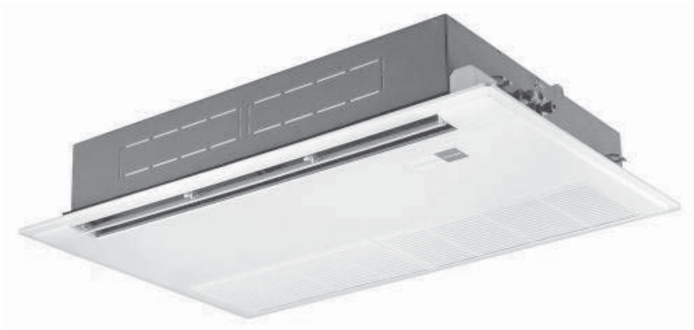
1-way Cassette Type

MMU-UP0151SH-E
MMU-UP0181SH-E
MMU-UP0241SH-E



Contents

Allocation standard of model name

M	M	U	-	U	P	*	*	*	*	S	H	-	E

MM	VRF FCU

Type of mounting	
U	Cassette

-	Dash (or hyphen)

Communication	
U	TU2C-link

Refrigerant	
P	R410A/R407C

***	Capacity

Development series number

Type of mounting	
S	1way cassette

System	
H	Cooling/Heating

-	Dash (or hyphen)･･･In case of no codes after #17, "-" will not be used When model name has over 18 characters, "-" will not be used.

