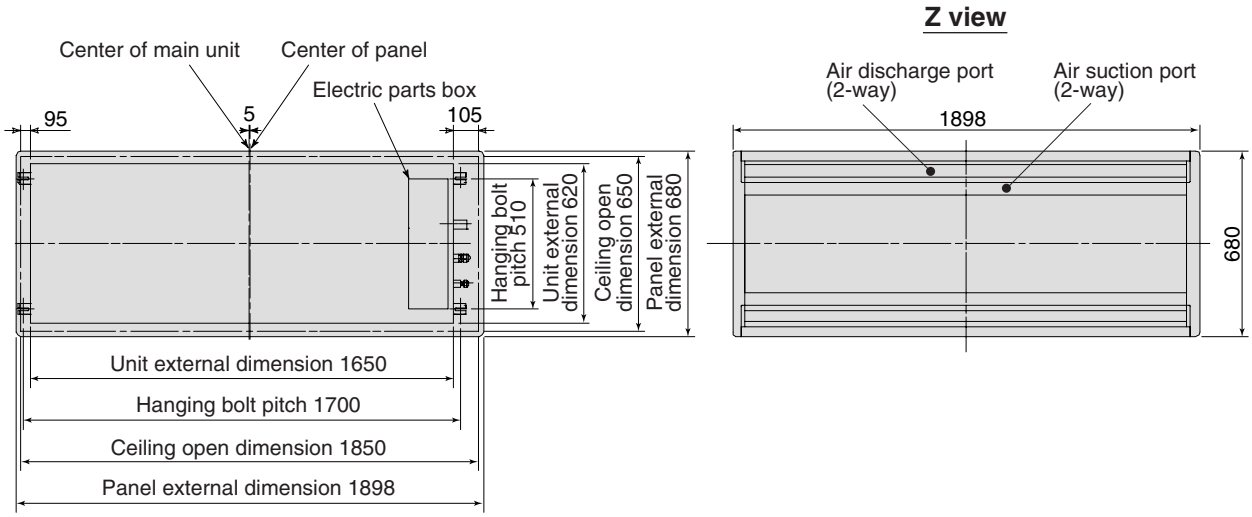


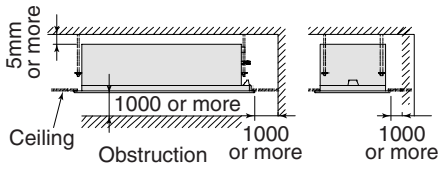
- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

Model	A	B
MMU-AP0151WH to AP0181WH	Ø6.4	Ø12.7
MMU-AP0241WH to AP0301WH	Ø9.5	Ø15.9

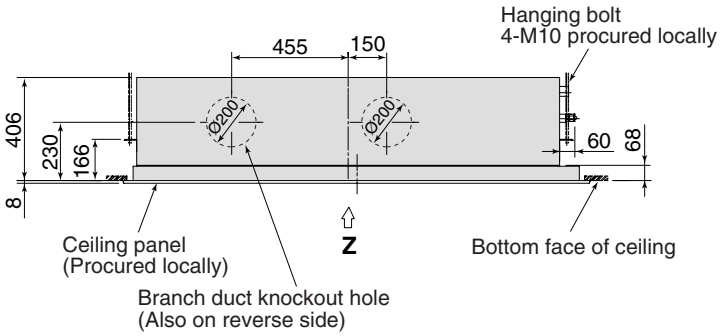
Note: All dimensions are in mm.

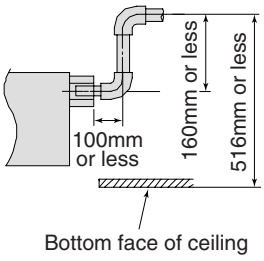
MMU-AP0481WH

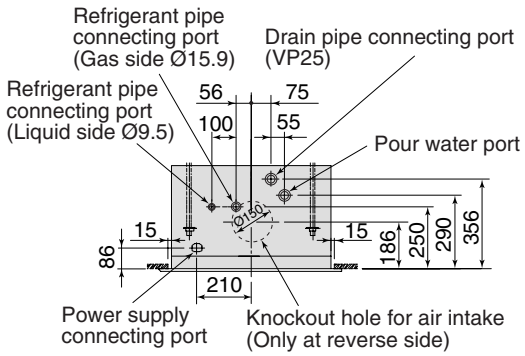




Space required for installation and servicing





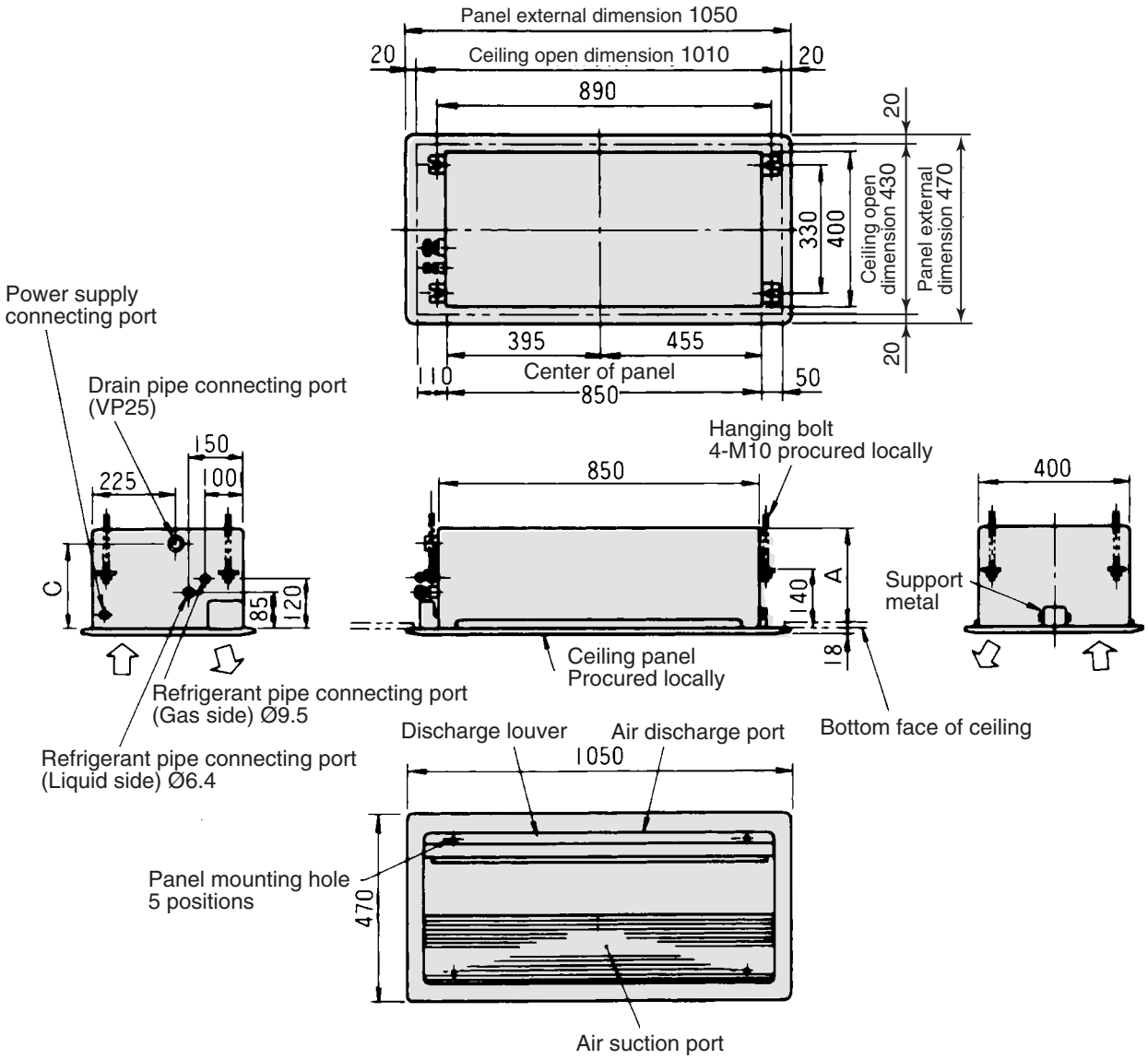


- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

Note: All dimensions are in mm.

• 1-way Air Discharge Cassette Type

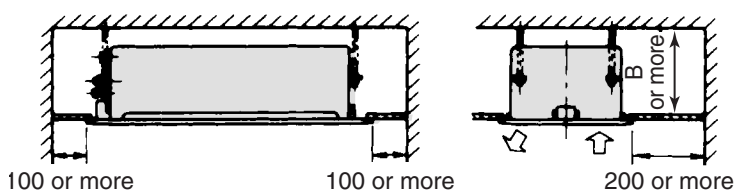
MMU-AP0071YH, AP0091YH, AP0121YH



Dimensions

Model MMU-	A	B	C
AP0071YH,AP0091YH, AP0121YH	235	245	200

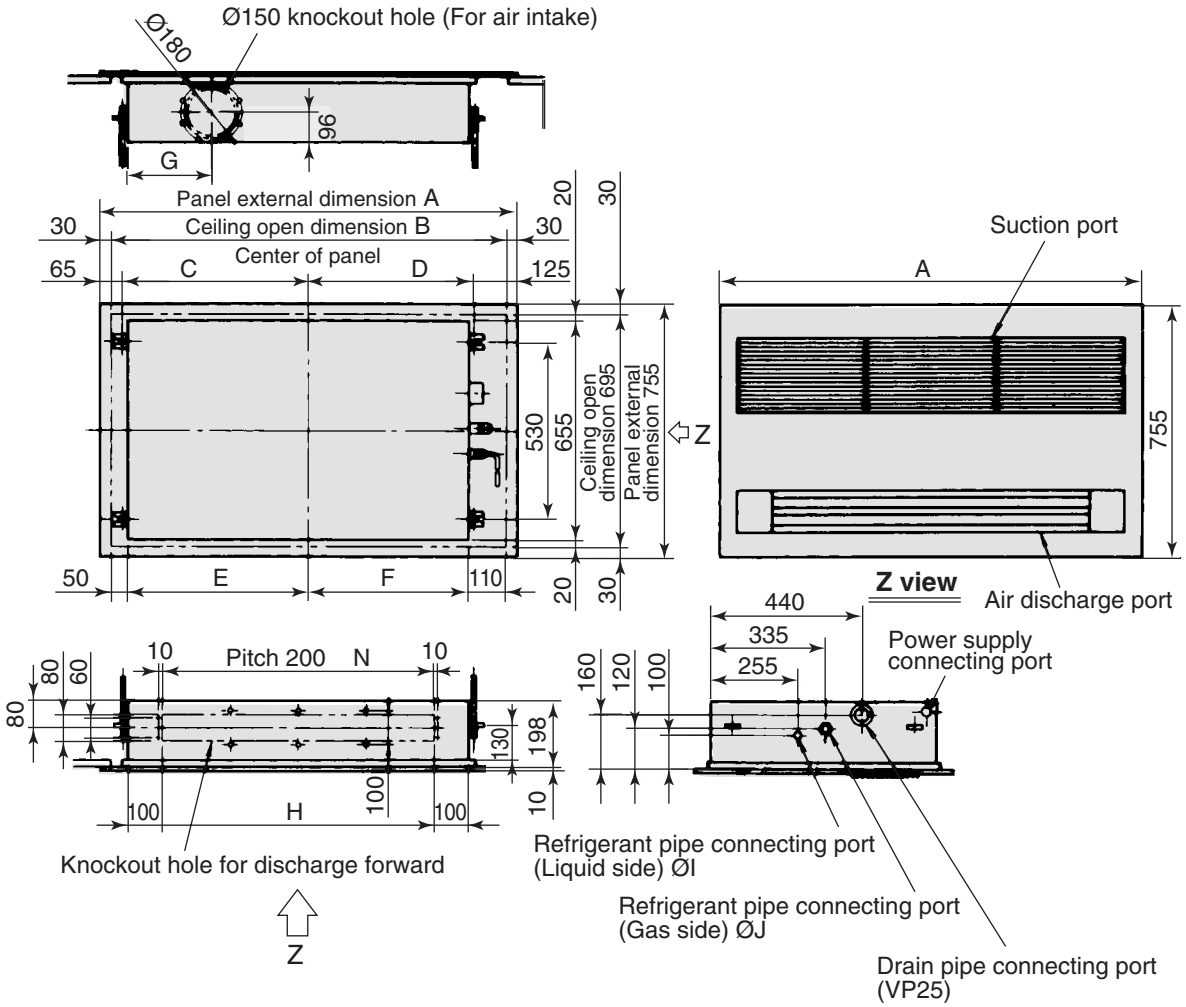
- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2



Space required for installation and servicing

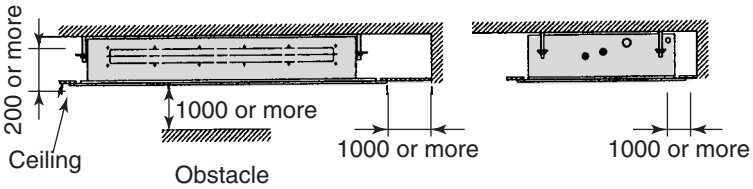
Note: All dimensions are in mm.

MMU-AP0151SH, AP0181SH, AP0241SH



Dimensions

Model MMU-	A	B	C	D	E	F	G	H	I	J	N
AP0151SH,AP0181SH	1220	1160	545	485	530	470	254	800	6.4	12.7	4
AP0241SH	1420	1360	645	585	630	570	460	1000	9.5	15.9	5



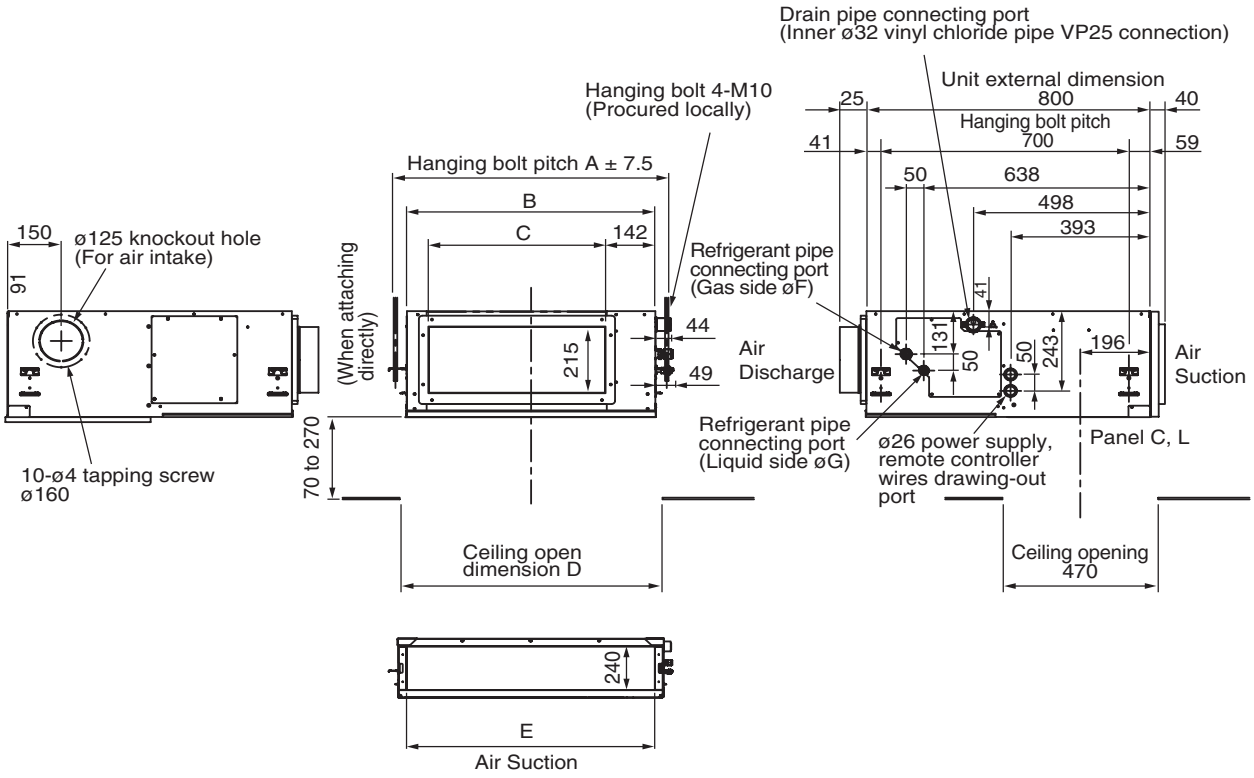
Space required for installation and servicing

- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

Note: All dimensions are in mm.

• Concealed Duct Standard Type

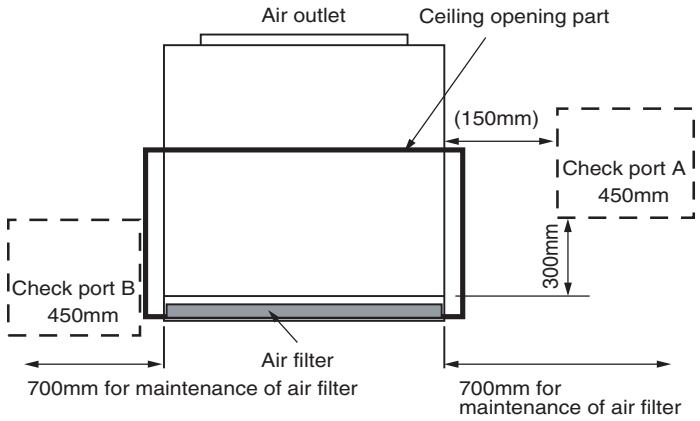
MMD-AP0071BH, AP0091BH, AP0121BH, AP0151BH, AP0181BH, AP0241BH, AP0271BH, AP0301BH, AP0361BH, AP0481BH, AP0561BH



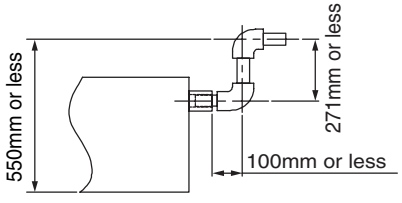
Model MMD-	A	B	C	D	E	F	G
AP0071BH, AP0091BH, AP0121BH	616	550	350	600	470	9.5	6.4
AP0151BH, AP0181BH	766	700	500	750	620	12.7	9.4
AP0241BH, AP0271BH, AP0301BH	1066	1000	800	1050	920	15.9	9.5
AP0361BH, AP0481BH, AP0561BH	1416	1350	1150	1400	1270	15.9	9.5

(Note)
Two off high efficiency filters available
Deodorant filter not available

(Note)
Be sure to create a check port at position A as indicated in the following figure. This is for maintenance of the equipment.



- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2



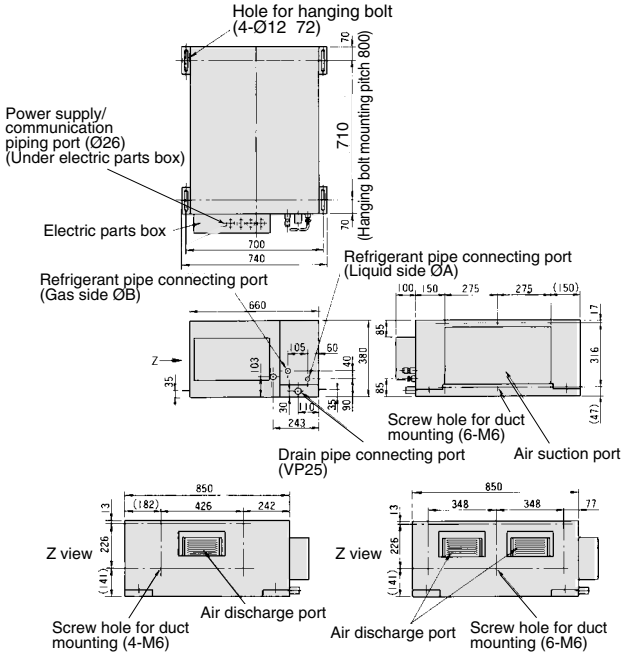
Drain-up piping

Note: All dimensions are in mm.

• Concealed Duct High Static Pressure Type

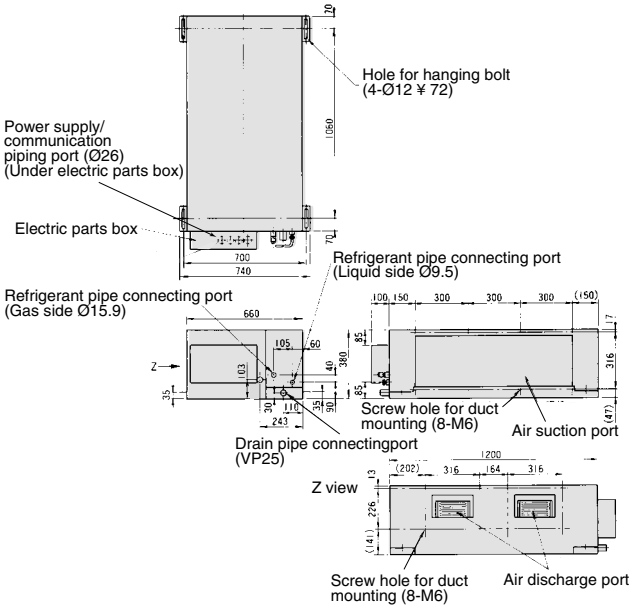
MMD-AP0181H, AP0241H, AP0271H, AP0361H, AP0481H, AP0721H, AP0961H

MMD-AP0181H to AP0361H



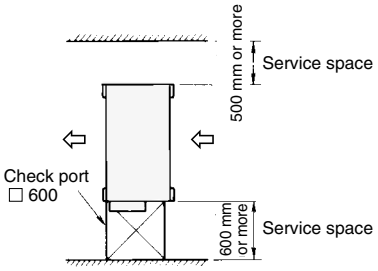
AP0181H to AP0271H type AP0361H type

MMD-AP0481H



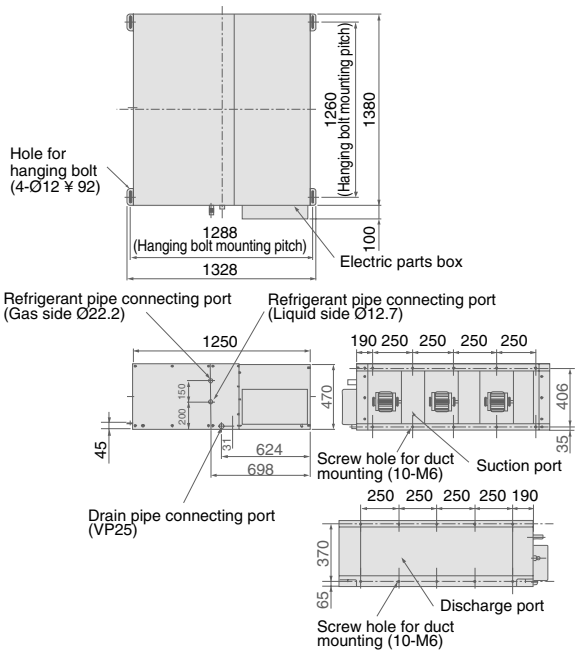
Model MMD-	A	B
AP0181H	6.4	12.7
AP0241H, AP0271H, AP0361H, AP0481H	9.5	15.9

Space required for installation and servicing *1



*1 Service space requirement for MMD-AP0721H and AP0961H are different from those in the above figure for details make enquiries to your dealer.

MMD-AP0721H, AP0961H

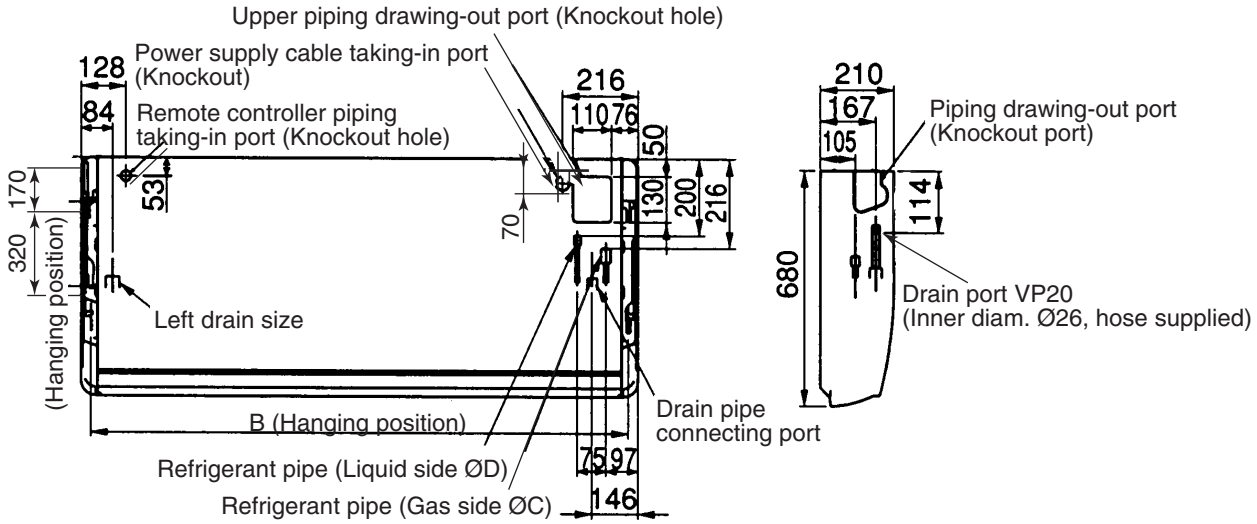


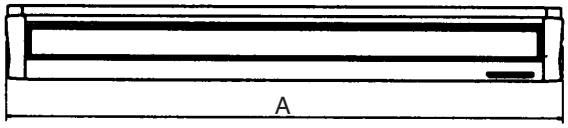
- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

Note: All dimensions are in mm.

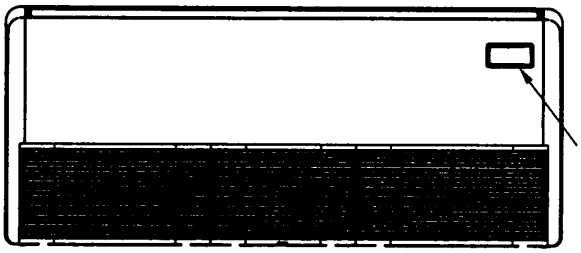
• Under Ceiling Type

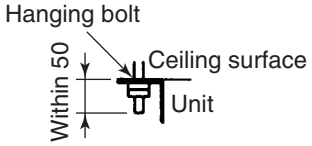
MMC-AP0151H, AP0181H, AP0241H, AP0271H, AP0361H, AP0481H

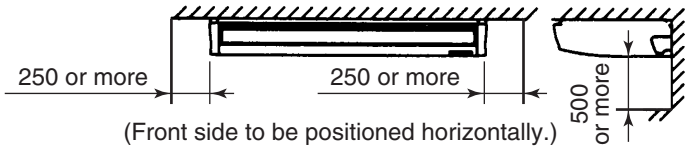




Model MMC-	A	B	C	D
AP0151H, AP0181H	910	855	12.7	6.4
AP0241H, AP0271H	1180	1125	15.9	9.5
AP0361H, AP0481H	1595	1540	15.9	9.5

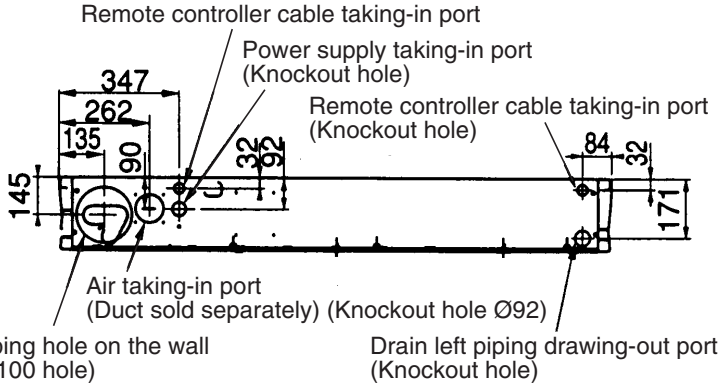






Space required for installation and servicing

- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX22CE
  TCB-AX22CE2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

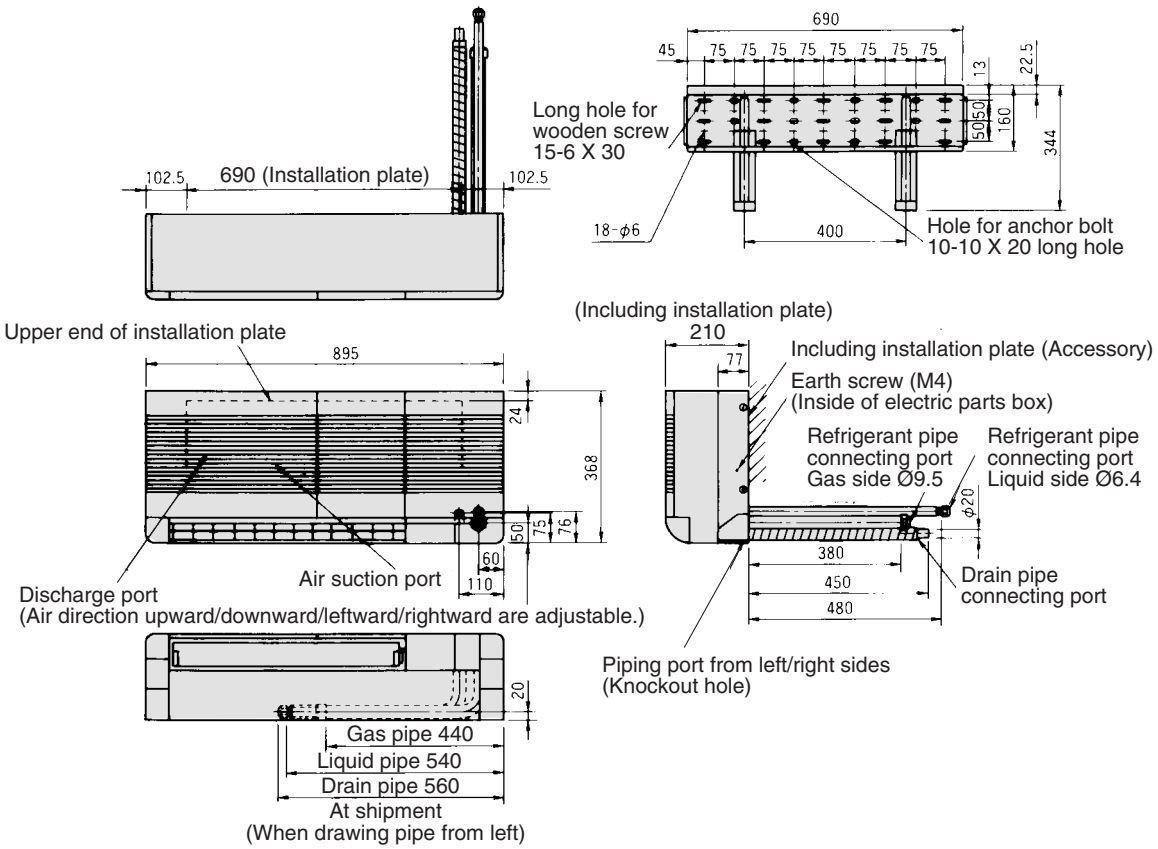


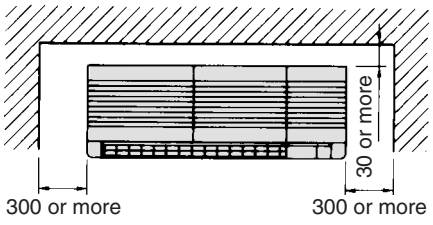
Note: All dimensions are in mm.

• High Wall Type (1 series)

MMK-AP0071H, AP0091H, AP0121H

Position of holes on the installation plate.



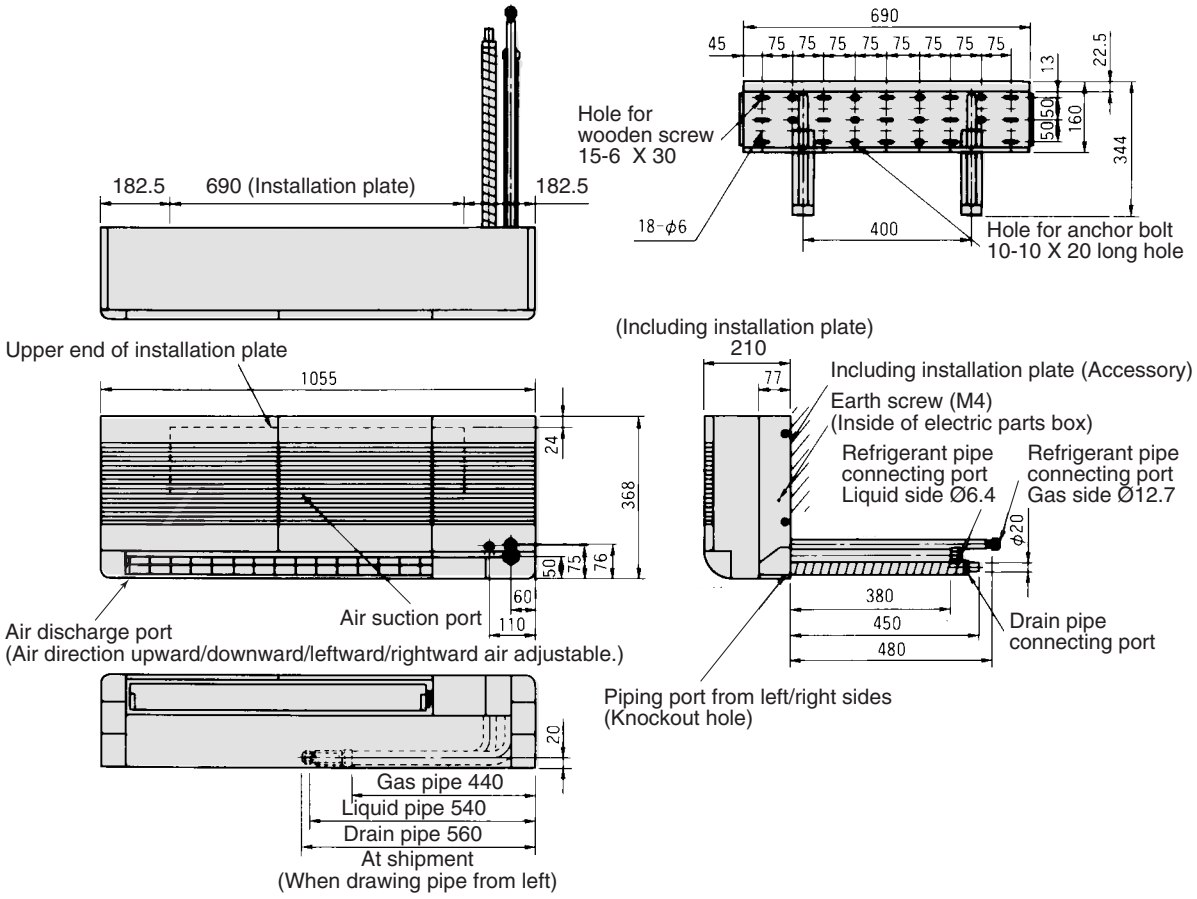


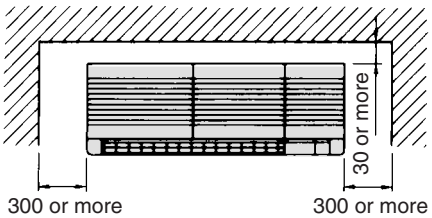
Space required for service

- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

Note: All dimensions are in mm.

MMK-AP0151H, AP0181H



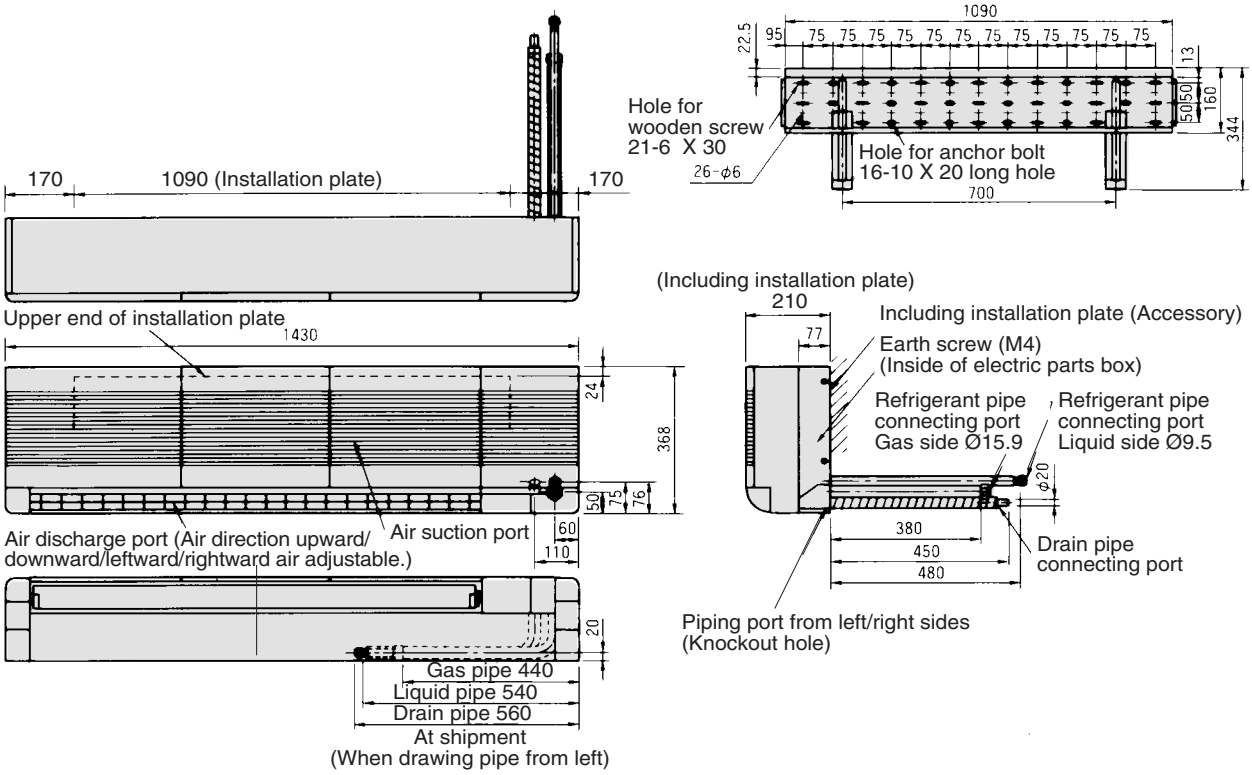


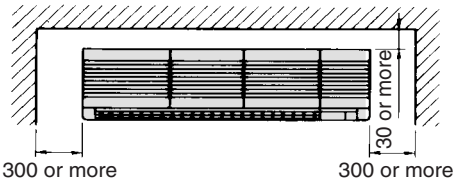
Space required for service

- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

Note: All dimensions are in mm.

MMK-AP0241H





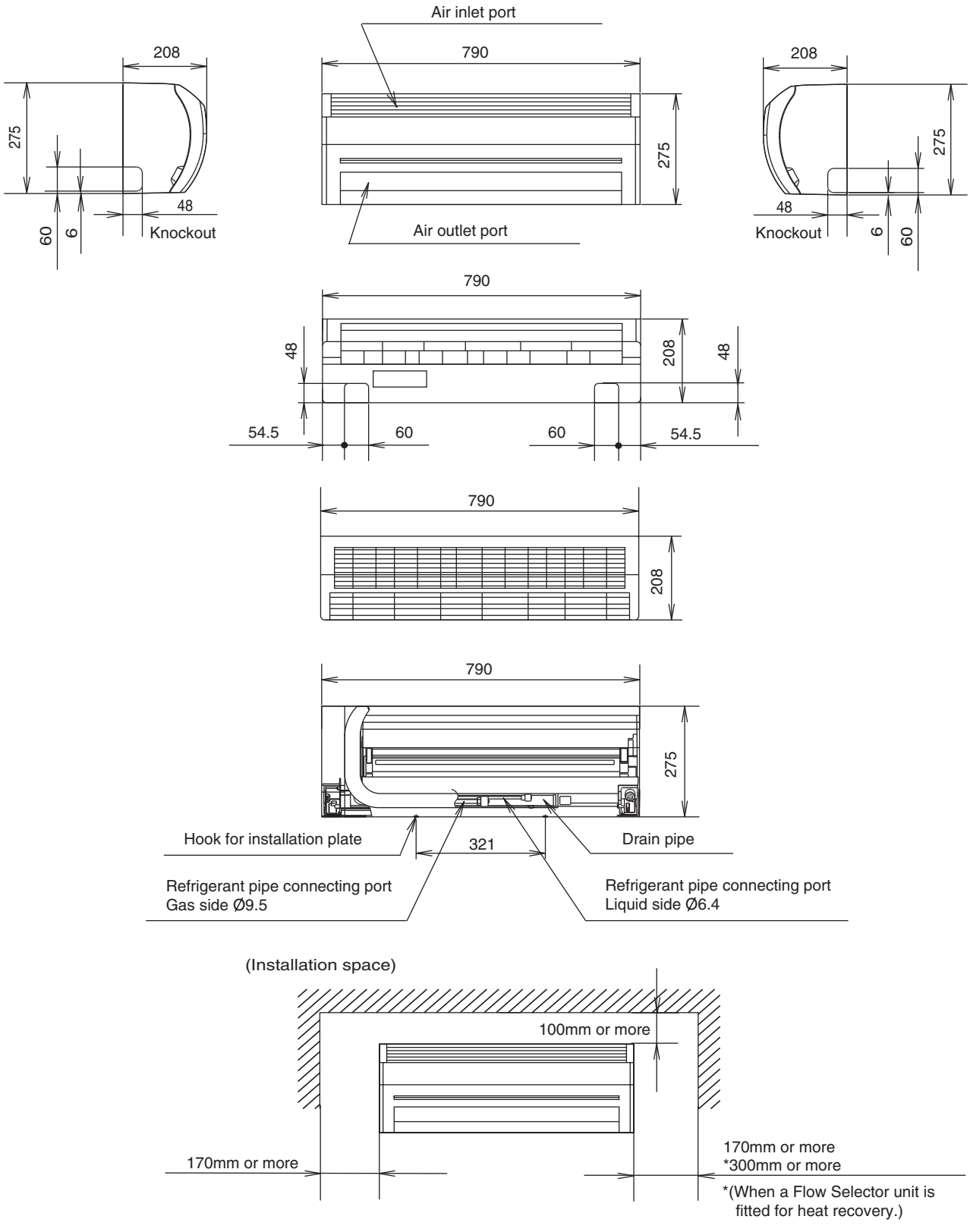
Space required for service

- **Wired remote controller**
  - **RBC-AMT21E**
  - **RBC-AMT31E**
- **Simple wired remote controller**
  - **RBC-AS21E**
  - **RBC-AS21E2**
- **Wireless remote controller kit**
  - **TCB-AX21E**
  - **TCB-AX21E2**
- **Weekly timer application**
  - **RBC-AMT31E and RBC-EXW21E2**

Note: All dimensions are in mm.

