

# Compact 4-way Cassette Type

MMU-UP0051MH-E

MMU-UP0071MH-E

MMU-UP0091MH-E

MMU-UP0121MH-E

MMU-UP0151MH-E

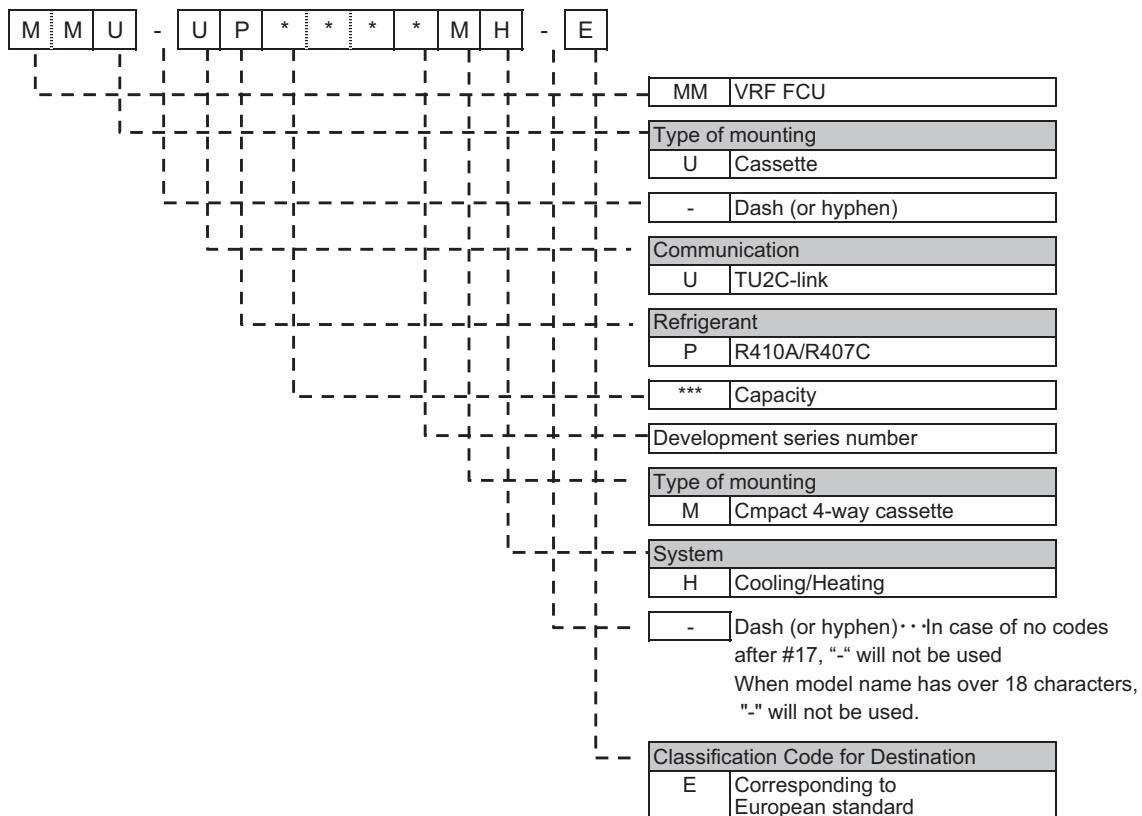
MMU-UP0181MH-E



# Contents

1. Specifications
2. Dimensions
3. Center of gravity
4. Piping diagram
5. Wiring diagram
6. Electrical characteristics
7. Sensible capacity table
8. Air flow distance chart
9. Sound data
10. Accessories
11. Reference
  - 11-1. Fresh air intake (Design guide)
  - 11-2. Branching duct (Design guide)

## Allocation standard of model name



## 1. Specifications



| Model name                                       |                                          |              | MMU-UP0051MH-E                                                                       | MMU-UP0071MH-E                 | MMU-UP0091MH-E                 | MMU-UP0121MH-E                 |
|--------------------------------------------------|------------------------------------------|--------------|--------------------------------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Cooling Capacity                                 |                                          | (*) kW       | 1.7                                                                                  | 2.2                            | 2.8                            | 3.6                            |
| Heating Capacity                                 |                                          | (*) kW       | 1.9                                                                                  | 2.5                            | 3.2                            | 4.0                            |
| Electrical<br>charasteristics                    | Power supply                             |              | 220-240~50Hz / 208-230~60Hz                                                          |                                |                                |                                |
|                                                  | Running current                          | A            | 0.16                                                                                 | 0.23                           | 0.24                           | 0.25                           |
|                                                  | Power consumption                        | kW           | 0.016                                                                                | 0.023                          | 0.025                          | 0.027                          |
|                                                  | Starting current                         | A            | 0.28                                                                                 | 0.41                           | 0.43                           | 0.44                           |
| Appearance                                       | Main Unit                                |              | Zinc hot dipping steel plate * Heat-insulating material attached to only upper plate |                                |                                |                                |
|                                                  | Ceiling<br>Panel<br>(*)                  | Model Name   | RBC-UM21PG(W)-E                                                                      |                                |                                |                                |
|                                                  |                                          | Panel Color  | Gran White (Munsell 5PB9 / 1)                                                        |                                |                                |                                |
| Outer<br>dimension                               | Main Unit                                | Height   (*) | mm                                                                                   | 256                            |                                |                                |
|                                                  |                                          | Width        | mm                                                                                   | 575                            |                                |                                |
|                                                  |                                          | Depth   (*)  | mm                                                                                   | 575                            |                                |                                |
|                                                  | Ceiling<br>Panel                         | Height   (*) | mm                                                                                   | 12                             |                                |                                |
|                                                  |                                          | Width        | mm                                                                                   | 620                            |                                |                                |
|                                                  |                                          | Depth        | mm                                                                                   | 620                            |                                |                                |
| Total weight                                     | Main Unit                                | kg           | 15                                                                                   |                                |                                |                                |
|                                                  | Ceiling Panel                            | kg           | 2.5                                                                                  |                                |                                |                                |
| Heat exchanger                                   |                                          |              | Finned tube                                                                          |                                |                                |                                |
| Soundproof / Heat-insulating material            |                                          |              | Non-flammable insulation                                                             |                                |                                |                                |
| Fan unit                                         | Fan                                      |              | Turbo fan                                                                            |                                |                                |                                |
|                                                  | Standard air flow<br>( M+ / M / L+ / L ) | m³/h         | 430<br>(415 / 400 / 385 / 365)                                                       | 552<br>(500 / 462 / 395 / 378) | 570<br>(520 / 468 / 395 / 378) | 594<br>(550 / 504 / 420 / 402) |
|                                                  | Motor                                    | W            | 60                                                                                   |                                |                                |                                |
| Air filter                                       |                                          |              | Standard filter (Long life filter)                                                   |                                |                                |                                |
| Controller                                       |                                          | (*)          | Remote controller                                                                    |                                |                                |                                |
| Connecting<br>pipe                               | Gas side                                 | mm           | Ø 9.5                                                                                |                                |                                |                                |
|                                                  | Liquid side                              | mm           | Ø 6.4                                                                                |                                |                                |                                |
| Drain port (Nominal dia. mm)                     |                                          |              | VP20 (Polyvinyl chloride tube)                                                       |                                |                                |                                |
| Sound puresure level<br>High ( M+ / M / L+ / L ) |                                          | dB           | 32 ( 31 / 30 / 29 / 29 )                                                             | 37 ( 34 / 33 / 30 / 29 )       | 38 ( 35 / 33 / 30 / 29 )       | 38 ( 36 / 34 / 31 / 30 )       |
| Sound power level<br>High ( M+ / M / L+ / L )    |                                          | dB           | 47 ( 46 / 45 / 44 / 44 )                                                             | 52 ( 49 / 48 / 45 / 44 )       | 53 ( 50 / 48 / 45 / 44 )       | 53 ( 51 / 49 / 46 / 45 )       |