Classification Code for Destination	
E	Corresponding to European standard

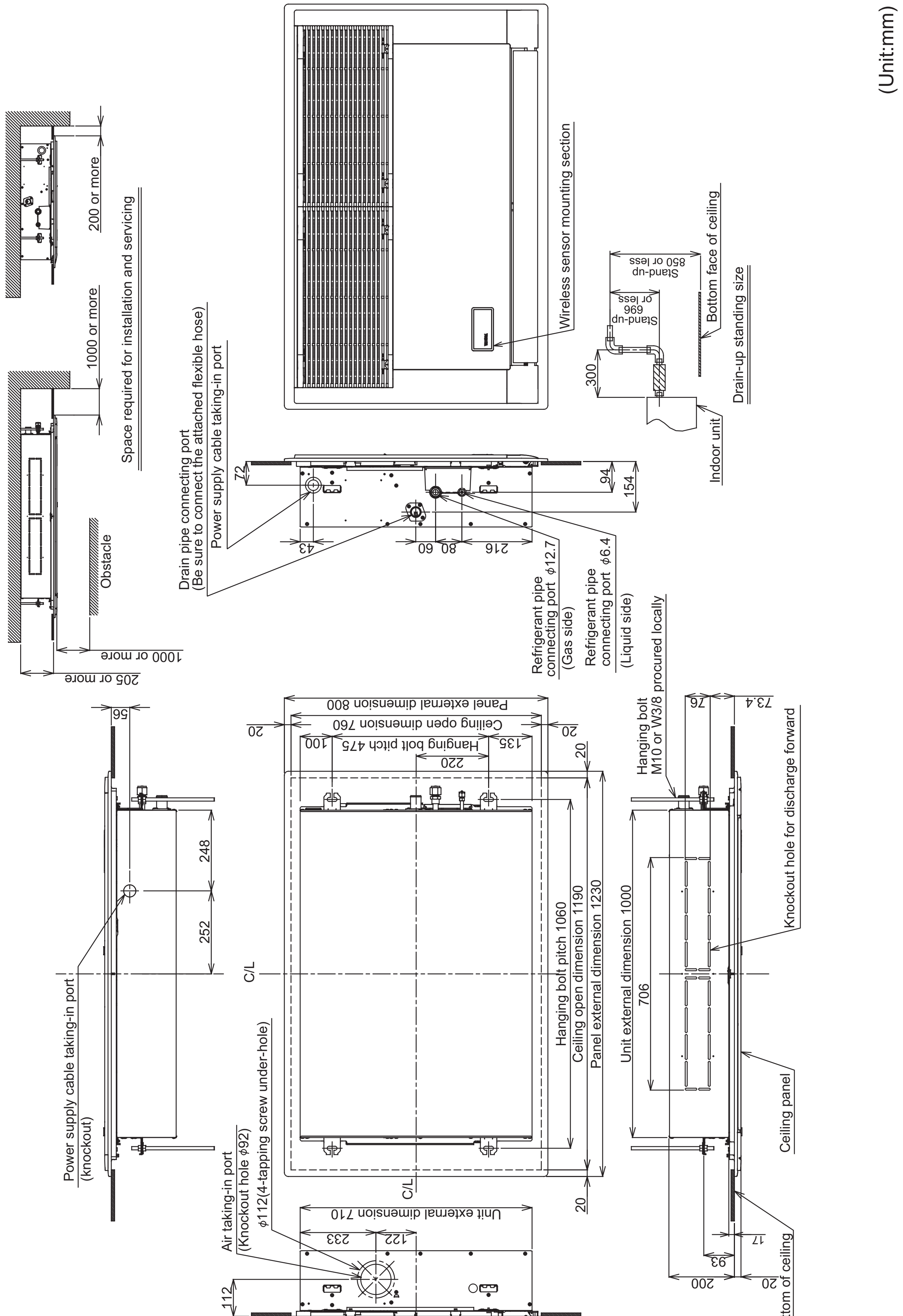
1. Specifications

Model name			MMU-	UP0151SH-E	UP0181SH-E	UP0241SH-E
Cooling capacity (*1)			kW	4.5	5.6	7.1
Heating capacity (*1)			kW	5.0	6.3	8.0
Electrical charastaristics	Power supply			1 ph 50Hz 220-240V		
	Running current		A	0.34	0.36	0.54
	Power consumption		kW	0.039	0.042	0.064
	Starting current		A	0.44	0.47	0.70
	Power supply			1 ph 60Hz 208-230V		
	Running current		A	0.36	0.37	0.57
	Power consumption		kW	0.039	0.042	0.064
	Starting current		A	0.46	0.49	0.73
Appearance	Main Unit			Heat-instulating material attached Zinc hot dipping steel plate		
	Ceiling Panel	Model Name		RBC-US21PGE		
		Panel Color		Moon White (Munsell 2.5GY9.0 / 0.5)		
Outer 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	20		21
	Ceiling Panel		kg	5.5		
Heat exchanger				Finned tube		
Soundproof / Heat-insulating material				Polyethylene foam + Expanded polyethylene		
Fan unit	Fan			Centrifugal fan		
	Standard air flow (H / M+ / M / L+ / L)		m^3/h	750 / 720 / 690 / 650 / 630	780 / 750 / 720 / 680 / 660	1140 / 1050 / 960 / 840 / 810
	Motor		W	94		
Air filter				Standard filter (Long life filter)		
Controller				Remote controller		
Connecting pipe	Gas side		mm	Ø 12.7		Ø 15.9
	Liquid side		mm	Ø 6.4		Ø 9.5
Drain port (Nominal dia. mm)				25 (Polyvinyl chloride tube)		
Sound pressure level (H / M+ / M / L+ / L)			dB(A)	37 / 36 / 35 / 34 / 32	38 / 37 / 36 / 35 / 34	45 / 43 / 41 / 39 / 37
Sound power level (H / M+ / M / L+ / L)			dB(A)	52 / 51 / 50 / 49 / 47	53 / 52 / 51 / 50 / 49	60 / 58 / 56 / 54 / 52