• High Wall Type (2 series)

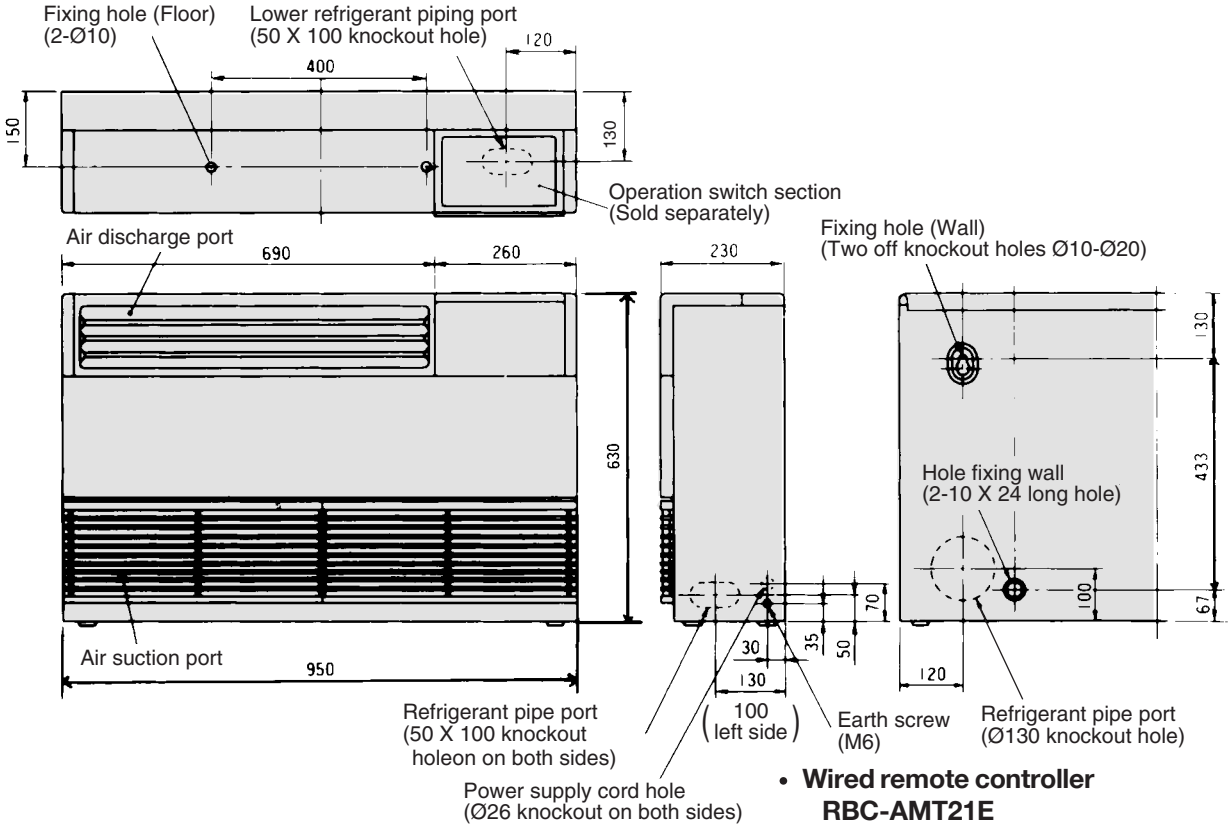
Model : MMK-AP0072H, AP0092H, AP0122H



Note: All dimensions are in mm.

• Floor Standing Cabinet Type

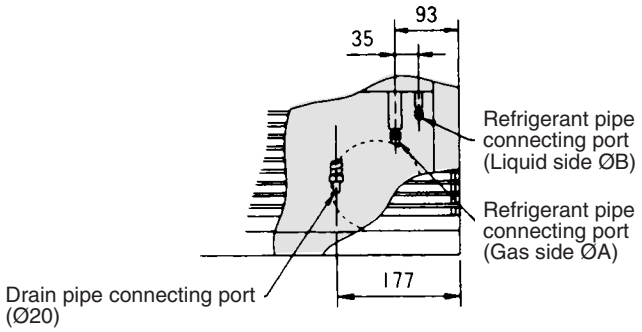
MML-AP0071H, AP0091H, AP0121H, AP0151H, AP0181H, AP0241H



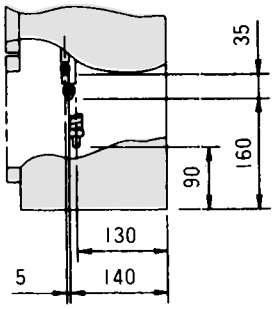
Dimensions

Model MML-	A	B
AP0071H, AP0091H, AP0121H	Ø9.5	Ø6.4
AP0151H, AP0181H	Ø12.7	Ø6.4
AP0241H	Ø15.9	Ø9.5

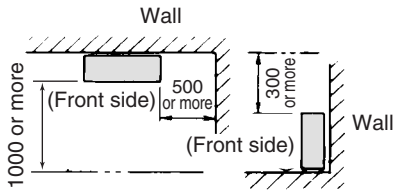
- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2



Space required for service
Figure shows piping at the left side



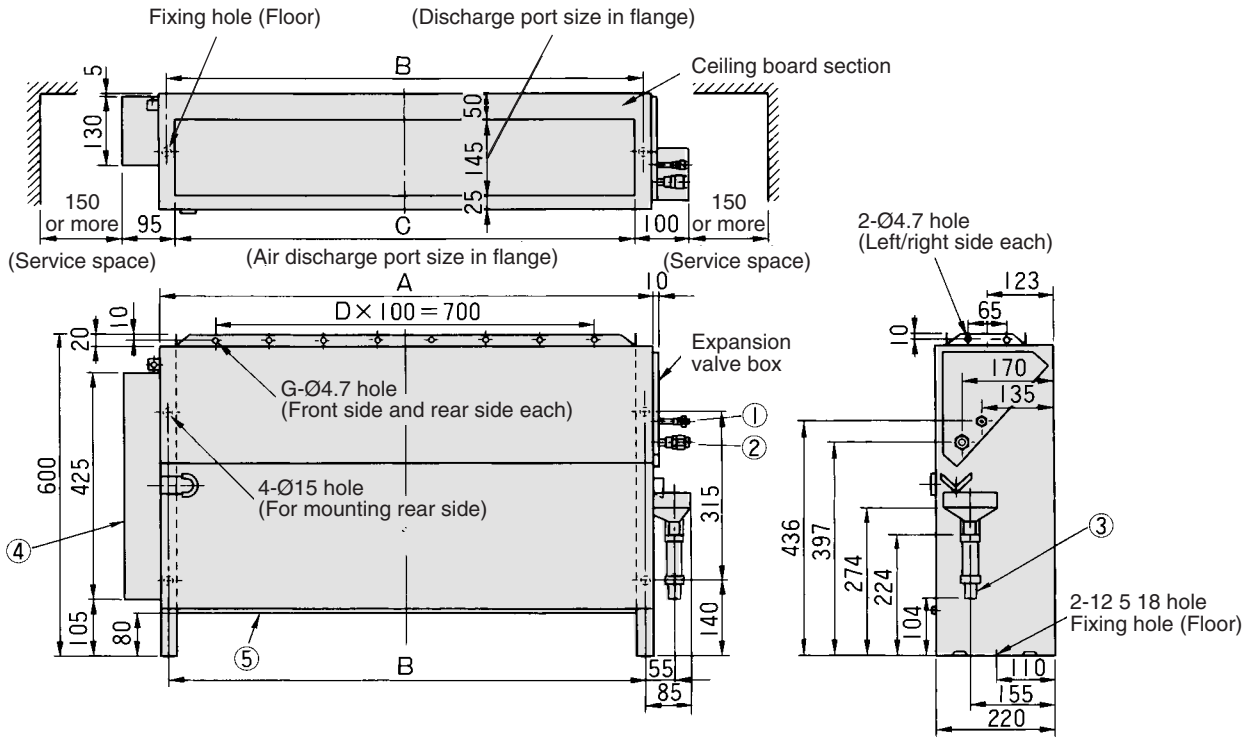
Positional drawing of piping



Note: All dimensions are in mm.

• Floor Standing Concealed Type

MML-AP0071BH, AP0091BH, AP0121BH, AP0151BH, AP0181BH, AP0241BH



No.	Name
①	Pipe connecting port at liquid side (ØE)
②	Pipe connecting port at gas side (ØF)
③	Drain pipe connecting port (20A)
④	Electric parts box (Earth terminal on the inside)
⑤	Air filter

Dimensions

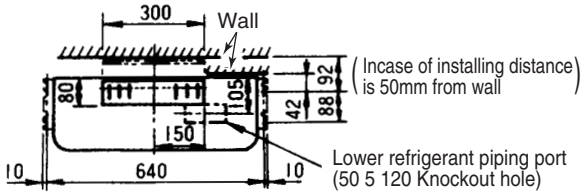
Model MML-	A	B	C	D	E	F	G
AP0071BH, AP0091BH, AP0121BH	610	580	550	4	6.4	9.5	5
AP0151BH, AP0181BH	910	880	850	7		12.7	8
AP0241BH					9.5	15.9	

- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

Note: All dimensions are in mm.

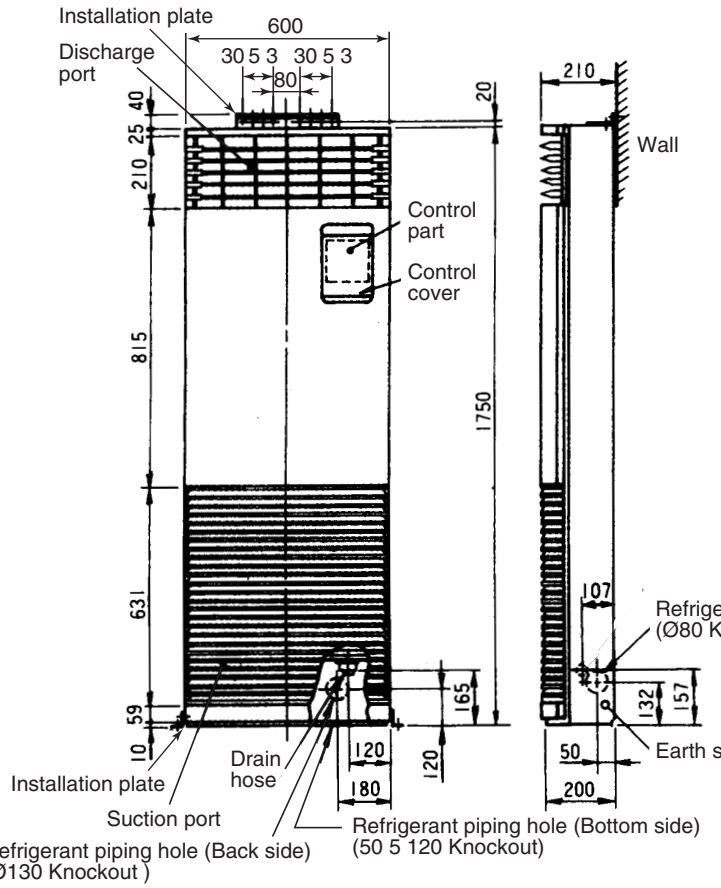
• Floor Standing Type

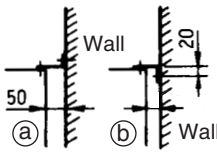
MMF-AP0151H, AP0181H, AP0241H, AP0271H



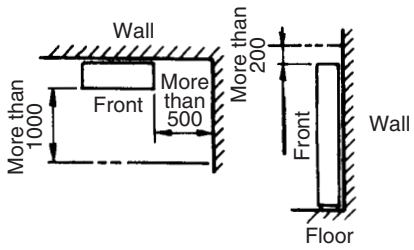
Dimensions

Model	A	B
MMF-AP0151H, AP0181H	Ø12.7	Ø6.4
MMF-AP0241H, AP0271H	Ø15.7	Ø9.5

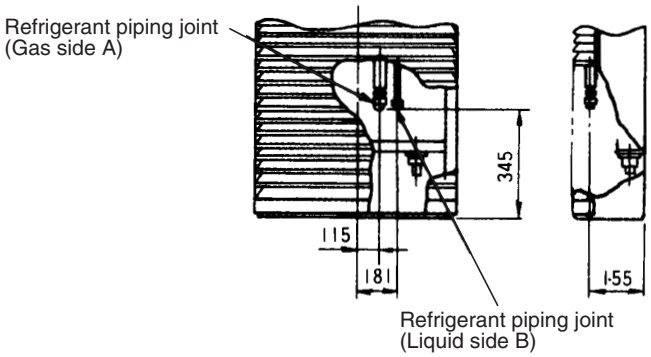




Space required for service (In case of right side piping)

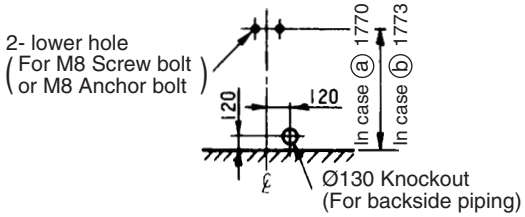


Refrigerant piping position

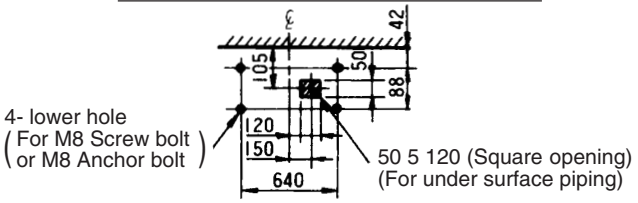


- **Wired remote controller**
  - **RBC-AMT21E**
  - **RBC-AMT31E**
- **Simple wired remote controller**
  - **RBC-AS21E**
  - **RBC-AS21E2**
- **Wireless remote controller kit**
  - **TCB-AX21E**
  - **TCB-AX21E2**
- **Weekly timer application**
  - **RBC-AMT31E and RBC-EXW21E2**

Details of hole for back side piping

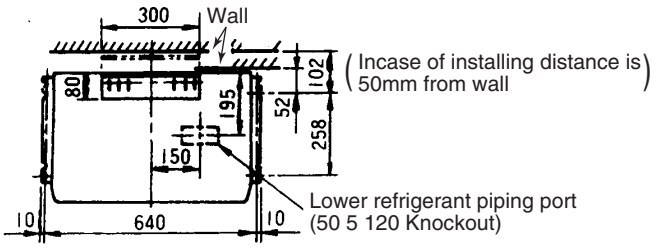


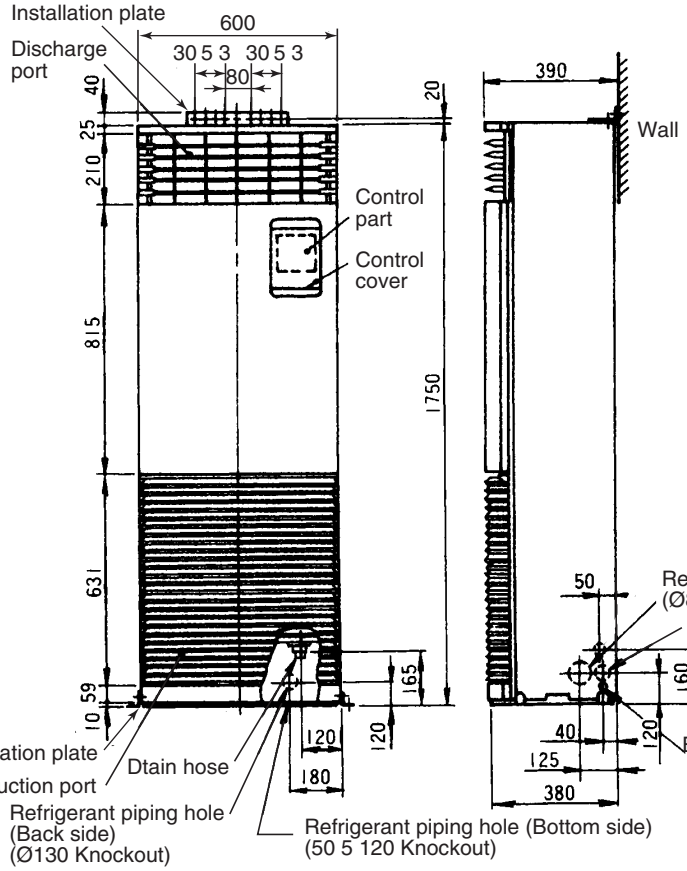
Details of hole for lower side piping

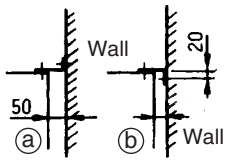


Note: All dimensions are in mm.

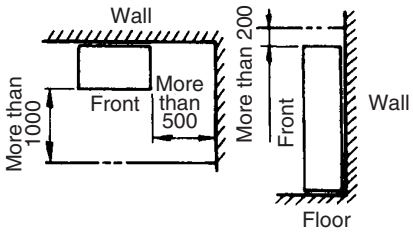
MMF-AP0361H, AP0481H, AP0561H



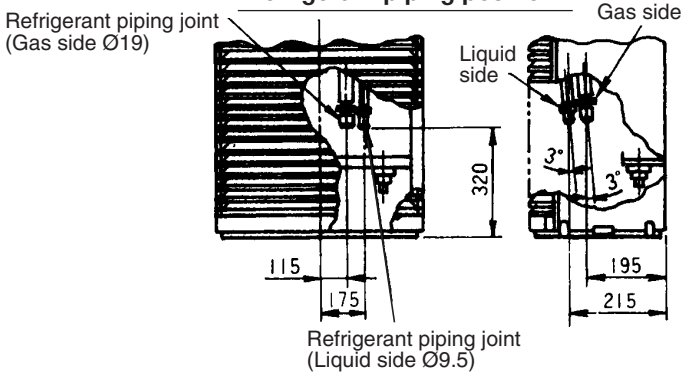




Space required for service (In case of right side piping)

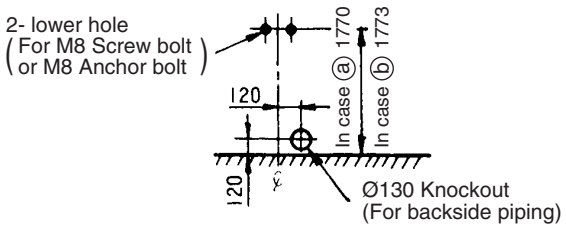


Refrigerant piping position

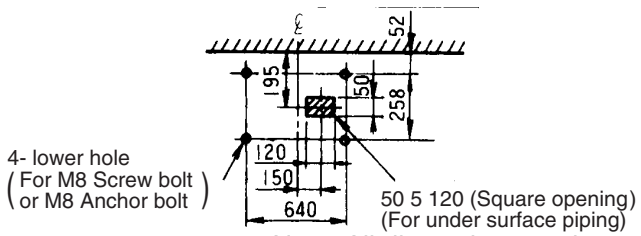


- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

Details of hole for back side piping



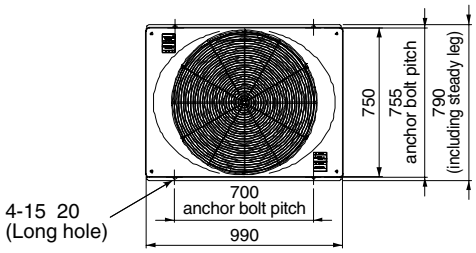
Details of hole for lower side piping



Note: All dimensions are in mm.

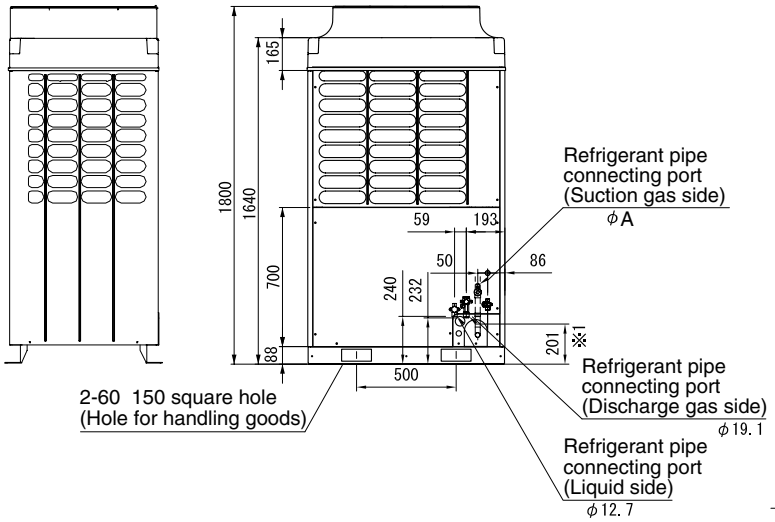
2. Outdoor unit

MMY-MAP0802FT8, MAP1002FT8, MAP1202FT8



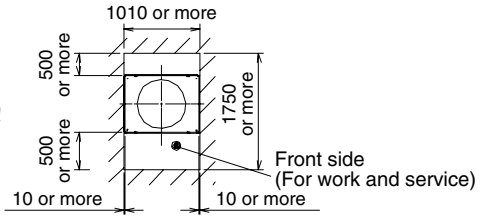
(NOTES)

1. If there is an obstacle above the outdoor unit, ensure there is a minimum space of 2000mm or more above the unit.
2. Any obstacle around the perimeter of the outdoor unit must be kept 800mm or less.
3. Draw out the locally supplied pipe at the the front of the outdoor unit horizontally, keep a minimum of 500mm or more between the outdoor unit and traversing pipe. If the pipework is to be installed in this method.

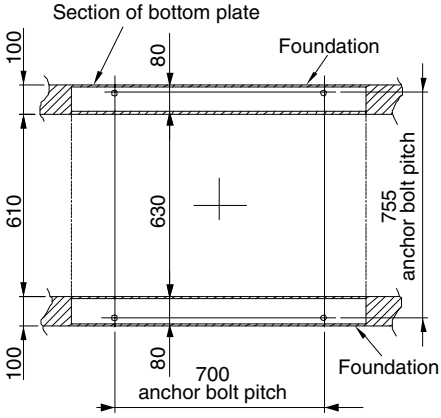


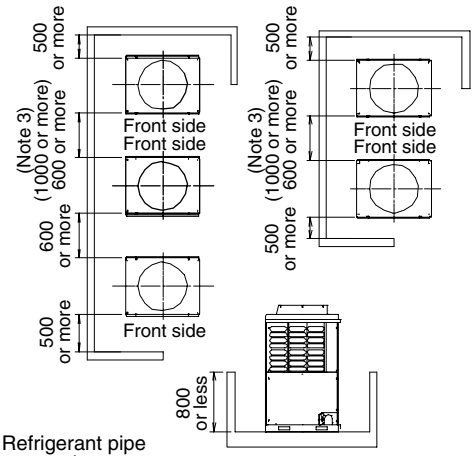
Model name	ØA
MMY-MAP0802FT8	22.2
MMY-MAP1002FT8	22.2
MMY-MAP1202FT8	28.6

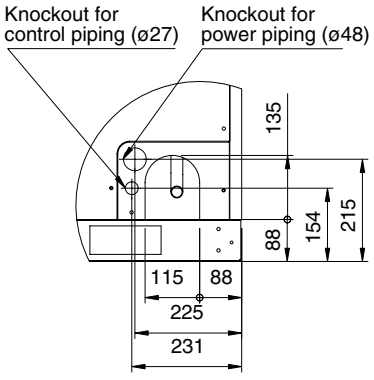
*1 Cutting position of L-shape pipe when pipe at gas side is connected (Recommended pipe connecting position)



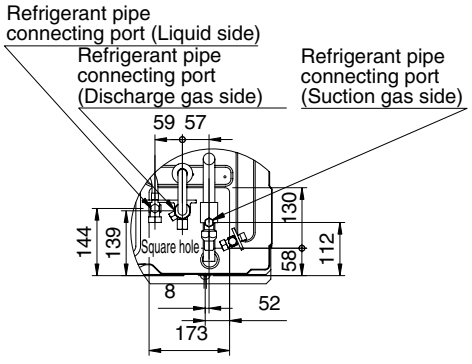
Space required for service







Details of front pipe/cabling holes



Details of hole for piping at lower side (Plane view)

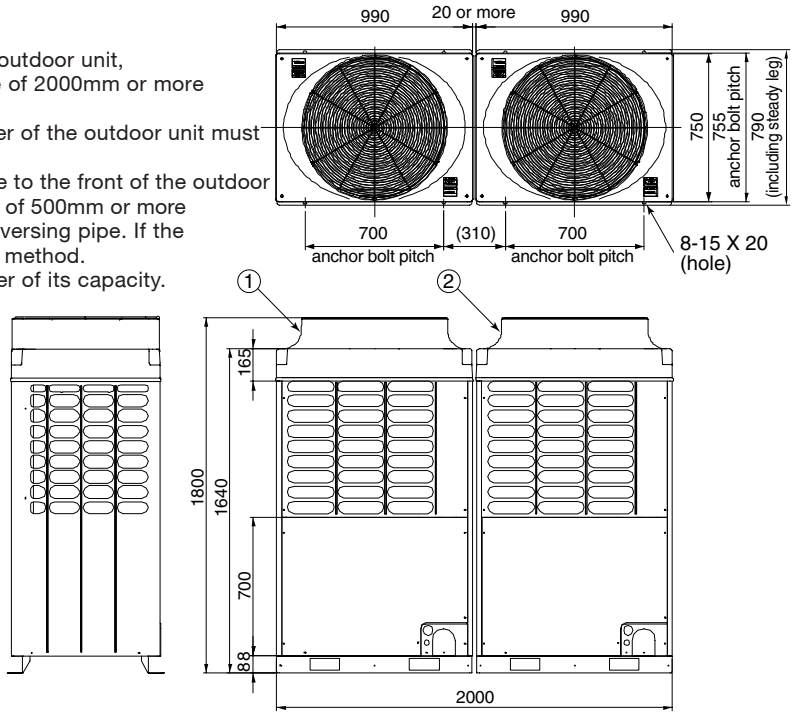
Note: All dimensions are in mm.

<Two units connected>

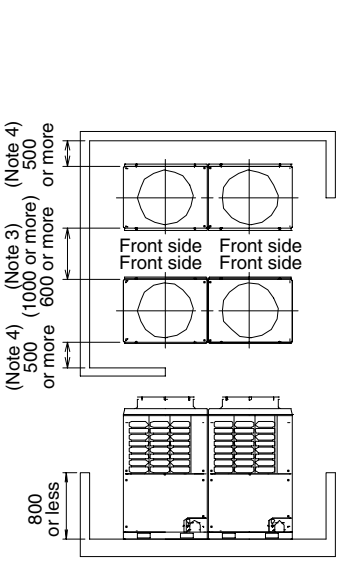
MMY-AP1602FT8, AP1802FT8, AP2002FT8

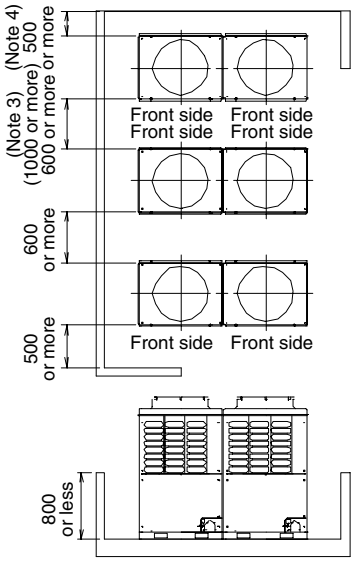
(NOTES)

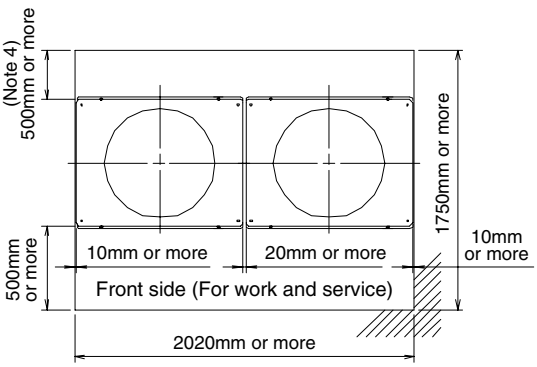
1. If there is an obstacle above the outdoor unit, ensure there is a minimum space of 2000mm or more above the unit.
2. Any obstacle around the perimeter of the outdoor unit must be kept 800mm or less.
3. Draw out the locally supplied pipe to the front of the outdoor unit horizontally, keep a minimum of 500mm or more between the outdoor unit and traversing pipe. If the pipework is to be installed in this method.
4. Arrange each outdoor unit in order of its capacity. (Header > Follower)



Combination unit	Combination outdoor unit	
	Header	Follower
MMY-AP1602FT8	MAP0802FT8	MAP0802FT8
MMY-AP1802FT8	MAP1002FT8	MAP0802FT8
MMY-AP2002FT8	MAP1002FT8	MAP1002FT8







Space required for service

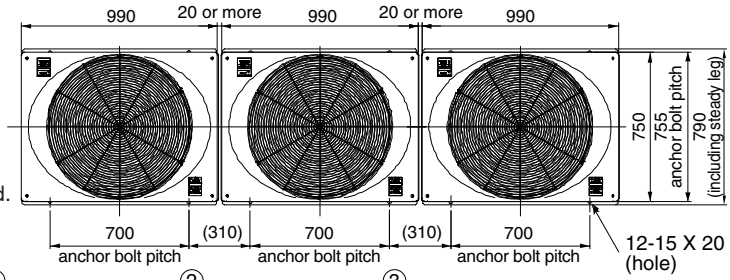
Note: All dimensions are in mm.

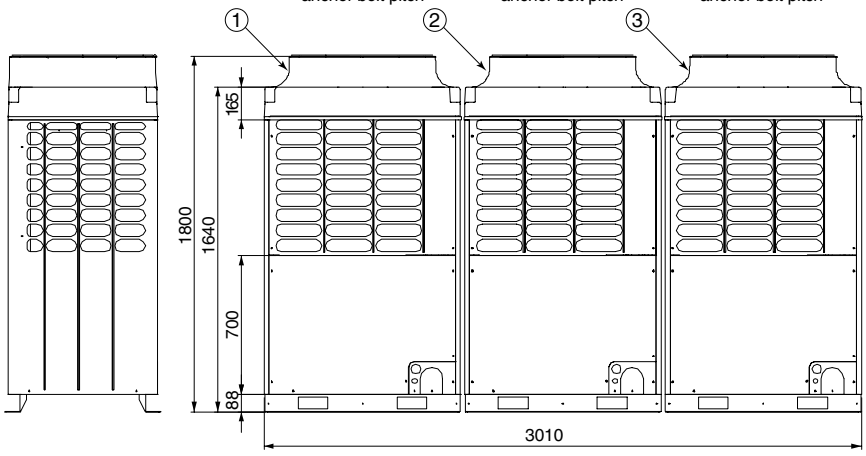
<Three units connected>

MMY-AP2402FT8, AP2602FT8, AP2802FT8, AP3002FT8

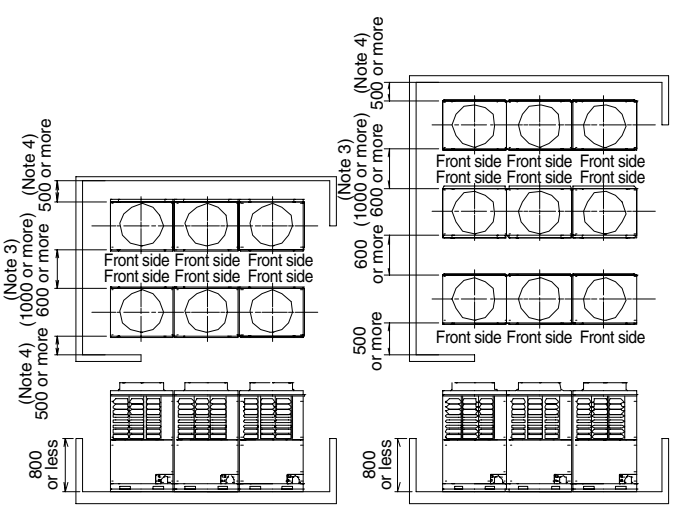
(NOTES)

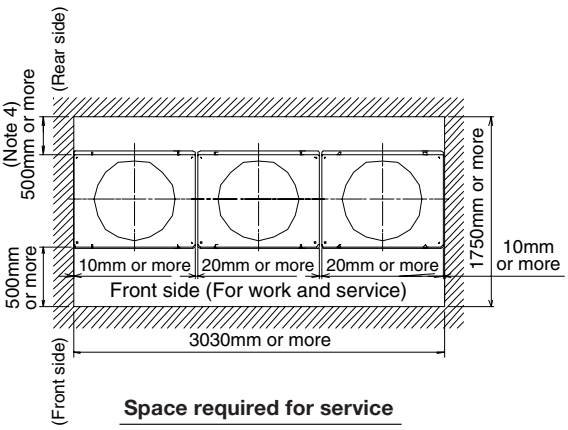
1. If there is an obstacle above the outdoor unit, ensure there is a minimum space of 2000mm or more above the unit.
2. Any obstacle around the perimeter of the outdoor unit must be kept 800mm or less.
3. Draw out the locally supplied pipe to the front of the outdoor unit horizontally, keep a minimum of 500mm or more between the outdoor unit and traversing pipe. If the pipework is to be installed in this method.
4. Arrange each outdoor unit in order of its capacity. (Header ≥ Follower ② ≥ Follower ③)





Combination unit	Combination outdoor unit		
	Header	Follower ②	Follower ③
MMY-AP2402FT8	MMY-MAP0802FT8	MMY-MAP0802FT8	MMY-MAP0802FT8
MMY-AP2602FT8	MMY-MAP1002FT8	MMY-MAP0802FT8	MMY-MAP0802FT8
MMY-AP2802FT8	MMY-MAP1002FT8	MMY-MAP1002FT8	MMY-MAP0802FT8
MMY-AP3002FT8	MMY-MAP1002FT8	MMY-MAP1002FT8	MMY-MAP1002FT8



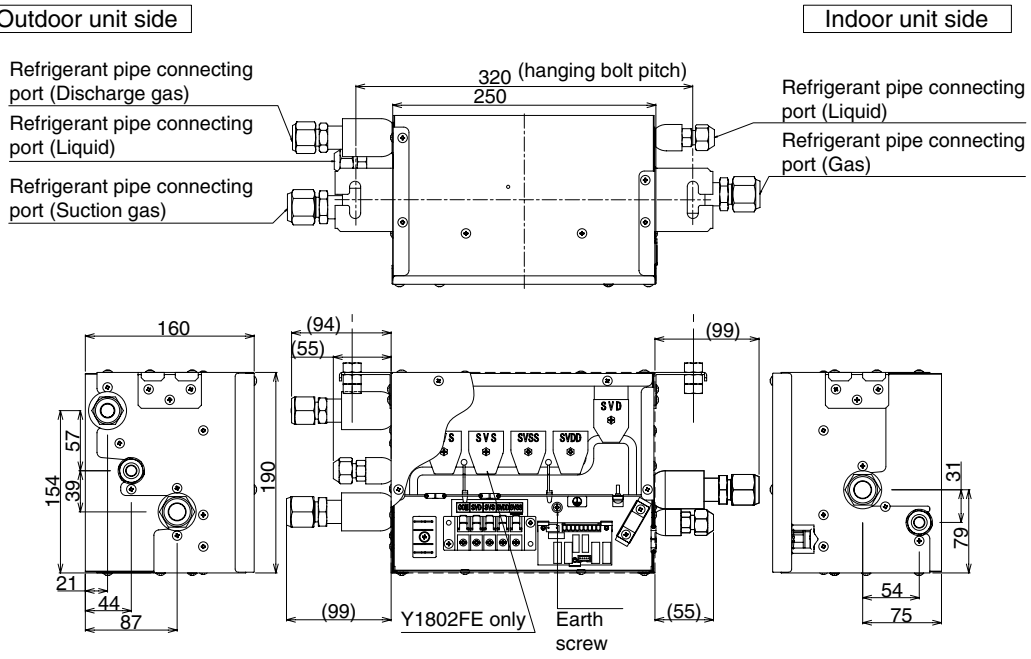


Space required for service

Note: All dimensions are in mm.

3. FS unit (Flow Selector Unit)

RBM-Y1122FE, Y1802FE



(Specifications)

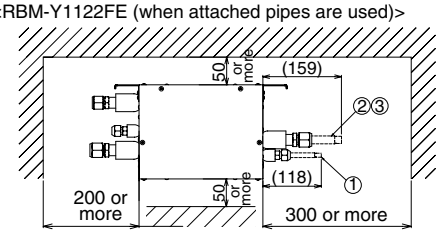
Model name		RBM-Y1122FE		RBM-Y1802FE	
		Connecting pipe	Connecting method	Connecting pipe	Connecting method
Indoor unit side	Liquid side	Ø9.5 *1	Flare	Ø9.5	Flare
	Gas side	Ø15.9 *1	Flare	Ø15.9	Flare
Outdoor unit side	Liquid side	Ø9.5	Flare	Ø9.5	Flare
	Discharge gas side	Ø12.7	Flare	Ø12.7	Flare
	Suction gas side	Ø15.9	Flare	Ø15.9	Flare
Connecting indoor unit capacity		007 to 030 type		036 to 056 type	
Power supply		Single phase 50Hz 230V(220-240V)			
Total weight		5kg		5kg	
Dimension (mm)		Heigt 190 X Width 250 X Depth 160			

Accessory pipe and socket

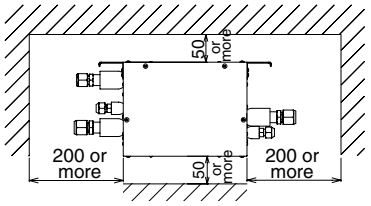
③	Ø9.5, Brazing	For gas pipe	007 to 012 type
②	Ø12.7, Brazing	For gas pipe	015, 018 type
①	Ø6.4, Brazing	For liquid pipe	007 to 018 type

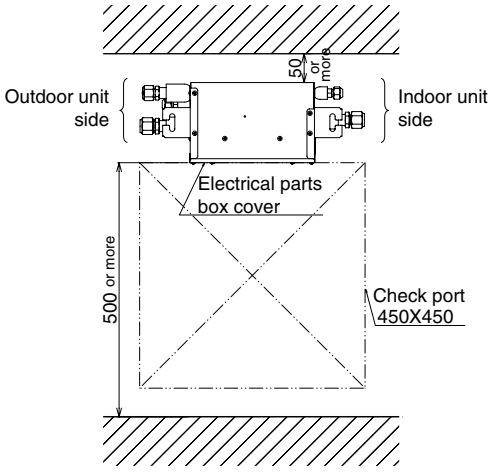
(Installation space)

<RBM-Y1122FE (when attached pipes are used)>



<RBM-Y1122FE, RBM-Y1802FE>



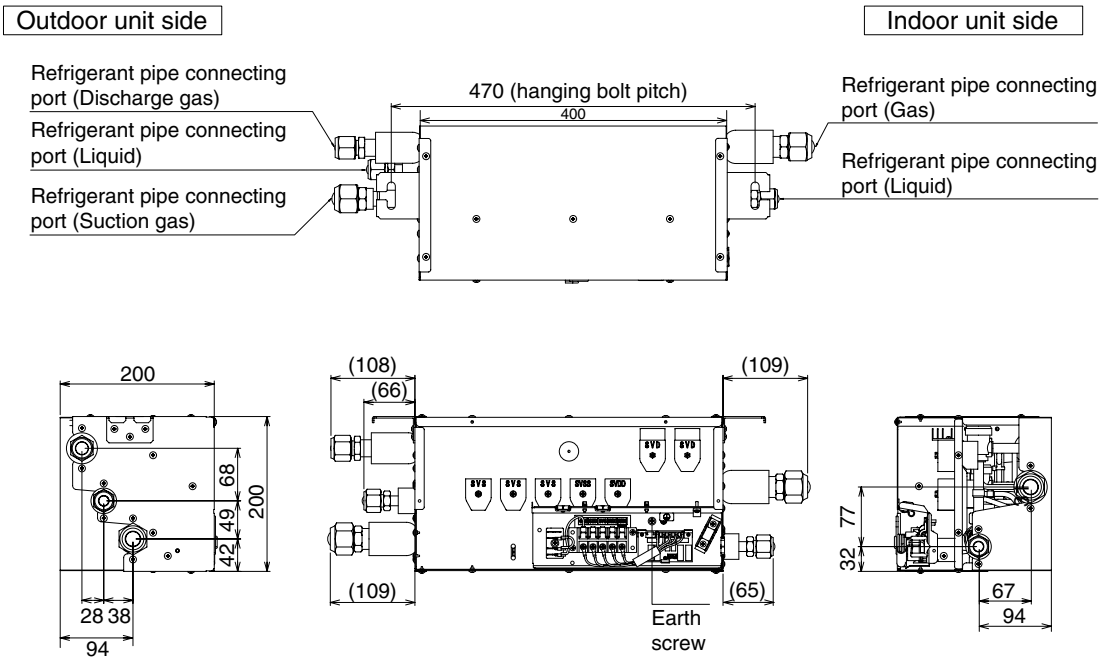


*1) When the capacity of the connected indoor unit is less than 5.6 kW, adjust the pipe size by using this accessory pipe.