(\*) Cooling / heating capacity is based on single connection operation with standard piping length under Japanese Industrial Standard B 8615 Condition 1.

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

(\*) Height from the ceiling.

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

| Model name                                        |                                          |             | MMU-UP0151MH-E                     |                                                                                      | MMU-UP0181MH-E |                             |  |
|---------------------------------------------------|------------------------------------------|-------------|------------------------------------|--------------------------------------------------------------------------------------|----------------|-----------------------------|--|
| Cooling Capacity                                  |                                          | (*1)        | kW                                 | 4.5                                                                                  |                | 5.6                         |  |
| Heating Capacity                                  |                                          | (*1)        | kW                                 | 5.0                                                                                  |                | 6.3                         |  |
| Electrical<br>charastaristics                     | Power supply                             |             | 220-240~50Hz / 208-230~60Hz        |                                                                                      |                |                             |  |
|                                                   | Running current                          |             | A                                  | 0.28 / 0.26                                                                          |                | 0.46 / 0.46                 |  |
|                                                   | Power consumption                        |             | kW                                 | 0.030 / 0.030                                                                        |                | 0.052 / 0.052               |  |
|                                                   | Starting current                         |             | A                                  | 0.50 / 0.47                                                                          |                | 0.80 / 0.81                 |  |
| Appearance                                        | Main Unit                                |             |                                    | Zinc hot dipping steel plate * Heat-insulating material attached to only upper plate |                |                             |  |
|                                                   | Ceiling<br>Panel<br>(*2)                 | Model Name  |                                    | RBC-UM21PG(W)-E                                                                      |                |                             |  |
|                                                   |                                          | Panel Color |                                    | Gran White (Munsell 5PB9 / 1)                                                        |                |                             |  |
| Outer<br>dimension                                | Main<br>Unit                             | Height (*3) | mm                                 | 256                                                                                  |                |                             |  |
|                                                   |                                          | Width       | mm                                 | 575                                                                                  |                |                             |  |
|                                                   |                                          | Depth (*4)  | mm                                 | 575                                                                                  |                |                             |  |
|                                                   | Ceiling<br>Panel                         | Height (*3) | mm                                 | 12                                                                                   |                |                             |  |
|                                                   |                                          | Width       | mm                                 | 620                                                                                  |                |                             |  |
|                                                   |                                          | Depth       | mm                                 | 620                                                                                  |                |                             |  |
| Total weight                                      | Main Unit                                |             | kg                                 | 15                                                                                   |                |                             |  |
|                                                   | Ceiling Panel                            |             | kg                                 | 2.5                                                                                  |                |                             |  |
| Heat exchanger                                    |                                          |             | Finned tube                        |                                                                                      |                |                             |  |
| Soundproof/Heat-insulating material               |                                          |             | Non-flammable insulation           |                                                                                      |                |                             |  |
| Fan unit                                          | Fan                                      |             | Turbo fan                          |                                                                                      |                |                             |  |
|                                                   | Standard air flow<br>( M+ / M / L+ / L ) |             | m³/h                               | 660 (600 / 552 /480 / 468)                                                           |                | 840 (740 / 642 / 540 / 522) |  |
|                                                   | Motor                                    |             | W                                  | 60                                                                                   |                |                             |  |
| Air filter                                        |                                          |             | Standard filter (Long life filter) |                                                                                      |                |                             |  |
| Controller                                        |                                          | (*2)        | Remote controller                  |                                                                                      |                |                             |  |
| Connecting<br>pipe                                | Gas side                                 |             | mm                                 | Ø 12.7                                                                               |                |                             |  |
|                                                   | Liquid side                              |             | mm                                 | Ø 6.4                                                                                |                |                             |  |
| Drain port (Nominal dia. mm)                      |                                          |             | VP20 (Polyvinyl chloride tube)     |                                                                                      |                |                             |  |
| Sound puressure level<br>High ( M+ / M / L+ / L ) |                                          |             | dB                                 | 40 ( 37 / 35 / 32 / 31)                                                              |                | 47 ( 43 / 39 / 36 / 34 )    |  |
| Sound power level<br>High ( M+ / M / L+ / L )     |                                          |             | dB                                 | 55 ( 52 / 50 / 47 / 46 )                                                             |                | 62 ( 58 / 54 / 51 / 49 )    |  |

(\*1) Cooling / heating capacity is based on single connection operation with standard piping length under Japanese Industrial Standard B 8615 Condition 1.

