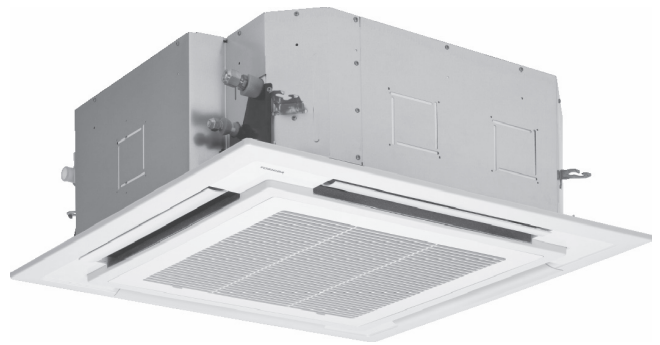


4-way Air Discharge Cassette Type

MMU-AP0094HP-E / MMU-AP0124HP-E
MMU-AP0154HP-E / MMU-AP0184HP-E
MMU-AP0244HP-E / MMU-AP0274HP-E
MMU-AP0304HP-E / MMU-AP0364HP-E
MMU-AP0484HP-E / MMU-AP0564HP-E



Contents

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1. Specifications



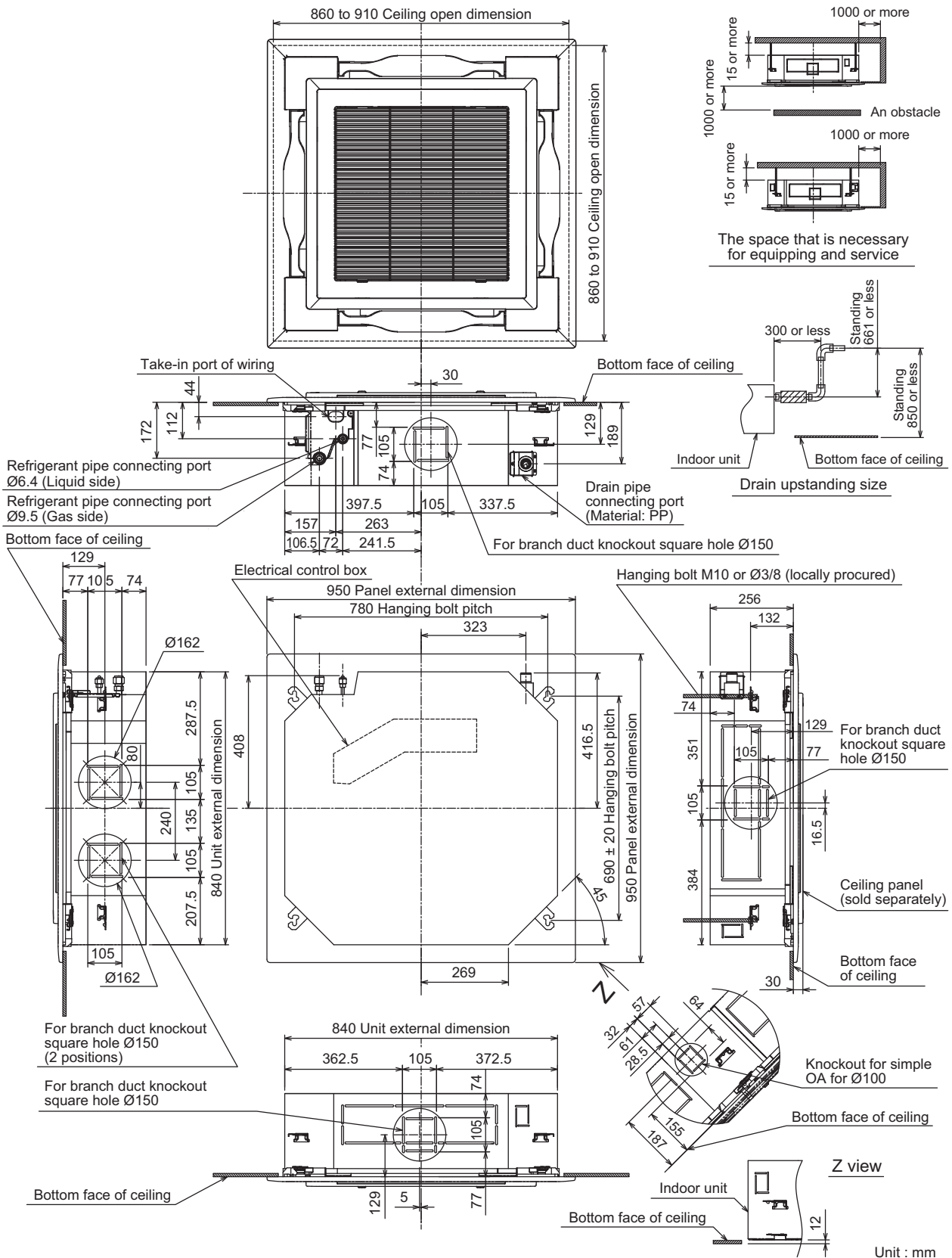
Model name			MMU-	AP0094HP-E	AP0124HP-E	AP0154HP-E	AP0184HP-E	AP0244HP-E	AP0274HP-E	AP0304HP-E	AP0364HP-E	AP0484HP-E	AP0564HP-E
Cooling / Heating capacity (*1)			kW	2.8 / 3.2	3.6 / 4.0	4.5 / 5.0	5.6 / 6.3	7.1 / 8.0	8.0 / 9.0	9.0 / 10.0	11.2 / 12.5	14.0 / 16.0	16.0 / 18.0
Electical characteristics	Power supply			1 phase 50Hz 220-240V / 1 phase 60Hz 220V									
	Running current	50 Hz	A	0.23	0.23	0.27	0.29	0.38	0.38	0.43	0.73	0.88	0.88
		60 Hz		0.24	0.24	0.28	0.30	0.39	0.39	0.45	0.76	0.92	0.92
	Power consumption		kW	0.021		0.023	0.026	0.036		0.043	0.088	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-U31PG (W)-E / RBC-U31PGS(W)-E									
		Panel color		White (2.5GY9.0/0.5)									
Outer dimation	Main unit	Hight	mm	256							319		
		Width	mm	840									
		Depth	mm	840									
	Ceiling panel	Hight	mm	30									
		Width	mm	950									
		Depth	mm	950									
	Total weight	Main unit		kg	20							25	
Ceiling panel		kg	4.0										
Heat exchanger				Fined tube									
Soundproof / Heat-insulating material				Non-flammable insulation									
Fan unit	Fan			Turbo fan									
	Standard air flow (High/Mid/Low)		m³/h	800 / 730 / 680		930 / 830 / 790	1050 / 920 / 800	1290 / 920 / 800		1320 / 1100 / 850	1970 / 1430 / 1070	2130/ 1430 / 1130	2130 / 1520 / 1230
	Motor output		W	14				20			68	72	
Air filter				Standard filter (Long life filter)									
Controller				Remote controller									
Connecting pipe	Gas pipe		mm	ø 9.5		ø 12.7		ø 15.9					
	Liquid pipe		mm	ø 6.4				ø 9.5					
	Drain port (Outside dia.)		mm	25 (Polyvinyl chloride tube)									
Sound pressure level (High/Med./Low)			dB(A)	30 / 29 / 27		31 / 29 / 27	32 / 29 / 27	35 / 31 / 28		38 / 33 / 30	43 / 38 / 32	46 / 38 / 33	46 / 40 / 33