Note: All dimensions are in mm.

3. FS unit (Flow Selector Unit)

RBM-Y2802FE

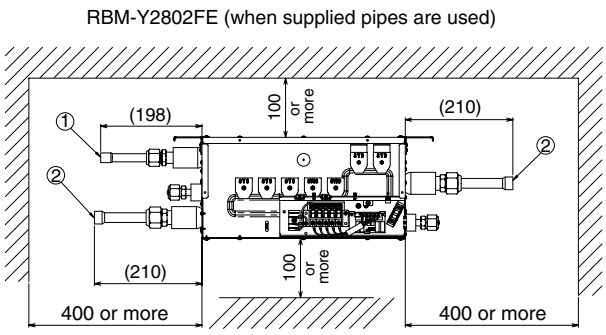


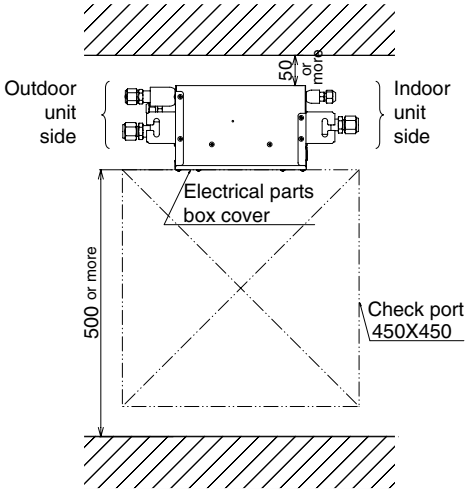
(Specifications)

Model name		RBM-Y2802FE		Accessory pipe
		Connecting port	Connecting method	
Indoor unit side	Liquid side	Ø12.7	Flare	
	Gas side	Ø22.2 *1	Flare	② Ø19.1 (Flare)→ Ø22.2 (Brazing)
Outdoor unit side	Liquid side	Ø12.7	Flare	
	Discharge gas side	Ø15.9 *1	Flare	① Ø15.9 (Flare)→ Ø19.1 (Brazing)
	Suction gas side	Ø22.2 *1	Flare	② Ø19.1 (Flare)→ Ø22.2 (Brazing)
Total capacity of indoor unit (kW)		18.0 to 28.0 or less		
Power Supply		Single phase 50Hz 230V (220-240V)		
Total Weight		8.5 kg		
Dimension (mm)		Height 200 X Width 400 X Depth 200		

(Installation space)

RBM-Y2802FE (when supplied pipes are used)





*1) Adjust the pipe size by using this accessory pipe.

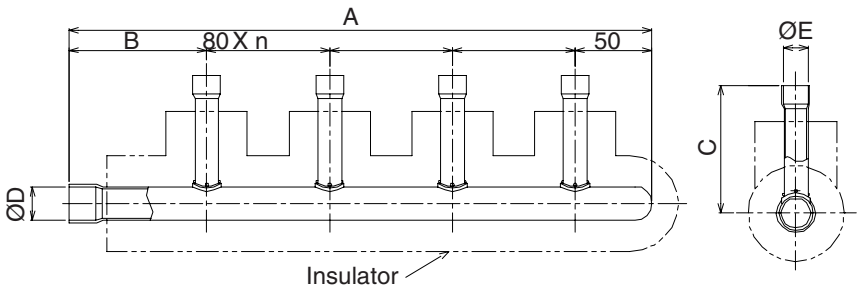
Note: All dimensions are in mm.

4. Branch header/Branch joint

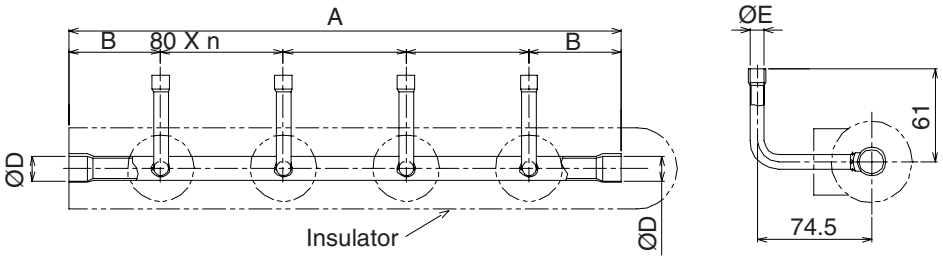
Branch header

RBM-HY1043E, HY1083E, HY2043E, HY2083E

Gas side



Liquid side

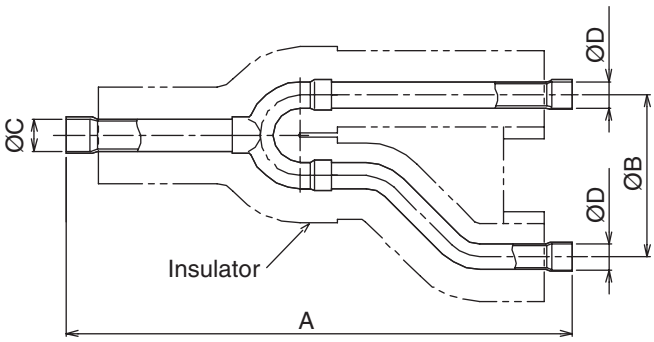


Model		A	B	C	ØD	ØE	n	Accessory soket Q'ty
RBM-HY1043E	Gas side	380	90	83.6	22.2	15.9	3	⑥ X4, ⑨ X4, ⑭ X1, ⑱ X1, ⑦⓪ X1
	Liquid side	360	60	—	15.9	9.5	3	① X4, ⑥ X1, ⑨ X1
RBM-HY1083E	Gas side	700	90	83.6	22.2	15.9	7	⑥ X8, ⑨ X8, ⑭ X1, ⑱ X1, ⑦⓪ X1
	Liquid side	680	60	—	15.9	9.5	7	① X8, ⑥ X1, ⑨ X1
RBM-HY2043E	Gas side	385.5	95.5	89.3	31.8	15.9	3	⑥ X2, ⑨ X2, ㉗ X1, ㊾ X1
	Liquid side	360	60	—	15.9	9.5	3	① X2
RBM-HY2083E	Gas side	705.5	95.5	89.3	31.8	15.9	7	⑥ X7, ⑨ X7, ㉗ X1, ㊾ X1
	Liquid side	680	60	—	15.9	9.5	7	① X7

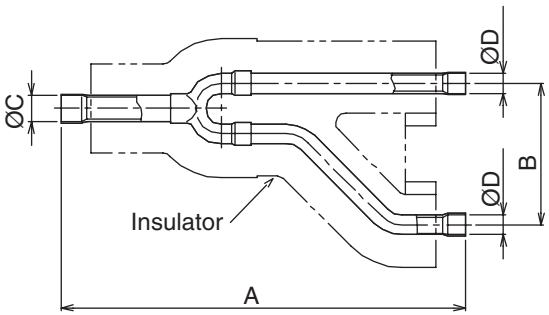
Y-shape branch joint

RBM-BY53E, BY103E

Gas side

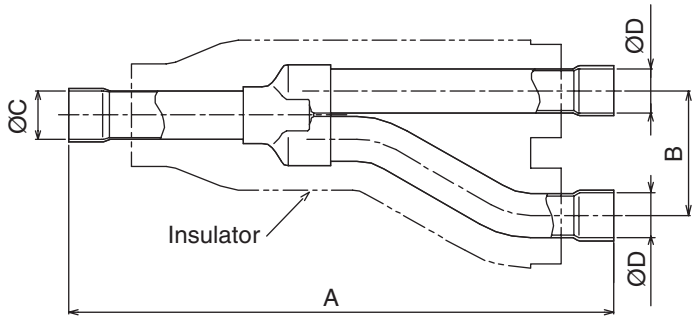


Liquid side

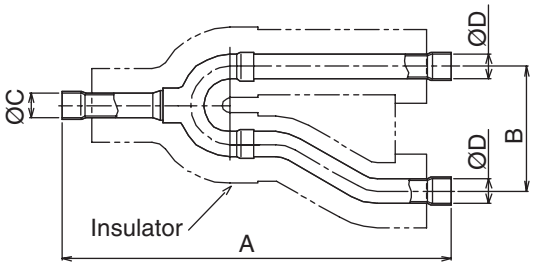


RBM-BY203E, BY303E

Gas side



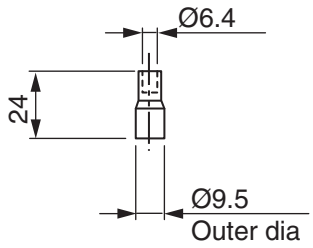
Liquid side



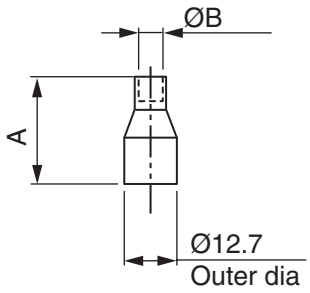
Model		A	B	ØC	ØD	Accessory Socket Quantities
RBM-BY53E	Gas side	250	80	15.9	12.7	⑤ X2, ⑭ X2, ⑨ X1, ⑤1 X1
	Liquid side	200	70	12.7	9.5	① X2, ⑤ X1
RBM-BY103E	Gas side	350	80	22.2	19.1	⑦ X1, ⑩ X1, ⑬ X2, ⑱ X1, ⑤2 X2, ⑦0 X1, ⑧9 X1
	Liquid side	250	80	15.9	12.7	② X1, ⑤ X2, ⑥ X1, ⑨ X1, ⑭ X1
RBM-BY203E	Gas side	350	80	31.8	28.6	⑯ X1, ⑳ X1, ⑦ X1, ④3 X2, ④8 X1, ④9 X1, ⑤8 X1, ⑤9 X1
	Liquid side	250	80	15.9	15.9	③ X1, ⑥ X1, ⑨ X2
RBM-BY303E	Gas side	400	110	38.1	38.1	⑥1 X3, ⑥2 X2, ⑦1 X2, ⑦3 X1, ⑦4 X1, ⑦5 X1, ⑦6 X1, ⑦7 X1
	Liquid side	350	80	22.2	19.1	④ X1, ⑦ X1, ⑩ X1, ⑬ X2, ⑭ X1, ⑱ X1, ⑤2 X1

Accessory socket

①

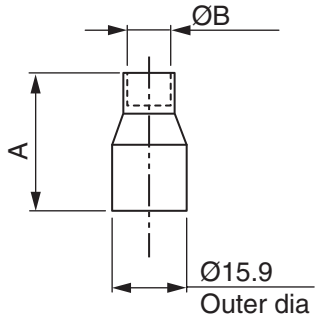


②⑤⑭



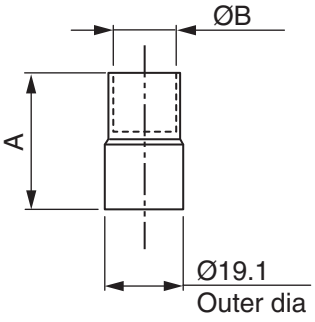
	A	ØB
②	29	6.4
⑤	26	9.5
⑭	31	15.9

③⑥⑨⑤①



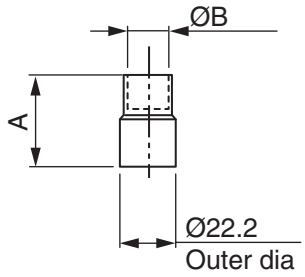
	A	ØB
③	35	6.4
⑥	32	9.5
⑨	28	12.7
⑤①	38	19.1

④⑦⑩⑬⑤②⑧⑨



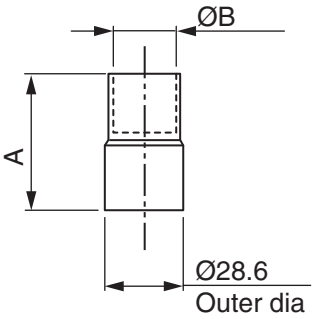
	A	ØB
④	39	6.4
⑦	39	9.5
⑩	36	12.7
⑬	33	15.9
⑤②	43	22.2
⑧⑨	53	28.6

⑭⑱⑦⑧⑤⑧⑥



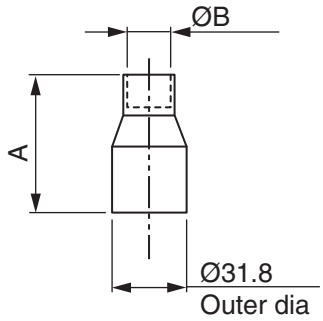
	A	ØB
⑭	40	15.9
⑱	40	19.1
⑦⑩	54	28.6
⑧⑤	41	12.7
⑧⑥	44	9.5

⑯⑳④③④⑧④⑨⑤⑧



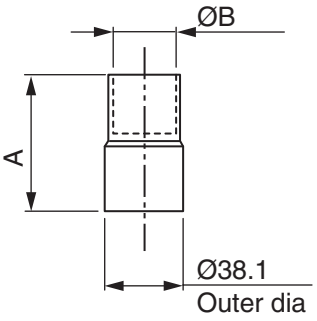
	A	ØB
⑯	50	15.9
⑳	52	19.1
④③	50	22.2
④⑧	54	9.5
④⑨	52	12.7
⑤⑧	62	34.9

②⑦⑤⑨



	A	ØB
②⑦	49	28.6
⑤⑨	59	34.9

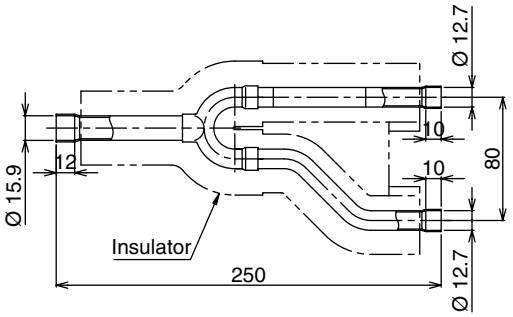
⑥①⑥②⑦③⑦④⑦⑤⑦⑥⑦⑦



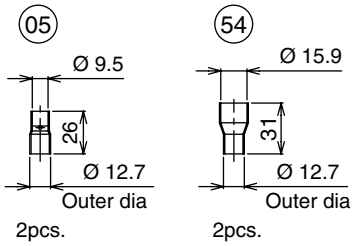
	A	ØB
⑥①	55	34.9
⑥②	66	41.3
⑦①	66	28.6
⑦③	66	22.2
⑦④	66	19.1
⑦⑤	64	15.9
⑦⑥	62	12.7
⑦⑦	62	9.5

Y-shape branch joint
RBM-BY53FE

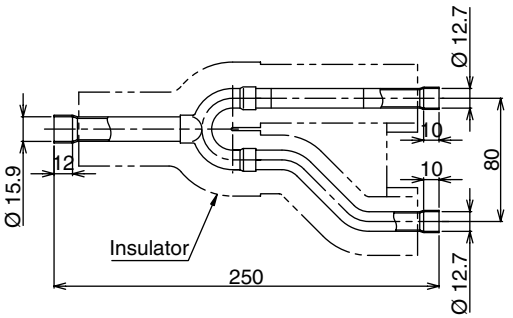
Suction gas side



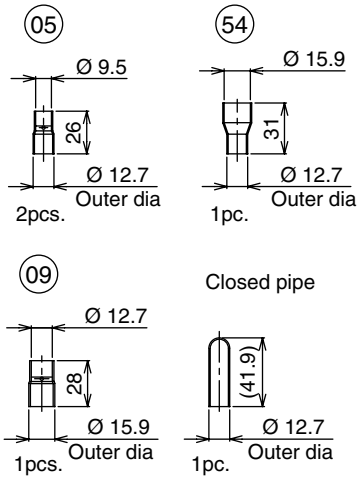
Accessory socket



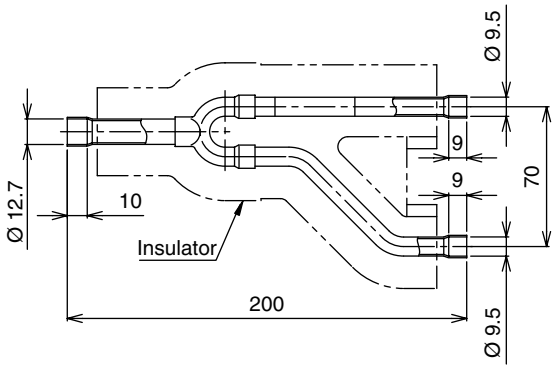
Discharge gas side



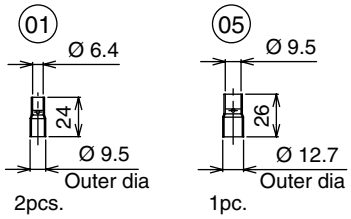
Accessory socket



Liquid side

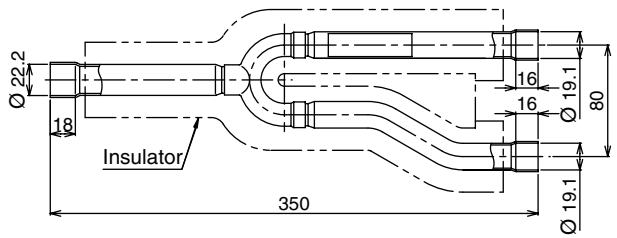


Accessory socket

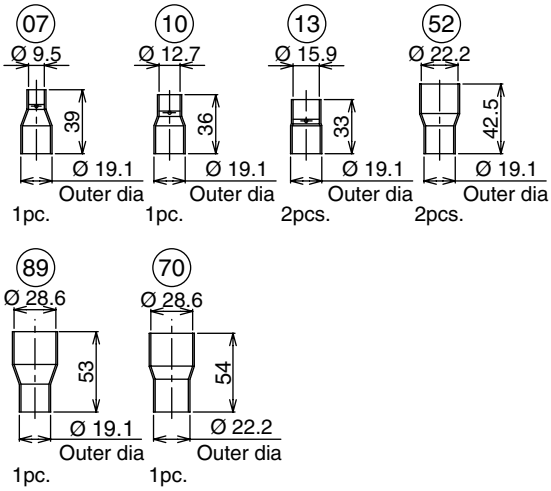


Y-shape branch joint
RBM-BY103FE

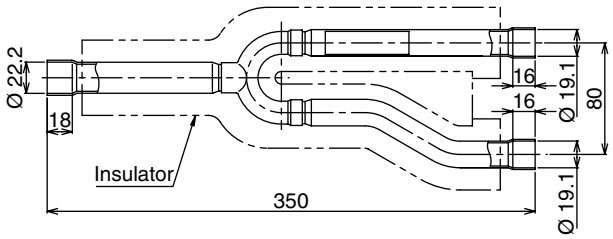
Suction gas side



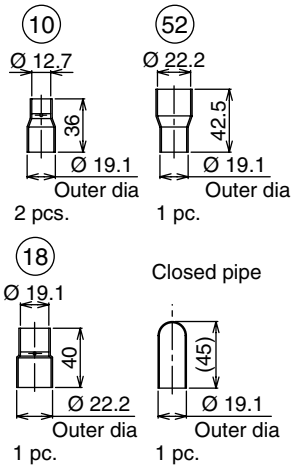
Accessory socket



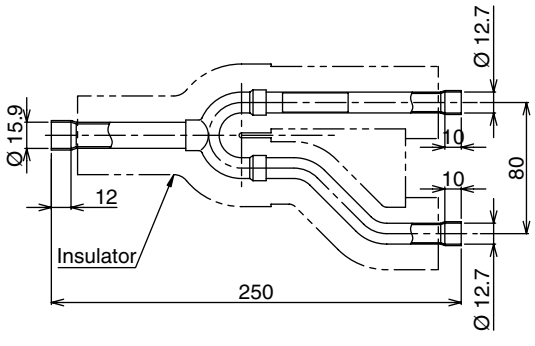
Discharge gas side



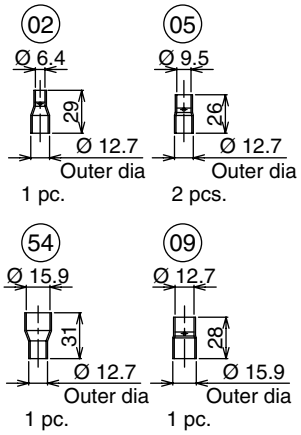
Accessory socket



Liquid side

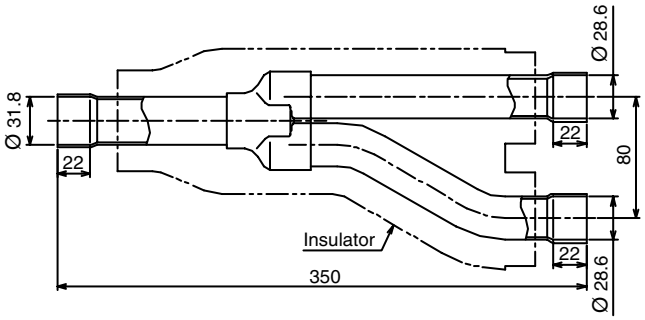


Accessory socket

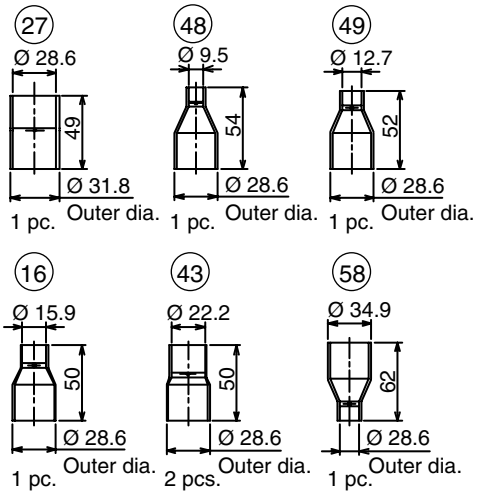


Y-shape branch joint
RBM-BY203FE

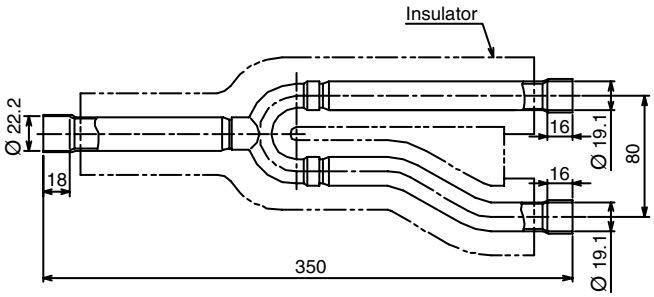
Suction gas side



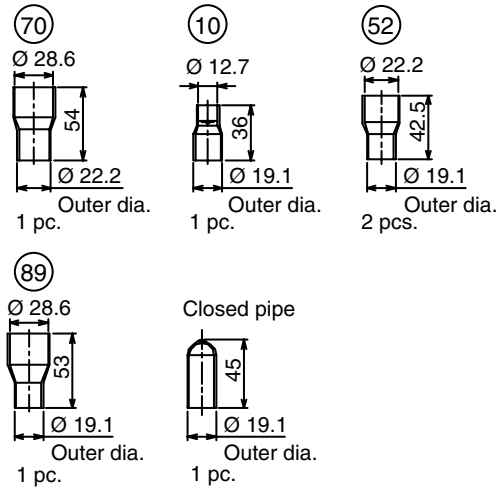
Accessory socket



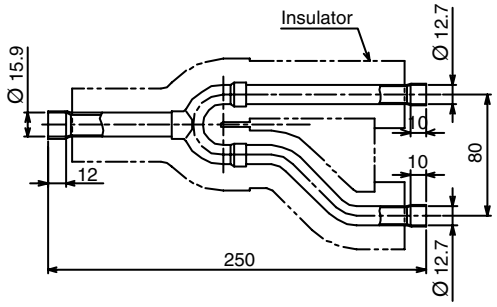
Discharge gas side



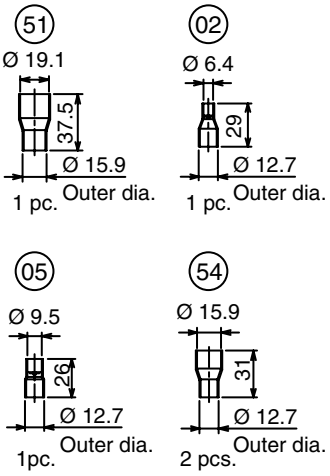
Accessory socket



Liquid side



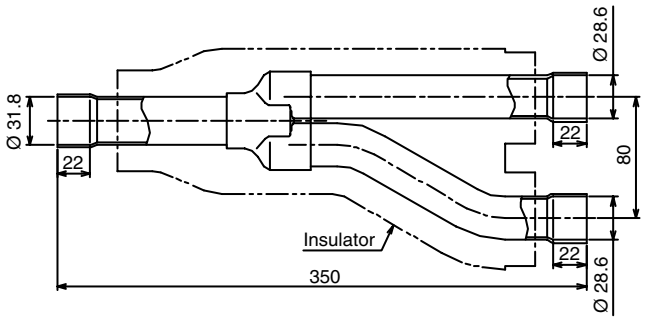
Accessory socket



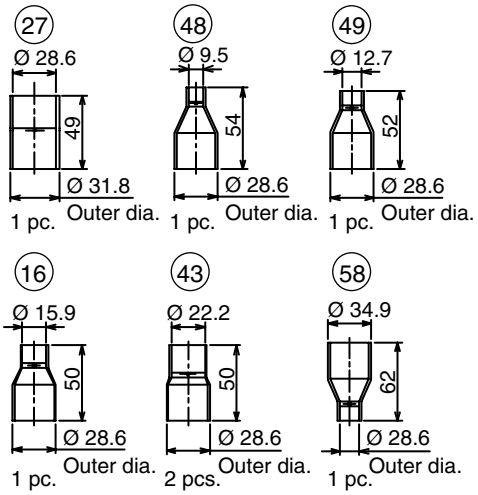
Note: All dimensions are in mm.

Y-shape branch joint
RBM-BY303FE

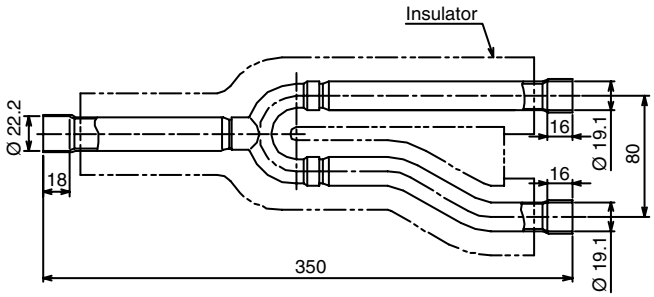
Suction gas side



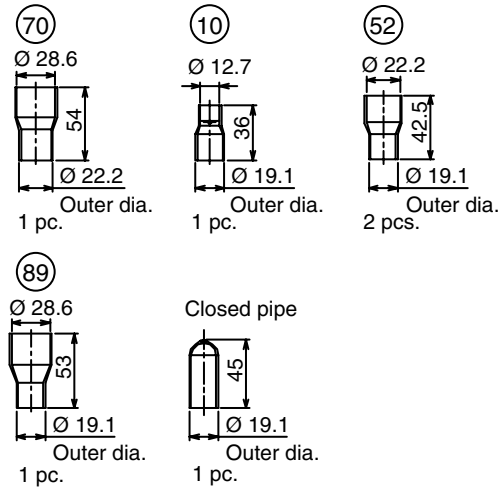
Accessory socket



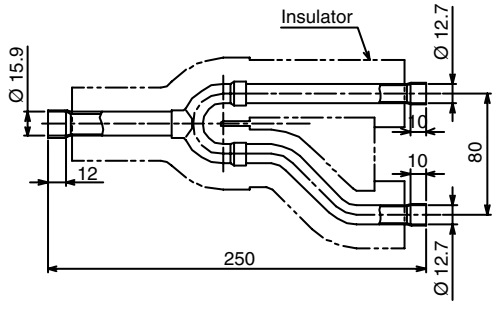
Discharge gas side



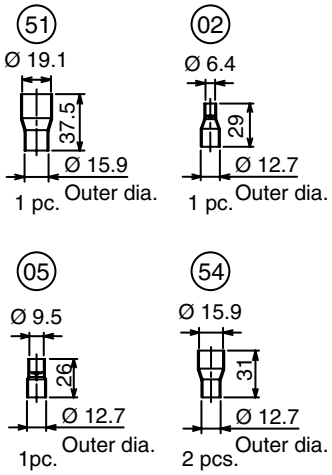
Accessory socket



Liquid side



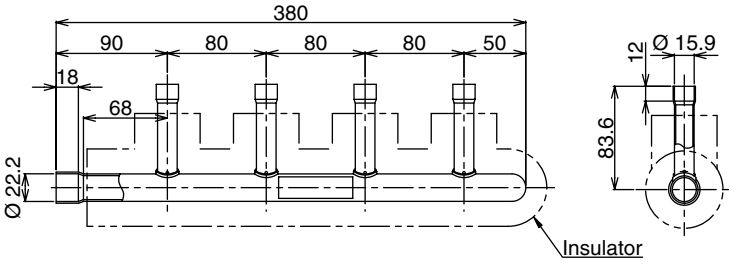
Accessory socket



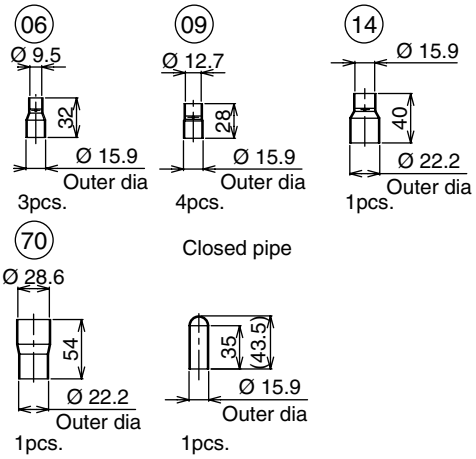
Note: All dimensions are in mm.

Branch header
RBM-HY1043FE

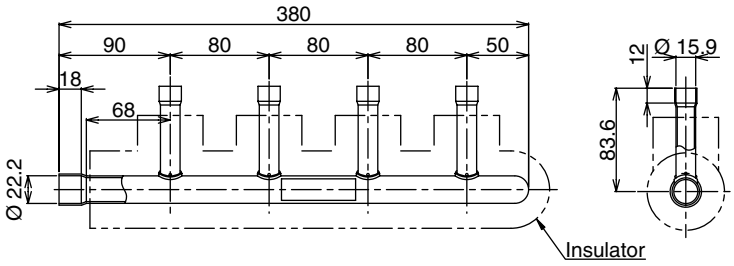
Suction gas side



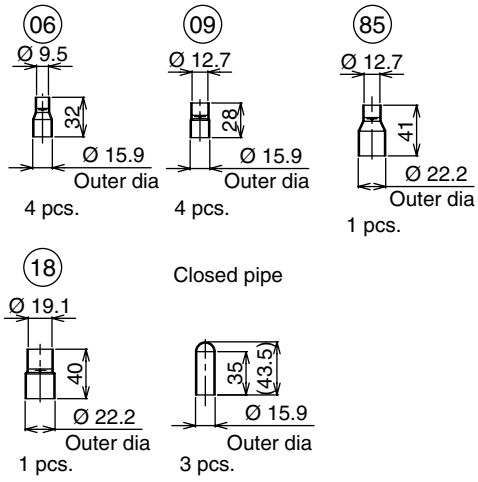
Accessory socket



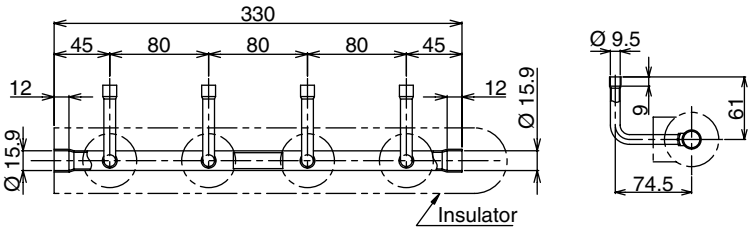
Discharge gas side



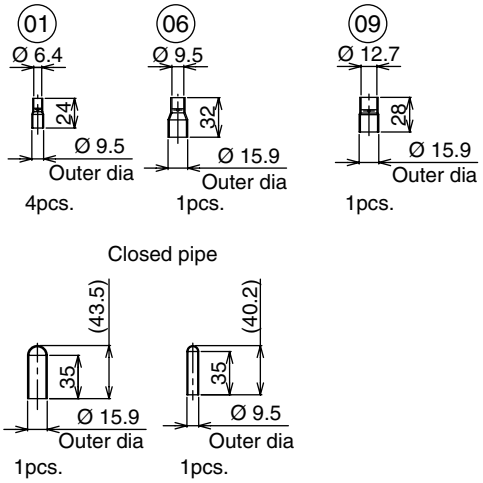
Accessory socket



Liquid side



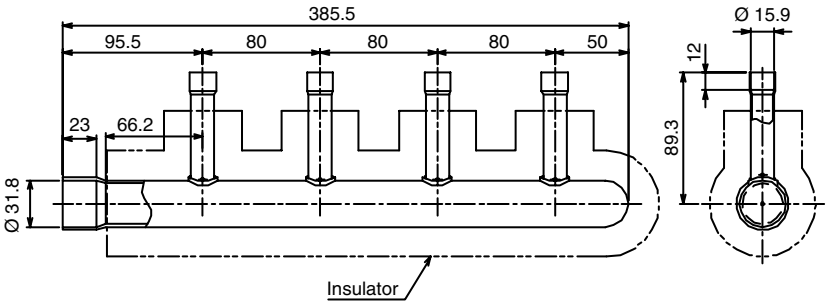
Accessory socket



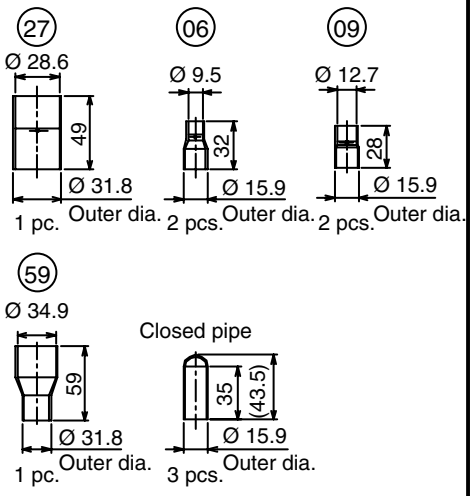
Note: All dimensions are in mm.

Branch header
RBM-HY2043FE

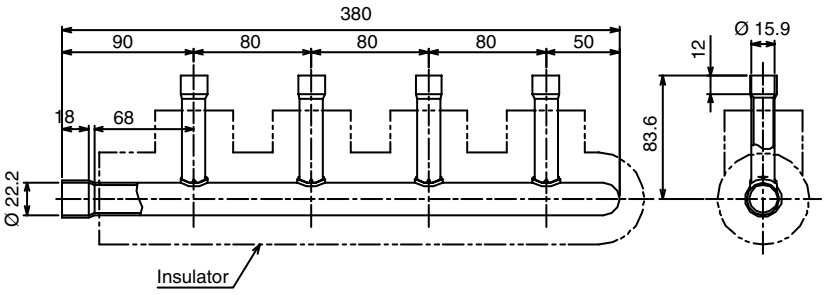
Suction gas side



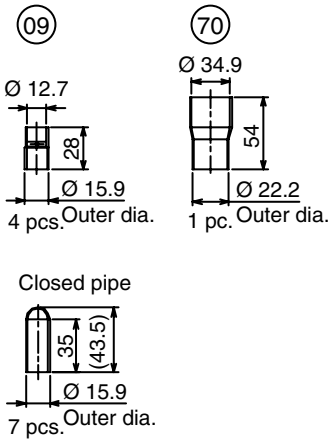
Accessory socket



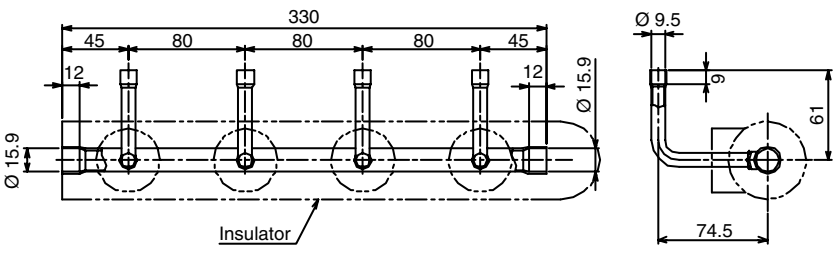
Discharge gas side



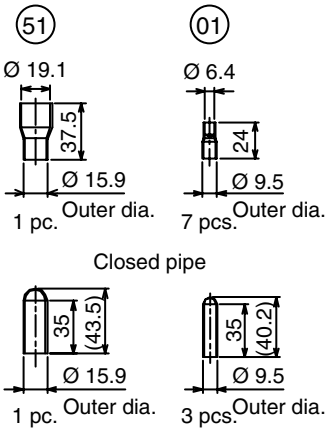
Accessory socket



Liquid side



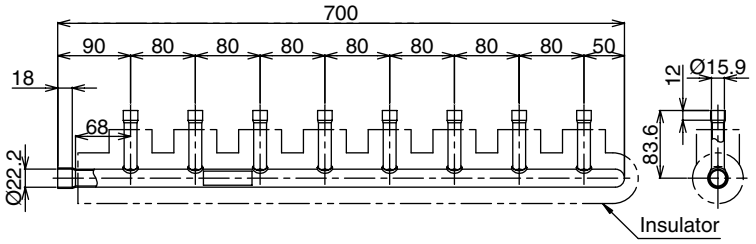
Accessory socket



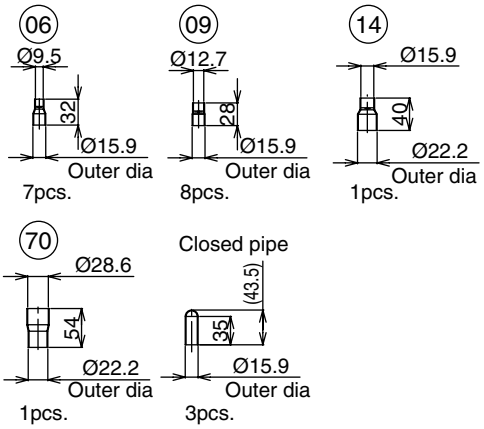
Note: All dimensions are in mm.

Branch header
RBM-HY1083FE

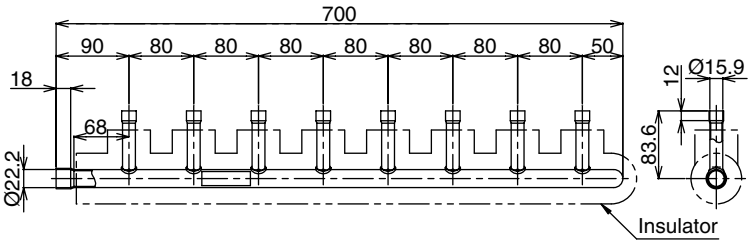
Suction gas side



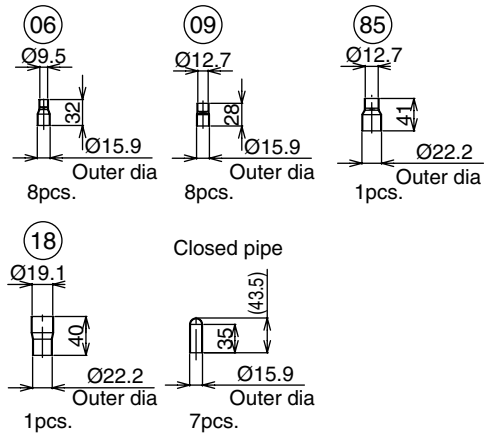
Accessory socket



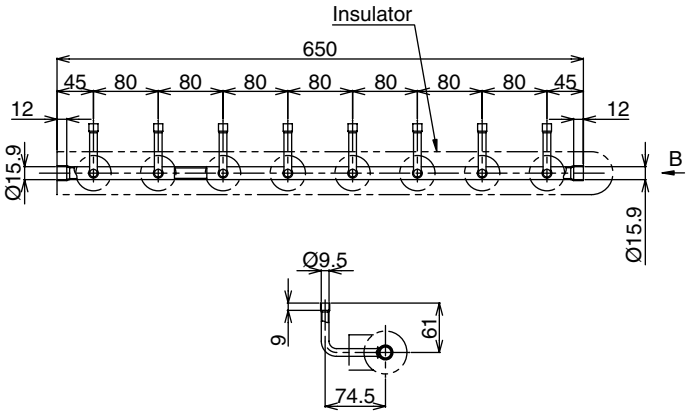
Discharge gas side



Accessory socket

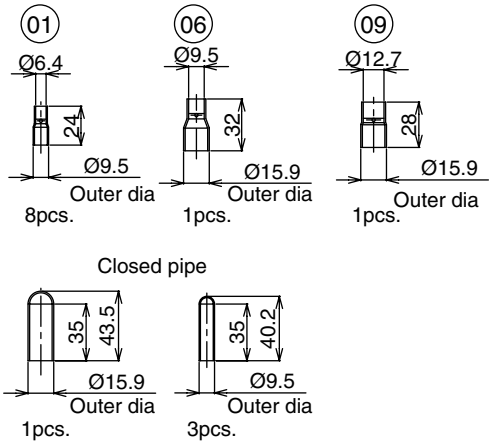


Liquid side



B-view

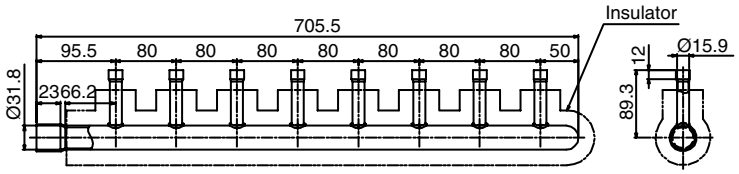
Accessory socket



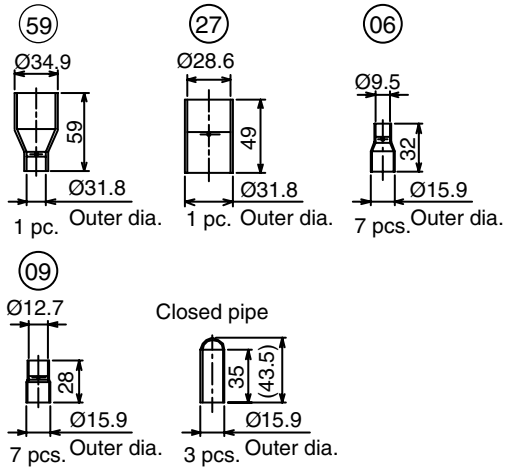
Note: All dimensions are in mm.

