

# Compact 4-way Cassette (600 x 600) Type

## Indoor Unit

MMU-AP0074MH-E  
MMU-AP0094MH-E  
MMU-AP0124MH-E  
MMU-AP0154MH-E  
MMU-AP0184MH-E



1. Specifications
2. Dimension
3. Wiring diagram
4. Center of Gravity
5. Sensible capacity table
6. Electrical characteristics
7. Air throw distance chart
8. Sound characteristics (NC-Curve)
9. Fresh air intake(Design guide)
10. Branching Duct(Design guide)
11. Accessories

## 1. Specifications

### ■ Compact 4-way Cassette (600 x 600) Type



Model name		MMU-	AP0074MH-E	AP0094MH-E	AP0124MH-E	AP0154MH-E	AP0184MH-E
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
Electrical characteristics	Power supply		1 phase 50Hz 230V (220-240V) (Separate power supply for indoor units is required.)				
	Running current (A)		0.28	0.30	0.31	0.34	0.42
	Power consumption (kW)		0.034	0.036	0.038	0.041	0.052
	Starting current (A)		0.49	0.52	0.54	0.59	0.73
Appearance	Main unit		Zinc hot dipping steel plate *Heat-insulating material attached to only upper plate				
	Ceiling Panel	Model	RBC-UM11PG(W)E				
		Panel color	Moon white (Munsell/2.5GY 9.0/0.5)				
Outer dimension	Main unit	Height (mm)	268				
		Width (mm)	575				
		Depth (mm)	575				
	Ceiling panel	Height (mm)	27				
		Width (mm)	700				
		Depth (mm)	700				
Total weight	Main unit (kg)		17				
	Ceiling panel (kg)		3				
Heat exchanger		Finned tube					
Soundproof/Heat-insulating material		Non-flammable insulation					
Fan unit	Fan		Turbo fan				
	Standard air flow (High/Mid/Low) (m <sup>3</sup> /h)		552/462/378	570/468/378	594/504/402	660/552/468	762/642/522
	Motor output (W)		60				
Air filter		Long life filter					
Controller		Remote controller					
Connecting pipe	Gas side (mm)	Ø 9.5			Ø 12.7		
	Liquid side (mm)	Ø 6.4					
	Drain port (Nominal dia. mm)	25 (Polyvinyl chloride tube)					
Sound pressure level (Note 2) (High/Mid/Low) (dB(A))		36/32/28	37/33/28	37/33/29	40/35/30	44/39/34	
PMV Kit		Available					

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 consist 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 B 8616.