Note

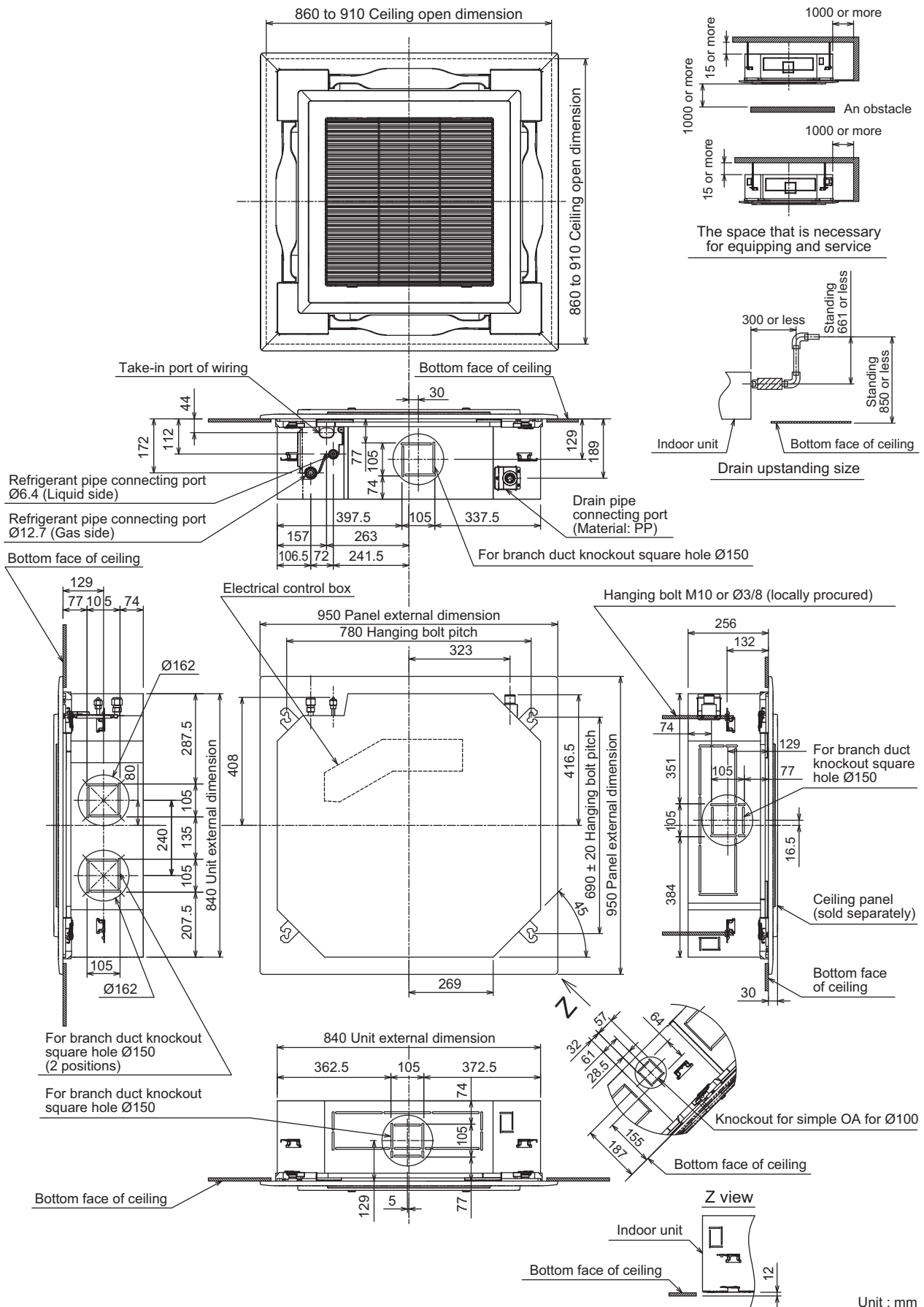
(*1) Rated conditions Cooling : Indoor 27 degC Dry Bulb / 19 degC Wet Bulb, Outdoor 35 degC Dry Bulb.
 Heating : Indoor 20 degC Dry Bulb, Outdoor 7 degC Dry Bulb / 6 degC Wet Bulb.
 Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