Branch header
RBM-HY2083FE

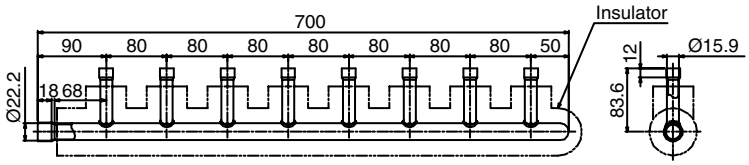
Suction gas side



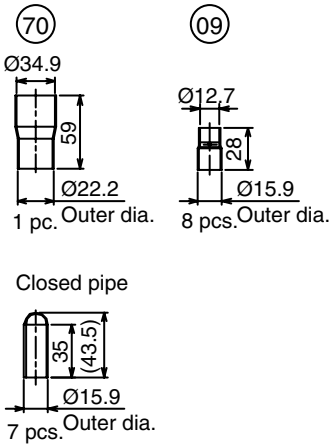
Accessory socket



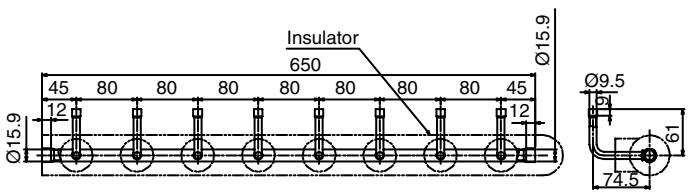
Discharge gas side



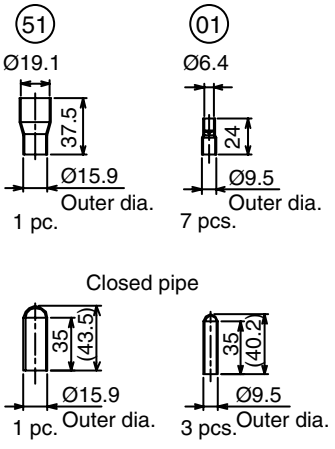
Accessory socket



Liquid side



Accessory socket

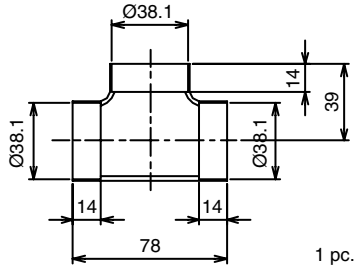


Note: All dimensions are in mm.

T-shape branch joint

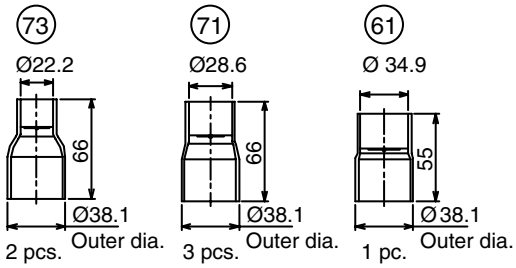
RBM-BT13FE

Suction gas side

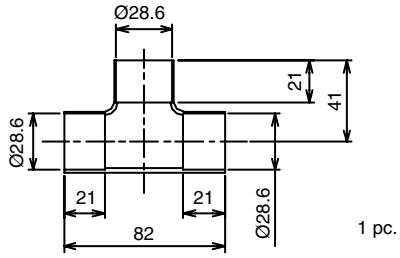


1 pc.

Accessory socket

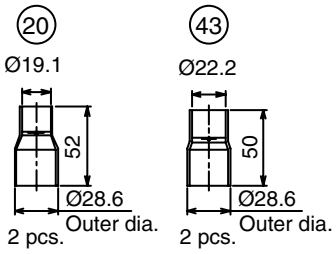


Discharge gas side

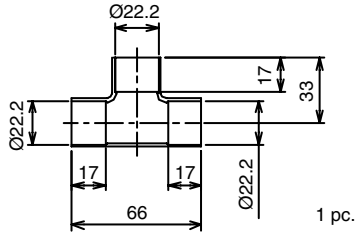


1 pc.

Accessory socket

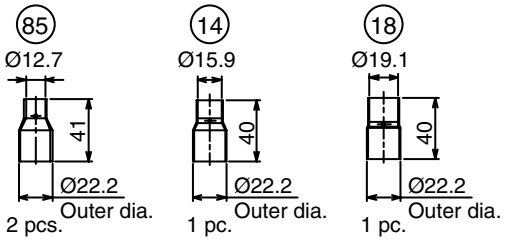


Liquid side

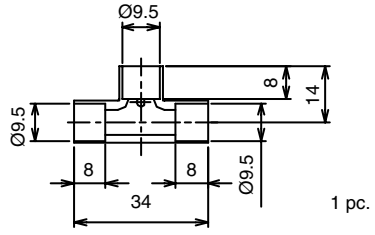


1 pc.

Accessory socket



Balance pipe side



1 pc.

Note: All dimensions are in mm.

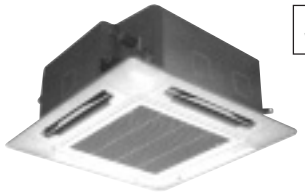
16

Specifications

TECHNICAL SPECIFICATIONS

Indoor unit (50Hz specification)

50Hz



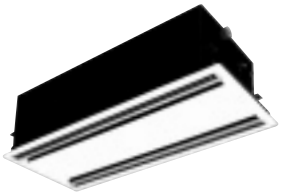
• 4-way Air Discharge Cassette Type

Model name				MMU-	AP0091H	AP0121H	AP0151H	AP0181H	AP0241H	AP0271H	AP0301H	AP0361H	AP0481H	AP0561H
Cooling/Heating capacity (Note 1)				(kW)	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	11.2/12.5	14.0/16.0	16.0/18.0
Electrical characteristics	Power supply				1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)									
	Running current			(A)	0.17		0.19	0.21	0.24		0.35	0.59	0.81	0.83
	Power consumption			(kW)	0.020		0.022	0.026	0.032		0.048	0.070	0.110	0.112
	Starting current			(A)	0.30		0.33	0.36	0.42		0.59	0.87	1.23	1.26
Appearance	Main unit				Heat-insulating material attached Zinc hot dipping steel plate									
	Ceiling Panel	Model			RBC-U21PG (W) -E									
		Panel colour			Moon white (Munsell/2.5GY 9.0/0.5)									
Outer dimension	Main unit	Height		(mm)	256							319		
		Width		(mm)	840									
		Depth		(mm)	840									
	Ceiling panel	Height		(mm)	35									
		Width		(mm)	950									
		Depth		(mm)	950									
Total weight	Main unit			(kg)	20		22		23			28		
	Ceiling panel			(kg)	4.5									
Heat exchanger					Finned tube									
Soundproof/Heat-insulating material					Non-flammable insulation									
Fan unit	Fan				Turbo fan									
	Standard air flow High (Mid./Low)			(m^3/h)	800 (730/680)		930 (830/790)	1,050 (920/800)	1,200 (920/820)		1,320 (1,110/850)	1,680 (1300/1,070)	2,040 (1,430/1,130)	2,090 (1,520/1,230)
	Motor			(W)	60							90		
Air filter					Standard filter attached (Long life filter)									
Controller					Remote controller									
Connecting pipe	Gas side			(mm)	Ø9.5		Ø12.7		Ø15.9					
	Liquid side			(mm)	Ø6.4				Ø9.5					
	Drain port (Nominal dia. mm)				25 (Polyvinyl chloride tube)									
Sound pressure level(Note 2) (High/Mid./Low)				(dB(A))	30/29/27		31/29/27	32/29/28	34/31/28		37/33/30	40/36/33	44/38/34	45/40/34

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2 : The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note : 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



50Hz

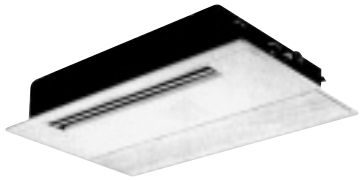
• 2-way Air Discharge Cassette Type

Model name				MMU-	AP0071WH	AP0091WH	AP0121WH	AP0151WH	AP0181WH	AP0241WH	AP0271WH	AP0301WH	AP0481WH China only
Cooling/Heating capacity				(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	14.0/16.0
Electrical characteristics	Power supply				1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)								1 phase 50Hz 220V
	Running current			(A)	0.31			0.32		0.46		0.47	1.16
	Power consumption			(kW)	0.070			0.072		0.105		0.106	0.250
	Power factor			(%)	97					99		98	98
	Starting current			(A)	0.47			0.60		0.89		0.98	1.33
Appearance	Main unit				Heat-insulating material attached Zinc hot dipping steel plate								
	Ceiling Panel	Model			RBC-UW136PG			RBC-UW266PG					RBC-UW466PG
		Panel colour			Light ivory (Munsell 10Y 9/0.5)								
Outer dimension	Main unit	Height		(mm)	398								406
		Width		(mm)	830			1,350					1,650
		Depth		(mm)	550								620
	Ceiling panel	Height		(mm)	8								
		Width		(mm)	1,000			1,520					1,898
		Depth		(mm)	650								680
Total weight	Main unit			(kg)	33			44		48			52
	Ceiling panel			(kg)	8			11					18
Heat exchanger					Finned tube								
Soundproof/Heat-insulating material					Non-flammable insulation								
Fan unit	Fan				Centrifugal fan								
	Standard air flow (High/Mid./Low)			(m^3/h)	570/510/450			780/700/600		1140/960/720		1260/1140/960	1920/1500/1050
	Motor			(W)	53			39		53			92
Air filter					Standard filter attached (Long life filter)								
Controller					Remote controller								
Connecting pipe	Gas side			(mm)	Ø9.5			Ø12.7		Ø15.9			
	Liquid side			(mm)	Ø6.4					Ø9.5			
	Drain port (Nominal dia. mm)				25 (Polyvinyl chloride tube)								
Sound pressure level(Note 2) (High/Mid./Low)				(dB(A))	34/32/30			35/33/30		38/35/33		40/37/34	45/42/39

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2:The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note : 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



50Hz

• 1-way Air Discharge Cassette Type

Model name				MMU-	AP0071YH	AP0091YH	AP0121YH	AP0151SH	AP0181SH	AP0241SH
Cooling/Heating capacity (Note 1)				(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics (Note 2)	Power supply				1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)					
	Running current			(A)	0.24			0.48		0.55
	Power consumption			(kW)	0.053			0.103		0.115
	Power factor			(%)	95			93		91
	Starting current			(A)	0.6			0.8		1.1
Appearance	Main unit				Heat-insulating material attached Zinc hot dipping steel plate					
	Ceiling panel	Model			RBC-UY135PG			RBC-US165PG		RBC-US265PG
		Panel colour			W : Silky shade (1Y8.5/0.5)					
Outer dimension	Main unit	Height		(mm)	235			198		
		Width		(mm)	850			1,000		1,200
		Depth		(mm)	400			655		
	Ceiling panel	Height		(mm)	18			10		
		Width		(mm)	1,050			1,220		1,420
		Depth		(mm)	470			755		
Total weight	Main unit			(kg)	22			27		31
	Ceiling panel			(kg)	3.5			8		9
Heat exchanger					Finned tube					
Soundproof/Heat-insulating material					Non-flammable insulation					
Fan unit	Fan				Centrifugal fan					
	Standard air flow (High/Mid./Low)			(m^3/h)	540/480/420			780/720/660		1,200/1,140/1,020
	Motor			(W)	22			34		
Controller					Remote controller					
Room thermostat					Attached					
Air filter					Standard filter attached (Long life filter)					
Connecting pipe	Gas side			(mm)	Ø9.5			Ø12.7		Ø15.9
	Liquid side			(mm)	Ø6.4					Ø9.5
	Drain port			(Nominal dia. mm)	25 (Polyvinyl chloride tube)					
Sound pressure level(Note 2)(High/Mid./Low)				(dB(A))	42/39/34			42/39/35		43/41/37

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2: The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note : 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

50Hz

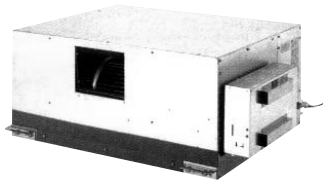
• Concealed Duct Type

Model name				MMD-	AP0071BH	AP0091BH	AP0121BH	AP0151BH	AP0181BH	AP0241BH	AP0271BH	AP0301BH	AP0361BH	AP0481BH	AP0561BH
Cooling/Heating capacity (Note 1)				(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	9.0/10.0	11.2/12.5	14.0/16.0	16.0/18.0
Electrical characteristics	Power supply				1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)										
	Running current			(A)	0.29		0.34		0.43	0.52		0.61	0.83	0.98	
	Power consumption			(kW)	0.033		0.039		0.050	0.060		0.071	0.107	0.128	
	Starting current			(A)	0.5		0.59		0.75	0.90		1.05	1.44	1.70	
Appearance	Main unit				Zinc hot dipping steel plate										
Outer dimension	Main unit	Height		(mm)	320										
		Width		(mm)	550			700		1,000			1,350		
		Depth		(mm)	800										
	Suction ceiling panel	Height		(mm)	9										
		Width		(mm)	630			780		1,080			1,430		
		Depth		(mm)	500										
Total weight	Main unit			(kg)	28			32		43			55		
	Ceiling panel			(kg)	3.5			4		6			7		
Heat exchanger					Finned tube										
Soundproof/Heat-insulating material					Non-flammable insulation										
Fan unit	Fan				Centrifugal fan										
	Standard air flow (High/Mid./Low)			(m^3/h)	480 (420/340)		570 (490/400)	650 (540/480)	780 (660/540)	1,140 (990/870)		1,260 (1080/870)	1,620 (1410/1200)	1,980 (1710/1490)	
	Motor			(W)	120										
	External static pressure (factory setting)			(Pa)	40										
	External static pressure			(Pa)	100										
Air filter					Standard filter attached (Long life filter)										
Controller					Remote controller										
Connecting pipe	Gas side			(mm)	Ø9.5			Ø12.7		Ø15.9					
	Liquid side			(mm)	Ø6.4					Ø9.5					
	Drain port			(Nominal dia. mm)	25 (Polyvinyl chloride tube)										
Sound pressure level (Note 2) (High/Mid./Low)				(dB(A))	30/28/26		31/29/27		32/30/28	33/31/29		34/32/29	36/34/32	38/36/32	

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2: The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note : 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



50Hz

• Concealed Duct High Static Pressure Type

Model name			MMD-	AP0181H	AP0241H	AP0271H	AP0361H	AP0481H	AP0721H	AP0961H
Cooling/Heating capacity (Note 1)			(kW)	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0	22.4/25.0	28.0/31.5
Electrical characteristics	Power supply			1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)						
	Running current		(A)	0.81	1.35		1.63	1.84	5.25	5.52
	Power consumption		(kW)	0.184	0.299		0.368	0.414	1.200	1.260
	Power factor		(%)	99	96		98	98	99	99
	Starting current		(A)	1.3	3.5		4.1	4.8	13.6	14.8
Appearance				Zinc hot dipping steel plate						
Outer dimension	Height x Width x Depth		(mm)	380 x 850 x 660				380 x 1,200 x 660	470 x 1,380 x 1,250	
Total weight			(kg)	50	52		56	67	150	
Heat exchanger				Finned tube						
Soundproof/Heat-insulating material				Non-flammable insulation						
Fan unit	Fan			Centrifugal fan						
	Standard air flow		(m^3/h)	900	1,320		1,600	2,100	3,600	4,200
	Motor		(W)	160			260		370 x 3	
	External static pressure (Factory setting)		(Pa)	137						
	External static pressure		(Pa)	68.6-137-196						
	Air flow limit Lower limit/Upper limit		(m/ h)	720/1,080	1,060/1,580		1,280/1,920	1,680/2,520	2,880/4,320	3,360/5,040
Air filter				Option or field supply						
Controller				Remote controller						
Connecting pipe	Gas side		(mm)	Ø12.7	Ø15.9				Ø22.2	
	Liquid side		(mm)	Ø6.4	Ø9.5				Ø12.7	
	Drain port		(Nominal dia.)	25 (One side of male screw)						
Sound level (Note 2) (High/Mid./Low)			(dB(A))	37	40				49	50

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2: The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note : 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

50Hz

• Under Ceiling Type

Model name		MMC-	AP0151H	AP0181H	AP0241H	AP0271H	AP0361H	AP0481H
Cooling/Heating capacity (Note 1)		(kW)	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0
Electrical characteristics	Power supply		1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)					
	Running current	(A)	0.29	0.32	0.42		0.78	0.84
	Power consumption	(kW)	0.033	0.038	0.050		0.091	0.110
	Starting current	(A)	0.43	0.48	0.62		1.17	1.25
Appearance			White (Munsell 10Y 9.3/0.4)					
Outer dimension	Height x Width x Depth	(mm)	210 x 910 x 680		210 x 1,180 x 680		210 x 1,595 x 680	
Total weight		(kg)	22		26		34	
Heat exchanger			Finned tube					
Soundproof/Heat-insulating material			Non-flammable insulation					
Fan unit	Fan		Centrifugal fan					
	Standard air flow (High/Mid./Low)	(m^3/h)	720/600/540	780/660/540	1,110/900/840		1,650/1,380/1,200	1,800/1,560/1,320
	Motor	(W)	30		40		80	
Controller			Remote controller					
Room thermostat			Attached					
Air filter			Standard filter attached (Long life filter)					
Connecting pipe	Gas side	(mm)	Ø12.7		Ø15.9			
	Liquid side	(mm)	Ø6.4		Ø9.5			
	Drain port(Nominal dia. mm)		20 (Polyvinyl chloride tube)					
Sound pressure level(Note 2) (High/Mid./Low)		(dB(A))	35/32/30	36/33/30	38/36/33		41/38/35	43/40/37

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2: The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note : 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

50Hz

• High Wall Type (1 series)

Model name			MMK-	AP0071H	AP0091H	AP0121H	AP0151H	AP0181H	AP0241H
Cooling/Heating capacity (Note 1)			(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power supply			1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)					
	Running current		(A)	0.30			0.32		0.35
	Power consumption		(kW)	0.035			0.037		0.040
	Starting current		(A)	0.36			0.42		0.47
Appearance	Suction grille and side panel			Silky mist (Munsell 1Y 8.9/0.5)					
	Discharge grille			City gray (Munsell N6.5)					
	Bottom surface			Silky mist (Munsell 1Y 8.9/0.5)					
Outer dimension	Height x Width x Depth		(mm)	368 x 895 x 210			368 x 1,055 x 210		368 x 1,430 x 210
Total weight			(kg)	18			19		25
Heat exchanger				Finned tube					
Soundproof/Heat-insulating material				Non-flammable insulation					
Fan unit	Fan			Cross-flow fan					
	Standard air flow (High/Mid./Low)		(m^3/h)	600/540/480			780/660/600		1,200/1,020/900
	Motor outlet		(W)	30					
Air filter				Standard filter attached (Simple filter)					
Controller				Remote controller					
Connecting pipe	Gas side		(mm)	Ø9.5			Ø12.7		Ø15.9
	Liquid side		(mm)	Ø6.4					Ø9.5
	Drain port	(Nominal dia. mm)		20 (Polyvinyl chloride tube)					
Sound pressure level(Note 2) (High/Mid./Low)			(dB(A))	39/34/31			42/38/35		42/38/35

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2: The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note : 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

50Hz

• High Wall Type (2 series)*

*European market only

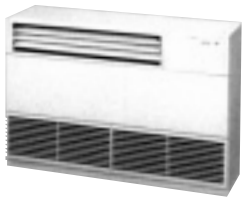
Model name			MMK-	AP0072H	AP0092H	AP0122H
Cooling/Heating capacity (Note 1)			(kW)	2.2/2.5	2.8/3.2	3.6/4.0
Electrical characteristics	Power supply			1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)		
	Running current		(A)	0.17	0.18	0.19
	Power consumption		(kW)	0.017	0.018	0.019
	Starting current		(A)	0.22	0.23	0.24
Appearance	Suction grille and side panel			Moon white		
	Discharge grille			Moon white		
	Bottom surface			Moon white		
Outer dimension	Height x Width x Depth		(mm)	275 x 790 x 208		
Total weight			(kg)	11		
Heat exchanger				Finned tube		
Soundproof/Heat-insulating material				Non-flammable insulation		
Fan unit	Fan			Cross-flow fan		
	Standard air flow (High/Mid./Low)		(m^3/h)	480/420/360	510/450/360	540/450/360
	Motor outlet		(W)	30		
Air filter				Standard filter attached (Simple filter)		
Controller				Wireless remote controller (WH-H2UE, Packed with indoor unit)		
Connecting pipe	Gas side		(mm)	Ø 9.5		
	Liquid side		(mm)	Ø 6.4		
	Drain port		(Outer dia.)	16 (Polyvinyl chloride tube)		
Sound level (Note 2) (High/Mid./Low)			(dB(A))	35/32/29	36/33/29	37/33/29

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2: The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note 3: Wireless remote controller is packed with indoor unit.
Wired remote controller (RBC-AMT21E, RBC-AS21E) can be also connected.

Note : 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



50Hz

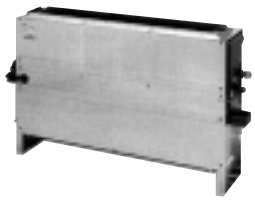
• Floor Standing Cabinet Type

Model name			MML-	AP0071H	AP0091H	AP0121H	AP0151H	AP0181H	AP0241H
Cooling/Heating capacity (Note 1)			(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power supply			1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)					
	Running current		(A)	0.26		0.43		0.47	
	Power consumption		(kW)	0.056		0.092		0.102	
	Power factor		(%)	94		93		94	
	Starting current		(A)	0.60		0.80		1.10	
Appearance				Silky shade (1Y8.5/0.5)					
Outer dimension	Height x Width x Depth		(mm)	630 x 950 x 230					
Total weight			(kg)	37				40	40
Heat exchanger				Finned tube					
Soundproof/Heat-insulating material				Non-flammable insulation					
Fan unit	Fan			Centrifugal fan					
	Standard air flow (High/Mid./Low)		(m^3/h)	480/420/360		900/780/650		1,080/930/780	
	Motor outlet		(W)	45				70	
Air filter				Standard filter attached (Simple filter)					
Controller				Remote controller					
Connecting pipe	Gas side		(mm)	Ø9.5			Ø12.7		Ø15.9
	Liquid side		(mm)	Ø6.4					Ø9.5
	Drain port	(Nominal dia. mm)		20 (Polyvinyl chloride tube)					
Sound pressure level(Note 2) (High/Mid./Low)			(dB(A))	39/37/35		45/41/38		49/44/39	

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2: The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note : 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



50Hz

• Floor Standing Concealed Type

Model name			MML-	AP0071BH	AP0091BH	AP0121BH	AP0151BH	AP0181BH	AP0241BH
Cooling/Heating capacity (Note 1)			(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power supply			1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)					
	Running current		(A)	0.25			0.45		0.46
	Power consumption		(kW)	0.056			0.090		0.095
	Power factor		(%)	97			87		90
	Starting current		(A)	0.60			0.80		1.00
Appearance				Zinc hot dipping steel plate					
Outer dimension	Height x Width x Depth		(mm)	600 x 745 x 220			600 x 1,045 x 220		
Total weight			(kg)	21			29		
Heat exchanger				Finned tube					
Soundproof/Heat-insulating material				Non-flammable insulation					
Fan unit	Fan			Centrifugal fan					
	Standard air flow (High/Mid./Low)		(m^3/h)	460/400/300			740/600/490		950/790/640
	Motor		(W)	19			70		
	Static pressure range		(kPa)	0					
Air filter				Standard filter attached (Simple filter)					
Controller				Remote controller					
Connecting pipe	Gas side		(mm)	Ø9.5			Ø12.7		Ø15.9
	Liquid side		(mm)	Ø6.4					Ø9.5
	Drain port	(Nominal dia. mm)		20 (One side of male screw)					
Sound pressure level(Note 2)(High/Mid./Low)			(dB(A))	36 (34/32)					42 (37/33)

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2: The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note : 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

50Hz

• Floor Standing Type

Model name		MMF-	AP0151H	AP0181H	AP0241H	AP0271H	AP0361H	AP0481H	AP0561H
Cooling/Heating capacity (Note 1)		(kW)	4.5/5.0	5.6/6.3	7.1/8.0	8.0/9.0	11.2/12.5	14.0/16.0	16.0/18.0
Electrical characteristics	Power supply		1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)						
	Running current	(A)	0.67		0.88		1.29	1.60	
	Power consumption	(kW)	0.150		0.190		0.280	0.350	
	Power factor	(%)	97		94			95	
	Starting current	(A)	0.90		1.10		1.70	2.10	
Appearance			W : Silky shade (1Y 8.5/0.5)						
Outer dimension	Height x Width x Depth	(mm)	1750 x 600 x 210				1750 x 600 x 390		
Total weight		(kg)	48		49		65		
Heat exchanger			Finned tube						
Soundproof/Heat-insulating material			Non-flammable insulation						
Fan unit	Fan		Centrifugal fan						
	Standard air flow (High/Mid./Low)	(m^3/h)	900/780/660		1,200/1,020/840		1,920/1,680/1,380	2,160/1,860/1,560	
	Motor	(W)	37		63		11	16	
Air filter			Standard filter attached (Simple filter)						
Controller			Remote controller						
Connecting pipe	Gas side	(mm)	Ø12.7		Ø15.9				
	Liquid side	(mm)	Ø6.4		Ø9.5				
	Drain port	(Nominal dia. mm)	20 (One side of male screw)						
Sound pressure level(Note 2)(High/Mid./Low)		(dB(A))	46/43/38		49/45/40		51/48/44	54/50/46	

Note 1: The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

Note 2: The sound levels are measured in an anechoic chamber in accordance with JIS B8616. Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note : 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

Outdoor unit (50Hz)

50Hz

Equivalent HP					Equivalent to 8HP	Equivalent to 10HP	Equivalent to 12HP
Model name				MMY-	MAP0802FT8	MAP1002FT8	MAP1202FT8
Outdoor unit type					Inverter unit		
Cooling capacity (*1)				(kW)	22.4	28.0	33.5
Standard heating capacity (*1)				(kW)	25.0	31.5	35.5
Power supply (*2)					3 phase 50Hz 400V (380-415V)		
Electrical characteristics (*1)	Cooling	Running current		(A)	9.25	13.15	19.85
		Power consumption		(kW)	6.07	8.54	12.90
		Power factor		(%)	95	94	94
		EER (Energy Efficiency Ratio)		(kW/kW)	3.69	3.28	2.60
		Starting current		(A)	1.0	1.0	1.0
	Heating	Running current		(A)	9.55	13.40	14.85
		Power consumption		(kW)	6.29	8.73	9.65
		Power factor		(%)	95	94	94
		EER (Energy Efficiency Ratio)		(kW/kW)	3.97	3.61	3.68
		Starting current		(A)	1.0	1.0	1.0
External dimension				(mm)	Height 1,800 x Width 990 x Depth 750		
Total weight				(kg)	263		
Color					Silky shade (Munsell 1Y8.5/0.5)		
Compressor	Type				Hermetic type		
	Motor output			(kW)	2.3 × 2	3.1 × 2	4.2 × 2
Fan unit	Fan				Propeller fan		
	Motor output			(kW)	0.60		
	Air volume			(m^3/h)	9,900	10,500	
Heat exchanger					Finned tube		
Refrigerant R410A (Charged refrigerant amount) (*3)				(kg)	11.5		
High-pressure switch				(MPa)	OFF : 2.90 ON : 3.73		
Protective devices					(* 5)		
Refrigerant piping specifications (*4)	Connecting port dia	Discharge gas side		(mm)	Ø19.1		
		Suction gas side		(mm)	Ø22.2		Ø28.6
		Liquid side		(mm)	Ø12.7		
		Balance pipe		(mm)	Ø9.5		
	Connecting method	Discharge gas side			Brazing		
		Suction gas side			Brazing		
		Liquid side			Flare		
		Balance pipe			Flare		
	Max. equivalent length			(m)	150		
	Max. real length			(m)	125 (If the total bend length exceeds 125m, use the max equivalent length as the standard.)		
	Max. total pipe length (Real length)			(m)	300		
	Max. height difference			(m)	Outdoor unit is higher than indoor unit : 50		
					Outdoor unit is lower than indoor unit : 30		
Control wiring					Shield wire 1.25mm^2 x 2 cores. up to 2000m		
Central remote controller					When connecting to outdoor unit : (Shield wire) 1.25mm^2 x 2 cores. up to 1000m and (Shield wire) 2.0mm^2 x 2 cores. up to 2000m		
Max. No. of connected indoor units					13	16	16
Sound level				(dB(A))	57	58	59

*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

The standard piping means that main pipe length is 5 m, branching pipe length 2.5 m of branch piping connected with a 0 meter height.

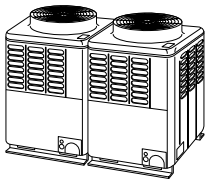
*2 : The source voltage must not fluctuate more than ±10%.

*3 : The amount does not consider extra piping lengths. Refrigerant must be added on site in accordance with the actual piping length.

*4 : The maximum total piping length indicates the sum of one-way piping lengths on the liquid side or gas side.

*5 : Discharge temp. sensor, Suction temp. sensor, Compressor case thermostat, High-pressure switch, Over-current sensor, High-pressure sensor, Low pressure sensor, Over-current relay.

Outdoor unit (Combination) (50Hz)



50Hz

Equivalent HP				Equivalent to 16HP		Equivalent to 18HP		Equivalent to 20HP	
Set Model name	Heat Recovery	MMY-		AP1602FT8		AP1802FT8		AP2002FT8	
Outdoor unit type				Inverter					
Outdoor unit model	Heat Recovery	MMY-		MAP0802FT8	MAP0802FT8	MAP1002FT8	MAP0802FT8	MAP1002FT8	MAP1002FT8
Rated cooling capacity (*1)			(kW)	45.0		50.4		56.0	
Standard heating capacity (*1)			(kW)	50.0		56.5		63.0	
Power supply (*2)				3 phase 50Hz 400V (380-415V)					
Electrical characteristics (*1)	Cooling	Running current	(A)	19.68		23.29		26.90	
		Power consumption	(kW)	13.01		15.42		17.89	
		Power factor	(%)	95		96		96	
		EER (Energy Efficiency Ratio)	(kW/kW)	3.46		3.27		3.13	
		Starting current	(A)	1.0		1.0		1.0	
	Heating	Running current	(A)	19.90		23.47		27.03	
		Power consumption	(kW)	13.10		15.54		17.98	
		Power factor	(%)	95		96		96	
		EER (Energy Efficiency Ratio)	(kW/kW)	3.82		3.64		3.50	
		Starting current	(A)	1.0		1.0		1.0	
External dimension			(mm)	Height 1,800 x Width 990 x Depth 750					
Total weight			(kg)	263					
Color				Silky shade (Munsell 1Y8.5/0.5)					
Compressor	Type			Hermetic type					
	Motor output		(kW)	2.3 × 2		3.1 × 2	2.3 × 2	3.1 × 2	
Fan unit	Fan			Propeller fan					
	Motor output		(kW)	0.6					
	Air volume		(m^3/h)	9,900		10,500	9,900	10,500	
Heat exchanger				Finned tube					
Refrigerant R410A Charged amount (*3)			(kg)	11.5					
High-pressure switch			(MPa)	OFF : 2.90 ON : 3.73					
Protective devices				(* 5)					
Refrigerant pipe spec. (*4)	Connecting port dia.	Discharge gas side	(mm)	Ø19.1					
		Suction gas side	(mm)	Ø22.2					
		Liquid side	(mm)	Ø12.7					
		Balance side	(mm)	Ø9.5					
	Connecting method	Discharge gas side		Brazing					
		Suction gas side		Brazing					
		Liquid side		Flare					
		Balance side		Flare					
	Max. equivalent length		(m)	150					
	Max. real length		(m)	125 (If the total bend length exceeds 125m, use the max equivalent length as the standard.)					
	Max. total pipe length (Real length)		(m)	300					
	Max. height difference		(m)	Outdoor unit is higher than indoor unit : 50					
				Outdoor unit is lower than indoor unit : 30					
Control wiring				Shield wire 1.25mm² x 2 cores. up to 2000m					
Central remote controller				When connecting to outdoor unit : (Shield wire) 1.25mm²x 2 cores up to 1000m and (Shield wire) 2.0mm²x 2 cores up to 2000m					
Max. No. of connected indoor units				27		30		33	
Sound level			(dB(A))	60		60.5		61	

*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

The standard piping means that main pipe length is 5m, branching pipe length 2.5m of branch piping connected with a 0 meter height.

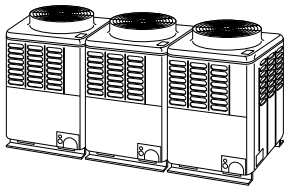
***2** : The source voltage must not fluctuate more than ±10%.

***3** : The amount does not consider extra piping lengths. Refrigerant must be added on site in accordance with the actual piping length.

***4** : The maximum total piping length indicates the sum of one-way piping lengths on the liquid side or gas side.

System safety protection

***5** : Discharge temp. sensor, Suction temp. sensor, Compressor case thermostat, High-pressure switch, Over-current sensor, High-pressure sensor, Low pressure sensor, Over-current relay.



50Hz

Equivalent HP				Equivalent to 24HP		
Set Model name	Heat Recovery	MMY-		AP2402FT8		
Outdoor unit type				Inverter		
Outdoor unit model	Heat Recovery	MMY-		MAP0802FT8	MAP0802FT8	MAP0802FT8
Rated cooling capacity (*1)			(kW)	68.0		
Standard heating capacity (*1)			(kW)	76.5		
Power supply (*2)				3 phase 50Hz 400V (380-415V)		
Electrical characteristics (*1)	Cooling	Running current	(A)	29.52		
		Power consumption	(kW)	19.66		
		Power factor	(%)	96		
		EER (Energy Efficiency Ratio)	(kW/kW)	3.46		
		Starting current	(A)	1.0		
	Heating	Running current	(A)	29.86		
		Power consumption	(kW)	20.04		
		Power factor	(%)	97		
		EER (Energy Efficiency Ratio)	(kW/kW)	3.82		
		Starting current	(A)	1.0		
External dimension			(mm)	Height 1,800 x Width 990 x Depth 750		
Total weight			(kg)	263		
Color				Silky shade (Munsell 1Y8.5/0.5)		
Compressor	Type			Hermetic type		
	Motor output		(kW)	2.3 × 2		
Fan unit	Fan			Propeller fan		
	Motor output		(kW)	0.6		
	Air volume		(m^3/h)	9,900		
Heat exchanger				Finned tube		
Refrigerant R410A Charged amount (*3)			(kg)	11.5		
High-pressure switch			(MPa)	OFF : 2.90 ON : 3.73		
Protective devices				(* 5)		
Refrigerant pipespec. (*4)	Connecting port dia.	Discharge gas side	(mm)	Ø19.1		
		Suction gas side	(mm)	Ø22.2		
		Liquid side	(mm)	Ø12.7		
		Balance side	(mm)	Ø9.5		
	Connecting method	Discharge gas side		Brazing		
		Suction gas side		Brazing		
		Liquid side		Flare		
		Balance side		Flare		
	Max. equivalent length		(m)	150		
	Max. real length		(m)	125 (If the total bend length exceeds 125m, use the max equivalent length as the standard.)		
	Max. total pipe length (Real length)		(m)	300		
	Max. height difference		(m)	Outdoor unit is higher than indoor unit : 50		
				Outdoor unit is lower than indoor unit : 30		
Control wiring				Shield wire 1.25mm^2 x 2 cores. up to 2000m		
Central remote controller				When connecting to outdoor unit : (Shield wire) 1.25mm^2x 2 cores up to 1000m and (Shield wire) 2.0mm^2x 2 cores up to 2000m		
Max. No. of connected indoor units				40		
Sound level			(dB(A))	62		

*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

The standard piping means that main pipe length is 5m, branching pipe length 2.5m of branch piping connected with a 0 meter height.

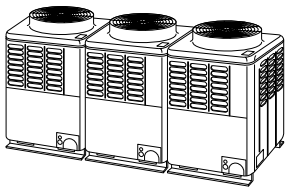
*2 : The source voltage must not fluctuate more than ±10%.

*3 : The amount does not consider extra piping lengths. Refrigerant must be added on site in accordance with the actual piping length.

*4 : The maximum total piping length indicates the sum of one-way piping lengths on the liquid side or gas side.

System safety protection

*5 : Discharge temp. sensor, Suction temp. sensor, Compressor case thermostat, High-pressure switch, Over-current sensor, High-pressure sensor, Low pressure sensor, Over-current relay.



50Hz

Equivalent HP				Equivalent to 26HP			Equivalent to 28HP			Equivalent to 30HP		
Set Model name	Heat Recovery	MMY-		AP2602FT8			AP2802FT8			AP3002FT8		
Outdoor unit type				Inverter								
Outdoor unit model	Heat Recovery	MMY-		MAP1002FT8	MAP0802FT8	MAP0802FT8	MAP1002FT8	MAP1002FT8	MAP0802FT8	MAP1002FT8	MAP1002FT8	MAP1002FT8
Rated cooling capacity (*1)			(kW)	73			78.5			84.0		
Standard heating capacity (*1)			(kW)	81.5			88.0			95.0		
Power supply (*2)				3 phase 50Hz 400V (380-415V)								
Electrical characteristics (*1)	Cooling	Running current	(A)	33.13			36.74			40.35		
		Power consumption	(kW)	21.96			24.40			26.84		
		Power factor	(%)	96			96			96		
		EER (Energy Efficiency Ratio)	(kW/kW)	3.32			3.22			3.13		
		Starting current	(A)	1.0			1.0			1.0		
	Heating	Running current	(A)	33.42			36.99			40.55		
		Power consumption	(kW)	22.09			24.53			27.11		
		Power factor	(%)	95			96			97		
		EER (Energy Efficiency Ratio)	(kW/kW)	3.69			3.59			3.50		
		Starting current	(A)	1.0			1.0			1.0		
External dimension			(mm)	Height 1,800 x Width 990 x Depth 750								
Total weight			(kg)	263								
Color				Silky shade (Munsell 1Y8.5/0.5)								
Compressor	Type			Hermetic type								
	Motor output		(kW)	3.1 × 2	2.3 × 2		3.1 × 2	2.3 × 2		3.1× 2		
Fan unit	Fan			Propeller fan								
	Motor output		(kW)	0.6								
	Air volume		(m^3/h)	10,500	9,900		10,500	9,900		10,500		
Heat exchanger				Finned tube								
Refrigerant R410A Charged amount (*3)			(kg)	11.5								
High-pressure switch			(MPa)	OFF : 2.90 ON : 3.73								
Protective devices				(* 5)								
Refrigerant pipespec. (*4)	Connecting port dia.	Discharge gas side	(mm)	Ø19.1								
		Suction gas side	(mm)	Ø22.2								
		Liquid side	(mm)	Ø12.7								
		Balance side	(mm)	Ø9.5								
	Connecting method	Discharge gas side		Brazing								
		Suction gas side		Brazing								
		Liquid side		Flare								
		Balance side		Flare								
	Max. equivalent length		(m)	150								
	Max. real length		(m)	125 (If the total bend length exceeds 125m, use the max equivalent length as the standard.)								
	Max. total pipe length (Real length)		(m)	300								
	Max. height difference		(m)	Outdoor unit is higher than indoor unit : 50								
				Outdoor unit is lower than indoor unit : 30								
Control wiring				Shield wire 1.25mm^2 x 2 cores. up to 2000m								
Central remote controller				When connecting to outdoor unit : (Shield wire) 1.25mm^2x 2 cores up to 1000m and (Shield wire) 2.0mm^2x 2 cores up to 2000m								
Max. No. of connected indoor units				43			47			48		
Sound level			(dB(A))	62			62.5			63		

*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

The standard piping means that main pipe length is 5m, branching pipe length 2.5m of branch piping connected with a 0 meter height.

*2 : The source voltage must not fluctuate more than ±10%.

*3 : The amount does not consider extra piping lengths. Refrigerant must be added on site in accordance with the actual piping length.

*4 : The maximum total piping length indicates the sum of one-way piping lengths on the liquid side or gas side.

System safety protection

*5 : Discharge temp. sensor, Suction temp. sensor, Compressor case thermostat, High-pressure switch, Over-current sensor, High-pressure sensor, Low pressure sensor, Over-current relay.