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

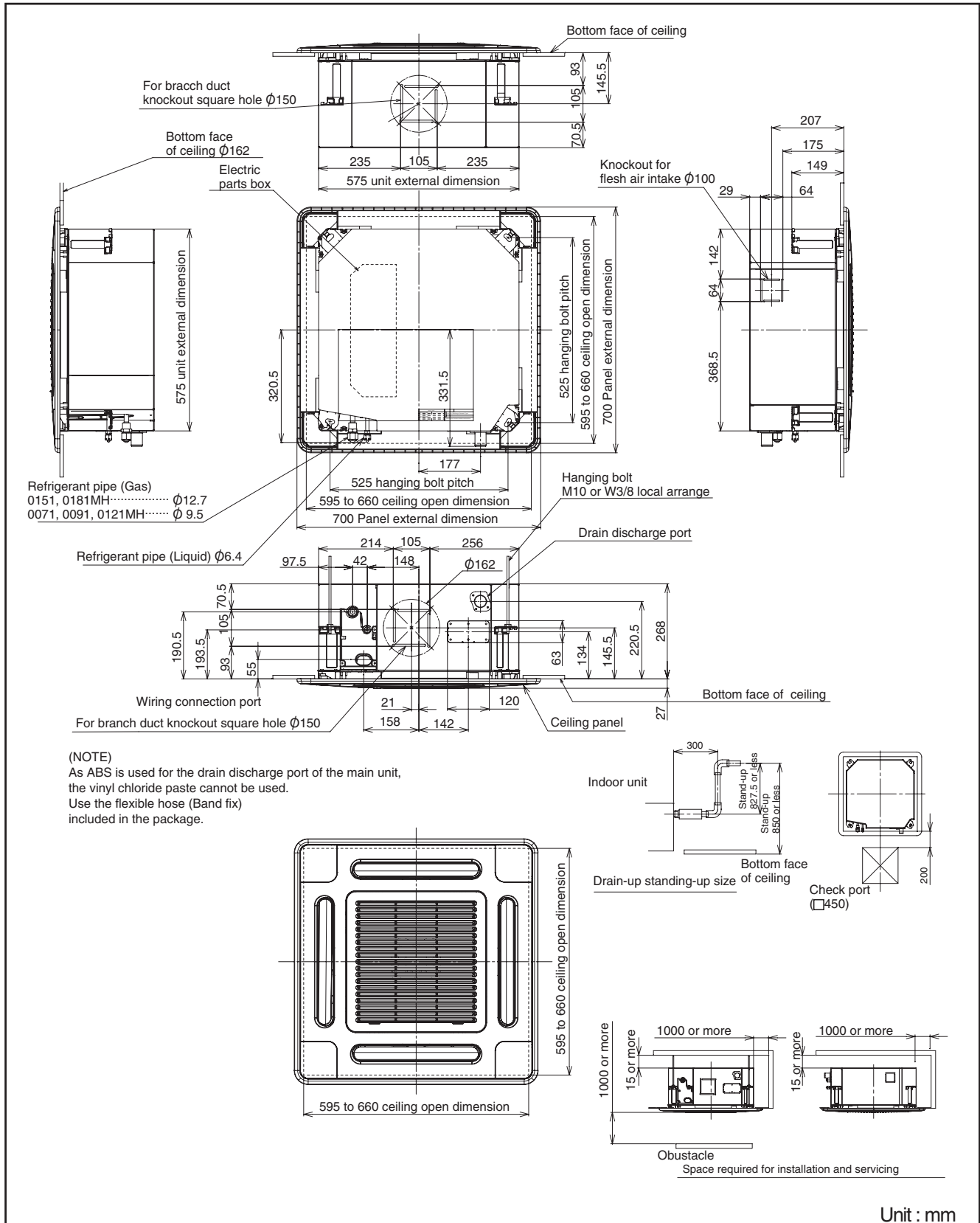
Heating : Indoor air temperature 20°C DB, Outdoor air temperature 7°C DB/6°C WB



