

Compact 4-way Cassette Type

MMU-UP0051MHP-E / TR



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1. Specifications

Model	Indoor unit		MMU-	UP0051MHP-E / TR	
Cooling capacity			(kW)	1.70	
Heating capacity			(kW)	1.90	
Power supply				1 ph 50 Hz 230V (220-240V) / 1 ph 60 Hz 220V (208-230V)	
Electrical characteristic	Indoor unit	Rate of power supply		220V	230V
		Running current (A)		0.20	0.19
		Power consumption (W)		15	15
		Indoor noise (H/M+/M/L+/L) (dB)		31/30/28/27/26	
		Indoor air flow (H/M+/M/L+/L) (m ³ / h)		430/400/370/340/300	
	Starting current (A)		0.24	0.23	
Appearance	Main Unit			Zinc hot dipping steel plate * Heat-insulating material attached to only upper plate	
	Ceiling Panel (*1)	Model Name (white / black)		RBC-UM21P-E / RBC-UM21PB-E	
		Panel color (white / black)		Gran White (Munsell 5PB9 / 1) / Black 3 C	
Dimension	Main unit	Height (*2)	(mm)	244	
		Width	(mm)	575	
		Depth (*3)	(mm)	575	
		Weight	(kg)	16	
	Ceiling Panel	Height (*2)	(mm)	12	
		Width	(mm)	620	
		Depth	(mm)	620	
		Weight	(kg)	2.5	
Heat exchanger				Finned tube	
Sound proof / Heat-insulating material				Non-flammable insulation	
Fan unit		Fan		Turbo fan	
		Motor (W)		60	
Air filter				Standard filter (Long life filter)	
Controller (*1)				Remote controller	
Connecting pipe		Gas side (mm)		Ø9.5	
		Liquid side (mm)		Ø6.4	
		Drain tube size (OD) (mm)		Ø32 (VP25)	

Cooling capacity : Inside air temperature 27°C (Db) / 19°C (Wb), outside air temperature 35°C (Db) / 24°C (Wb),

Heating capacity : Inside air temperature 20°C (Db) / 15°C (Wb), outside air temperature 7°C (Db) / 6°C (Wb),

The specification may be subject to change without notice for purpose of improvement.

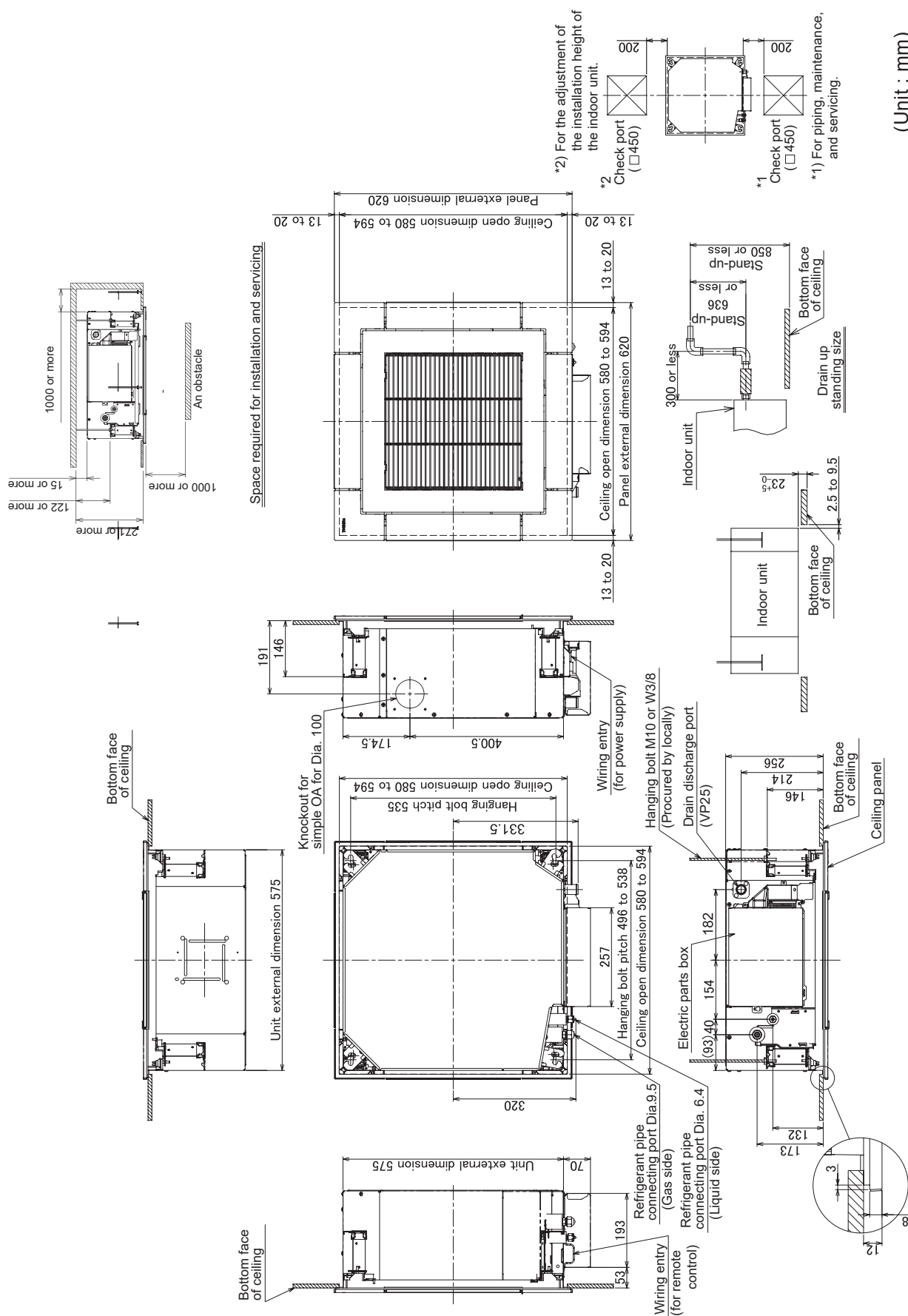
(*1) Remote controller and ceiling panel are sold separately.

(*2) Height from ceiling.

(*3) Depth doesn't including the Electric parts box.

2. Dimensions

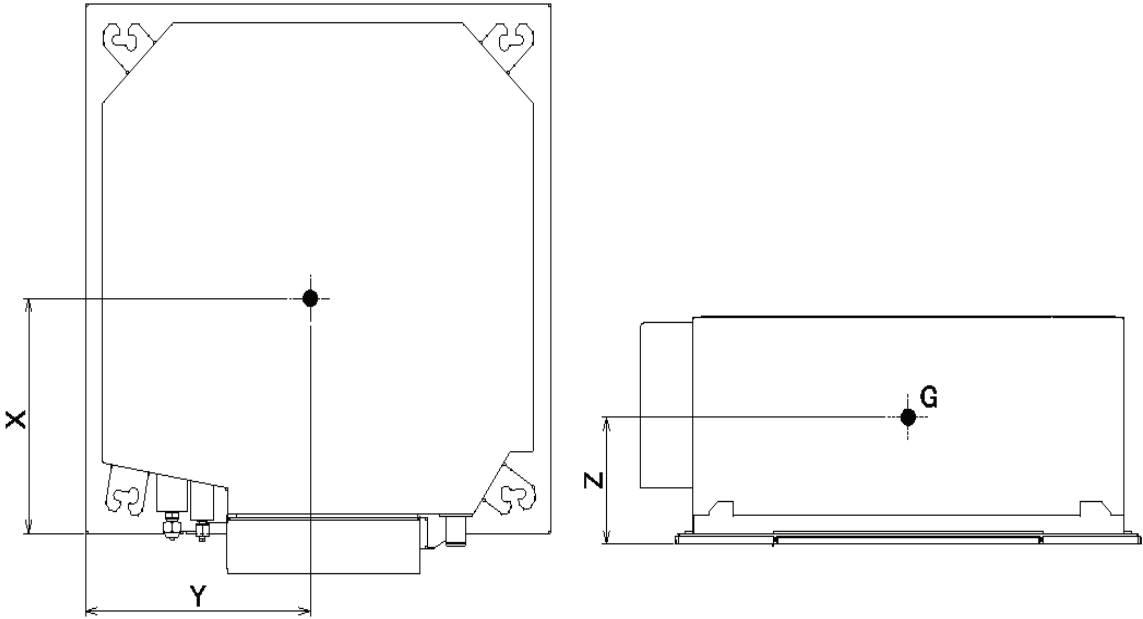
MMU-UP0051MHP-E/TR



(Unit : mm)

