



# Technical Service Manual

— VRF Indoor Unit —  
60Hz



Series:

One-way Cassette

Two-way Cassette

Compact Four-way Cassette

Four-way Cassette

Silent Four-way Cassette

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## One-way Cassette

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## 1. Features

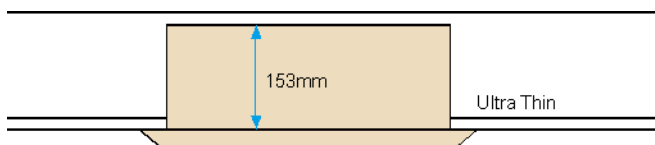
### 1.1 New panel design

The new panel is equipped with digital display function, which can show temperature, warning message and check running parameters.



### 1.2 Compact design

For capacity 6100~12300Btu/h(1.8~3.6kW) models, need only 6-1/32in.(153mm) space above the ceiling. And 7-7/16in.(189mm) for 15400~24200 Btu/h (4.5~7.1kW) models.



### 1.3 Parts inside installation

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

### 1.4 Large airflow and low noise

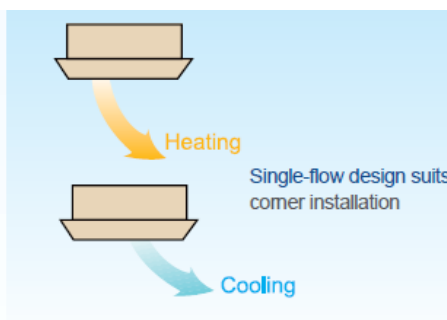
Large airflow, for high ceiling application. Installation height can reach up to 10.5ft(3.2m) for 6100~12300Btu/h(1.8~3.6kW) models and 13.1ft(4.0m) for 15400~24200 Btu/h(4.5~7.1kW) models, guarantees comfort in large space.

### 1.5 Improved air quality

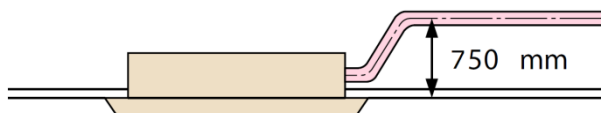
Two folding type air filters and two standard formaldehyde absorption nets improve the air quality greatly. The design of a long air outlet and a wide guide fan blade, which enlarges the range of flow transportation.

### 1.6 Auto swing

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



### 1.7 Built-in water pump with 29-17/32in.(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.

### 1.9 Auto restart

When the indoor unit is powered off, it will auto restart when powered on again after 3 minutes and operate in the previous state.



## 2. Specifications

| Model                        |                              |                   | MDV-D18Q1/VN1-D                          | MDV-D22Q1/VN1-D       |
|------------------------------|------------------------------|-------------------|------------------------------------------|-----------------------|
| Power supply                 |                              | V- Ph-Hz          | 220-240V~1Ph~60Hz                        |                       |
| Cooling                      | Capacity                     | kW                | 1.8                                      | 2.2                   |
|                              |                              | Btu/h             | 6100                                     | 7500                  |
|                              | Input                        | W                 | 41                                       | 41                    |
|                              | Rated current                | A                 | 0.24                                     | 0.24                  |
| Heating                      | Capacity                     | kW                | 2.2                                      | 2.6                   |
|                              |                              | Btu/h             | 7500                                     | 8900                  |
|                              | Input                        | W                 | 41                                       | 41                    |
|                              | Rated current                | A                 | 0.24                                     | 0.24                  |
| Indoor fan motor             | Model                        |                   | RPS12B                                   |                       |
|                              | Type                         |                   | AC motor                                 |                       |
|                              | Brand                        |                   | Welling                                  |                       |
|                              | Input(H/M/L)                 | W                 | 29.5/26.7/25.0                           | 29.5/26.7/25.0        |
|                              | Capacitor                    | μF                | 0.8μF/450V                               | 0.8μF/450V            |
|                              | Speed (H/M/L)                | r/min             | 1180/955/710                             |                       |
| Indoor coil                  | Number of rows               |                   | 2                                        | 2                     |
|                              | Tube pitch(a) × row pitch(b) | in.(mm)           | 53/64×17/32(21×13.37)                    | 53/64×17/32(21×13.37) |
|                              | Fin spacing                  | in.(mm)           | 1/16(1.5)                                | 1/16(1.5)             |
|                              | Fin type                     |                   | Hydrophilic aluminum                     |                       |
|                              | Tube outside dia. and type   | in.(mm)           | 9/32(Φ7) Inner groove tube               |                       |
|                              | Coil length × height × width | in.(mm)           | 29-59/64×9-15/16×1-3/64(760×252.4×26.74) |                       |
|                              | Number of circuits           |                   | 2                                        | 2                     |
| Indoor air flow (H/M/L)      |                              | m <sup>3</sup> /h | 523/404/275                              |                       |
|                              |                              | CFM               | 308/238/162                              |                       |
| Indoor noise level (H/M/L)   |                              | dB(A)             | 37/34/30                                 | 38/34/30              |
| Indoor unit                  | Dimension (W×H×D)            | in.(mm)           | 41-1/2×6-1/32×16-47/64(1054×153×425)     |                       |
|                              | Packing (W×H×D)              | in.(mm)           | 45-15/32×9-41/64×19-19/64(1155×245×490)  |                       |
|                              | Net/Gross weight             | lbs. (kg)         | 27.8/35.3(12.5/16)                       | 27.8/35.3(12.5/16)    |
| Panel                        | Dimension (W×H×D)            | in.(mm)           | 46-29/64×63/64×18-5/16(1180×25×465)      |                       |
|                              | Packing (W×H×D)              | in.(mm)           | 48-1/2×4-7/32×20-23/64(1232×107×517)     |                       |
|                              | Net/Gross weight             | lbs. (kg)         | 7.7/11.5(3.5/5.2)                        | 7.7/11.5(3.5/5.2)     |
| Refrigerant type             |                              |                   | R410A                                    |                       |
| Throttle                     |                              | Type              | Electronic expansion valve               |                       |
|                              |                              | Model             | D20MISZ-1R(L)                            |                       |
| Design pressure(H/L)         |                              | MPa               | 4.4/2.6                                  |                       |
| Refrigerant piping           | Liquid side                  | in.(mm)           | 1/4(Φ6.35)                               |                       |
|                              | Gas side                     | in.(mm)           | 1/2(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 |                              | in.(mm)           | OD 63/64 (Φ25)                           |                       |
| Controller                   |                              |                   | Wireless remote controller               |                       |

**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-D36Q1/VN1-D       |
|------------------------------|--------------------------------|-------------------|------------------------------------------|-----------------------|
| Power supply                 |                                | V- Ph-Hz          | 220-240V~1Ph~60Hz                        |                       |
| Cooling                      | Capacity                       | kW                | 2.8                                      | 3.6                   |
|                              |                                | Btu/h             | 9600                                     | 12300                 |
|                              | Input                          | W                 | 41                                       | 41                    |
|                              | Rated current                  | A                 | 0.25                                     | 0.25                  |
| Heating                      | Capacity                       | kW                | 3.2                                      | 4.0                   |
|                              |                                | Btu/h             | 10900                                    | 13600                 |
|                              | Input                          | W                 | 41                                       | 41                    |
|                              | Rated current                  | A                 | 0.25                                     | 0.25                  |
| Indoor fan motor             | Model                          |                   | RPS12B                                   |                       |
|                              | Type                           |                   | AC motor                                 |                       |
|                              | Brand                          |                   | Welling                                  |                       |
|                              | Input                          | W                 | 31.0/27.2/25.3                           | 31.0/27.2/25.3        |
|                              | Capacitor                      | μF                | 1.0μF/450V                               | 1.0μF/450V            |
|                              | Speed (H/M/L)                  | r/min             | 1270/1050/790                            |                       |
| Indoor coil                  | Number of rows                 |                   | 2                                        | 2                     |
|                              | Tube pitch(a) × row pitch(b)   | in.(mm)           | 53/64×17/32(21×13.37)                    | 53/64×17/32(21×13.37) |
|                              | Fin spacing                    | in.(mm)           | 1/16(1.5)                                | 1/16(1.5)             |
|                              | Fin type                       |                   | Hydrophilic aluminum                     |                       |
|                              | Tube outside diameter and type | in.(mm)           | 9/32(Φ7) Inner groove tube               |                       |
|                              | Coil length × height × width   | in.(mm)           | 29-59/64×9-15/16×1-3/64(760×252.4×26.74) |                       |
|                              | Number of circuits             |                   | 3                                        | 3                     |
| Indoor air flow (H/M/L)      |                                | m <sup>3</sup> /h | 573/456/315                              |                       |
|                              |                                | CFM               | 337/268/185                              |                       |
| Indoor noise level (H/M/L)   |                                | dB(A)             | 39/37/34                                 | 40/38/34              |
| Indoor unit                  | Dimension (W×H×D)              | in.(mm)           | 41-1/2×6-1/32×16-47/64(1054×153×425)     |                       |
|                              | Packing (W×H×D)                | in.(mm)           | 45-15/32×9-41/64×19-19/64(1155×245×490)  |                       |
|                              | Net/Gross weight               | lbs.(kg)          | 28.8/ 36.4(13/16.5)                      |                       |
| Panel                        | Dimension (W×H×D)              | in.(mm)           | 46-29/64×63/64×18-5/16(1180×25×465)      |                       |
|                              | Packing (W×H×D)                | in.(mm)           | 48-1/2×4-7/32×20-23/64(1232×107×517)     |                       |
|                              | Net/Gross weight               | lbs.(kg)          | 7.7/11.5(3.5/5.2)                        |                       |
| Refrigerant type             |                                |                   | R410A                                    |                       |
| Throttle                     |                                | Type              | Electronic expansion valve               |                       |
|                              |                                | Model             | D20MISZ-1R(L)                            |                       |
| Design pressure(H/L)         |                                | MPa               | 4.4/2.6                                  |                       |
| Refrigerant piping           | Liquid side                    | in.(mm)           | 1/4(Φ6.35)                               |                       |
|                              | Gas side                       | in.(mm)           | 1/2/(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 |                                | in.(mm)           | OD 63/64 (Φ25)                           |                       |
| Controller                   |                                |                   | Wireless remote controller               |                       |

**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-D45Q1/VN1-D                        | MDV-D56Q1/VN1-D      | MDV-D71Q1/VN1-D                         |
|----------------------------|------------------------------|-------------------|----------------------------------------|----------------------|-----------------------------------------|
| power supply               |                              |                   | 220-240V~1Ph~60Hz                      |                      |                                         |
| Cooling                    | Capacity                     | W                 | 4500                                   | 5600                 | 7100                                    |
|                            |                              | Btu/h             | 15400                                  | 19100                | 24200                                   |
|                            | Input                        | W                 | 54                                     | 60                   | 75                                      |
|                            | Rated current                | A                 | 0.27                                   | 0.32                 | 0.36                                    |
| Heating                    | Capacity                     | W                 | 5000                                   | 6300                 | 8000                                    |
|                            |                              | Btu/h             | 17100                                  | 21500                | 27300                                   |
|                            | Input                        | W                 | 44                                     | 50                   | 65                                      |
|                            | Rated current                | A                 | 0.27                                   | 0.32                 | 0.36                                    |
| Indoor fan motor           | Model                        |                   | YDK38-4                                | YDK38-4              | YDK43-4                                 |
|                            | Type                         |                   | AC motor                               |                      |                                         |
|                            | Brand                        |                   | Welling/ Tongde                        |                      |                                         |
|                            | Input                        | W                 | 43.6/36.0/26.8                         | 48.2/40.0/29.8       | 72.8/46.0/31.8                          |
|                            | Capacitor                    | uF                | 2.0                                    | 3.0                  | 3.0                                     |
|                            | Speed (h/m/l)                | r/min             | 930/830/700                            | 1050/930/800         | 1120/960/780                            |
| Indoor coil                | Number of rows               |                   | 2                                      | 2                    | 2                                       |
|                            | Tube pitch(a) × row          | in.(mm)           | 21×13.37                               | 21×13.37             | 21×13.37                                |
|                            | Fin spacing                  | in.(mm)           | 1/16(1.5)                              | 1/16(1.5)            | 1/16(1.5)                               |
|                            | Fin type                     |                   | Hydrophilic Aluminum                   |                      |                                         |
|                            | Tube outside dia. and type   | in.(mm)           | 9/32(Φ7)                               |                      |                                         |
|                            |                              |                   | Inner groove tube                      |                      |                                         |
|                            | Coil length × height × width | in.(mm)           | 37-19/32×9-3/32×1-3/64(955×231×26.74)  |                      | 37-19/32×13-15/64×1-3/64(955×336×26.74) |
| Number of circuits         |                              |                   | 3                                      | 3                    | 5                                       |
| Indoor air flow (H/M/L)    |                              | m <sup>3</sup> /h | 693/600/476                            | 792/688/549          | 933/749/592                             |
|                            |                              | CFM               | 408/353/280                            | 466/405/323          | 549/441/349                             |
| Indoor noise level (H/M/L) |                              | dB(A)             | 41/39/35                               | 42/40/36             | 44/41/37                                |
| Indoor unit                | Dimension (W×H×D)            | in.(mm)           | 50-13/64×7-7/16×17-23/32(1275×189×450) |                      |                                         |
|                            | Packing (W×H×D)              | in.(mm)           | 53-15/16×11-39/64×19-7/8(1370×295×505) |                      |                                         |
|                            | Net/Gross weight             | lbs.(kg)          | 40.8/51.1(18.5/23.2)                   | 41.4/51.8(18.8/23.5) | 43.0/53.4(19.5/24.2)                    |
| Panel                      | Dimension (W×H×D)            | in.(mm)           | 53-5/32×63/64×19-7/8(1350×25×505)      |                      |                                         |
|                            | Packing (W×H×D)              | in.(mm)           | 55-33/64×3-47/64×22-3/64(1410×95×560)  |                      |                                         |
|                            | Net/Gross weight             | lbs.(kg)          | 8.8/11.9(4/5.4)                        |                      |                                         |
| Refrigerant type           |                              |                   | R410A                                  |                      |                                         |
| Throttle                   |                              | Type              | Electronic expansion valve             |                      |                                         |
|                            |                              | Model             | D20MISZ-1R(L)                          |                      |                                         |
| Design pressure (H/L)      |                              | MPa               | 4.4/2.6                                |                      |                                         |
| Refrigerant piping         | Liquid side                  | in.(mm)           | 1/4 (Φ6.35)                            | 1/2(Φ12.7)           | 1/2(Φ12.7)                              |
|                            | Gas side                     | in.(mm)           | 1/2(Φ12.7)                             | 5/8(Φ15.9)           | 5/8(Φ15.9)                              |
| Connecting wiring          | Power wiring                 | mm <sup>2</sup>   | 3×2.5                                  |                      |                                         |
|                            | Signal wiring                | mm <sup>2</sup>   | 3×0.75                                 |                      |                                         |
| Drainage water pipe dia.   |                              | in.(mm)           | OD 63/64 (Φ25)                         |                      |                                         |
| Controller                 |                              |                   | Wireless remote controller             |                      |                                         |

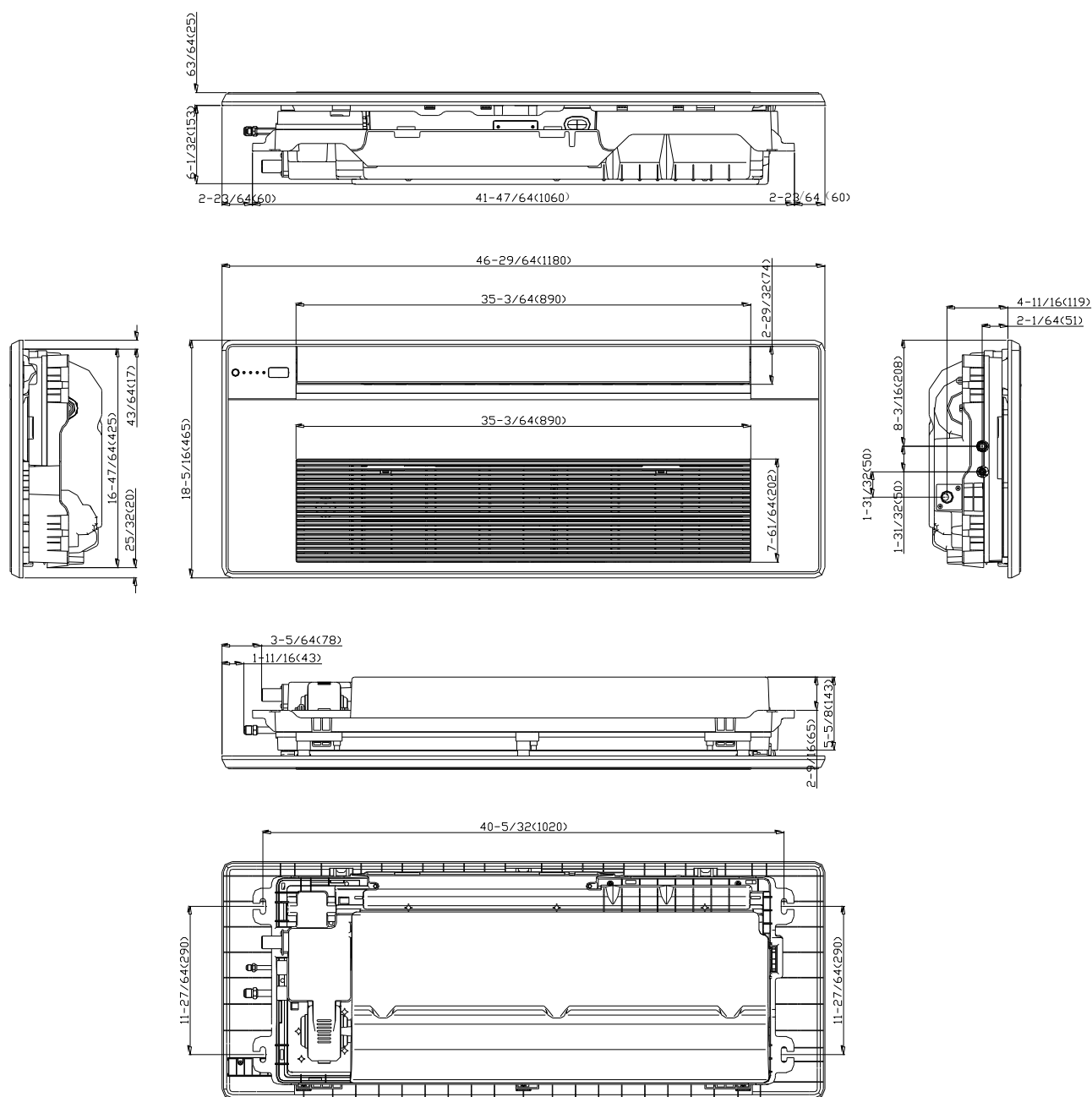
**Notes:** 1. Nominal cooling capacities are based on the following conditions: return air temperature: 80.6°F (27°C) DB, 66.2°F (19°C) WB, outdoor temperature: 95°F (35°C) DB, equivalent ref. Piping: 8m(horizontal)

2. Nominal heating capacities are based on the following conditions: return air temperature: 68°F (20°C) DB, outdoor temperature: 44.6°F (7°C) DB, 42.8°F (6°C) WB, equivalent ref. Piping: 8m(horizontal)

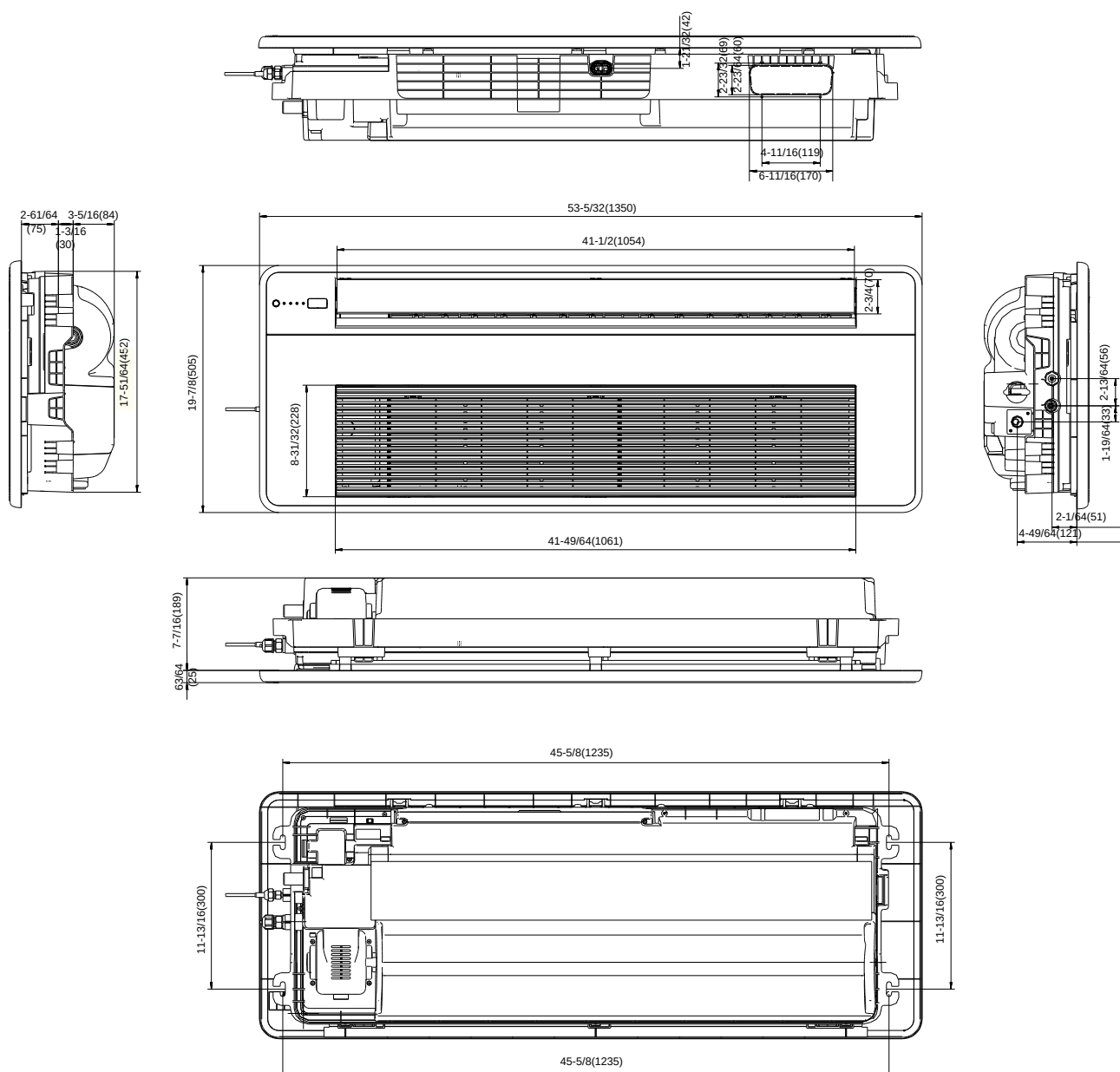
### 3. Dimensions

Unit : in.(mm)

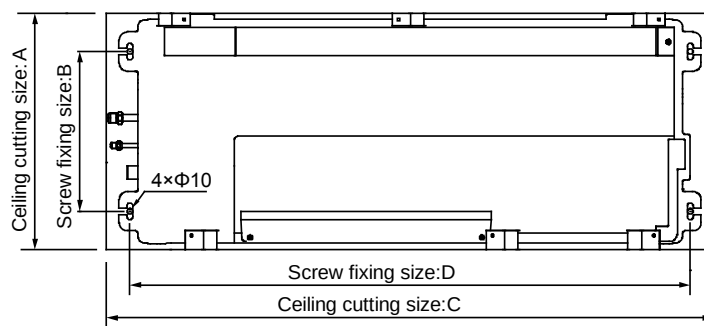
MDV-D18Q1/VN1-D MDV-D22Q1/VN1-D MDV-D28Q1/VN1-D MDV-D36Q1/VN1-D



## MDV-D45Q1/VN1-D MDV-D56Q1/VN1-D MDV-D71Q1/VN1-D



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



| No. | Model | 18-36          | 45-71          |
|-----|-------|----------------|----------------|
|     | A     | 16-59/64(430)  | 18-1/2(470)    |
|     | B     | 11-27/64(290)  | 11-13/16(300)  |
|     | C     | 43-5/16(1100)  | 50-25/32(1290) |
|     | D     | 39-61/64(1015) | 48-5/8(1235)   |

#### 4. Service Spaces

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.

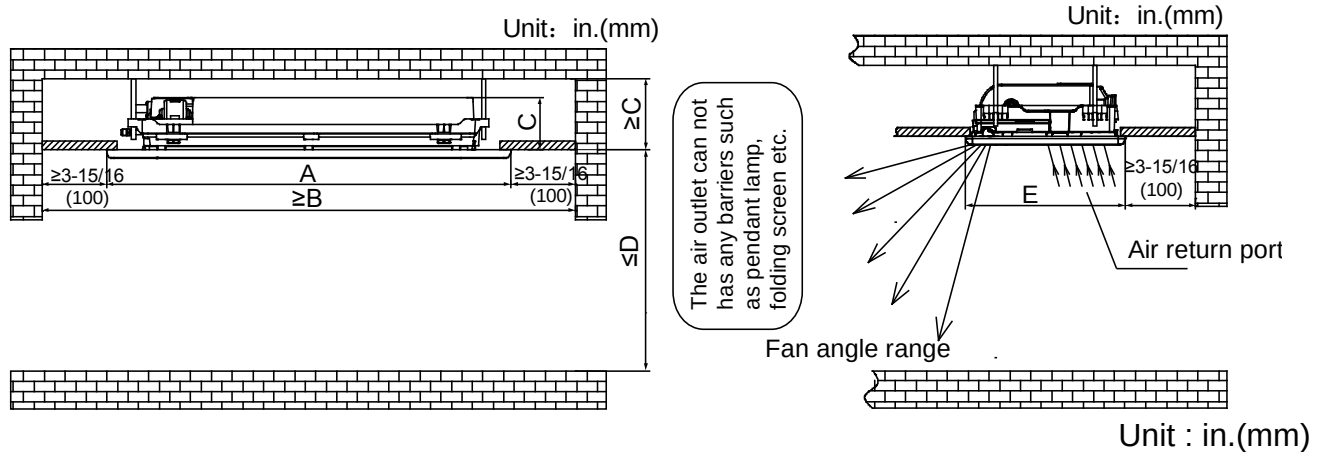
The appliance shall not be installed in the laundry.

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.