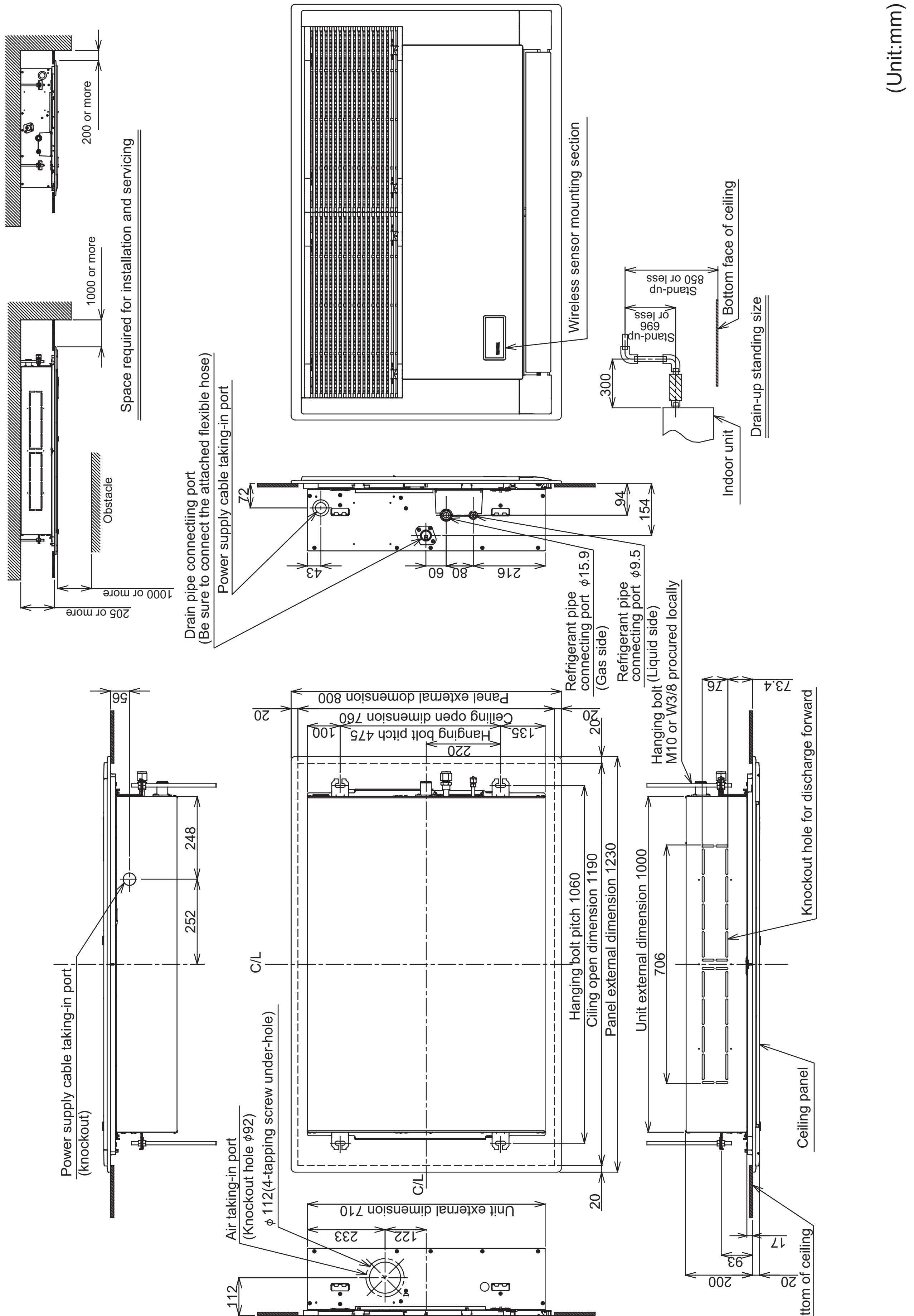
Note
(*1) Rated conditions Cooling: Indoor 27 degC Dry Bulb / 19 degC Wet Bulb, Outdoor 35 degC Dry Bulb.
Heating: Indoor 20 degC Dry Bulb, Outdoor 7 degC Dry Bulb / 6 degC Wet Bulb.
Based on equivalent piping length of 7.5 m and piping height difference of 0 m.

