

# The second generation of One-way Cassette Type

|                                   |    |
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## 1. Features

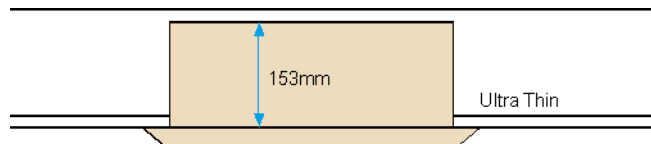
### 1.1 New panel

---- The panel has digital display function, which can show temperature and warning message.



### 1.2 Compact design

---- Slim body needs only 153 mm space above the ceiling.



### 1.3 Parts inside installation

---- The throttling components and water pump are internally installed which means a lower cost, no extra accessories or installation time.

### 1.4 Large airflow and low noise

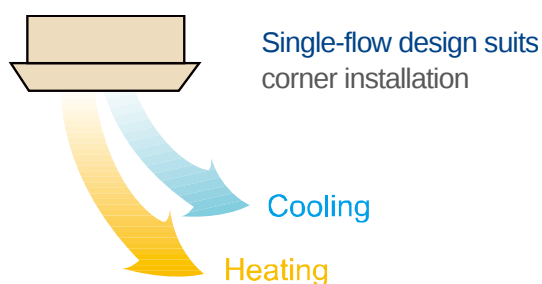
---- 560m<sup>3</sup>/h airflow, for high ceiling application (installation height can reach up to 3.2m) guarantees comfort in large space.

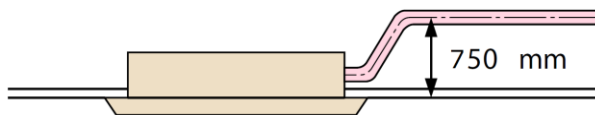
### 1.5 Improved air quality

---- Two folding type air filters and two standard formaldehyde absorption nets improve the air quality greatly. The design of a long air outlet and a wide guide fan blade, which enlarge the range of flow transportation.

### 1.6 Auto swing

---- Auto swing mechanism guarantees even airflow distribution and a better room temperature balance.



**1.7 Built-in water pump with 750mm pump head.****1.8 Prevent condensation in air outlet by the patent of a new structure design**

--- By the adoption of this structure, the guide wing will always wrapped up by dry cold air, cutting off the contact route of moist hot air and the cold guide wing. As a result, the water vapour in moist hot air gets no chance to condense in the surface of guide wing.

## 2. Specifications

| Model                        |                              |                   | MDV-D18Q1/N1-D                             | MDV-D22Q1/ N1-D |
|------------------------------|------------------------------|-------------------|--------------------------------------------|-----------------|
| Power supply                 |                              | V-Hz-Ph           | 220-240V/50Hz/1Ph                          |                 |
| Cooling                      | Capacity                     | kW                | 1.8                                        | 2.2             |
|                              | Input                        | W                 | 41                                         | 41              |
|                              | Rated current                | A                 | 0.24                                       | 0.24            |
| Heating                      | Capacity                     | kW                | 2.2                                        | 2.6             |
|                              | Input                        | W                 | 41                                         | 41              |
|                              | Rated current                | A                 | 0.24                                       | 0.24            |
| Indoor fan motor             | Model                        |                   | RPS12N                                     |                 |
|                              | Type                         |                   | Single-phase AC motor                      |                 |
|                              | Brand                        |                   | Welling/ Broad-ocean                       |                 |
|                              | Input(H/M/L)                 | W                 | 29.5/26.7/25.0                             | 29.5/26.7/25.0  |
|                              | Capacitor                    | μF                | 0.8                                        | 0.8             |
|                              | Speed (H/M/L)                | r/min             | 1180/955/710                               |                 |
| Indoor coil                  | Number of rows               |                   | 2                                          | 2               |
|                              | Tube pitch(a) × row pitch(b) | mm                | 21×13.37                                   | 21×13.37        |
|                              | Fin spacing                  | mm                | 1.5                                        | 1.5             |
|                              | Fin type                     |                   | Hydrophilic aluminum                       |                 |
|                              | Tube outside dia. and type   | mm                | Φ7 Inner groove tube                       |                 |
|                              | Coil length × height × width | mm                | 760×252.4×26.7                             |                 |
|                              | Number of circuits           |                   | 2                                          | 2               |
| Indoor air flow (H/M/L)      |                              | m <sup>3</sup> /h | 523/404/275                                |                 |
| Indoor noise level (H/M/L)   |                              | dB(A)             | 37/34/30                                   | 38/34/30        |
| Indoor unit                  | Dimension (W×H×D)            | mm                | 970×153×410                                |                 |
|                              | Packing (W×H×D)              | mm                | 1155×245×490                               |                 |
|                              | Net/Gross weight             | kg                | 12.5/16                                    |                 |
| panel                        | Dimension (W×H×D)            | mm                | 1180×25×465                                |                 |
|                              | Packing (W×H×D)              | mm                | 1232×107×517                               |                 |
|                              | Net/Gross weight             | kg                | 3.5/5.2                                    |                 |
| Refrigerant type             |                              |                   | R410A                                      |                 |
| Throttle                     |                              | Type              | Electronic expansion valve                 |                 |
|                              |                              | Model             | D20MISZ-1R(L) (EXV built-in)               |                 |
| Design pressure(H/L)         |                              | MPa               | 4.4/2.6                                    |                 |
| Refrigerant piping           | Liquid side/ Gas side        | mm                | Φ6.35/ Φ12.7                               |                 |
| Connecting wiring            | Power wiring                 | mm <sup>2</sup>   | 3×1.0                                      |                 |
|                              | Signal wiring                | mm <sup>2</sup>   | 3×0.75                                     |                 |
| Drainage water pipe diameter |                              | mm                | ODΦ25                                      |                 |
| Controller                   |                              |                   | Wireless remote controller (RM05/BG(T)E-A) |                 |
| Operation temp               |                              | ℃                 | 17-30                                      |                 |

**Notes:** 1. Nominal cooling capacities are based on the following conditions: return air temperature : 27°CDB,19°CWB, outdoor temperature:35°CDB,equivalent refrigerant piping: 8m(horizontal).

2. Nominal heating capacities are based on the following conditions: return air temperature: 20°CDB, outdoor temperature: 7°CDB,6°CWB,equivalent refrigerant piping: 8m(horizontal)