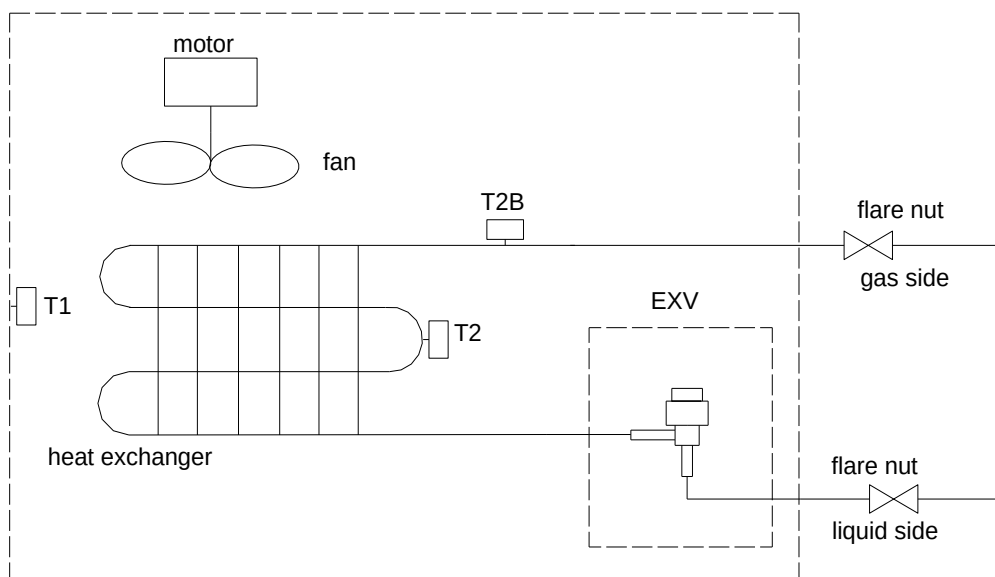
Ceiling space requires  $\geq C$  in.(mm).

The installation height of the unit cannot be higher than D in.(mm), or it will affect the operation effect.



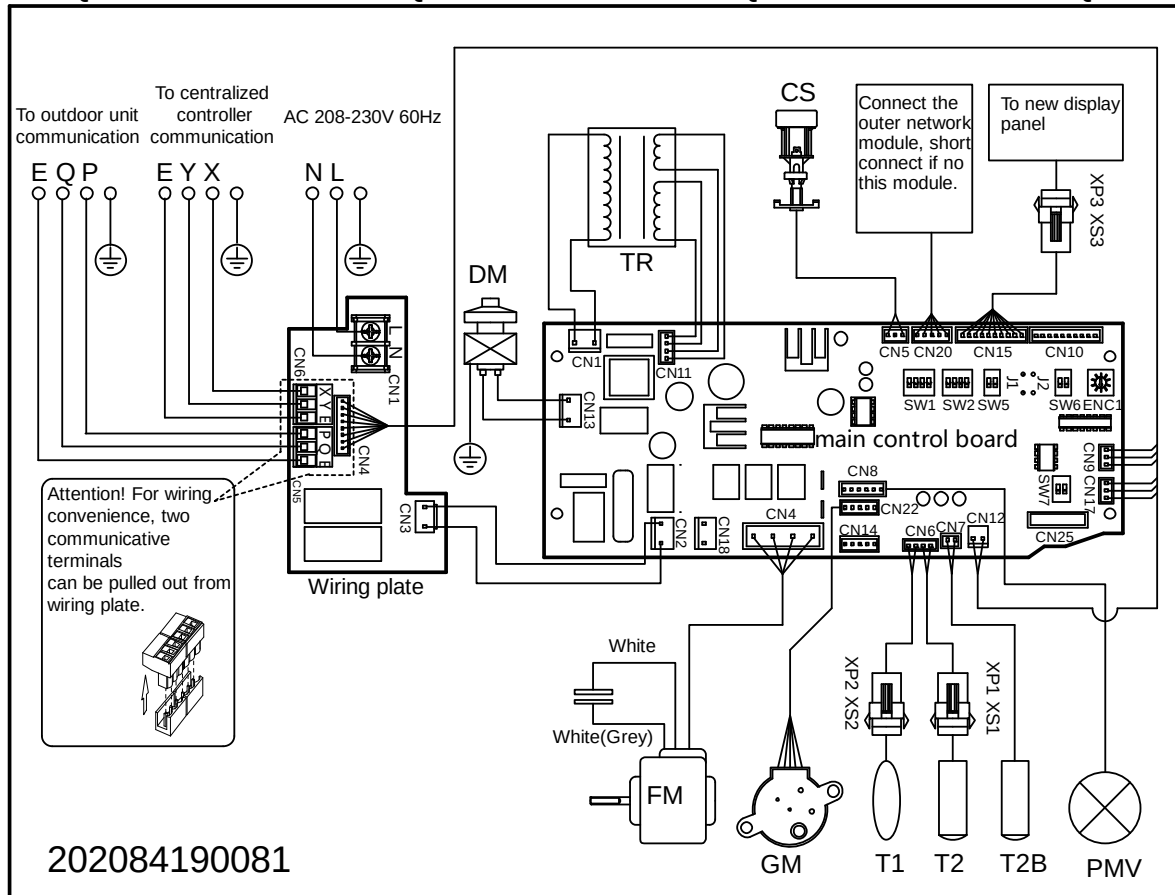
| No. | Model | Unit : in.(mm)  |                 |
|-----|-------|-----------------|-----------------|
|     |       | 18-36           | 45-71           |
|     | A     | 46-29/64(1180)  | 53-5/32(1350)   |
|     | B     | 54-21/64(1380)  | 61-1/32(1550)   |
|     | C     | 6-1/32(153)     | 7-7/16(189)     |
|     | D     | 125-63/64(3200) | 157-31/64(4000) |
|     | E     | 18-5/16(465)    | 19-7/8(505)     |

## 5. Piping Diagrams

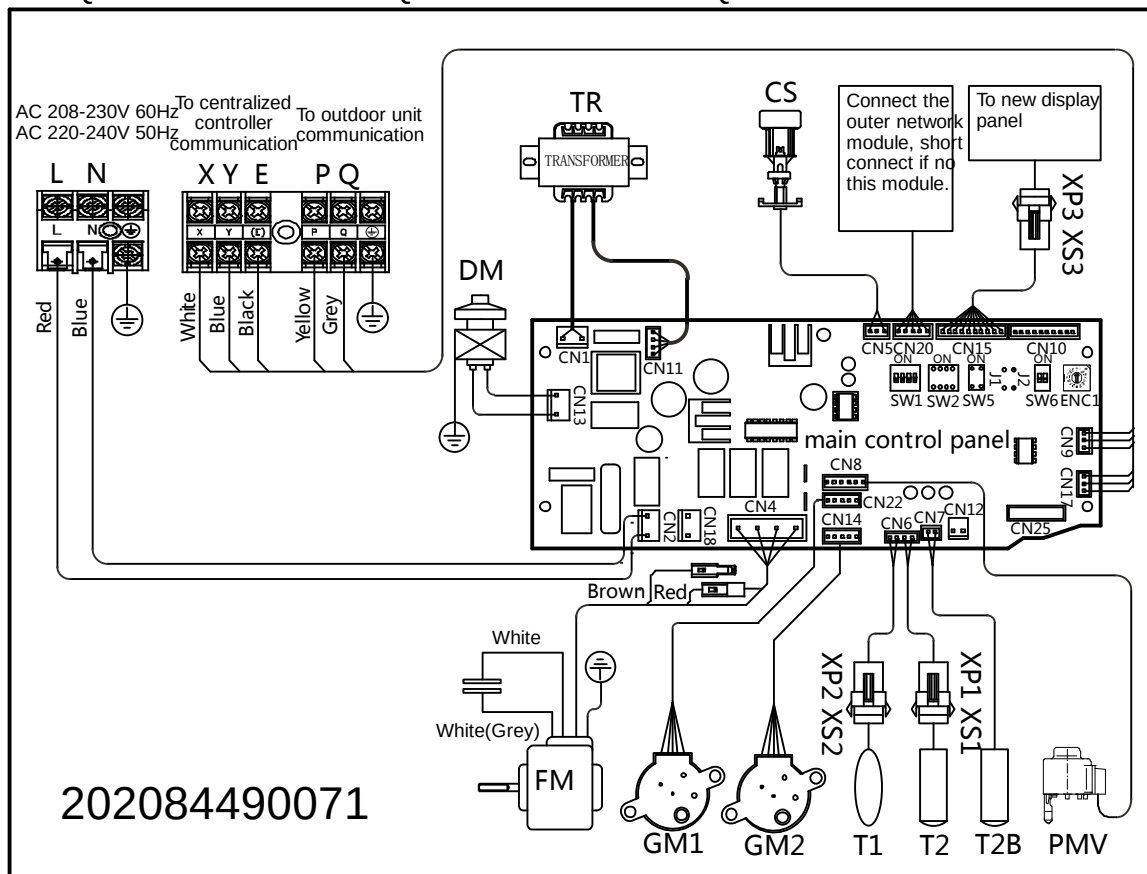


## 6. Wiring Diagrams

MDV-D18Q1/VN1-D MDV-D22Q1/VN1-D MDV-D28Q1/VN1-D MDV-D36Q1/VN1-D



MDV-D45Q1/VN1-D MDV-D56Q1/VN1-D MDV-D71Q1/VN1-D





| HP set switch ENC1 definition list                                                               |                                                                                                                                           | Code  | Name                                |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------|
| Code                                                                                             | Indoor Unit                                                                                                                               | FM    | Fan motor                           |
|                                                                                                  | Capacity Value                                                                                                                            | GM    | Swing 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 (°FDB) | 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  |
| 1.8                   | 50                         | 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 |
|                       | 53.6                       | 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 |
|                       | 57.2                       | 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 |
|                       | 60.8                       | 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 |
|                       | 64.4                       | 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 |
|                       | 68                         | 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 |
|                       | 69.8                       | 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 |
|                       | 73.4                       | 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 |
|                       | 77                         | 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 |
|                       | 80.6                       | 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 |
|                       | 84.2                       | 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 |
|                       | 87.8                       | 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 |
|                       | 91.4                       | 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 |
|                       | 95                         | 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 |
|                       | 98.6                       | 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 |
|                       | 102.2                      | 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 |
|                       | 107.6                      | 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 |
|                       | 111.2                      | 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 |
|                       | 114.8                      | 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                   | 50                         | 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 |
|                       | 53.6                       | 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 |
|                       | 57.2                       | 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 |
|                       | 60.8                       | 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 |
|                       | 64.4                       | 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 |
|                       | 68                         | 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 |
|                       | 69.8                       | 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 |
|                       | 73.4                       | 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 |
|                       | 77                         | 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 |
|                       | 80.6                       | 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 |
|                       | 84.2                       | 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 |
|                       | 87.8                       | 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 |
|                       | 91.4                       | 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 |
|                       | 95                         | 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 |
|                       | 98.6                       | 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 |
|                       | 102.2                      | 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 |
|                       | 107.6                      | 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 |
|                       | 111.2                      | 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 |
|                       | 114.8                      | 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                   | 50                         | 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 |
|                       | 53.6                       | 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 |
|                       | 57.2                       | 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 |
|                       | 60.8                       | 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 |
|                       | 64.4                       | 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 |
|                       | 68                         | 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 |
|                       | 69.8                       | 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 (°F 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                   | 73.4                        | 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 |
|                       | 77                          | 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 |
|                       | 80.6                        | 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 |
|                       | 84.2                        | 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 |
|                       | 87.8                        | 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 |
|                       | 91.4                        | 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 |
|                       | 95                          | 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 |
|                       | 98.6                        | 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 |
|                       | 102.2                       | 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 |
|                       | 107.6                       | 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 |
|                       | 111.2                       | 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 |
|                       | 114.8                       | 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                   | 50                          | 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 |
|                       | 53.6                        | 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 |
|                       | 57.2                        | 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 |
|                       | 60.8                        | 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 |
|                       | 64.4                        | 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 |
|                       | 68                          | 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 |
|                       | 69.8                        | 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 |
|                       | 73.4                        | 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 |
|                       | 77                          | 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 |
|                       | 80.6                        | 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 |
|                       | 84.2                        | 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 |
|                       | 87.8                        | 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 |
|                       | 91.4                        | 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 |
|                       | 95                          | 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 |
|                       | 98.6                        | 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 |
|                       | 102.2                       | 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 |
|                       | 107.6                       | 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 |
|                       | 111.2                       | 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 |
|                       | 114.8                       | 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 |
| 4.5                   | 50                          | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.3   | 3.4 | 5.9   | 3.0 |
|                       | 53.6                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.3   | 3.4 | 5.9   | 3.0 |
|                       | 57.2                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.3   | 3.4 | 5.8   | 3.0 |
|                       | 60.8                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.3   | 3.4 | 5.6   | 2.9 |
|                       | 64.4                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.3   | 3.4 | 5.7   | 3.0 |
|                       | 68                          | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.3   | 3.4 | 5.7   | 3.0 |
|                       | 69.8                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.3   | 3.4 | 5.6   | 3.0 |
|                       | 73.4                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.3   | 3.4 | 5.5   | 3.0 |
|                       | 77                          | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.2   | 3.0 | 5.4   | 2.9 |
|                       | 80.6                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.1   | 3.0 | 5.2   | 2.8 |
|                       | 84.2                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.1   | 2.9 | 5.2   | 2.8 |
|                       | 87.8                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 5.0   | 2.9 | 5.1   | 2.7 |
|                       | 91.4                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 4.9   | 2.8 | 5.1   | 2.7 |
|                       | 95                          | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 4.8   | 2.8 | 5.0   | 2.7 |
|                       | 98.6                        | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.8   | 3.0 | 4.8   | 2.9 | 4.9   | 2.6 |
|                       | 102.2                       | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.6   | 2.8 | 4.7   | 2.8 | 4.8   | 2.6 |
|                       | 107.6                       | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.6   | 2.8 | 4.7   | 2.8 | 4.8   | 2.6 |

| Indoor Unit size (kW) | Outdoor temperature (°F 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  |
| 4.5                   | 111.2                       | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.6   | 2.8 | 4.7   | 2.8 | 4.8   | 2.6 |
|                       | 114.8                       | 3.1                           | 2.4 | 3.7   | 2.6 | 4.2   | 2.8 | 4.5   | 2.9 | 4.6   | 2.8 | 4.7   | 3.1 | 4.8   | 2.6 |
| 5.6                   | 50                          | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 7.3   | 3.5 |
|                       | 53.6                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 7.2   | 3.5 |
|                       | 57.2                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 7.1   | 3.5 |
|                       | 60.8                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 7.0   | 3.4 |
|                       | 64.4                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 6.8   | 3.4 |
|                       | 68                          | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 6.7   | 3.3 |
|                       | 69.8                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 6.6   | 3.3 |
|                       | 73.4                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 6.6   | 3.3 |
|                       | 77                          | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 6.5   | 3.2 |
|                       | 80.6                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.4   | 3.5 | 6.4   | 3.2 |
|                       | 84.2                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.3   | 3.5 | 6.4   | 3.3 |
|                       | 87.8                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.2   | 3.4 | 6.2   | 3.2 |
|                       | 91.4                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.2   | 3.4 | 6.2   | 3.2 |
|                       | 95                          | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.0   | 3.3 | 6.0   | 3.1 |
|                       | 98.6                        | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 5.9   | 3.2 | 6.0   | 3.1 |
|                       | 102.2                       | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.7   | 3.4 | 5.8   | 3.2 | 6.0   | 3.1 |
|                       | 107.6                       | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.7   | 3.4 | 5.8   | 3.2 | 6.0   | 3.1 |
|                       | 111.2                       | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.7   | 3.4 | 5.8   | 3.2 | 6.0   | 3.1 |
|                       | 114.8                       | 3.9                           | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.7   | 3.7 | 5.8   | 3.2 | 6.0   | 3.1 |
| 7.1                   | 50                          | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 9.2   | 4.6 |
|                       | 53.6                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 9.1   | 4.5 |
|                       | 57.2                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 9.0   | 4.5 |
|                       | 60.8                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.9   | 4.4 |
|                       | 64.4                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.7   | 4.3 |
|                       | 68                          | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.5   | 4.2 |
|                       | 69.8                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.4   | 4.2 |
|                       | 73.4                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.3   | 4.1 |
|                       | 77                          | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.2   | 4.1 |
|                       | 80.6                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.1   | 4.3 | 8.2   | 4.1 |
|                       | 84.2                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.5 | 8.0   | 4.3 | 8.1   | 4.1 |
|                       | 87.8                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.5 | 7.9   | 4.3 | 7.8   | 4.0 |
|                       | 91.4                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.5 | 7.8   | 4.2 | 7.8   | 4.0 |
|                       | 95                          | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.5 | 7.6   | 4.1 | 7.7   | 3.9 |
|                       | 98.6                        | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.4   | 4.4 | 7.5   | 4.1 | 7.6   | 4.0 |
|                       | 102.2                       | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.2   | 4.3 | 7.4   | 4.1 | 7.6   | 4.0 |
|                       | 107.6                       | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.2   | 4.3 | 7.4   | 4.1 | 7.6   | 4.0 |
|                       | 111.2                       | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.2   | 4.3 | 7.4   | 4.1 | 7.6   | 4.0 |
|                       | 114.8                       | 4.9                           | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.2   | 4.3 | 7.4   | 4.1 | 7.6   | 4.0 |

**7.2 Heating****TC:** total capacity    **WB:** wet-bulb temperature    **DB:** dry-bulb temperature

| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°F) |       | Indoor temperature (°C DB) |       |       |       |       |       |
|--------------------------|-----------------------------|-------|----------------------------|-------|-------|-------|-------|-------|
|                          |                             |       | 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                      | -4                          | -3.64 | 1.01                       | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
|                          | -2.2                        | -1.84 | 1.08                       | 1.08  | 1.08  | 1.08  | 1.08  | 1.08  |
|                          | 1.4                         | 1.94  | 1.13                       | 1.13  | 1.13  | 1.13  | 1.13  | 1.13  |
|                          | 5                           | 5.54  | 1.17                       | 1.17  | 1.17  | 1.17  | 1.17  | 1.17  |
|                          | 8.6                         | 9.32  | 1.24                       | 1.24  | 1.24  | 1.24  | 1.24  | 1.24  |
|                          | 12.2                        | 13.1  | 1.26                       | 1.28  | 1.28  | 1.28  | 1.28  | 1.28  |
|                          | 14                          | 14.9  | 1.31                       | 1.31  | 1.31  | 1.31  | 1.31  | 1.31  |
|                          | 15.62                       | 16.7  | 1.35                       | 1.35  | 1.35  | 1.35  | 1.35  | 1.35  |
|                          | 18.32                       | -3.64 | 1.37                       | 1.37  | 1.37  | 1.37  | 1.37  | 1.37  |
|                          | 21.92                       | -1.84 | 1.42                       | 1.42  | 1.42  | 1.42  | 1.42  | 1.42  |
|                          | 25.34                       | 1.94  | 1.49                       | 1.49  | 1.49  | 1.49  | 1.49  | 1.49  |
|                          | 30.74                       | 5.54  | 1.60                       | 1.60  | 1.60  | 1.60  | 1.60  | 1.51  |
|                          | 35.96                       | 9.32  | 1.69                       | 1.69  | 1.69  | 1.69  | 1.66  | 1.51  |
|                          | 39.38                       | 13.1  | 1.75                       | 1.75  | 1.75  | 1.75  | 1.66  | 1.51  |
|                          | 42.8                        | 14.9  | 1.80                       | 1.80  | 1.80  | 1.75  | 1.66  | 1.51  |
|                          | 46.22                       | 16.7  | 1.85                       | 1.85  | 1.80  | 1.75  | 1.66  | 1.51  |
|                          | 49.64                       | -3.64 | 1.91                       | 1.91  | 1.80  | 1.75  | 1.66  | 1.51  |
|                          | 53.24                       | -1.84 | 1.98                       | 1.94  | 1.80  | 1.75  | 1.66  | 1.51  |
|                          | 56.66                       | 1.94  | 2.03                       | 1.94  | 1.80  | 1.75  | 1.66  | 1.51  |
| 2.2                      | -4                          | -3.64 | 1.23                       | 1.23  | 1.23  | 1.23  | 1.23  | 1.23  |
|                          | -2.2                        | -1.84 | 1.32                       | 1.32  | 1.32  | 1.32  | 1.32  | 1.32  |
|                          | 1.4                         | 1.94  | 1.39                       | 1.39  | 1.39  | 1.39  | 1.39  | 1.39  |
|                          | 5                           | 5.54  | 1.43                       | 1.43  | 1.43  | 1.43  | 1.43  | 1.43  |
|                          | 8.6                         | 9.32  | 1.52                       | 1.52  | 1.52  | 1.52  | 1.52  | 1.52  |
|                          | 12.2                        | 13.1  | 1.54                       | 1.56  | 1.56  | 1.56  | 1.56  | 1.56  |
|                          | 14                          | 14.9  | 1.61                       | 1.61  | 1.61  | 1.61  | 1.61  | 1.61  |
|                          | 15.62                       | 16.7  | 1.65                       | 1.65  | 1.65  | 1.65  | 1.65  | 1.65  |
|                          | 18.32                       | -3.64 | 1.67                       | 1.67  | 1.67  | 1.67  | 1.67  | 1.67  |
|                          | 21.92                       | -1.84 | 1.74                       | 1.74  | 1.74  | 1.74  | 1.74  | 1.74  |
|                          | 25.34                       | 1.94  | 1.83                       | 1.83  | 1.83  | 1.83  | 1.83  | 1.83  |
|                          | 30.74                       | 5.54  | 1.96                       | 1.96  | 1.96  | 1.96  | 1.96  | 1.85  |
|                          | 35.96                       | 9.32  | 2.07                       | 2.07  | 2.07  | 2.07  | 2.02  | 1.85  |
|                          | 39.38                       | 13.1  | 2.13                       | 2.13  | 2.13  | 2.13  | 2.02  | 1.85  |
|                          | 42.8                        | 14.9  | 2.20                       | 2.20  | 2.20  | 2.13  | 2.02  | 1.85  |
|                          | 46.22                       | 16.7  | 2.27                       | 2.27  | 2.20  | 2.13  | 2.02  | 1.85  |
|                          | 49.64                       | -3.64 | 2.33                       | 2.33  | 2.20  | 2.13  | 2.02  | 1.85  |
|                          | 53.24                       | -1.84 | 2.42                       | 2.38  | 2.20  | 2.13  | 2.02  | 1.85  |
|                          | 56.66                       | 1.94  | 2.49                       | 2.38  | 2.20  | 2.13  | 2.02  | 1.85  |
| 2.8                      | -4                          | -3.64 | 1.57                       | 1.57  | 1.57  | 1.57  | 1.57  | 1.57  |
|                          | -2.2                        | -1.84 | 1.68                       | 1.68  | 1.68  | 1.68  | 1.68  | 1.68  |
|                          | 1.4                         | 1.94  | 1.76                       | 1.76  | 1.76  | 1.76  | 1.76  | 1.76  |
|                          | 5                           | 5.54  | 1.82                       | 1.82  | 1.82  | 1.82  | 1.82  | 1.82  |
|                          | 8.6                         | 9.32  | 1.93                       | 1.93  | 1.93  | 1.93  | 1.93  | 1.93  |
|                          | 12.2                        | 13.1  | 1.96                       | 1.99  | 1.99  | 1.99  | 1.99  | 1.99  |
|                          | 14                          | 14.9  | 2.04                       | 2.04  | 2.04  | 2.04  | 2.04  | 2.04  |
|                          | 15.62                       | 16.7  | 2.10                       | 2.10  | 2.10  | 2.10  | 2.10  | 2.10  |

| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°F) |       | Indoor temperature (°C DB) |       |       |       |       |       |
|--------------------------|-----------------------------|-------|----------------------------|-------|-------|-------|-------|-------|
|                          |                             |       | 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                      | 18.32                       | 19.4  | 2.13                       | 2.13  | 2.13  | 2.13  | 2.13  | 2.13  |
|                          | 21.92                       | 23    | 2.21                       | 2.21  | 2.21  | 2.21  | 2.21  | 2.21  |
|                          | 25.34                       | 26.6  | 2.32                       | 2.32  | 2.32  | 2.32  | 2.32  | 2.32  |
|                          | 30.74                       | 32    | 2.49                       | 2.49  | 2.49  | 2.49  | 2.49  | 2.35  |
|                          | 35.96                       | 37.4  | 2.63                       | 2.63  | 2.63  | 2.63  | 2.58  | 2.35  |
|                          | 39.38                       | 41    | 2.72                       | 2.72  | 2.72  | 2.72  | 2.58  | 2.35  |
|                          | 42.8                        | 44.6  | 2.80                       | 2.80  | 2.80  | 2.72  | 2.58  | 2.35  |
|                          | 46.22                       | 48.2  | 2.88                       | 2.88  | 2.80  | 2.72  | 2.58  | 2.35  |
|                          | 49.64                       | 51.8  | 2.97                       | 2.97  | 2.80  | 2.72  | 2.58  | 2.35  |
|                          | 53.24                       | 55.4  | 3.08                       | 3.02  | 2.80  | 2.72  | 2.58  | 2.35  |
|                          | 56.66                       | 59    | 3.16                       | 3.02  | 2.80  | 2.72  | 2.58  | 2.35  |
| 3.6                      | -4                          | -3.64 | 2.02                       | 2.02  | 2.02  | 2.02  | 2.02  | 2.02  |
|                          | -2.2                        | -1.84 | 2.16                       | 2.16  | 2.16  | 2.16  | 2.16  | 2.16  |
|                          | 1.4                         | 1.94  | 2.27                       | 2.27  | 2.27  | 2.27  | 2.27  | 2.27  |
|                          | 5                           | 5.54  | 2.34                       | 2.34  | 2.34  | 2.34  | 2.34  | 2.34  |
|                          | 8.6                         | 9.32  | 2.48                       | 2.48  | 2.48  | 2.48  | 2.48  | 2.48  |
|                          | 12.2                        | 13.1  | 2.52                       | 2.56  | 2.56  | 2.56  | 2.56  | 2.56  |
|                          | 14                          | 14.9  | 2.63                       | 2.63  | 2.63  | 2.63  | 2.63  | 2.63  |
|                          | 15.62                       | 16.7  | 2.70                       | 2.70  | 2.70  | 2.70  | 2.70  | 2.70  |
|                          | 18.32                       | 19.4  | 2.74                       | 2.74  | 2.74  | 2.74  | 2.74  | 2.74  |
|                          | 21.92                       | 23    | 2.84                       | 2.84  | 2.84  | 2.84  | 2.84  | 2.84  |
|                          | 25.34                       | 26.6  | 2.99                       | 2.99  | 2.99  | 2.99  | 2.99  | 2.99  |
|                          | 30.74                       | 32    | 3.20                       | 3.20  | 3.20  | 3.20  | 3.20  | 3.02  |
|                          | 35.96                       | 37.4  | 3.38                       | 3.38  | 3.38  | 3.38  | 3.31  | 3.02  |
|                          | 39.38                       | 41    | 3.49                       | 3.49  | 3.49  | 3.49  | 3.31  | 3.02  |
|                          | 42.8                        | 44.6  | 3.60                       | 3.60  | 3.60  | 3.49  | 3.31  | 3.02  |
|                          | 46.22                       | 48.2  | 3.71                       | 3.71  | 3.60  | 3.49  | 3.31  | 3.02  |
|                          | 49.64                       | 51.8  | 3.82                       | 3.82  | 3.60  | 3.49  | 3.31  | 3.02  |
|                          | 53.24                       | 55.4  | 3.96                       | 3.89  | 3.60  | 3.49  | 3.31  | 3.02  |
|                          | 56.66                       | 59    | 4.07                       | 3.89  | 3.60  | 3.49  | 3.31  | 3.02  |
| 4.5                      | -4                          | -3.64 | 2.80                       | 2.80  | 2.80  | 2.80  | 2.80  | 2.80  |
|                          | -2.2                        | -1.84 | 3.00                       | 3.00  | 3.00  | 3.00  | 3.00  | 3.00  |
|                          | 1.4                         | 1.94  | 3.15                       | 3.15  | 3.15  | 3.15  | 3.15  | 3.15  |
|                          | 5                           | 5.54  | 3.25                       | 3.25  | 3.25  | 3.25  | 3.25  | 3.25  |
|                          | 8.6                         | 9.32  | 3.35                       | 3.35  | 3.35  | 3.35  | 3.35  | 3.35  |
|                          | 12.2                        | 13.1  | 3.50                       | 3.50  | 3.50  | 3.50  | 3.50  | 3.50  |
|                          | 14                          | 14.9  | 3.65                       | 3.65  | 3.65  | 3.65  | 3.65  | 3.65  |
|                          | 15.62                       | 16.7  | 3.75                       | 3.75  | 3.75  | 3.75  | 3.75  | 3.75  |
|                          | 18.32                       | 19.4  | 3.80                       | 3.80  | 3.80  | 3.80  | 3.80  | 3.80  |
|                          | 21.92                       | 23    | 3.95                       | 3.95  | 3.95  | 3.95  | 3.95  | 3.95  |
|                          | 25.34                       | 26.6  | 4.15                       | 4.15  | 4.15  | 4.15  | 4.15  | 4.15  |
|                          | 30.74                       | 32    | 4.45                       | 4.45  | 4.45  | 4.45  | 4.45  | 4.20  |
|                          | 35.96                       | 37.4  | 4.70                       | 4.70  | 4.70  | 4.70  | 4.60  | 4.20  |
|                          | 39.38                       | 41    | 4.85                       | 4.85  | 4.85  | 4.85  | 4.60  | 4.20  |
|                          | 42.8                        | 44.6  | 5.00                       | 5.00  | 5.00  | 4.85  | 4.60  | 4.20  |
|                          | 46.22                       | 48.2  | 5.15                       | 5.15  | 5.00  | 4.85  | 4.60  | 4.20  |
|                          | 49.64                       | 51.8  | 5.30                       | 5.30  | 5.00  | 4.85  | 4.60  | 4.20  |
|                          | 53.24                       | 55.4  | 5.50                       | 5.40  | 5.00  | 4.85  | 4.60  | 4.20  |

| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°F) |       | Indoor temperature (°C DB) |       |       |       |       |       |
|--------------------------|-----------------------------|-------|----------------------------|-------|-------|-------|-------|-------|
|                          |                             |       | 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    |
| 4.5                      | 56.66                       | 59    | 5.65                       | 5.40  | 5.00  | 4.85  | 4.60  | 4.20  |
| 5.6                      | -4                          | -3.64 | 3.53                       | 3.53  | 3.53  | 3.53  | 3.53  | 3.53  |
|                          | -2.2                        | -1.84 | 3.78                       | 3.78  | 3.78  | 3.78  | 3.78  | 3.78  |
|                          | 1.4                         | 1.94  | 3.97                       | 3.97  | 3.97  | 3.97  | 3.97  | 3.97  |
|                          | 5                           | 5.54  | 4.10                       | 4.10  | 4.10  | 4.10  | 4.10  | 4.10  |
|                          | 8.6                         | 9.32  | 4.22                       | 4.22  | 4.22  | 4.22  | 4.22  | 4.22  |
|                          | 12.2                        | 13.1  | 4.41                       | 4.41  | 4.41  | 4.41  | 4.41  | 4.41  |
|                          | 14                          | 14.9  | 4.60                       | 4.60  | 4.60  | 4.60  | 4.60  | 4.60  |
|                          | 15.62                       | 16.7  | 4.73                       | 4.73  | 4.73  | 4.73  | 4.73  | 4.73  |
|                          | 18.32                       | 19.4  | 4.79                       | 4.79  | 4.79  | 4.79  | 4.79  | 4.79  |
|                          | 21.92                       | 23    | 4.98                       | 4.98  | 4.98  | 4.98  | 4.98  | 4.98  |
|                          | 25.34                       | 26.6  | 5.23                       | 5.23  | 5.23  | 5.23  | 5.23  | 5.23  |
|                          | 30.74                       | 32    | 5.61                       | 5.61  | 5.61  | 5.61  | 5.61  | 5.29  |
|                          | 35.96                       | 37.4  | 5.92                       | 5.92  | 5.92  | 5.92  | 5.80  | 5.29  |
|                          | 39.38                       | 41    | 6.11                       | 6.11  | 6.11  | 6.11  | 5.80  | 5.29  |
|                          | 42.8                        | 44.6  | 6.30                       | 6.30  | 6.30  | 6.11  | 5.80  | 5.29  |
|                          | 46.22                       | 48.2  | 6.49                       | 6.49  | 6.30  | 6.11  | 5.80  | 5.29  |
|                          | 49.64                       | 51.8  | 6.68                       | 6.68  | 6.30  | 6.11  | 5.80  | 5.29  |
|                          | 53.24                       | 55.4  | 6.93                       | 6.80  | 6.30  | 6.11  | 5.80  | 5.29  |
|                          | 56.66                       | 59    | 7.12                       | 6.80  | 6.30  | 6.11  | 5.80  | 5.29  |
| 7.1                      | -4                          | -3.64 | 4.48                       | 4.48  | 4.48  | 4.48  | 4.48  | 4.48  |
|                          | -2.2                        | -1.84 | 4.80                       | 4.80  | 4.80  | 4.80  | 4.80  | 4.80  |
|                          | 1.4                         | 1.94  | 5.04                       | 5.04  | 5.04  | 5.04  | 5.04  | 5.04  |
|                          | 5                           | 5.54  | 5.20                       | 5.20  | 5.20  | 5.20  | 5.20  | 5.20  |
|                          | 8.6                         | 9.32  | 5.36                       | 5.36  | 5.36  | 5.36  | 5.36  | 5.36  |
|                          | 12.2                        | 13.1  | 5.60                       | 5.60  | 5.60  | 5.60  | 5.60  | 5.60  |
|                          | 14                          | 14.9  | 5.84                       | 5.84  | 5.84  | 5.84  | 5.84  | 5.84  |
|                          | 15.62                       | 16.7  | 6.00                       | 6.00  | 6.00  | 6.00  | 6.00  | 6.00  |
|                          | 18.32                       | 19.4  | 6.08                       | 6.08  | 6.08  | 6.08  | 6.08  | 6.08  |
|                          | 21.92                       | 23    | 6.32                       | 6.32  | 6.32  | 6.32  | 6.32  | 6.32  |
|                          | 25.34                       | 26.6  | 6.64                       | 6.64  | 6.64  | 6.64  | 6.64  | 6.64  |
|                          | 30.74                       | 32    | 7.12                       | 7.12  | 7.12  | 7.12  | 7.12  | 6.72  |
|                          | 35.96                       | 37.4  | 7.52                       | 7.52  | 7.52  | 7.52  | 7.36  | 6.72  |
|                          | 39.38                       | 41    | 7.76                       | 7.76  | 7.76  | 7.76  | 7.36  | 6.72  |
|                          | 42.8                        | 44.6  | 8.00                       | 8.00  | 8.00  | 7.76  | 7.36  | 6.72  |
|                          | 46.22                       | 48.2  | 8.24                       | 8.24  | 8.00  | 7.76  | 7.36  | 6.72  |
|                          | 49.64                       | 51.8  | 8.48                       | 8.48  | 8.00  | 7.76  | 7.36  | 6.72  |
|                          | 53.24                       | 55.4  | 8.80                       | 8.64  | 8.00  | 7.76  | 7.36  | 6.72  |
|                          | 56.66                       | 59    | 9.04                       | 8.64  | 8.00  | 7.76  | 7.36  | 6.72  |

## 8. Electrical Characteristics

| Model           | Indoor Unit |            |          |          | Power Supply |     | IFM   |       |
|-----------------|-------------|------------|----------|----------|--------------|-----|-------|-------|
|                 | Hz          | Voltage(V) | Min. (V) | Max. (V) | MCA          | MFA | KW    | FLA   |
| MDV-D18Q1/VN1-D | 60          | 208-230    | 198      | 242      | 0.173        | 15  | 0.012 | 0.138 |
| MDV-D22Q1/VN1-D | 60          | 208-230    | 198      | 242      | 0.173        | 15  | 0.012 | 0.138 |
| MDV-D28Q1/VN1-D | 60          | 208-230    | 198      | 242      | 0.186        | 15  | 0.012 | 0.149 |
| MDV-D36Q1/VN1-D | 60          | 208-230    | 198      | 242      | 0.186        | 15  | 0.012 | 0.149 |
| MDV-D45Q1/VN1-D | 60          | 208-230    | 198      | 242      | 0.25         | 15  | 0.038 | 0.20  |
| MDV-D56Q1/VN1-D | 60          | 208-230    | 198      | 242      | 0.28         | 15  | 0.038 | 0.22  |
| MDV-D71Q1/VN1-D | 60          | 208-230    | 198      | 242      | 0.34         | 15  | 0.043 | 0.27  |

**Remark:**

MCA: Min. Current Amps. (A)

MFA: Max. Fuse Amps. (A)

KW: Fan Motor Rated Output (kW)

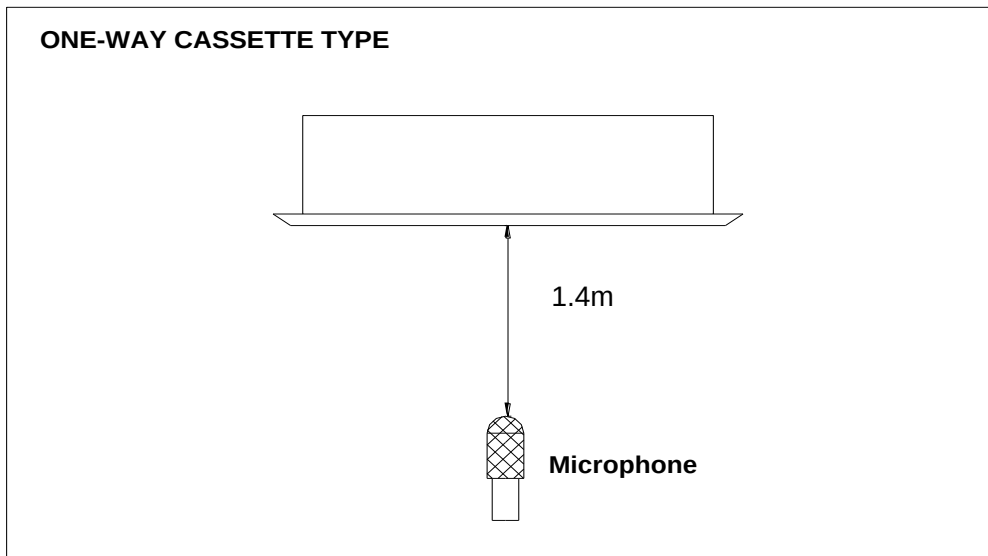
FLA: Full Load Amps. (A)

IFM: Indoor Fan Motor



## 9. Sound Levels

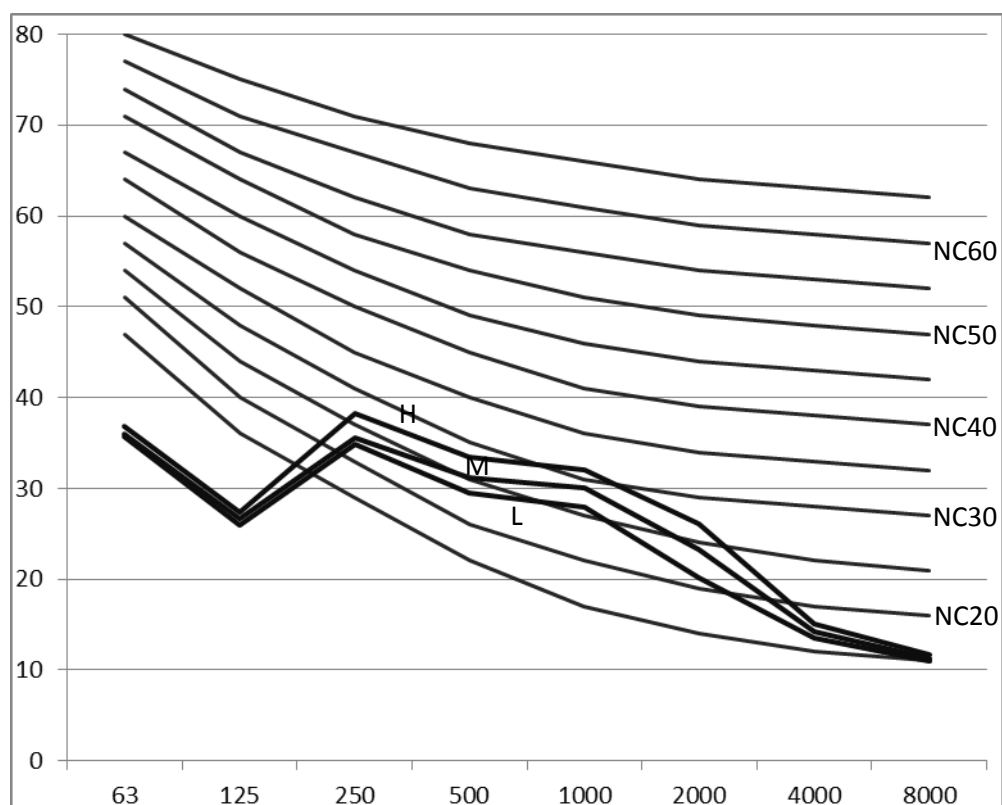
### 9.1 Test condition



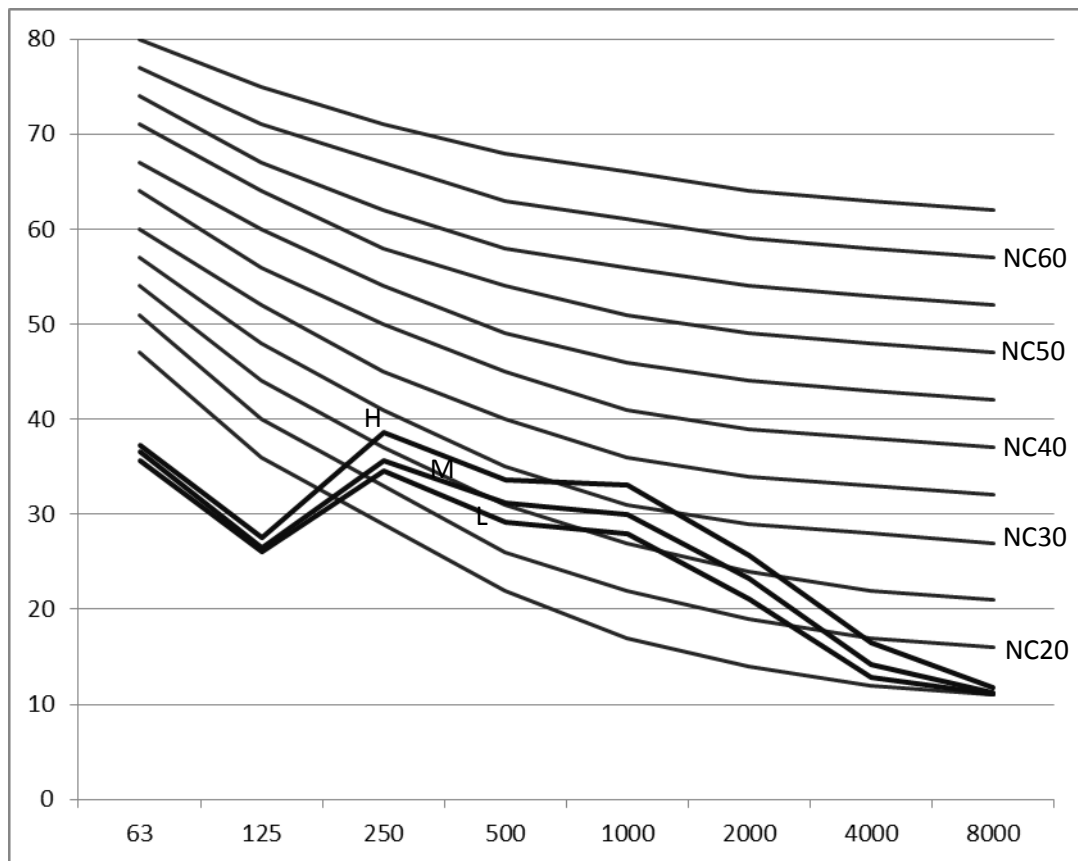
### 9.2 Test value

| Model           | Noise test value dB(A) |    |    |
|-----------------|------------------------|----|----|
|                 | H                      | M  | L  |
| MDV-D18Q1/VN1-D | 37                     | 34 | 30 |
| MDV-D22Q1/VN1-D | 38                     | 34 | 30 |
| MDV-D28Q1/VN1-D | 39                     | 37 | 34 |
| MDV-D36Q1/VN1-D | 40                     | 38 | 34 |
| MDV-D45Q1/VN1-D | 41                     | 39 | 35 |
| MDV-D56Q1/VN1-D | 42                     | 40 | 36 |
| MDV-D71Q1/VN1-D | 44                     | 41 | 37 |