2. Dimensions

MMU-UP0151SH-E, MMU-UP0181SH-E



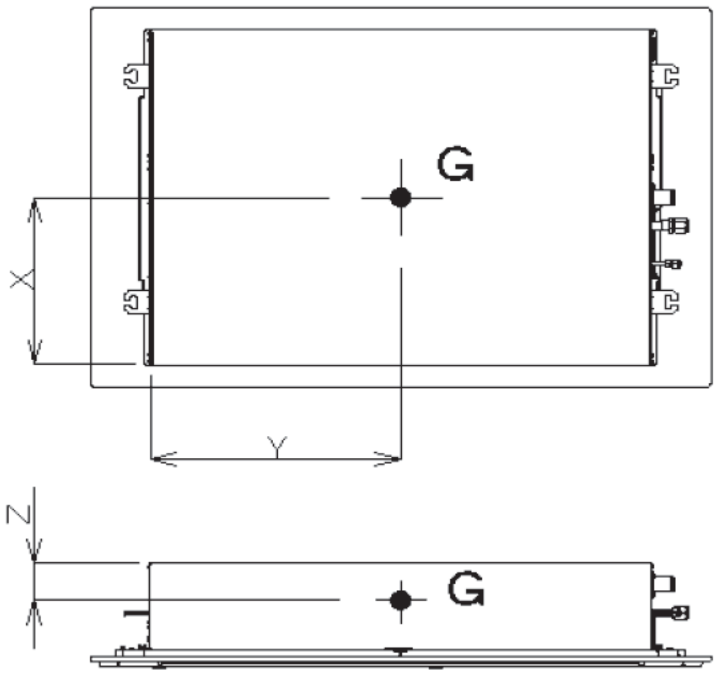
MMU-UP0241SH-E



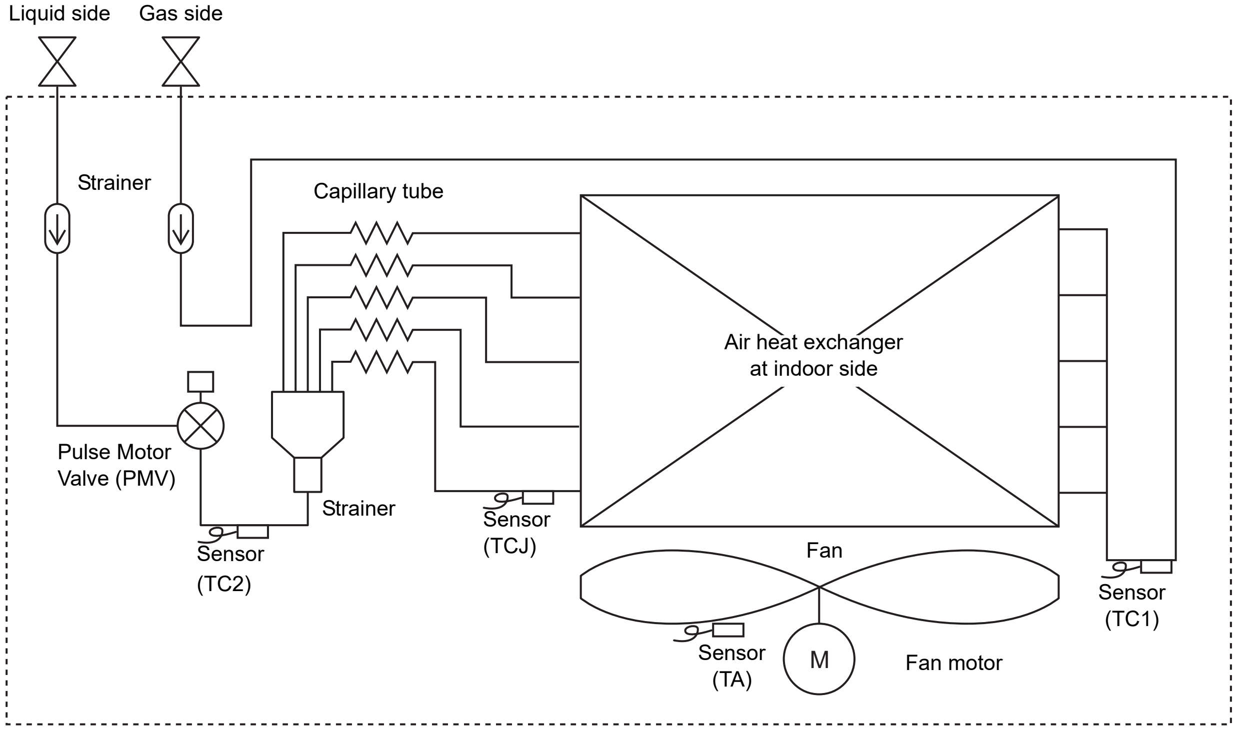
3. Center of gravity

1-way SH Type

Model name	X(mm)	Y(mm)	Z(mm)	Total weight(kg)	
				Main unit	Ceiling panel
MMU-UP0151SH-E	370	475	80	20	5.5
MMU-UP0181SH-E					
MMU-UP0241SH-E				21	