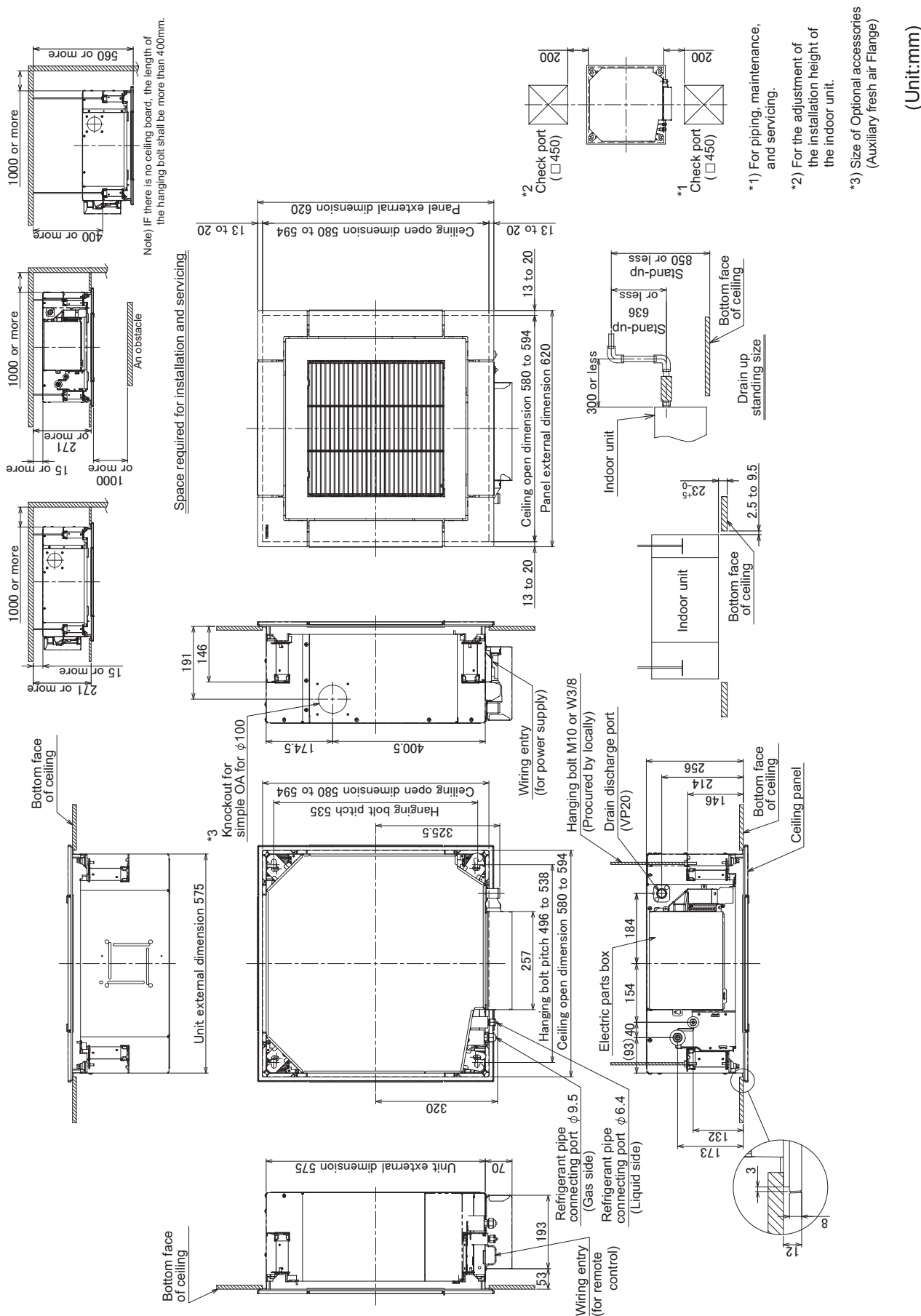
(\*2) Remote controller and ceiling panel are sold separately.

(\*3) Height from the ceiling.

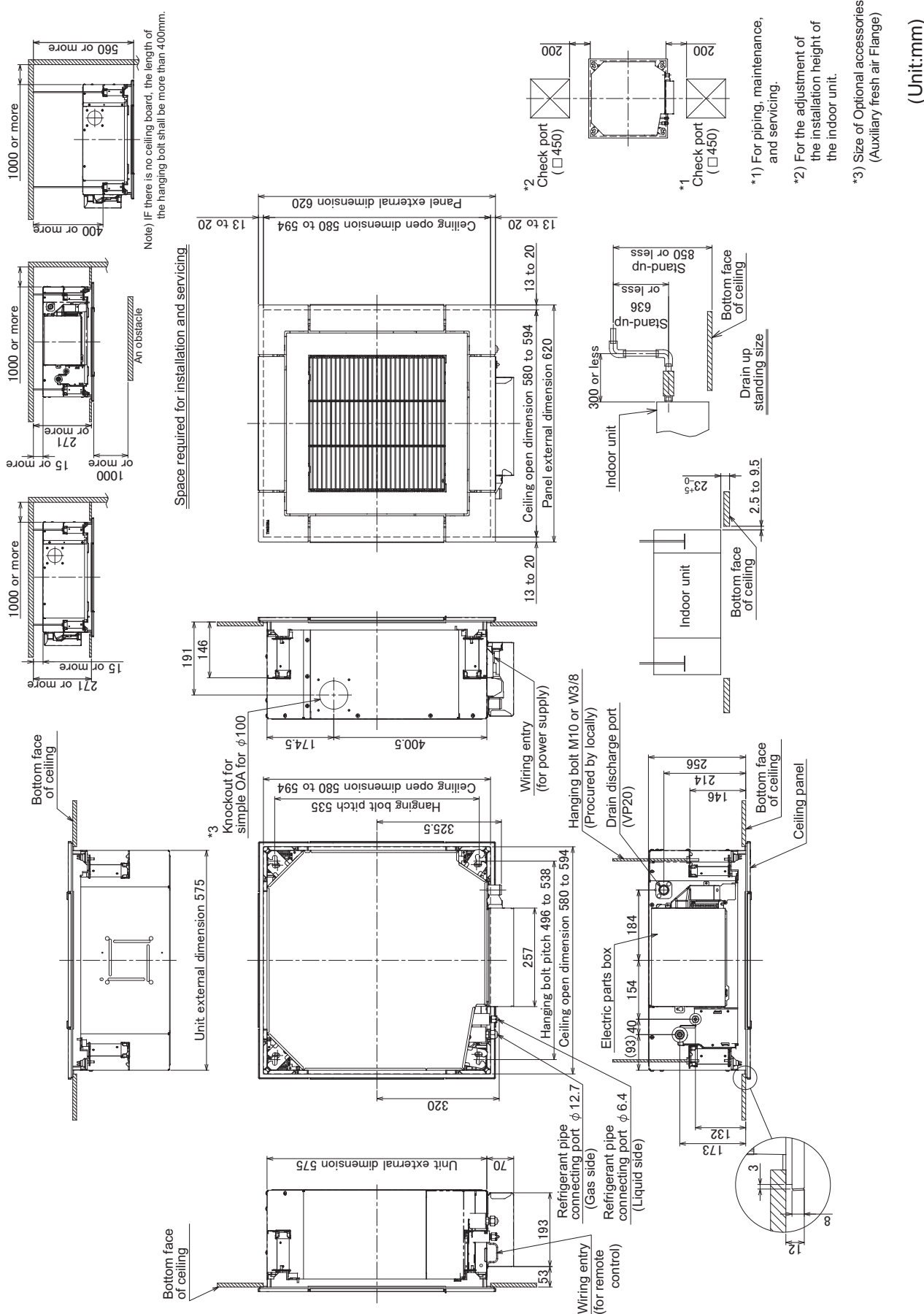
(\*4) Depth doesn't including the Electric parts box.