## 2. Dimension

### ■ Compact 4-way Cassette (600 x 600) Type

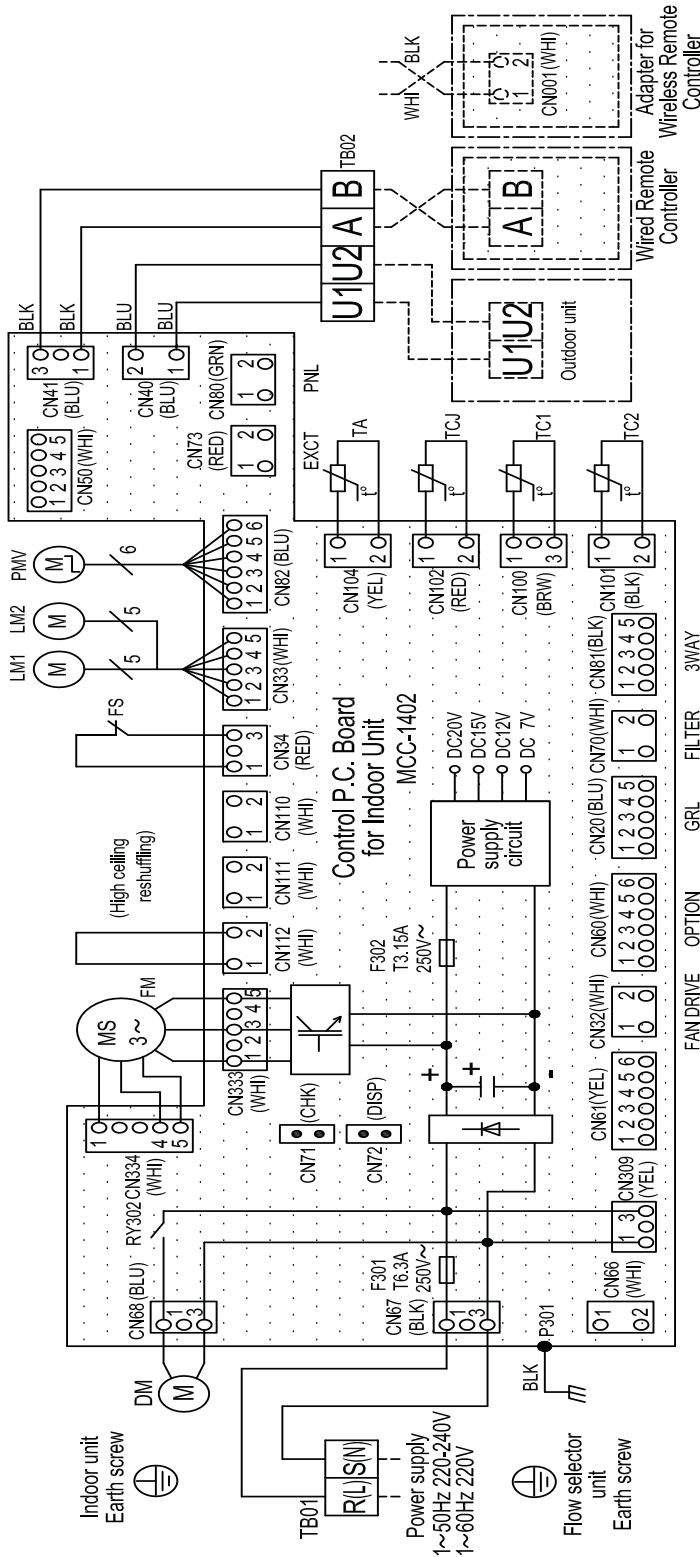
MMU-AP0074MH-E, AP0094MH-E, AP0124MH-E, AP0154MH-E, AP0181MH





### 3. Wiring diagram

MMU-AP0074MH-E, AP0094MH-E, AP0124MH-E, AP0154MH-E, AP0184MH-E



1. Broken line indicate the wiring at site.
- Long dashed short dashed line indicate the accessories.
2. □ □ indicates the terminal block.
- indicates the connection terminal.
- □ indicates the connector on the control P.C. board.
3. ⊕ indicates the protection ground.
4. □ □ □ □ indicates the control P.C. board.

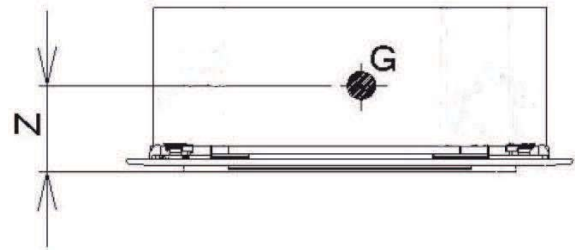
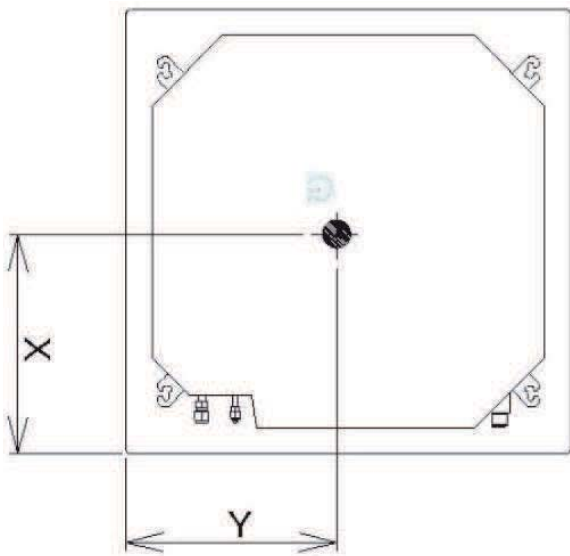
COLOR IDENTIFICATION	
RED	: RED
WHI	: WHITE
YEL	: YELLOW
BLU	: BLUE
BLK	: BLACK
GRY	: GRAY
PNK	: PINK
ORN	: ORANGE
BRW	: BROWN
GRN	: GREEN