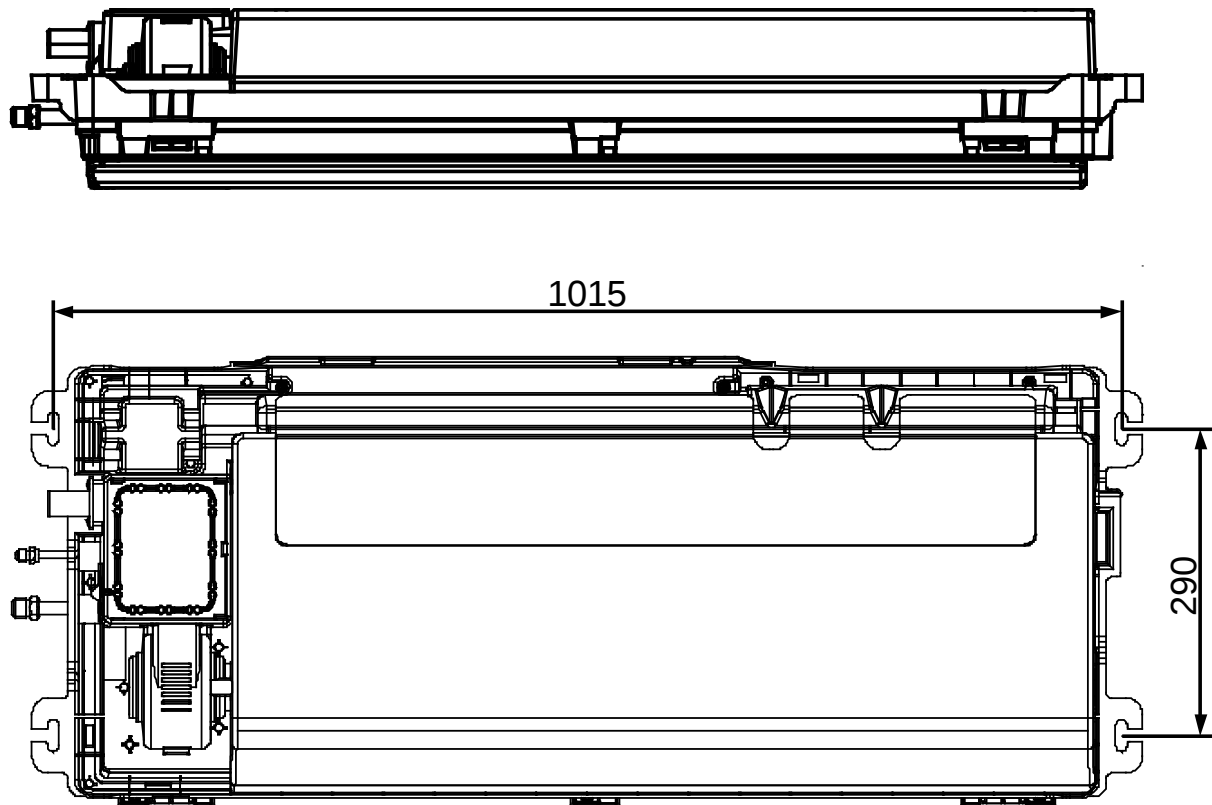
| Model                        |                                |                   | MDV-D28Q1/VN1-D                                           | MDV-D36Q1V/N1-D |
|------------------------------|--------------------------------|-------------------|-----------------------------------------------------------|-----------------|
| Power supply                 |                                | V-Hz-Ph           | 220-240V/50Hz/1Ph                                         |                 |
| Cooling                      | Capacity                       | kW                | 2.8                                                       | 3.6             |
|                              | Input                          | W                 | 41                                                        | 41              |
|                              | Rated current                  | A                 | 0.25                                                      | 0.25            |
| Heating                      | Capacity                       | kW                | 3.2                                                       | 4.0             |
|                              | Input                          | W                 | 41                                                        | 41              |
|                              | Rated current                  | A                 | 0.25                                                      | 0.25            |
| Indoor fan motor             | Model                          |                   | RPS12N                                                    |                 |
|                              | Type                           |                   | Single-phase AC motor                                     |                 |
|                              | Brand                          |                   | Welling/ Broad-ocean                                      |                 |
|                              | Input                          | W                 | 31.0/27.2/25.3                                            | 31.0/27.2/25.3  |
|                              | Capacitor                      | μF                | 1.0                                                       | 1.0             |
|                              | Speed (H/M/L)                  | r/min             | 1270/1050/790                                             |                 |
| Indoor coil                  | Number of rows                 |                   | 2                                                         | 2               |
|                              | Tube pitch(a) × row pitch(b)   | mm                | 21×13.37                                                  | 21×13.37        |
|                              | Fin spacing                    | mm                | 1.5                                                       | 1.5             |
|                              | Fin type                       |                   | Hydrophilic aluminum                                      |                 |
|                              | Tube outside diameter and type | mm                | Φ7 Inner groove tube                                      |                 |
|                              | Coil length × height × width   | mm                | 760×252.4×26.7                                            |                 |
|                              | Number of circuits             |                   | 3                                                         | 3               |
| Indoor air flow (H/M/L)      |                                | m <sup>3</sup> /h | 573/456/315                                               |                 |
| Indoor noise level (H/M/L)   |                                | dB(A)             | 39/37/34                                                  | 40/38/34        |
| Indoor unit                  | Dimension (W×H×D)              | mm                | 970×153×410                                               |                 |
|                              | Packing (W×H×D)                | mm                | 1155×245×490                                              |                 |
|                              | Net/Gross weight               | kg                | 13/16.5                                                   |                 |
| panel                        | Dimension (W×H×D)              | mm                | 1180×25×465                                               |                 |
|                              | Packing (W×H×D)                | mm                | 1232×107×517                                              |                 |
|                              | Net/Gross weight               | Kg                | 3.5/5.2                                                   |                 |
| Refrigerant type             |                                |                   | R410A                                                     |                 |
| Throttle                     |                                | Type              | Electronic expansion valve                                |                 |
|                              |                                | Model             | D20MISZ-1R(L) (EXV built-in)                              |                 |
| Design pressure(H/L)         |                                | MPa               | 4.4/2.6                                                   |                 |
| Refrigerant piping           | Liquid side/ Gas side          | mm                | Φ6.35/ Φ12.7                                              |                 |
| Connecting wiring            | Power wiring                   | mm <sup>2</sup>   | 3×1.0                                                     |                 |
|                              | Signal wiring                  | mm <sup>2</sup>   | 3×0.75                                                    |                 |
| Drainage water pipe diameter |                                | mm                | ODΦ25                                                     |                 |
| Standard Controller          |                                |                   | Wireless remote controller (RM05/BG(T)E-A) to set address |                 |
| Operation temp               |                                | ℃                 | 17-30                                                     |                 |

- Notes:** 1. Nominal cooling capacities are based on the following conditions: return air temperature : 27°CDB,19°CWB, outdoor temperature:35°CDB,equivalent refrigerant piping: 8m(horizontal)
2. Nominal heating capacities are based on the following conditions: return air temperature: 20°CDB, outdoor temperature: 7°CDB,6°CWB,equivalent refrigerant piping: 8m(horizontal)

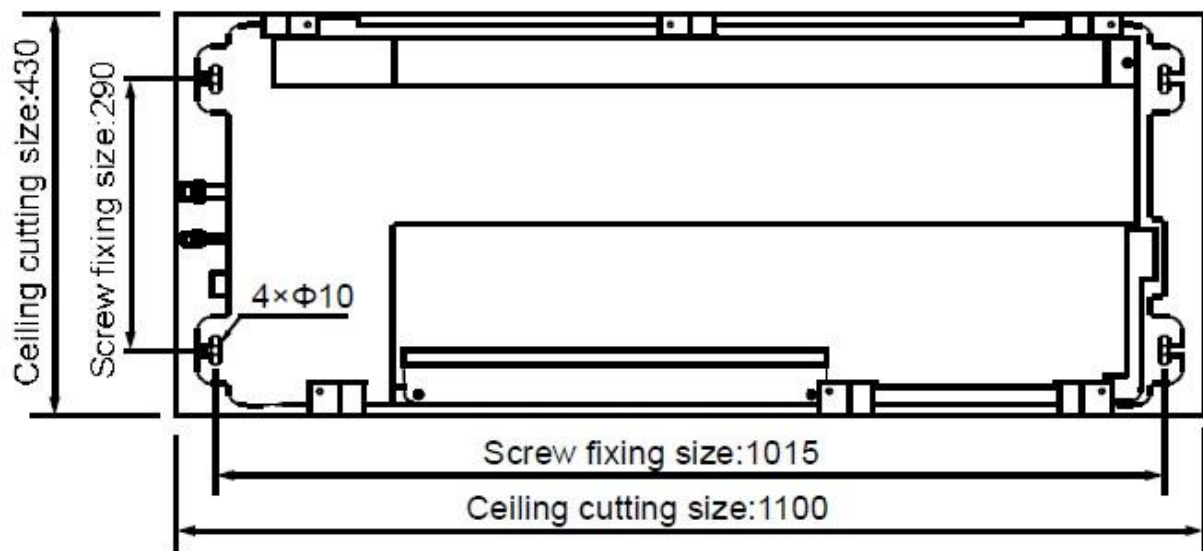
### 3. Dimensions

MDV-D18Q1/N1-D MDV-D22Q1/N1-D

MDV-D28Q1/N1-D MDV-D36Q1/N1-D



Please use the installation paper plate to make sure the position of the installation screws.



## 4. Service Spaces

MDV-D18Q1/N1-D MDV-D22Q1/N1-D MDV-D28Q1/N1-D MDV-D36Q1/N1-D

Please avoid installing in the following places :

A place with flammable gas or material.

A saline place such as a seashore vicinity.

A place with sulphur gas.

A place with oil gas, such as kitchen.

A place with high-humidity air.

An unbearable place.

A place where high-frequency waves are generated.