## 2. Dimensions

**MMU-UP0051MH-E, MMU-UP0071MH-E, MMU-UP0091MH-E, MMU-UP0121MH-E**

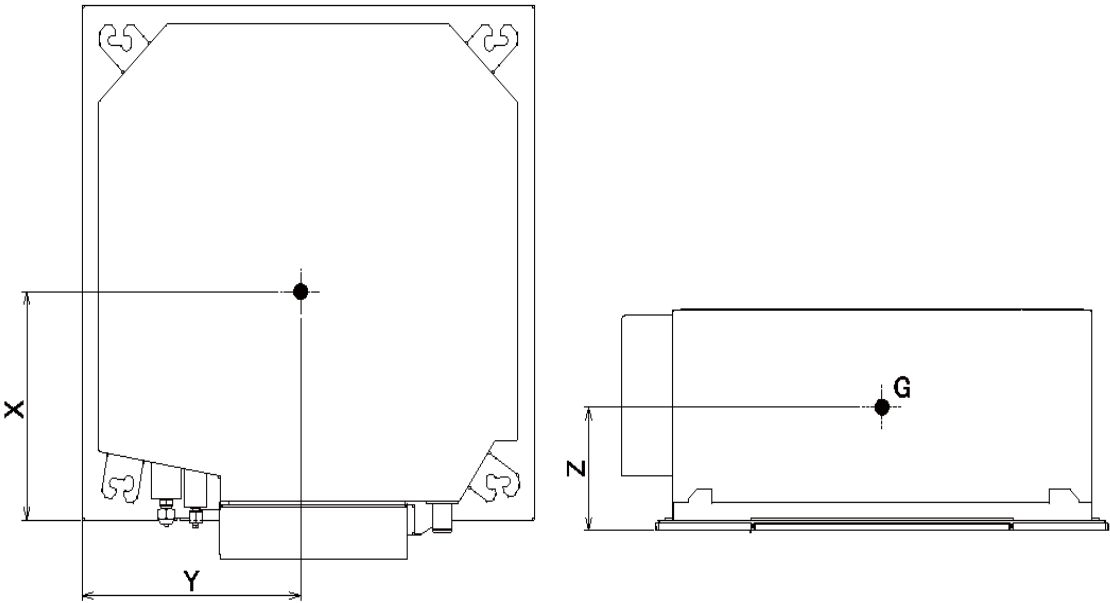


**MMU-UP0151MH-E, MMU-UP0181MH-E**



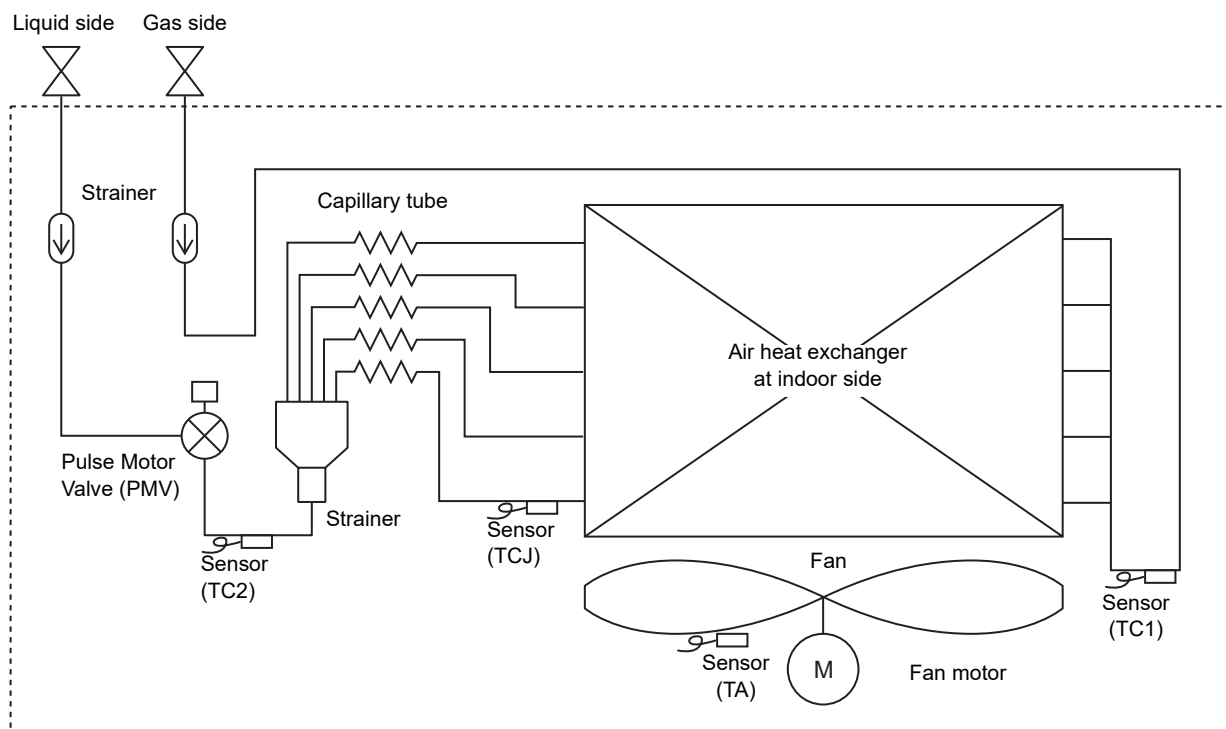
3. Center of gravity

| Model name     | X (mm) | Y (mm) | Z (mm) | Total weight   |                    |
|----------------|--------|--------|--------|----------------|--------------------|
|                |        |        |        | Main unit (kg) | Ceiling panel (kg) |
| MMU-UP0051MH-E | 275    | 300    | 148    | 15             | 2.5                |
| MMU-UP0071MH-E |        |        |        |                |                    |
| MMU-UP0091MH-E |        |        |        |                |                    |
| MMU-UP0121MH-E |        |        |        |                |                    |
| MMU-UP0151MH-E |        |        |        |                |                    |
| MMU-UP0181MH-E |        |        |        |                |                    |