Symbol	Parts Name
CN**	Connector
DM	Drain Pump Motor
F301,302	Fuse
FM	Fan Motor
FS	Float Switch
LM1,2	Louver Motor
PMW	Pulse Motor Valve
RY302	Drain Control Relay
TA	Indoor temp sensor
TB01,02	Terminal Block
TC1,2,TC	Temp sensor



## 4. Center of Gravity

Model name	X (mm)	Y (mm)	Z (mm)	Total weight	
				Main unit (Kg)	Ceiling panel (Kg)
MMU-AP0074MH-E	316.5	336.5	174	17	3
MMU-AP0091MH-E					
MMU-AP0121MH-E					
MMU-AP0151MH-E					
MMU-AP0181MH-E					





## 5. Sensible capacity table

### ■ Compact 4-way Cassette (600 x 600) Type (MMU-\*\*\*4MH-E)

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

unit size	outdoor air temp. CDB	indoor air temp.													
		14.0CWB		16.0CWB		18.0CWB		19.0CWB		20.0CWB		22.0CWB		24.0CWB	
		20CDB		23CDB		26CDB		27CDB		28CDB		30CDB		32CDB	
		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	2.7	4.1	2.9	4.4	3.1	4.5	3.1	4.6	3.1	4.9	3.1	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	3.1	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	3.1	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	3.1	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	3.1	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	3.1	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	3.1	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	3.1	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	3.1	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	3.1	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	3.1	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	3.1	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	3.1	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	3.1	5.1	3.0	
37.0	3.6	2.7	4.0	2.8	4.2	3.0	4.4	3.0	4.5	3.0	4.7	3.0	5.0	2.9	
39.0	3.5	2.6	3.8	2.8	4.1	2.9	4.2	2.9	4.4	2.9	4.6	2.9	4.8	2.8	



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

unit size	outdoor air temp. CDB	indoor air temp.													
		14.0CWB		16.0CWB		18.0CWB		19.0CWB		20.0CWB		22.0CWB		24.0CWB	
		20CDB		23CDB		26CDB		27CDB		28CDB		30CDB		32CDB	
		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	