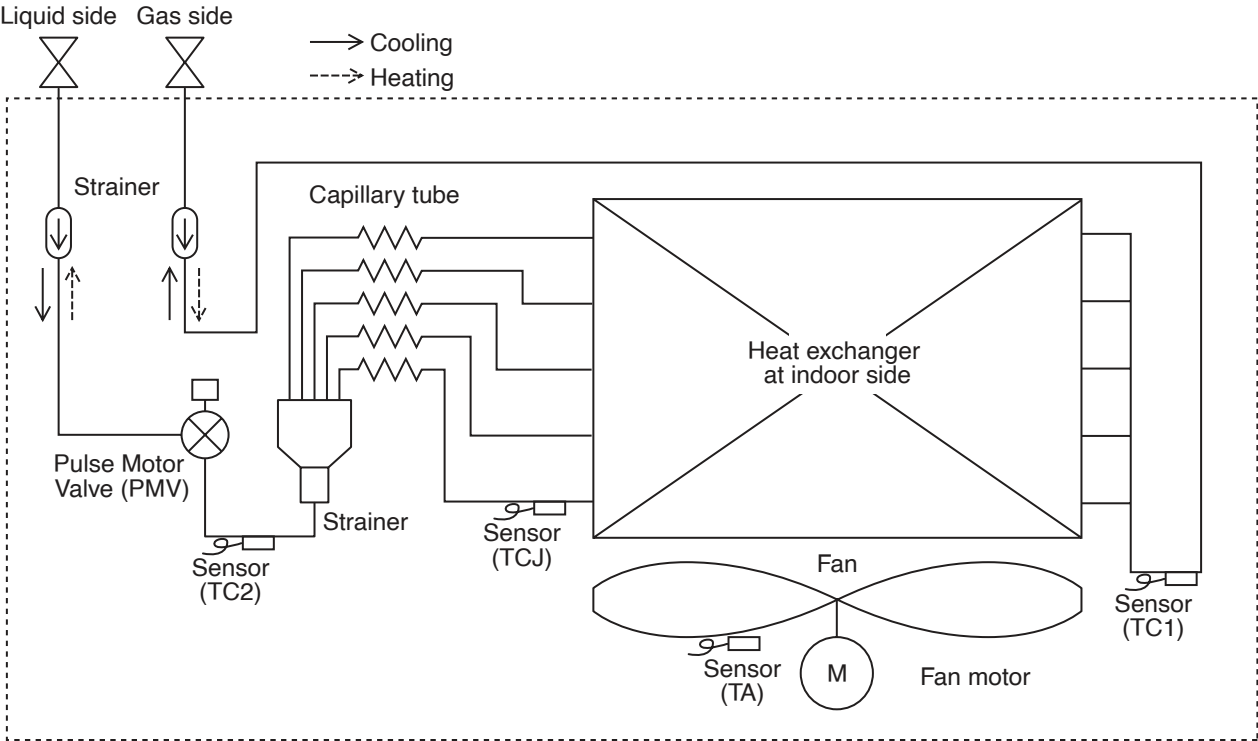
3. Center of gravity

Model name	X (mm)	Y (mm)	Z (mm)	Total weight	
				Main unit (kg)	Ceiling panel (kg)
MMU-UP0051MHP-E/TR	261	292	130	16	3