TOSHIBA

Oct. 05'

Engineering Data

High Wall Type
(2 Series)

Indoor Unit

MMK-AP0072H
MMK-AP0092H
MMK-AP0122H

1. Equipment

1-1. Line up

Type	Appearance	Model Name	Capacity rank	Capacity code	Cooling Capacity (kW)	Heating Capacity (kW)
High Wall type (2 series)		MMK-AP0072H	007 type	0.8	2.2	2.5
		MMK-AP0092H	009 type	1.0	2.8	3.2
		MMK-AP0122H	012 type	1.25	3.6	4.0

1-2. Remote controller (Packed with the indoor unit)

Name	Model name	Appearance	Application	Function
Wireless remote controller	WH-H2UE			Start / Stop Changing mode Temperature setting Air flow changing (5 step) Clock Timer function - ON/OFF timer (10 min. step) - Daily timer High power mode ECO mode (Sleep timer with ECO-logic) One-touch pre-set memory One-touch Auto (*1)

(Note.1) Super MMS can not accept “AUTO” mode, Super HRM can accept “AUTO” mode.

1-3. Wiring Design

50Hz

Model	Nominal Voltage (V-Ph-Hz)	Voltage		Fan Motor		Power Supply	
		Min	Max	kW	FLA	MCA	MOCP
MMK-AP0072H	230-1-50	198	264	0.03	0.20	0.24	15
MMK-AP0092H	230-1-50	198	264	0.03	0.21	0.26	15
MMK-AP0122H	230-1-50	198	264	0.03	0.22	0.27	15

Legend MCA : Minimum Circuit Amps FLA : Full Load Amps
MOCP : Maximum Overcurrent Protection (Amps) kW : Fan Motor Rated Output (kW)

1-4. Accessories

Accessory parts name	Model	Remarks
Wired remote controller	RBC-AMT31E	
Simple remote controller	RBC-AS21E2	
Wireless remote controller kit	TCB-AX21E2	with separated receiver unit
Central remote controller	TCB-SC642TLE2	Max. 64 group / unit
Weekly timer	RBC-EXW21E2	Use with RBC-AMT31E

2. Technical Specifications

High Wall type (2 Series)

50Hz

Model name		MMK-	AP0072H	AP0092H	AP0122H
Cooling / Heating capacity (Note 1)		(kW)	2.2 / 2.5	2.8 / 3.2	3.6 / 4.0
Electrical Characteristics	Power Supply		1 phase 50Hz 230V (220-240V) (Power exclusive for indoor is required.)		
	Running current	(A)	0.17	0.18	0.19
	Power consumption	(kW)	0.017	0.018	0.019
	Starting current	(A)	0.22	0.23	0.24
Appearance	Suction grille and side panel		Moon white		
	Discharge grille		Moon white		
	Bottom surface		Moon white		
Outer dimension	Height x Width x Depth	(mm)	275 x 790 x 208		
Total weight		(kg)	11		
Heat exchanger			Finned tube		
Soundproof/Heat-insulating material			Non-flammable insulation		
Fan unit	Fan		Cross-flow fan		
	Standard air flow (High/Mid/Low)(m3/h)		480 / 420 /360	510 / 450 / 360	540 / 450 / 360
	Motor		30		
Air filter			Standard filter attached (Simple filter)		
Controller		(Note 3)	Wireless remote controller (WH-H2UE, Packed with indoor unit)		
Connecting pipe	Gas side	(mm)	9.5		
	Liquid side	(mm)	6.4		
	Drain port	(Outer dia.)	16 (Polyvinyl chloride tube)		
Sound level (Note 2) (High / Mid / Low)		(dB(A))	35-32-29	36-33-29	37-33-29

Note 1 : The cooling capacities and electrical characteristics are measured under the conditions specified by JIS B 8615 based on the reference piping. The reference piping consists of 5 m of main piping and 2.5 m of branch piping connected with 0 meter height.

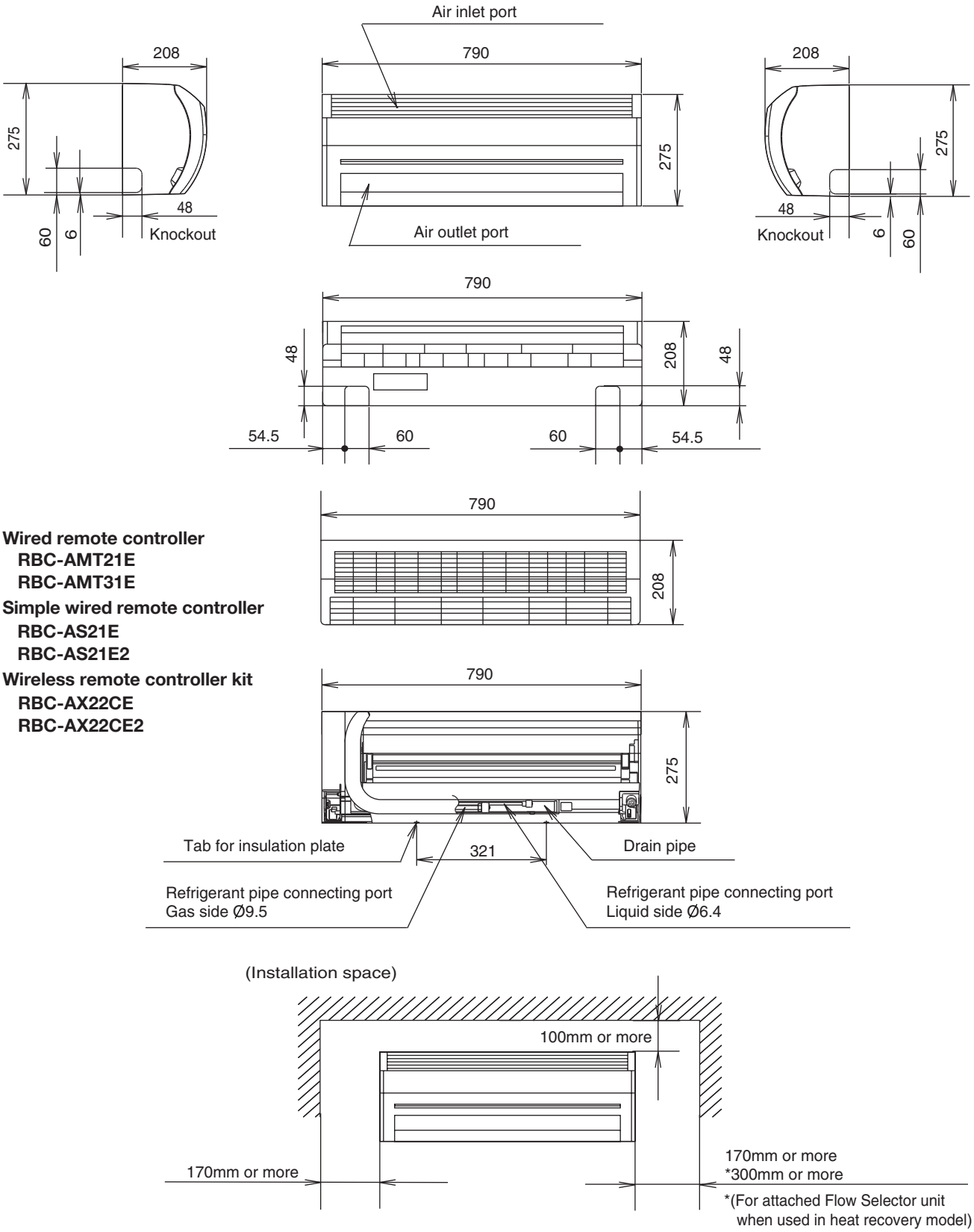
Note 2 : The sound level are measured in an anechoic chamber in accordance with JIS B8616.
Normally, the values measured in the actual operating environment become larger than the indicated values due to the effects of external sound.

Note 3 : Wireless remote controller is packed with indoor unit.
Wired remote controller (RBC-AMT31E,RBC-AS21E2) can be also connected.

Note 4 : Rated conditions
Cooling : Indoor air temperature 27 C DB/19 C WB,
Outdoor air temperature 35 C DB
Heating : Indoor air temperature 20C DB,
Outdoor air temperature 7C DB/6C WB

3. Dimensional Drawing

Model : MMK-AP0072H, AP0092H, AP0122H

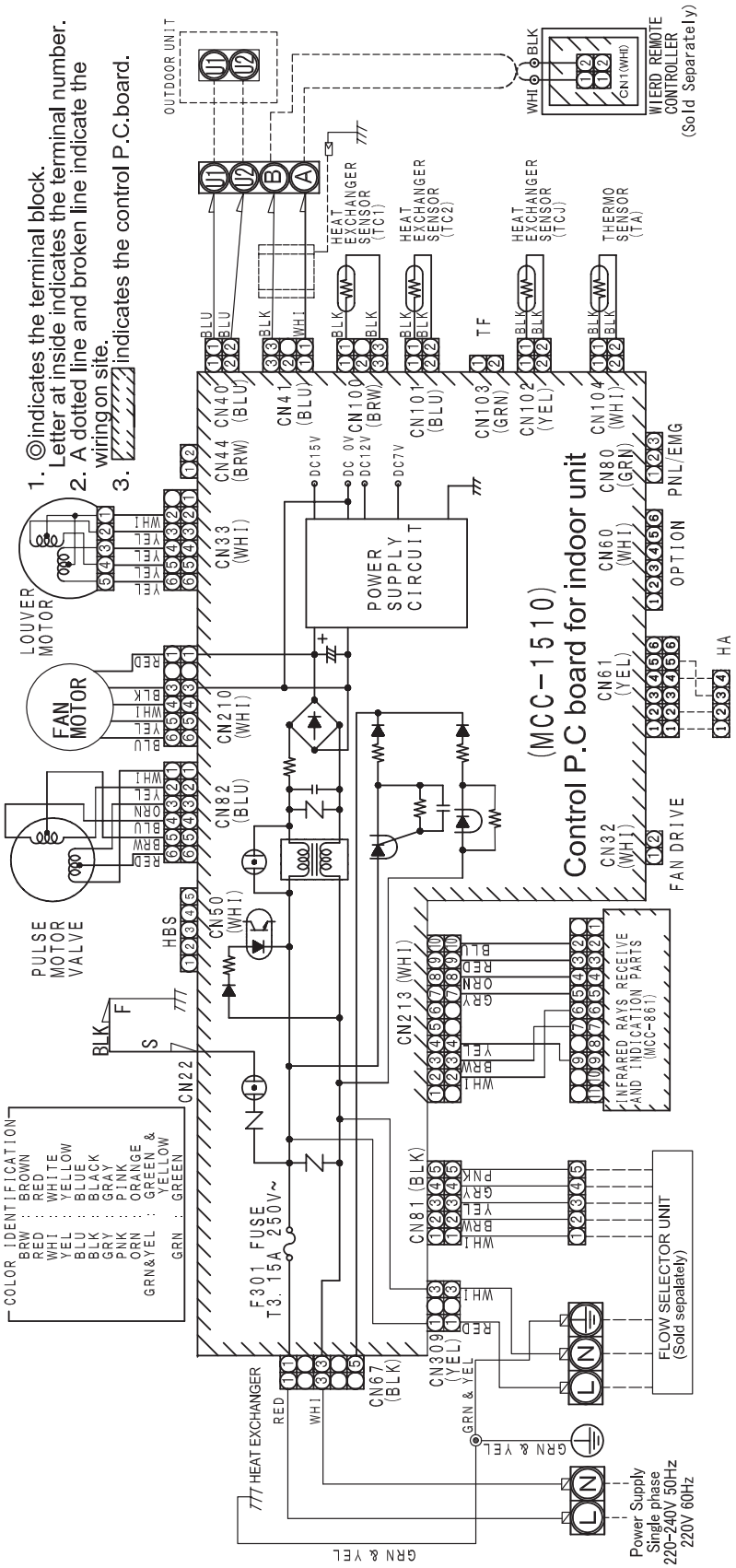


- **Wired remote controller**
  - **RBC-AMT21E**
  - **RBC-AMT31E**
- **Simple wired remote controller**
  - **RBC-AS21E**
  - **RBC-AS21E2**
- **Wireless remote controller kit**
  - **RBC-AX22CE**
  - **RBC-AX22CE2**

Note : All dimensions are in mm.

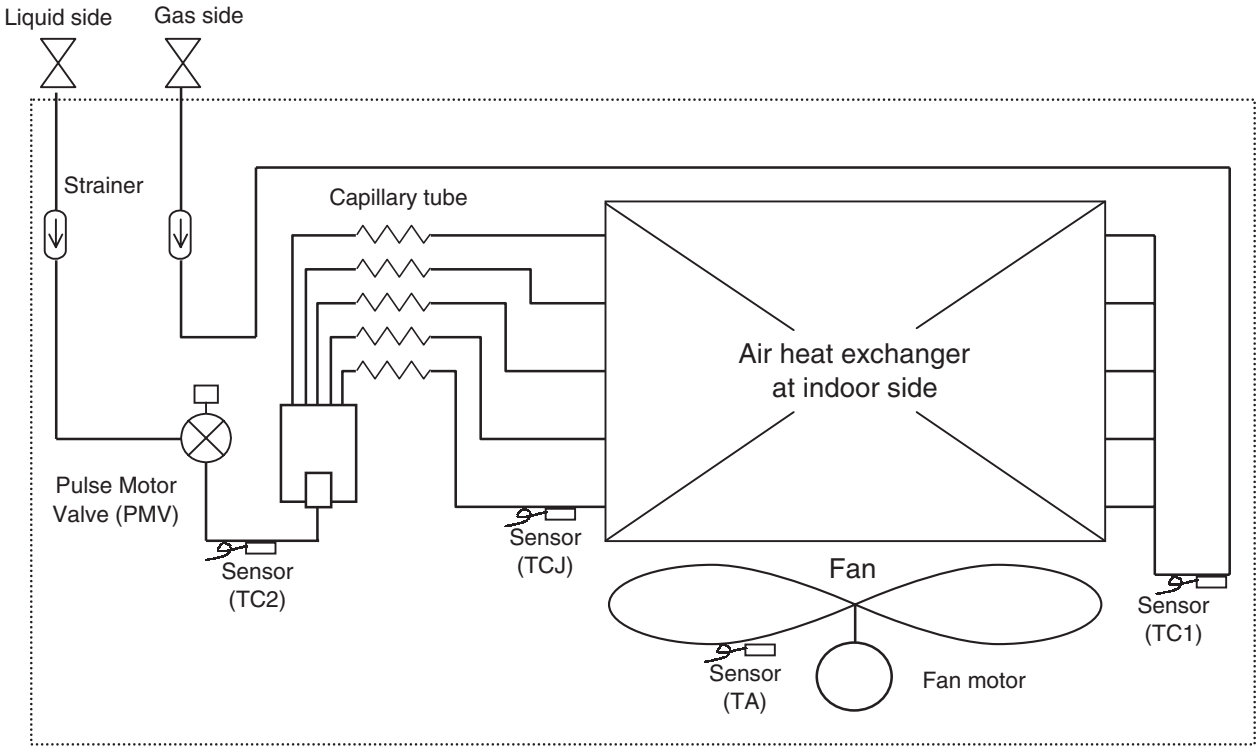
4. Wiring Diagram

Model : MMK-AP0072H, AP0092H, AP0122H



5. Refrigerant Cycle Diagram

Model : MMK-AP0072H, AP0092H, AP0122H



Functional part name		Functional outline
Pulse Motor Valve (PMV)	PMV	(Connector CN082 (6P): Blue) 1) Controls super heat in cooling operation 2) Controls under cool in heating operation 3) Recovers refrigerant oil in cooling operation 4) Recovers refrigerant oil in heating operation
Temp. sensor	1.TA	(Connector CN104 (2P): Yellow) 1) Detects indoor suction temperature
	2.TC1	(Connector CN100 (3P): Brown) 1) Controls PMV super heat in cooling operation
	3.TC2	(Connector CN101 (2P): Black 1) Controls PMV under cool in heating operation
	4.TCJ	(Connector CN102 (2P): Red) 1) Controls PMV super heat in cooling operation

6. Sensible Capacity Table

High Wall Type (MMK-AP****2H) 2 series

TC: Total capacity [kW] SHC: Sensible capacity [kW]

unit size	outdoor air temp. CDB	Indoor Air Temp. 14.0CWB 20CDB TC	SHC	16.0CWB 23CDB TC	SHC	18.0CWB 26CDB TC	SHC	19.0CWB 27CDB TC	SHC	20.0CWB 28CDB TC	SHC	22.0CWB 30CDB TC	SHC	24.0CWB 32CDB TC	SHC
007	10.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	12.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	14.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	16.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	18.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	20.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	21.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	23.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	25.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	27.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	29.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	31.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	33.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	35.0	1.8	1.5	2.0	1.6	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.6
	37.0	1.7	1.5	1.9	1.6	2.1	1.7	2.1	1.6	2.2	1.6	2.3	1.6	2.4	1.6
	39.0	1.7	1.4	1.9	1.5	2.0	1.6	2.1	1.6	2.1	1.6	2.3	1.6	2.4	1.5
009	10.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	12.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	14.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	16.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	18.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	20.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	21.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	23.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	25.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	27.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	29.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	31.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	33.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	35.0	2.3	1.8	2.5	1.9	2.7	2.0	2.8	2.0	2.9	2.0	3.1	2.0	3.2	1.9
	37.0	2.2	1.7	2.5	1.8	2.6	1.9	2.7	1.9	2.8	1.9	3.0	1.9	3.1	1.9
	39.0	2.2	1.7	2.4	1.8	2.6	1.9	2.6	1.9	2.7	1.9	2.9	1.9	3.0	1.8
012	10.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	12.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	14.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	16.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	18.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	20.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	21.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	23.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	25.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	27.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	29.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	31.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	33.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	35.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	37.0	2.9	2.1	3.2	2.3	3.4	2.4	3.5	2.4	3.6	2.4	3.8	2.4	4.0	2.3
	39.0	2.8	2.1	3.1	2.2	3.3	2.4	3.4	2.4	3.5	2.4	3.7	2.3	3.9	2.3

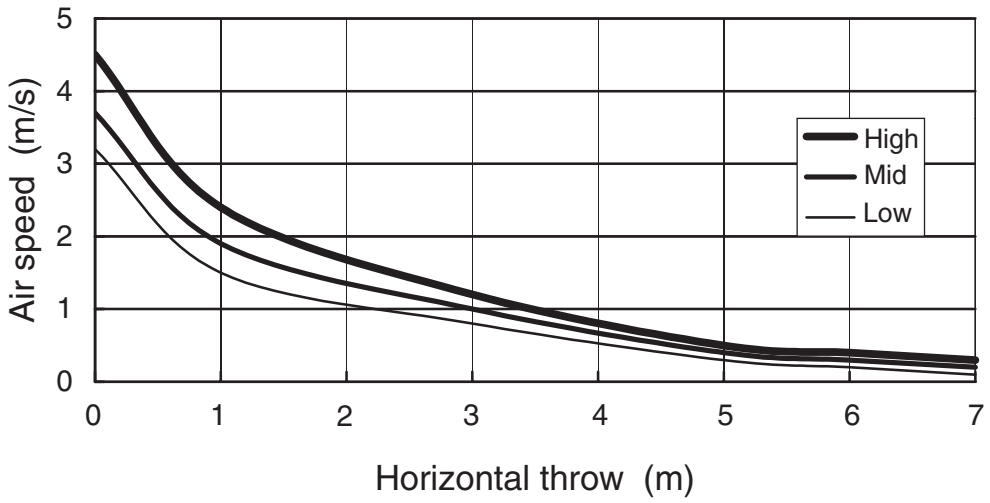
7. Fan Characteristics

Discharge Air Speed and Air Throw

High Wall Type (2 series)

Model : MMK-AP0072H, AP0092H, AP0122H

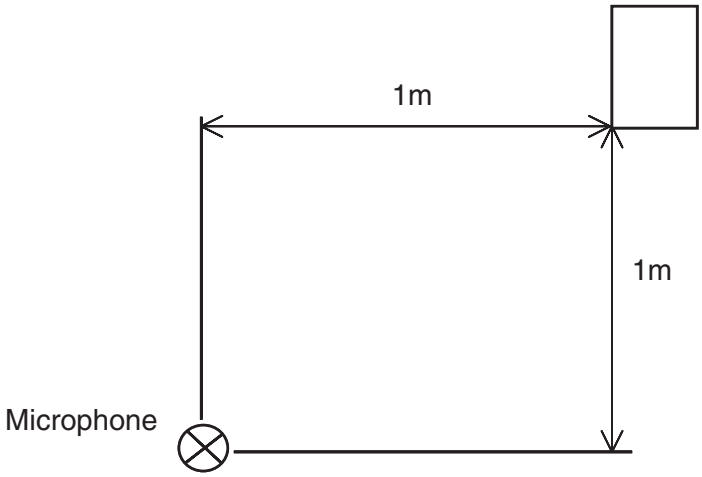
Horizontal discharge Initial speed **High wind : 4.5m/s**
Med wind : 3.7m/s
Low wind : 3.2m/s



8. Sound Characteristics (NC curve)

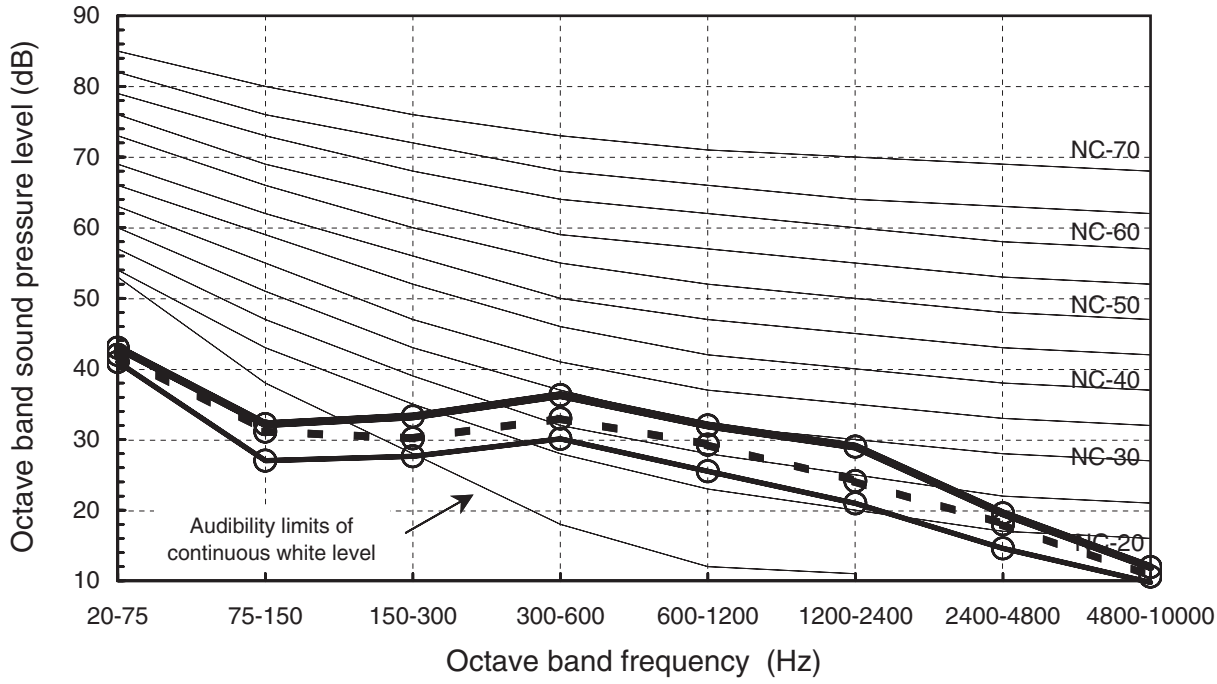
High Wall Type (2 series)

Model : MMK-AP0072H, AP0092H, AP0122H



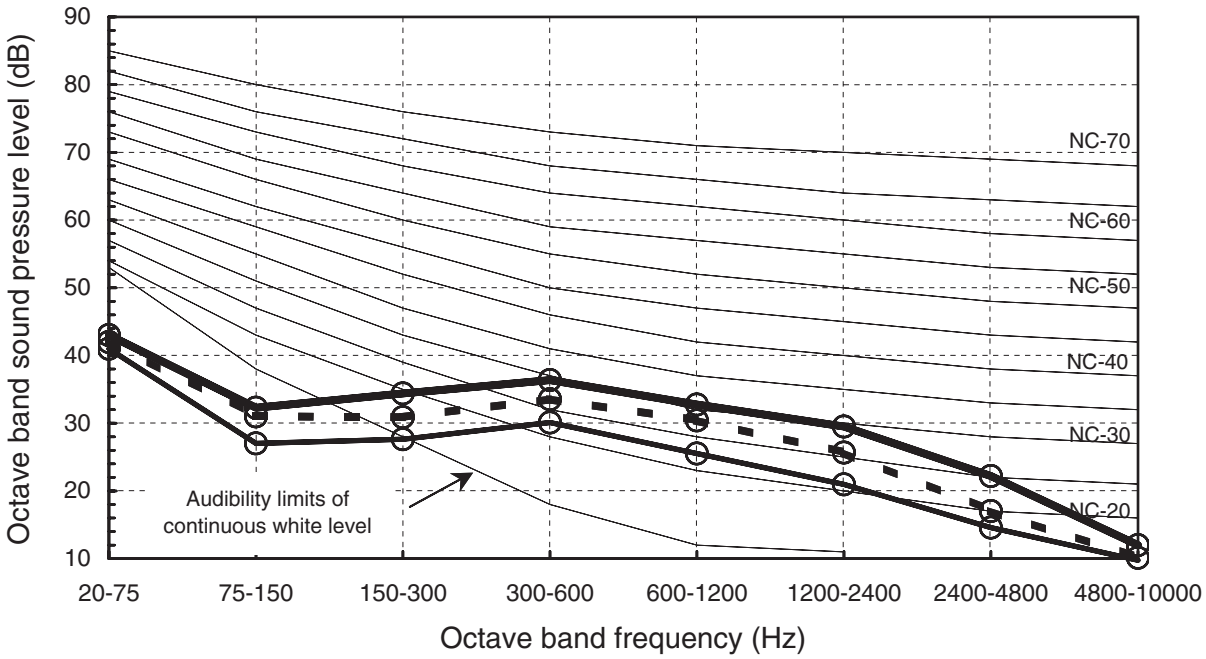
MMK-AP0072H

Fan tap	H	M	L
Sound pressure level (dB(A))	35	32	29



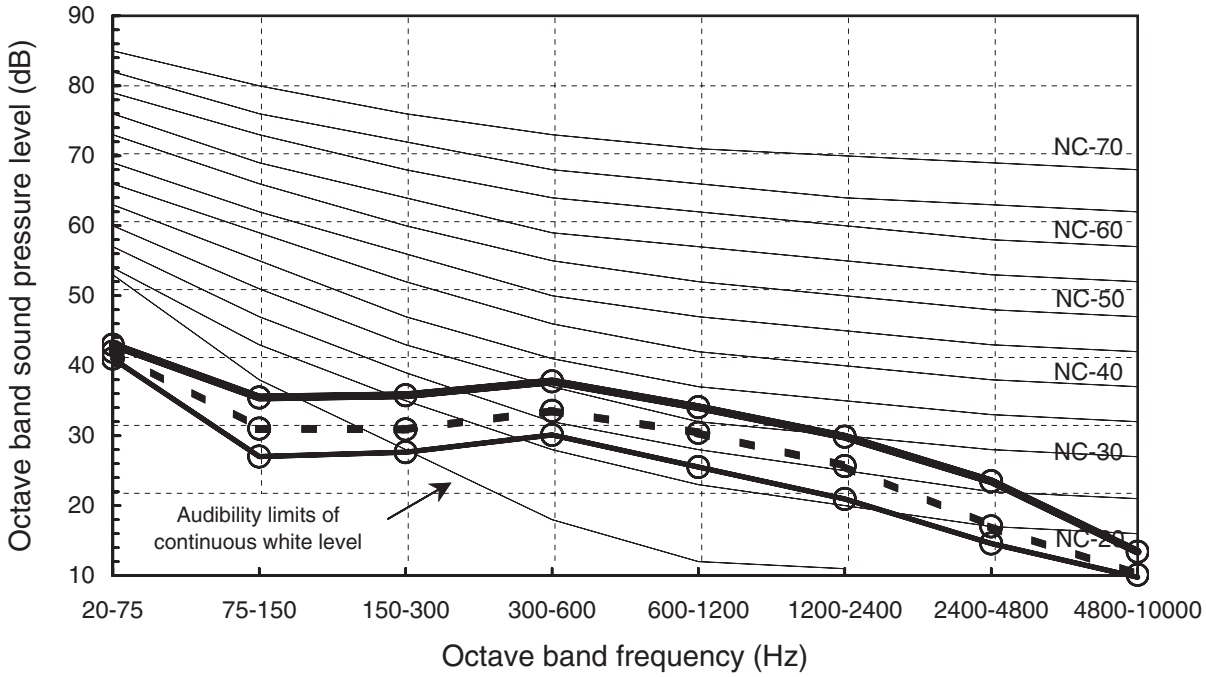
MMK-AP0092H

Fan tap	H	M	L
Sound pressure level (dB(A))	36	33	29

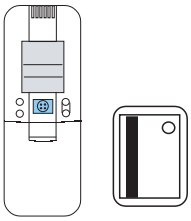
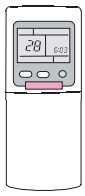


MMK-AP0122H

Fan tap	H	M	L
Sound pressure level (dB(A))	35	33	29



9. Wireless Remote controller

		High wall (1 series)		High Wall (2 series)		
		TCB-AX21E2(sold Separately)		WH-H2UE		
External View						
Function		Button	Contents	Button	Contents	Remarks
Start/Stop		Start/Stop	OK	START/STOP	OK	
Setting temp.	AUTO		17~27 °C		17~30 °C	
	COOL		18~30 °C		17~30 °C	
	DRY		18~30 °C		17~30 °C	
	HEAT		16~26 °C		17~30 °C	
Fahrenheit display		-	OK	-	-	No Fahrenheit display function
Air Volume Control			3-Speed, Auto	FAN	5-Speed, Auto	5-step control
Flap		Swing/Frap	OK	FIX	OK	
Swing				SWING	OK	
Operation select			Auto, Heat, Dry, Cool, Fan	MODE	Auto,Cool,Dry, Heat, Fan	No switch setting for cooling only
One-touch Auto		-	-	AUTO	One-touch Auto	One-touch auto (Auto mode, Setting temperature :22 °C, Air volume : Auto, Flap position : Auto, Swing : Off)
Preset mode		-	-	MEMO / PRESET	OK	Memorizing of setting contents for preset mode freely.
Clock		-	-	CLOCK	OK	
ON/OFF timer		SET	OFF timer, ON timer, Repeat timer, 30 minutes interval, max. 72 hours,	ON/OFF/SET	Clock display system, 10 minutes interval, max. 24 hours,	Available for ON / OFF working together
ECONO mode		-	-	ECO	OK	Sleep timer with ECO logic
Daily timer		-	-	ON/OFF/SET	OK	Setting both ON and OFF timer simultaneously and daily
Timer cancel		CL	OK		OK	-
High Power mode		-	-	Hi-POWER	OK	Automatic controls for quick cooling and heating
Filter reset		Filter reset	OK	FILTER	OK	-
Reset		Reset	OK	RESET	OK	-
Sensor button		SENSOR	OK	-	-	No remote controller sensor

(Note)
1. Automatic operation mode can not be accepted by heat pump system. If transmission is sent as auto mode, operation lamp and timer lamp of the indoor unit will light up with a beep as notification. In this case, change the other operation mode.
   (Heat recovery system can accept automatic operation by using this wireless remote controller.)
2. Group control using the wired remote controller (WH-H2UE) is not available. If it is incorrect action or display disagreement may occur.
3. A wired remote controller is required for the group control. (sold separately.)
4. When the wired remote controller is connected to this high wall unit, two remote control with the wireless remote controller (WH-H2UE) can be used. In this case, last-push priority control is performed.
5. When the unit is controlled in a group through a wired control, ECO-Timer and Hi-POWER operation will not function.

TOSHIBA

Oct. 05'

Engineering Data

1-way (2 series)
Air Discharge Cassette Type

Indoor Unit

MMU-AP0152SH
MMU-AP0182SH
MMU-AP0242SH

Contents

1. Specification

1-way (2 series) Air Discharge Cassette Type

50Hz

Model name			**MMU-**	**AP0152SH**	**AP0182SH**	**AP0242SH**
Cooling/Heating capacity			(kW)	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power supply			1 phase 50Hz 230V (220-240V)		
	Running current		(A)	0.34	0.37	0.62
	Power consumption		(kW)	0.042	0.046	0.075
	Starting current		(A)	0.51	0.54	0.80
Appearance	Main unit			Heat-insulating material attached Zinc hot dipping steel plate		
	Ceiling panel			RBC-US21PGE		
	Panel color			Moon white (Munsel 2.5GY9.0/0.5)		
Dimension	Main unit	Height	(mm)	200		
		Width	(mm)	1000		
		Depth	(mm)	710		
	Ceiling panel	Height	(mm)	20		
		Width	(mm)	1230		
		Depth	(mm)	800		
Total weight	Main unit		(kg)	21		22
	Ceiling panel		(kg)	5.5		
Heat exchanger				Finned tube		
Soundproof / Heat-insulating material				Polyethylene foam + Expanded polystyrene		
Fan				Centrifugal fan (Sirocco fan)		
Standard air flow	High		(m^3/h)	750	780	1140
	(Mid./Low)		(m^3/h)	690/630	720/660	960/810
Motor			(W)	30		
Air filter				Standard filter attached (Long life filter)		
Controller				Remote controller		
Connecting pipe	Gas pipe		(mm)	φ12.7		φ15.9
	Liquid pipe		(mm)	φ6.4		φ9.5
	Drain pipe (Nominal dia.mm)			25 (Polyvinyl chloride tube : External dia.32 Internal dia.25)		
Sound pressure level	High/Mid./Low		(dB(A))	37/35/32	38/36/34	45/41/37

1. Specification

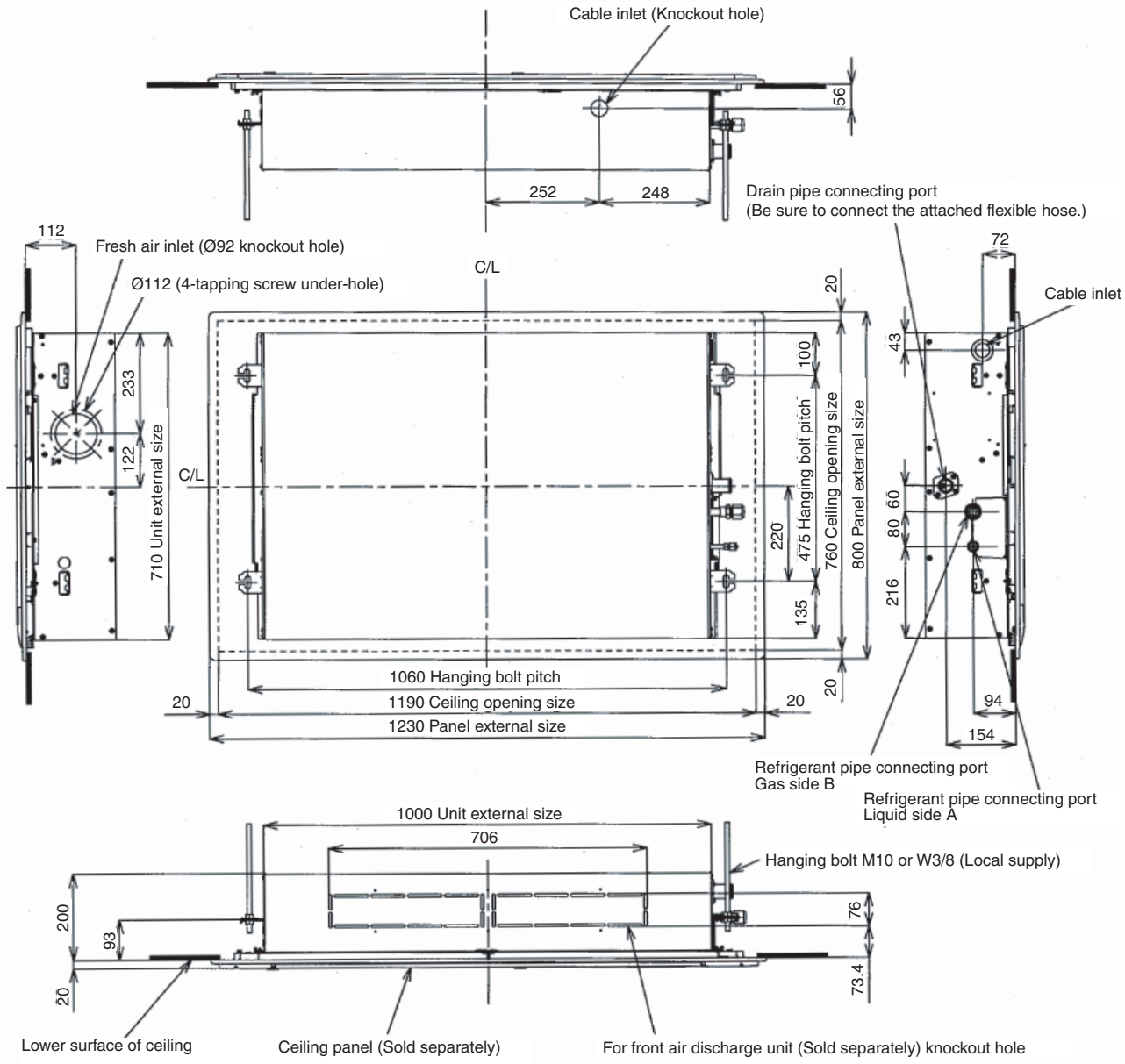
1-way (2 series) Air Discharge Cassette Type

60Hz

Model name			MMU-	AP0152SH	AP0182SH	AP0242SH
Cooling/Heating capacity			(kW)	4.5/5.0	5.6/6.3	7.1/8.0
Electrical characteristics	Power supply			1 phase 60Hz 220V		
	Running current		(A)	0.35	0.39	0.62
	Power consumption		(kW)	0.041	0.045	0.073
	Starting current		(A)	0.53	0.54	0.80
Appearance	Main unit			Heat-insulating material attached Zinc hot dipping steel plate		
	Ceiling panel			RBC-US21PGE		
	Panel color			Moon white (Munsel 2.5GY9.0/0.5)		
Dimension	Main unit	Height	(mm)	200		
		Width	(mm)	1000		
		Depth	(mm)	710		
	Ceiling panel	Height	(mm)	20		
		Width	(mm)	1230		
		Depth	(mm)	800		
Total weight	Main unit		(kg)	21		22
	Ceiling panel		(kg)	5.5		
Heat exchanger				Finned tube		
Soundproof / Heat-insulating material				Polyethylene foam + Expanded polystyrene		
Fan				Centrifugal fan (Sirocco fan)		
Standard air flow	High		(m^3/h)	750	780	1140
	(Mid./Low)		(m^3/h)	690/630	720/660	960/810
Motor			(W)	30		
Air filter				Standard filter attached (Long life filter)		
Controller				Remote controller		
Connecting pipe	Gas pipe		(mm)	φ12.7		φ15.9
	Liquid pipe		(mm)	φ6.4		φ9.5
	Drain pipe (Nominal dia.mm)			25 (Polyvinyl chloride tube : External dia.32 Internal dia.25)		
Sound pressure level	High/Mid./Low		(dB(A))	37/35/32	38/36/34	45/41/37

2. Dimensions

1-way (2 series) Air Discharge Cassette Type (MMU-AP***SH)



Model name MMU-	A	B
AP015, AP018 type	Ø6.4	Ø12.7
AP024 type	Ø9.5	Ø15.9

- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

3. Electrical current characteristics

1-way (2 series) Air Discharge Cassette Type

Type	Model	Nominal Voltage	Voltage Range		Fan Motor		Power Supply	
		(V-Ph-Hz)	Min	Max	kW	FLA	MCA	MOCP
S-MMS (50Hz)	MMU-AP0152SH	230-1-50	198	264	0.030	0.40	0.49	15
	MMU-AP0182SH	230-1-50	198	264	0.030	0.42	0.53	15
	MMU-AP0242SH	230-1-50	198	264	0.030	0.71	0.88	15
S-MMS (60Hz)	MMU-AP0152SH	220-1-60	198	264	0.030	0.40	0.50	15
	MMU-AP0182SH	220-1-60	198	264	0.030	0.45	0.57	15
	MMU-AP0242SH	220-1-60	198	264	0.030	0.75	0.94	15
S-HRM	MMU-AP0152SH	230-1-50	198	264	0.030	0.40	0.49	15
	MMU-AP0182SH	230-1-50	198	264	0.030	0.42	0.53	15
	MMU-AP0242SH	230-1-50	198	264	0.030	0.71	0.88	15