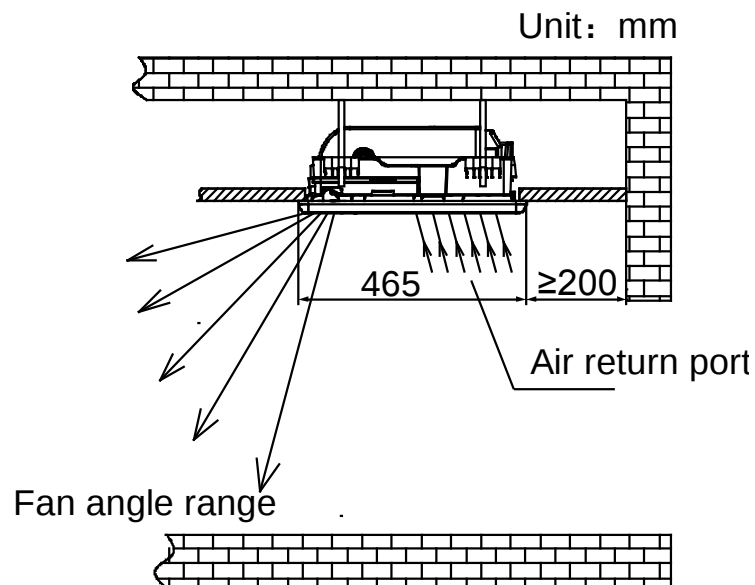
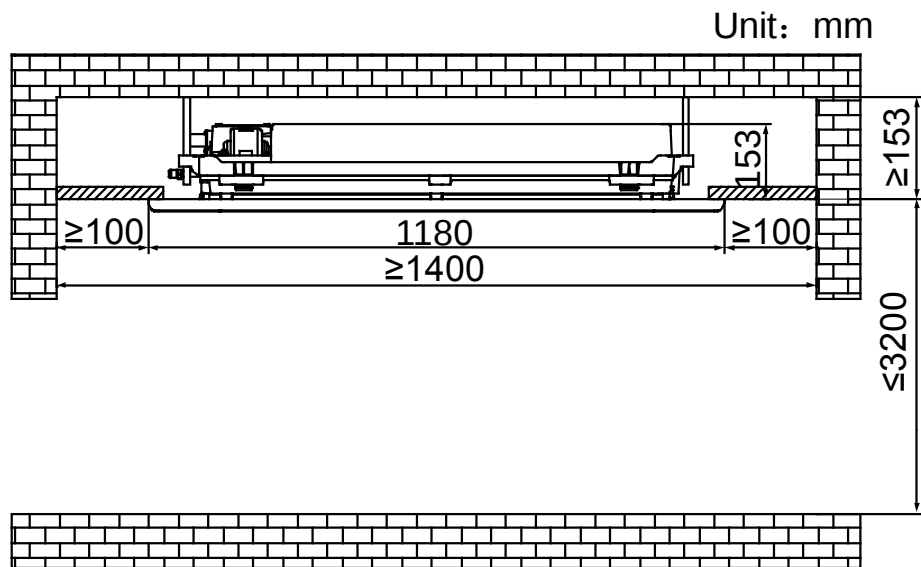
The appliance shall not be installed in the laundry.

Please comply with the related national electric standard to make electric insulation for construction and metal parts of air-conditioner.

Please choose the place where the ventilation is good.

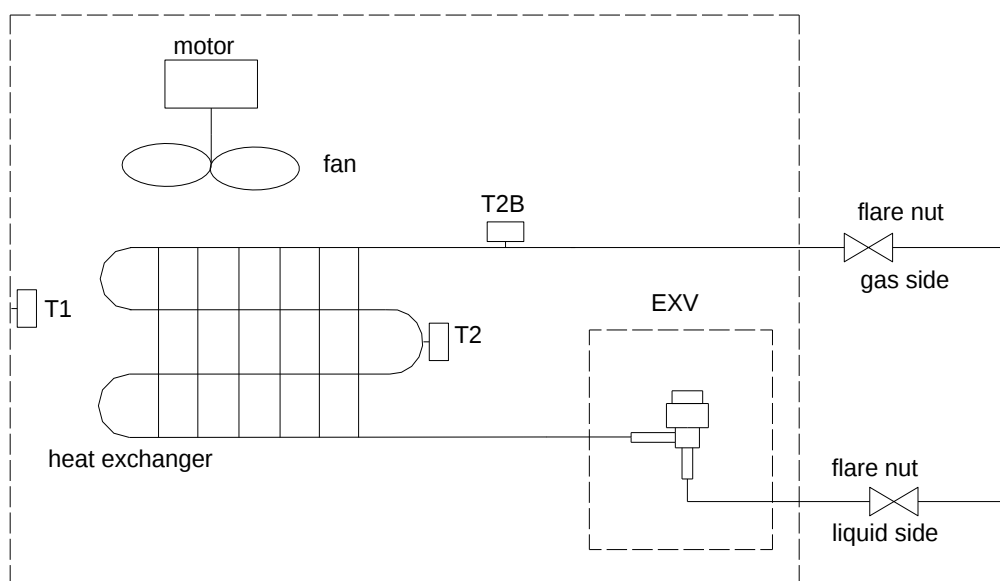
Ceiling space repquires 153mm.

The installation height of the unit can not be higher than 3.2m, or it will affect the operation effect.