## 6. Electrical characteristics

### ■ Compact 4-way Cassette (600 x 600) Type

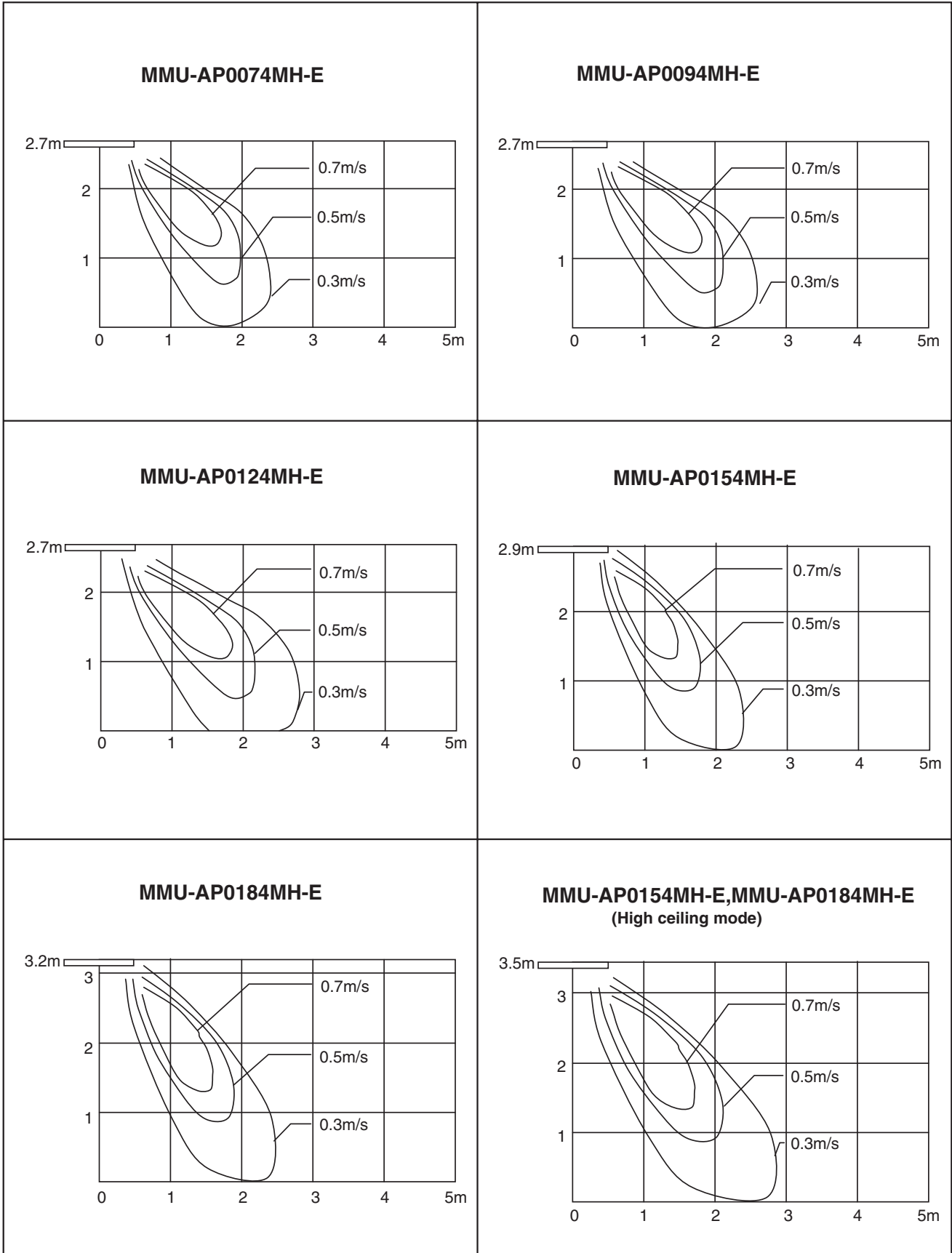
	Type	Model	Nominal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
				Min	Max	kW	FLA	MCA	MOCP
50Hz	Compact 4-way Cassette (600 x 600) Type	MMU-AP 0074 MH-E	230-1-50	198	264	0.060	0.32	0.40	15
		MMU-AP 0094 MH-E	230-1-50	198	264	0.060	0.35	0.44	15
		MMU-AP 0124 MH-E	230-1-50	198	264	0.060	0.36	0.45	15
		MMU-AP 0154 MH-E	230-1-50	198	264	0.060	0.48	0.60	15
		MMU-AP 0184 MH-E	230-1-50	198	264	0.060	0.48	0.60	15