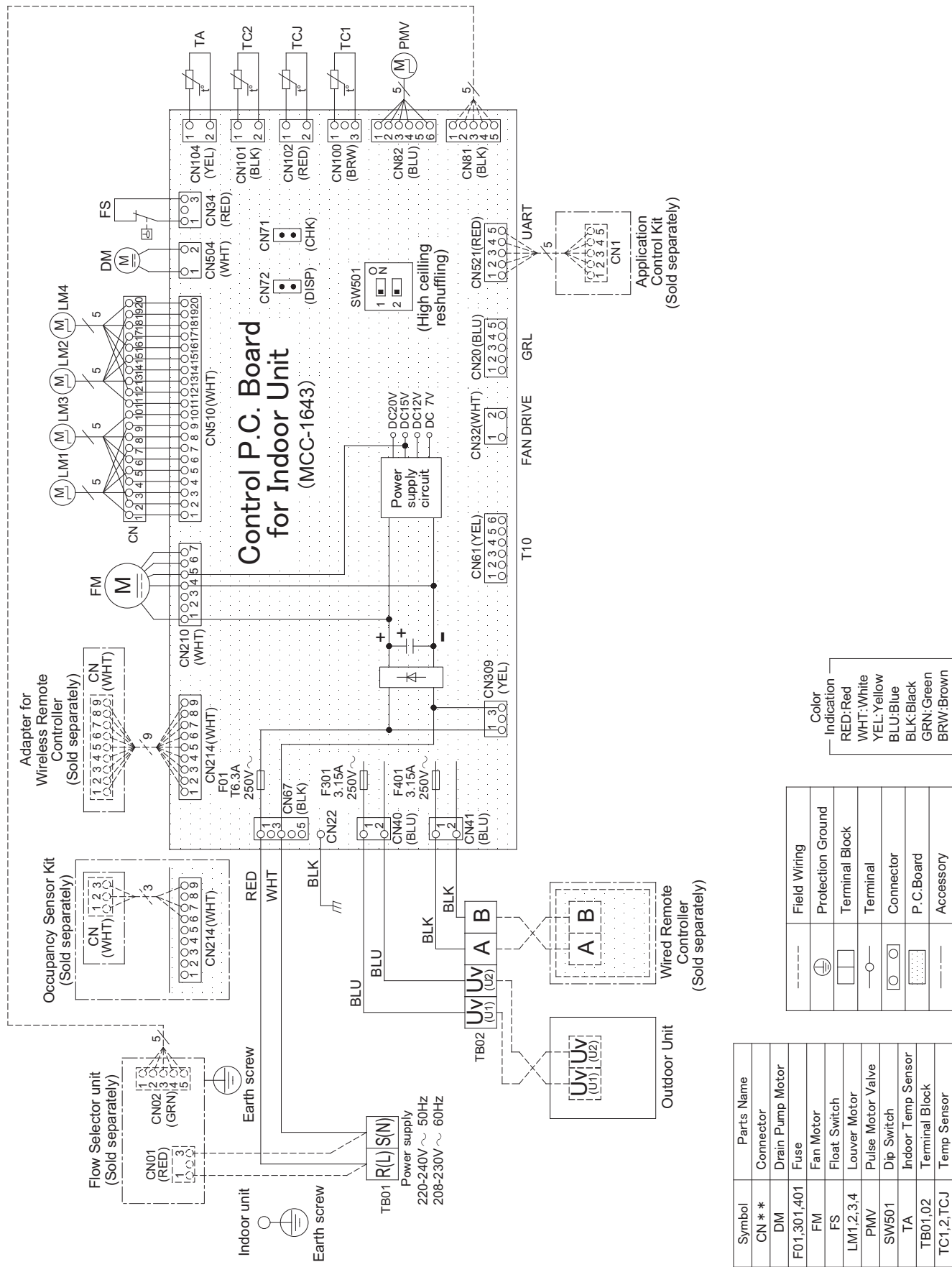
#### 4. Piping diagram



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

5. Wiring diagram

MMU-UP0051MH-E, MMU-UP0071MH-E, MMU-UP0091MH-E, MMU-UP0121MH-E, MMU-UP0151MH-E, MMU-UP0181MH-E



## 6. Electrical characteristics

### 50Hz

| Type                           | Model name     | Normal Voltage<br>(V-Ph-Hz) | Voltage Range |      | Fan Motor |      | Power Supply |      |
|--------------------------------|----------------|-----------------------------|---------------|------|-----------|------|--------------|------|
|                                |                |                             | Min.          | Max. | kW        | FLA  | MCA          | MOCP |
| Compact 4-way<br>Cassette Type | MMU-UP0051MH-E | 230-1-50                    | 198           | 264  | 0.060     | 0.18 | 0.23         | 15   |
|                                | MMU-UP0071MH-E | 230-1-50                    | 198           | 264  | 0.060     | 0.26 | 0.33         | 15   |
|                                | MMU-UP0091MH-E | 230-1-50                    | 198           | 264  | 0.060     | 0.28 | 0.35         | 15   |
|                                | MMU-UP0121MH-E | 230-1-50                    | 198           | 264  | 0.060     | 0.29 | 0.36         | 15   |
|                                | MMU-UP0151MH-E | 230-1-50                    | 198           | 264  | 0.060     | 0.32 | 0.40         | 15   |
|                                | MMU-UP0181MH-E | 230-1-50                    | 198           | 264  | 0.060     | 0.53 | 0.66         | 15   |

### 60Hz

| Type                           | Model name     | Normal Voltage<br>(V-Ph-Hz) | Voltage Range |      | Fan Motor |      | Power Supply |      |
|--------------------------------|----------------|-----------------------------|---------------|------|-----------|------|--------------|------|
|                                |                |                             | Min.          | Max. | kW        | FLA  | MCA          | MOCP |
| Compact 4-way<br>Cassette Type | MMU-UP0051MH-E | 220-1-60                    | 198           | 242  | 0.060     | 0.17 | 0.22         | 15   |
|                                | MMU-UP0071MH-E | 220-1-60                    | 198           | 242  | 0.060     | 0.24 | 0.30         | 15   |
|                                | MMU-UP0091MH-E | 220-1-60                    | 198           | 242  | 0.060     | 0.25 | 0.32         | 15   |
|                                | MMU-UP0121MH-E | 220-1-60                    | 198           | 242  | 0.060     | 0.26 | 0.33         | 15   |
|                                | MMU-UP0151MH-E | 220-1-60                    | 198           | 242  | 0.060     | 0.30 | 0.37         | 15   |
|                                | MMU-UP0181MH-E | 220-1-60                    | 198           | 242  | 0.060     | 0.53 | 0.66         | 15   |

MCA : Minimum Circuit Amps

FLA : Full Load Amps

MOCP : Maximum Overcurrent Protection (Amps)

kW : Fan Motor Rated Output

## 7. Sensible capacity table

### Compact 4-way Cassette Type (MMU-UP\_1MH-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 |
| 005       | 10                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 12                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 14                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 16                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 18                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 20                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 21                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 23                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 25                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 27                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 29                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 31                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 33                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
|           | 35                     | 1.4              | 1.3 | 1.5      | 1.4 | 1.6      | 1.5 | 1.7      | 1.5 | 1.8      | 1.5 | 1.9      | 1.5 | 1.9      | 1.5 |
| 007       | 10                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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 |
| 009       | 10                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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                     | 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 |

TC : Total capacity [kW]

SHC: Sensible capacity [kW]

## Compact 4-way Cassette Type (MMU-UP\_1MH-E)

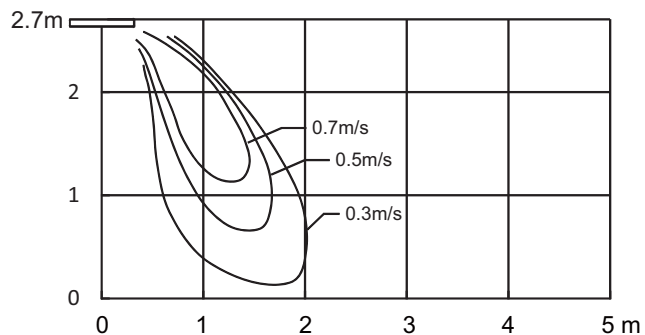
| unit size | outdoor air temp.<br>°CDB | indoor air temp. |     |          |     |          |     |          |     |          |     |          |     |          |     |
|-----------|---------------------------|------------------|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|----------|-----|
|           |                           | 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 |
| 012       | 10                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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 |
| 015       | 10                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 12                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 14                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 16                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 18                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 20                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 21                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 23                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 25                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 27                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 29                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 31                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 33                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
|           | 35                        | 3.7              | 2.9 | 4.1      | 3.1 | 4.4      | 3.3 | 4.5      | 3.3 | 4.6      | 3.3 | 4.9      | 3.3 | 5.1      | 3.2 |
| 018       | 10                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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 |