2. Dimensions

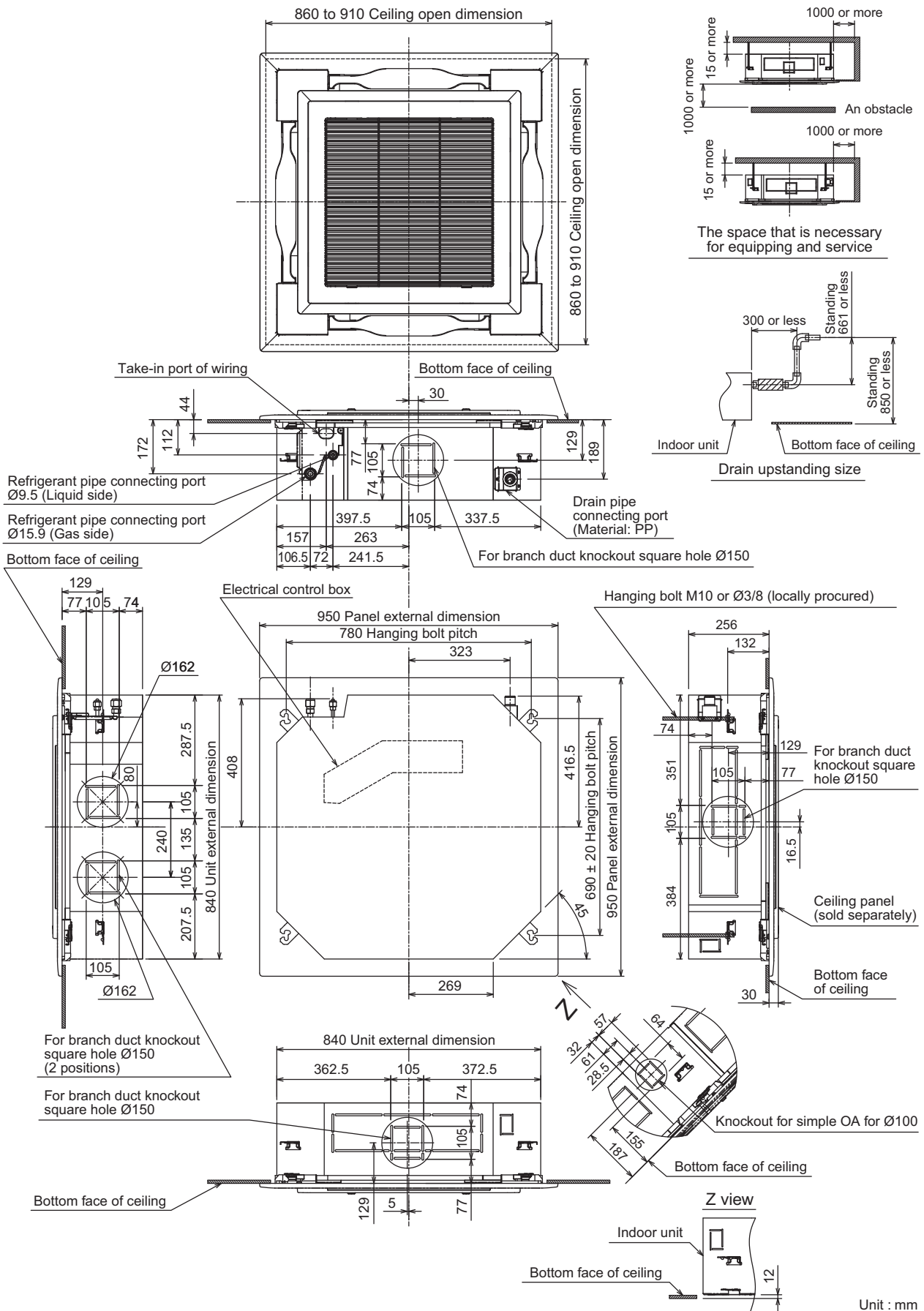
MMU-AP0094HP-E, AP0124HP-E



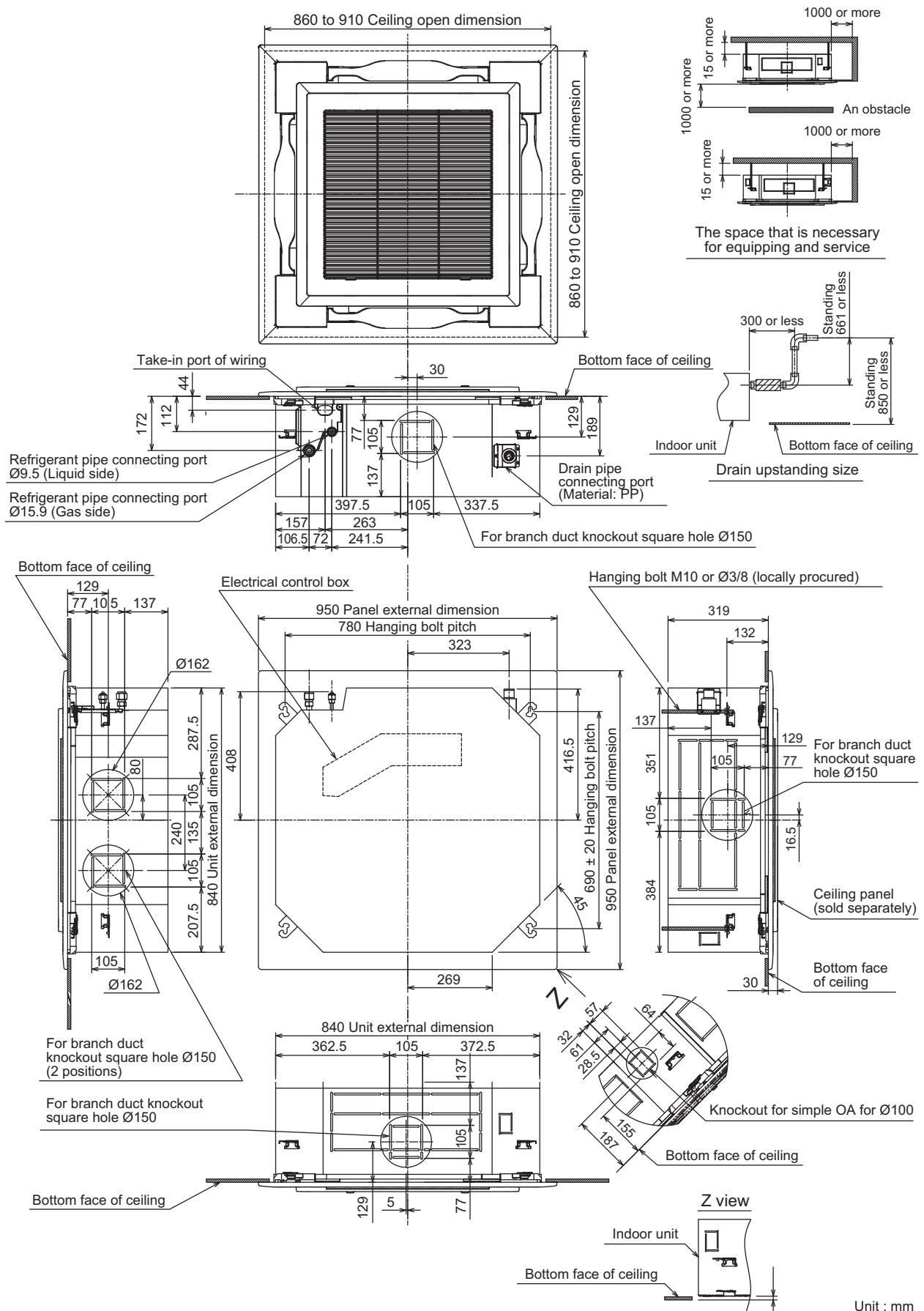
MMU-AP0154HP-E, AP0184HP-E



MMU-AP0244HP-E, AP0274HP-E, AP0304HP-E

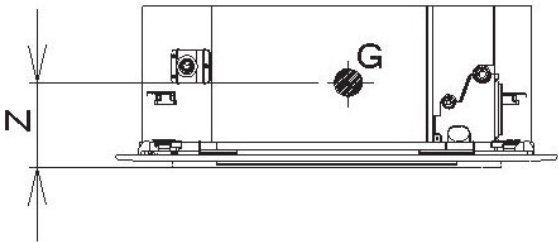
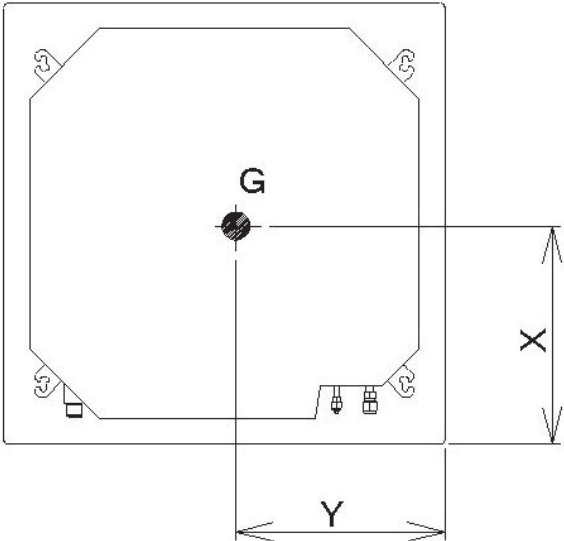