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



## 7. Air throw distance chart

### ■ Compact 4-way Cassette (600 x 600) Type

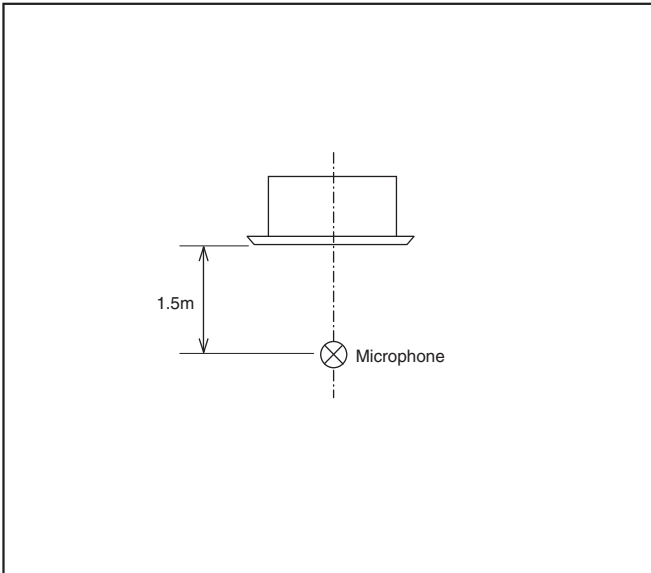






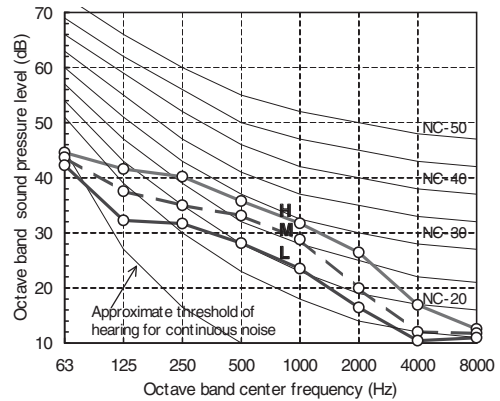
## 8. Sound Characteristics (NC-Curve)