TC : Total capacity [kW]

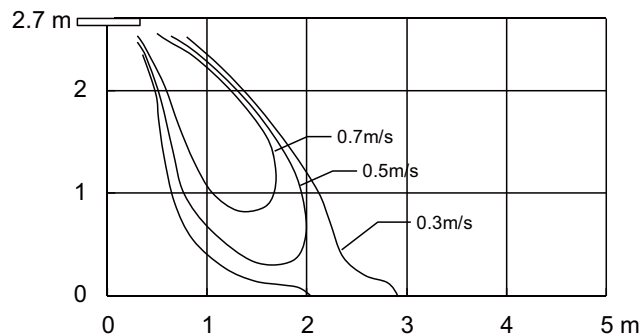
SHC: Sensible capacity [kW]

## 8. Air flow distance chart

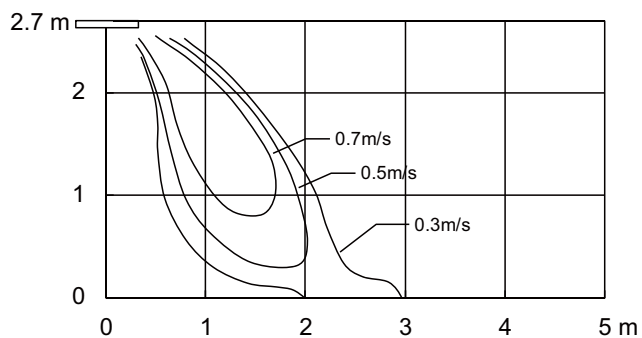
MMU-UP0051MH-E



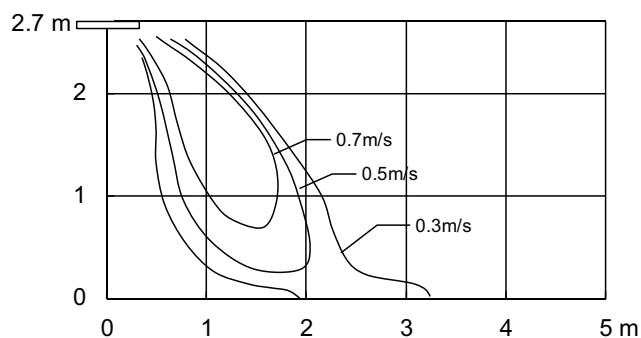
MMU-UP0071MH-E



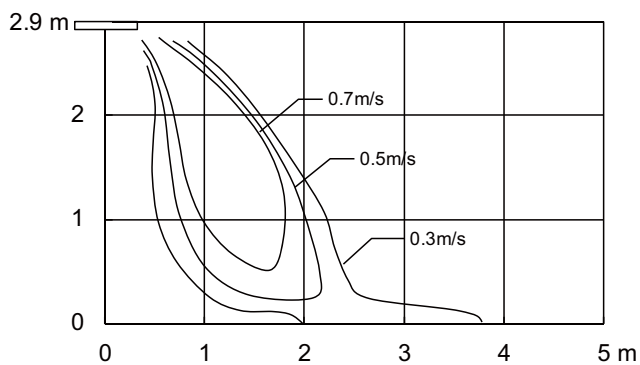
MMU-UP0091MH-E



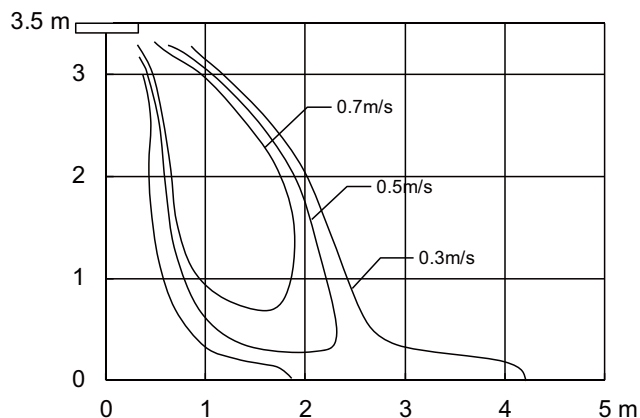
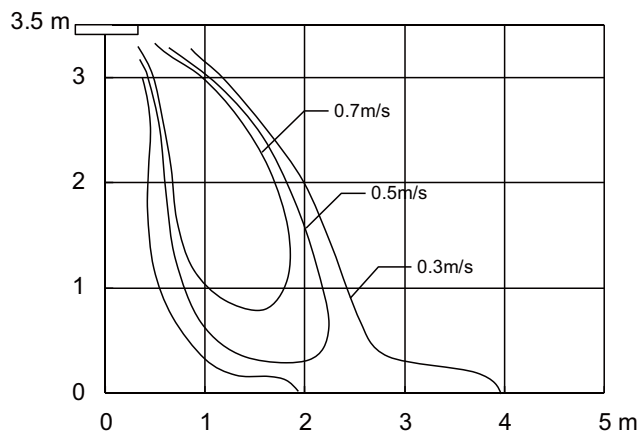
MMU-UP0121MH-E



MMU-UP0151MH-E

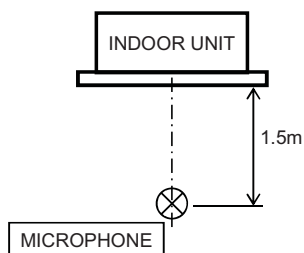


MMU-UP0181MH-E

MMU-UP0151MH-E  
(High ceiling mode)