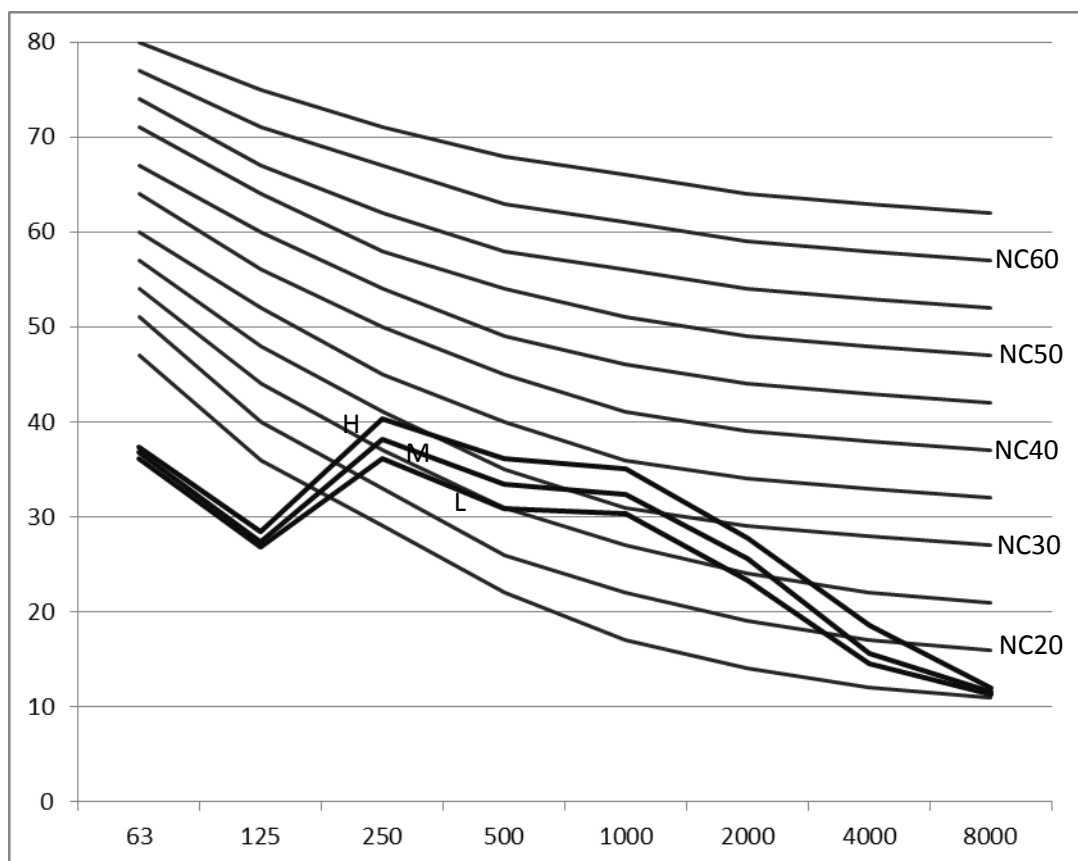
MDV-D18Q1/VN1-D



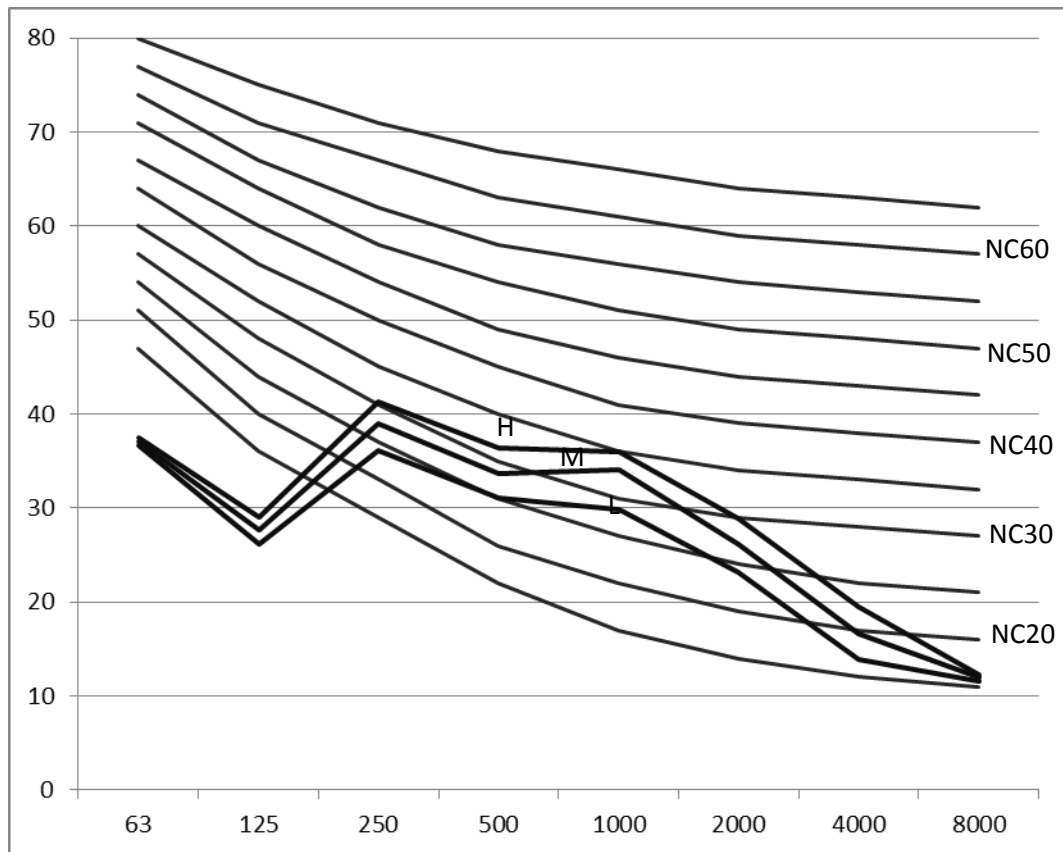
MDV-D22Q1/VN1-D



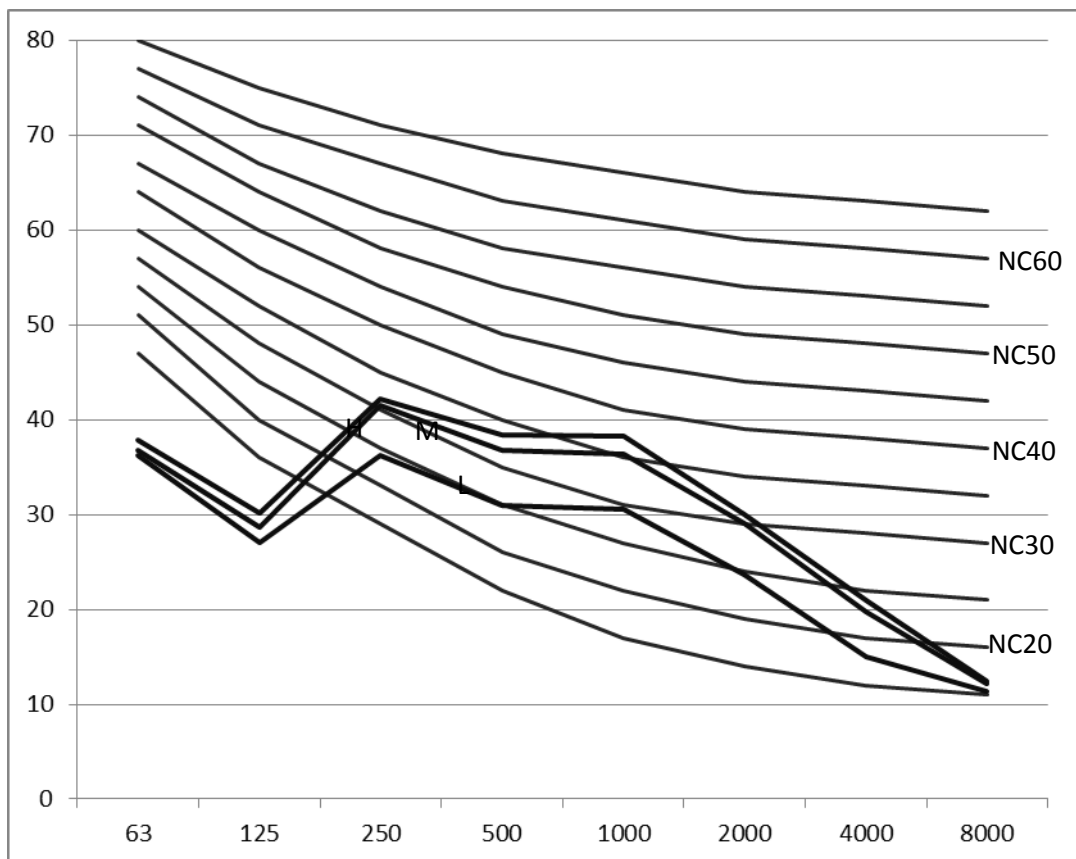
MDV-D28Q1/VN1-D



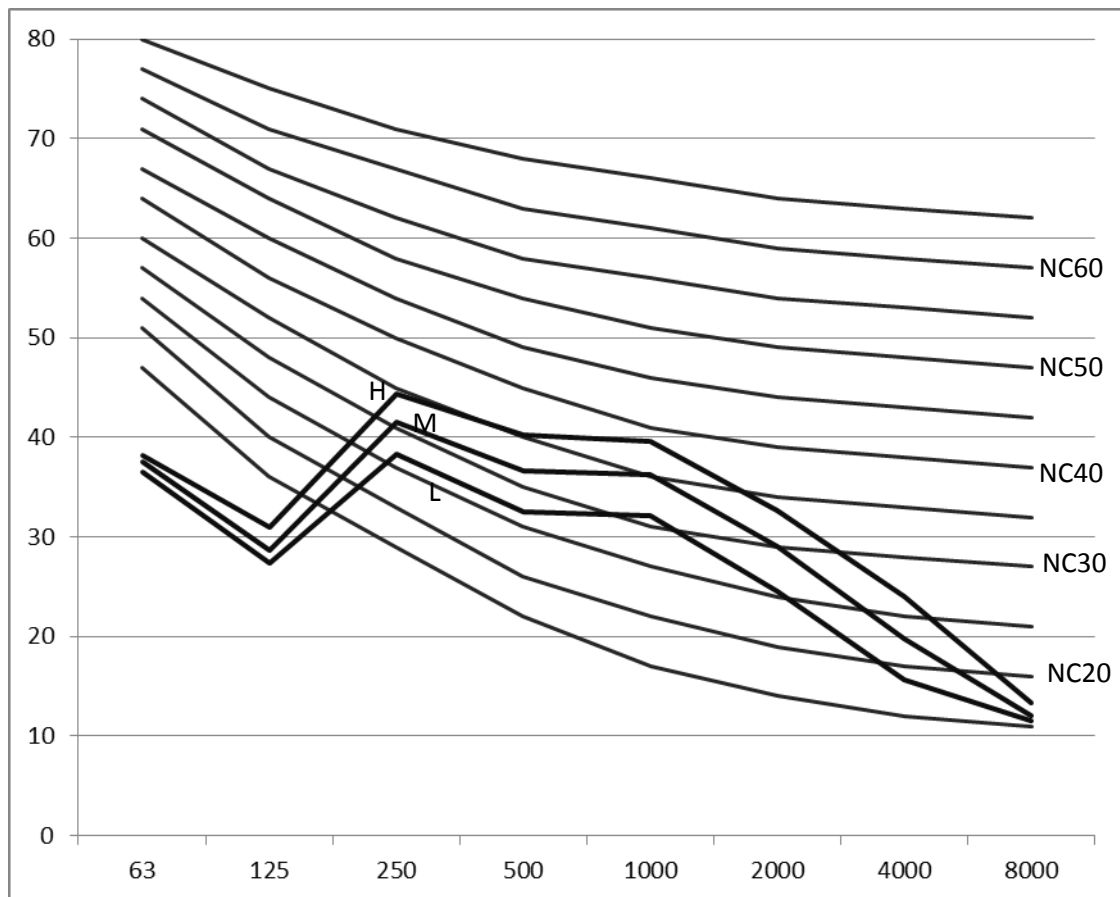
MDV-D36Q1/VN1-D



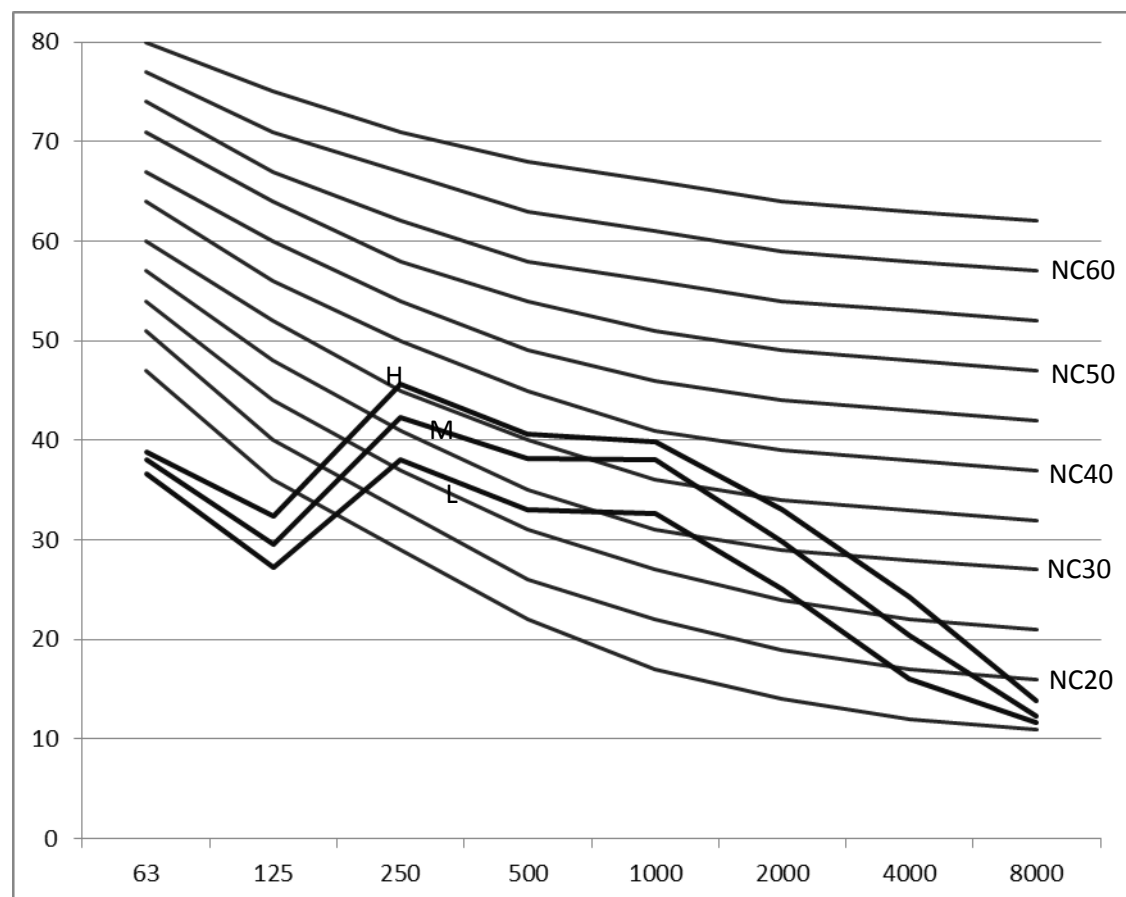
MDV-D45Q1/VN1-D



MDV-D56Q1/VN1-D

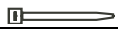


MDV-D71Q1/VN1-D



## 10. Accessories

### Standard accessories

| Name                                                     | Quantity | Outline                                                                             | Function                                                             |
|----------------------------------------------------------|----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Indoor unit installation manual                          | 1        | /                                                                                   | 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                                  | 6/7      |    | 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                  |

## Two-way Cassette

|                                    |    |
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## 1. Features

**1.1** Lower noise level

**1.2** Smoother air flow with less turbulence

**1.3** Double-flow type allows effective air discharge from corner or from drop-ceiling.

---Quick cooling

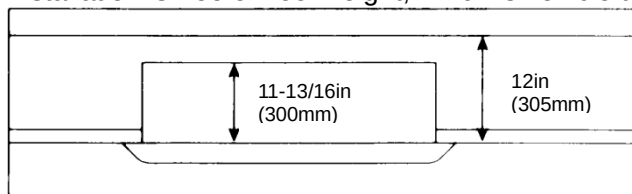


**1.4** Stylish design

---Be harmonious with any interior decoration and creates an elegant environment

**1.5** Thin main body

Slim body needs 11-13/16in (300 mm) space above the ceiling, reduces the suspended ceiling space. Installation is free of floor height, which is flexible to room decoration



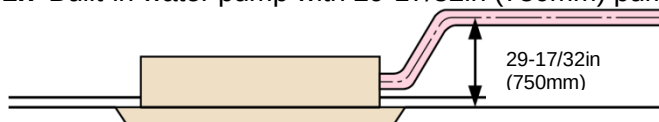
**1.6** Convenient installation

----double direction air flow guarantee quick cooling, flexible installation position.

---Standardized sectional module

---Matching the center of main unit and panel

**1.7** Built-in water pump with 29-17/32in (750mm) pumping head.



**1.8** Easier to clean and maintenance

---Flat type suction grille of easy cleaning

## 2. Specifications

| Model                        |                             |                   | MDV-D22Q2/VN1                           | MDV-D28Q2/VN1 | MDV-D36Q2/VN1 |
|------------------------------|-----------------------------|-------------------|-----------------------------------------|---------------|---------------|
| Power supply                 |                             | V-Ph-Hz           | 220-240V-1ph-60Hz                       |               |               |
| Cooling                      | Capacity                    | kW                | 2.2                                     | 2.8           | 3.6           |
|                              |                             | Btu/h             | 7500                                    | 9600          | 12300         |
|                              | Input                       | W                 | 78                                      | 78            | 83            |
|                              | Rated current               | A                 | 0.35                                    | 0.45          | 0.45          |
| Heating                      | Capacity                    | kW                | 2.6                                     | 3.2           | 4             |
|                              |                             | Btu/h             | 8900                                    | 10900         | 13600         |
|                              | Input                       | W                 | 78                                      | 78            | 83            |
|                              | Rated current               | A                 | 0.35                                    | 0.45          | 0.45          |
| Indoor fan & motor           | Model                       |                   | YSK20-6B                                | YSK20-6B      | YSK26-6B      |
|                              | Type                        |                   | AC motor                                | AC motor      | AC motor      |
|                              | Brand                       |                   | Yongan                                  | Yongan        | Yongan        |
|                              | Input                       | W                 | 76                                      | 76            | 81.8          |
|                              | Capacitor                   | uF                | 2uF/450V                                | 2uF/450V      | 2.5uF/450V    |
|                              | Fan blower material         |                   | ABS-GF15                                | ABS-GF15      | ABS-GF15      |
|                              | Speed (h/m/l)               | r/min             | 830/650/525                             | 830/650/525   | 870/590/470   |
| Indoor coil                  | Number of rows              |                   | 1                                       | 1             | 1             |
|                              | Tube pitch(a)× row pitch(b) | in.(mm)           | 13/16×17/32(21×13.37)                   |               |               |
|                              | Fin spacing                 | in.(mm)           | 1/16(1.5)                               | 1/16(1.5)     | 1/16(1.5)     |
|                              | Fin type                    |                   | Hydrophilic Aluminum                    |               |               |
|                              | Tube outside dia. and type  | in.(mm)           | 1/4(Φ6.35), Inner-groove Tube           |               |               |
|                              | Number of circuits          |                   | 4                                       | 4             | 4             |
| Indoor air flow (H/M/L)      |                             | m <sup>3</sup> /h | 674/509/381                             | 674/509/381   | 740/577/435   |
|                              |                             | CFM               | 397/300/224                             | 397/300/224   | 436/340/256   |
| Indoor noise level (H/M/L)   |                             | dB(A)             | 33/29/24                                | 36/32/29      | 36/32/29      |
| Indoor unit                  | Dimension (W×H×D)           | in.(mm)           | 46-9/32×11-49/64×23-17/64(1172×299×591) |               |               |
|                              | Packing (W×H×D)             | in.(mm)           | 53-11/32×15-3/4×26-37/64 (1355×400×675) |               |               |
|                              | Net/Gross weight            | lbs.(kg)          | 75/93.8(34/42.5)                        |               |               |
| Panel                        | Model                       |                   | CE-MBQ2-01(MBQ2-01)                     |               |               |
|                              | Dimension (W×H×D)           | in.(mm)           | 56-19/64×2-3/32×26-49/64(1430×53×680)   |               |               |
|                              | Packing (W×H×D)             | in.(mm)           | 60-3/64×5-1/8×30-1/8 (1525×130×765)     |               |               |
|                              | Net/Gross weight            | lbs.(kg)          | 23.2/33(10.5/15)                        |               |               |
| Throttle                     |                             |                   | Electronic expansion valve              |               |               |
| Design pressure(H/ L)        |                             | MPa               | 4.4/2.6                                 |               |               |
| Refrigerant piping           | Liquid side                 | in.(mm)           | 1/4(Φ6.35)                              |               |               |
|                              | Gas side                    | in.(mm)           | 1/2(Φ12.7)                              |               |               |
| Connecting wiring            | Power wiring                | mm <sup>2</sup>   | 3×2.5(L≤20m); 3×3.5(L≤50m)              |               |               |
|                              | Signal wiring               | mm <sup>2</sup>   | 3×0.75                                  |               |               |
| Drainage water pipe diameter |                             | in.(mm)           | OD1-17/64 (Φ32)                         |               |               |
| Controller                   |                             |                   | Wireless remote controller              |               |               |

**Notes:**1. Nominal cooling capacities are based on the following conditions: return air temperature : 80.6°F(27°C)DB,66.2°F(19°C)WB, and outdoor temperature: 95°F(35°C)DB, equivalent ref. piping: 26.25ft(8m) (horizontal)

2. Nominal heating capacities are based on the following conditions: return air temperature: 68°F(20°C)DB, outdoor temperature: 44.6°F(7°C)DB,42.8°F(6°C)WB, and equivalent ref. Piping: 26.25ft(8m)(horizontal)

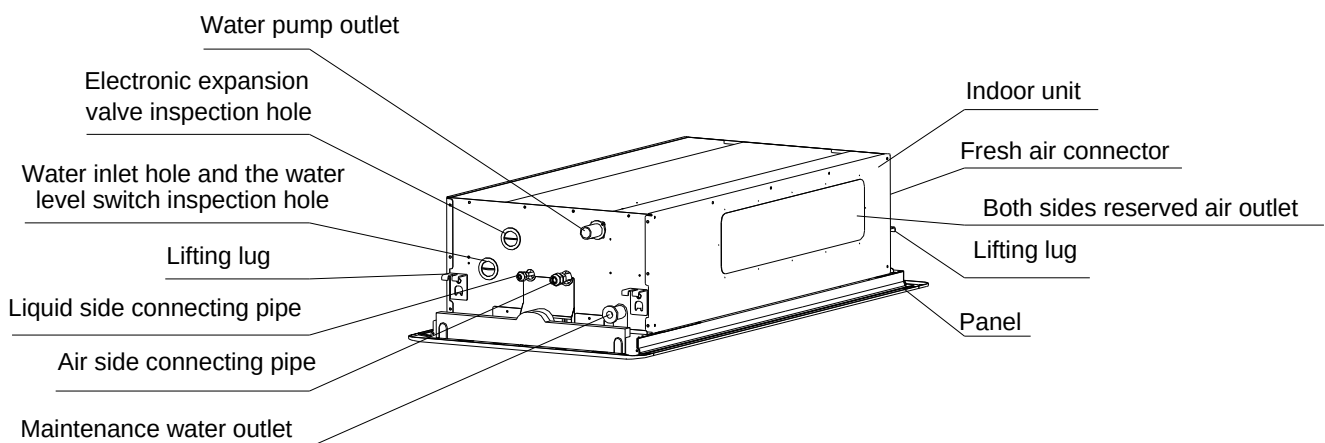
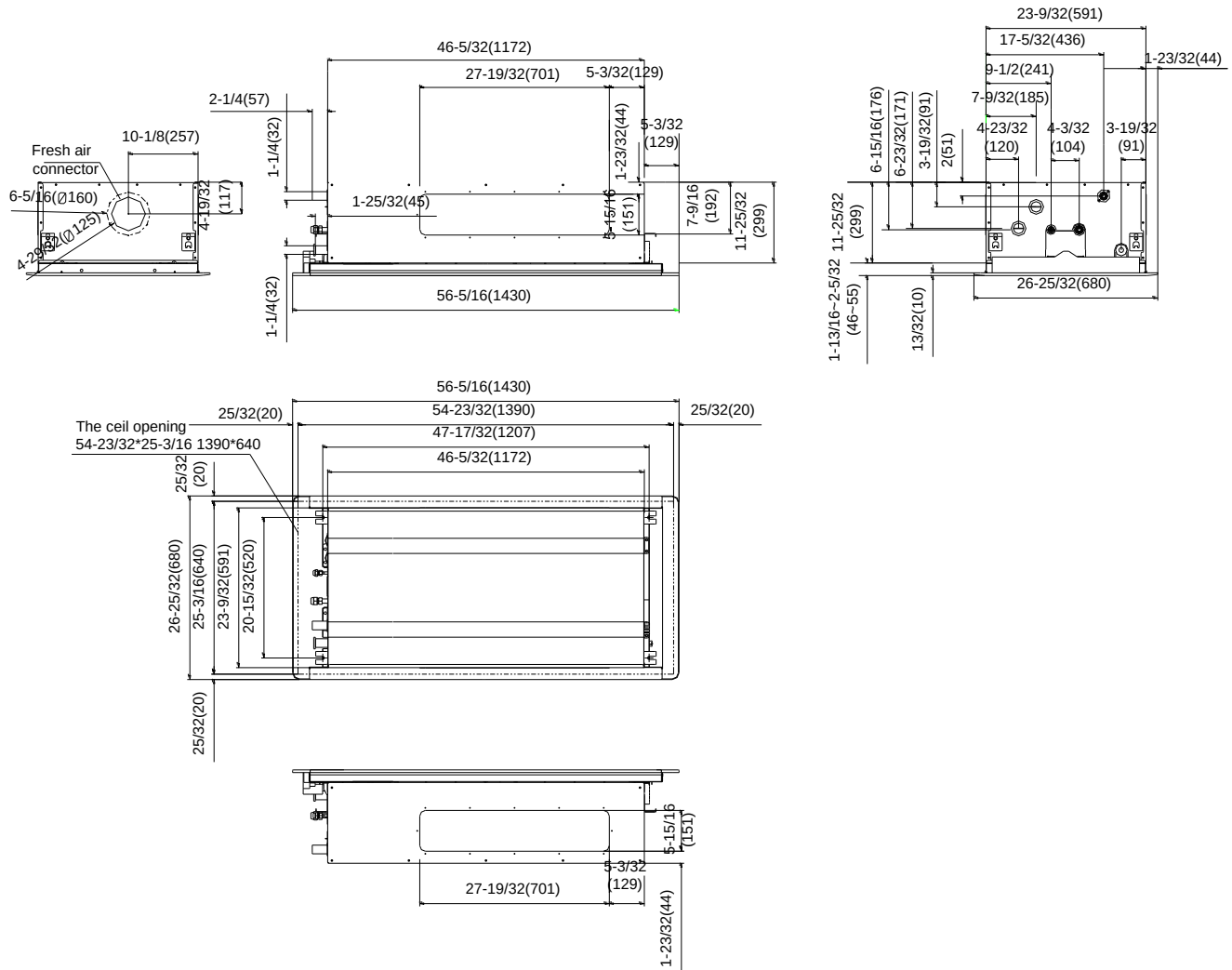


| Model                        |                             |                 | MDV-D45Q2/VN1                           | MDV-D56Q2/VN1      | MDV-D71Q2/VN1      |
|------------------------------|-----------------------------|-----------------|-----------------------------------------|--------------------|--------------------|
| Power supply                 |                             | V-Ph-Hz         | 220-240V-1ph-60Hz                       |                    |                    |
| Cooling                      | Capacity                    | kW              | 4.5                                     | 5.6                | 7.1                |
|                              |                             | Btu/h           | 15400                                   | 19100              | 24200              |
|                              | Input                       | W               | 115                                     | 133                | 205                |
|                              | Rated current               | A               | 0.55                                    | 0.55               | 0.75               |
| Heating                      | Capacity                    | kW              | 5                                       | 6.3                | 8                  |
|                              |                             | Btu/h           | 17100                                   | 21500              | 27300              |
|                              | Input                       | W               | 115                                     | 133                | 205                |
|                              | Rated current               | A               | 0.55                                    | 0.55               | 0.75               |
| Indoor fan & motor           | Model                       |                 | YSK34-4B                                | YSK44-4B           | YSK91-4B           |
|                              | Type                        |                 | AC motor                                | AC motor           | AC motor           |
|                              | Brand                       |                 | Yongan                                  | Yongan             | Yongan             |
|                              | Input                       | W               | 112                                     | 131                | 202                |
|                              | Capacitor                   | uF              | 2uF/450V                                | 3.5uF/450V         | 3.5uF/450V         |
|                              | Fan blower type             |                 | ABS-GF15                                | ABS-GF15           | ABS-GF15           |
|                              | Speed (h/m/l)               | r/min           | 885/785/640                             | 960/860/725        | 1230/1135/1015     |
| Indoor coil                  | Number of rows              |                 | 2                                       | 2                  | 2                  |
|                              | Tube pitch(a)× row pitch(b) | in.(mm)         | 13/16×17/32(21×13.37)                   |                    |                    |
|                              | Fin spacing                 | in.(mm)         | 1/16(1.5)                               | 1/16(1.5)          | 1/16(1.5)          |
|                              | Fin type                    |                 | Hydrophilic Aluminum                    |                    |                    |
|                              | Tube outside dia. and type  | in.(mm)         | 1/4(Φ6.35),Inner-groove Tube            |                    |                    |
|                              | Number of circuits          |                 | 6                                       | 6                  | 6                  |
| Indoor air flow (H/M/L)      |                             | m³/h            | 878/689/561                             | 941/776/654        | 1236/1110/864      |
|                              |                             | CFM             | 517/406/330                             | 554/457/385        | 727/653/509        |
| Indoor noise level (H/M/L)   |                             | dB(A)           | 39/35/30                                | 39/35/30           | 44/40/34           |
| Indoor unit                  | Dimension (W×H×D)           | in.(mm)         | 46-9/32×11-49/64×23-17/64(1172×299×591) |                    |                    |
|                              | Packing (W×H×D)             | in.(mm)         | 53-11/32×15-3/4×26-37/64 (1355×400×675) |                    |                    |
|                              | Net/Gross weight            | lbs.(kg)        | 79.2/97.9(36/44.5)                      | 79.2/97.9(36/44.5) | 79.2/97.9(36/44.5) |
| Panel                        | Model                       |                 | CE-MBQ2-01(MBQ2-01)                     |                    |                    |
|                              | Dimension (W×H×D)           | in.(mm)         | 56-19/64×2-3/32×26-49/64(1430×53×680)   |                    |                    |
|                              | Packing (W×H×D)             | in.(mm)         | 60-3/64×5-1/8×30-1/8 (1525×130×765)     |                    |                    |
|                              | Net/Gross weight            | lbs.(kg)        | 23.2/33(10.5/15)                        | 23.2/33(10.5/15)   | 23.2/33(10.5/15)   |
| Throttle                     |                             |                 | Electronic expansion valve              |                    |                    |
| Design pressure(H/ L)        |                             | MPa             | 4.4/2.6                                 |                    |                    |
| Refrigerant piping           | Liquid side                 | in.(mm)         | 1/4(Φ6.35)                              | 3/8(Φ9.53)         | 3/8(Φ9.53)         |
|                              | Gas side                    | in.(mm)         | 1/2(Φ12.7)                              | 5/8(Φ15.9)         | 5/8(Φ15.9)         |
| Connecting wiring            | Power wiring                | mm <sup>2</sup> | 3×2.5(L≤20m); 3×3.5(L≤50m)              |                    |                    |
|                              | Signal wiring               | mm <sup>2</sup> | 3×0.75                                  |                    |                    |
| Drainage water pipe diameter |                             | in.(mm)         | OU 1-17/64(Φ32)                         |                    |                    |
| Controller                   |                             |                 | Wireless remote controller              |                    |                    |

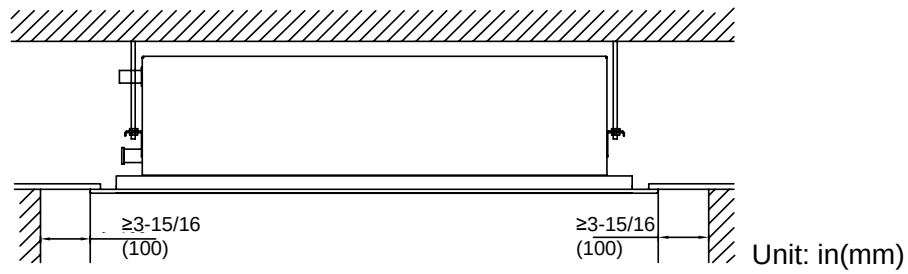
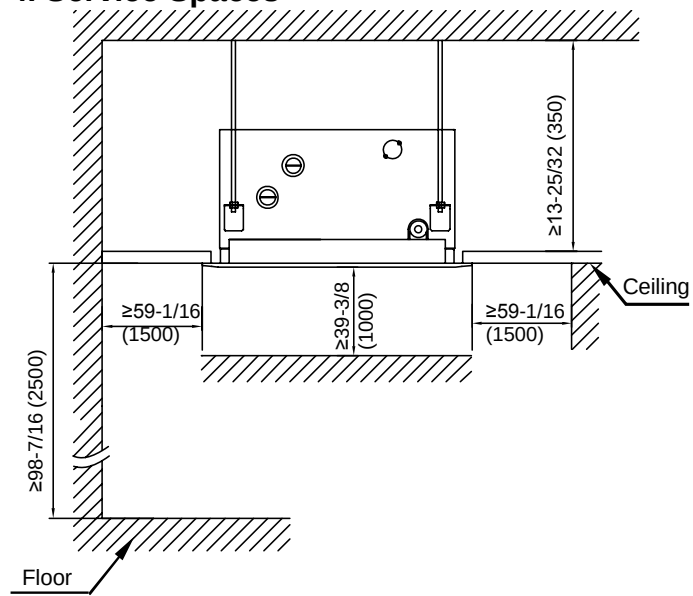
**Notes:**

- 1.Nominal cooling capacities are based on the following conditions: return air temperature : 80.6°F(27°C)DB,66.2°F(19°C)WB, and outdoor temperature: 95°F(35°C)DB, equivalent ref. piping: 26.25ft(8m) (horizontal)
- 2.Nominal heating capacities are based on the following conditions: return air temperature: 68°F(20°C)DB, outdoor temperature: 44.6°F(7°C)DB,42.8°F(6°C)WB, and equivalent ref. Piping: 26.25ft(8m)(horizontal)

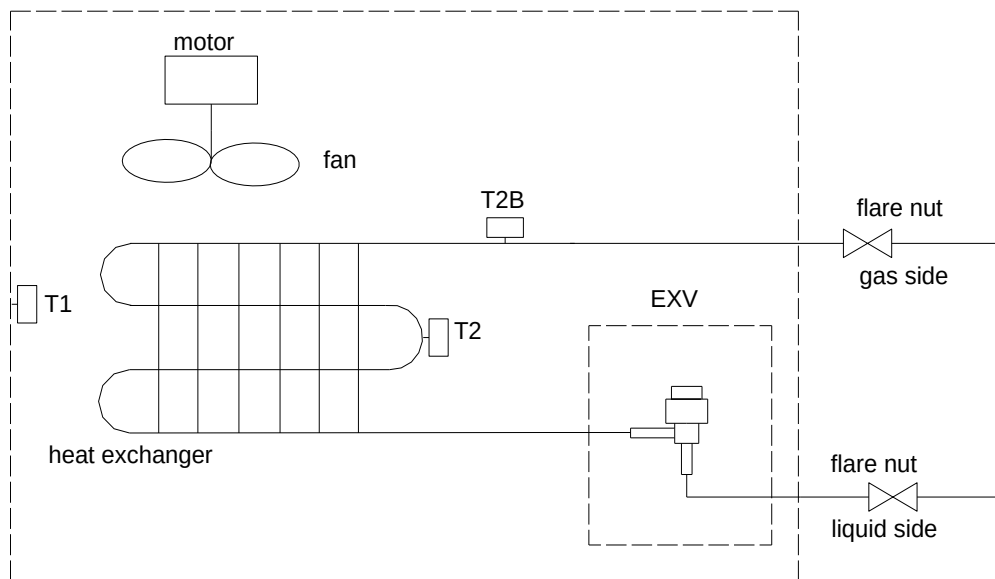
### 3. Dimensions Unit :in(mm)