4. Piping diagram

MMU-UP0051MHP-E/TR

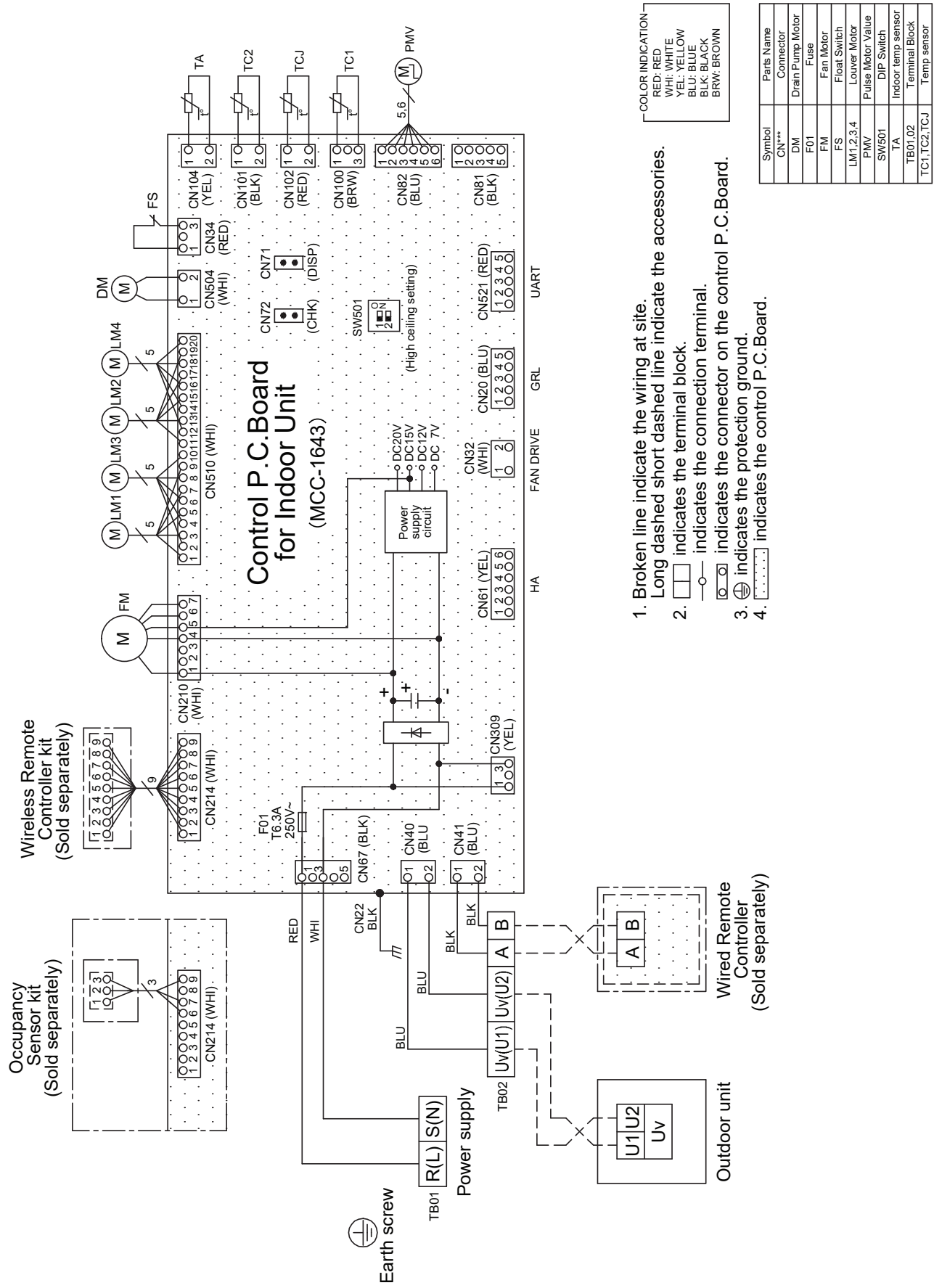


Explanation of functional parts in indoor unit

Functional part name		Functional outline
Pulse Motor Valve	PMV	(Connector CN82 (6P): Blue) 1) Controls superheat in cooling operation 2) Controls subcool in heating operation 3) Recovers refrigerant oil in cooling operation 4) Recovers refrigerant oil in heating operation
Temp. Sensor	TA	(Connector CN104 (2P): Yellow) 1) Detects indoor suction temperature
	TC1	(Connector CN100 (3P): Brown) 1) Controls PMV superheat in cooling operation
	TC2	(Connector CN101 (2P): Black) 1) Controls PMV subcool in heating operation
	TCJ	(Connector CN102 (2P): Red) 1) Controls PMV superheat in cooling operation

5. Wiring diagram

MMU-UP0051MHP-E/TR



6. Electrical characteristics

1) 50Hz

Type	Model	Nominal Voltage	Voltage Range		Fan Motor		Power Supply	
		(V-Ph-Hz)	Min	Max	kW	FLA	MCA	MOCP
Compact 4-way	MMU-UP0051MHP-E/TR	230-1-50	198	264	0.060	0.24	0.30	15

2) 60Hz

Type	Model	Nominal Voltage	Voltage Range		Fan Motor		Power Supply	
		(V-Ph-Hz)	Min	Max	kW	FLA	MCA	MOCP
Compact 4-way	MMU-UP0051MHP-E/TR	220-1-60	187	253	0.060	0.24	0.30	15

MCA : Minimum Circuit Amps

FLA : Full Load Amps

MOCP : Maximum Overcurrent Protection (Amps)

kW : Fan Motor Output (kW)

7. Sensible capacity table

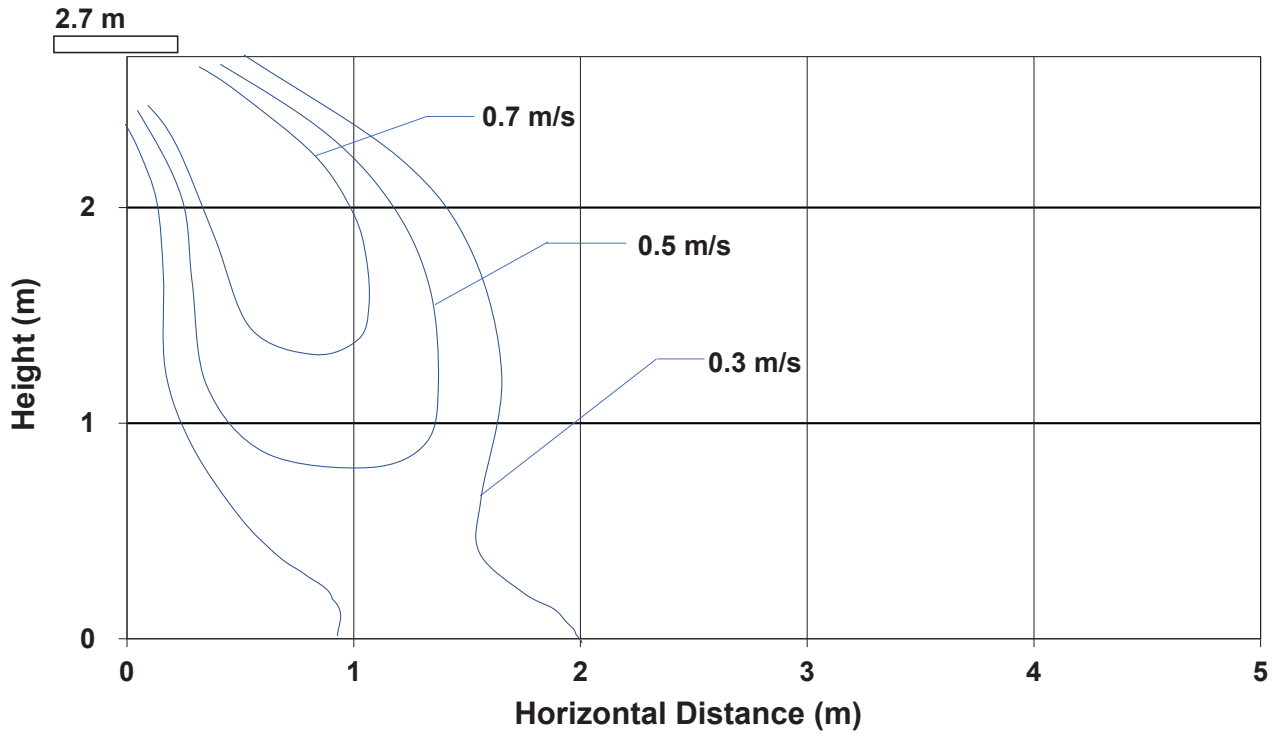
Compact 4 way cassette (MMU-UP___1MHP-E/TR)

TC : Total Capacity [kW], SHC : Sensible Heat Capacity [kW]

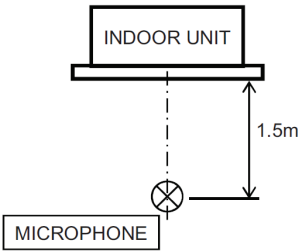
Unit size	indoor air temp.														
	outdoor air temp.	14 °C WB		16 °C WB		18 °C WB		19 °C WB		20 °C WB		22 °C WB		24 °C WB	
	°C DB	20 °C DB		23 °C DB		26 °C DB		27 °C DB		28 °C DB		30 °C DB		32 °C DB	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
005	10.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	12.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	14.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	16.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	18.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	20.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	21.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	23.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	25.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	27.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	29.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	31.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	33.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	35.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.8	1.5	1.9	1.4
	37.0	1.4	1.3	1.5	1.4	1.6	1.4	1.7	1.5	1.7	1.5	1.7	1.5	1.8	1.4
	39.0	1.3	1.2	1.4	1.3	1.5	1.3	1.6	1.4	1.6	1.4	1.7	1.4	1.8	1.3

8. Air flow distance chart

Standard (Factory default)
MMU-UP0051MHP-E/TR



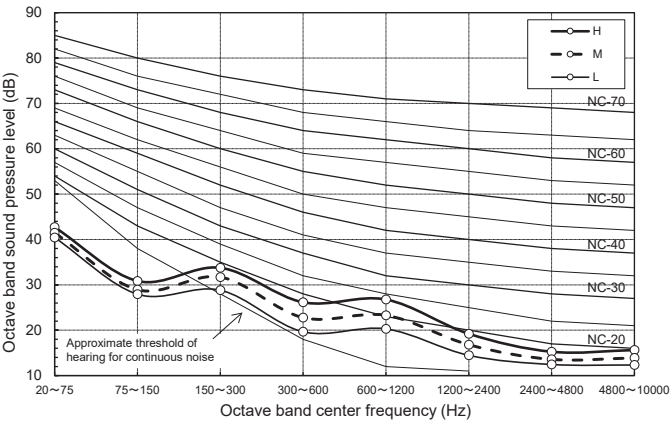
9. Sound characteristics (NC Curve)