MMU-AP0364HP-E, AP0484HP-E, AP0564HP-E

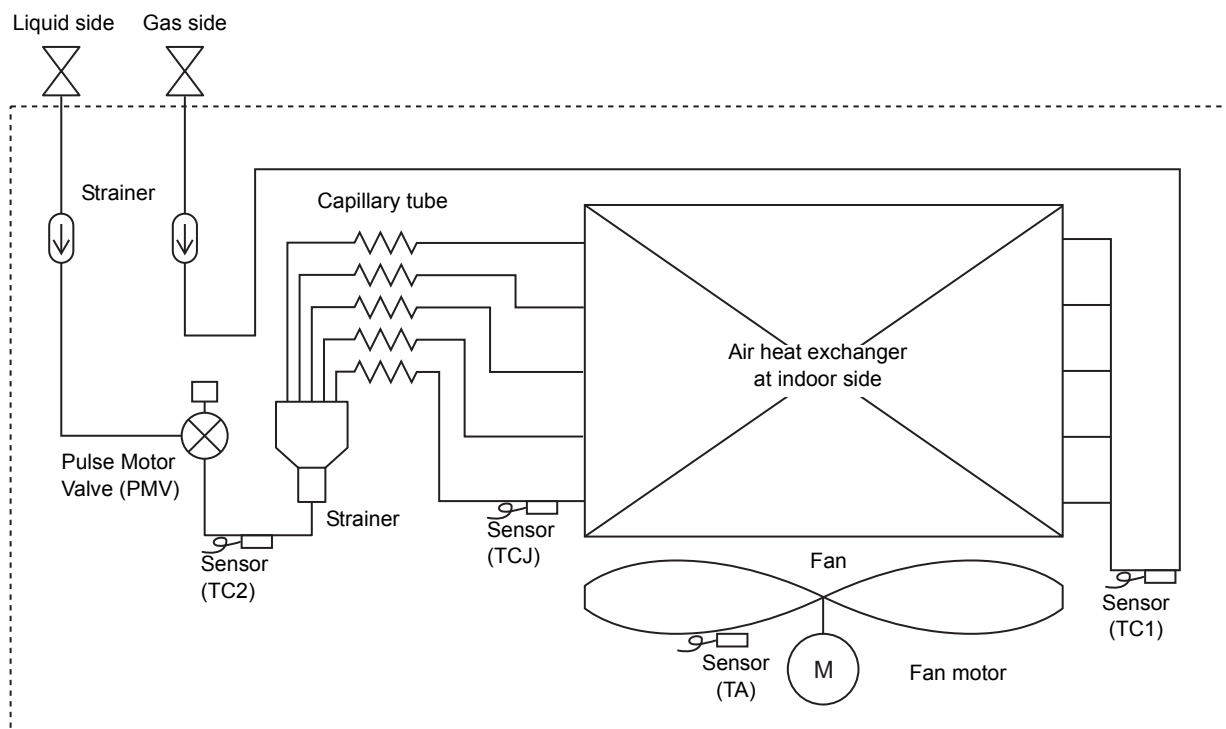


3. Center of gravity

Model name	X(mm)	Y(mm)	Z(mm)	Total weight	
				Main unit (kg)	Ceiling panel (kg)
MMU-AP0094HP-E	470	455	154	18	4.0
MMU-AP0124HP-E					
MMU-AP0154HP-E					
MMU-AP0184HP-E					
MMU-AP0244HP-E		20			
MMU-AP0274HP-E					
MMU-AP0304HP-E					
MMU-AP0364HP-E		450	184	25	
MMU-AP0484HP-E					
MMU-AP0564HP-E					



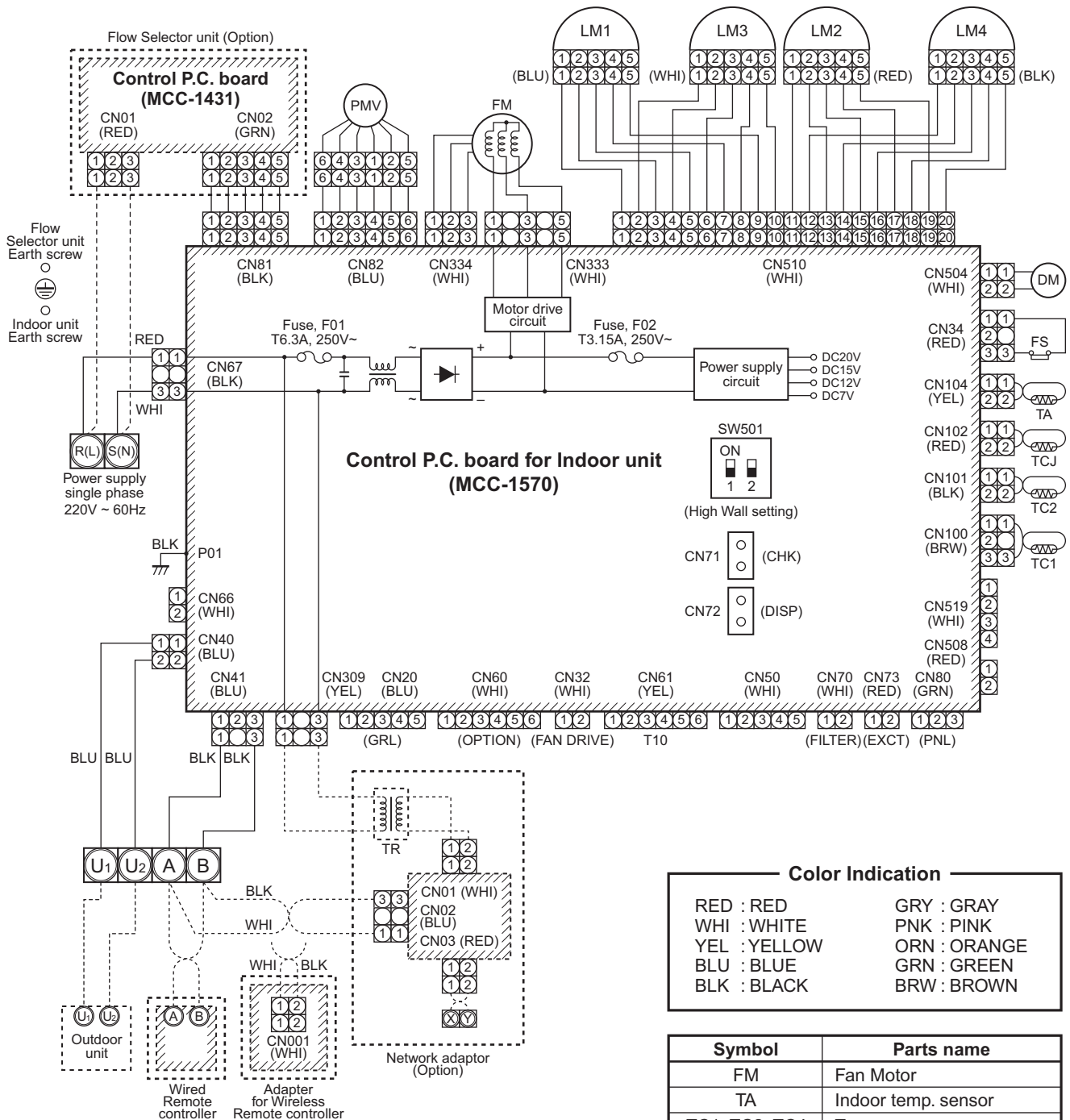
4. Piping diagram



Functional part name		Functional outline
Pulse Motor Valve	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

5. Wiring diagram

MMU-AP0094HP-E, AP0124HP-E, AP0154HP-E, AP0184HP-E, AP0244HP-E,
AP0274HP-E, AP0304HP-E, AP0364HP-E, AP0484HP-E, AP0564HP-E



1.  indicates the terminal block.
Letter at inside indicates the terminal number.
2. A dotted line and broken line indicate the wiring site.
3.  indicates the control P.C. board.