#### 4. Service Spaces

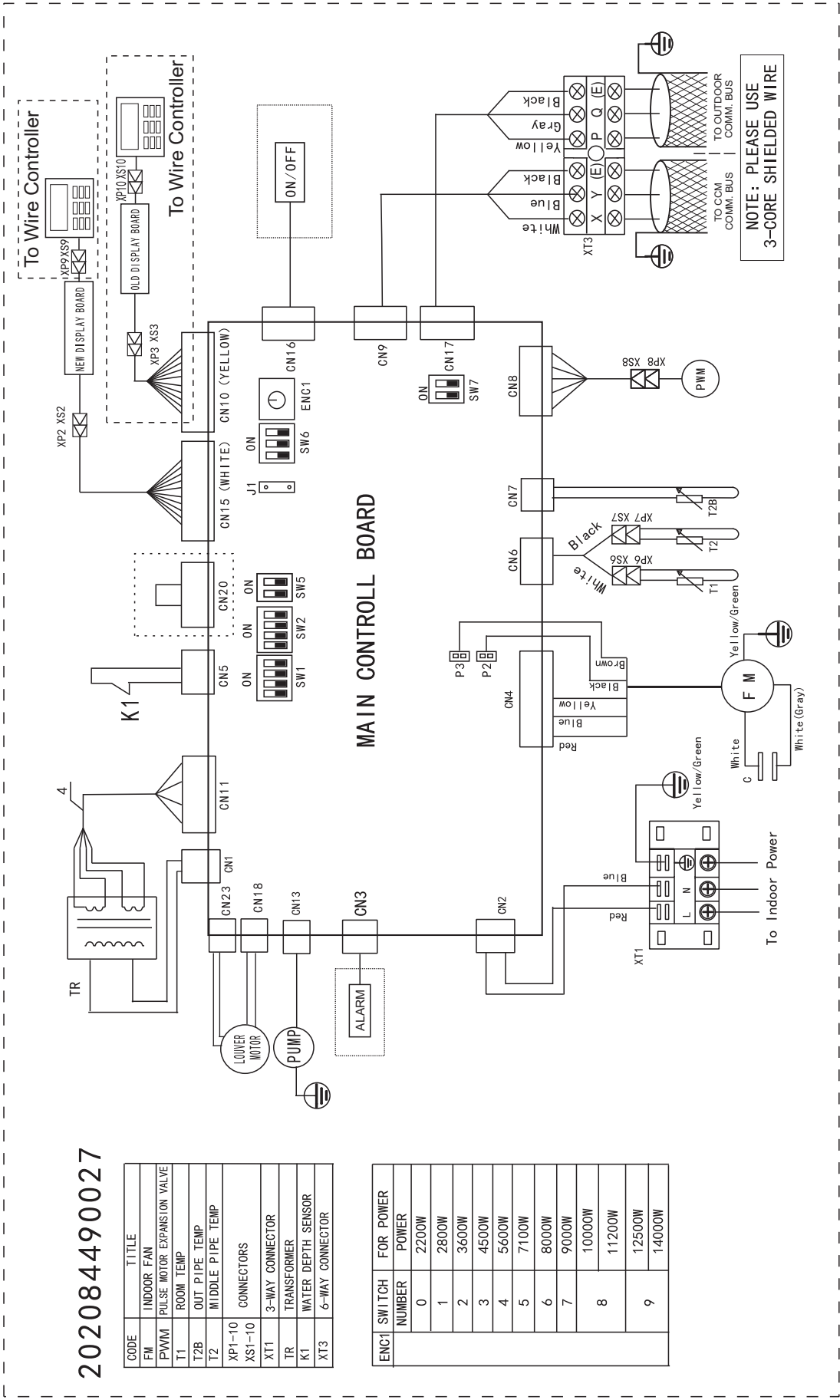


## 5. Piping Diagrams



6. Wiring diagram

MDV-D22Q2/VN1、MDV-D28Q2/VN1、MDV-D36Q2/VN1、MDV-D45Q2/VN1、MDV-D56Q2/VN1、MDV-D71Q2/VN1



## 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 (°FDB) | Indoor temperature (°FWB/DB) |     |           |     |           |     |           |     |         |     |         |     |           |     |
|-----------------------|----------------------------|------------------------------|-----|-----------|-----|-----------|-----|-----------|-----|---------|-----|---------|-----|-----------|-----|
|                       |                            | 57.2/68                      |     | 60.8/73.4 |     | 64.4/78.8 |     | 75.2/80.6 |     | 68/82.4 |     | 71.6/86 |     | 75.2/89.6 |     |
|                       |                            | 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  |
| 2.2                   | 50                         | 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 |
|                       | 53.6                       | 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 |
|                       | 57.2                       | 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 |
|                       | 60.8                       | 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 |
|                       | 64.4                       | 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 |
|                       | 68                         | 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 |
|                       | 69.8                       | 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 |
|                       | 73.4                       | 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 |
|                       | 77                         | 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 |
|                       | 80.6                       | 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 |
|                       | 84.2                       | 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 |
|                       | 87.8                       | 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 |
|                       | 91.4                       | 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 |
|                       | 95                         | 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 |
|                       | 98.6                       | 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 |
|                       | 102.2                      | 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                   | 107.6                      | 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 |
|                       | 111.2                      | 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 |
|                       | 114.8                      | 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 |
|                       | 50                         | 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 |
|                       | 53.6                       | 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 |
|                       | 57.2                       | 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 |
|                       | 60.8                       | 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 |
|                       | 64.4                       | 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 |
|                       | 68                         | 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 |
|                       | 69.8                       | 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 |
|                       | 73.4                       | 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 |
|                       | 77                         | 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 |
|                       | 80.6                       | 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 |
|                       | 84.2                       | 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 |
|                       | 87.8                       | 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 |
|                       | 91.4                       | 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 |
| 3.6                   | 95                         | 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 |
|                       | 98.6                       | 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 |
|                       | 102.2                      | 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 |
|                       | 107.6                      | 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 |
|                       | 111.2                      | 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 |
|                       | 114.8                      | 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 |
|                       | 50                         | 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 |
|                       | 53.6                       | 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 |
|                       | 57.2                       | 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 |
|                       | 60.8                       | 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 |
|                       | 64.4                       | 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 |
|                       | 68                         | 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 |
|                       | 69.8                       | 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 |
|                       | 73.4                       | 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 |
|                       | 77                         | 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 |
|                       | 80.6                       | 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 |
| 4.5                   | 84.2                       | 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 |
|                       | 87.8                       | 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 |
|                       | 91.4                       | 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 |
|                       | 95                         | 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 |
|                       | 98.6                       | 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 |
|                       | 102.2                      | 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 |
|                       | 107.6                      | 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 |
|                       | 111.2                      | 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 |
|                       | 114.8                      | 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 |
| 4.5                   | 50                         | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.9       | 3.0 |

| Indoor Unit size (kW) | Outdoor temperature (°FDB) | Indoor temperature (°FWB/DB) |     |           |     |           |     |           |     |         |     |         |     |           |     |
|-----------------------|----------------------------|------------------------------|-----|-----------|-----|-----------|-----|-----------|-----|---------|-----|---------|-----|-----------|-----|
|                       |                            | 57.2/68                      |     | 60.8/73.4 |     | 64.4/78.8 |     | 75.2/80.6 |     | 68/82.4 |     | 71.6/86 |     | 75.2/89.6 |     |
|                       |                            | 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  |
| 4.5                   | 53.6                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.9       | 3.0 |
|                       | 57.2                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.8       | 3.0 |
|                       | 60.8                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.6       | 2.9 |
|                       | 64.4                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.7       | 3.0 |
|                       | 68                         | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.7       | 3.0 |
|                       | 69.8                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.6       | 3.0 |
|                       | 73.4                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.5       | 3.0 |
|                       | 77                         | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.2     | 3.0 | 5.4       | 2.9 |
|                       | 80.6                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.1     | 3.0 | 5.2       | 2.8 |
|                       | 84.2                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.1     | 2.9 | 5.2       | 2.8 |
|                       | 87.8                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.0     | 2.9 | 5.1       | 2.7 |
|                       | 91.4                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 4.9     | 2.8 | 5.1       | 2.7 |
|                       | 95                         | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 4.8     | 2.8 | 5.0       | 2.7 |
|                       | 98.6                       | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 4.8     | 2.9 | 4.9       | 2.6 |
|                       | 102.2                      | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 2.8 | 4.8       | 2.6 |
|                       | 107.6                      | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 2.8 | 4.8       | 2.6 |
|                       | 111.2                      | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 2.8 | 4.8       | 2.6 |
|                       | 114.8                      | 3.1                          | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 3.1 | 4.8       | 2.6 |
| 5.6                   | 50                         | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 7.3       | 3.5 |
|                       | 53.6                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 7.2       | 3.5 |
|                       | 57.2                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 7.1       | 3.5 |
|                       | 60.8                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 7.0       | 3.4 |
|                       | 64.4                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 6.8       | 3.4 |
|                       | 68                         | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 6.7       | 3.3 |
|                       | 69.8                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 6.6       | 3.3 |
|                       | 73.4                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 6.6       | 3.3 |
|                       | 77                         | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 6.5       | 3.2 |
|                       | 80.6                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.4     | 3.5 | 6.4       | 3.2 |
|                       | 84.2                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.3     | 3.5 | 6.4       | 3.3 |
|                       | 87.8                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.2     | 3.4 | 6.2       | 3.2 |
|                       | 91.4                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.2     | 3.4 | 6.2       | 3.2 |
|                       | 95                         | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.0     | 3.3 | 6.0       | 3.1 |
|                       | 98.6                       | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 5.9     | 3.2 | 6.0       | 3.1 |
|                       | 102.2                      | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.7     | 3.4 | 5.8     | 3.2 | 6.0       | 3.1 |
|                       | 107.6                      | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.7     | 3.4 | 5.8     | 3.2 | 6.0       | 3.1 |
|                       | 111.2                      | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.7     | 3.4 | 5.8     | 3.2 | 6.0       | 3.1 |
|                       | 114.8                      | 3.9                          | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.7     | 3.7 | 5.8     | 3.2 | 6.0       | 3.1 |
| 7.1                   | 50                         | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 9.2       | 4.6 |
|                       | 53.6                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 9.1       | 4.5 |
|                       | 57.2                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 9.0       | 4.5 |
|                       | 60.8                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.9       | 4.4 |
|                       | 64.4                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.7       | 4.3 |
|                       | 68                         | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.5       | 4.2 |
|                       | 69.8                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.4       | 4.2 |
|                       | 73.4                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.3       | 4.1 |
|                       | 77                         | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.2       | 4.1 |
|                       | 80.6                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.1     | 4.3 | 8.2       | 4.1 |
|                       | 84.2                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.5 | 8.0     | 4.3 | 8.1       | 4.1 |
|                       | 87.8                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.5 | 7.9     | 4.3 | 7.8       | 4.0 |
|                       | 91.4                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.5 | 7.8     | 4.2 | 7.8       | 4.0 |
|                       | 95                         | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.5 | 7.6     | 4.1 | 7.7       | 3.9 |
|                       | 98.6                       | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.4     | 4.4 | 7.5     | 4.1 | 7.6       | 4.0 |
|                       | 102.2                      | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.2     | 4.3 | 7.4     | 4.1 | 7.6       | 4.0 |
|                       | 107.6                      | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.2     | 4.3 | 7.4     | 4.1 | 7.6       | 4.0 |
|                       | 111.2                      | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.2     | 4.3 | 7.4     | 4.1 | 7.6       | 4.0 |
|                       | 114.8                      | 4.9                          | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.2     | 4.3 | 7.4     | 4.1 | 7.6       | 4.0 |

## 7.2 Heating

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

| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°F) |       | Indoor temperature (°F DB) |      |      |      |      |      |
|--------------------------|-----------------------------|-------|----------------------------|------|------|------|------|------|
|                          |                             |       | 60.8                       | 64.4 | 68   | 69.8 | 71.6 | 75.2 |
|                          | WB                          | DB    | TC                         | TC   | TC   | TC   | TC   | TC   |
|                          | WB                          | DB    | kW                         | kW   | kW   | kW   | kW   | kW   |
| 2.2                      | -4                          | -3.64 | 1.46                       | 1.46 | 1.46 | 1.46 | 1.46 | 1.46 |
|                          | -2.2                        | -1.84 | 1.56                       | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 |
|                          | 1.4                         | 1.94  | 1.64                       | 1.64 | 1.64 | 1.64 | 1.64 | 1.64 |
|                          | 5                           | 5.54  | 1.69                       | 1.69 | 1.69 | 1.69 | 1.69 | 1.69 |
|                          | 8.6                         | 9.32  | 1.79                       | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 |
|                          | 12.2                        | 13.1  | 1.82                       | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 |
|                          | 14                          | 14.9  | 1.90                       | 1.90 | 1.90 | 1.90 | 1.90 | 1.90 |
|                          | 15.62                       | 16.7  | 1.95                       | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 |
|                          | 18.32                       | 19.4  | 1.98                       | 1.98 | 1.98 | 1.98 | 1.98 | 1.98 |
|                          | 21.92                       | 23    | 2.05                       | 2.05 | 2.05 | 2.05 | 2.05 | 2.05 |
|                          | 25.34                       | 26.6  | 2.16                       | 2.16 | 2.16 | 2.16 | 2.16 | 2.16 |
|                          | 30.74                       | 32    | 2.31                       | 2.31 | 2.31 | 2.31 | 2.31 | 2.18 |
|                          | 35.96                       | 37.4  | 2.44                       | 2.44 | 2.44 | 2.44 | 2.39 | 2.18 |
|                          | 39.38                       | 41    | 2.52                       | 2.52 | 2.52 | 2.52 | 2.39 | 2.18 |
|                          | 42.8                        | 44.6  | 2.60                       | 2.60 | 2.60 | 2.52 | 2.39 | 2.18 |
|                          | 46.22                       | 48.2  | 2.68                       | 2.68 | 2.60 | 2.52 | 2.39 | 2.18 |
| 2.8                      | 49.64                       | 51.8  | 2.76                       | 2.76 | 2.60 | 2.52 | 2.39 | 2.18 |
|                          | 53.24                       | 55.4  | 2.86                       | 2.81 | 2.60 | 2.52 | 2.39 | 2.18 |
|                          | 56.66                       | 59    | 2.94                       | 2.81 | 2.60 | 2.52 | 2.39 | 2.18 |
|                          | -4                          | -3.64 | 1.79                       | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 |
|                          | -2.2                        | -1.84 | 1.92                       | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 |
|                          | 1.4                         | 1.94  | 2.02                       | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 |
|                          | 5                           | 5.54  | 2.02                       | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 |
|                          | 8.6                         | 9.32  | 2.14                       | 2.14 | 2.14 | 2.14 | 2.14 | 2.14 |
|                          | 12.2                        | 13.1  | 2.24                       | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 |
|                          | 14                          | 14.9  | 2.34                       | 2.34 | 2.34 | 2.34 | 2.34 | 2.34 |
|                          | 15.62                       | 16.7  | 2.40                       | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 |
|                          | 18.32                       | 19.4  | 2.43                       | 2.43 | 2.43 | 2.43 | 2.43 | 2.43 |
|                          | 21.92                       | 23    | 2.53                       | 2.53 | 2.53 | 2.53 | 2.53 | 2.53 |
|                          | 25.34                       | 26.6  | 2.66                       | 2.66 | 2.66 | 2.66 | 2.66 | 2.66 |
|                          | 30.74                       | 32    | 2.85                       | 2.85 | 2.85 | 2.85 | 2.85 | 2.69 |
|                          | 35.96                       | 37.4  | 3.01                       | 3.01 | 3.01 | 3.01 | 2.94 | 2.69 |
| 3.6                      | 39.38                       | 41    | 3.10                       | 3.10 | 3.10 | 3.10 | 2.94 | 2.69 |
|                          | 42.8                        | 44.6  | 3.20                       | 3.20 | 3.20 | 3.10 | 2.94 | 2.69 |
|                          | 46.22                       | 48.2  | 3.30                       | 3.30 | 3.20 | 3.10 | 2.94 | 2.69 |
|                          | 49.64                       | 51.8  | 3.39                       | 3.39 | 3.20 | 3.10 | 2.94 | 2.69 |
|                          | 53.24                       | 55.4  | 3.52                       | 3.46 | 3.20 | 3.10 | 2.94 | 2.69 |
|                          | 56.66                       | 59    | 3.62                       | 3.46 | 3.20 | 3.10 | 2.94 | 2.69 |
|                          | -4                          | -3.64 | 2.24                       | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 |
|                          | -2.2                        | -1.84 | 2.40                       | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 |
|                          | 1.4                         | 1.94  | 2.52                       | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 |
|                          | 5                           | 5.54  | 2.60                       | 2.60 | 2.60 | 2.60 | 2.60 | 2.60 |
|                          | 8.6                         | 9.32  | 2.68                       | 2.68 | 2.68 | 2.68 | 2.68 | 2.68 |
|                          | 12.2                        | 13.1  | 2.80                       | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 |
|                          | 14                          | 14.9  | 2.92                       | 2.92 | 2.92 | 2.92 | 2.92 | 2.92 |
|                          | 15.62                       | 16.7  | 3.00                       | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|                          | 18.32                       | 19.4  | 3.04                       | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 |
|                          | 21.92                       | 23    | 3.16                       | 3.16 | 3.16 | 3.16 | 3.16 | 3.16 |
| 4.5                      | 25.34                       | 26.6  | 3.32                       | 3.32 | 3.32 | 3.32 | 3.32 | 3.32 |
|                          | 30.74                       | 32    | 3.56                       | 3.56 | 3.56 | 3.56 | 3.56 | 3.36 |
|                          | 35.96                       | 37.4  | 3.76                       | 3.76 | 3.76 | 3.76 | 3.68 | 3.36 |
|                          | 39.38                       | 41    | 3.88                       | 3.88 | 3.88 | 3.88 | 3.68 | 3.36 |
|                          | 42.8                        | 44.6  | 4.00                       | 4.00 | 4.00 | 3.88 | 3.68 | 3.36 |
|                          | 46.22                       | 48.2  | 4.12                       | 4.12 | 4.00 | 3.88 | 3.68 | 3.36 |
|                          | 49.64                       | 51.8  | 4.24                       | 4.24 | 4.00 | 3.88 | 3.68 | 3.36 |
|                          | 53.24                       | 55.4  | 4.40                       | 4.32 | 4.00 | 3.88 | 3.68 | 3.36 |
|                          | 56.66                       | 59    | 4.52                       | 4.32 | 4.00 | 3.88 | 3.68 | 3.36 |
|                          | -4                          | -3.64 | 2.80                       | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 |
|                          | -2.2                        | -1.84 | 3.00                       | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |



| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°F) |       | Indoor temperature (°F DB) |      |      |      |      |      |
|--------------------------|-----------------------------|-------|----------------------------|------|------|------|------|------|
|                          |                             |       | 60.8                       | 64.4 | 68   | 69.8 | 71.6 | 75.2 |
|                          |                             |       | TC                         | TC   | TC   | TC   | TC   | TC   |
|                          | WB                          | DB    | kW                         | kW   | kW   | kW   | kW   | kW   |
| 4.5                      | 1.4                         | 1.94  | 3.15                       | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 |
|                          | 5                           | 5.54  | 3.25                       | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 |
|                          | 8.6                         | 9.32  | 3.35                       | 3.35 | 3.35 | 3.35 | 3.35 | 3.35 |
|                          | 12.2                        | 13.1  | 3.50                       | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
|                          | 14                          | 14.9  | 3.65                       | 3.65 | 3.65 | 3.65 | 3.65 | 3.65 |
|                          | 15.62                       | 16.7  | 3.75                       | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 |
|                          | 18.32                       | 19.4  | 3.80                       | 3.80 | 3.80 | 3.80 | 3.80 | 3.80 |
|                          | 21.92                       | 23    | 3.95                       | 3.95 | 3.95 | 3.95 | 3.95 | 3.95 |
|                          | 25.34                       | 26.6  | 4.15                       | 4.15 | 4.15 | 4.15 | 4.15 | 4.15 |
|                          | 30.74                       | 32    | 4.45                       | 4.45 | 4.45 | 4.45 | 4.45 | 4.20 |
|                          | 35.96                       | 37.4  | 4.70                       | 4.70 | 4.70 | 4.70 | 4.60 | 4.20 |
|                          | 39.38                       | 41    | 4.85                       | 4.85 | 4.85 | 4.85 | 4.60 | 4.20 |
|                          | 42.8                        | 44.6  | 5.00                       | 5.00 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 46.22                       | 48.2  | 5.15                       | 5.15 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 49.64                       | 51.8  | 5.30                       | 5.30 | 5.00 | 4.85 | 4.60 | 4.20 |
| 5.6                      | 53.24                       | 55.4  | 5.50                       | 5.40 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 56.66                       | 59    | 5.65                       | 5.40 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | -4                          | -3.64 | 3.53                       | 3.53 | 3.53 | 3.53 | 3.53 | 3.53 |
|                          | -2.2                        | -1.84 | 3.78                       | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 |
|                          | 1.4                         | 1.94  | 3.97                       | 3.97 | 3.97 | 3.97 | 3.97 | 3.97 |
|                          | 5                           | 5.54  | 4.10                       | 4.10 | 4.10 | 4.10 | 4.10 | 4.10 |
|                          | 8.6                         | 9.32  | 4.22                       | 4.22 | 4.22 | 4.22 | 4.22 | 4.22 |
|                          | 12.2                        | 13.1  | 4.41                       | 4.41 | 4.41 | 4.41 | 4.41 | 4.41 |
|                          | 14                          | 14.9  | 4.60                       | 4.60 | 4.60 | 4.60 | 4.60 | 4.60 |
|                          | 15.62                       | 16.7  | 4.73                       | 4.73 | 4.73 | 4.73 | 4.73 | 4.73 |
|                          | 18.32                       | 19.4  | 4.79                       | 4.79 | 4.79 | 4.79 | 4.79 | 4.79 |
|                          | 21.92                       | 23    | 4.98                       | 4.98 | 4.98 | 4.98 | 4.98 | 4.98 |
|                          | 25.34                       | 26.6  | 5.23                       | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 |
|                          | 30.74                       | 32    | 5.61                       | 5.61 | 5.61 | 5.61 | 5.61 | 5.29 |
|                          | 35.96                       | 37.4  | 5.92                       | 5.92 | 5.92 | 5.92 | 5.80 | 5.29 |
| 7.1                      | 39.38                       | 41    | 6.11                       | 6.11 | 6.11 | 6.11 | 5.80 | 5.29 |
|                          | 42.8                        | 44.6  | 6.30                       | 6.30 | 6.30 | 6.11 | 5.80 | 5.29 |
|                          | 46.22                       | 48.2  | 6.49                       | 6.49 | 6.30 | 6.11 | 5.80 | 5.29 |
|                          | 49.64                       | 51.8  | 6.68                       | 6.68 | 6.30 | 6.11 | 5.80 | 5.29 |
|                          | 53.24                       | 55.4  | 6.93                       | 6.80 | 6.30 | 6.11 | 5.80 | 5.29 |
|                          | 56.66                       | 59    | 7.12                       | 6.80 | 6.30 | 6.11 | 5.80 | 5.29 |
|                          | -4                          | -3.64 | 4.48                       | 4.48 | 4.48 | 4.48 | 4.48 | 4.48 |
|                          | -2.2                        | -1.84 | 4.80                       | 4.80 | 4.80 | 4.80 | 4.80 | 4.80 |
|                          | 1.4                         | 1.94  | 5.04                       | 5.04 | 5.04 | 5.04 | 5.04 | 5.04 |
|                          | 5                           | 5.54  | 5.20                       | 5.20 | 5.20 | 5.20 | 5.20 | 5.20 |
|                          | 8.6                         | 9.32  | 5.36                       | 5.36 | 5.36 | 5.36 | 5.36 | 5.36 |
|                          | 12.2                        | 13.1  | 5.60                       | 5.60 | 5.60 | 5.60 | 5.60 | 5.60 |
|                          | 14                          | 14.9  | 5.84                       | 5.84 | 5.84 | 5.84 | 5.84 | 5.84 |
|                          | 15.62                       | 16.7  | 6.00                       | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
|                          | 18.32                       | 19.4  | 6.08                       | 6.08 | 6.08 | 6.08 | 6.08 | 6.08 |
|                          | 21.92                       | 23    | 6.32                       | 6.32 | 6.32 | 6.32 | 6.32 | 6.32 |
|                          | 25.34                       | 26.6  | 6.64                       | 6.64 | 6.64 | 6.64 | 6.64 | 6.64 |
|                          | 30.74                       | 32    | 7.12                       | 7.12 | 7.12 | 7.12 | 7.12 | 6.72 |
|                          | 35.96                       | 37.4  | 7.52                       | 7.52 | 7.52 | 7.52 | 7.36 | 6.72 |
|                          | 39.38                       | 41    | 7.76                       | 7.76 | 7.76 | 7.76 | 7.36 | 6.72 |
|                          | 42.8                        | 44.6  | 8.00                       | 8.00 | 8.00 | 7.76 | 7.36 | 6.72 |
|                          | 46.22                       | 48.2  | 8.24                       | 8.24 | 8.00 | 7.76 | 7.36 | 6.72 |
|                          | 49.64                       | 51.8  | 8.48                       | 8.48 | 8.00 | 7.76 | 7.36 | 6.72 |
|                          | 53.24                       | 55.4  | 8.80                       | 8.64 | 8.00 | 7.76 | 7.36 | 6.72 |
|                          | 56.66                       | 59    | 9.04                       | 8.64 | 8.00 | 7.76 | 7.36 | 6.72 |

## 8. Electrical Characteristics

| Model         | Indoor Unit |          |      |      | Power Supply |     | IFM   |      |
|---------------|-------------|----------|------|------|--------------|-----|-------|------|
|               | Hz          | Voltage  | Min. | Max. | MCA          | MFA | KW    | FLA  |
| MDV-D22Q2/VN1 | 60          | 220-240V | 198V | 254V | 0.384        | 15A | 0.076 | 0.33 |
| MDV-D28Q2/VN1 | 60          | 220-240V | 198V | 254V | 0.384        | 15A | 0.076 | 0.33 |
| MDV-D36Q2/VN1 | 60          | 220-240V | 198V | 254V | 0.42         | 15A | 0.081 | 0.36 |
| MDV-D45Q2/VN1 | 60          | 220-240V | 198V | 254V | 0.62         | 15A | 0.112 | 0.5  |
| MDV-D56Q2/VN1 | 60          | 220-240V | 198V | 254V | 0.66         | 15A | 0.131 | 0.58 |
| MDV-D71Q2/VN1 | 60          | 220-240V | 198V | 254V | 1.07         | 15A | 0.202 | 0.87 |

**Remark:**

MCA: Min. Current Amps. (A)

MFA: Max. Fuse Amps. (A)