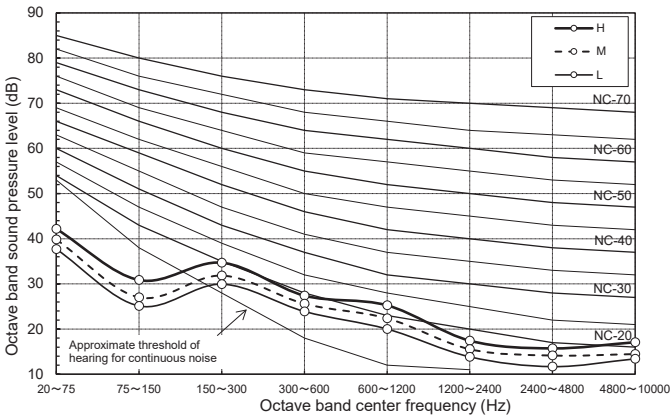
MMU-UP0051MHP-E/TR

Specification (dB)			
Fan tap	H	M	L
Sound pressure level (dB(A))	31	28	26

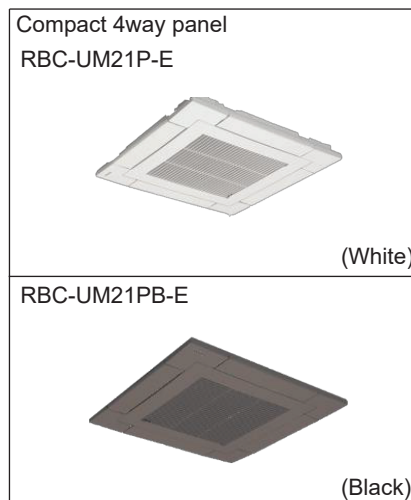
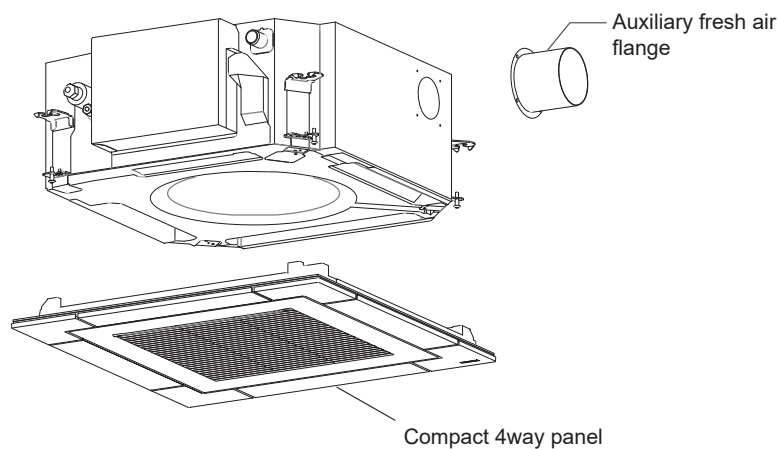
Cooling



Heating



10. Accessories



No	Type	Model Name	Qty/unit
1	1.1 Compact 4way panel (White)	RBC-UM21P-E	1
	1.2 Compact 4way panel (Black)	RBC-UM21PB-E	1
2	Auxiliary fresh air flange	TCB-FF101URE2	1
3	Wireless RC (White)	RBC-AXU31UMP-E	1
	Wireless RC (Black)	RBC-AXU31UMPB-E	1
	Occupancy sensor kit	TCB-SIR41UMP-E	1
	3.2 Standard wired remote controller	RBC-ASCU11-E	1
	3.3 Wired remote controller	RBC-AMTU31-E	1
	Premium wired remote controller with bluetooth	RBC-AWSU52-E	1
	3.4 Premium wired remote without bluetooth	RBC-AMSU52-E	1

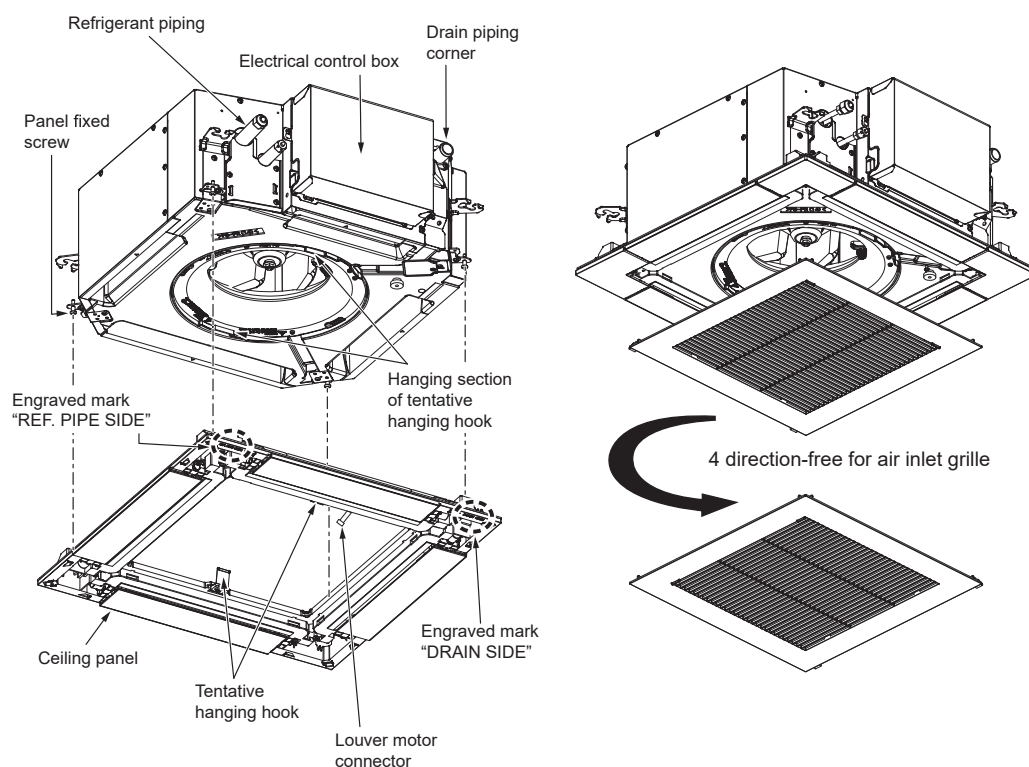
Combination pattern		Compact 4way panel (White) RBC-UM21P-E	Compact 4way panel (Black) RBC-UM21PB-E	Wireless RC (White) RBC-AXU31UMP-E	Wireless RC (Black) RBC-AXU31UMPB-E	Occupancy sensor kit TCB-SIR41UMP-E	Standard wired remote controller RBC-ASCU11-E	Wired remote controller RBC-AMTU31-E	Premium wired remote controller with bluetooth RBC-AWSU52-E	Premium wired remote without bluetooth RBC-AMSU52-E	Auxiliary fresh air flange TCB-FF101URE2
Ceiling Panel	Compact 4way panel (White)	RBC-UM21P-E		OK		OK	OK	OK	OK	OK	OK
	Compact 4way panel (Black)	RBC-UM21PB-E			OK		OK	OK	OK	OK	OK
Wireless RC (White)		RBC-AXU31UMP-E	OK			OK	OK	OK	OK	OK	OK
Wireless RC (Black)		RBC-AXU31UMPB-E		OK			OK	OK	OK	OK	OK
Occupancy sensor kit		TCB-SIR41UMP-E	OK		OK		OK	OK	OK	OK	OK
Standard wired remote controller		RBC-ASCU11-E	OK	OK	OK	OK		OK	OK	OK	OK
Wired remote controller		RBC-AMTU31-E	OK	OK	OK	OK	OK		OK	OK	OK
Premium wired remote controller with bluetooth		RBC-AWSU52-E	OK	OK	OK	OK	OK	OK		OK	OK
Premium wired remote without bluetooth		RBC-AMSU52-E	OK	OK	OK	OK	OK	OK	OK		OK
Auxiliary fresh air flange		TCB-FF101URE2	OK	OK	OK	OK	OK	OK	OK	OK	