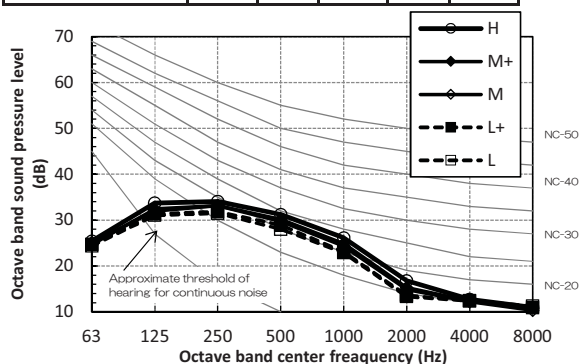
## 9. Sound data

### Sound pressure spectrum



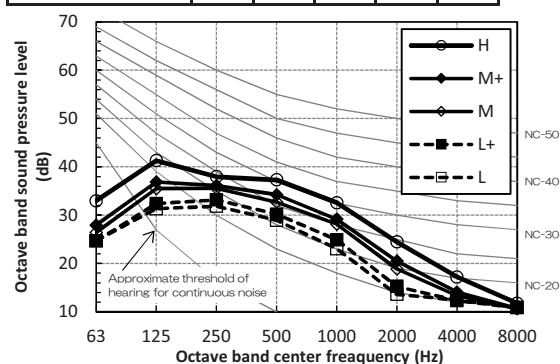
#### MMU-UP0051MH-E

| Fan tap                      | H  | M+ | M  | L+ | L  |
|------------------------------|----|----|----|----|----|
| Sound pressure level (dB(A)) | 32 | 31 | 30 | 29 | 29 |



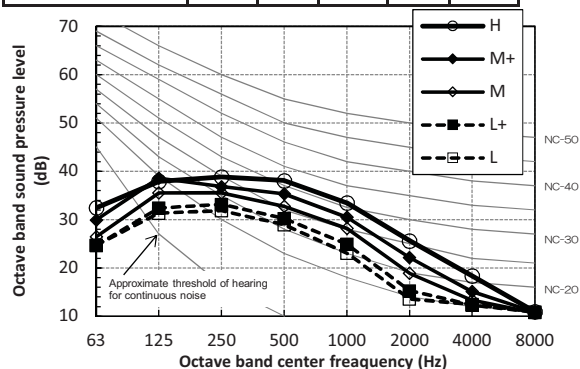
#### MMU-UP0071MH-E

| Fan tap                      | H  | M+ | M  | L+ | L  |
|------------------------------|----|----|----|----|----|
| Sound pressure level (dB(A)) | 37 | 34 | 33 | 30 | 29 |



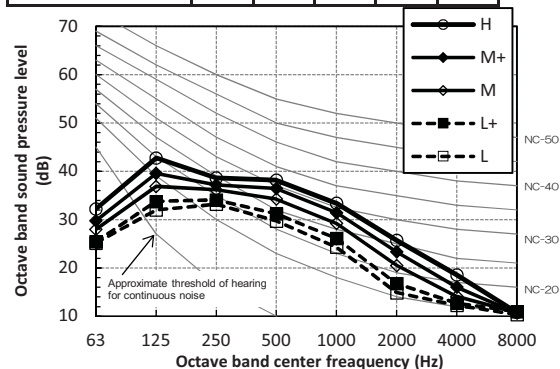
#### MMU-UP0091MH-E

| Fan tap                      | H  | M+ | M  | L+ | L  |
|------------------------------|----|----|----|----|----|
| Sound pressure level (dB(A)) | 38 | 35 | 33 | 30 | 29 |



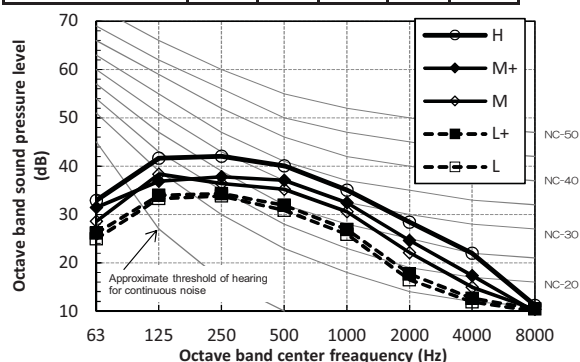
#### MMU-UP0121MH-E

| Fan tap                      | H  | M+ | M  | L+ | L  |
|------------------------------|----|----|----|----|----|
| Sound pressure level (dB(A)) | 38 | 36 | 34 | 31 | 30 |



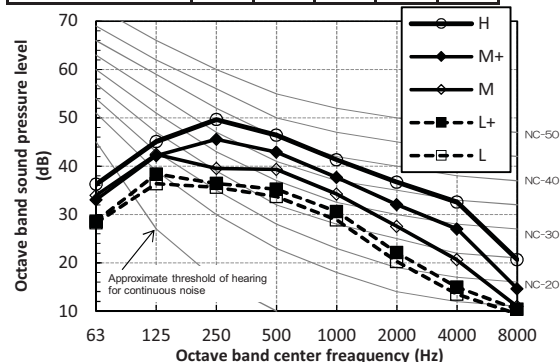
#### MMU-UP0151MH-E

| Fan tap                      | H  | M+ | M  | L+ | L  |
|------------------------------|----|----|----|----|----|
| Sound pressure level (dB(A)) | 40 | 37 | 35 | 32 | 31 |



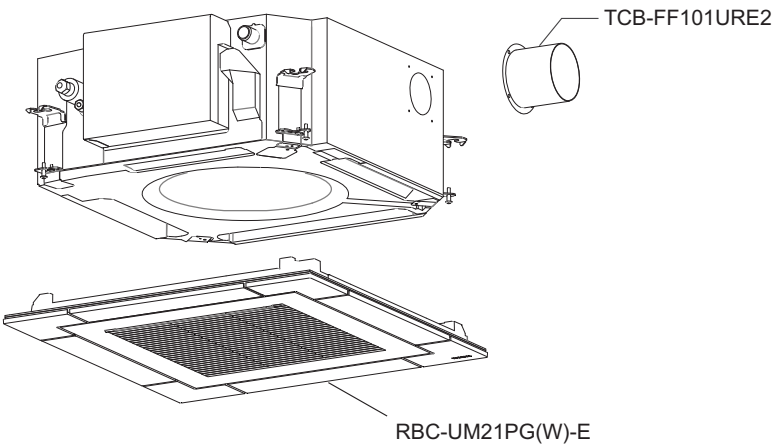
#### MMU-UP0181MH-E

| Fan tap                      | H  | M+ | M  | L+ | L  |
|------------------------------|----|----|----|----|----|
| Sound pressure level (dB(A)) | 47 | 43 | 39 | 36 | 34 |



10. Accessories

Optional accessories



| Parts Name                 | Model name      | Applied Model | Notes                                                                             |
|----------------------------|-----------------|---------------|-----------------------------------------------------------------------------------|
| Ceiling panel              | RBC-UM21PG(W)-E | MMU-UP_1MH-E  | Required accessory                                                                |
| Auxiliary fresh air Flange | TCB-FF101URE2   |               | For easy fresh air intake by using the knockout hole of indoor unit. (dia=100 mm) |