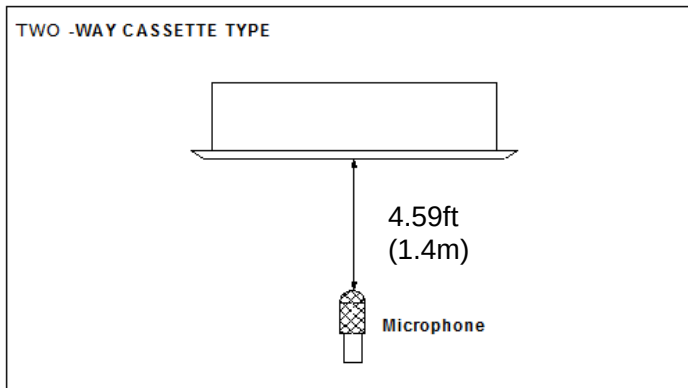
KW: Fan Motor Rated Output (kW)

FLA: Full Load Amps. (A)

IFM: Indoor Fan Motor

## 9. Sound Levels

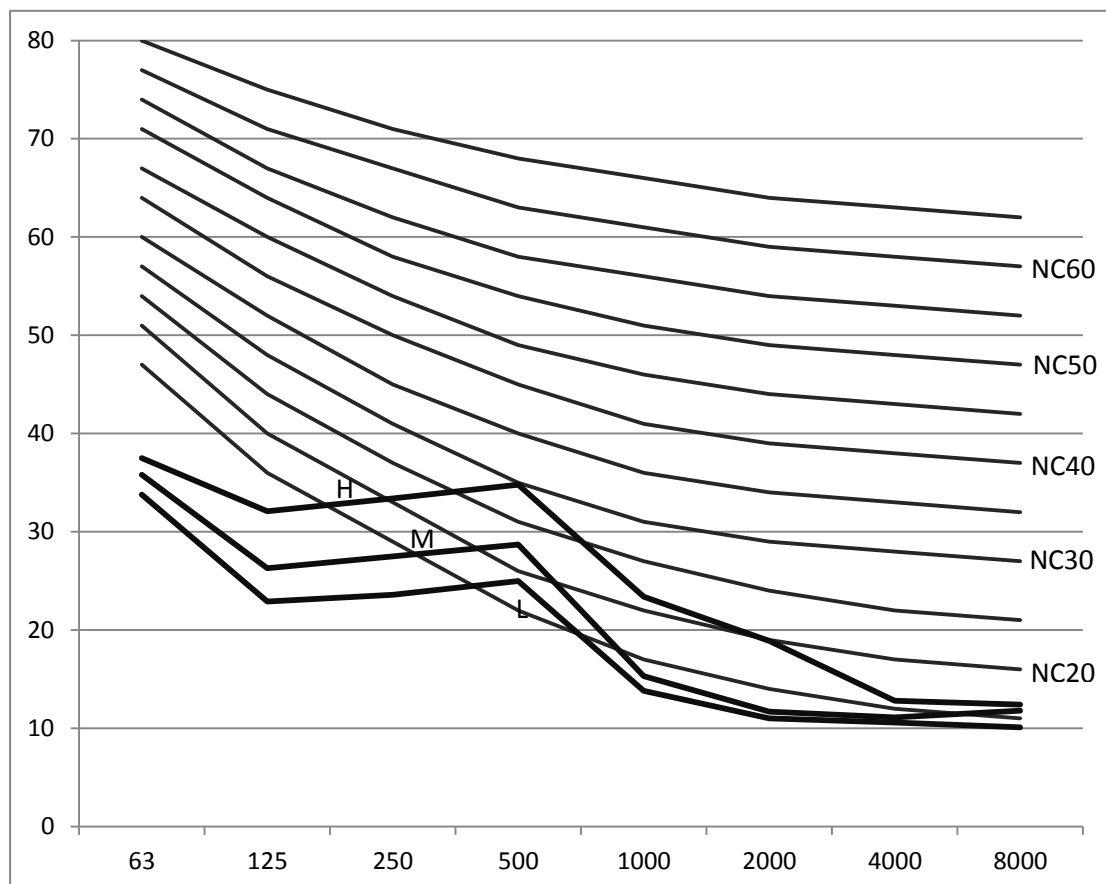
### 9.1 Test condition



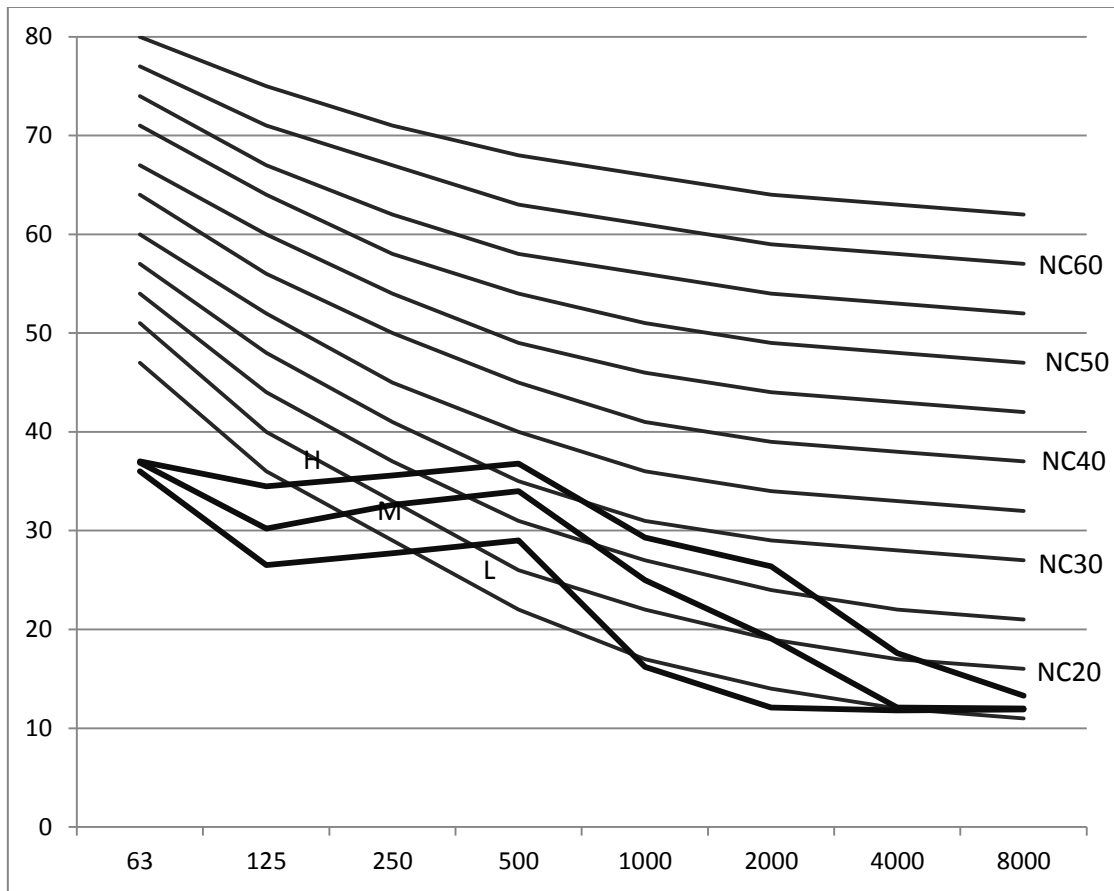
### 9.2 Test value

| Model         | Sound test value dB(A) |    |    |
|---------------|------------------------|----|----|
|               | H                      | M  | L  |
| MDV-D22Q2/VN1 | 33                     | 29 | 24 |
| MDV-D28Q2/VN1 | 36                     | 32 | 29 |
| MDV-D36Q2/VN1 | 36                     | 32 | 29 |
| MDV-D45Q2/VN1 | 39                     | 35 | 30 |
| MDV-D56Q2/VN1 | 39                     | 35 | 30 |
| MDV-D71Q2/VN1 | 44                     | 40 | 34 |

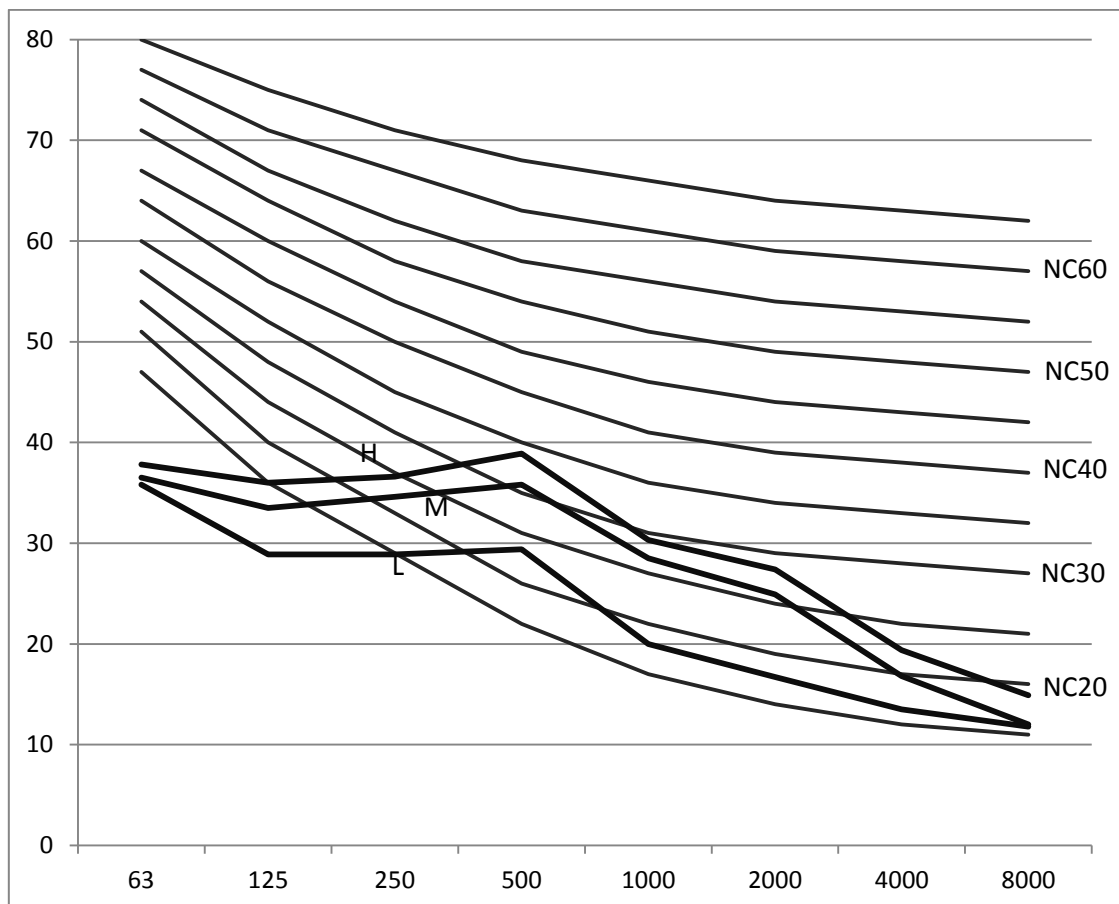
MDV-D22Q2/VN1



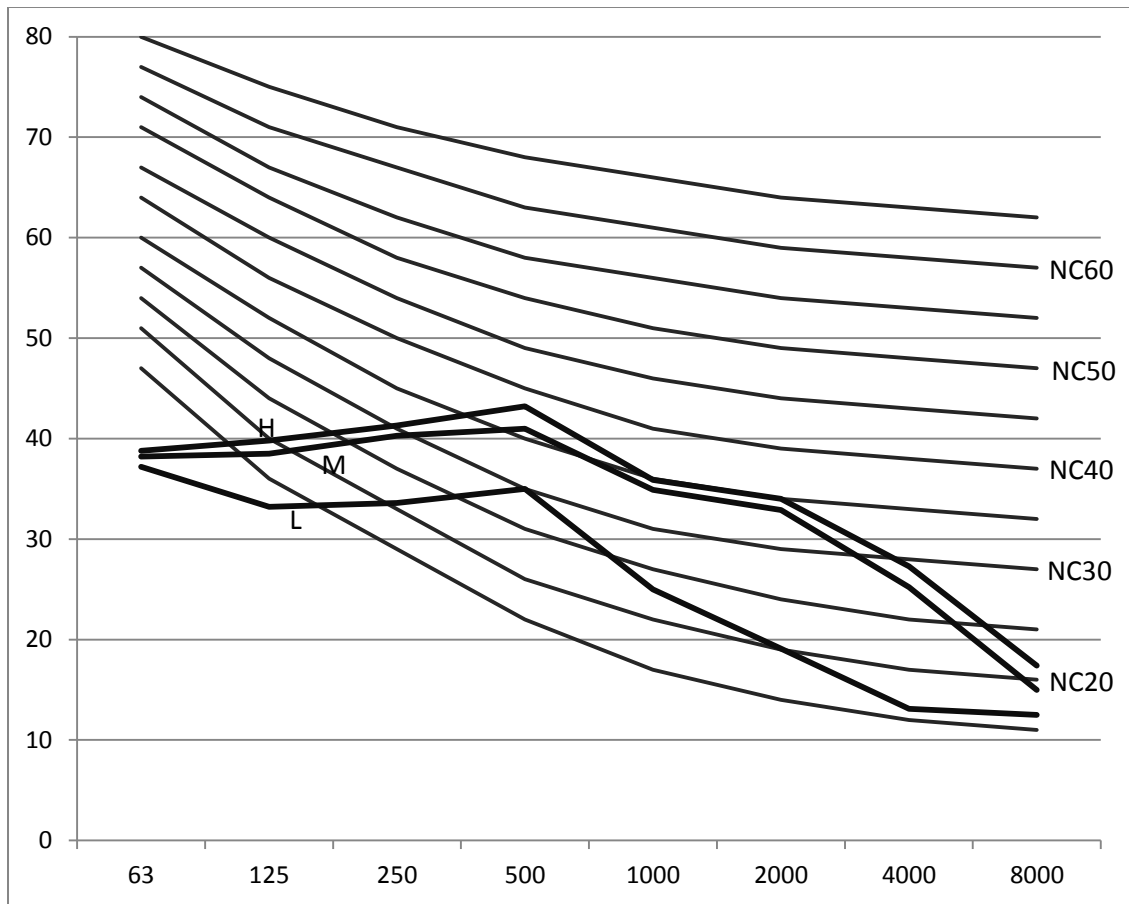
MDV-D28Q2/VN1, MDV-D36Q2/VN1



MDV-D45Q2/VN1, MDV-D56Q2/VN1

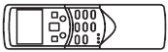


MDV-D71Q2/VN1



## 10. Accessories

### Standard accessories

| Name                                     | Quantity | Shape                                                                               | Purpose                                                                  |
|------------------------------------------|----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Installation manual for indoor unit      | 1        |    | Guidance of installation for indoor unit and Must deliver to customer    |
| Insulation sheath                        | 2        |    | Thermal insulation for the jointing part of piping                       |
| Installation paper board                 | 1        |    | For confirming the ceiling site and unit location                        |
| Installation gauge                       | 1        |    | For confirming the ceiling site (Integrated on installation paper board) |
| Installation screw for paper board       | 4        |    | For installing paper board                                               |
| Nut                                      | 8        |    | Hanging component                                                        |
| Thermal insulated material               | 1        |    | Thermal insulation for the jointing part of drain pipe                   |
| Bushing                                  | 8        |    | Hanger assembly                                                          |
| Flexible hose tube                       | 1        |    | For drain pipe                                                           |
| Thermal insulation material              | 1        |    | For sealing the jointing part of piping                                  |
| Remote controller                        | 1        |    | For remote controlling the air conditioner                               |
| Mounting screw                           | 4        |    | For installing defrosting tray                                           |
| Drain pipe clasp                         | 1        |   | For installing drain pipe                                                |
| Connective pipe for restriction assembly | 1        |  | /                                                                        |
| Tightening belt                          | 5        |  | /                                                                        |

## Compact Four-way Cassette

|                                       |    |
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# 1. Features

## (1) Low operation noise, quiet design for user comfort

- Streamline plate ensures quietness
- Creates natural and comfortable environment

## (2) Efficient cooling

- Equal, fast and wide—range cooling

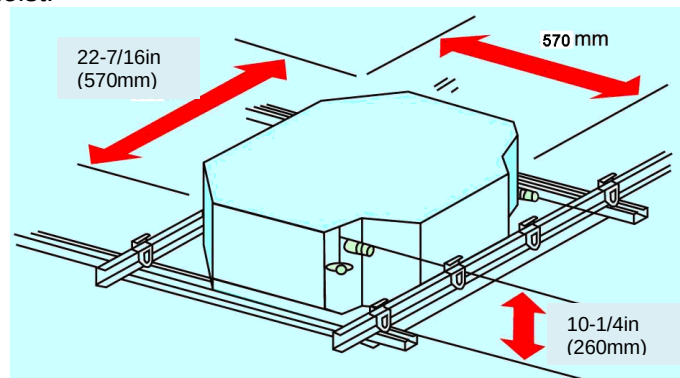


## (3) The adoption of the most advanced 3-dimensional centrifugal fan

- Reduces the air resistance passing through
- Smooths air flow
- Makes air speed distribution to the heat exchange uniform

## (4) Improvement for easy installation and maintenance

- Little space is required for installation into a shallow ceiling,
- Extremely compact casing (22-7/16in (570mm) in width and depth) enables unit to fit flush into ceilings and match standard architectural modules
- Because of the compactness and weight reduction of the main unit and panel, all models can be installed without a hoist.



## (5) 360° Air Flow Panel

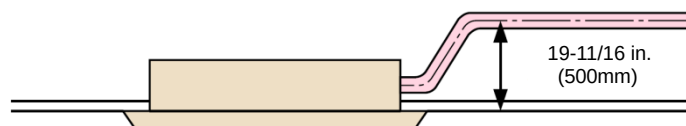
- 360° air outlet makes equal, fast and wide range cooling



## (6) Optimal design, smaller Control Box, Space saving and convenient for wiring,

Using fire resistance galvanized steel for E-box material. Metal box makes the control part more stable and prevents damaging

## (7) Drain up pump with 19-11/16 in. (500mm) lift fitted as standard, max. up to 23-5/8 in (600mm) head which can be customized.





## 2. Specifications

| Model                        |                              |           | MDV-D22Q4/VN1-A3                          | MDV-D28Q4/VN1-A3      |
|------------------------------|------------------------------|-----------|-------------------------------------------|-----------------------|
| Power supply                 |                              | V-ph-Hz   | 220-240V~1Ph~60Hz                         | 220-240V~1Ph~60Hz     |
| Cooling                      | Capacity                     | kW        | 2.2                                       | 2.8                   |
|                              |                              | Btu/h     | 7500                                      | 9600                  |
|                              | Input                        | W         | 51                                        | 52                    |
|                              | Rated current                | A         | 0.175                                     | 0.175                 |
| Heating                      | Capacity                     | kW        | 2.4                                       | 3.2                   |
|                              |                              | Btu/h     | 8200                                      | 10900                 |
|                              | Input                        | W         | 43                                        | 44                    |
|                              | Rated current                | A         | 0.175                                     | 0.175                 |
| Indoor fan motor             | Model                        |           | YDK15-6P-4                                | YDK15-6P-4            |
|                              | Type                         |           | AC Motor                                  | AC Motor              |
|                              | Input                        | W         | 37.8                                      | 37.8                  |
|                              | Capacitor                    | uF        | 0.8uF/450V                                | 0.8uF/450V            |
|                              | Speed(h/m/l)                 | r/min     | 658/586/485                               | 658/586/485           |
| Indoor coil                  | Number of rows               |           | 1                                         | 1                     |
|                              | Tube pitch(a)x row pitch(b)  | in.(mm)   | 13/16×17/32(21×13.37)                     | 13/16×17/32(21×13.37) |
|                              | Fin spacing                  | in.(mm)   | 1/16(1.5)                                 | 1/16(1.5)             |
|                              | Fin type (code)              |           | Hydrophilic aluminium                     |                       |
|                              | Tube outside dia. and type   | in.(mm)   | 1/4(Φ6.35)                                | 1/4(Φ6.35)            |
|                              |                              |           | Inner groove tube                         |                       |
|                              | Coil length x height x width | in.(mm)   | 51-9/16×8-9/32×17/32(1310×210×13.37)      |                       |
|                              | Number of circuits           |           | 2                                         | 2                     |
| Indoor air flow (H/M/L)      |                              | m3/h      | 397/292/215                               | 408/310/231           |
|                              |                              | CFM       | 234/172/127                               | 240/182/136           |
| Sound level (sound pressure) |                              | dB(A)     | 35.8/33.4/23.4                            | 35.8/33.4/23.4        |
| Indoor unit                  | Dimension (W× H×D)           | in.(mm)   | 22-7/16×10-15/64×22-7/16(570×265×570)     |                       |
|                              | Packing (W×H×D)              | in.(mm)   | 26-9/16×11-7/32×26-9/16(675×285×675)      |                       |
|                              | Net/Gross weight             | lbs. (kg) | 35.3/44.1/(16/20)                         |                       |
| Panel                        | Dimension (W× H×D)           | in.(mm)   | 25-15/32×1-31/32×25-15/32<br>(647×50×647) |                       |
|                              | Packing (W× H×D)             | in.(mm)   | 28-5/32×4-27/32×28-5/32(715×113×715)      |                       |
|                              | Net/Gross weight             | lbs. (kg) | 5.5/9.9(2.5/4.5)                          |                       |
| Refrigerant                  | Type                         |           | R410a                                     | R410a                 |
| Throttle                     |                              |           | Electronic expansion valve                |                       |
| Design pressure(H/L)         |                              | MPa       | 4.4/2.6                                   | 4.4/2.6               |
| Refrigerant piping           | Liquid side                  | in.(mm)   | 1/4(Φ6.35)                                | 1/4(Φ6.35)            |
|                              | Gas side                     | in.(mm)   | 1/2(Φ12.7)                                | 1/2(Φ12.7)            |
| Connection wiring            | Power wiring                 | mm2       | 3×2.0                                     |                       |
|                              | Signal wiring                | mm2       | 3×0.5 (3-core shielded wire)              |                       |
| Drainage water pipe diameter |                              | in.(mm)   | OD 63/64 (Φ25)                            | OD 63/64 (Φ25)        |
| Controller                   |                              |           | Wireless remote controller                |                       |

### Notes:

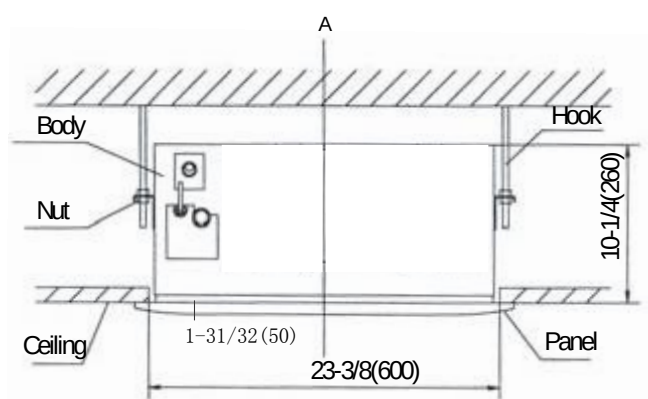
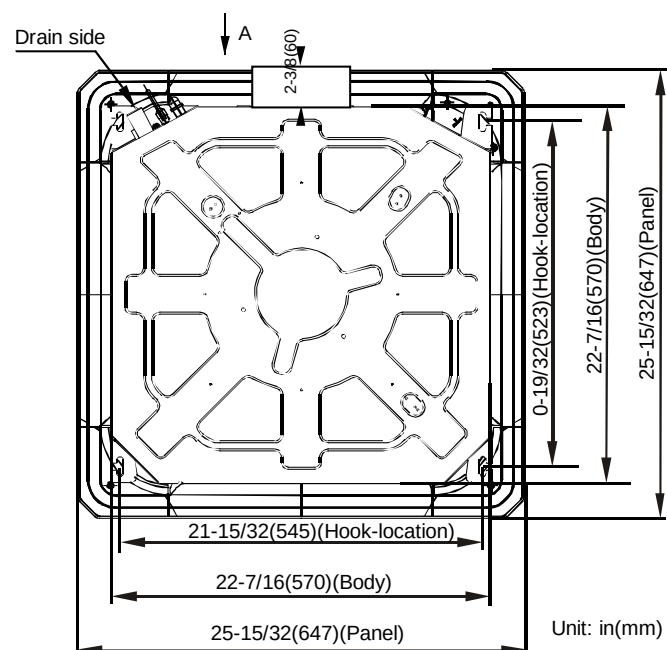
- Nominal cooling capacities are based on the following conditions: return air temperature: 80.6°F(27°C)DB,66.2°F(19°C)WB, and outdoor temperature: 95°F(35°C)DB, equivalent ref. piping: 26.25ft(8m) (horizontal)
- Nominal heating capacities are based on the following conditions: return air temperature: 68°F(20°C)DB, outdoor temperature: 44.6°F(7°C)DB,42.8°F(6°C)WB, and equivalent ref. Piping: 26.25ft(8m)(horizontal)

| Model                        |                              |                 | MDV-D36Q4/VN1-A3                      | MDV-D45Q4/VN1-A3      |
|------------------------------|------------------------------|-----------------|---------------------------------------|-----------------------|
| Power supply                 |                              | V-ph-Hz         | 220-240V~1Ph~60Hz                     | 220-240V~1Ph~60Hz     |
| Cooling                      | Capacity                     | kW              | 3.6                                   | 4.5                   |
|                              |                              | Btu/h           | 12300                                 | 15400                 |
|                              | Input                        | W               | 58                                    | 58                    |
|                              | Rated current                | A               | 0.21                                  | 0.21                  |
| Heating                      | Capacity                     | kW              | 4.0                                   | 5.0                   |
|                              |                              | Btu/h           | 13600                                 | 17100                 |
|                              | Input                        | W               | 50                                    | 51                    |
|                              | Rated current                | A               | 0.21                                  | 0.21                  |
| Indoor fan motor             | Model                        |                 | YDK15-6P-4                            | YDK15-6P-4            |
|                              | Type                         |                 | AC MOTOR                              | AC MOTOR              |
|                              | Input                        | W               | 44                                    | 44                    |
|                              | Capacitor                    | uF              | 1.2uF/450V                            | 1.2uF/450V            |
|                              | Speed(h/m/l)                 | r/min           | 780/670/540                           | 780/675/560           |
| Indoor coil                  | Number of rows               |                 | 2                                     | 2                     |
|                              | Tube pitch(a)x row pitch(b)  | in.(mm)         | 13/16×17/32(21×13.37)                 | 13/16×17/32(21×13.37) |
|                              | Fin spacing                  | in.(mm)         | 1/16(1.5)                             | 1/16(1.5)             |
|                              | Fin type (code)              |                 | Hydrophilic aluminium                 |                       |
|                              | Tube outside dia. and type   | in.(mm)         | 1/4(Φ6.35)                            | 1/4(Φ6.35)            |
|                              |                              |                 | Inner groove tube                     |                       |
|                              | Coil length x height x width | in.(mm)         | 51-9/16×8-9/32×1-1/16(1310×210×26.74) |                       |
| Number of circuits           |                              | 4               | 4                                     |                       |
| Indoor air flow (H/M/L)      |                              | m3/h            | 496/359/263                           | 496/359/263           |
|                              |                              | CFM             | 292/211/155                           | 292/211/155           |
| Sound level (sound pressure) |                              | dB(A)           | 41.5/35.6/28.8                        | 41.5/35.6/28.8        |
| Indoor unit                  | Dimension (W× H×D)           | in.(mm)         | 22-7/16×10-15/64×22-7/16(570×260×570) |                       |
|                              | Packing (W×H ×D)             | in.(mm)         | 26-9/16×11-7/32×26-9/16(675×285×675)  |                       |
|                              | Net/Gross weight             | lbs.(kg)        | 39.7/48.5(18/22)                      | 39.7/48.5(18/22)      |
| Panel                        | Dimension (W× H× D)          | in.(mm)         | 25-15/32×1-31/32×25-15/32(647×50×647) |                       |
|                              | Packing (W× H× D)            | in.(mm)         | 28-5/32×4-27/32×28-5/32(715×113×715)  |                       |
|                              | Net/Gross weight             | lbs.(kg)        | 5.5/9.9(2.5/4.5)                      |                       |
| Refrigerant                  | Type                         |                 | R410a                                 | R410a                 |
| Throttle                     |                              |                 | Electronic expansion valve            |                       |
| Design pressure(H/L)         |                              | MPa             | 4.4/2.6                               | 4.4/2.6               |
| Refrigerant piping           | Liquid side                  | in.(mm)         | 1/4(Φ6.35)                            | 1/4(Φ6.35)            |
|                              | Gas side                     | in.(mm)         | 1/2(Φ12.7)                            | 1/2(Φ12.7)            |
| Connection wiring            | Power wiring                 | mm <sup>2</sup> | 3×2.0                                 | 3×2.0                 |
|                              | Signal wiring                | mm <sup>2</sup> | 3×0.5 (3-core shielded wire)          |                       |
| Drainage water pipe diameter |                              | in.(mm)         | OD 63/64 (Φ25)                        | OD 63/64 (Φ25)        |
| Controller                   |                              |                 | Wireless remote controller            |                       |