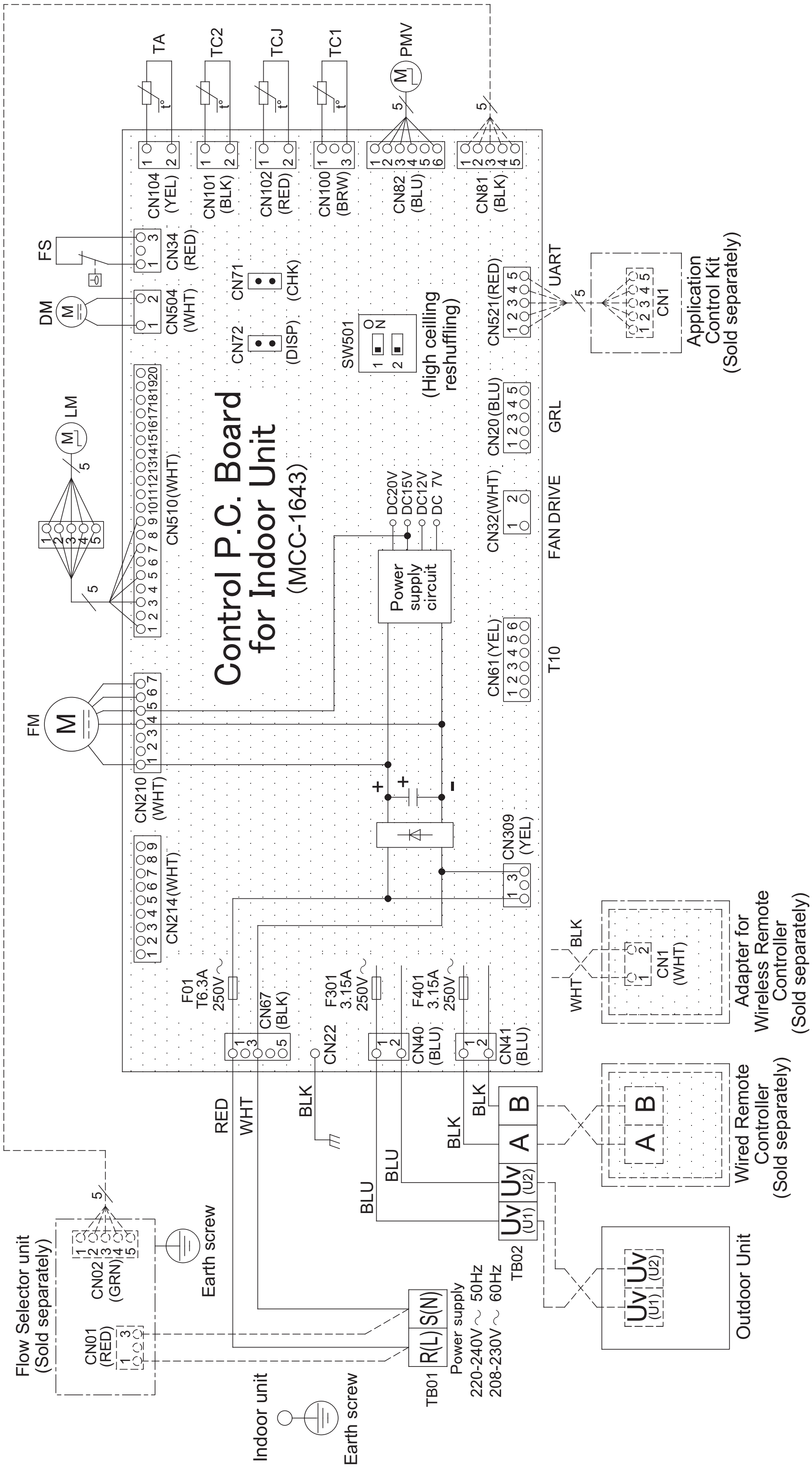
4. Piping diagram



Functional part name		Functional outline
Pulse Motor Valve	PMV	(Connector CN082 (6P): Blue) 1) Controls super heat in cooling operation 2) Controls sub 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 sub cool in heating operation
	4. TCJ	(Connector CN102 (2P): Red) 1) Controls PMV super heat in cooling operation