4. Sensible capacity table

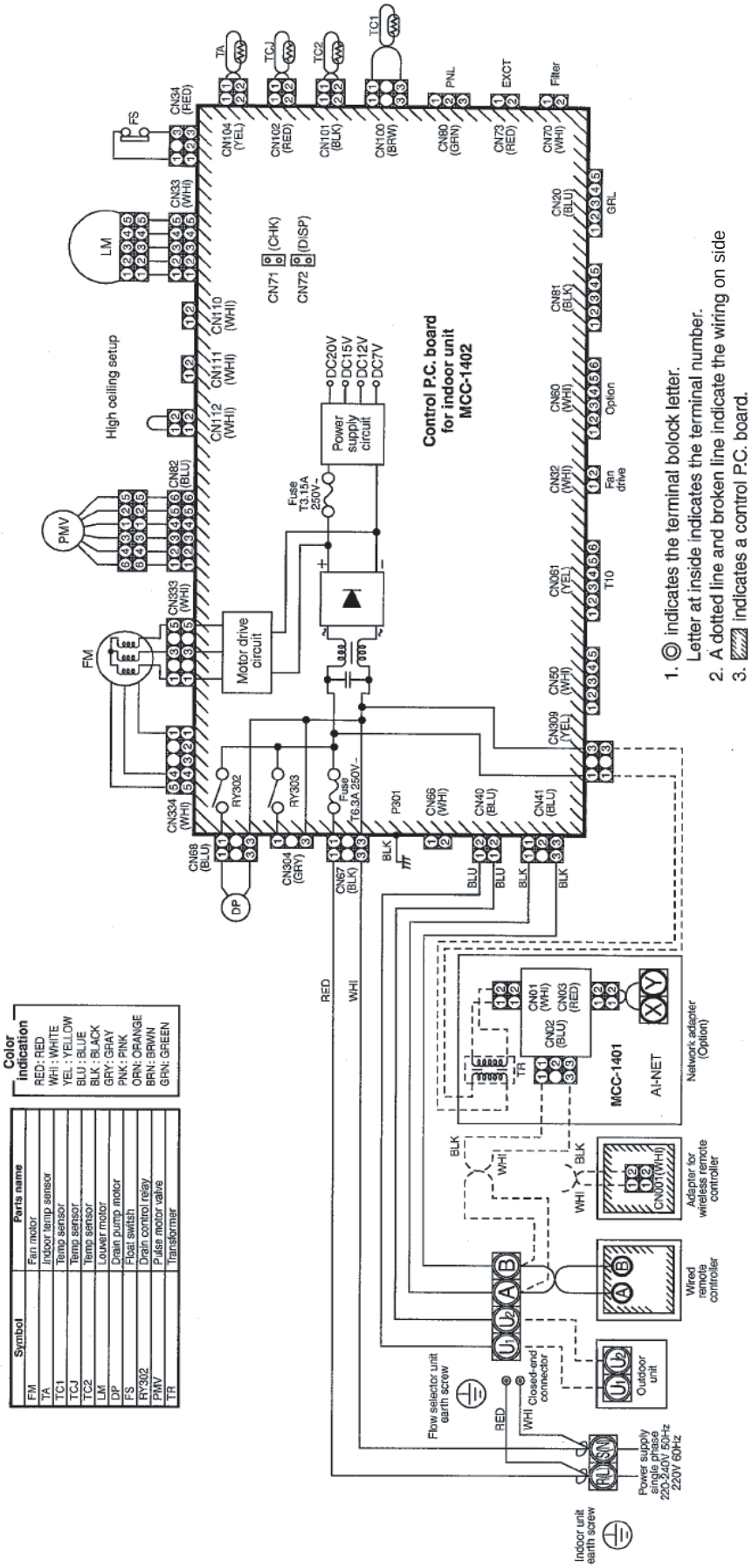
1-way (2 series) Air Discharge Cassette Type (MMU-AP***SH)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

Unit size	Outdoor air temp. CDB	Indoor air temp. 14.0CWB 20CDB TC	SHC	16.0CWB 23CDB TC	SHC	18.0CWB 26CDB TC	SHC	19.0CWB 27CDB TC	SHC	20.0CWB 28CDB TC	SHC	22.0CWB 30CDB TC	SHC	24.0CWB 32CDB TC	SHC
015	10.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	12.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	14.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	16.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	18.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	20.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	21.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	23.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	25.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	27.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	29.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	31.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	33.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	35.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	37.0	3.6	2.7	4.0	2.9	4.2	3.1	4.4	3.1	4.5	3.1	4.7	3.1	5.0	3.0
	39.0	3.5	2.7	3.8	2.8	4.1	3.0	4.2	3.0	4.4	3.0	4.6	3.0	4.8	2.9
018	10.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	12.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	14.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	16.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	18.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	20.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	21.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	23.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	25.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	27.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	29.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	31.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	33.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	35.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	37.0	4.5	3.3	4.9	3.6	5.3	3.8	5.4	3.8	5.6	3.8	5.9	3.7	6.2	3.7
	39.0	4.3	3.3	4.8	3.5	5.1	3.7	5.3	3.7	5.4	3.7	5.7	3.6	6.0	3.6
024	10.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	12.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	14.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	16.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	18.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	20.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	21.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	23.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	25.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	27.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	29.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	31.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	33.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	35.0	5.8	4.4	6.4	4.7	6.9	5.0	7.1	5.0	7.3	5.0	7.7	5.0	8.1	4.8
	37.0	5.6	4.3	6.2	4.6	6.7	4.9	6.9	4.8	7.1	4.8	7.5	4.8	7.8	4.7
	39.0	5.5	4.2	6.1	4.4	6.5	4.7	6.7	4.7	6.9	4.7	7.3	4.7	7.6	4.6

5. Wiring diagrams

1-way (2 series) Air Discharge Cassette Type (MMU-AP***SH)

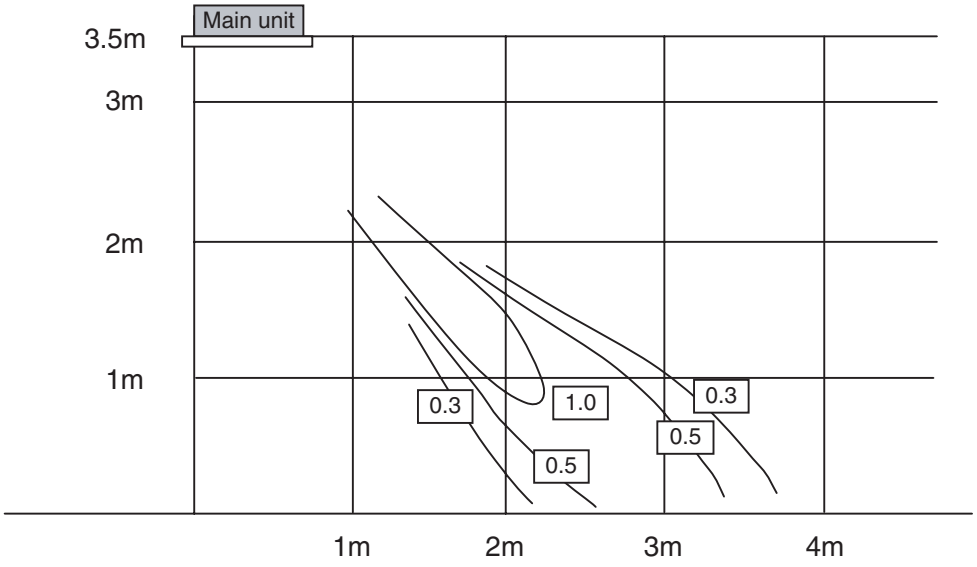


6. Air speed characteristics

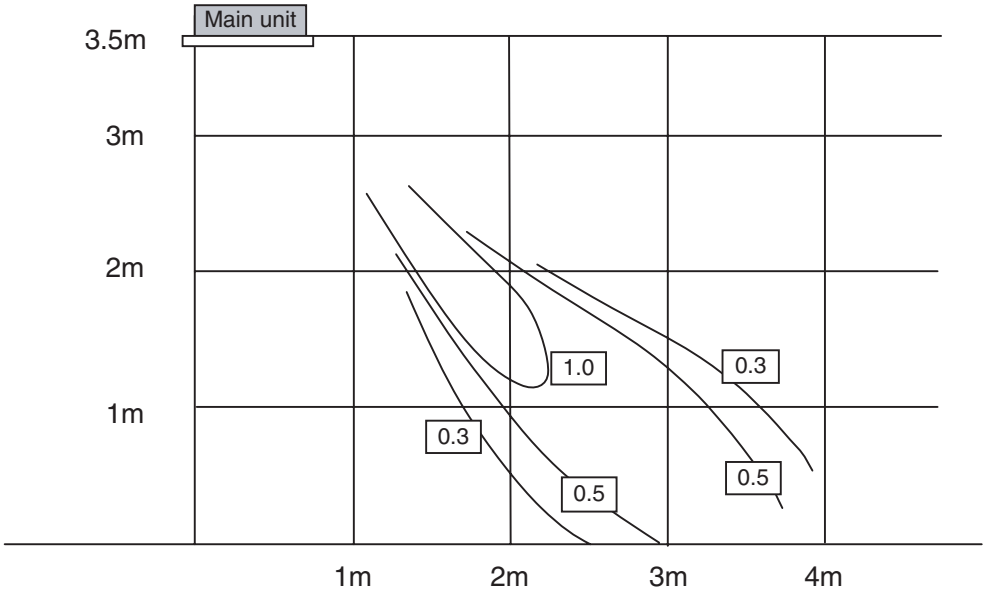
1-way (2 series) Air Discharge Cassette Type

Heating mode

MMU-AP0152SH, AP0182SH



MMU-AP0242SH

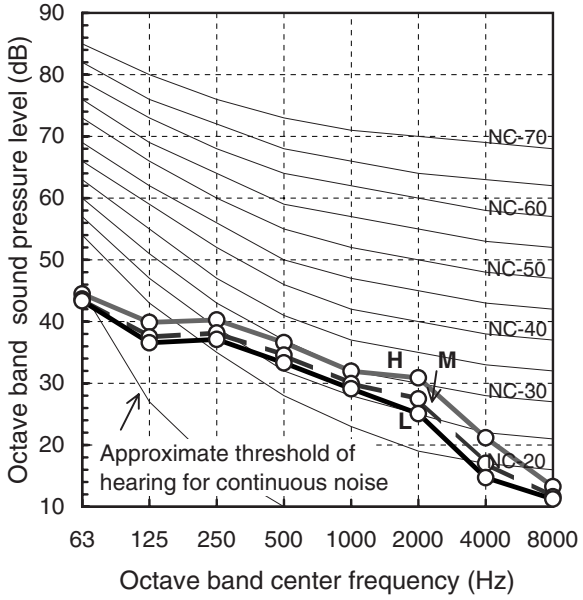


7. Sound Characteristics (NC Curve)

1-way (2 series) Air Discharge Cassette Type

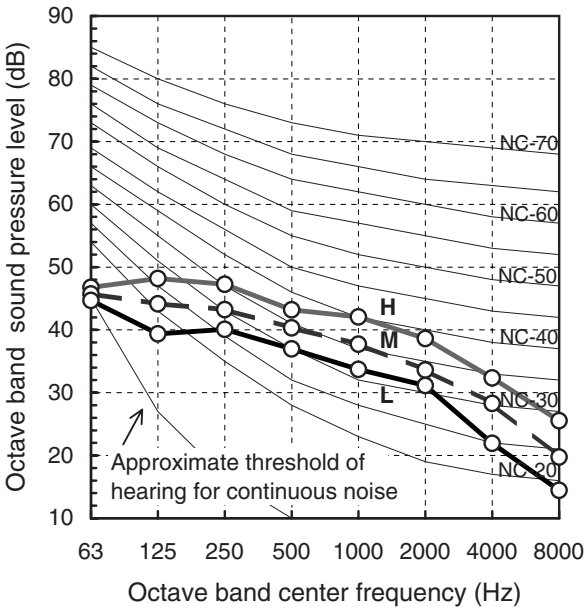
MMU-AP0152SH

Fan tap	H	M	L
Sound pressure level (dB(A))	37	35	32



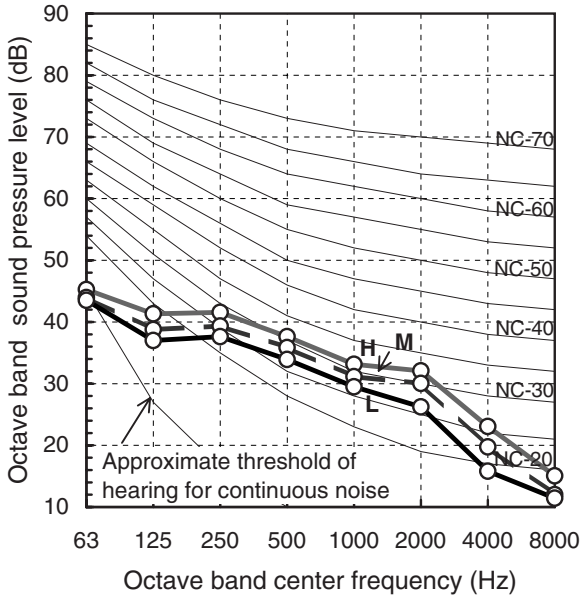
MMU-AP0242SH

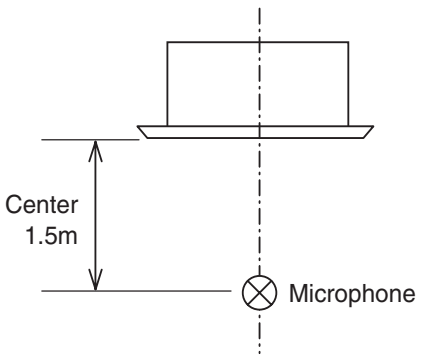
Fan tap	H	M	L
Sound pressure level (dB(A))	45	41	37



MMU-AP0182SH

Fan tap	H	M	L
Sound pressure level (dB(A))	38	36	34





8. Fresh air intake (Design guide)

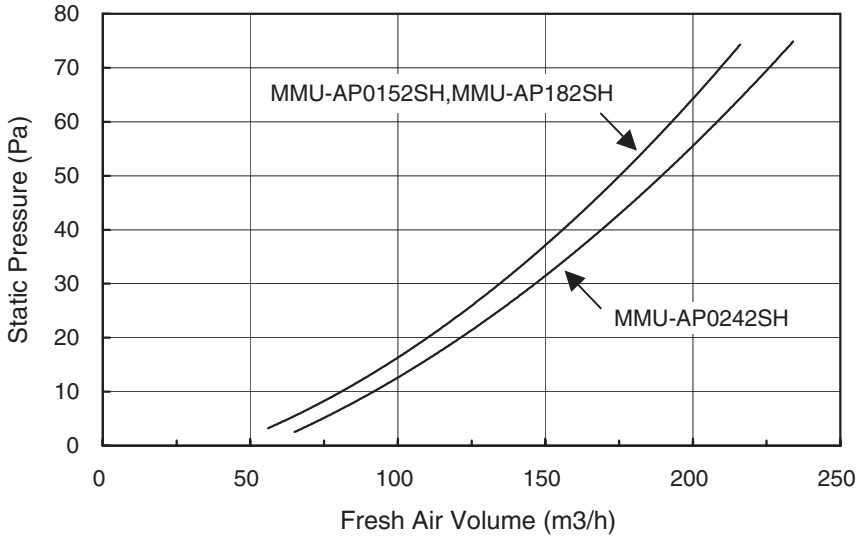
1-way (2 series) Air Discharge Cassette Type

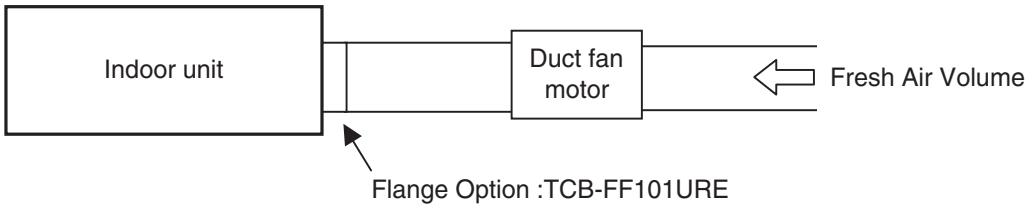
Caution

The fresh air shall be conditioned by a heat reclaim ventilator or similar.
Ensure the fresh air volume is determined so that mixed suction air and fresh air can maintain the operating temperature.
*1. Recommended conditioned air temperature is 12 °C to 30 °C.
However, Make a fresh air volume within 20% of standard.

Model name	MMU-	AP0152SH	AP0182SH	AP0242SH
Standard air flow	(m3/h)	750	780	1140

Install a filter within the fresh air duct.
(Fresh air does not pass through the filter of Indoor unit.)
Insulate the fresh air duct.
Electrically connect the fan of the Heat exchanger unit and the Indoor unit to a single isolator.





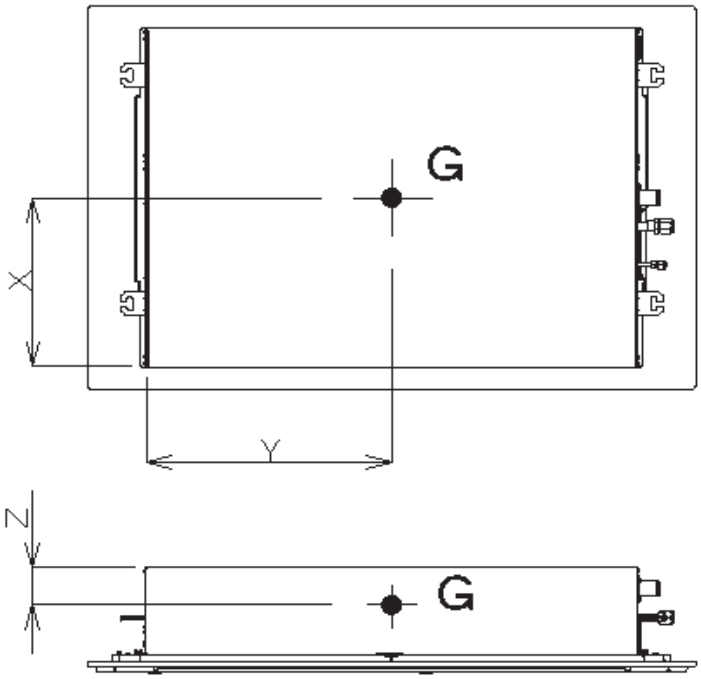
Inter - lock circuit

Connect the driving relay of the duct fan(DC 12V) between 1 and 6 on the indoor P.C. board.
(Rated current of the relay for duct fan should be up to 75mA.)
After installation, carry out a trial operation to check that the duct fan of the indoor unit start/stop simultaneously.
(Carry out the trial operation following the installation manual of the indoor unit.)

9. Units center of gravity

1-way (2 series) Air Discharge Cassette Type

Model name	X (mm)	Y (mm)	Z (mm)	Weight (kg)	
				Main unit	Ceiling panel
MMU-AP0152SH	370	475	80	20	5.5
MMU-AP0182SH					
MMU-AP0242SH				21	5.5



TOSHIBA

Oct. 05'

Engineering Data

Slim Duct Type

Indoor Unit

MMD-AP0071SPH
MMD-AP0091SPH
MMD-AP0121SPH
MMD-AP0151SPH
MMD-AP0181SPH

MMD-AP0071SPH (SH)-C
MMD-AP0091SPH (SH)-C
MMD-AP0121SPH (SH)-C
MMD-AP0151SPH (SH)-C
MMD-AP0181SPH (SH)-C

MMD-AP0071SPH-K
MMD-AP0091SPH-K
MMD-AP0121SPH-K
MMD-AP0151SPH-K
MMD-AP0181SPH-K

Contents

1. Specification

50Hz

Model name		**MMD-**	**AP0071SPH**	**AP0091SPH**	**AP0121SPH**	**AP0151SPH**	**AP0181SPH**
Cooling/Heating capacity		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3
Electrical characteristics	Power supply		1 phase 50Hz 230V (220-240V)				
	Running current	(A)	0.29	0.29	0.31	0.32	0.39
	Power consumption	(kW)	0.039	0.039	0.043	0.045	0.054
	Starting current	(A)	0.51	0.51	0.54	0.56	0.68
Appearance			Zinc hot dipping steel plate				
Dimension	Height	(mm)	210				
	Width	(mm)	845				
	Depth	(mm)	645				
Total weight		(kg)	22	22	22	23	23
Heat exchanger			Finned tube				
Soundproof / Heat-insulating material			Polyethylene foam + Polyurethane foam				
Fan			Centrifugal fan (Sirocco fan)				
Standard air flow	High	(m^3/h)	540		600	690	780
	(Mid./Low)	(m^3/h)	470/400		520/450	600/520	680/580
Motor		(W)	60				
External static pressure		(Pa)	6 (Factory setting) -16-31-46 4steps		5 (Factory setting) -15-30-45 4steps		4 (Factory setting) -14-29-44 4steps
	Air filter pressure loss	(Pa)	4		5		6
Controller			Remote controller				
Air filter			Standard filter supplied (Long life filter)				
Connecting pipe	Gas pipe	(mm)	φ9.5			φ12.7	
	Liquid pipe	(mm)	φ6.4				
	Drain pipe (Nominal dia.mm)		25 (Polyvinyl chloride tube : External dia.32 Internal dia.25)				
Sound pressure level High/Mid./Low	Under air inlet	(dB(A))	36/33/30		38/35/32	39/36/33	40/38/36
	Back air inlet	(dB(A))	28/26/24		29/27/25	32/30/28	33/3129
Sound power level		(dB(A))	51		53	54	55

* This sound pressure level is measured on the condition of Factory setting external static pressure.
* This sound pressure level are measured in an anechoic chamber in accordance with JIS B8616.

1. Specification

60Hz

Model name		**MMD-**	**AP0071SPH**	**AP0091SPH**	**AP0121SPH**	**AP0151SPH**	**AP0181SPH**
Cooling/Heating capacity		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3
Electrical characteristics	Power supply		1 phase 60Hz 220V				
	Running current	(A)	0.27	0.27	0.30	0.31	0.37
	Power consumption	(kW)	0.037	0.037	0.041	0.043	0.052
	Starting current	(A)	0.47	0.47	0.53	0.54	0.65
Appearance			Zinc hot dipping steel plate				
Dimension	Height	(mm)	210				
	Width	(mm)	845				
	Depth	(mm)	645				
Total weight		(kg)	22	22	22	23	23
Heat exchanger			Finned tube				
Soundproof / Heat-insulating material			Polyethylene foam + Polyurethane foam				
Fan			Centrifugal fan (Sirocco fan)				
Standard air flow	High	(m^3/h)	540		600	690	780
	(Mid./Low)	(m^3/h)	470/400		520/450	600/520	680/580
Motor		(W)	60				
External static pressure		(Pa)	6 (Factory setting) -16-31-46 4steps		5 (Factory setting) -15-30-45 4steps		4 (Factory setting) -14-29-44 4steps
	Air filter pressure loss	(Pa)	4		5		6
Controller			Remote controller				
Air filter			Standard filter supplied (Long life filter)				
Connecting pipe	Gas pipe	(mm)	φ9.5			φ12.7	
	Liquid pipe	(mm)	φ6.4				
	Drain pipe (Nominal dia.mm)		25 (Polyvinyl chloride tube : External dia.32 Internal dia.25)				
Sound pressure level High/Mid./Low	Under air inlet	(dB(A))	36/33/30		38/35/32	39/36/33	40/38/36
	Back air inlet	(dB(A))	28/26/24		29/27/25	32/30/28	33/31/29
Sound power level		(dB(A))	51		53	54	55

* This sound pressure level is measured on the condition of Factory setting external static pressure.
* This sound pressure level are measured in an anechoic chamber in accordance with JIS B8616.

1. Specification

China Model

Model name		**MMD-**	AP0071SPH-C	AP0091SPH-C	AP0121SPH-C	AP0151SPH-C	AP0181SPH-C
Cooling/Heating capacity		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3
Electrical characteristics	Power supply		1 phase 50Hz 220V				
	Running current	(A)	0.29	0.29	0.31	0.32	0.39
	Power consumption	(kW)	0.039	0.039	0.043	0.045	0.054
	Starting current	(A)	0.51	0.51	0.54	0.56	0.68
Appearance			Zinc hot dipping steel plate				
Dimension	Height	(mm)	210				
	Width	(mm)	845				
	Depth	(mm)	645				
Total weight		(kg)	22	22	22	23	23
Heat exchanger			Finned tube				
Soundproof / Heat-insulating material			Polyethylene foam + Polyurethane foam				
Fan			Centrifugal fan (Sirocco fan)				
Standard air flow	High	(m^3/h)	540		600	690	780
	(Mid./Low)	(m^3/h)	470/400		520/450	600/520	680/580
Motor		(W)	60				
External static pressure		(Pa)	10(factory setting)-20-35-50 4steps				
Controller			Remote controller				
Air filter			Field supply				
Connecting pipe	Gas pipe	(mm)	φ9.5			φ12.7	
	Liquid pipe	(mm)	φ6.4				
	Drain pipe (Nominal dia.mm)		25 (Polyvinyl chloride tube : External dia.32 Internal dia.25)				
Sound pressure level High/Mid./Low	Under air inlet	(dB(A))	36/33/30		38/35/32	39/36/33	40/38/36
	Back air inlet	(dB(A))	28/26/24		29/27/25	32/30/28	33/31/29

* This sound pressure level is measured on the condition of Factory setting external static pressure.
* This sound pressure level are measured in an anechoic chamber in accordance with JIS B8616.

1. Specification

China Model

Model name		**MMD-**	**AP0071SH-C**	**P0091SH-C**	**AP0121SH-C**	**AP0151SH-C**	**AP0181SH-C**
Cooling/Heating capacity		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3
Electrical characteristics	Power supply		1 phase 50Hz 220V				
	Running current	(A)	0.26	0.26	0.27	0.28	0.35
	Power consumption	(kW)	0.027	0.027	0.031	0.033	0.042
	Starting current	(A)	0.46	0.46	0.47	0.49	0.61
Appearance			Zinc hot dipping steel plate				
Dimension	Height	(mm)	210				
	Width	(mm)	845				
	Depth	(mm)	645				
Total weight		(kg)	22	22	22	23	23
Heat exchanger			Finned tube				
Soundproof / Heat-insulating material			Polyethylene foam + Polyurethane foam				
Fan			Centrifugal fan (Sirocco fan)				
Standard air flow	High	(m^3/h)	540		600	690	780
	(Mid./Low)	(m^3/h)	470/400		520/450	600/520	680/580
Motor		(W)	60				
External static pressure		(Pa)	10(factory setting)-20-35-50 4steps				
Controller			Remote controller				
Air filter			Field supply				
Connecting pipe	Gas pipe	(mm)	φ9.5			φ12.7	
	Liquid pipe	(mm)	φ6.4				
	Drain pipe (Nominal dia.mm)		20 (Polyvinyl chloride tube : External dia.26 Internal dia.20)				
Sound pressure level High/Mid./Low	Under air inlet	(dB(A))	36/33/30		38/35/32	39/36/33	40/38/36
	Back air inlet	(dB(A))	28/26/24		29/27/25	32/30/28	33/31/29

1. Specification

60Hz

Model name		**MMD-**	**AP0071SPH-K**	**AP0091SPH-K**	**AP0121SPH-K**	**AP0151SPH-K**	**AP0181SPH-K**
Cooling/Heating capacity		(kW)	2.2/2.5	2.8/3.2	3.6/4.0	4.5/5.0	5.6/6.3
Electrical characteristics	Power supply		1 phase 60Hz 220V				
	Running current	(A)	0.27	0.27	0.30	0.31	0.37
	Power consumption	(kW)	0.037	0.037	0.041	0.043	0.052
	Starting current	(A)	0.47	0.47	0.53	0.54	0.65
Appearance			Zinc hot dipping steel plate				
Dimension	Height	(mm)	210				
	Width	(mm)	845				
	Depth	(mm)	645				
Total weight		(kg)	22	22	22	23	23
Heat exchanger			Finned tube				
Soundproof / Heat-insulating material			Polyethylene foam + Polyurethane foam				
Fan			Centrifugal fan (Sirocco fan)				
Standard air flow	High	(m^3/h)	540		600	690	780
	(Mid./Low)	(m^3/h)	470/400		520/450	600/520	680/580
Motor		(W)	60				
External static pressure		(Pa)	6 (Factory setting) -16-31-46 4steps		5 (Factory setting) -15-30-45 4steps		4 (Factory setting) -14-29-44 4steps
	Air filter pressure loss	(Pa)	4		5		6
Controller			Remote controller				
Air filter			Standard filter supplied (Long life filter)				
Connecting pipe	Gas pipe	(mm)	φ9.5			φ12.7	
	Liquid pipe	(mm)	φ6.4				
	Drain pipe (Nominal dia.mm)		25 (Polyvinyl chloride tube : External dia.32 Internal dia.25)				
Sound pressure level High/Mid./Low	Under air inlet	(dB(A))	36/33/30		38/35/32	39/36/33	40/38/36
	Back air inlet	(dB(A))	28/26/24		29/27/25	32/30/28	33/31/29

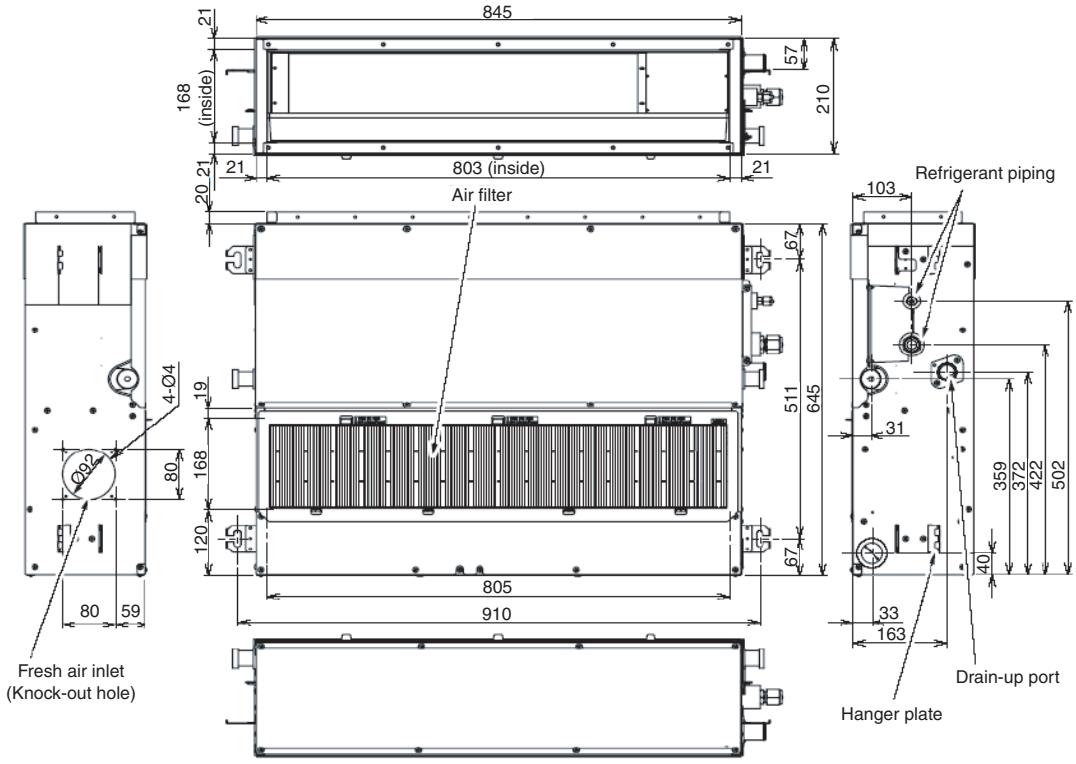
* This sound pressure level is measured on the condition of Factory setting external static pressure.
* This sound pressure level are measured in an anechoic chamber in accordance with JIS B8616.

2. Electrical current characteristics

Type	Model	Nominal Voltage	Voltage Range		Fan Motor		Power Supply	
		(V-Ph-Hz)	Min	Max	kW	FLA	MCA	MOCP
S-MMS (50Hz)	MMD-AP0071SPH	230-1-50	198	264	0.060	0.35	0.44	15
	MMD-AP0091SPH	230-1-50	198	264	0.060	0.35	0.44	15
	MMD-AP0121SPH	230-1-50	198	264	0.060	0.37	0.47	15
	MMD-AP0151SPH	230-1-50	198	264	0.060	0.38	0.48	15
	MMD-AP0181SPH	230-1-50	198	264	0.060	0.47	0.59	15
S-MMS (60Hz)	MMD-AP0071SPH	220-1-60	198	264	0.060	0.32	0.41	15
	MMD-AP0091SPH	220-1-60	198	264	0.060	0.32	0.41	15
	MMD-AP0121SPH	220-1-60	198	264	0.060	0.36	0.45	15
	MMD-AP0151SPH	220-1-60	198	264	0.060	0.37	0.47	15
	MMD-AP0181SPH	220-1-60	198	264	0.060	0.44	0.56	15
S-HRM	MMD-AP0071SPH	230-1-50	198	264	0.060	0.35	0.44	15
	MMD-AP0091SPH	230-1-50	198	264	0.060	0.35	0.44	15
	MMD-AP0121SPH	230-1-50	198	264	0.060	0.37	0.47	15
	MMD-AP0151SPH	230-1-50	198	264	0.060	0.38	0.48	15
	MMD-AP0181SPH	230-1-50	198	264	0.060	0.47	0.59	15

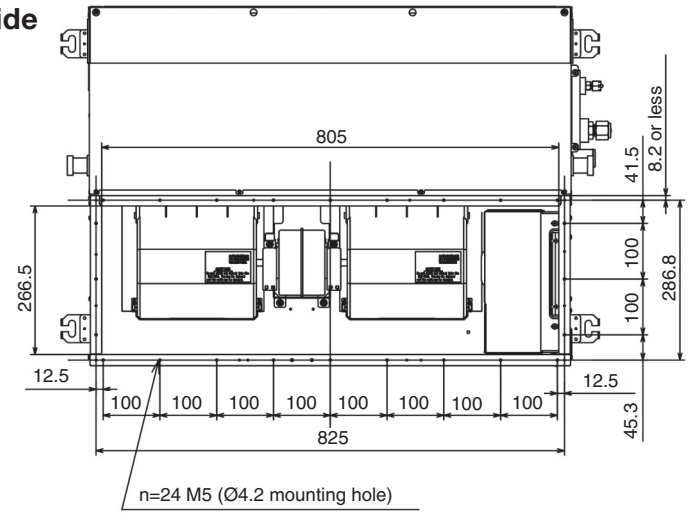
3. Dimensions

MMD-AP0071SPH(-K), AP0091SPH(-K), AP0121SPH(-K), AP0151SPH(-K), AP0181SPH(-K)

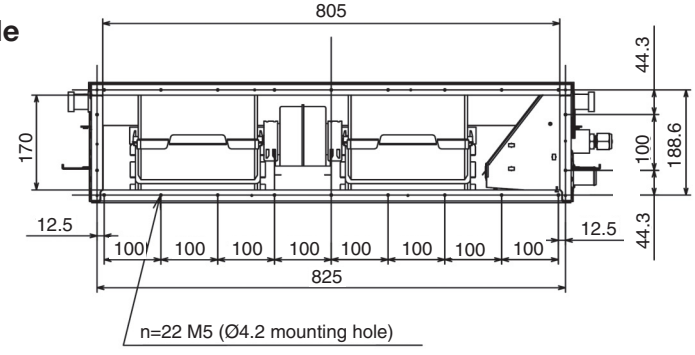


Air inlet connecting flange (Field supply)

Underside



Rearside

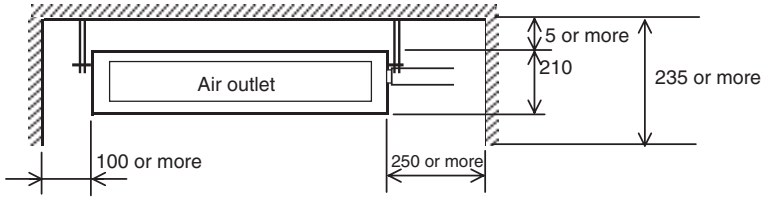


- **Wired remote controller**
  RBC-AMT21E
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

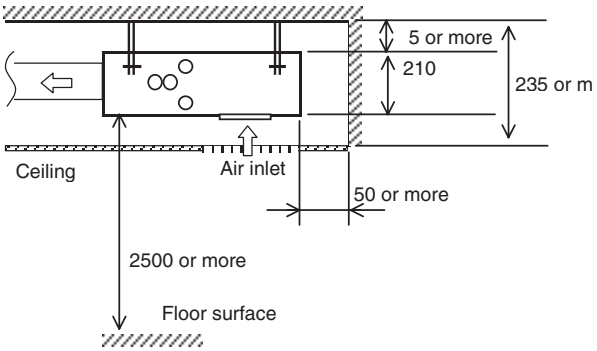
3. Dimensions

Installation space

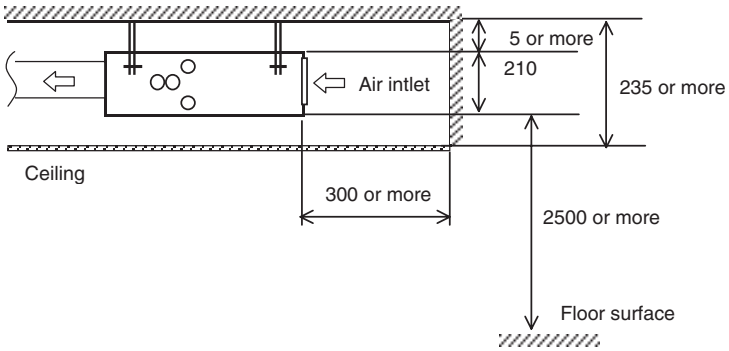
(length:mm)



Under air inlet

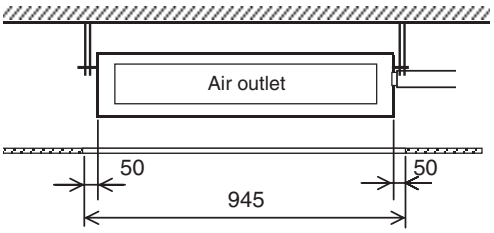


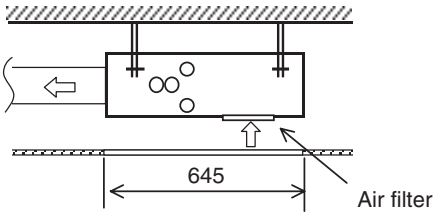
Rear air inlet

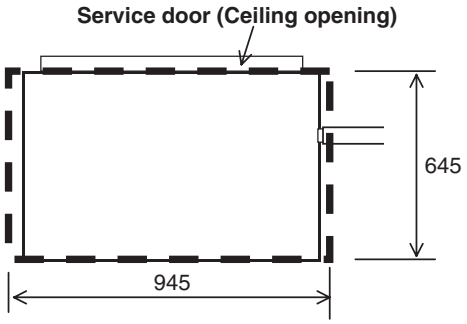


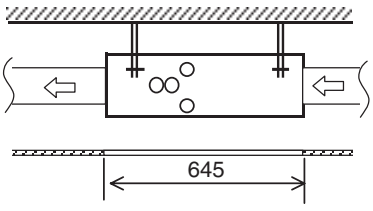
Service space

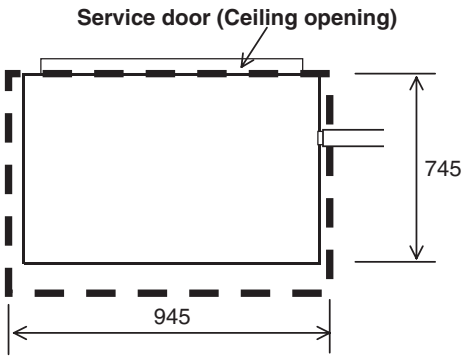
(length:mm)

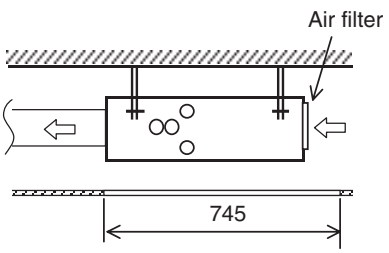






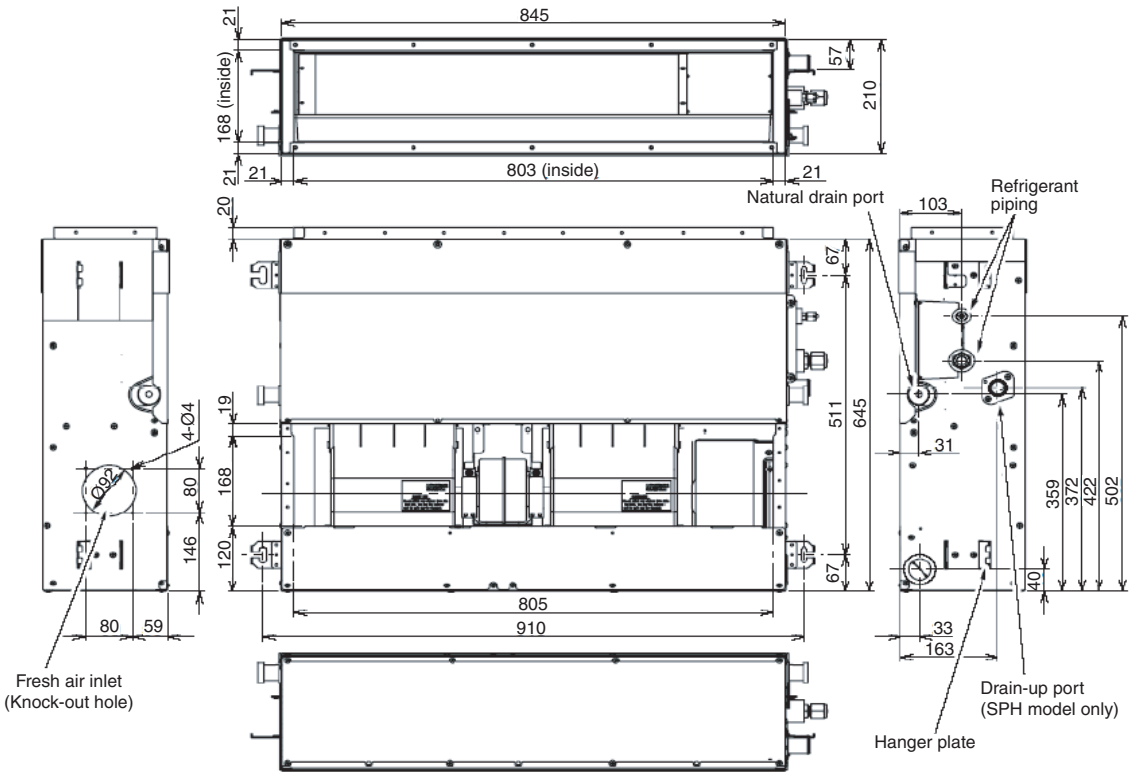






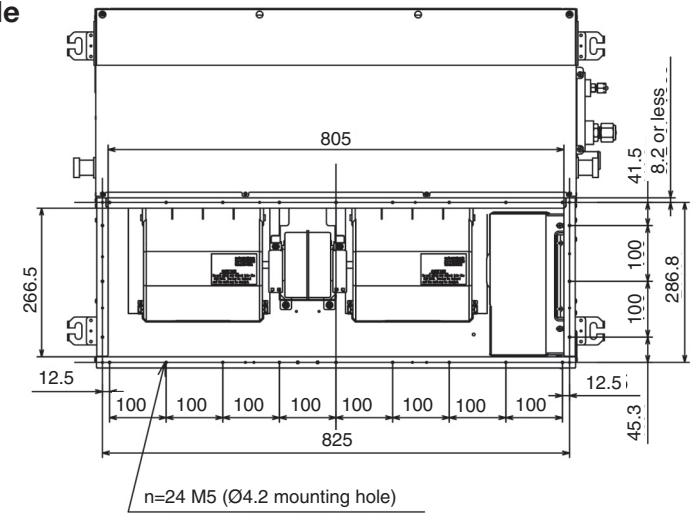
3. Dimensions

MMD-AP007SPH-C, AP0091SPH-C, AP0121SPH-C, AP0151SPH-C, AP0181SPH-C, MMD-AP0071SH-C, AP0091SH-C, AP0121SH-C, AP0151SH-C, AP0181SH-C