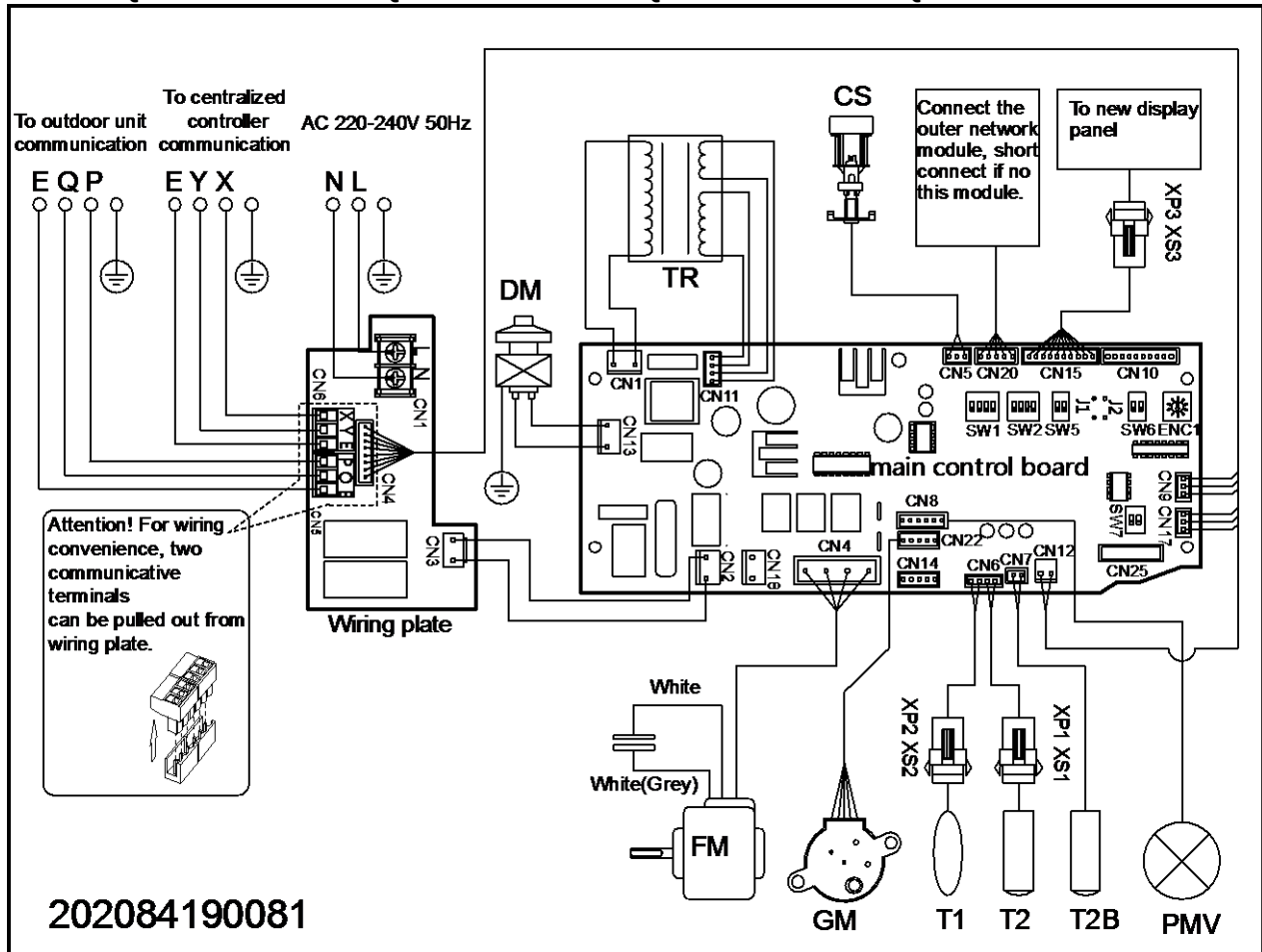
## 5. Piping Diagrams

MDV-D18Q1/N1-D MDV-D22Q1/N1-D MDV-D28Q1/N1-D MDV-D36Q1/N1-D



## 6. Wiring Diagrams

MDV-D18Q1/N1-D MDV-D22Q1/N1-D MDV-D28Q1/N1-D MDV-D36Q1/N1-D



| HP set switch ENC1 definition list |                                                                                                                                           | Code  | Name                                |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------|
| Code                               | Indoor Unit Capacity Value                                                                                                                | FM    | Fan motor                           |
|                                    |                                                                                                                                           | GM    | Swinging motor                      |
| 0                                  | 1800W(0.6HP)                                                                                                                              | DM    | Water drainage pump                 |
| 0                                  | 2200W(0.8HP)                                                                                                                              | CS    | Water level switch                  |
| 1                                  | 2800W(1.0HP)                                                                                                                              | PMV   | Electronic expansion valve          |
| 2                                  | 3600W(1.2HP)                                                                                                                              | T1    | Indoor temp. sensor                 |
| 3                                  | 4500W(1.5HP)                                                                                                                              | T2    | Mid-pipe temp. sensor of evaporator |
| 4                                  | 5600W(2.0HP)                                                                                                                              | T2B   | Outlet temp. sensor of evaporator   |
| 5                                  | 7100W(2.5HP)                                                                                                                              | XP1-3 | Butt connection socket              |
| 6                                  | 8000W(3.0HP)                                                                                                                              | XS1-3 | Butt connection socket              |
| 7                                  | 9000W(3.2HP)                                                                                                                              | TR    | Power transformer                   |
| 8                                  | 11200W(4.0HP)                                                                                                                             |       |                                     |
| 9                                  | 14000W(5.0HP)                                                                                                                             |       |                                     |
| <b>CAUTION</b>                     |                                                                                                                                           |       |                                     |
| 1                                  | The E-heating component is optional, not for all models.                                                                                  |       |                                     |
| 2                                  | All dial code switches (include HP switch) cannot be adjusted by the user!                                                                |       |                                     |
| 3                                  | Power wire fixed screw must be fastened, otherwise may cause fire!                                                                        |       |                                     |
| 4                                  | After air-conditioner installation and maintenance, put back the electric control box cover, otherwise may cause fire and electric shock! |       |                                     |

## 7. Capacity Tables

### 7.1 Cooling

TC: total capacity

SC: sensible capacity

WB: wet-bulb temperature

DB: dry-bulb temperature

| Indoor Unit size (kW) | Outdoor temperature (°CDB) | Indoor temperature (°CWB/DB) |     |       |     |       |     |       |     |       |     |       |     |       |     |
|-----------------------|----------------------------|------------------------------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|
|                       |                            | 14/20                        |     | 16/23 |     | 18/26 |     | 19/27 |     | 20/28 |     | 22/30 |     | 24/32 |     |
|                       |                            | TC                           | SC  | TC    | SC  | TC    | SC  | TC    | SC  | TC    | SC  | TC    | SC  | TC    | SC  |
|                       |                            | kW                           | kW  | kW    | kW  | kW    | kW  | kW    | kW  | kW    | kW  | kW    | kW  | kW    | kW  |
| 1.8                   | 10.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.1   | 1.3 | 2.4   | 1.3 |
|                       | 12.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.1   | 1.3 | 2.3   | 1.2 |
|                       | 14.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.1   | 1.3 | 2.3   | 1.2 |
|                       | 16.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.1   | 1.3 | 2.3   | 1.2 |
|                       | 18.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.1   | 1.3 | 2.3   | 1.2 |
|                       | 20.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.1   | 1.3 | 2.2   | 1.1 |
|                       | 21.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.1   | 1.3 | 2.2   | 1.1 |
|                       | 23.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.1   | 1.2 | 2.2   | 1.1 |
|                       | 25.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.1   | 1.2 | 2.1   | 1.1 |
|                       | 27.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.1   | 1.2 | 2.1   | 1.1 |
|                       | 29.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.0   | 1.2 | 2.1   | 1.1 |
|                       | 31.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.0   | 1.2 | 2.1   | 1.1 |
|                       | 33.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 2.0   | 1.2 | 2.0   | 1.2 |
|                       | 35.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 1.9   | 1.1 | 2.0   | 1.2 |
|                       | 37.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.9   | 1.3 | 1.9   | 1.1 | 1.9   | 1.1 |
|                       | 39.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.8   | 1.2 | 1.9   | 1.1 | 1.9   | 1.1 |
|                       | 42.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.8   | 1.2 | 1.9   | 1.1 | 1.9   | 1.1 |
|                       | 44.0                       | 1.2                          | 1.1 | 1.5   | 1.1 | 1.7   | 1.2 | 1.8   | 1.2 | 1.8   | 1.2 | 1.9   | 1.1 | 1.9   | 1.1 |
|                       | 46.0                       | 1.2                          | 1.1 | 1.5   | 1.2 | 1.7   | 1.2 | 1.8   | 1.2 | 1.8   | 1.2 | 1.9   | 1.1 | 1.9   | 1.1 |
| 2.2                   | 10.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.6   | 1.6 | 2.9   | 1.5 |
|                       | 12.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.6   | 1.6 | 2.8   | 1.5 |
|                       | 14.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.6   | 1.6 | 2.8   | 1.5 |
|                       | 16.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.6   | 1.6 | 2.8   | 1.5 |
|                       | 18.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.6   | 1.6 | 2.8   | 1.4 |
|                       | 20.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.6   | 1.6 | 2.7   | 1.4 |
|                       | 21.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.6   | 1.6 | 2.7   | 1.4 |
|                       | 23.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.5   | 1.5 | 2.7   | 1.4 |
|                       | 25.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.5   | 1.5 | 2.6   | 1.4 |
|                       | 27.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.5   | 1.5 | 2.6   | 1.4 |
|                       | 29.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.4   | 1.4 | 2.5   | 1.4 |
|                       | 31.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.4   | 1.4 | 2.5   | 1.4 |
|                       | 33.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.4   | 1.4 | 2.4   | 1.4 |
|                       | 35.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.3   | 1.3 | 2.4   | 1.4 |
|                       | 37.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.3   | 1.6 | 2.3   | 1.3 | 2.3   | 1.4 |
|                       | 39.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.2   | 1.5 | 2.3   | 1.3 | 2.3   | 1.4 |
|                       | 42.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.2   | 1.5 | 2.3   | 1.3 | 2.3   | 1.4 |
|                       | 44.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.2   | 1.5 | 2.3   | 1.3 | 2.3   | 1.4 |
|                       | 46.0                       | 1.5                          | 1.3 | 1.8   | 1.4 | 2.1   | 1.5 | 2.2   | 1.5 | 2.2   | 1.5 | 2.3   | 1.3 | 2.3   | 1.4 |
| 2.8                   | 10.0                       | 1.9                          | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.3   | 2.0 | 3.7   | 2.0 |
|                       | 12.0                       | 1.9                          | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.3   | 2.0 | 3.6   | 2.0 |
|                       | 14.0                       | 1.9                          | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.3   | 2.0 | 3.6   | 2.0 |
|                       | 16.0                       | 1.9                          | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.3   | 2.0 | 3.5   | 1.9 |
|                       | 18.0                       | 1.9                          | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.3   | 2.0 | 3.5   | 1.9 |
|                       | 20.0                       | 1.9                          | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.3   | 2.0 | 3.4   | 1.9 |
|                       | 21.0                       | 1.9                          | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.3   | 2.0 | 3.4   | 1.9 |