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

Symbol	Parts name
FM	Fan Motor
TA	Indoor temp. sensor
TC1, TC2, TCJ	Temp. sensor
LM1, 2, 3, 4	Louver Motor
DM	Drain pump Motor
FS	Float Switch
PMV	Pulse Motor Valve
TR	Power supply Transformer (Fot Newtwork adapter)

6. Electrical characteristics

50 Hz

	Type	Model	Nominal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
				Min	Max	kW	FLA	MCA	MOCP
50Hz	4-Way Air Discharge Cassette Type	MMU-AP0094HP-E	230-1-50	198	264	0.014	0.63	0.79	15
		MMU-AP0124HP-E	230-1-50	198	264	0.014	0.63	0.79	15
		MMU-AP0154HP-E	230-1-50	198	264	0.014	0.80	1.00	15
		MMU-AP0184HP-E	230-1-50	198	264	0.014	0.80	1.00	15
		MMU-AP0244HP-E	230-1-50	198	264	0.020	0.87	1.09	15
		MMU-AP0274HP-E	230-1-50	198	264	0.020	0.87	1.09	15
		MMU-AP0304HP-E	230-1-50	198	264	0.020	0.87	1.09	15
		MMU-AP0364HP-E	230-1-50	198	264	0.068	1.15	1.44	15
		MMU-AP0484HP-E	230-1-50	198	264	0.072	1.15	1.44	15
		MMU-AP0564HP-E	230-1-50	198	264	0.072	1.15	1.44	15

60 Hz

	Type	Model	Nominal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
				Min	Max	kW	FLA	MCA	MOCP
60Hz	4-Way Air Discharge Cassette Type	MMU-AP0094HP-E	220-1-60	198	242	0.014	0.66	0.83	15
		MMU-AP0124HP-E	220-1-60	198	242	0.014	0.66	0.83	15
		MMU-AP0154HP-E	220-1-60	198	242	0.014	0.84	1.05	15
		MMU-AP0184HP-E	220-1-60	198	242	0.014	0.84	1.05	15
		MMU-AP0244HP-E	220-1-60	198	242	0.020	0.91	1.14	15
		MMU-AP0274HP-E	220-1-60	198	242	0.020	0.91	1.14	15
		MMU-AP0304HP-E	220-1-60	198	242	0.020	0.91	1.14	15
		MMU-AP0364HP-E	220-1-60	198	242	0.068	1.21	1.51	15
		MMU-AP0484HP-E	220-1-60	198	242	0.072	1.21	1.51	15
		MMU-AP0564HP-E	220-1-60	198	242	0.072	1.21	1.51	15

MCA: Minimum Circuit Amps FLA: Full Load Amps
MOCP: Maximum Overcurrent Protection (Amps)

7. Sensible capacity table

4-way Air Discharge Cassette Type (MMU-AP_4HP-E)

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
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
012	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
	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
015	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
	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
018	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
	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

TC: Total Capacity [kW]

SHC: Sensible Capacity [kW]

4-way Air Discharge Cassette Type (MMU-AP_4HP-E)

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
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

TC: Total Capacity [kW]

SHC: Sensible Capacity [kW]

4-way Air Discharge Cassette Type (MMU-AP_4HP-E)

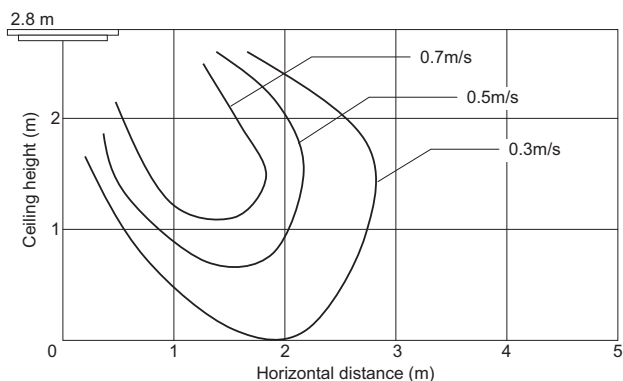
unit size	outdoor air temp. °CDB	indoor air temp.													
		14.0°CWB		16.0°CWB		18.0°CWB		19.0°CWB		20.0°CWB		22.0°CWB		24.0°CWB	
		20°CDB		23°CDB		26°CDB		27°CDB		28°CDB		30°CDB		32°CDB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
048	10.0	11.5	8.7	12.7	9.3	13.6	9.8	14.0	9.8	14.4	9.8	15.3	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
056	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
	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

TC: Total Capacity [kW]

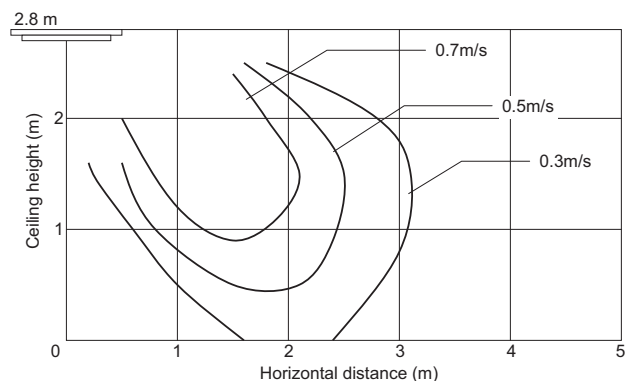
SHC: Sensible Capacity [kW]