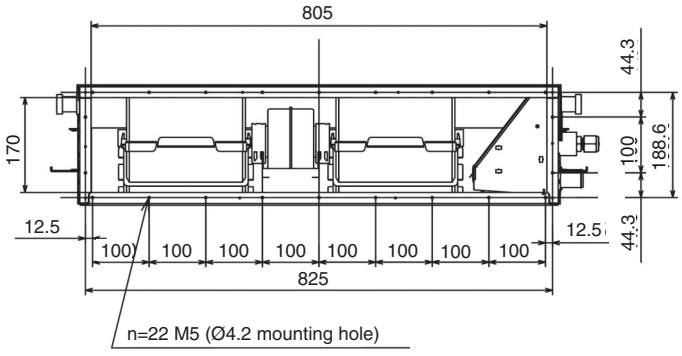


Air inlet connecting flange (Field supply)

Underside



Rearside



- **Wired remote controller**
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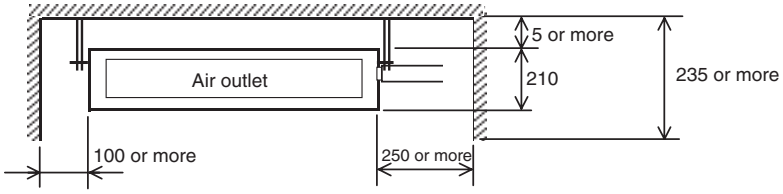
  RBC-AMT31E
- **Simple wired remote controller**
  RBC-AS21E
  RBC-AS21E2
- **Wireless remote controller kit**
  TCB-AX21E
  TCB-AX21E2
- **Weekly timer application**
  RBC-AMT31E and RBC-EXW21E2

3. Dimensions

Installation space

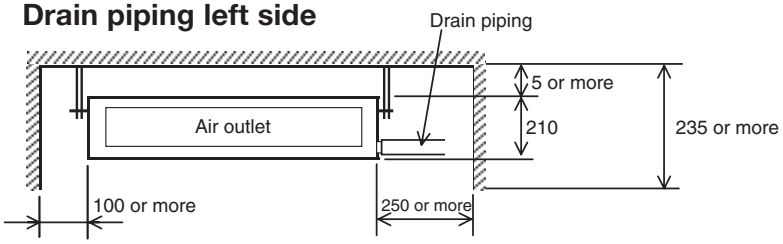
(length:mm)

MMD-AP0071SPH-C, MMD-AP0091SPH-C, MMD-AP0121SPH-C, MMD-AP0151SPH-C, MMD-AP0181SPH-C

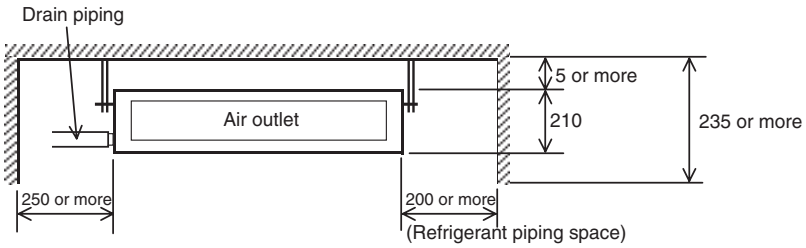


MMD-AP0071SH-C, MMD-AP0091SH-C, MMD-AP0121SH-C, MMD-AP0151SH-C, MMD-AP0181SH-C

Drain piping left side

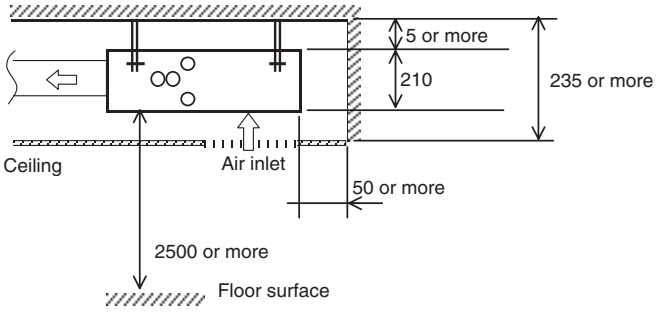


Drain pipng right side

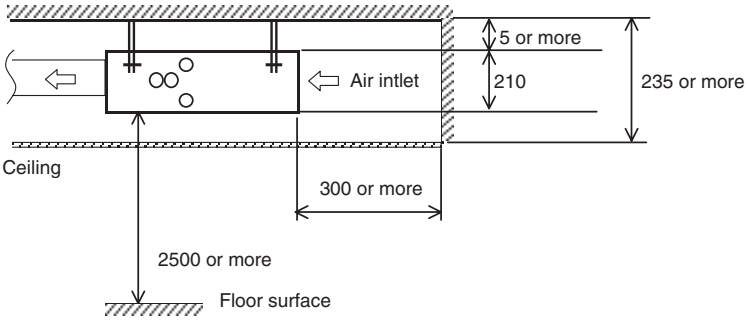


MMD-AP0071SPH-C, MMD-AP0091SPH-C, MMD-AP0121SPH-C, MMD-AP0151SPH-C, MMD-AP0181SPH-C
MMD-AP0071SH-C, MMD-AP0091SH-C, MMD-AP0121SH-C, MMD-AP0151SH-C, MMD-AP0181SH-C

Under air inlet



Rear air inlet

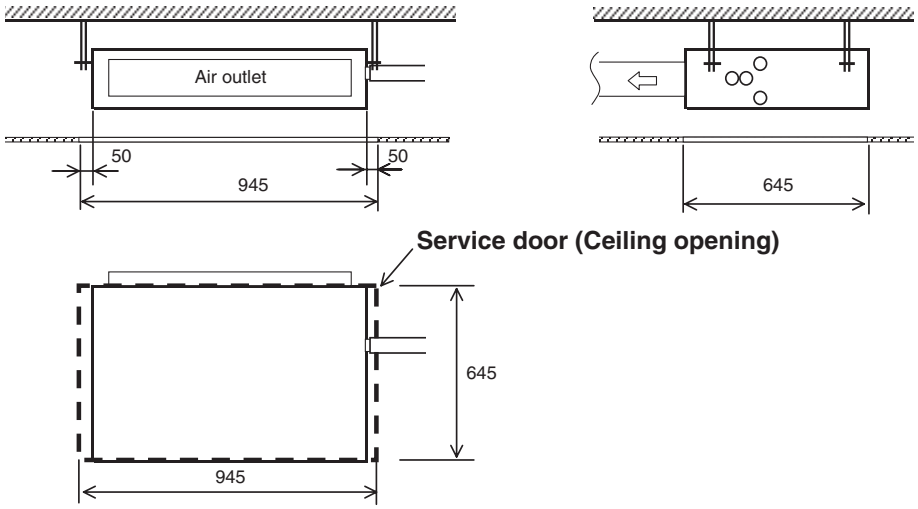


3. Dimensions

Service space

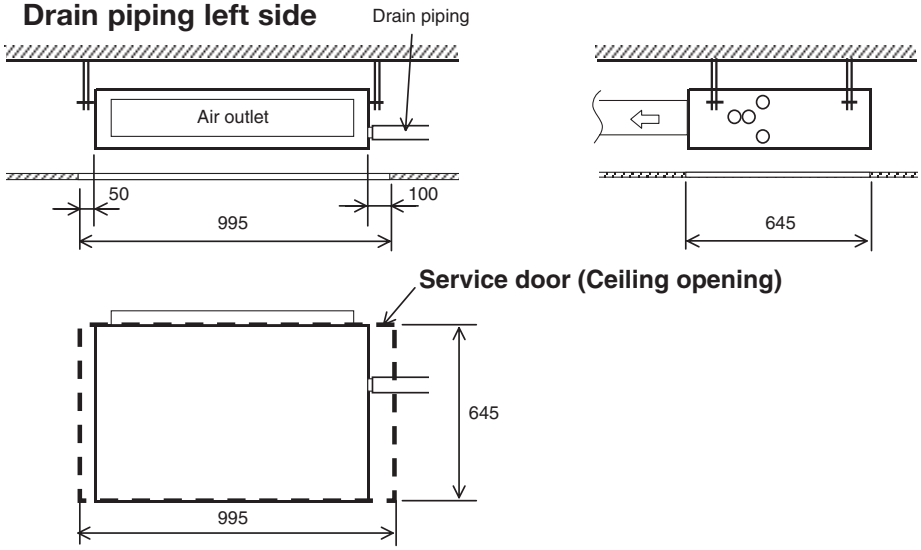
(length:mm)

MMD-AP0071SPH-C, MMD-AP0091SPH-C, MMD-AP0121SPH-C, MMD-AP0151SPH-C, MMD-AP0181SPH-C

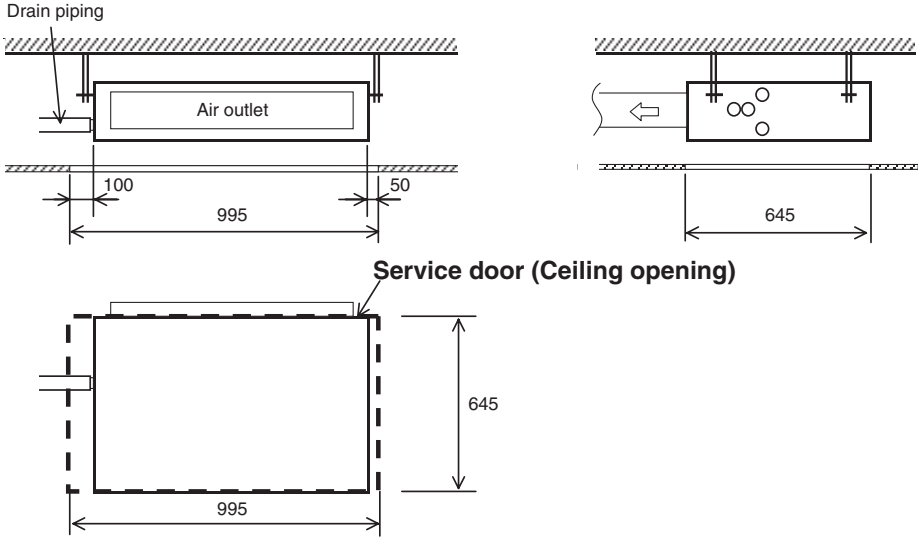


MMD-AP0071SH-C, MMD-AP0091SH-C, MMD-AP0121SH-C, MMD-AP0151SH-C, MMD-AP0181SH-C

Drain piping left side



Drain pipng right side



4. Sensible capacity table

Slim Duct Type (MMD-AP***SPH)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

Unit size	Outdoor air temp. CDB	Indoor air temp. 14.0CWB 20CDB TC	SHC	16.0CWB 23CDB TC	SHC	18.0CWB 26CDB TC	SHC	19.0CWB 27CDB TC	SHC	20.0CWB 28CDB TC	SHC	22.0CWB 30CDB TC	SHC	24.0CWB 32CDB TC	SHC
007	10.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	12.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	14.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	16.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	18.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	20.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	21.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	23.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	25.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	27.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	29.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	31.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	33.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	35.0	1.8	1.6	2.0	1.7	2.1	1.8	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.7
	37.0	1.7	1.5	1.9	1.6	2.1	1.7	2.1	1.7	2.2	1.7	2.3	1.7	2.4	1.7
	39.0	1.7	1.5	1.9	1.6	2.0	1.7	2.1	1.7	2.1	1.7	2.3	1.7	2.4	1.6
009	10.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	12.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	14.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	16.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	18.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	20.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	21.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	23.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	25.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	27.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	29.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	31.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	33.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	35.0	2.3	1.9	2.5	2.0	2.7	2.1	2.8	2.1	2.9	2.1	3.1	2.1	3.2	2.0
	37.0	2.2	1.8	2.5	1.9	2.6	2.0	2.7	2.0	2.8	2.0	3.0	2.0	3.1	2.0
	39.0	2.2	1.8	2.4	1.9	2.6	2.0	2.6	2.0	2.7	2.0	2.9	2.0	3.0	1.9
012	10.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	12.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	14.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	16.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	18.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	20.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	21.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	23.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	25.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	27.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	29.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	31.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	33.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	35.0	3.0	2.2	3.3	2.4	3.5	2.5	3.6	2.5	3.7	2.5	3.9	2.5	4.1	2.4
	37.0	2.9	2.1	3.2	2.3	3.4	2.4	3.5	2.4	3.6	2.4	3.8	2.4	4.0	2.3
	39.0	2.8	2.1	3.1	2.2	3.3	2.4	3.4	2.4	3.5	2.4	3.7	2.3	3.9	2.3

4. Sensible capacity table

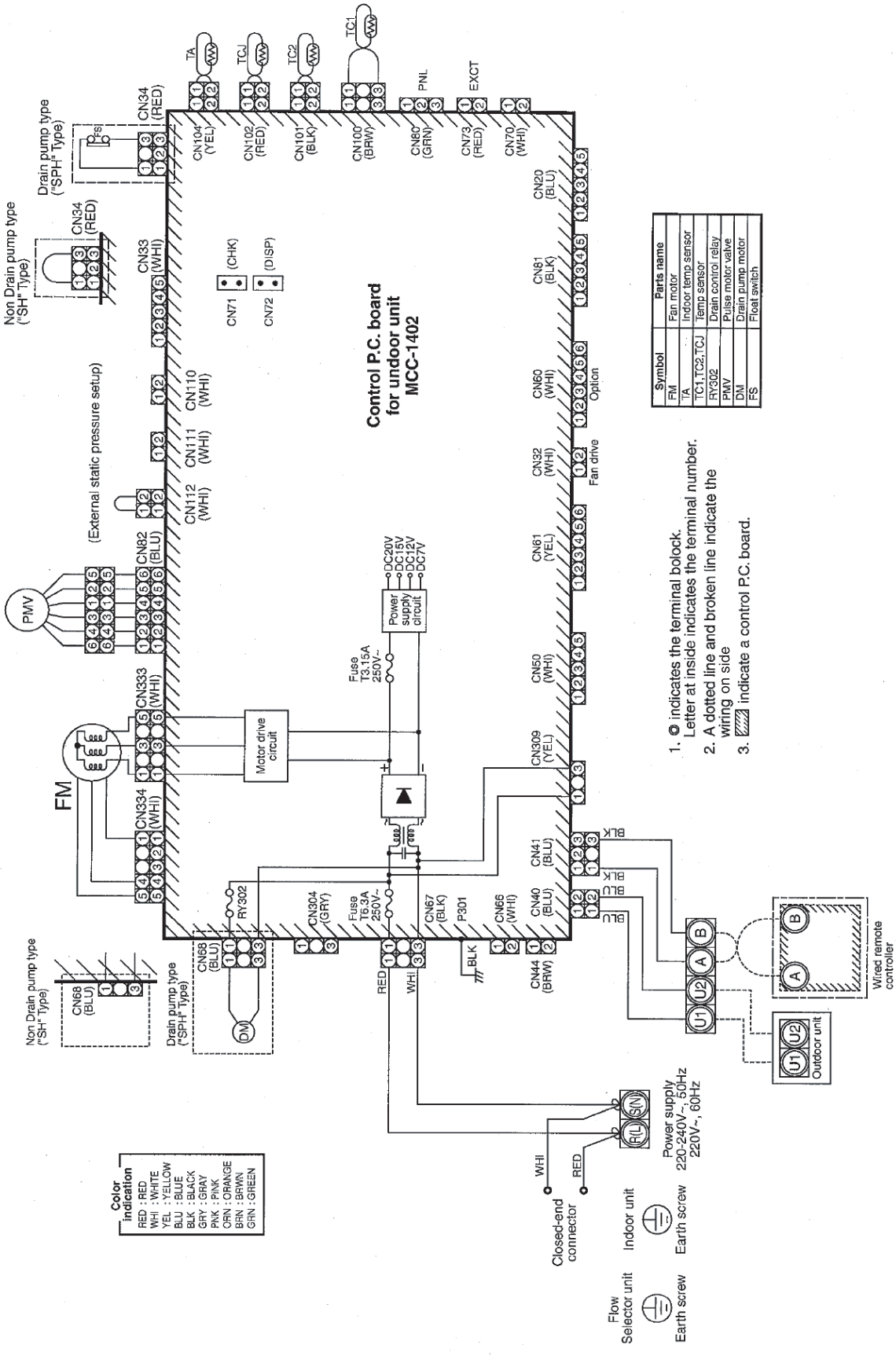
Slim Duct Type (MMD-AP***SPH)

TC : Total capacity [kW] SHC : Sensible capacity [kW]

Unit size	Outdoor air temp. CDB	Indoor air temp. 14.0CWB 20CDB TC	SHC	16.0CWB 23CDB TC	SHC	18.0CWB 26CDB TC	SHC	19.0CWB 27CDB TC	SHC	20.0CWB 28CDB TC	SHC	22.0CWB 30CDB TC	SHC	24.0CWB 32CDB TC	SHC
015	10.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	12.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	14.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	16.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	18.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	20.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	21.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	23.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	25.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	27.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	29.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	31.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	33.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	35.0	3.7	2.8	4.1	3.0	4.4	3.2	4.5	3.2	4.6	3.2	4.9	3.2	5.1	3.1
	37.0	3.6	2.7	4.0	2.9	4.2	3.1	4.4	3.1	4.5	3.1	4.7	3.1	5.0	3.0
	39.0	3.5	2.7	3.8	2.8	4.1	3.0	4.2	3.0	4.4	3.0	4.6	3.0	4.8	2.9
018	10.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	12.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	14.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	16.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	18.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	20.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	21.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	23.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	25.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	27.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	29.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	31.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	33.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	35.0	4.6	3.5	5.1	3.7	5.4	3.9	5.6	3.9	5.8	3.9	6.1	3.9	6.4	3.8
	37.0	4.5	3.3	4.9	3.6	5.3	3.8	5.4	3.8	5.6	3.8	5.9	3.7	6.2	3.7
	39.0	4.3	3.3	4.8	3.5	5.1	3.7	5.3	3.7	5.4	3.7	5.7	3.6	6.0	3.6

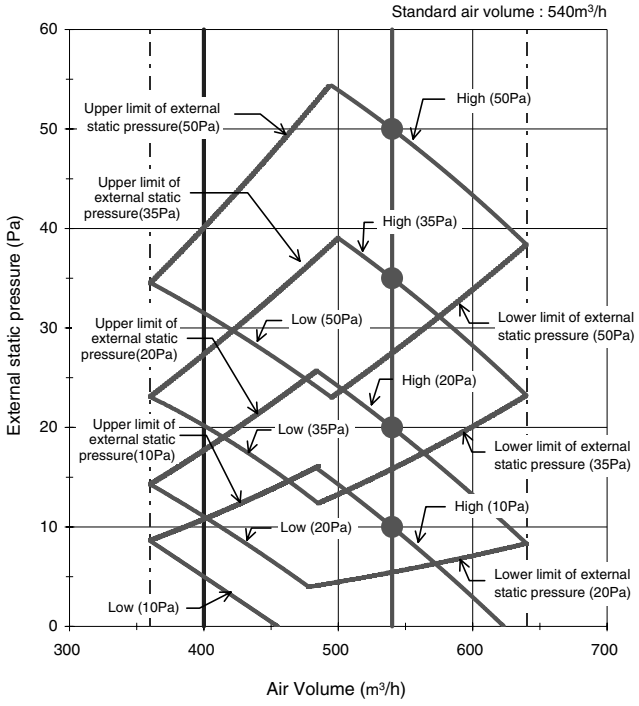
5. Wiring diagrams

MMD-AP0071SPH(SH), AP0091SPH(SH), AP0121SPH(SH), AP0151SPH(SH), AP0181SPH(SH)

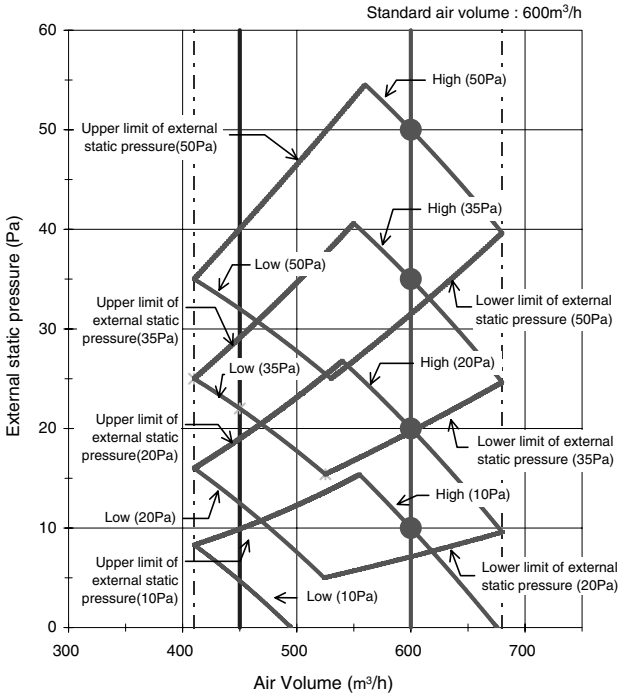


6. Fan characteristics

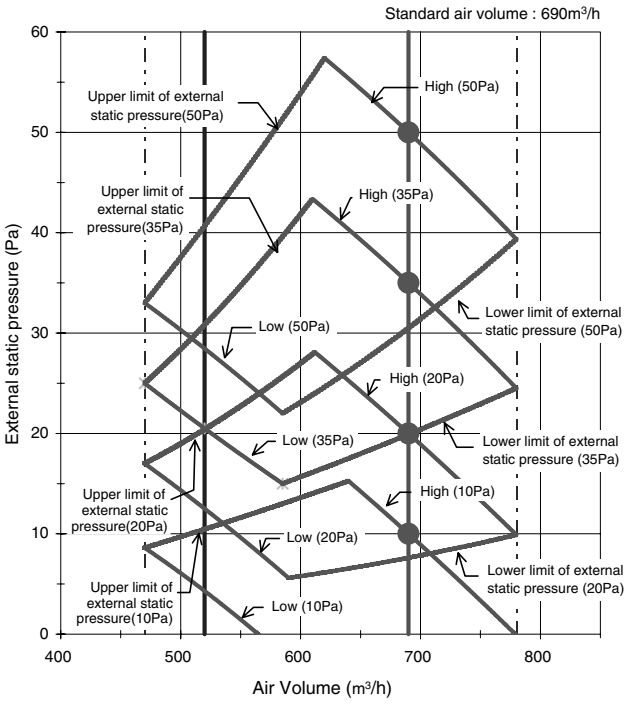
MMD-AP0071SPH
MMD-AP0091SPH



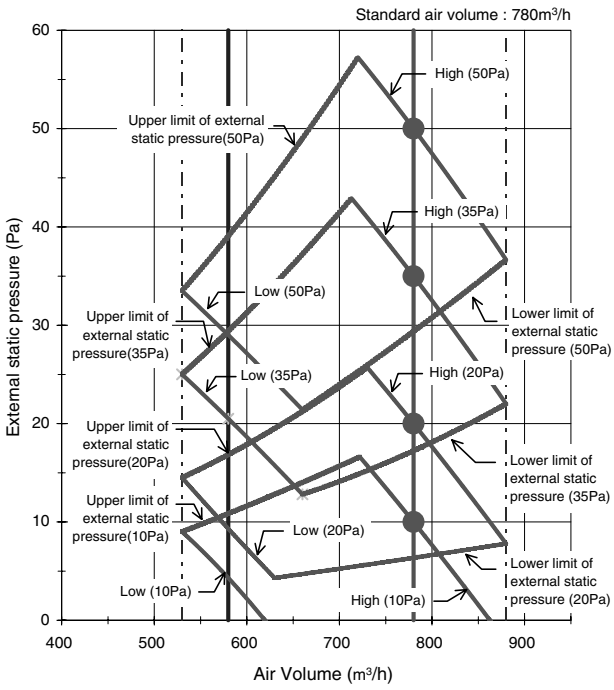
MMD-AP0121SPH



MMD-AP0151SPH



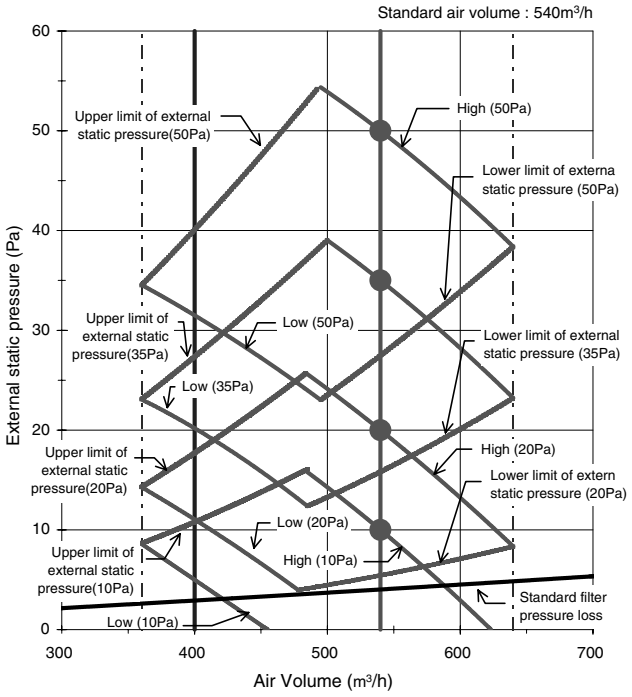
MMD-AP0181SPH



6. Fan characteristics

(Filter attached)

MMD-AP0071SPH
MMD-AP0091SPH



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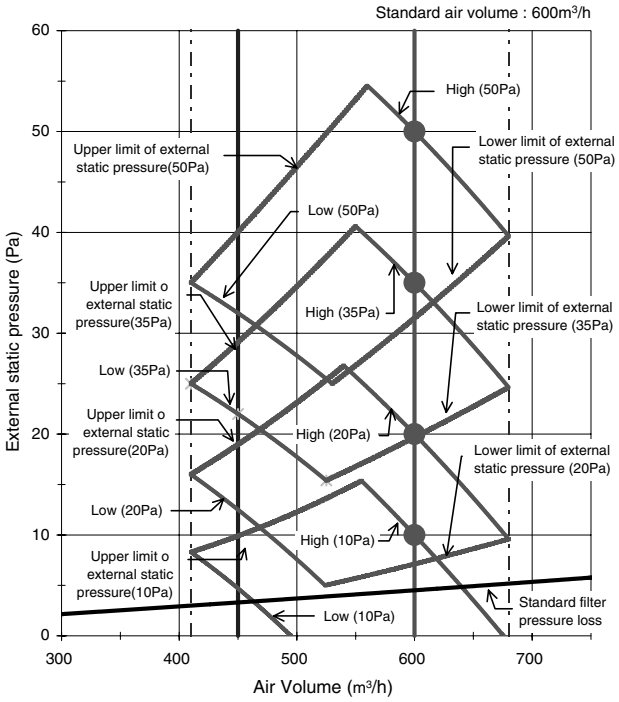

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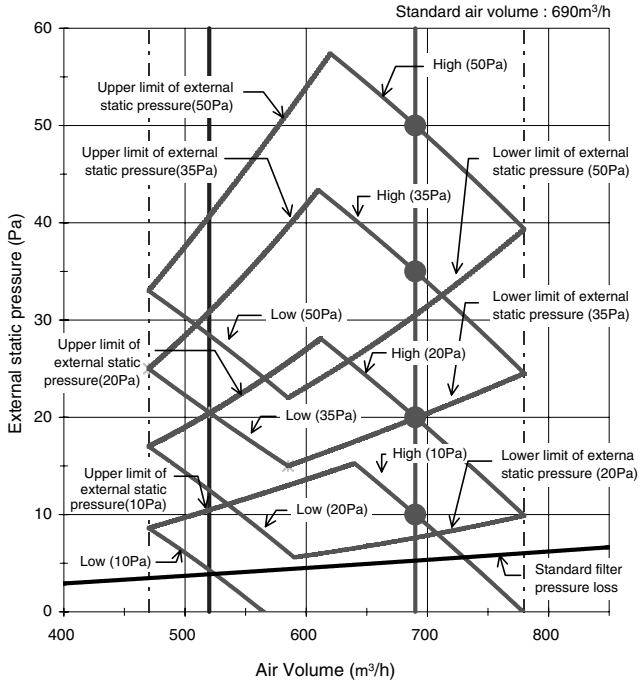
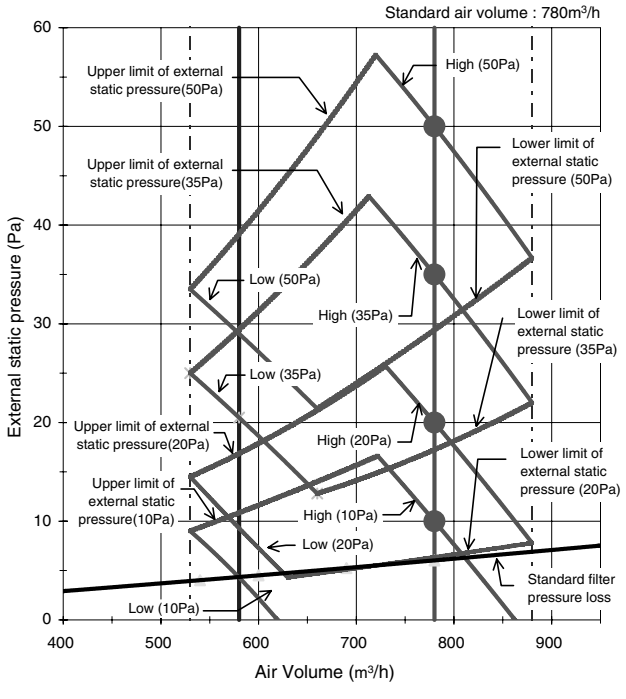


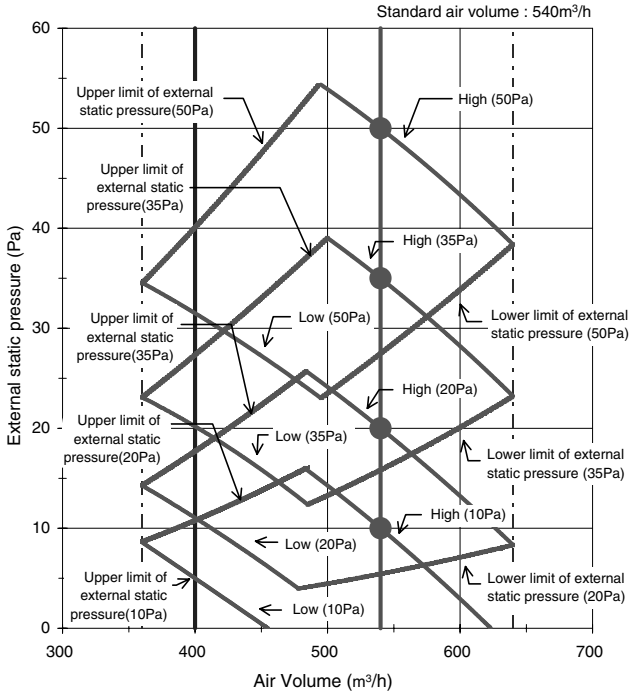
MMD-AP0181SPH



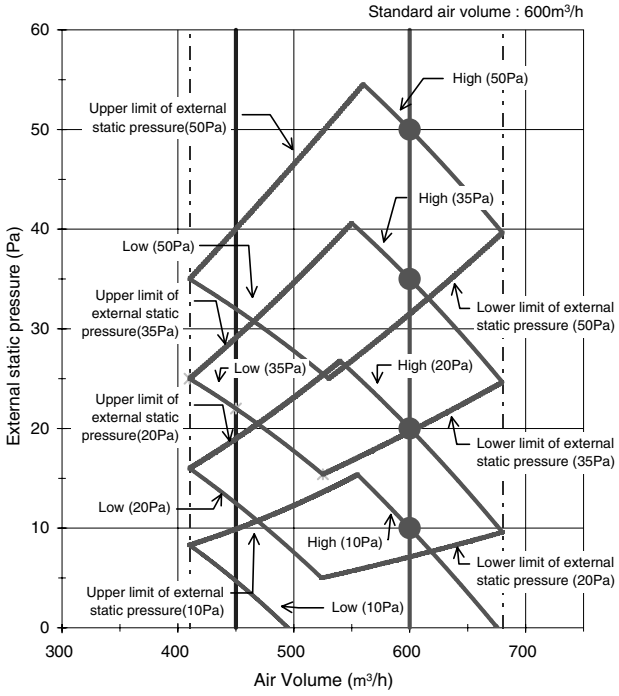
6. Fan characteristics

CHINA model (Filter attached)

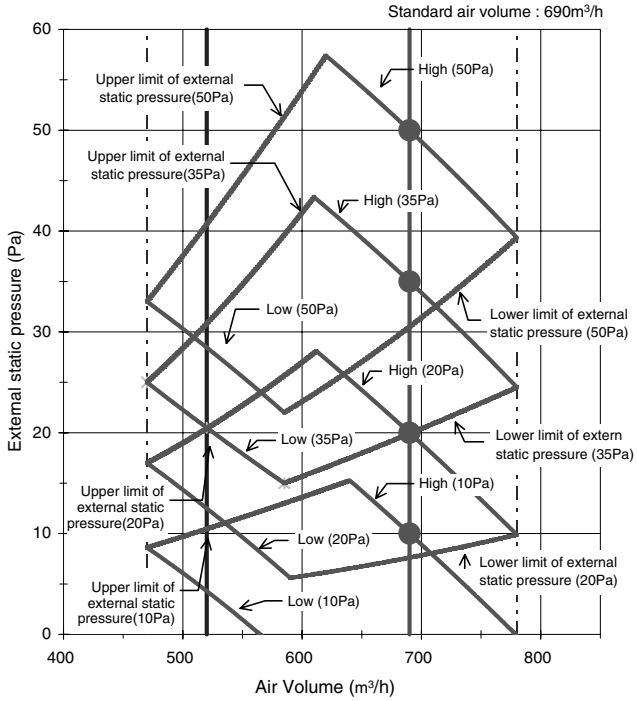
MMD-AP0071SPH-C, SH-C
MMD-AP0091SPH-C, SH-C



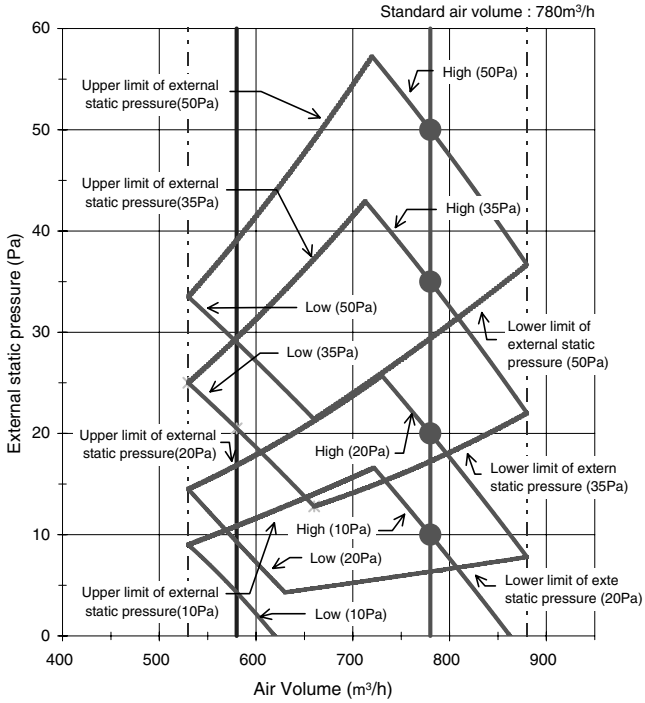
MMD-AP0121SPH-C, SH-C



MMD-AP0151SPH-C, SH-C



MMD-AP0181SPH-C, SH-C

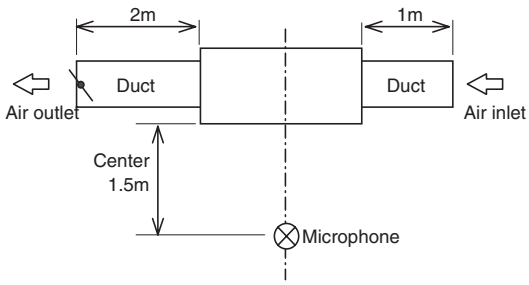


7. Sound Characteristics (NC Curve)

MMD-AP0071SPH/SH ,
MMD-AP0091SPH/SH

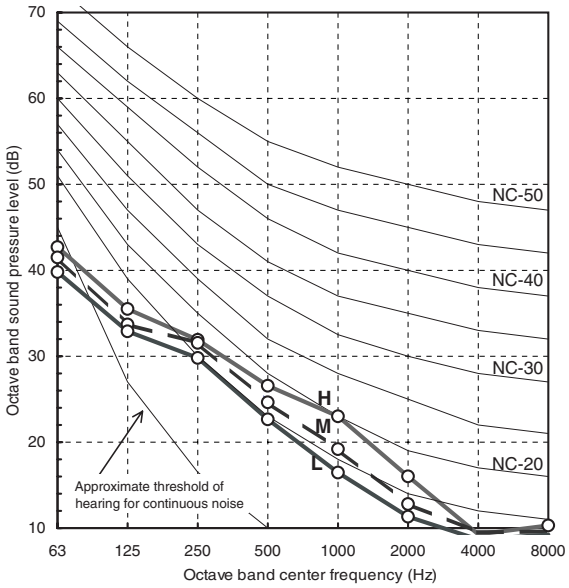
Measuring location

Rear air intake



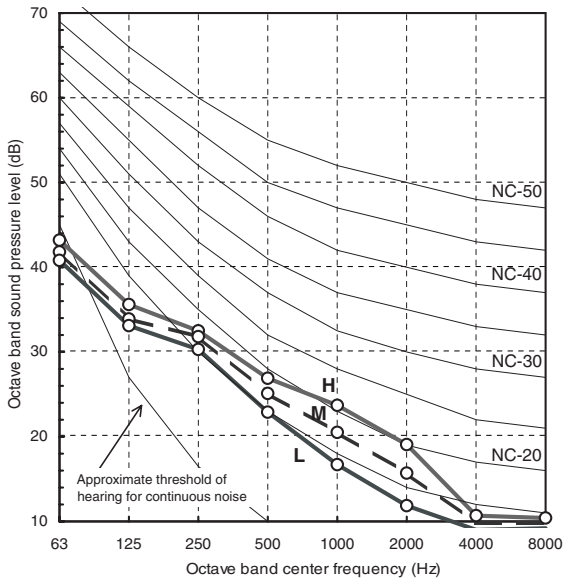
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	28	26	24



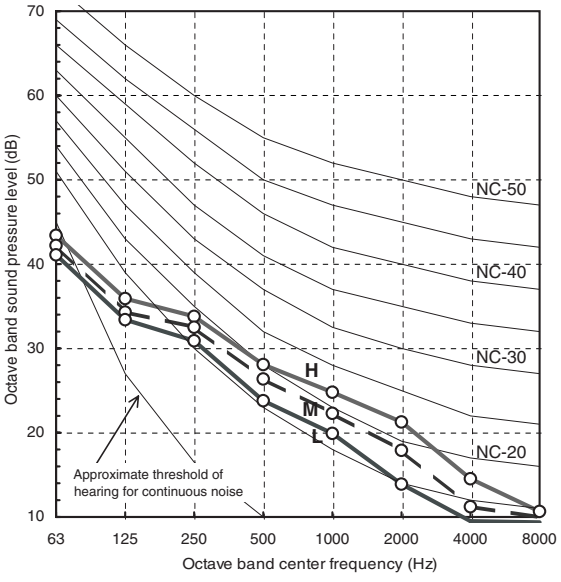
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	29	27	25



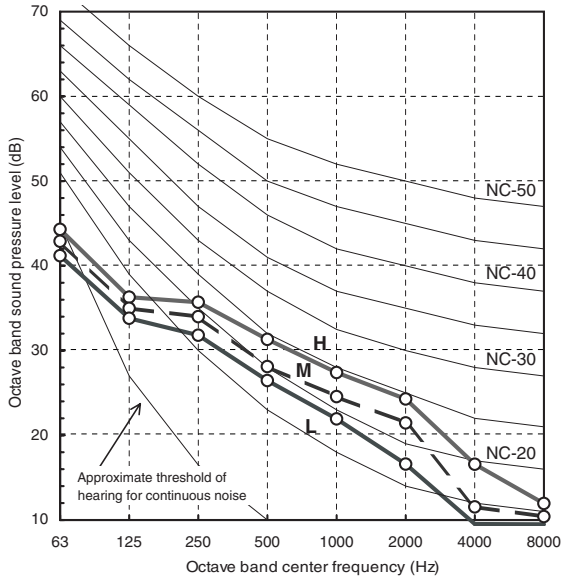
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	30	28	26