### ■ Compact 4-way Cassette (600 x 600) Type



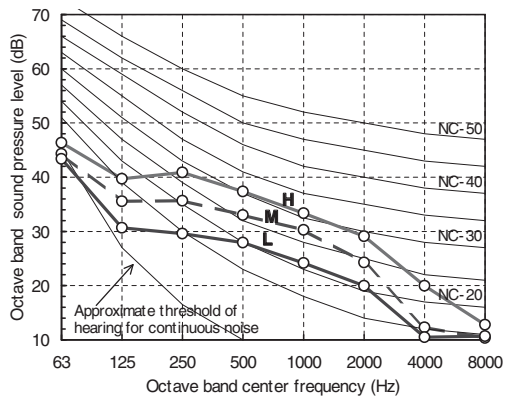
**MMU-AP0074MH-E**

Fan tap	H	M	L
Sound pressure level (dB(A))	36	32	28



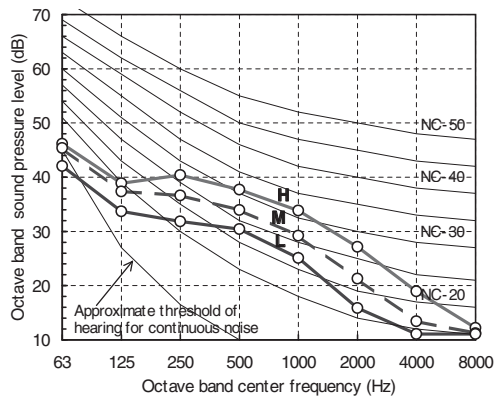
**MMU-AP0094MH-E**

Fan tap	H	M	L
Sound pressure level (dB(A))	37	33	28



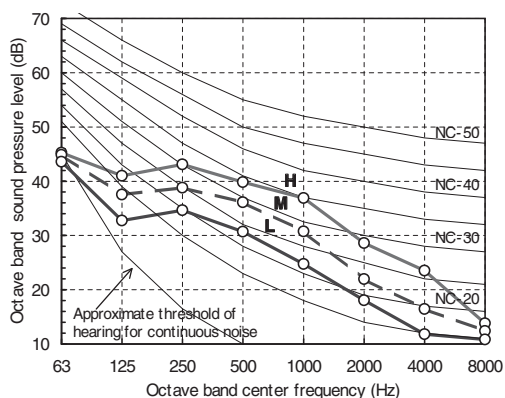
**MMU-AP0124MH-E**

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



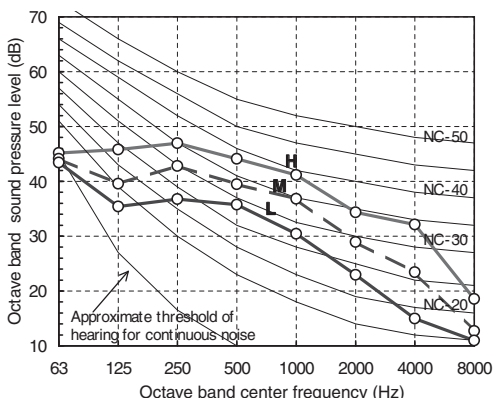
**MMU-AP0154MH-E**

Fan tap	H	M	L
Sound pressure level (dB(A))	40	35	30



**MMU-AP0184MH-E**

Fan tap	H	M	L
Sound pressure level (dB(A))	44	39	34





## 9. Fresh air intake (Design guide)

### ■ Compact 4-way Cassette (600 x 600) 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.

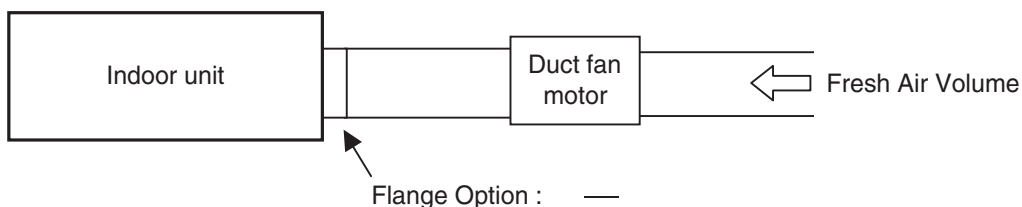
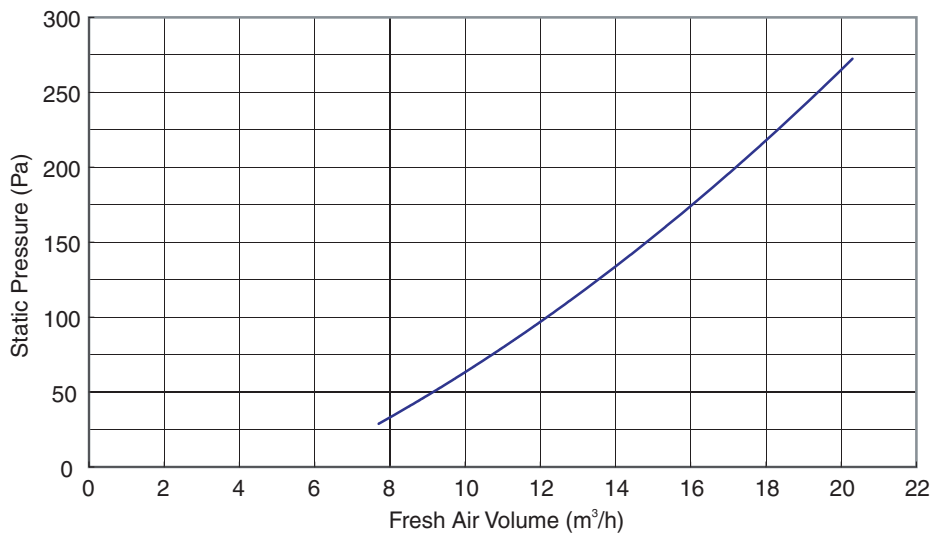
Model name	MMU-	AP0074MH-E	AP0094MH-E	AP0124MH-E	AP0154MH-E	AP0184MH-E
Standard air flow	(m <sup>3</sup> /h)	552	570	594	660	762

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.

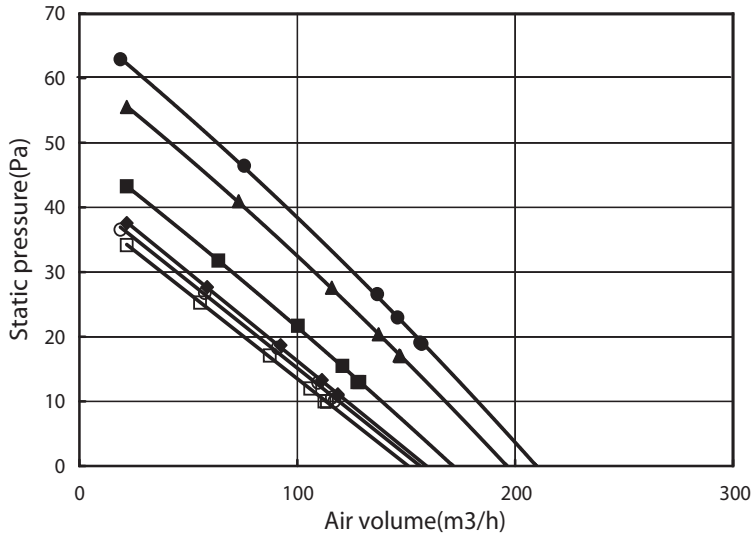
(Carry out the trial operation following the installation manual of the indoor unit.)