5. Wiring diagram

MMU-UP0151SH-E, MMU-UP0181SH-E, MMU-UP0241SH-E



Symbol	Parts Name
CN＊＊	Connector
DM	Drain Pump Motor
F01,301,401	Fuse
FM	Fan Motor
FS	Float Switch
LM	Louver Motor
PMV	Pulse Motor Valve
SW501	Dip Switch
TA	Indoor Temp Sensor
TB01,02	Terminal Block
TC1,2,TCJ	Temp Sensor

- - - -	Field Wiring
⏚	Protection Ground
	Terminal Block
—○—	Terminal
	Connector
	P.C.Board
—·—·—	Accessory

Color Indication
RED:Red
WHT:White
YEL:Yellow
BLU:Blue
BLK:Black
GRN:Green
BRW:Brown

6. Electrical characteristics

50Hz

Model	Nominal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
		Min	Max	kW	FLA	MCA	MOCP
MMU-UP0151SH-E	230-1-50	198	264	0.094	0.39	0.49	15
MMU-UP0181SH-E	230-1-50	198	264	0.094	0.41	0.51	15
MMU-UP0241SH-E	230-1-50	198	264	0.094	0.62	0.78	15

60Hz

Model	Nominal Voltage (V-Ph-Hz)	Voltage Range		Fan Motor		Power Supply	
		Min	Max	kW	FLA	MCA	MOCP
MMU-UP0151SH-E	220-1-60	198	242	0.094	0.41	0.51	15
MMU-UP0181SH-E	220-1-60	198	242	0.094	0.43	0.54	15
MMU-UP0241SH-E	220-1-60	198	242	0.094	0.65	0.81	15

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

7. Sensible capacity table

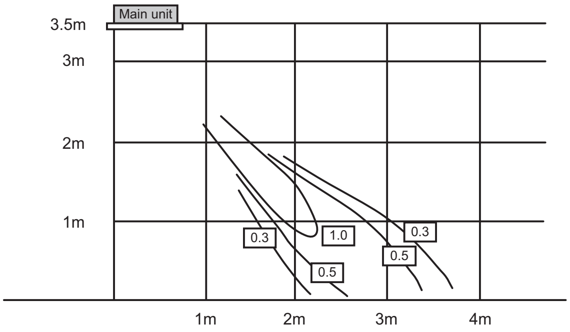
1-way Cassette Type (MMU-UP_1SH-E)

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
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
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
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

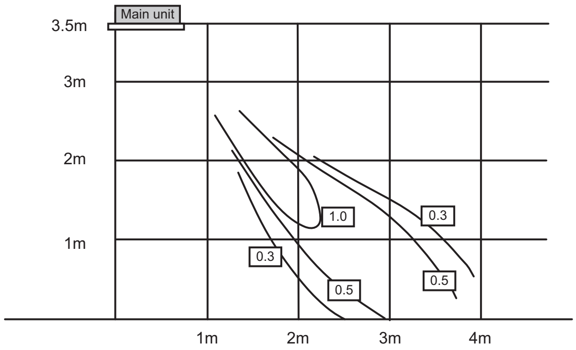
TC : Total capacity [kW]
SHC : Sensible capacity [kW]

8. Air flow distance chart

MMU-UP0151SH-E, MMU-UP0181SH-E



MMU-UP0241SH-E

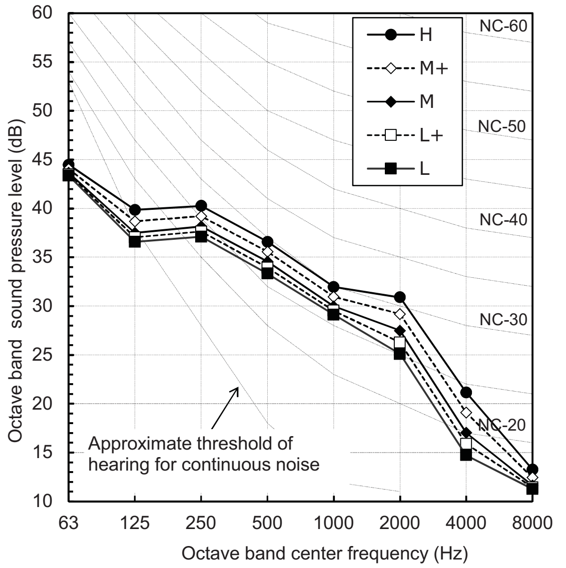


unit : [m/s]