External static pressure 50Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	32	29	27

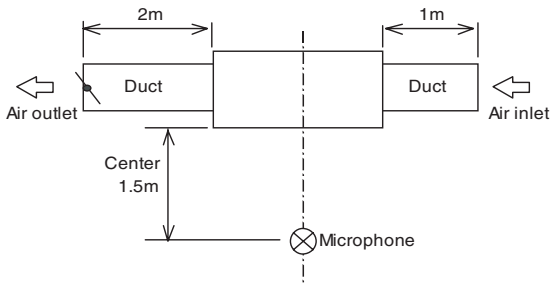


7. Sound Characteristics (NC Curve)

MMD-AP0121SPH/SH

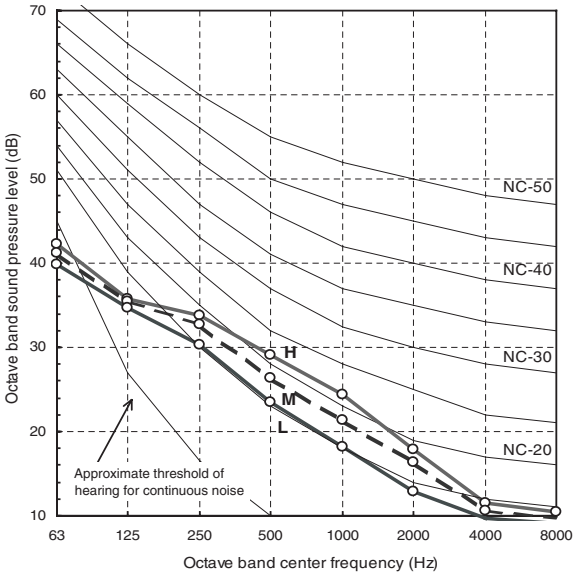
Measuring location

Rear air intake



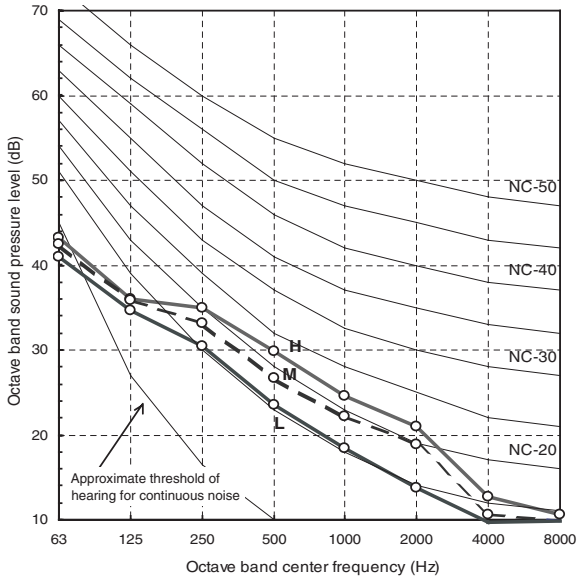
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	29	27	25



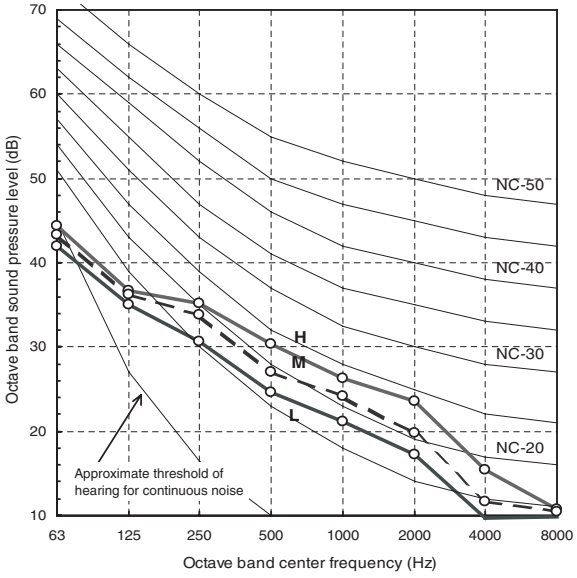
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	30	28	26



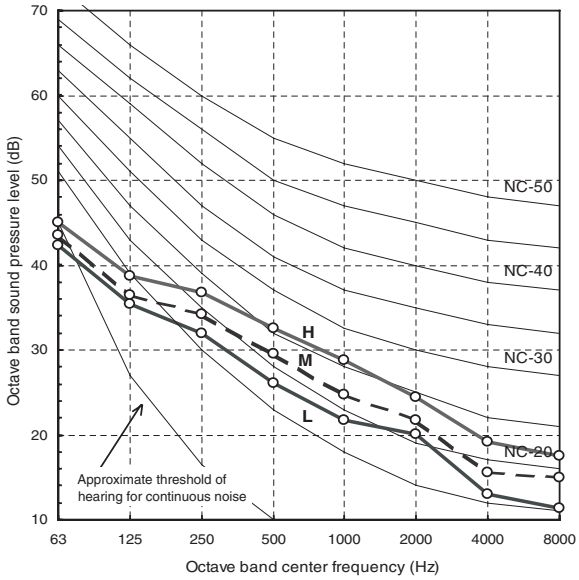
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	31	29	27



External static pressure 50Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	32	30	28

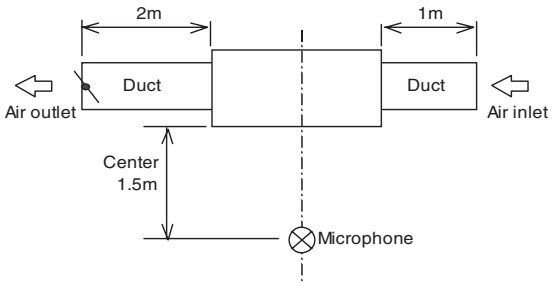


7. Sound Characteristics (NC Curve)

MMD-AP0151SPH/SH

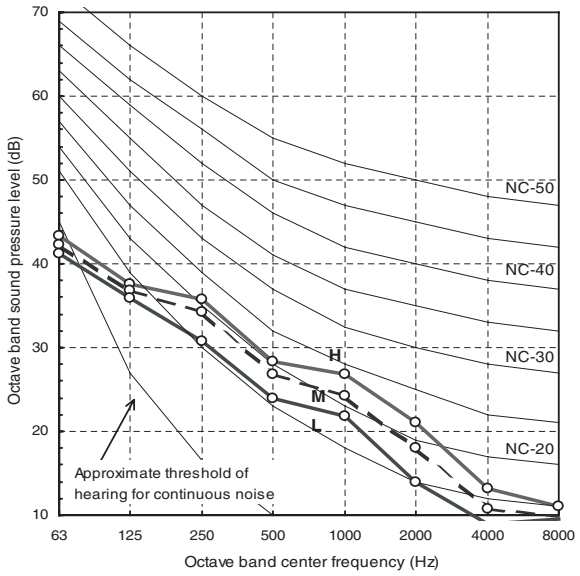
Measuring location

Rear air intake



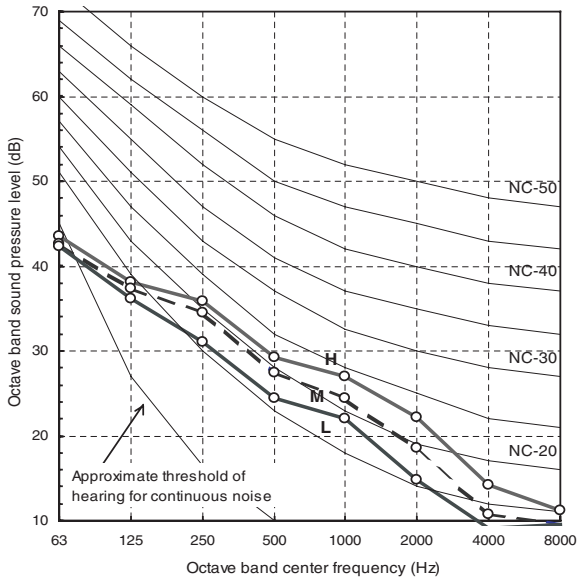
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	32	30	28



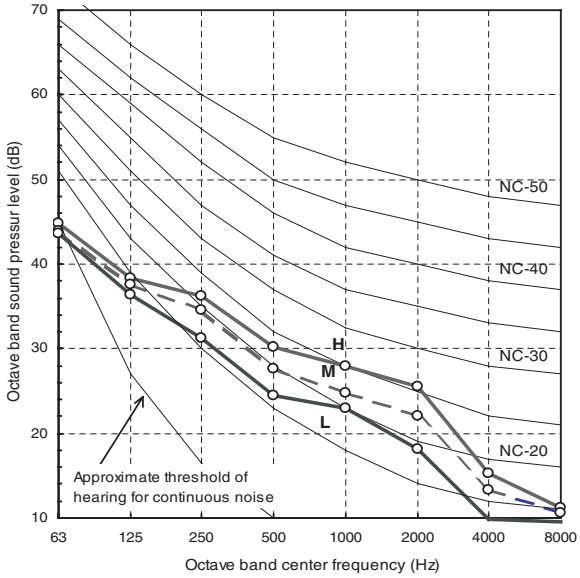
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	33	31	29



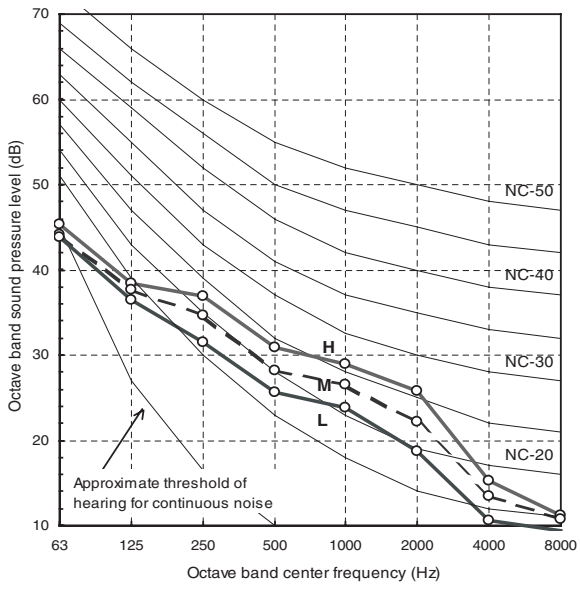
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	34	32	30



External static pressure 50Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	35	33	31

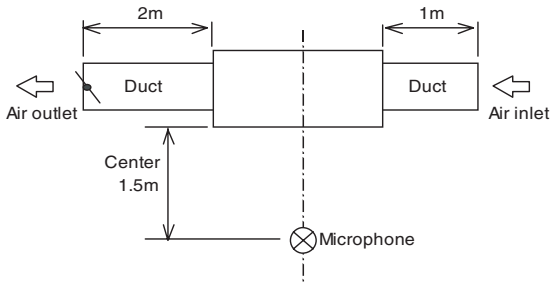


7. Sound Characteristics (NC Curve)

MMD-AP0181SPH/SH

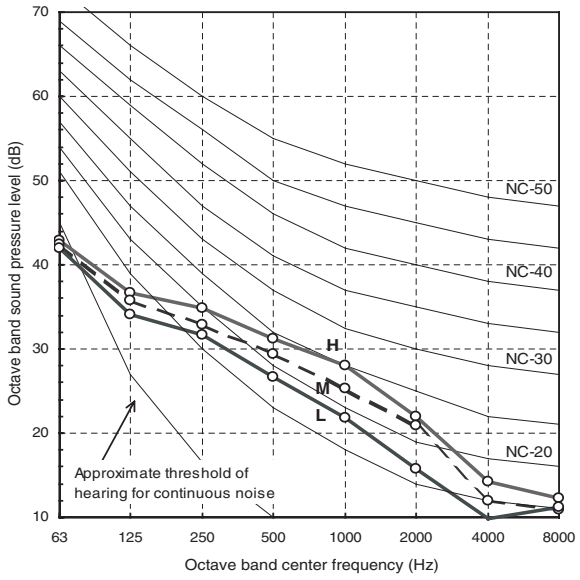
Measuring location

Rear air intake



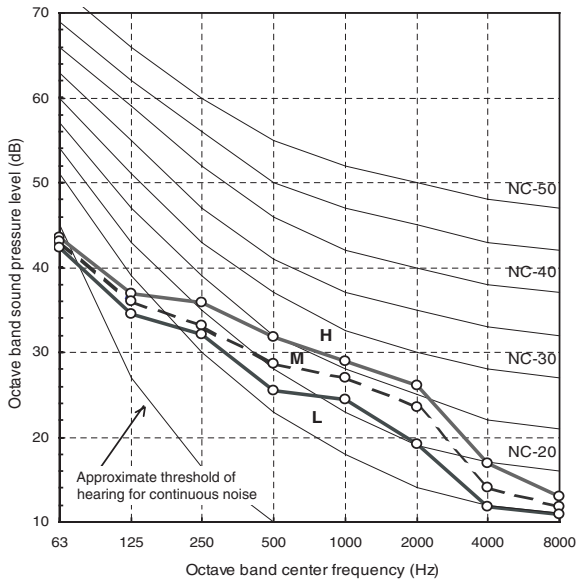
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	33	31	29



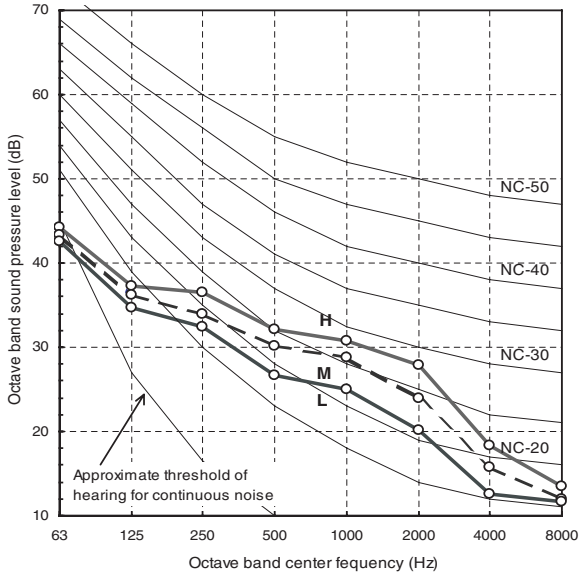
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	34	32	30



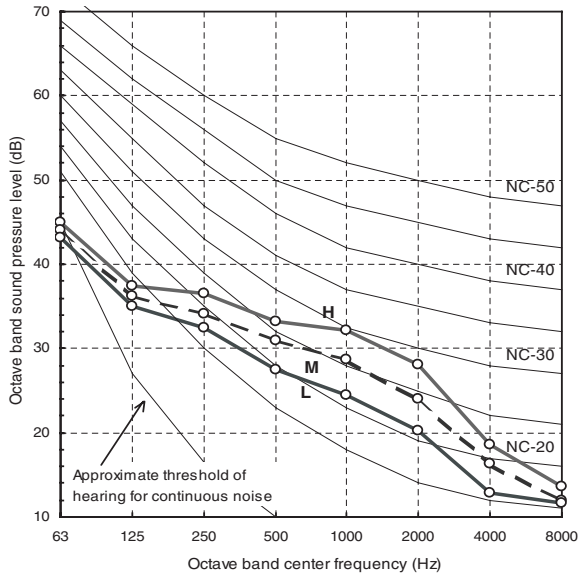
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	35	33	31



External static pressure 50Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	36	34	32

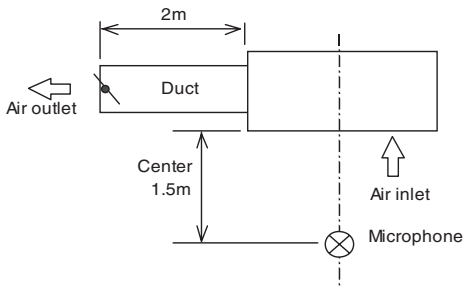


7. Sound Characteristics (NC Curve)

MMD-AP0071SPH/SH ,
MMD-AP0091SPH/SH

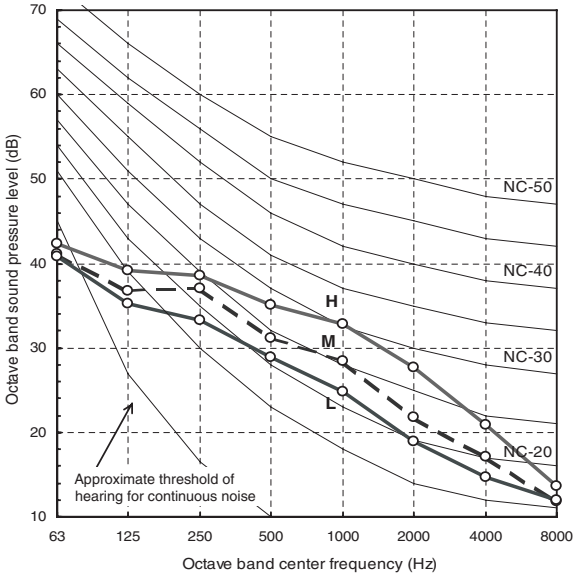
Measuring location

Under air intake



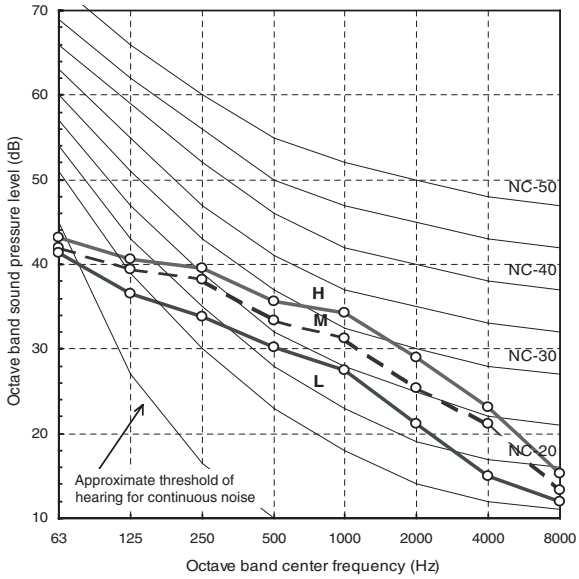
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	36	33	30



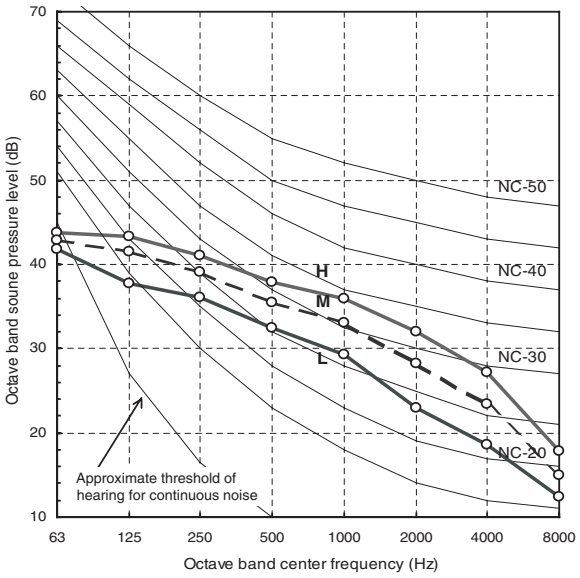
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	37	34	31



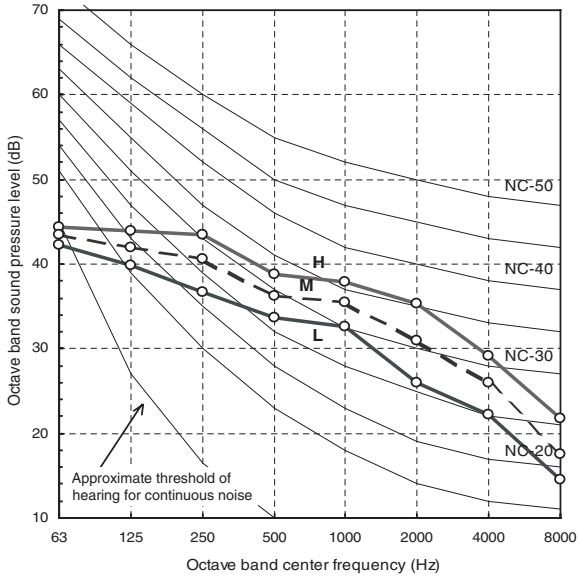
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	39	36	33



External static pressure 50Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	41	38	35

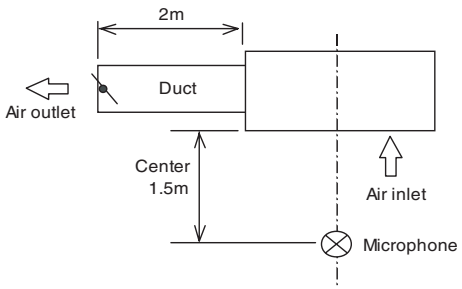


7. Sound Characteristics (NC Curve)

MMD-AP0121SPH/SH

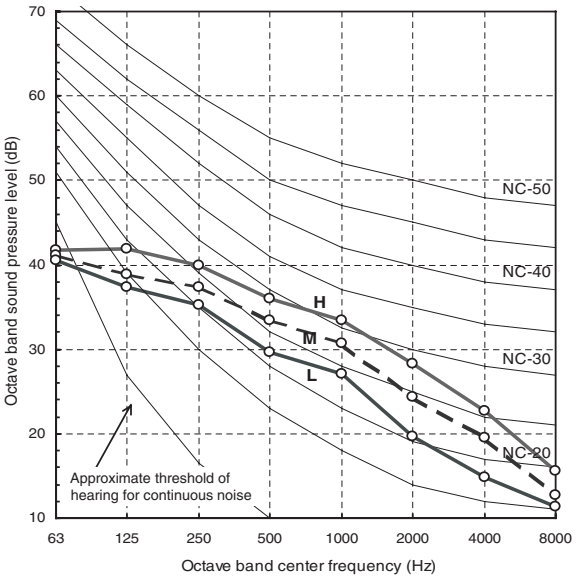
Measuring location

Under air intake



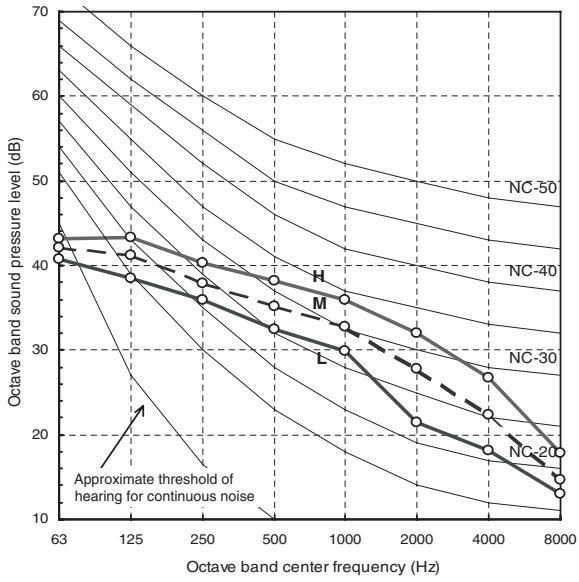
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	38	35	32



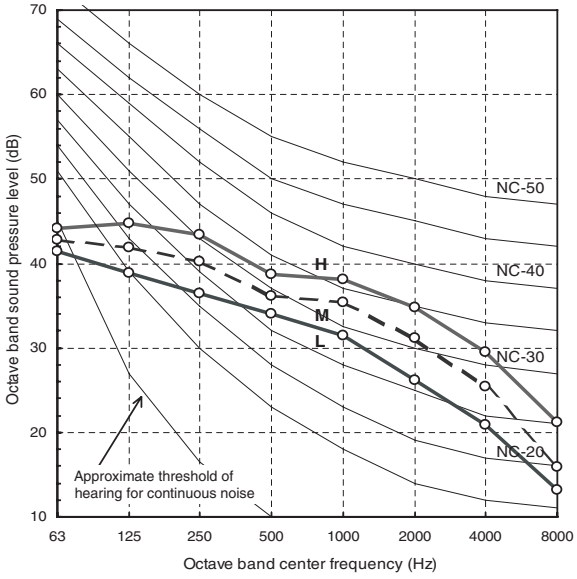
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	39	36	33



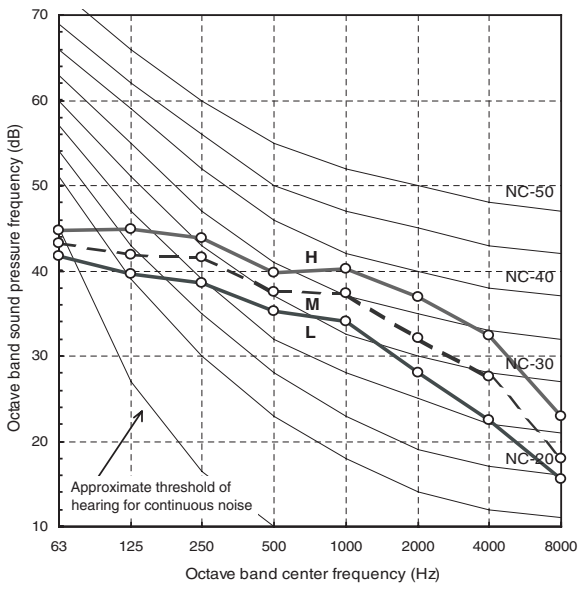
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	41	38	35



External static pressure 50Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	43	40	37

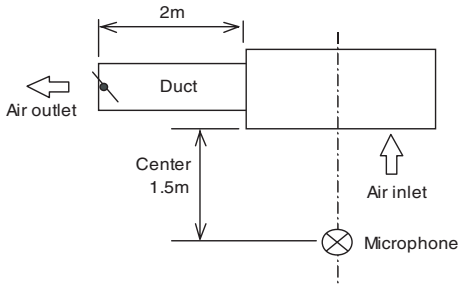


7. Sound Characteristics (NC Curve)

MMD-AP0151SPH/SH

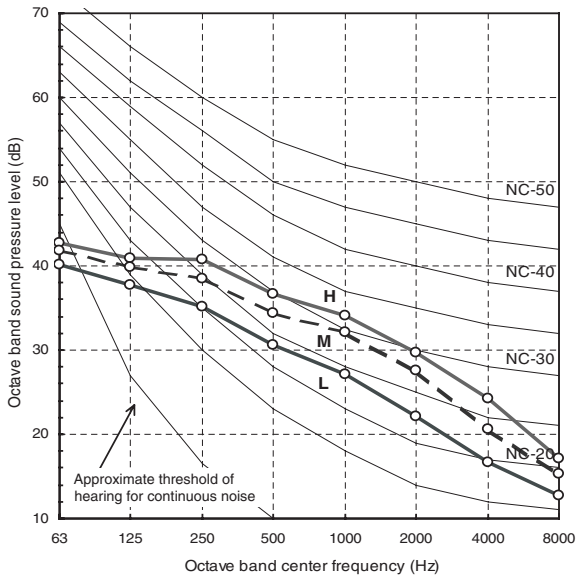
Measuring location

Under air intake



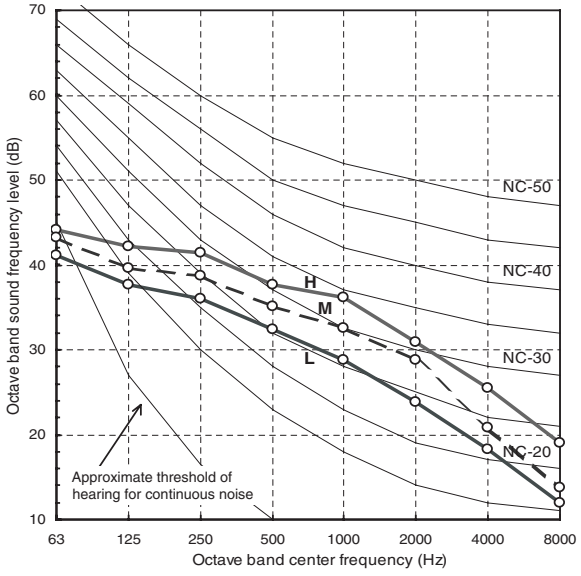
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	39	36	33



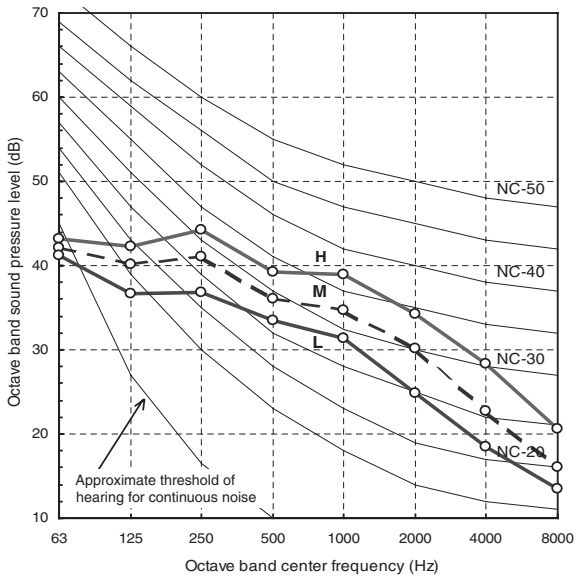
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	40	37	34



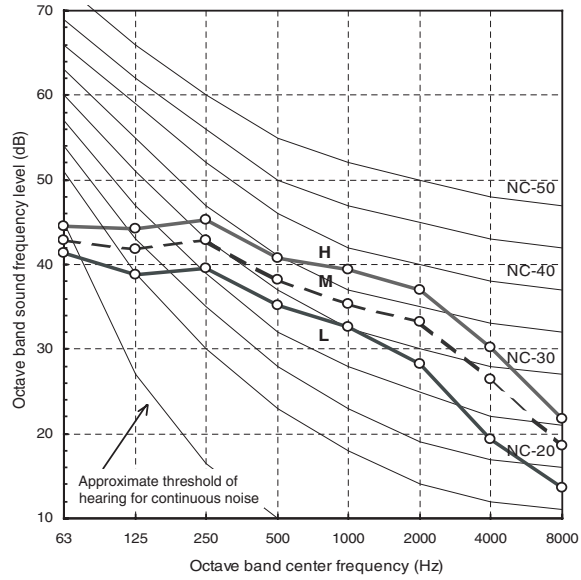
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	41	38	35



External static pressure 50Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	43	40	37

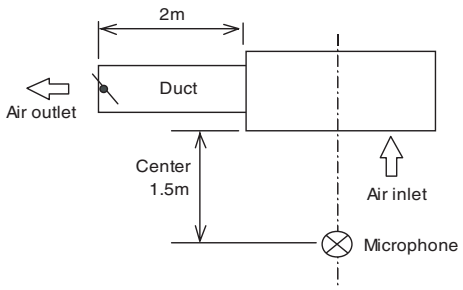


7. Sound Characteristics (NC Curve)

MMD-AP0181SPH/SH

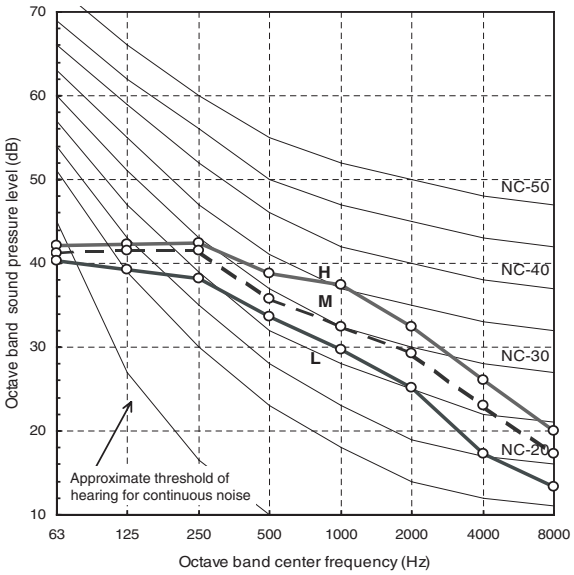
Measuring location

Under air intake



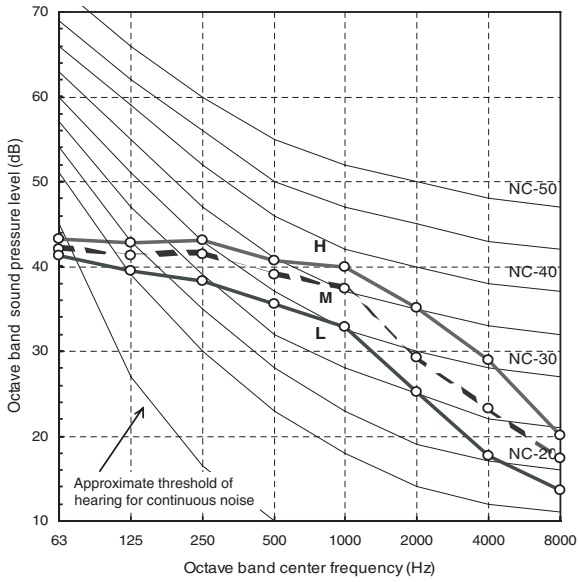
External static pressure 10Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	40	38	36



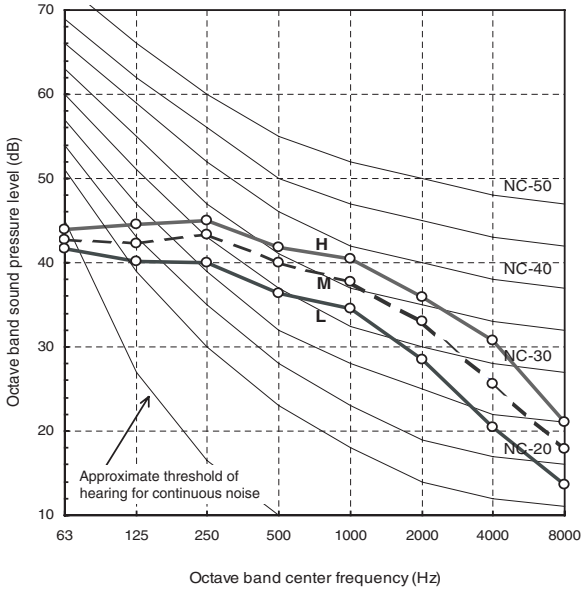
External static pressure 20Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	42	40	37



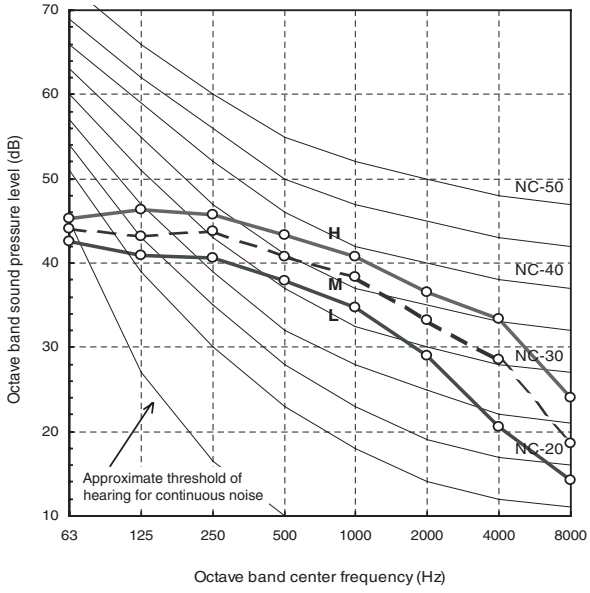
External static pressure 35Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	43	41	38



External static pressure 50Pa

Fan tap	H	M	L
Sound pressure level (dB(A))	44	42	39



8. Fresh air intake (Design guide)

Slim Duct Type

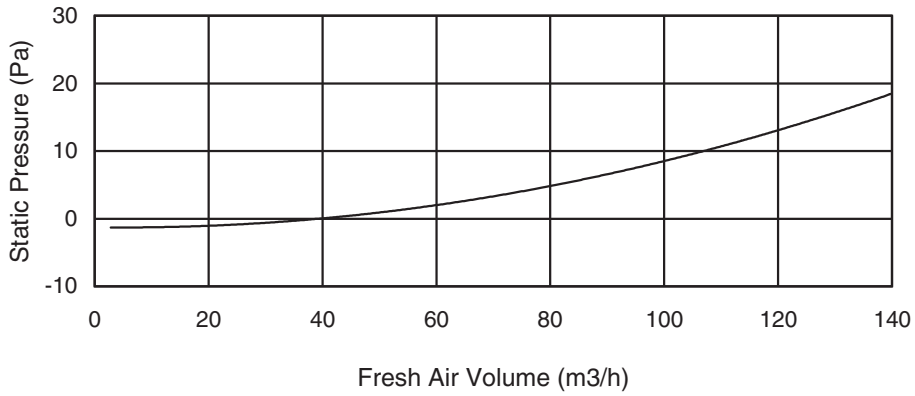
MMD-AP0071SPH, AP0091SPH, AP0121SPH
MMD-AP0071SPH-C, AP0091SPH-C, AP0121SPH-C
MMD-AP0071SH-C, AP0091SH-C, AP0121SH-C

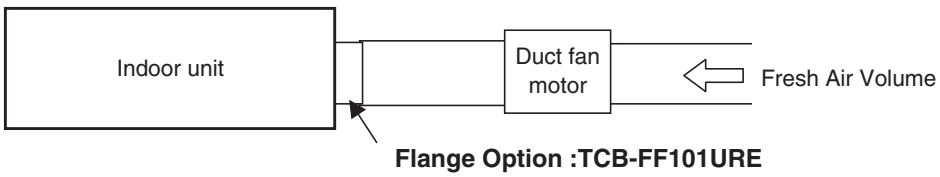
Caution

The fresh air shall be conditioned by heat reclaim ventilator or similar.
Ensure the fresh air volume is determined so that mixed suction air and fresh air maintain the operating temperature.
*1. Recommended conditioned air temperature is 12 °C to 30 °C.
However, Make a fresh air volume within 20% of standard.

Model name MMD-	AP0071SPH AP0071SPH-C AP0071SH-C	AP0091SPH AP0091SPH-C AP0091SH-C	AP0121SPH AP0121SPH-C AP0121SH-C
Standard air flow (m3/h)	540	540	600

Install a air filter within the fresh air duct.
(Fresh air does not pass through the filter of Indoor unit.)
Insulate the fresh air duct.
Electrically connect the fan of the Heat exchanger unit and the Indoor unit to a single isolator.





Flange Option :TCB-FF101URE

Inter - lock circuit

Connect the driving relay of the duct fan (DC 12V) between 1 and 6 on the indoor P.C. board.
(Rated current of the relay for duct fan should be up to 75mA.)
After installation, carry out a trial operation to check that the duct fan of the indoor unit start/stop simultaneously.
(Carry out the trial operation following the installation manual of the indoor unit.)

8. Fresh air intake (Design guide)

Slim Duct Type

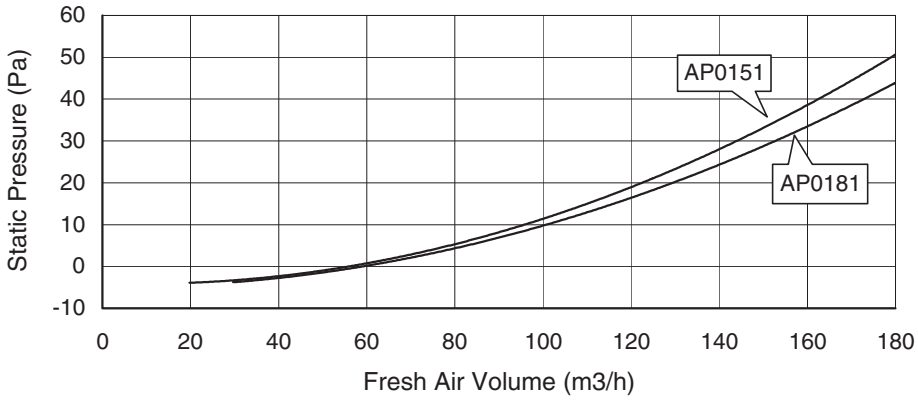
MMD-AP0151SPH, AP0181SPH
MMD-AP0151SPH-C, AP0181SPH-C
MMD-AP0151SH-C, AP0181SH-C

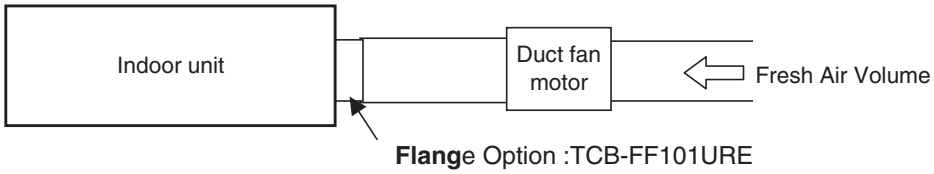
Caution

The fresh air shall be conditioned by heat reclaim ventilator or similar.
Ensure the fresh air volume is determined so that mixed suction air and fresh air maintain the operating temperature.
*1. Recommended conditioned air temperature is 12 °C to 30 °C.
However, Make a fresh air volume within 20% of standard.

Model name MMD-	AP0151SPH AP0151SPH-C AP0151SH-C	AP0181SPH AP0181SPH-C AP0181SH-C
Standard air flow (m3/h)	690	780

Install a air filter within the fresh air duct.
(Fresh air does not pass through the filter of Indoor unit.)
Insulate the fresh air duct.
Electrically connect the fan of the Heat exchanger unit and the Indoor unit to a single isolator.





Inter - lock circuit

Connect the driving relay of the duct fan (DC 12V) between 1 and 6 on the indoor P.C. board.
(Rated current of the relay for duct fan should be up to 75mA.)
After installation, carry out a trial operation to check that the duct fan of the indoor unit start/stop simultaneously.
(Carry out the trial operation following the installation manual of the indoor unit.)