8. Air flow distance chart

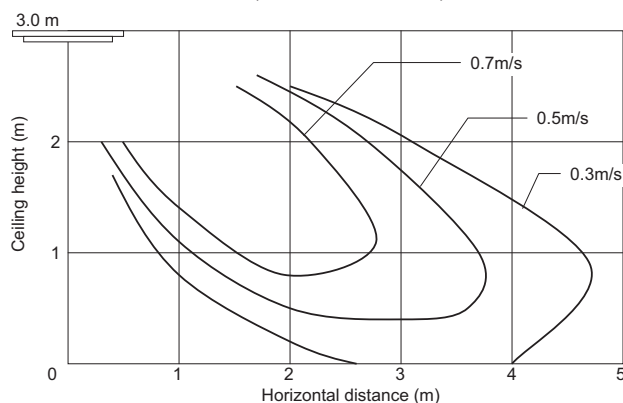
MMU-AP0094HP-E, AP0124HP-E



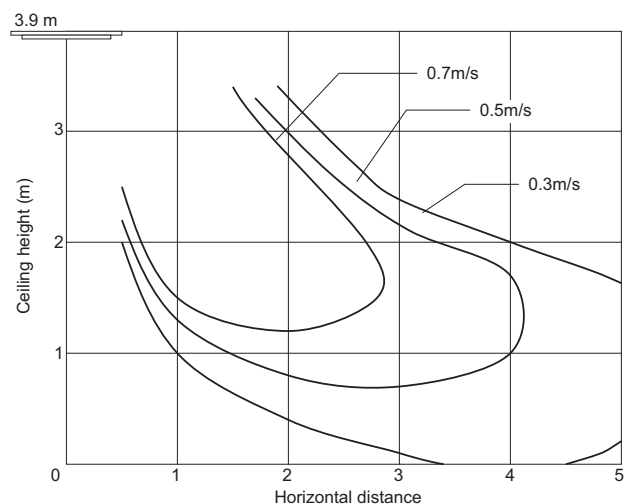
MMU-AP0154HP-E, AP0184HP-E



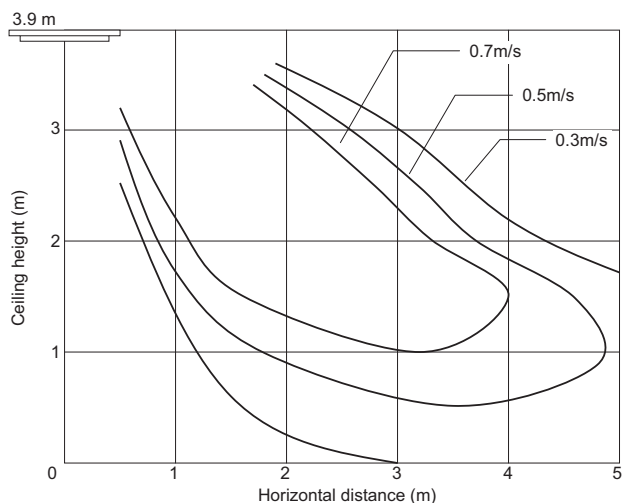
MMU-AP0244HP-E, AP0274HP-E, AP0304HP-E



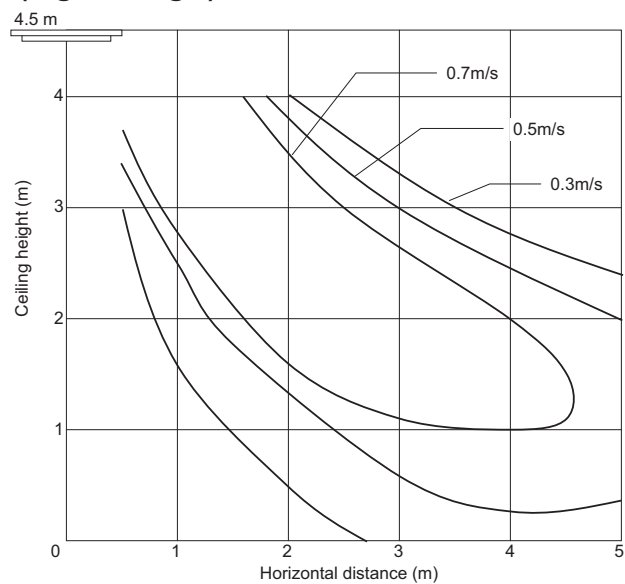
MMU-AP0364HP-E



MMU-AP0484HP-E, AP0564HP-E

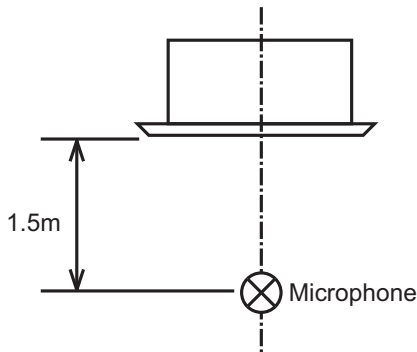


**MMU-AP0364HP-E, AP0484HP-E, AP0564HP-E
(High ceiling 3)**



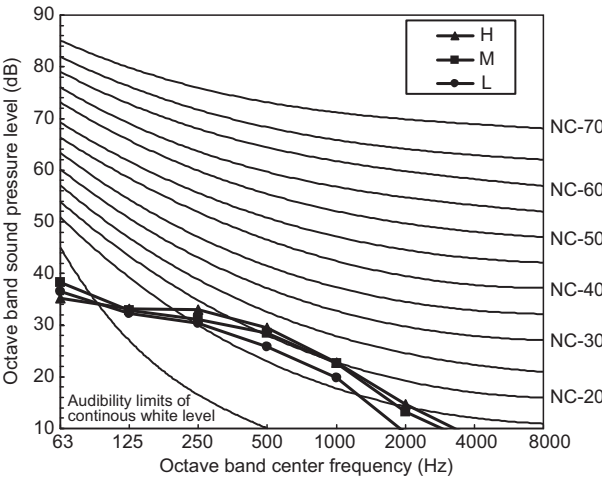
9. Sound data

Sound pressure spectrum



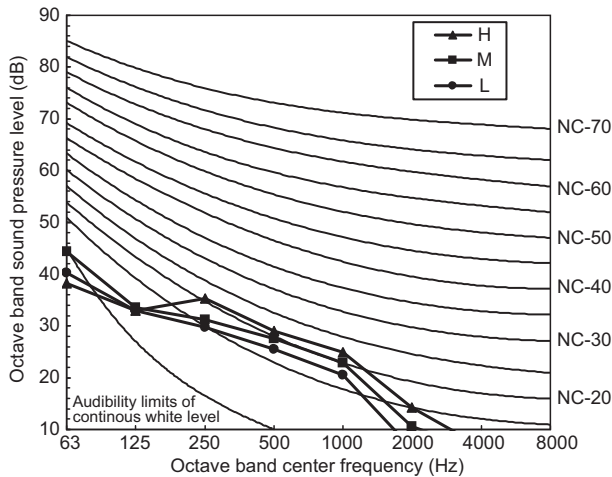
MMU-AP0094HP-E, AP0124HP-E

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



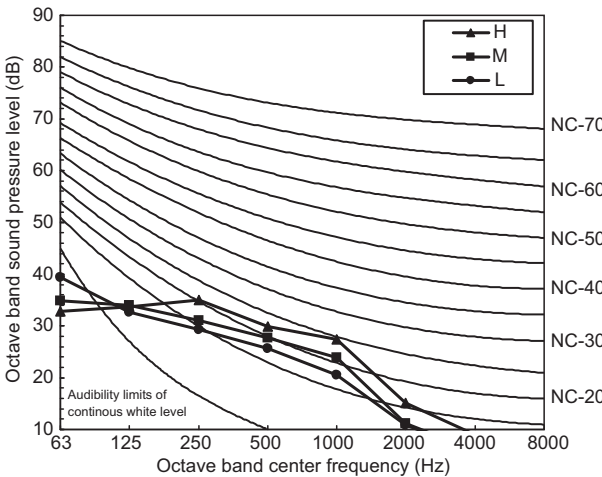
MMU-AP0154HP-E

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



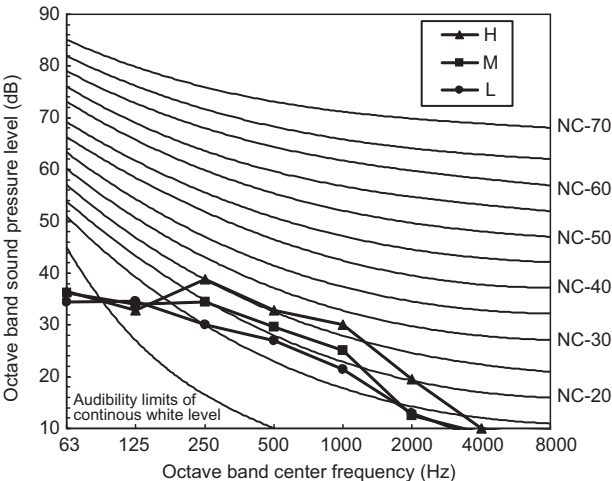
MMU-AP0184HP-E

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



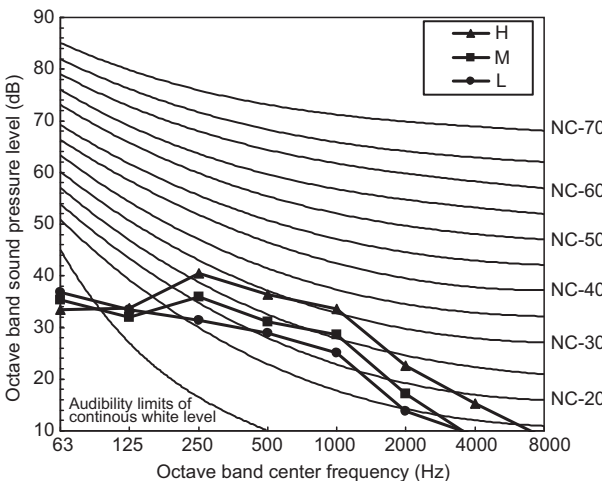
MMU-AP0244HP-E, AP0274HP-E

Sound pressure level(dB)(A)	H-M-L
	35-31-28

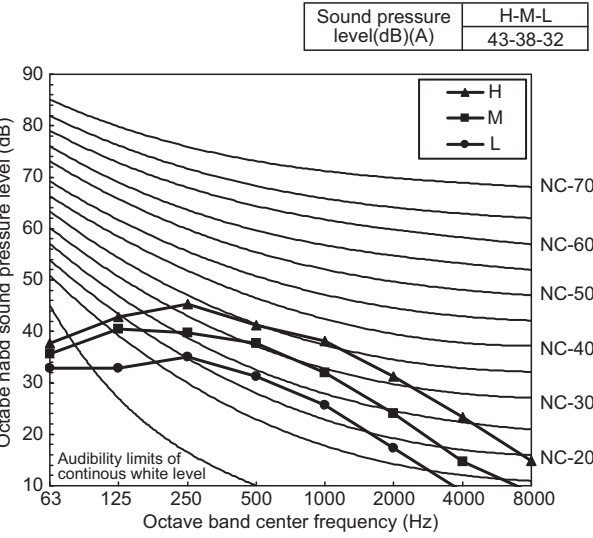


MMU-AP0304HP-E

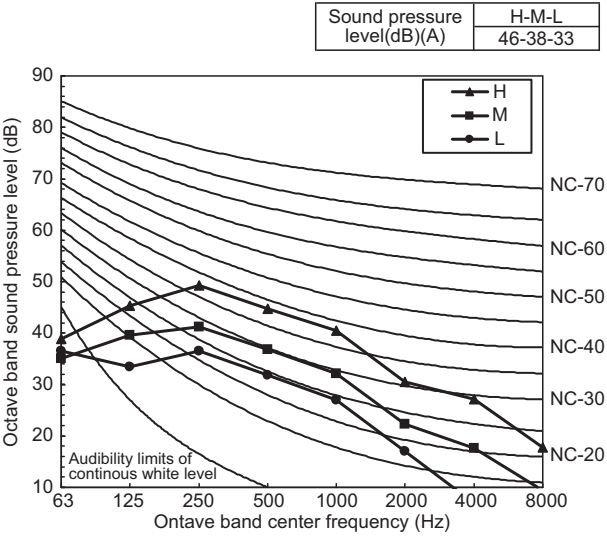
Sound pressure level(dB)(A)	H-M-L
	38-33-30



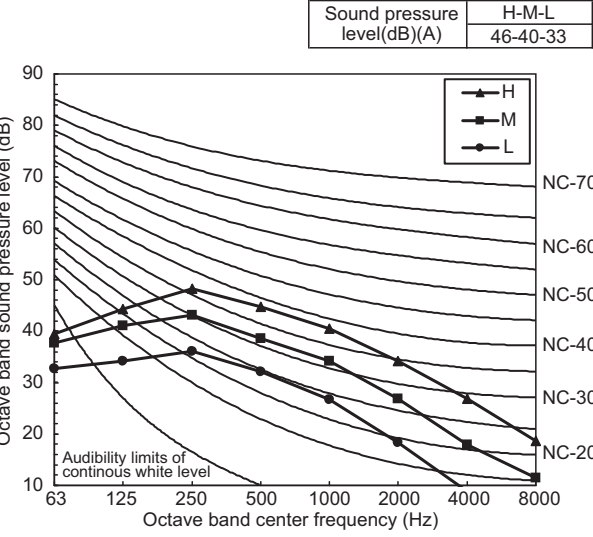
MMU-AP0364HP-E



MMU-AP0484HP-E



MMU-AP0564HP-E



10. Fresh air intake (Design guide)

Usage

The fresh air and filter chamber is used as the filter chamber.

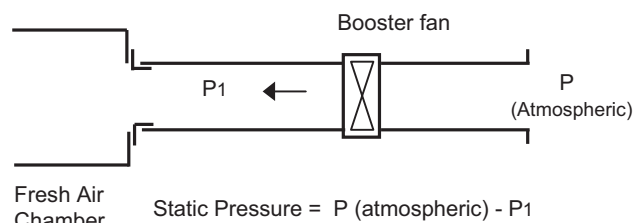
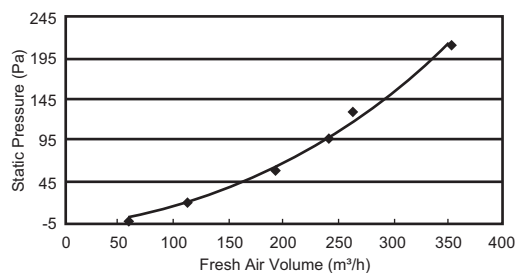