| Indoor Unit size (kW) | Outdoor temperature (°C DB) | indoor temperature (°C WB/DB) |     |       |     |       |     |       |     |       |     |       |     |       |     |
|-----------------------|-----------------------------|-------------------------------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|
|                       |                             | 14/20                         |     | 16/23 |     | 18/26 |     | 19/27 |     | 20/28 |     | 22/30 |     | 24/32 |     |
|                       |                             | TC                            | SC  | TC    | SC  | TC    | SC  | TC    | SC  | TC    | SC  | TC    | SC  | TC    | SC  |
|                       |                             | kW                            | kW  | kW    | kW  | kW    | kW  | kW    | kW  | kW    | kW  | kW    | kW  | kW    | kW  |
| 2.8                   | 23.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.3   | 2.0 | 3.4   | 1.9 |
|                       | 25.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.2   | 1.9 | 3.3   | 1.9 |
|                       | 27.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.2   | 1.9 | 3.3   | 1.9 |
|                       | 29.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.1   | 1.8 | 3.2   | 1.8 |
|                       | 31.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.1   | 1.8 | 3.2   | 1.7 |
|                       | 33.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 3.0   | 1.9 | 3.1   | 1.8 | 3.1   | 1.7 |
|                       | 35.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 2.9   | 1.9 | 3.0   | 1.8 | 3.1   | 1.7 |
|                       | 37.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 2.9   | 1.9 | 3.0   | 1.8 | 3.0   | 1.7 |
|                       | 39.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 2.9   | 1.9 | 3.0   | 1.9 | 3.0   | 1.7 |
|                       | 42.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 2.9   | 1.9 | 3.0   | 1.9 | 3.0   | 1.7 |
|                       | 44.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 2.9   | 1.9 | 3.0   | 1.9 | 3.0   | 1.7 |
|                       | 46.0                        | 1.9                           | 1.6 | 2.3   | 1.8 | 2.6   | 1.9 | 2.8   | 1.9 | 2.9   | 1.9 | 3.0   | 1.9 | 3.0   | 1.7 |
| 3.6                   | 10.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.3   | 2.4 | 4.7   | 2.5 |
|                       | 12.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.3   | 2.4 | 4.7   | 2.5 |
|                       | 14.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.3   | 2.4 | 4.6   | 2.4 |
|                       | 16.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.3   | 2.4 | 4.5   | 2.4 |
|                       | 18.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.3   | 2.4 | 4.5   | 2.4 |
|                       | 20.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.3   | 2.4 | 4.4   | 2.3 |
|                       | 21.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.3   | 2.4 | 4.4   | 2.3 |
|                       | 23.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.1   | 2.3 | 4.3   | 2.2 |
|                       | 25.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.1   | 2.3 | 4.2   | 2.2 |
|                       | 27.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.0   | 2.2 | 4.2   | 2.2 |
|                       | 29.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.0   | 2.2 | 4.1   | 2.2 |
|                       | 31.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.2   | 2.6 | 4.1   | 2.2 |
|                       | 33.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.2   | 2.6 | 3.9   | 2.1 |
|                       | 35.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.8   | 2.5 | 4.2   | 2.6 | 3.9   | 2.1 |
|                       | 37.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.7   | 2.4 | 3.8   | 2.3 | 3.9   | 2.1 |
|                       | 39.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.7   | 2.4 | 3.8   | 2.3 | 3.8   | 2.1 |
|                       | 42.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.7   | 2.4 | 3.8   | 2.3 | 3.8   | 2.1 |
|                       | 44.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.7   | 2.4 | 3.8   | 2.3 | 3.8   | 2.1 |
|                       | 46.0                        | 2.5                           | 1.9 | 2.9   | 2.1 | 3.4   | 2.3 | 3.6   | 2.4 | 3.7   | 2.4 | 3.8   | 2.3 | 3.8   | 2.1 |

## 7.2 Heating

TC: total capacity    WB: wet-bulb temperature    DB: dry-bulb temperature

| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°C) |        | Indoor temperature (°CDB) |       |       |       |       |       |
|--------------------------|-----------------------------|--------|---------------------------|-------|-------|-------|-------|-------|
|                          |                             |        | 16.00                     | 18.00 | 20.00 | 21.00 | 22.00 | 24.00 |
|                          |                             |        | TC                        | TC    | TC    | TC    | TC    | TC    |
|                          | WB                          | DB     | kW                        | kW    | kW    | kW    | kW    | kW    |
| 1.8                      | -20                         | -19.8  | 1.01                      | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
|                          | -19                         | -18.8  | 1.08                      | 1.08  | 1.08  | 1.08  | 1.08  | 1.08  |
|                          | -17                         | -16.7  | 1.13                      | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  |
|                          | -15                         | -14.7  | 1.17                      | 1.17  | 1.17  | 1.17  | 1.17  | 1.17  |
|                          | -13.00                      | -12.60 | 1.24                      | 1.24  | 1.24  | 1.24  | 1.24  | 1.24  |
|                          | -11.00                      | -10.50 | 1.26                      | 1.28  | 1.28  | 1.28  | 1.28  | 1.28  |
|                          | -10.00                      | -9.50  | 1.31                      | 1.31  | 1.31  | 1.31  | 1.31  | 1.31  |
|                          | -9.10                       | -8.50  | 1.35                      | 1.35  | 1.35  | 1.35  | 1.35  | 1.35  |
|                          | -7.60                       | -7.00  | 1.37                      | 1.37  | 1.37  | 1.37  | 1.37  | 1.37  |
|                          | -5.60                       | -5.00  | 1.42                      | 1.42  | 1.42  | 1.42  | 1.42  | 1.42  |
|                          | -3.70                       | -3.00  | 1.49                      | 1.49  | 1.49  | 1.49  | 1.49  | 1.49  |
|                          | -0.70                       | 0.00   | 1.60                      | 1.60  | 1.60  | 1.60  | 1.60  | 1.51  |
|                          | 2.20                        | 3.00   | 1.69                      | 1.69  | 1.69  | 1.69  | 1.66  | 1.51  |
|                          | 4.10                        | 5.00   | 1.75                      | 1.75  | 1.75  | 1.75  | 1.66  | 1.51  |
|                          | 6.00                        | 7.00   | 1.80                      | 1.80  | 1.80  | 1.75  | 1.66  | 1.51  |
|                          | 7.90                        | 9.00   | 1.85                      | 1.85  | 1.80  | 1.75  | 1.66  | 1.51  |
|                          | 9.80                        | 11.00  | 1.91                      | 1.91  | 1.80  | 1.75  | 1.66  | 1.51  |
|                          | 11.80                       | 13.00  | 1.98                      | 1.94  | 1.80  | 1.75  | 1.66  | 1.51  |
|                          | 13.70                       | 15.00  | 2.03                      | 1.94  | 1.80  | 1.75  | 1.66  | 1.51  |
| 2.2                      | -20                         | -19.8  | 1.23                      | 1.23  | 1.23  | 1.23  | 1.23  | 1.23  |
|                          | -19                         | -18.8  | 1.32                      | 1.32  | 1.32  | 1.32  | 1.32  | 1.32  |
|                          | -17                         | -16.7  | 1.39                      | 1.39  | 1.39  | 1.39  | 1.39  | 1.39  |
|                          | -15                         | -14.7  | 1.43                      | 1.43  | 1.43  | 1.43  | 1.43  | 1.43  |
|                          | -13.00                      | -12.60 | 1.52                      | 1.52  | 1.52  | 1.52  | 1.52  | 1.52  |
|                          | -11.00                      | -10.50 | 1.54                      | 1.56  | 1.56  | 1.56  | 1.56  | 1.56  |
|                          | -10.00                      | -9.50  | 1.61                      | 1.61  | 1.61  | 1.61  | 1.61  | 1.61  |
|                          | -9.10                       | -8.50  | 1.65                      | 1.65  | 1.65  | 1.65  | 1.65  | 1.65  |
|                          | -7.60                       | -7.00  | 1.67                      | 1.67  | 1.67  | 1.67  | 1.67  | 1.67  |
|                          | -5.60                       | -5.00  | 1.74                      | 1.74  | 1.74  | 1.74  | 1.74  | 1.74  |
|                          | -3.70                       | -3.00  | 1.83                      | 1.83  | 1.83  | 1.83  | 1.83  | 1.83  |
|                          | -0.70                       | 0.00   | 1.96                      | 1.96  | 1.96  | 1.96  | 1.96  | 1.85  |
|                          | 2.20                        | 3.00   | 2.07                      | 2.07  | 2.07  | 2.07  | 2.02  | 1.85  |
|                          | 4.10                        | 5.00   | 2.13                      | 2.13  | 2.13  | 2.13  | 2.02  | 1.85  |
|                          | 6.00                        | 7.00   | 2.20                      | 2.20  | 2.20  | 2.13  | 2.02  | 1.85  |
|                          | 7.90                        | 9.00   | 2.27                      | 2.27  | 2.20  | 2.13  | 2.02  | 1.85  |
|                          | 9.80                        | 11.00  | 2.33                      | 2.33  | 2.20  | 2.13  | 2.02  | 1.85  |
|                          | 11.80                       | 13.00  | 2.42                      | 2.38  | 2.20  | 2.13  | 2.02  | 1.85  |
|                          | 13.70                       | 15.00  | 2.49                      | 2.38  | 2.20  | 2.13  | 2.02  | 1.85  |
| 2.8                      | -20                         | -19.8  | 1.57                      | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  |
|                          | -19                         | -18.8  | 1.68                      | 1.68  | 1.68  | 1.68  | 1.68  | 1.68  |
|                          | -17                         | -16.7  | 1.76                      | 1.76  | 1.76  | 1.76  | 1.76  | 1.76  |
|                          | -15                         | -14.7  | 1.82                      | 1.82  | 1.82  | 1.82  | 1.82  | 1.82  |
|                          | -13.00                      | -12.60 | 1.93                      | 1.93  | 1.93  | 1.93  | 1.93  | 1.93  |
|                          | -11.00                      | -10.50 | 1.96                      | 1.99  | 1.99  | 1.99  | 1.99  | 1.99  |
|                          | -10.00                      | -9.50  | 2.04                      | 2.04  | 2.04  | 2.04  | 2.04  | 2.04  |
|                          | -9.10                       | -8.50  | 2.10                      | 2.10  | 2.10  | 2.10  | 2.10  | 2.10  |

| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°C) |        | Indoor temperature (°CDB) |       |       |       |       |       |
|--------------------------|-----------------------------|--------|---------------------------|-------|-------|-------|-------|-------|
|                          |                             |        | 16.00                     | 18.00 | 20.00 | 21.00 | 22.00 | 24.00 |
|                          |                             |        | TC                        | TC    | TC    | TC    | TC    | TC    |
|                          | WB                          | DB     | kW                        | kW    | kW    | kW    | kW    | kW    |
| 2.8                      | -7.60                       | -7.00  | 2.13                      | 2.13  | 2.13  | 2.13  | 2.13  | 2.13  |
|                          | -5.60                       | -5.00  | 2.21                      | 2.21  | 2.21  | 2.21  | 2.21  | 2.21  |
|                          | -3.70                       | -3.00  | 2.32                      | 2.32  | 2.32  | 2.32  | 2.32  | 2.32  |
|                          | -0.70                       | 0.00   | 2.49                      | 2.49  | 2.49  | 2.49  | 2.49  | 2.35  |
|                          | 2.20                        | 3.00   | 2.63                      | 2.63  | 2.63  | 2.63  | 2.58  | 2.35  |
|                          | 4.10                        | 5.00   | 2.72                      | 2.72  | 2.72  | 2.72  | 2.58  | 2.35  |
|                          | 6.00                        | 7.00   | 2.80                      | 2.80  | 2.80  | 2.72  | 2.58  | 2.35  |
|                          | 7.90                        | 9.00   | 2.88                      | 2.88  | 2.80  | 2.72  | 2.58  | 2.35  |
|                          | 9.80                        | 11.00  | 2.97                      | 2.97  | 2.80  | 2.72  | 2.58  | 2.35  |
|                          | 11.80                       | 13.00  | 3.08                      | 3.02  | 2.80  | 2.72  | 2.58  | 2.35  |
|                          | 13.70                       | 15.00  | 3.16                      | 3.02  | 2.80  | 2.72  | 2.58  | 2.35  |
| 3.6                      | -20                         | -19.8  | 2.02                      | 2.02  | 2.02  | 2.02  | 2.02  | 2.02  |
|                          | -19                         | -18.8  | 2.16                      | 2.16  | 2.16  | 2.16  | 2.16  | 2.16  |
|                          | -17                         | -16.7  | 2.27                      | 2.27  | 2.27  | 2.27  | 2.27  | 2.27  |
|                          | -15                         | -14.7  | 2.34                      | 2.34  | 2.34  | 2.34  | 2.34  | 2.34  |
|                          | -13.00                      | -12.60 | 2.48                      | 2.48  | 2.48  | 2.48  | 2.48  | 2.48  |
|                          | -11.00                      | -10.50 | 2.52                      | 2.56  | 2.56  | 2.56  | 2.56  | 2.56  |
|                          | -10.00                      | -9.50  | 2.63                      | 2.63  | 2.63  | 2.63  | 2.63  | 2.63  |
|                          | -9.10                       | -8.50  | 2.70                      | 2.70  | 2.70  | 2.70  | 2.70  | 2.70  |
|                          | -7.60                       | -7.00  | 2.74                      | 2.74  | 2.74  | 2.74  | 2.74  | 2.74  |
|                          | -5.60                       | -5.00  | 2.84                      | 2.84  | 2.84  | 2.84  | 2.84  | 2.84  |
|                          | -3.70                       | -3.00  | 2.99                      | 2.99  | 2.99  | 2.99  | 2.99  | 2.99  |
|                          | -0.70                       | 0.00   | 3.20                      | 3.20  | 3.20  | 3.20  | 3.20  | 3.02  |
|                          | 2.20                        | 3.00   | 3.38                      | 3.38  | 3.38  | 3.38  | 3.31  | 3.02  |
|                          | 4.10                        | 5.00   | 3.49                      | 3.49  | 3.49  | 3.49  | 3.31  | 3.02  |
|                          | 6.00                        | 7.00   | 3.60                      | 3.60  | 3.60  | 3.49  | 3.31  | 3.02  |
|                          | 7.90                        | 9.00   | 3.71                      | 3.71  | 3.60  | 3.49  | 3.31  | 3.02  |
|                          | 9.80                        | 11.00  | 3.82                      | 3.82  | 3.60  | 3.49  | 3.31  | 3.02  |
|                          | 11.80                       | 13.00  | 3.96                      | 3.89  | 3.60  | 3.49  | 3.31  | 3.02  |
|                          | 13.70                       | 15.00  | 4.07                      | 3.89  | 3.60  | 3.49  | 3.31  | 3.02  |

## 8. Electric Characteristics

| Model          | Indoor Unit |            |          |          | Power Supply |     | IFM   |       |
|----------------|-------------|------------|----------|----------|--------------|-----|-------|-------|
|                | Hz          | Voltage(V) | Min. (V) | Max. (V) | MCA          | MFA | KW    | FLA   |
| MDV-D18Q1/N1-D | 50          | 220-240    | 198      | 242      | 0.169        | 15  | 0.012 | 0.135 |
| MDV-D22Q1/N1-D | 50          | 220-240    | 198      | 242      | 0.169        | 15  | 0.012 | 0.135 |
| MDV-D28Q1/N1-D | 50          | 220-240    | 198      | 242      | 0.178        | 15  | 0.012 | 0.142 |
| MDV-D36Q1/N1-D | 50          | 220-240    | 198      | 242      | 0.178        | 15  | 0.012 | 0.142 |

### Remark:

MCA: Min. Current Amps. (A)

MFA: Max. Fuse Amps. (A)