Name	Model name	Appearance
Wireless RC (White)	RBC-AXU31UMP-E	
Wireless RC (Black)	RBC-AXU31UMPB-E	
Occupancy sensor kit	TCB-SIR41UMP-E	
Standard wired remote controller	RBC-ASCU11-E	
Wired remote controller	RBC-AMTU31-E	
Premium wired remote controller with bluetooth	RBC-AWSU52-E	
Premium wired remote without bluetooth	RBC-AMSU52-E	

Appendix

1.Ceiling Panel

1.1 Compact 4way panel (white) : RBC-UM21P-E



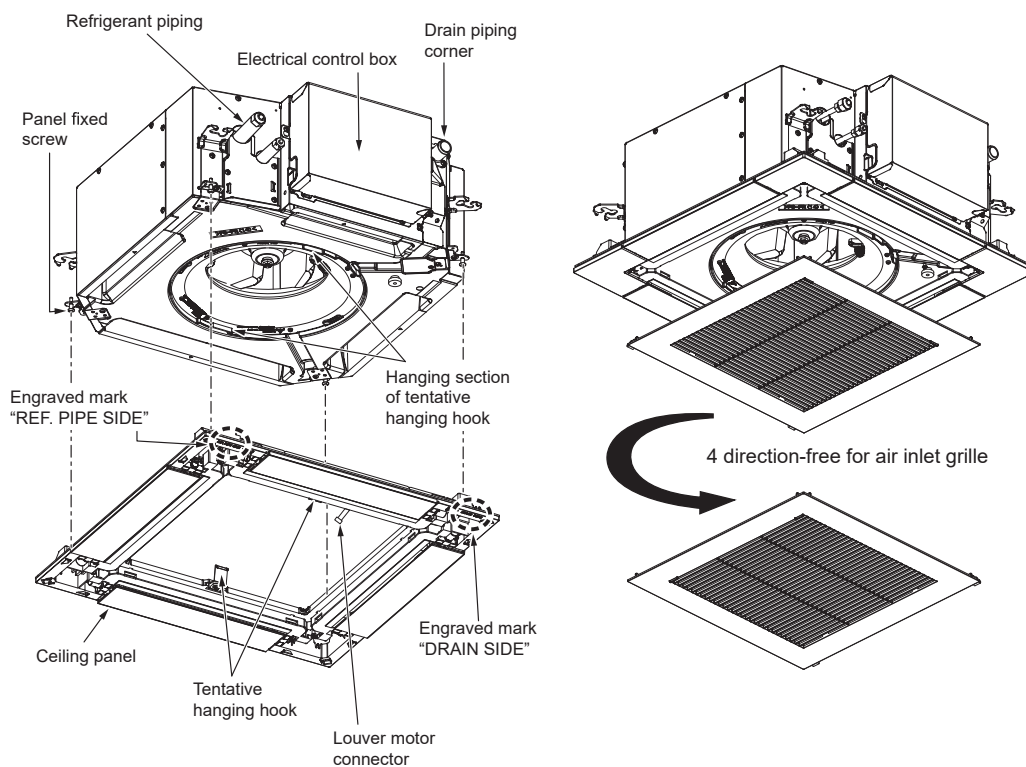
Wireless RC (White) : TCB-AXU31UMP-E



Occupancy sensor kit : TCB-SIR41UMP-E



1.2 Compact 4way panel (Black) : RBC-UM21PB-E



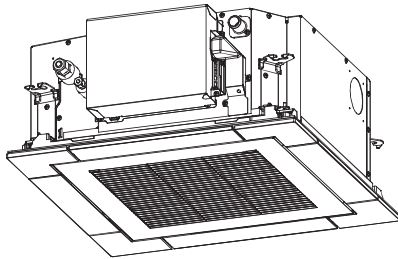
Wireless RC (Black) : TCB-AXU31UMPB-E



2.Auxiliary fresh air flange : TCB-FF101URE2

Installation

1. Using the knockout of the indoor unit main body, as a marker, cut off the flange with the heat insulator (styrol) with cutting pliers or cutter.

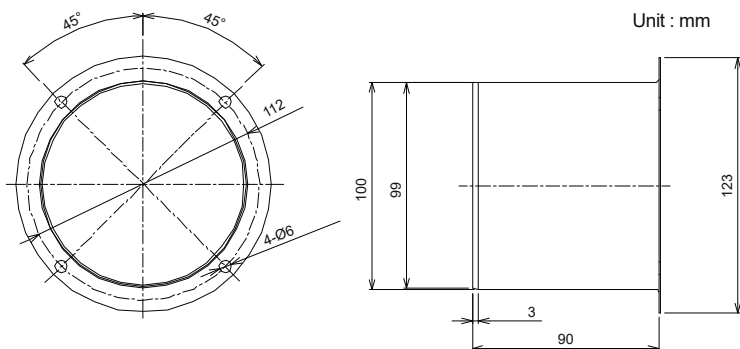


NOTE

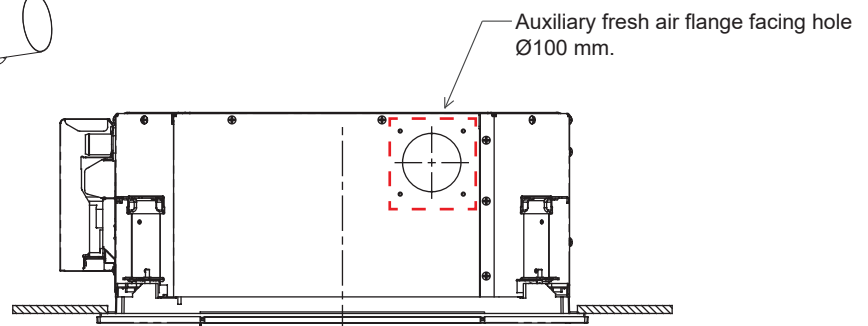
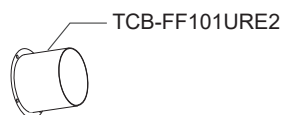
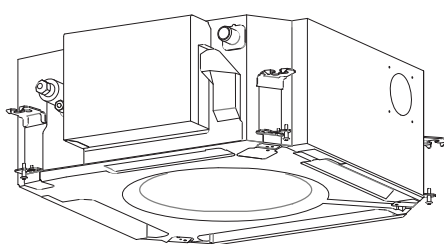
When cutting off the styrol inside, be careful not to insert the cutter blade deeper than 30 mm. (Damage to the drain pan inside can cause water leakage.) Wear safety globes to carry out these works. Do not attempt with bare hands.

2. A gap between the styrol and steel plate may cause a trouble such as condensation. Be sure to attach the attached heat insulator A first with it aligned to the screw hole, and then attach B, according to the right figure.
3. Install the auxiliary fresh air flange to the indoor unit main body with attached 4 fixing screws.