## 10. Branching Duct (design guide)

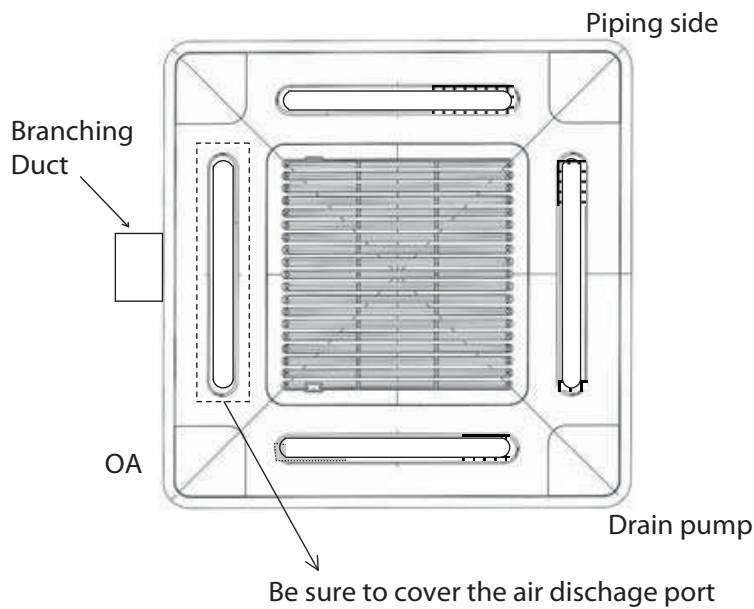
### ■ Compact 4-way Cassette (600 x 600) Type

Characteristics between air volume of branching duct and static pressure



	VRF	DI, SDI
●	MMU-AP0184MH-E*	SM562MUT-E
▲	MMU-AP0184MH-E	SM562MUT-E
■	MMU-AP0154MH-E	SM452MUT-E SM402MUT-E
◆	MMU-AP0124MH-E	-
○	MMU-AP0094MH-E	-
□	MMU-AP0074MH-E	-

\* High ceiling mode

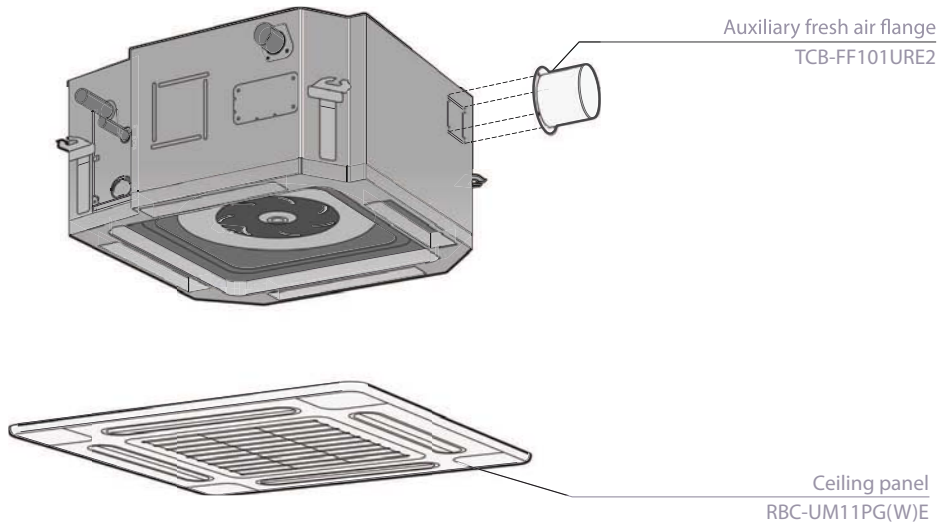




## 11. Accessories

### ■ Compact 4-way Cassette (600 x 600) Type

#### Optional accessories



Parts Name	Model name	Applied Model	Notes
Ceiling panel	RBC-UM11PG(W)E	MMU-AP***4MH-E	Required accessory For easy fresh air intake by using the knockout hole of indoor unit.(dia=100mm)
Auxiliary fresh air Flange	TCB-FF101URE2		