**Notes:**

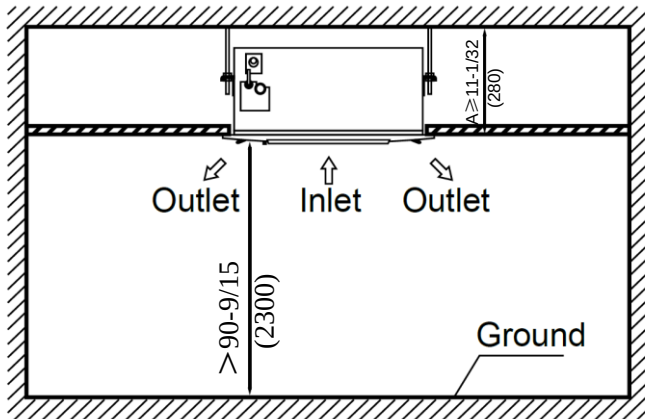
1. Nominal cooling capacities are based on the following conditions: return air temperature: 80.6°F(27°C)DB, 66.2°F(19°C)WB, and outdoor temperature: 95°F(35°C)DB, equivalent ref. piping: 26.25ft(8m) (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temperature: 68°F(20°C)DB, outdoor temperature: 44.6°F(7°C)DB, 42.8°F(6°C)WB, and equivalent ref. Piping: 26.25ft(8m)(horizontal)

### 3. Dimensions



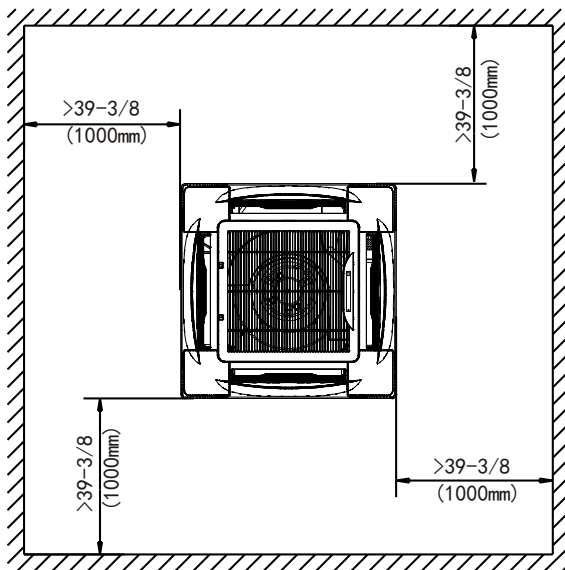
## 4. Service Spaces

- 1) There is enough room for installation and maintenance.
- 2) The ceiling is horizontal, and its structure can endure the weight of the indoor unit.
- 3) The outlet and the inlet are not impeded, and the influence of external air is the least.
- 4) The air flow can reach throughout the room.
- 5) The connecting pipe and drainpipe could be extracted out easily.
- 6) There is no direct radiation from heaters.



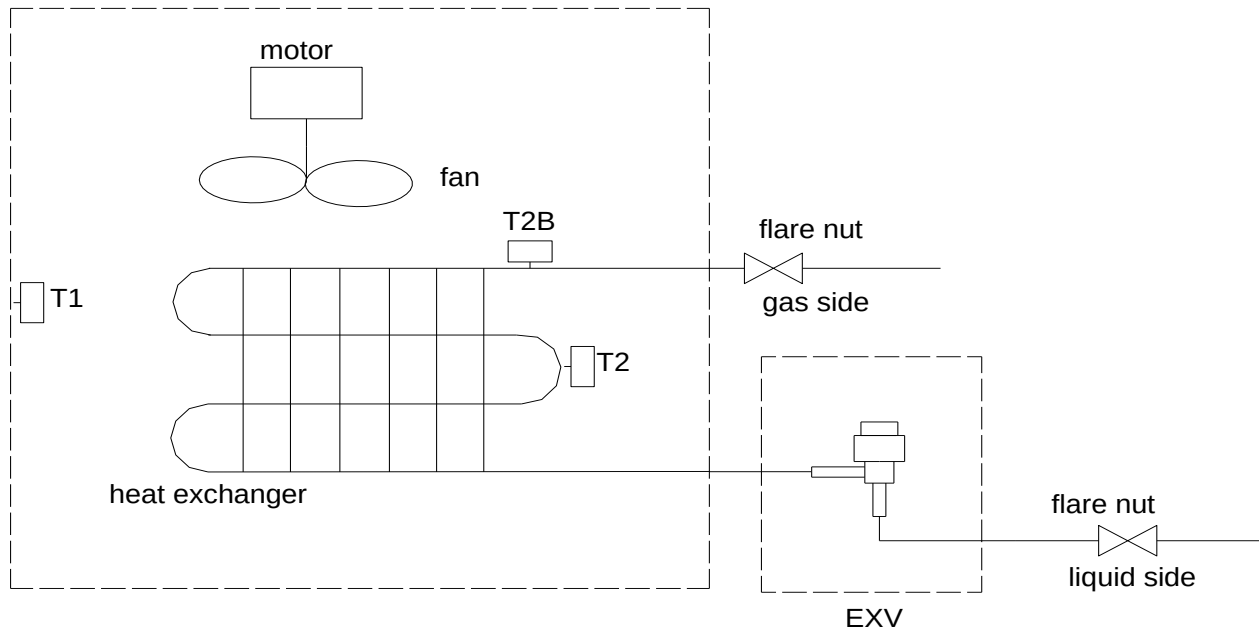
Unit: in(mm)

- Keep more than 7.55ft (2.3m) distance between the panel and ground of the room.



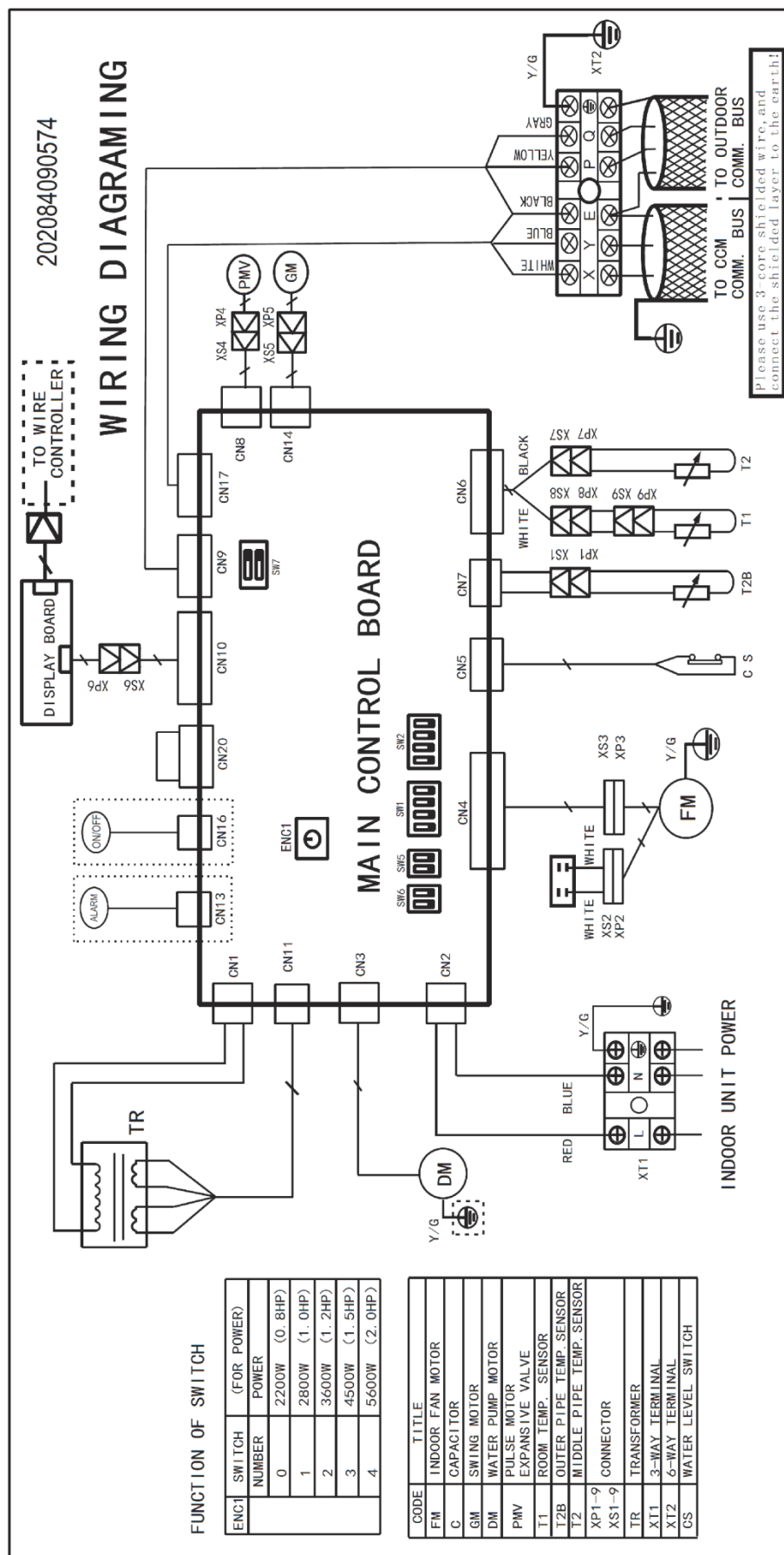
- Keep at least 3.28ft (1m) to the wall of each side.

## 5. Piping Diagrams (EXV beside)



## 6. Wiring Diagrams

MDV-D22Q4/VN1-A3 MDV-D28Q4/VN1-A3 MDV-D36Q4/VN1-A3 MDV-D45Q4/VN1-A3



## 7. Capacity Tables

### 7.1 Cooling

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

| Indoor<br>Unit size<br>(kW) | Outdoor<br>temperature<br>(°F DB) | Indoor temperature (°F WB/DB) |          |           |          |           |          |           |          |          |          |          |          |           |          |
|-----------------------------|-----------------------------------|-------------------------------|----------|-----------|----------|-----------|----------|-----------|----------|----------|----------|----------|----------|-----------|----------|
|                             |                                   | 57.2/68                       |          | 60.8/73.4 |          | 64.4/78.8 |          | 66.2/80.6 |          | 68/82.4  |          | 71.6/86  |          | 75.2/89.6 |          |
|                             |                                   | TC<br>kW                      | SC<br>kW | TC<br>kW  | SC<br>kW | TC<br>kW  | SC<br>kW | TC<br>kW  | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW  | SC<br>kW |
| 2.2                         | 50                                | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.6      | 1.7      | 2.9       | 1.7      |
|                             | 53.6                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.6      | 1.7      | 2.8       | 1.6      |
|                             | 57.2                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.6      | 1.7      | 2.8       | 1.6      |
|                             | 60.8                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.6      | 1.7      | 2.8       | 1.6      |
|                             | 64.4                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.6      | 1.7      | 2.8       | 1.6      |
|                             | 68                                | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.6      | 1.7      | 2.7       | 1.5      |
|                             | 69.8                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.6      | 1.7      | 2.7       | 1.5      |
|                             | 73.4                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.5      | 1.6      | 2.7       | 1.5      |
|                             | 77                                | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.5      | 1.6      | 2.6       | 1.5      |
|                             | 80.6                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.5      | 1.6      | 2.6       | 1.5      |
|                             | 84.2                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.4      | 1.5      | 2.5       | 1.5      |
|                             | 87.8                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.4      | 1.5      | 2.5       | 1.5      |
|                             | 91.4                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.4      | 1.5      | 2.4       | 1.5      |
|                             | 95                                | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.3      | 1.5      | 2.4       | 1.5      |
|                             | 98.6                              | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.3      | 1.7      | 2.3      | 1.5      | 2.3       | 1.5      |
|                             | 102.2                             | 1.5                           | 1.4      | 1.8       | 1.5      | 2.1       | 1.6      | 2.2       | 1.6      | 2.2      | 1.6      | 2.3      | 1.5      | 2.3       | 1.5      |
| 2.8                         | 50                                | 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      |
|                             | 53.6                              | 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      |
|                             | 57.2                              | 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      |
|                             | 60.8                              | 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      |
|                             | 64.4                              | 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      |
|                             | 68                                | 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      |
|                             | 69.8                              | 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      |
|                             | 73.4                              | 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      |
|                             | 77                                | 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      |
|                             | 80.6                              | 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      |
|                             | 84.2                              | 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      |
|                             | 87.8                              | 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      |
|                             | 91.4                              | 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      |
|                             | 95                                | 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      |
|                             | 98.6                              | 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      |
|                             | 102.2                             | 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                         | 50                                | 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      |
|                             | 53.6                              | 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      |
|                             | 57.2                              | 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      |
|                             | 60.8                              | 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      |
|                             | 64.4                              | 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      |
|                             | 68                                | 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      |
|                             | 69.8                              | 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      |
|                             | 73.4                              | 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      |
|                             | 77                                | 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      |
|                             | 80.6                              | 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      |
|                             | 84.2                              | 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      |
|                             | 87.8                              | 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      |
|                             | 91.4                              | 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      |
|                             | 95                                | 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      |
|                             | 98.6                              | 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      |
|                             | 102.2                             | 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      |
|                             | 107.6                             | 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      |

| Indoor<br>Unit size<br>(kW) | Outdoor<br>temperature<br>(°F DB) | Indoor temperature (°F WB/DB) |     |           |     |           |     |           |     |         |     |         |     |           |     |
|-----------------------------|-----------------------------------|-------------------------------|-----|-----------|-----|-----------|-----|-----------|-----|---------|-----|---------|-----|-----------|-----|
|                             |                                   | 57.2/68                       |     | 60.8/73.4 |     | 64.4/78.8 |     | 66.2/80.6 |     | 68/82.4 |     | 71.6/86 |     | 75.2/89.6 |     |
|                             |                                   | 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  |
| 3.6                         | 111.2                             | 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 |
|                             | 114.8                             | 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 |
| 4.5                         | 50                                | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.9       | 3.0 |
|                             | 53.6                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.9       | 3.0 |
|                             | 57.2                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.8       | 3.0 |
|                             | 60.8                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.6       | 2.9 |
|                             | 64.4                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.7       | 3.0 |
|                             | 68                                | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.7       | 3.0 |
|                             | 69.8                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.6       | 3.0 |
|                             | 73.4                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.5       | 3.0 |
|                             | 77                                | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.2     | 3.0 | 5.4       | 2.9 |
|                             | 80.6                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.1     | 3.0 | 5.2       | 2.8 |
|                             | 84.2                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.1     | 2.9 | 5.2       | 2.8 |
|                             | 87.8                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.0     | 2.9 | 5.1       | 2.7 |
|                             | 91.4                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 4.9     | 2.8 | 5.1       | 2.7 |
|                             | 95                                | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 4.8     | 2.8 | 5.0       | 2.7 |
|                             | 98.6                              | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 4.8     | 2.9 | 4.9       | 2.6 |
|                             | 102.2                             | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 2.8 | 4.8       | 2.6 |
|                             | 107.6                             | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 2.8 | 4.8       | 2.6 |
|                             | 111.2                             | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 2.8 | 4.8       | 2.6 |
|                             | 114.8                             | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 3.1 | 4.8       | 2.6 |



## 7.2 Heating

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

| Indoor Unit size (kW) | Outdoor temperature (°F) |       | Indoor temperature (°F DB) |      |      |      |      |      |
|-----------------------|--------------------------|-------|----------------------------|------|------|------|------|------|
|                       |                          |       | 60.8                       | 64.4 | 68   | 69.8 | 71.6 | 75.2 |
|                       |                          |       | TC                         | TC   | TC   | TC   | TC   | TC   |
|                       | WB                       | DB    | kW                         | kW   | kW   | kW   | kW   | kW   |
| 2.2                   | -4                       | -3.64 | 1.34                       | 1.34 | 1.34 | 1.34 | 1.34 | 1.34 |
|                       | -2.2                     | -1.84 | 1.44                       | 1.44 | 1.44 | 1.44 | 1.44 | 1.44 |
|                       | 1.4                      | 1.94  | 1.51                       | 1.51 | 1.51 | 1.51 | 1.51 | 1.51 |
|                       | 5                        | 5.54  | 1.56                       | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 |
|                       | 8.6                      | 9.32  | 1.66                       | 1.66 | 1.66 | 1.66 | 1.66 | 1.66 |
|                       | 12.2                     | 13.1  | 1.68                       | 1.70 | 1.70 | 1.70 | 1.70 | 1.70 |
|                       | 14                       | 14.9  | 1.75                       | 1.75 | 1.75 | 1.75 | 1.75 | 1.75 |
|                       | 15.62                    | 16.7  | 1.80                       | 1.80 | 1.80 | 1.80 | 1.80 | 1.80 |
|                       | 18.32                    | 19.4  | 1.82                       | 1.82 | 1.82 | 1.82 | 1.82 | 1.82 |
|                       | 21.92                    | 23    | 1.90                       | 1.90 | 1.90 | 1.90 | 1.90 | 1.90 |
|                       | 25.34                    | 26.6  | 1.99                       | 1.99 | 1.99 | 1.99 | 1.99 | 1.99 |
|                       | 30.74                    | 32    | 2.14                       | 2.14 | 2.14 | 2.14 | 2.14 | 2.02 |
|                       | 35.96                    | 37.4  | 2.26                       | 2.26 | 2.26 | 2.26 | 2.21 | 2.02 |
|                       | 39.38                    | 41    | 2.33                       | 2.33 | 2.33 | 2.33 | 2.21 | 2.02 |
|                       | 42.8                     | 44.6  | 2.40                       | 2.40 | 2.40 | 2.33 | 2.21 | 2.02 |
|                       | 46.22                    | 48.2  | 2.47                       | 2.47 | 2.40 | 2.33 | 2.21 | 2.02 |
| 2.8                   | -4                       | -3.64 | 1.79                       | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 |
|                       | -2.2                     | -1.84 | 1.92                       | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 |
|                       | 1.4                      | 1.94  | 2.02                       | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 |
|                       | 5                        | 5.54  | 2.02                       | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 |
|                       | 8.6                      | 9.32  | 2.14                       | 2.14 | 2.14 | 2.14 | 2.14 | 2.14 |
|                       | 12.2                     | 13.1  | 2.24                       | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 |
|                       | 14                       | 14.9  | 2.34                       | 2.34 | 2.34 | 2.34 | 2.34 | 2.34 |
|                       | 15.62                    | 16.7  | 2.40                       | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 |
|                       | 18.32                    | 19.4  | 2.43                       | 2.43 | 2.43 | 2.43 | 2.43 | 2.43 |
|                       | 21.92                    | 23    | 2.53                       | 2.53 | 2.53 | 2.53 | 2.53 | 2.53 |
|                       | 25.34                    | 26.6  | 2.66                       | 2.66 | 2.66 | 2.66 | 2.66 | 2.66 |
|                       | 30.74                    | 32    | 2.85                       | 2.85 | 2.85 | 2.85 | 2.85 | 2.69 |
|                       | 35.96                    | 37.4  | 3.01                       | 3.01 | 3.01 | 3.01 | 2.94 | 2.69 |
|                       | 39.38                    | 41    | 3.10                       | 3.10 | 3.10 | 3.10 | 2.94 | 2.69 |
|                       | 42.8                     | 44.6  | 3.20                       | 3.20 | 3.20 | 3.10 | 2.94 | 2.69 |
|                       | 46.22                    | 48.2  | 3.30                       | 3.30 | 3.20 | 3.10 | 2.94 | 2.69 |
| 3.6                   | -4                       | -3.64 | 2.24                       | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 |
|                       | -2.2                     | -1.84 | 2.40                       | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 |
|                       | 1.4                      | 1.94  | 2.52                       | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 |
|                       | 5                        | 5.54  | 2.60                       | 2.60 | 2.60 | 2.60 | 2.60 | 2.60 |
|                       | 8.6                      | 9.32  | 2.68                       | 2.68 | 2.68 | 2.68 | 2.68 | 2.68 |
|                       | 12.2                     | 13.1  | 2.80                       | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 |
|                       | 14                       | 14.9  | 2.92                       | 2.92 | 2.92 | 2.92 | 2.92 | 2.92 |
|                       | 15.62                    | 16.7  | 3.00                       | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|                       | 18.32                    | 19.4  | 3.04                       | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 |
|                       | 21.92                    | 23    | 3.16                       | 3.16 | 3.16 | 3.16 | 3.16 | 3.16 |
|                       | 25.34                    | 26.6  | 3.32                       | 3.32 | 3.32 | 3.32 | 3.32 | 3.32 |
|                       | 30.74                    | 32    | 3.56                       | 3.56 | 3.56 | 3.56 | 3.56 | 3.36 |
|                       | 35.96                    | 37.4  | 3.76                       | 3.76 | 3.76 | 3.76 | 3.68 | 3.36 |
|                       | 39.38                    | 41    | 3.88                       | 3.88 | 3.88 | 3.88 | 3.68 | 3.36 |
|                       | 42.8                     | 44.6  | 4.00                       | 4.00 | 4.00 | 3.88 | 3.68 | 3.36 |
|                       | 46.22                    | 48.2  | 4.12                       | 4.12 | 4.00 | 3.88 | 3.68 | 3.36 |
| 4.5                   | -4                       | -3.64 | 2.80                       | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 |

| Indoor Unit<br>size (kW) | Outdoor temperature<br>(°F) |       | Indoor temperature (°F DB) |      |      |      |      |      |
|--------------------------|-----------------------------|-------|----------------------------|------|------|------|------|------|
|                          |                             |       | 60.8                       | 64.4 | 68   | 69.8 | 71.6 | 75.2 |
|                          |                             |       | TC                         | TC   | TC   | TC   | TC   | TC   |
|                          | WB                          | DB    | kW                         | kW   | kW   | kW   | kW   | kW   |
| 4.5                      | -4                          | -3.64 | 2.80                       | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 |
|                          | -2.2                        | -1.84 | 3.00                       | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|                          | 1.4                         | 1.94  | 3.15                       | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 |
|                          | 5                           | 5.54  | 3.25                       | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 |
|                          | 8.6                         | 9.32  | 3.35                       | 3.35 | 3.35 | 3.35 | 3.35 | 3.35 |
|                          | 12.2                        | 13.1  | 3.50                       | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
|                          | 14                          | 14.9  | 3.65                       | 3.65 | 3.65 | 3.65 | 3.65 | 3.65 |
|                          | 15.62                       | 16.7  | 3.75                       | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 |
|                          | 18.32                       | 19.4  | 3.80                       | 3.80 | 3.80 | 3.80 | 3.80 | 3.80 |
|                          | 21.92                       | 23    | 3.95                       | 3.95 | 3.95 | 3.95 | 3.95 | 3.95 |
|                          | 25.34                       | 26.6  | 4.15                       | 4.15 | 4.15 | 4.15 | 4.15 | 4.15 |
|                          | 30.74                       | 32    | 4.45                       | 4.45 | 4.45 | 4.45 | 4.45 | 4.20 |
|                          | 35.96                       | 37.4  | 4.70                       | 4.70 | 4.70 | 4.70 | 4.60 | 4.20 |
|                          | 39.38                       | 41    | 4.85                       | 4.85 | 4.85 | 4.85 | 4.60 | 4.20 |
|                          | 42.8                        | 44.6  | 5.00                       | 5.00 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 46.22                       | 48.2  | 5.15                       | 5.15 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 49.64                       | 51.8  | 5.30                       | 5.30 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 53.24                       | 55.4  | 5.50                       | 5.40 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 56.66                       | 59    | 5.65                       | 5.40 | 5.00 | 4.85 | 4.60 | 4.20 |

## 8. Electrical Characteristics

| Model            | Indoor Unit |         |      |      | Power Supply | IFM   |       |
|------------------|-------------|---------|------|------|--------------|-------|-------|
|                  | Hz          | Voltage | Min. | Max. | MFA          | kW    | FLA   |
| MDV-D22Q4/VN1-A3 | 60          | 220-240 | 198  | 254  | 15           | 0.039 | 0.175 |
| MDV-D28Q4/VN1-A3 | 60          | 220-240 | 198  | 254  | 15           | 0.039 | 0.175 |
| MDV-D36Q4/VN1-A3 | 60          | 220-240 | 198  | 254  | 15           | 0.049 | 0.21  |
| MDV-D45Q4/VN1-A3 | 60          | 220-240 | 198  | 254  | 15           | 0.049 | 0.21  |

**Remark:**

MCA: Min. Current Amps. (A)

MFA: Max. Fuse Amps. (A)

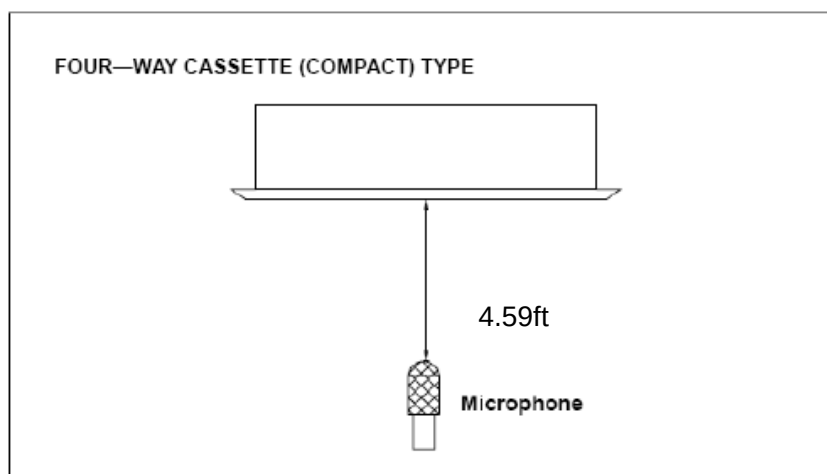
kW: Fan Motor Rated Output (kW)

FLA: Full Load Amps. (A)

IFM: Indoor Fan Motor

## 9. Sound Levels

### 9.1 Test condition



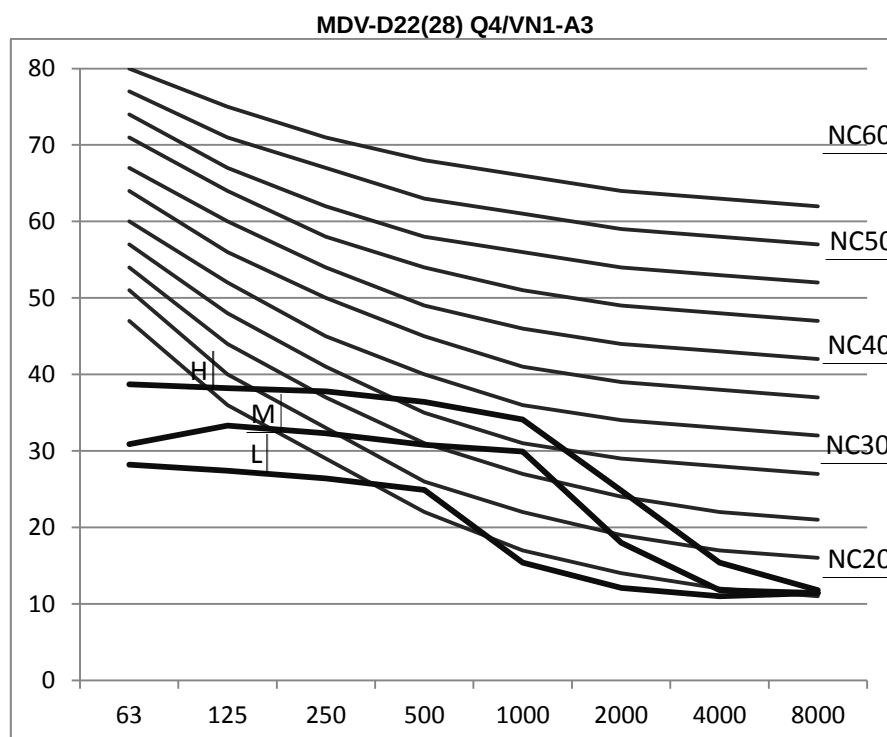
Note:

- 1, During actual operation, these values are normally somewhat higher as a result of ambient conditions.
- 2, Semi-anechoic chamber conversion value, measured at a point which is 4.59ft(1.4m) under the unit.