Fresh air intake by using the fresh air and filter chamber and fresh air intake box.

Usage as the filter chamber

In case the optional filter is used, air volume may decrease. This can cause decrease temperature of cooling air flow and dew drop.

Caution

1. Be sure to provide air return.
2. The fresh air shall be treated by heat reclaim ventilator or the like.
3. Recommended treated air temperature is 12 C to 30 C.
4. Be sure to decide the fresh air volume so that mixed suction air with fresh air keep operating temperature.
Provide an air filter in fresh air way to prevent sucking dust.
5. Be sure to insulate the fresh air duct.
In order to accelerate starting up in heating mode, implement pre-heating operation by cutting off fresh air intake.



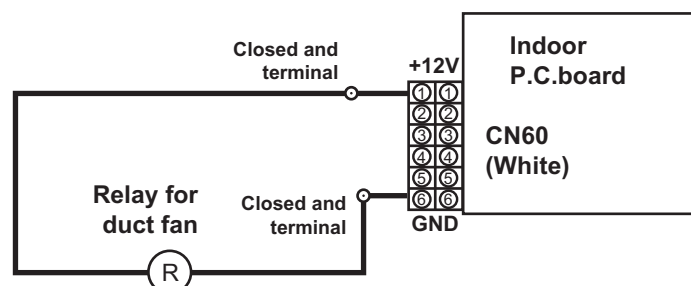
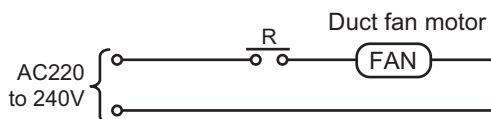
Characteristics between air volume of branching duct and static pressure

Up to 20% fresh air intake ratio is available by using the booster fan.

fresh air intake ratio = (fresh air volume) / (total air volume) X 100 %

Inter - lock circuit

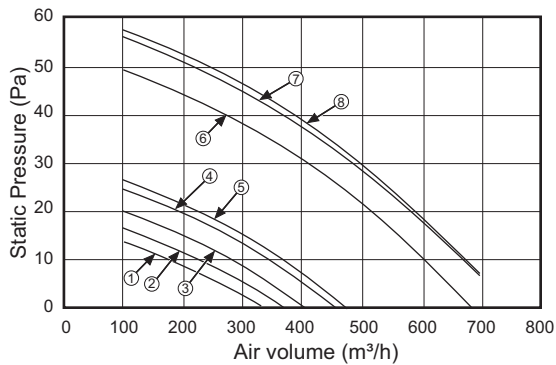
1. Connect the driving relay of the duct fan (DC 12 V) between 1 and 6 on the indoor P.C.board.
Part indicated with a bold line is the connecting circuit.
After installation, implement a test run to check that the duct fan of the indoor unit start / stop simultaneously.
(Implement the test run following to the installation manual of the indoor unit.)