9. Sound data

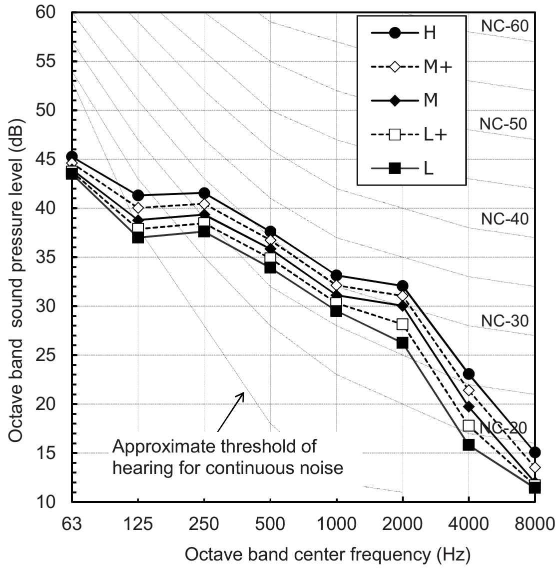
MMU-UP0151SH-E

Fan tap	H	M+	M	L+	L
Sound pressure level (dB(A))	37	36	35	34	32



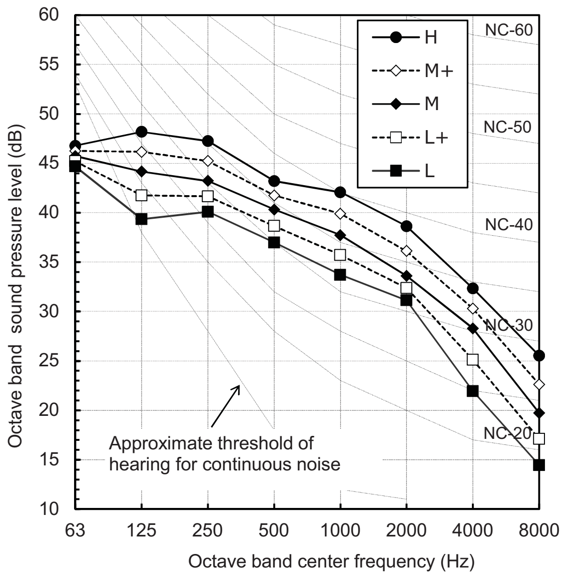
MMU-UP0181SH-E

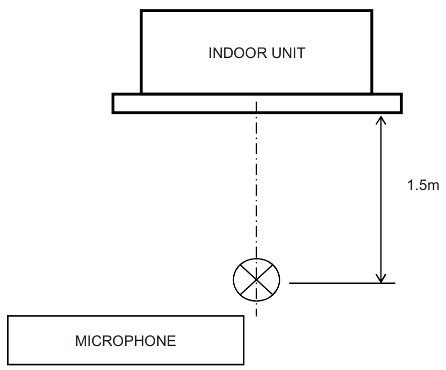
Fan tap	H	M+	M	L+	L
Sound pressure level (dB(A))	38	37	36	35	34