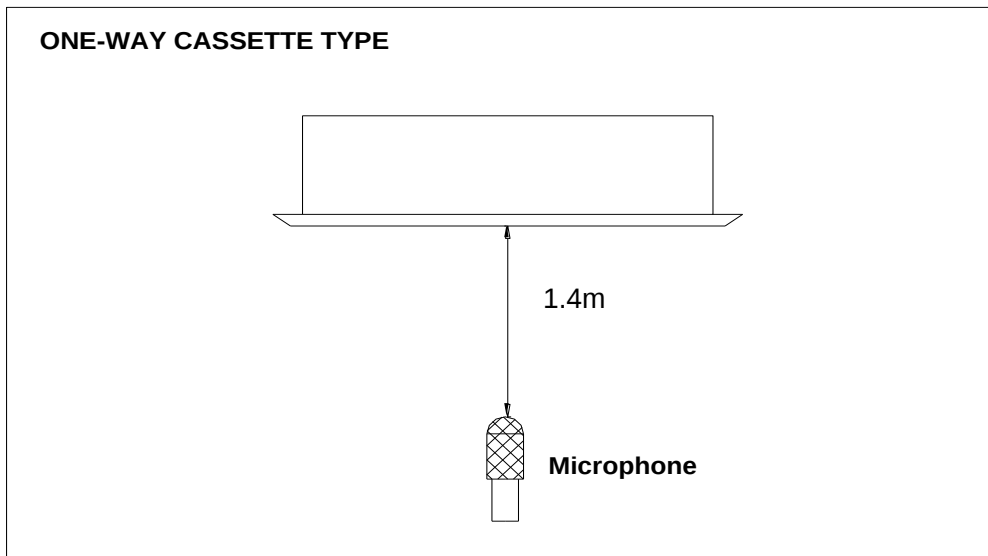
KW: Fan Motor Rated Output (kW)

FLA: Full Load Amps. (A)

IFM: Indoor Fan Motor

## 9. Sound Levels

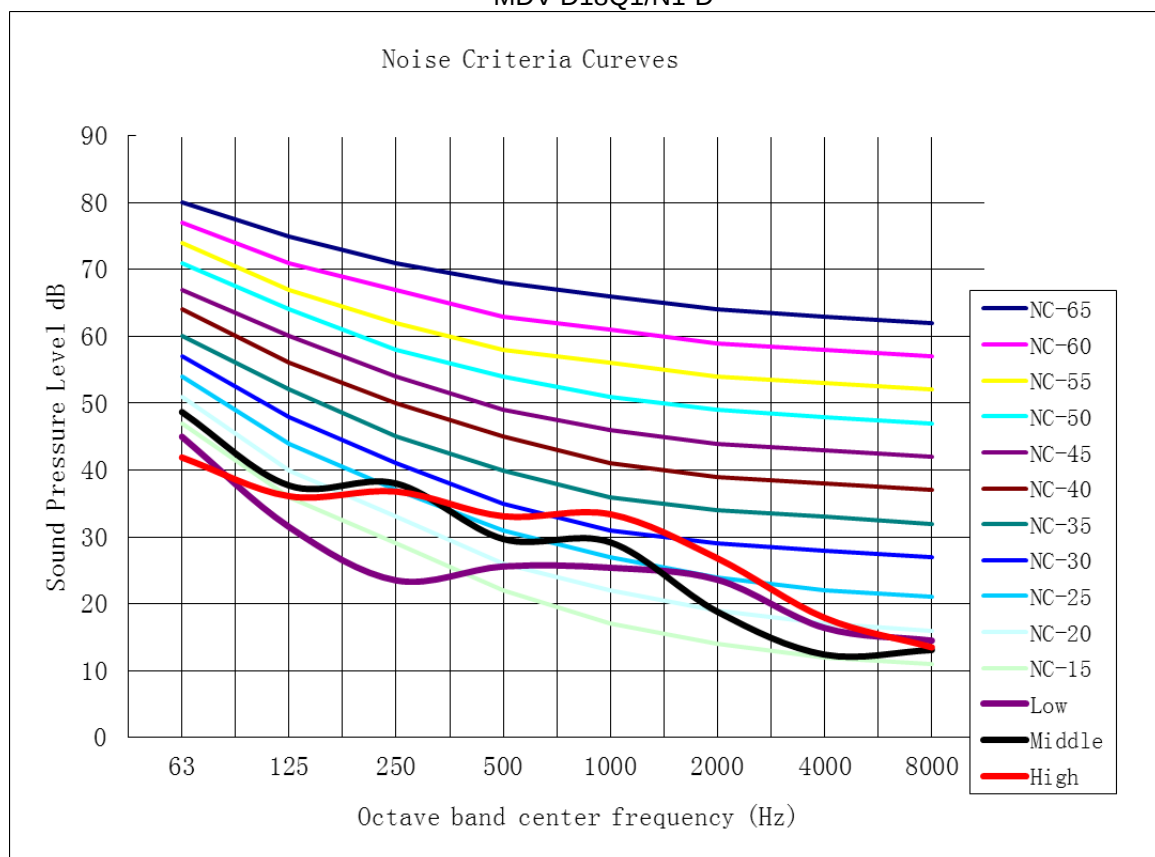
### 9.1 Test condition

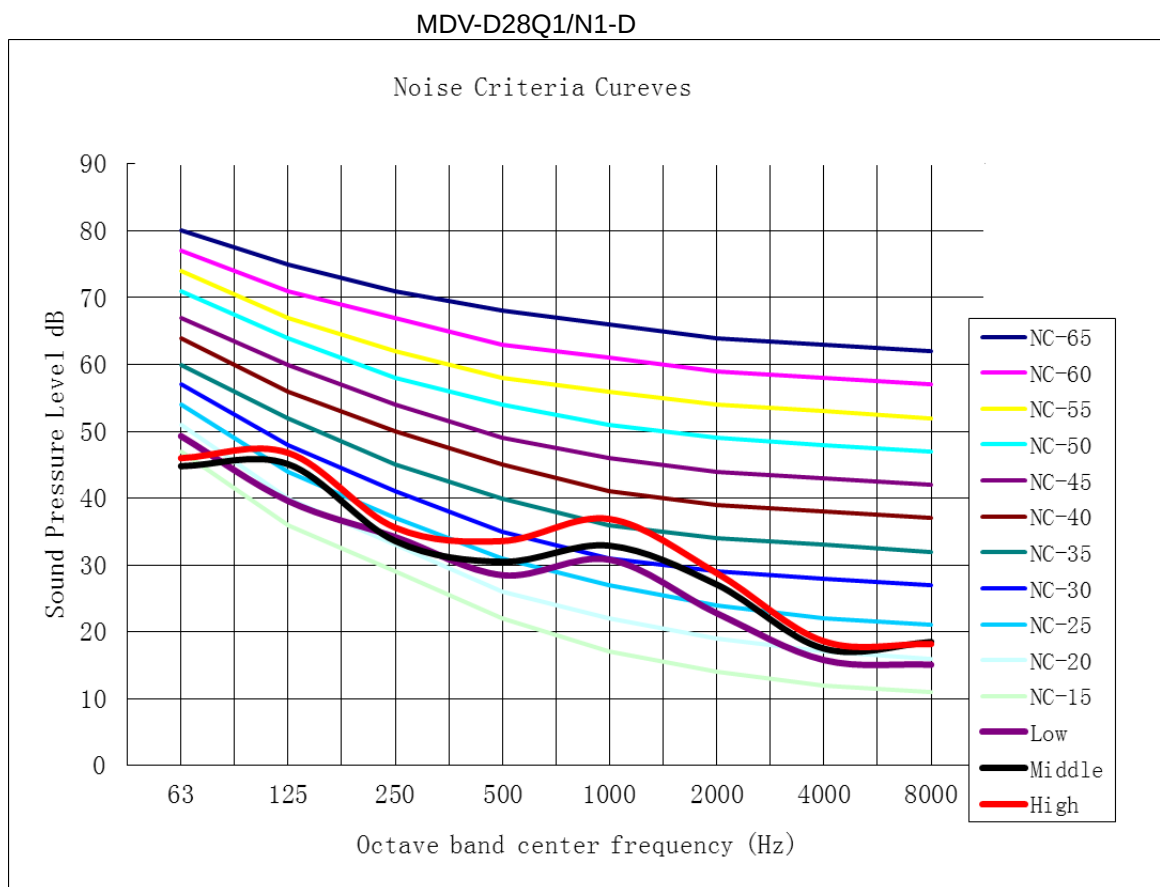
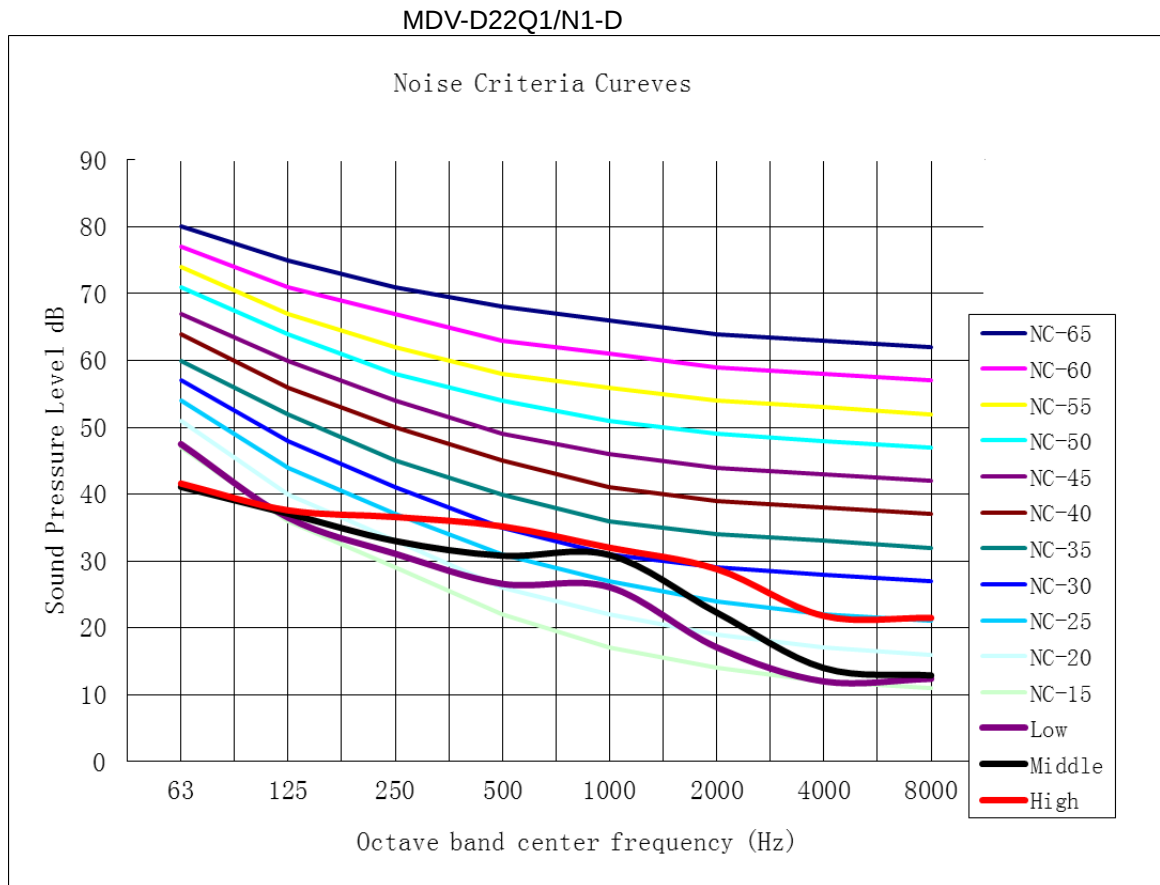