Dimension



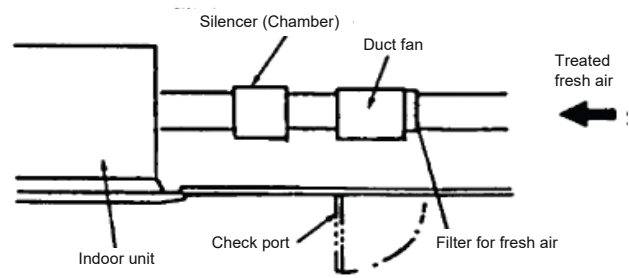
Installation



Duct fan

In order to take fresh air, provide the duct fan separately.

1. Install the filter for fresh air
2. Provide the check port beneath the duct fan for maintenance.
3. Provide the silencer to prevent the effect of noise.



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 2% of standard.

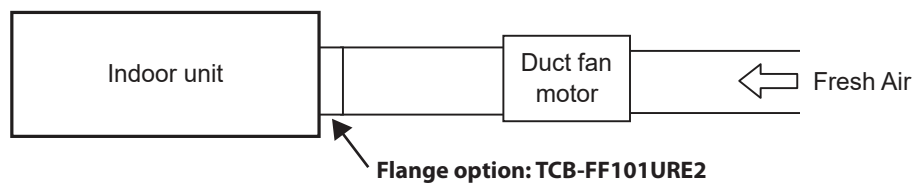
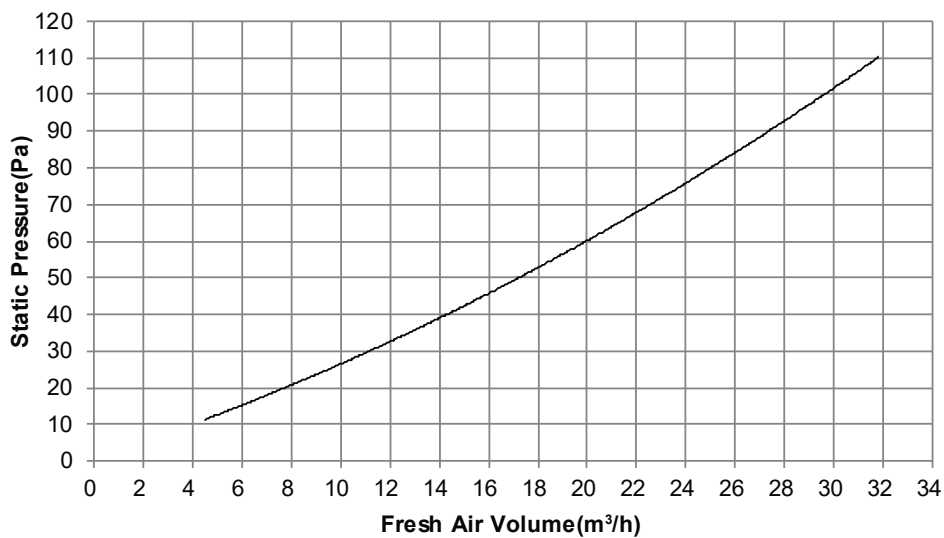
Model name	MMU-	UP0051MHP-E/TR
Standard air flow	m ³ /h	430

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.

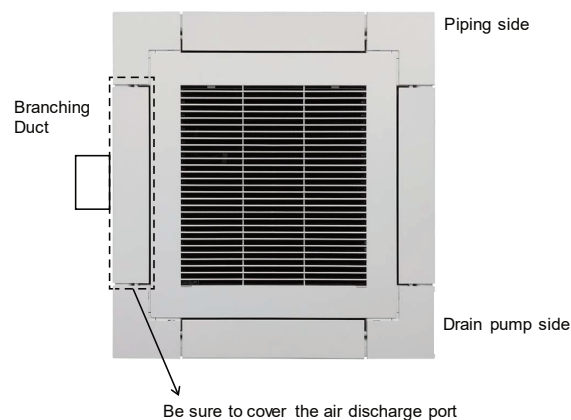
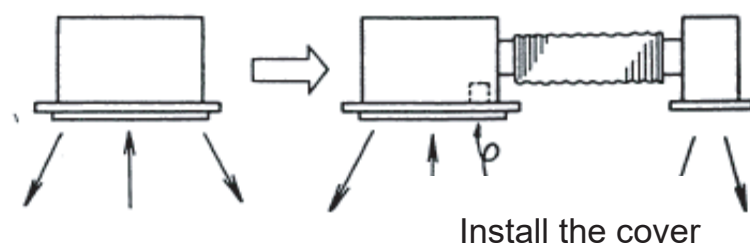
(Rated current of the relay for duct fan should be up to 75mA.)

After installation, carry out a test run to check that the duct fan of the indoor unit start/stop simultaneously.

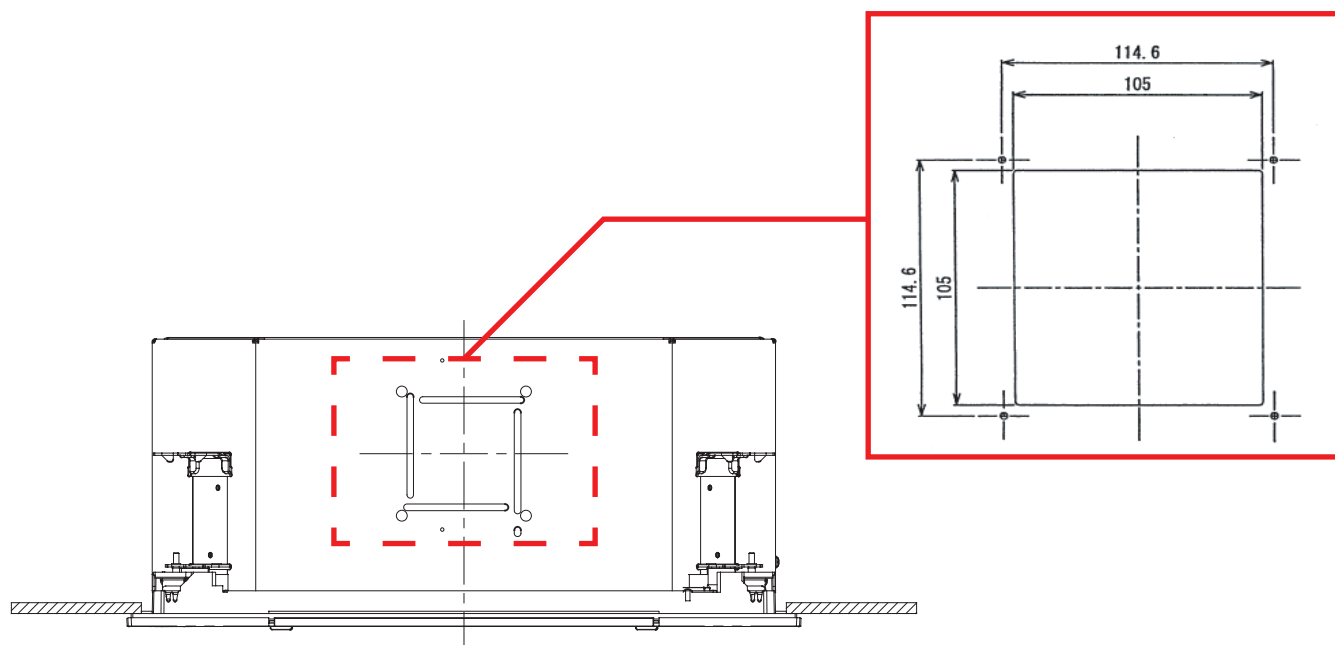
(Carry out the test run following the installation manual of the indoor unit.)