MMU-UP0241SH-E

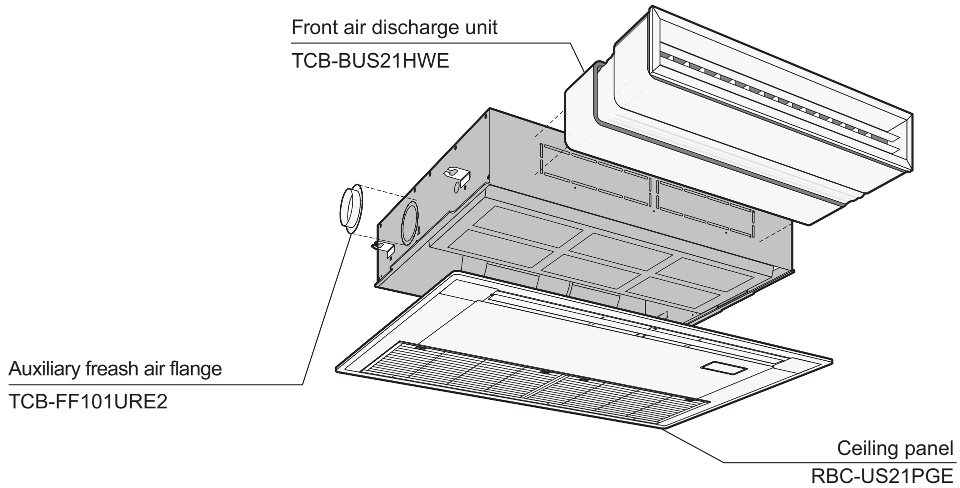
p	H	M+	M	L+	L
Sound pressure level (dB(A))	45	43	41	39	37





10. Accessories

Parts name	Model name	Applied model	Note	Remarks
Ceiling panel	RBC-US21PGE	MMU-UP_1SH-E	Required accessory	
Front air discharge unit	TCB-BUS21HWE			
Auxiliary fresh air flange	TCB-FF101URE2		For easy fresh air intake by using the knockout hole of indoor unit. (dia.=100 mm)	



MMU-UP0151SH-E, MMU-UP0181SH-E, MMU-UP0241SH-E

11. Reference

11-1.Fresh air intake (Design guide)

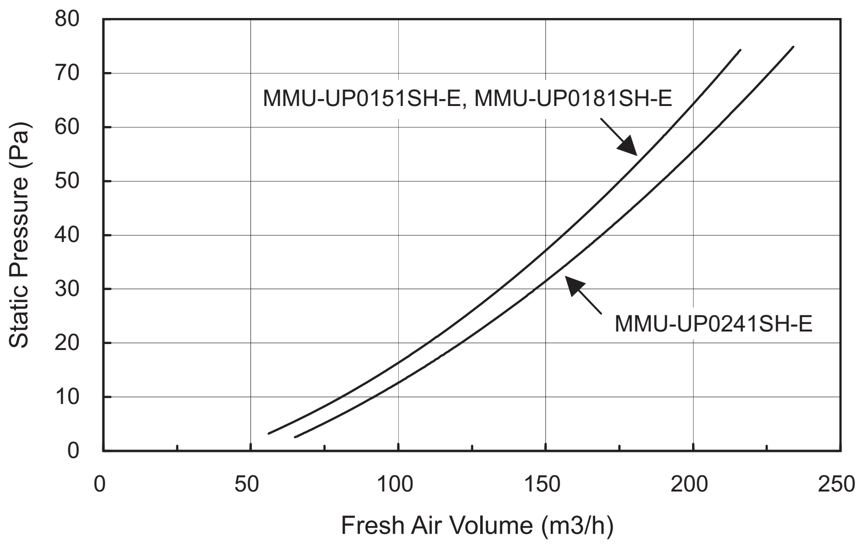
1-way (SH series) Cassette Type

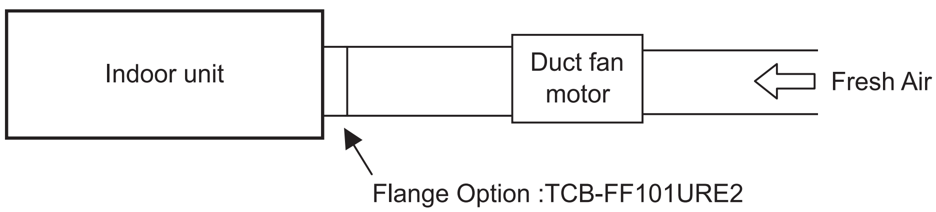
Caution

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 5% of standard.

Model name	MMU-	UP0151SH-E	UP0181SH-E	UP0241SH-E
Standard air flow	m^3/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 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.)

1-way Cassette Type Engineering Data Book

Model name:

MMU-UP_1SH-E

November, 2020

Toshiba Carrier Corporation