11. Branching duct (Design guide)

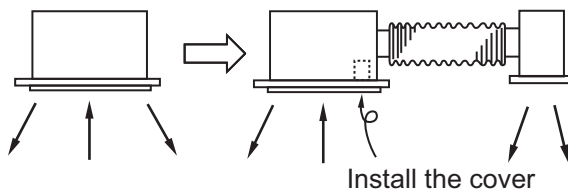
Characteristics between air volume of branching duct and static pressure

In case of connecting dia.=150mm branching duct, static pressure is as follows.



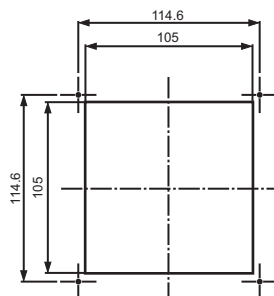
	VRF
①	009type,012type
②	015type
③	018type
④	024type,027type
⑤	030type
⑥	036type
⑦	048type
⑧	056type

Cover method

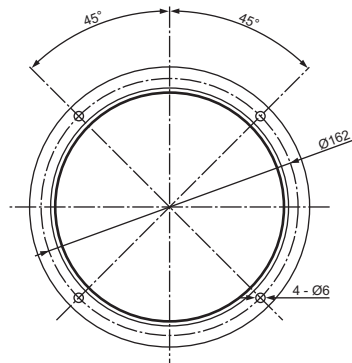


Use air discharge direction kit (TCB-BC1602UE) to cover the air discharge port.

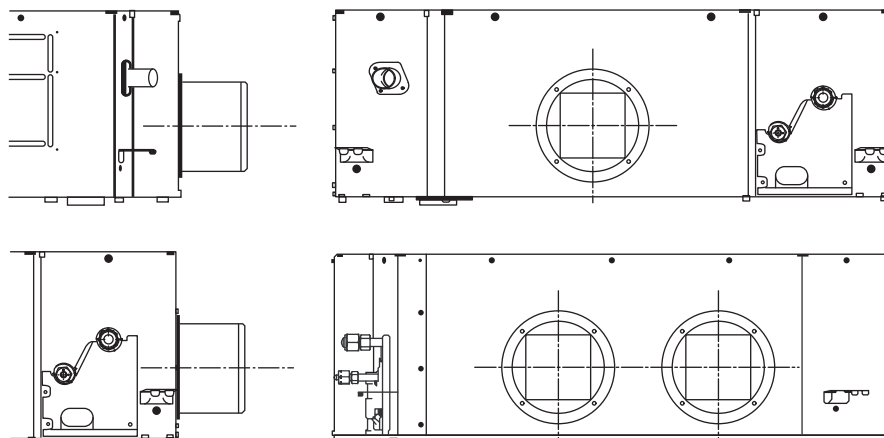
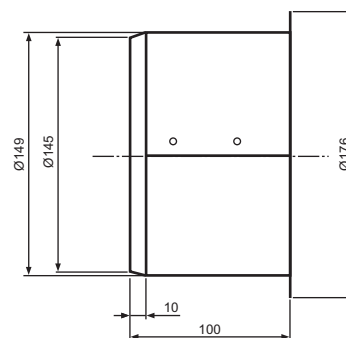
Dimension



Knockout square for branching duct in indoor unit



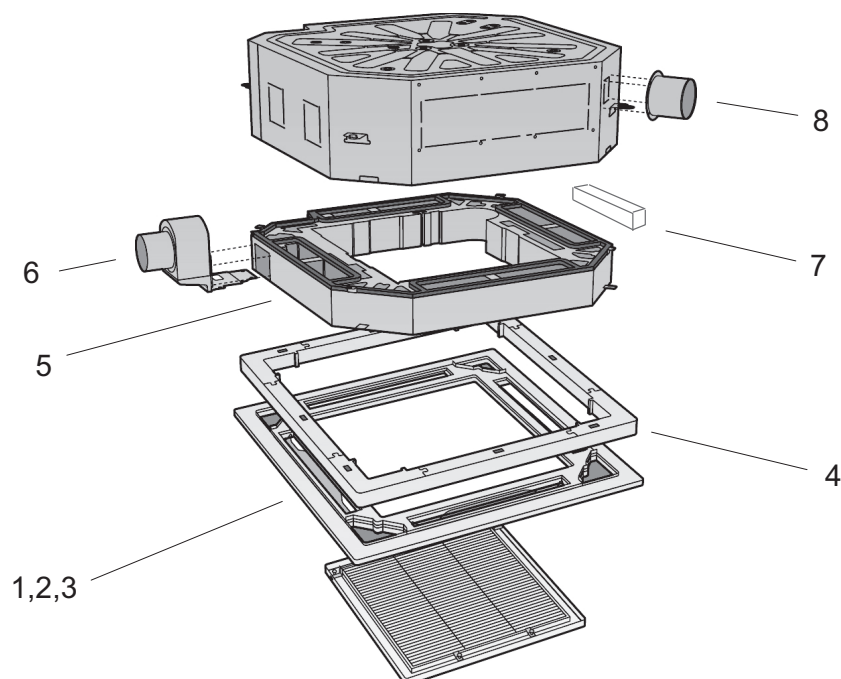
Design sample of branching duct flange



Installation sample

12. Accessories

Optional parts for 4way cassette 4series



Optional parts list

No	Type	Model name	Qty/unit	Note
1	Ceiling Panel (wide-flow louver)	RBC-U31PG(W)-E	1	White (2.5GY9.0/0.5)
2	Ceiling Panel (wide-flow louver)	RBC-U31PG(WS)-E	1	White (2.5GY9.0/0.5, 8B3/0.3)
3	Ceiling Panel (Straight louver)	RBC-U31PGS(W)-E*	1	White (2.5GY9.0/0.5)
4	Ceiling Panel (Straight louver)	RBC-U31PGS(WS)-E*	1	White/Grey (2.5GY9.0/0.5, 8B3/0.3)
5	Spacer for height adjustment	TCB-SP1602UE	1	50mm
6	Fresh-air chamber	TCB-GFC1602UE	1	use with TCB-GB1602U
7	Fresh-air intake box	TCB-GB1602UE	1	connection=Dia.100mm Fresh air intake ratio : Up to 20%
8	Air-discharge direction kit	TCB-BC1602UE	1	6-direction patterns
9	Auxiliary fresh air flange	TCB-FF101URE2	1	connection=Dia.100mm Fresh air intake ratio : Up to 5%

*European market only

4-way Air Discharge Cassette Engineering Data Book

Model name:

MMU-AP_4HP-E

Apri, 2013 First Edition

TOSHIBA CARRIER CORPORATION