Branching duct (design guide)

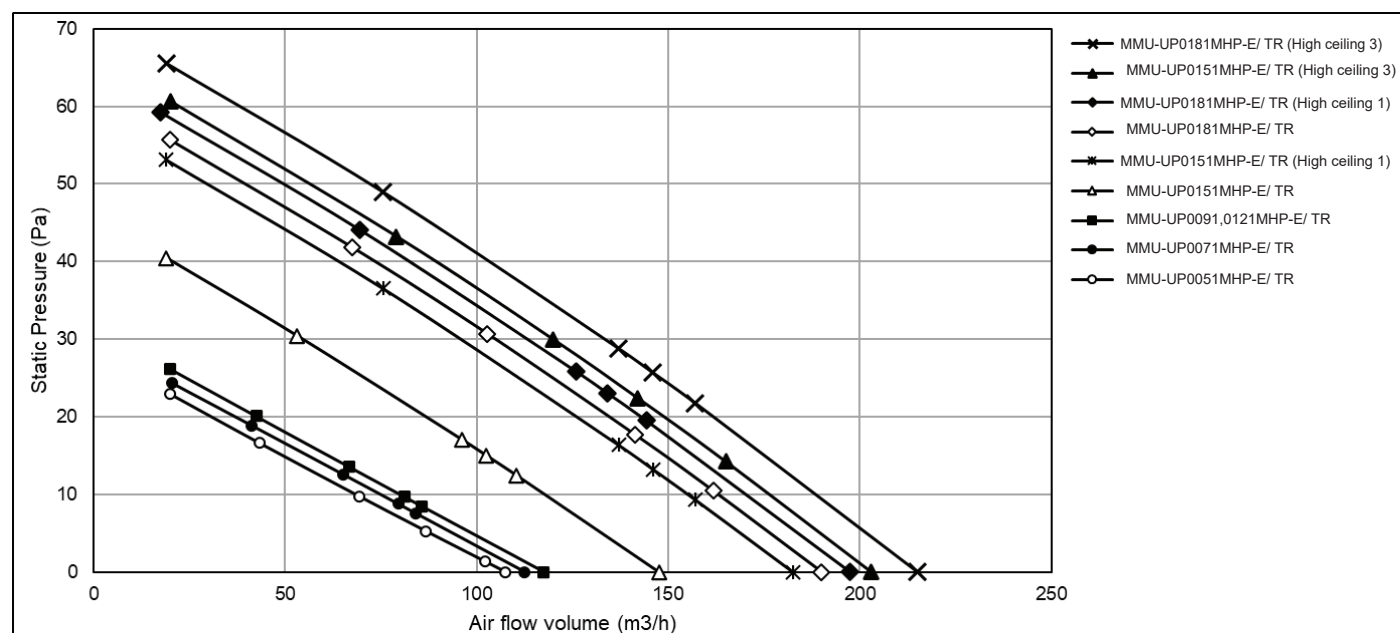
Cover method



Dimension

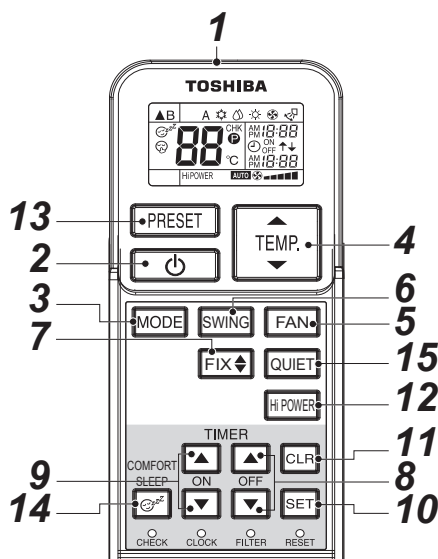


Characteristics between air volume of branching duct and static pressure



3. Remote controller

3.1 Wireless RC (White / Black) : RBC-AXU31UMP-E / RBC-AXU31UMPB-E



1 Infrared signal emitter

Transmits a signal to the indoor unit.

2 START/STOP button

Press the button to start operation.

(A receiving beep is heard.)

Press the button again to stop operation.

(A receiving beep is heard.)

If no receiving sound is heard from the indoor unit, press the button twice.

3 Mode select button (MODE)

Press this button to select a mode.

Each time you press the button, a mode is selected in a sequence that goes from A : Auto, ☀ : Cool, 💧 : Dry, ☀ : Heat, 🌀 : Fan only, and back to A. (A receiving beep is heard.)

4 Temperature button (TEMP.)

TEMP. The set temperature is increased up to 30°C.

TEMP. The set temperature is dropped down to 17°C. (A receiving beep is heard.)

5 Fan speed button (FAN)

Press this button to select fan speed.

When you select AUTO, the fan speed is automatically adjusted according to the room temperature.

You can also manually select the desired fan speed from among five settings.

(LOW ■, LOW+ ■■, MED ■■■, MED+ ■■■■, HIGH ■■■■■)

(A receiving beep is heard.)

6 Auto louver button (SWING)

Press this button to swing the louver.

(A receiving beep is heard.)

Press the SWING button to stop the louver swinging.

(A receiving beep is heard.)

7 Set louver button (FIX)

Press this button to adjust the airflow direction.

(A receiving beep is heard.) While this FIX button is kept depressed, the receiving tone continuously sounds.

8 Off timer button (OFF)

Press this button to set the OFF timer.

9 On timer button (ON)

Press this button to set the ON timer.

10 Reserve button (SET)

Press this button to reserve time settings.

(A receiving beep is heard.)

11 Cancel button (CLR)

Press this button to cancel ON timer and

OFF timer.

(A receiving beep is heard.)

12 High power button (Hi POWER)

Press this button to start the high power operation.

This function is not operated group control.

13 PRESET button

Press this button to change the operation mode to the preferred operation mode memorized previously. To memorize the operation mode, press this button for at least 3 seconds during the preferred operation mode. P is displayed and the operation mode is memorized.

14 COMFORT SLEEP button

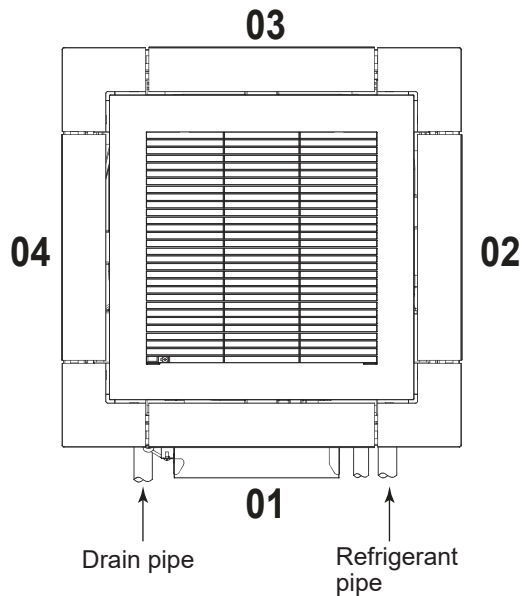
Press this button to start the OFF timer operation that automatically adjusts the room temperature and the fan speed. You can select the OFF timer time from four durations (1, 3, 5 or 9 hours). During group control operation, the set temperature and the fan speed are not automatically adjusted. Only off timer function is activated.

15 QUIET button

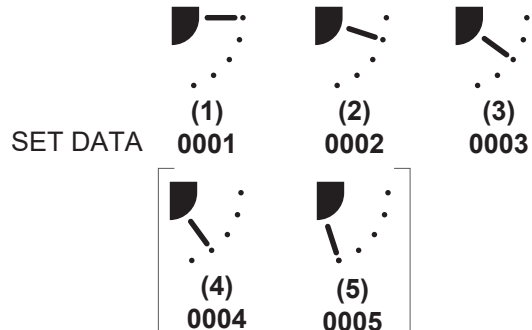
Press this button to start quiet operation.