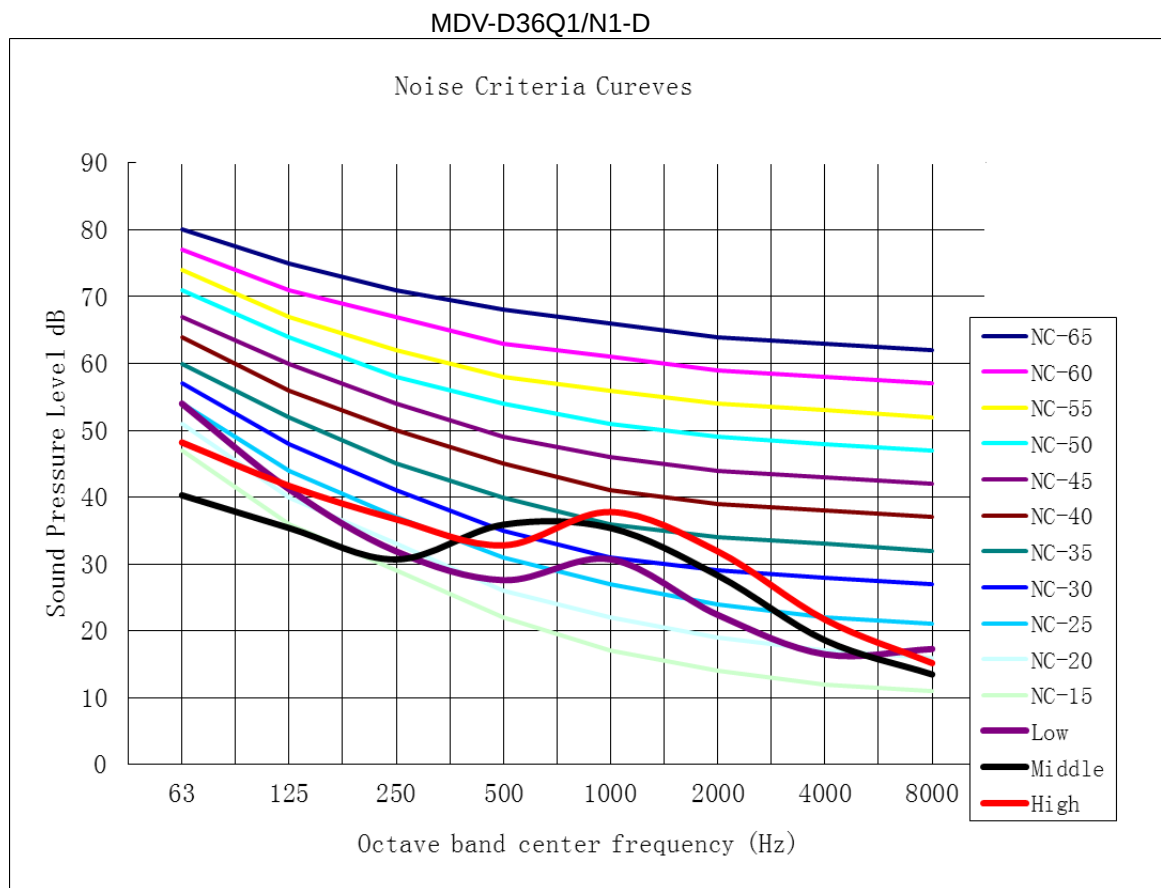
### 9.2 Test value

| Model          | Noise test value dB(A) |        |     |
|----------------|------------------------|--------|-----|
|                | High                   | Middle | Low |
| MDV-D18Q1/N1-D | 37                     | 34     | 30  |
| MDV-D22Q1/N1-D | 38                     | 34     | 30  |
| MDV-D28Q1/N1-D | 39                     | 37     | 34  |
| MDV-D36Q1/N1-D | 40                     | 38     | 34  |

MDV-D18Q1/N1-D

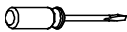






## 10. Accessories

### Standard accessories

| Name                                                     | Quantity | Outline                                                                             | Function                                                             |
|----------------------------------------------------------|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Indoor unit installation manual                          | 1        | This manual                                                                         | Please hand to the user                                              |
| Installation paper plate                                 | 1        |    | For installing the suspender and cutting the ceiling                 |
| Protection sleeve for refrigerant inlet and outlet pipes | 2        |    | For heat insulation of the pipe connections                          |
| Fastening belt                                           | 10       |    | For fastening                                                        |
| Flexible drainage pipe                                   | 1        |    | For the connection between the air-conditioner and the drainage pipe |
| Clasp                                                    | 1        |    | For fastening the flexible drainage pipe                             |
| Big gasket                                               | 8        |    | Necessary fastener for hanging the air-conditioner                   |
| Screw                                                    | 8        |    | Necessary fastener for hanging the air-conditioner                   |
| Panel installation bolt                                  | 6        |   | For installing the panel to the air-conditioner                      |
| Operation manual for remote controller                   | 1        |  | Please hand to the user                                              |
| Remote controller                                        | 1        |  | For remotely controlling the unit                                    |
| Remote controller support                                | 1        |  | For placing the remote controller                                    |
| Battery                                                  | 2        |  | Battery for remote controller                                        |
| Cross-recessed countersunk head self tapping screw       | 2        |  | For fixing the remote controller support                             |
| Small flathead screwdriver                               | 1        |  | Use for installing the wires and dial codes                          |
| Copper                                                   | 1        |  | Use for pipe connection of engineering installation                  |