## 11. Reference

### 11-1.Fresh air intake (Design guide)

#### 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.

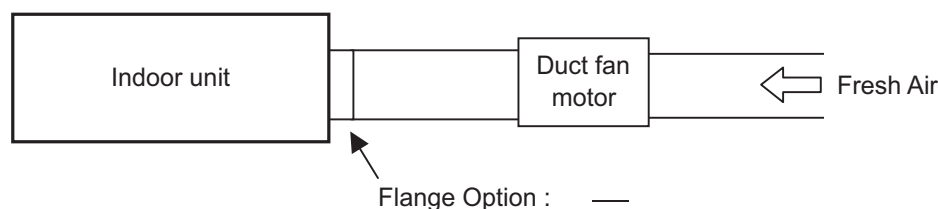
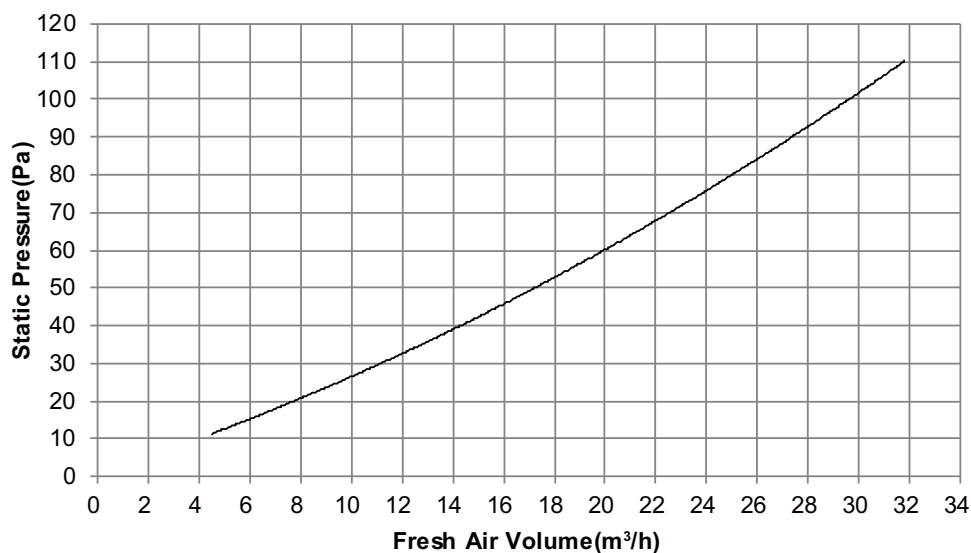
| Model name        | MMU-              | UP0051MH-E | UP0071MH-E | UP0091MH-E | UP0121MH-E | UP0151MH-E | UP0181MH-E |
|-------------------|-------------------|------------|------------|------------|------------|------------|------------|
| Standard air flow | m <sup>3</sup> /h | 430        | 552        | 570        | 594        | 660        | 840        |

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.

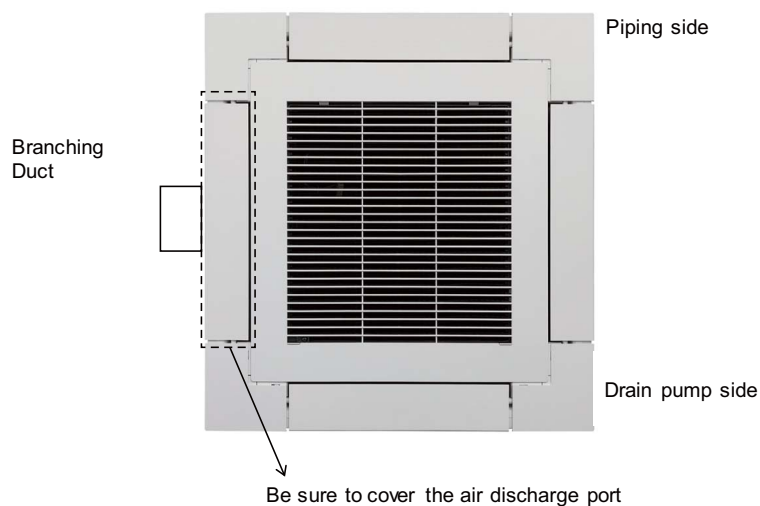
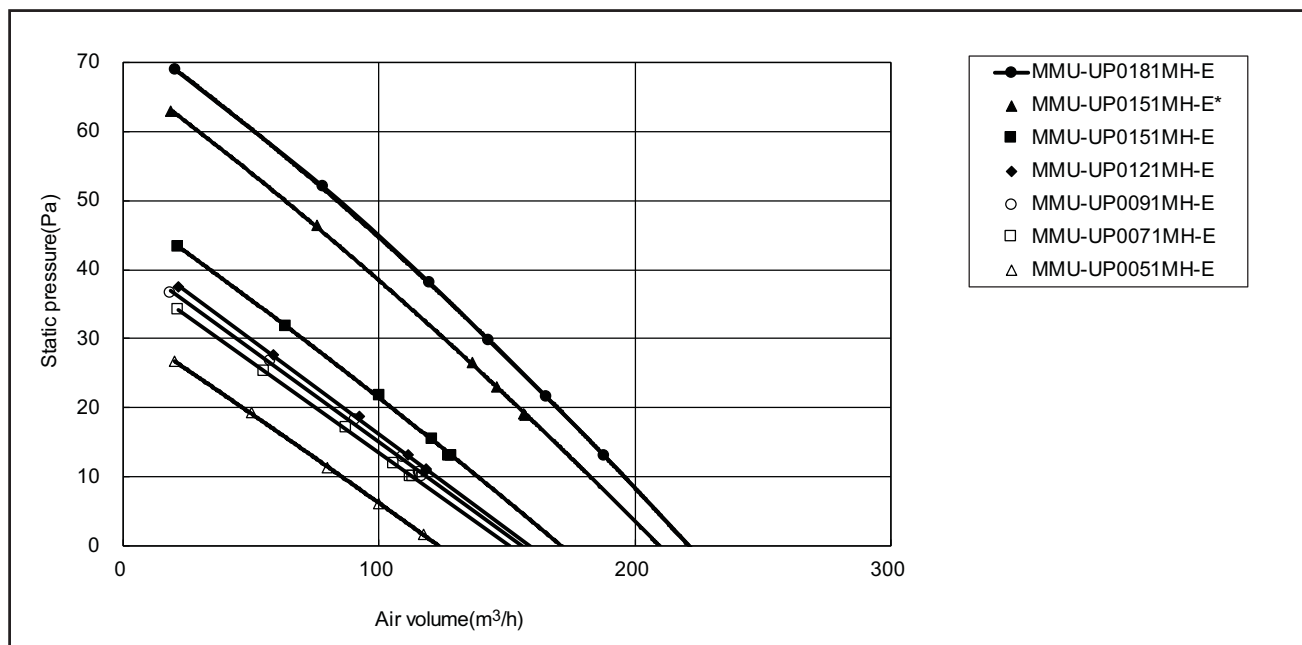
(Rated current of the relay for duct fan should be up to 75mA.)

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.)

## 11-2.Branching duct (Design guide)

### Characteristics between air volume of branching duct and static pressure



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## **Compact 4-way Cassette Engineering Data Book**

Model name:

**MMU-UP\_1MH-E**

November, 2020

**Toshiba Carrier Corporation**