Pressing this button again will restore normal operation.

Louvers position

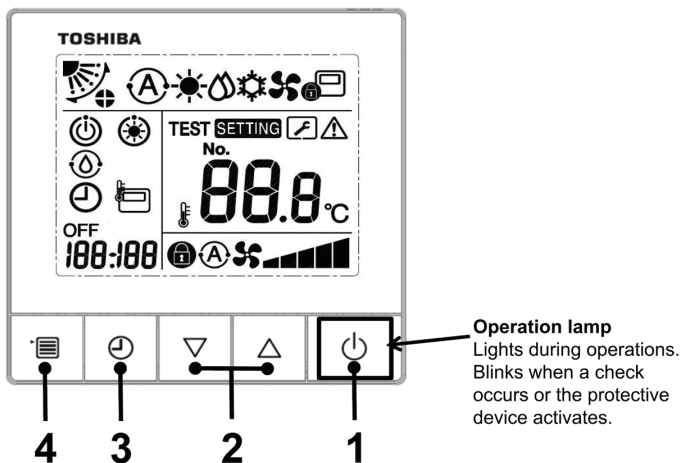


A position of the individual louvers (four directions) can be locked.



* When (4) or (5) is selected, dew drop may occur during cooling mode.

3.2 Standard wired remote controller : RBC-ASCU11-E



1 ON/OFF button

Press the button to turn on the air conditioner, and press the button again to turn off the air conditioner.

2 Setting button

It is used for temperature setting in general conditions. In running mode, fan speed mode and wind direction mode, it is used for the change of respective settings.

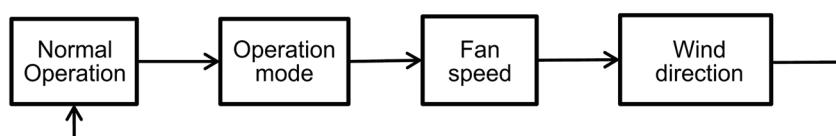
3 Timer off button

Set the timer off.

4 Menu button

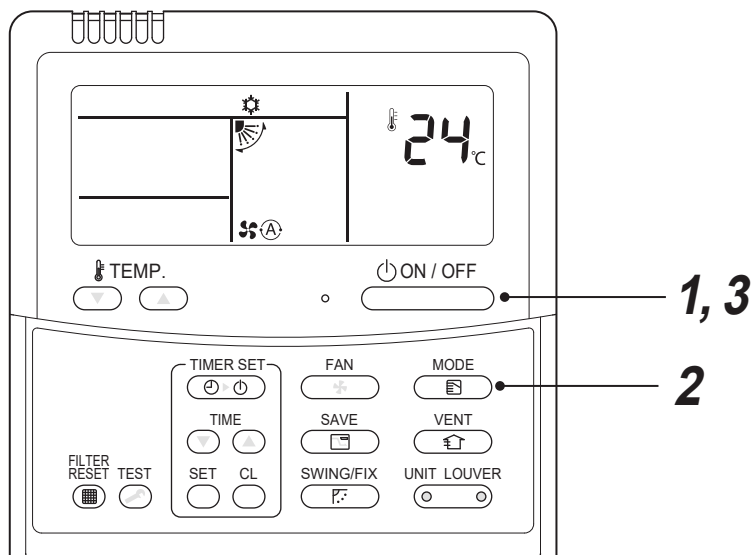
It is used for the selection of the running mode, fan speed and wind direction. Press of the button each time, then it will switch in the following order.

- In different modes of the indoor unit, the selection of fan speed or wind direction may be omitted.



3.3 Wired remote controller : RBC-AMTU31-E

■ Operations

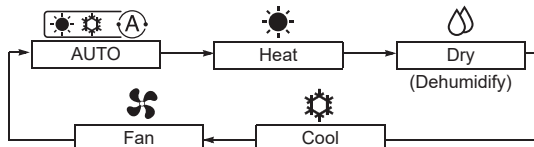


1 Push the button.

The operation lamp lights up.

2 Push the button to select a operation mode.

Each time you push the button, the operation mode and its icon change in the following order:



Depending on the type of unit connected, the operation modes that cannot be set will not be displayed.

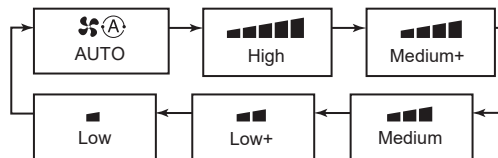
3 Push the button to stop running.

The operation lamp turns off.

■ Changing the fan speed

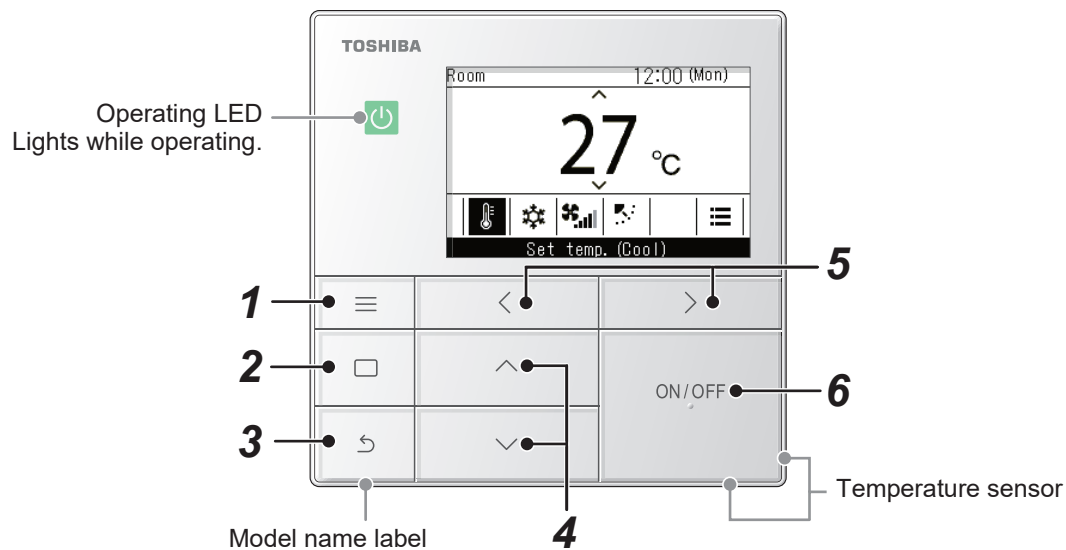
Push the button to select a fan speed.

- Each time you push the button, fan speed and its indication change in the following order: (" Auto" cannot be selected in the FAN mode.)
- * The available fan speeds vary depending on the indoor unit connected.



- The temperature sensor detects the return air temperature at the indoor unit, which may slightly differ from the actual room temperature depending on installation condition. Set temperature is a target of room temperature.

3.4 Premium wired remote controller with/without bluetooth : RBC-AWSU52-E / RBC-AMSU52-E



* The screens shown here are examples. The content that is displayed may differ, depending on the environment settings being used.

1 [Menu] button

Shows the "Menu".
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2 [Set/Fix] button

Fixes and applies settings.
Ways to use it are shown on screen.

3 [Return] button

Deletes selections.
Ways to use it are shown on screen.

4 [Up] and [Down] buttons

Changes settings and selects items.

5 [Left] and [Right] buttons

Selects setting items.
Other ways to use it are shown on screen.

6 [ON/OFF] button

Starts and stops connected devices.

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