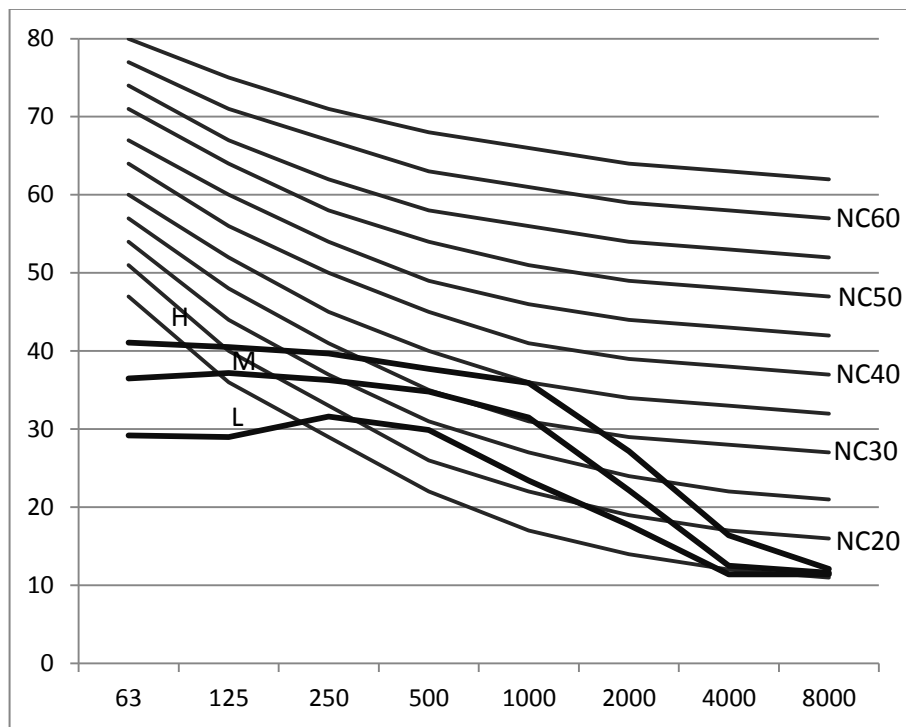
### 9.2 Test value

| Model            | Sound level dB(A) |      |      |
|------------------|-------------------|------|------|
|                  | H                 | M    | L    |
| MDV-D22Q4/VN1-A3 | 38.1              | 33.4 | 23.4 |
| MDV-D28Q4/VN1-A3 | 38.1              | 33.4 | 23.4 |
| MDV-D36Q4/VN1-A3 | 41.5              | 35.6 | 28.8 |
| MDV-D45Q4/VN1-A3 | 41.5              | 35.6 | 28.8 |

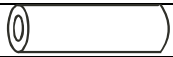
### 9.3 Octave Band Level



MDV-D36(45) Q4/VN1-A3



## 10. Accessories

| Name                                         | Quantity | Outline                                                                               |
|----------------------------------------------|----------|---------------------------------------------------------------------------------------|
| 1.Nut M10                                    | 10       |    |
| 2.Washer $\Phi$ 10                           | 10       |    |
| 3. Installation paper board                  | 1        |    |
| 4. Bolt M6                                   | /        | /                                                                                     |
| 5. Soundproof / insulation sheath            | 1        |    |
| 6. Flexible hose tube                        | 1        |    |
| 7. Out-let pipe sheath                       | /        | /                                                                                     |
| 8. Drain pipe clasp                          | 1        |    |
| 9. Tightening band                           | 5        |    |
| 10. Remote controller                        | 1        |    |
| 11. Frame                                    | 1        |    |
| 12. Mounting screw(ST2.9×10-C-H)             | 2        |    |
| 13. Alkaline dry batteries (AM4)             | 2        |  |
| 14. Installation manual                      | 1        | /                                                                                     |
| 15. Signal line                              | 1        | /                                                                                     |
| 16. Connective pipe for restriction assembly | 1        | /                                                                                     |

## Four-way Cassette

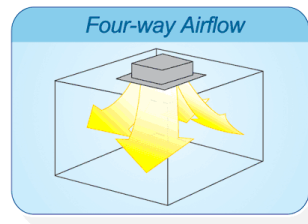
|                                     |    |
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| 1. Features .....                   | 58 |
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# 1. Features

## (1) Low operation noise

- Streamline plate ensures quietness
- Creates natural and comfortable environment

## (2) Efficient cooling——Equal, fast and wide range cooling

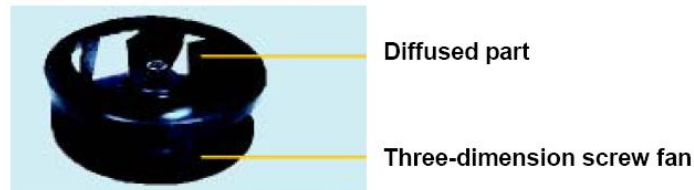


## (3) Excellent performance. Higher heat-exchanging efficiency and lower noise.

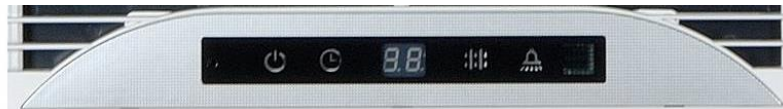
The optimal evaporator & sufficient airflow volume guarantees the excellent capacity

## (4) The adoption of the most advanced 3-dimensional centrifugal fan

- Reduces the air resistance passing through
- Smooths the air flow
- Makes air speed distribution to the heat exchange uniform



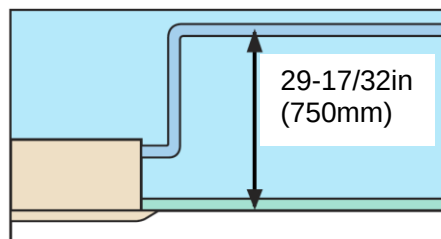
## (5) Adding digital tube displaying on the display board. LED can display the Error Code to make the malfunction checking easier.



## (6) Fresh air makes life healthier and more comfortable.



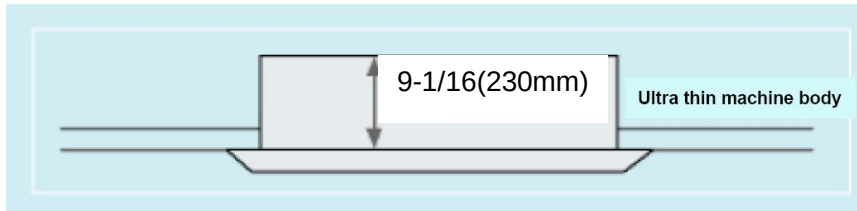
## (7) Drainage pump can take up the condenser water to 29-17/32in(750mm).



## (8) Ultra-thin machine body to easy installation and maintenance:

9600Btu/h~27300Btu/h(2.8Kw~8.0Kw):9-1/16(230mm),  
30700Btu/h~47800But/h(9.0Kw~14Kw):11-13/16(300mm).





**(9) Different color panels for choose: White、 Gray、 Blue、 Black**



**(White) Standard**



**(Black) Optional**



**(Gray) Optional**



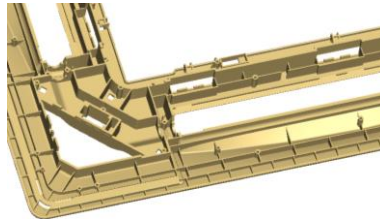
**(Blue) Optional**

\*The optional can be customized if it is more than 500 units.

**(10) Swing angle of louver**

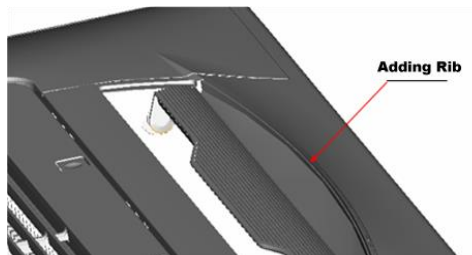
- 1) Add one more swing motor, one motor driving two louvers. Controlling the interspace of each part, minimizing the angle loss.
- 2) The swing angle of the first louver are 40~42 degrees and the second louver are 37~38 degrees. New evaporator and inner configuration designed can acquire high heat-exchanger effect.

**(11) More strengthening rib design around the panel, preventing the distortion for the panel.**

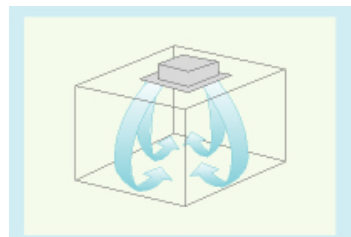


**(12) New outlet frame design to make the phenomena of coagulation great improvement: prevents the condensing water from damaging the air guide strip.**

**(13) Adding rib on the panel of fan outlet, can avoid the air outlet direct flow to people.**



**(14) 4 speeds available, optional super high fan speed design is suitable for the large building over 3m high.**



**(15) Optimal design, smaller Control Box, space saving and convenient for wiring.**

Using fire resistance galvanized steel for E-box material. Metal box make the control part more stable and prevent damaging.

## 2. Specifications

| Model                      |                              |                   | MDV-D28Q4/N1-D                          | MDV-D36Q4/N1-D        | MDV-D45Q4/N1-D                                |
|----------------------------|------------------------------|-------------------|-----------------------------------------|-----------------------|-----------------------------------------------|
| Power supply               |                              | V-Ph-Hz           | 220-240V, 1Ph, 60Hz                     |                       |                                               |
| Cooling                    | Capacity                     | kW                | 2.8                                     | 3.6                   | 4.5                                           |
|                            |                              | Btu/h             | 9600                                    | 12300                 | 15400                                         |
|                            | Input                        | W                 | 90                                      | 90                    | 90                                            |
|                            | Rated current                | A                 | 0.4                                     | 0.4                   | 0.4                                           |
| Heating                    | Capacity                     | kW                | 3.2                                     | 4.0                   | 5.0                                           |
|                            |                              | Btu/h             | 10900                                   | 13600                 | 17100                                         |
|                            | Input                        | W                 | 90                                      | 90                    | 90                                            |
|                            | Rated current                | A                 | 0.4                                     | 0.4                   | 0.4                                           |
| Indoor fan motor           | Model                        |                   | YDK60-6F-4                              | YDK60-6F-4            | YDK60-6F-4                                    |
|                            | Type                         |                   | AC motor                                | AC motor              | AC motor                                      |
|                            | Brand                        |                   | Welling                                 | Welling               | Welling                                       |
|                            | Input                        | W                 | 80.3                                    | 80.3                  | 95.1                                          |
|                            | Capacitor                    | uF                | 2.5uF/450V                              | 2.5uF/450V            | 3.5uF/450V                                    |
|                            | Speed (h/m/l)                | r/min             | 558/497/431                             | 558/497/431           | 637/656/487                                   |
| Indoor coil                | Number of rows               |                   | 1                                       | 1                     | 2                                             |
|                            | Tube pitch(a)× row pitch(b)  | in.(mm)           | 13/16×17/32(21×13.37)                   | 13/16×17/32(21×13.37) | 13/16×17/32(21×13.37)                         |
|                            | Fin spacing                  | in.(mm)           | 1/16(1.5)                               | 1/16(1.5)             | 1/16(1.5)                                     |
|                            | Fin type                     |                   | Hydrophilic Aluminum                    | Hydrophilic Aluminum  | Hydrophilic Aluminum                          |
|                            | Tube outside dia. and type   | in.(mm)           | 1/4(Φ6.35),Inner groove Tube            |                       |                                               |
|                            | Coil length × height × width | in.(mm)           | 75-63/64×6-5/8 × 17/32(1930×168×13.37)  |                       | 77-13/64 × 6-5/8 × 1-1/16<br>(1961×168×26.74) |
|                            | Number of circuits           |                   | 4                                       | 4                     | 8                                             |
| Indoor air flow (SH/H/M/L) |                              | m <sup>3</sup> /h | 1155/847/766/640                        | 1155/847/766/640      | 1207/864/755/658                              |
|                            |                              | CFM               | 680/499/451/377                         | 680/499/451/377       | 710/509/444/387                               |
| Indoor noise level (H/M/L) |                              | dB(A)             | 42/38/35                                | 42/38/35              | 42/38/35                                      |
| Indoor unit                | Dimension (W×H×D)            | in.(mm)           | 35-19/32×9-1/16×33-5/64(904×230×840)    |                       |                                               |
|                            | Packing (W × H × D)          | in.(mm)           | 37-19/32×10-15/64×37-19/32(955×260×955) |                       |                                               |
|                            | Net/Gross weight             | lbs.(kg)          | 53 /61.7(24/28)                         | 53 /61.7(24/28)       | 57.3 /66.2(26/30)                             |
| Panel                      | Dimension (W×H×D)            | in.(mm)           | 37-13/32×2-9/64×37-13/32(950×54.5×950)  |                       |                                               |
|                            | Packing (W × H × D)          | in.(mm)           | 40-3/4×3-35/64×40-3/4(1035×90×1035)     |                       |                                               |
|                            | Net/Gross weight             | lbs.(kg)          | 11.0/17.6(5/8)                          | 11.0/17.6(5/8)        | 11.0/17.6(5/8)                                |
| Refrigerant type           |                              |                   | R410A                                   | R410A                 | R410A                                         |
| Throttle                   |                              |                   | Electronic expansion valve              |                       |                                               |
| Design pressure(H/L)       |                              | MPa               | 4.4/2.6                                 | 4.4/2.6               | 4.4/2.6                                       |
| Refrigerant piping         | Liquid side                  | in.(mm)           | 1/4(Φ6.35)                              | 1/4(Φ6.35)            | 1/4(Φ6.35)                                    |
|                            | Gas side                     | in.(mm)           | 1/2(Φ12.7)                              | 1/2(Φ12.7)            | 1/2(Φ12.7)                                    |
| Connecting wiring          | Power wiring                 | mm <sup>2</sup>   | 3×2.5(L≤20m); 3×3.5(L≤50m)              |                       |                                               |
|                            | Signal wiring                | mm <sup>2</sup>   | 3×0.75                                  | 3×0.75                | 3×0.75                                        |
| Drainage water pipe dia.   |                              | in.(mm)           | OD1-17/64(Φ32)                          |                       |                                               |
| Controller                 |                              |                   | Wireless remote controller              |                       |                                               |

### Notes:

- Nominal cooling capacities are based on the following conditions: return air temperature: 80.6°F(27°C)DB,66.2°F(19°C)WB, and outdoor temperature: 95°F(35°C)DB, equivalent ref. piping: 26.25ft(8m) (horizontal)
- Nominal heating capacities are based on the following conditions: return air temperature: 68°F(20°C)DB, outdoor temperature: 44.6°F(7°C)DB,42.8°F(6°C)WB, and equivalent ref. Piping: 26.25ft(8m)(horizontal)

| Model                        |                              |           | MDV-D56Q4/N1-D                          | MDV-D71Q4/N1-D        | MDV-D80Q4/N1-D        |
|------------------------------|------------------------------|-----------|-----------------------------------------|-----------------------|-----------------------|
| Power supply                 |                              | V- Ph-Hz  | 220-240V, 1Ph, 60Hz                     |                       |                       |
| Cooling                      | Capacity                     | kW        | 5.6                                     | 7.1                   | 8.0                   |
|                              |                              | Btu/h     | 19100                                   | 24200                 | 27300                 |
|                              | Input                        | W         | 90                                      | 115                   | 115                   |
|                              | Rated current                | A         | 0.4                                     | 0.5                   | 0.5                   |
| 1Heating                     | Capacity                     | kW        | 6.3                                     | 8.0                   | 9.0                   |
|                              |                              | Btu/h     | 21500                                   | 27300                 | 30700                 |
|                              | Input                        | W         | 90                                      | 115                   | 115                   |
|                              | Rated current                | A         | 0.4                                     | 0.5                   | 0.5                   |
| Indoor fan motor             | Model                        |           | YDK60-6F-4                              | YDK80-6F-1            | YDK80-6F-1            |
|                              | Type                         |           | AC motor                                | AC motor              | AC motor              |
|                              | Brand                        |           | Welling                                 | Welling               | Welling               |
|                              | Input                        | W         | 95.1                                    | 113.3                 | 113.3                 |
|                              | Capacitor                    | uF        | 3.5uF/450V                              | 3.5uF/450V            | 3.5uF/450V            |
|                              | Speed (h/m/l)                | r/min     | 637/656/487                             | 781/670/526           | 781/670/526           |
| Indoor coil                  | Number of rows               |           | 2                                       | 2                     | 2                     |
|                              | Tube pitch(a)× row pitch(b)  | in.(mm)   | 13/16×17/32(21×13.37)                   | 13/16×17/32(21×13.37) | 13/16×17/32(21×13.37) |
|                              | Fin spacing                  | in.(mm)   | 1/16(1.5)                               | 1/16(1.5)             | 1/16(1.5)             |
|                              | Fin type                     |           | Hydrophilic Aluminum                    | Hydrophilic Aluminum  | Hydrophilic Aluminum  |
|                              | Tube outside dia. and type   | in.(mm)   | 1/4(Φ6.35), Inner groove Tube           |                       |                       |
|                              | Coil length × height × width | in.(mm)   | 77-13/64×6-5/8×1-1/16(1961×168×26.74)   |                       |                       |
|                              | Number of circuits           |           | 8                                       | 8                     | 8                     |
| Indoor air flow (H/M/L)      |                              | m3/h      | 1207/864/755/658                        | 1327/1157/955/749     | 1357/1236/973/729     |
|                              |                              | CFM       | 710/509/444/387                         | 781/681/562/441       | 799/727/573/429       |
| Indoor noise level (H/M/L)   |                              | dB(A)     | 42/38/35                                | 45/42/39              | 45/42/39              |
| Indoor unit                  | Dimension (W×H×D)            | in.(mm)   | 35-19/32×9-1/16×33-5/64(904×230×840)    |                       |                       |
|                              | Packing (W×H×D)              | in.(mm)   | 37-19/32×10-15/64×37-19/32(955×260×955) |                       |                       |
|                              | Net/Gross weight             | lbs. (kg) | 57.3 /66.2(26/30)                       | 57.3 /66.2(26/30)     | 57.3 /66.2(26/30)     |
| Panel                        | Dimension (W×H×D)            | in.(mm)   | 37-13/32×2-9/64×37-13/32(950×54.5×950)  |                       |                       |
|                              | Packing (W×H×D)              | in.(mm)   | 40-3/4×3-35/64×40-3/4(1035×90×1035)     |                       |                       |
|                              | Net/Gross weight             | lbs. (kg) | 11.0/17.6(5/8)                          | 11.0/17.6(5/8)        | 11.0/17.6(5/8)        |
| Refrigerant type             |                              |           | R410A                                   | R410A                 | R410A                 |
| Throttle                     |                              |           | Electronic expansion valve              |                       |                       |
| Design pressure(H/L)         |                              | MPa       | 4.4/2.6                                 | 4.4/2.6               | 4.4/2.6               |
| Refrigerant piping           | Liquid side                  | in.(mm)   | 3/8(Φ9.53)                              | 3/8(Φ9.53)            | 3/8(Φ9.53)            |
|                              | Gas side                     | in.(mm)   | 5/8(Φ15.9)                              | 5/8(Φ15.9)            | 5/8(Φ15.9)            |
| Connecting wiring            | Power wiring                 | mm2       | 3×2.5(L≤20m); 3×3.5(L≤50m)              |                       |                       |
|                              | Signal wiring                | mm2       | 3×0.75                                  | 3×0.75                | 3×0.75                |
| Drainage water pipe diameter |                              | in.(mm)   | OD1-17/64(Φ32)                          | OD1-17/64(Φ32)        | OD1-17/64(Φ32)        |
| Controller                   |                              |           | Wireless remote controller              |                       |                       |

**Notes:**

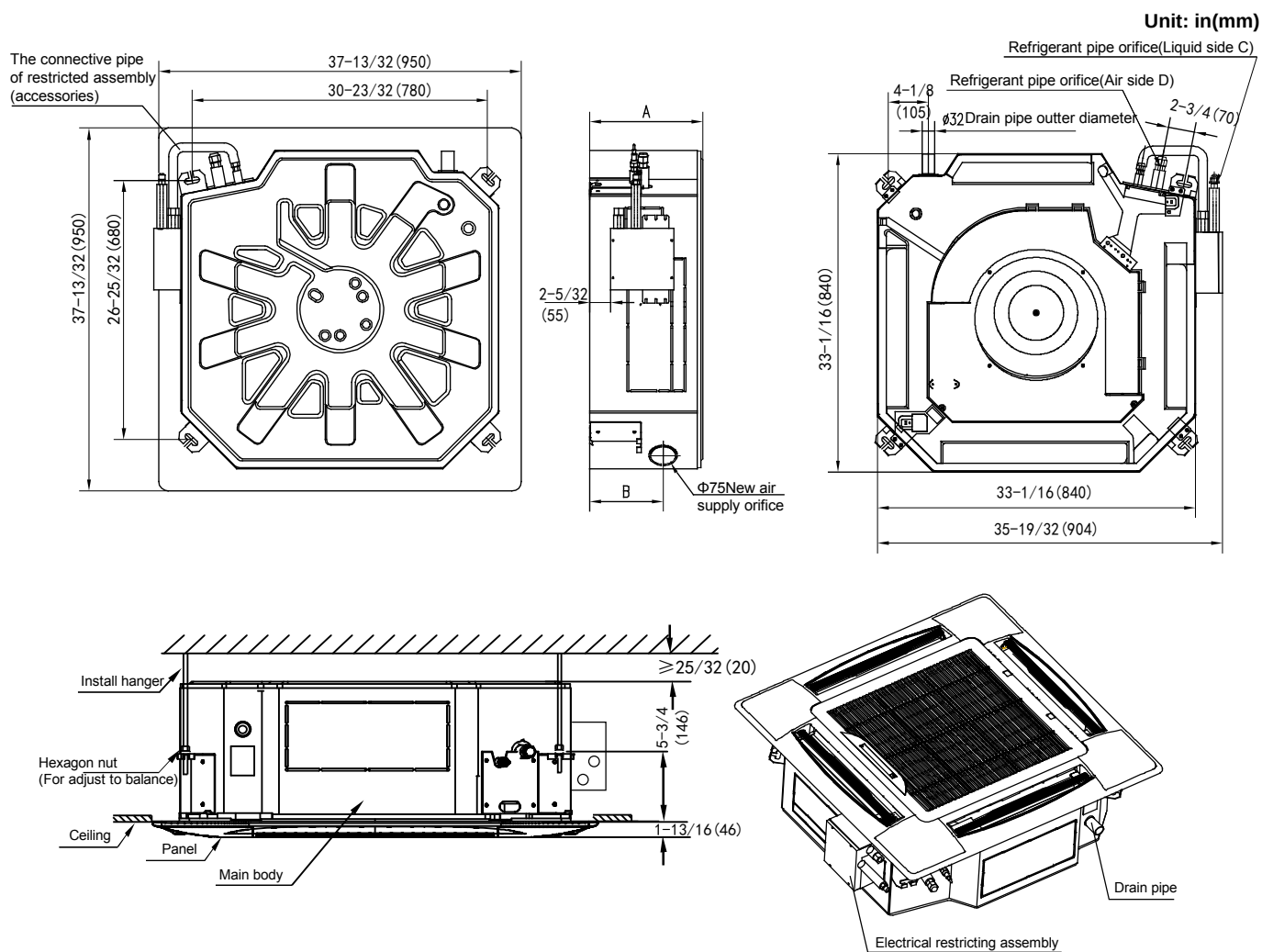
1. Nominal cooling capacities are based on the following conditions: return air temperature: 80.6°F(27°C)DB,66.2°F(19°C)WB, and outdoor temperature: 95°F(35°C)DB, equivalent ref. piping: 26.25ft(8m) (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temperature: 68°F(20°C)DB, outdoor temperature: 44.6°F(7°C)DB,42.8°F(6°C)WB, and equivalent ref. Piping: 26.25ft(8m)(horizontal)

| Model                        |                              |          | MDV-D90Q4/N1-D                          | MDV-D100Q4/N1-D     | MDV-D112Q4/N1-D       | MDV-D140Q4/N1-D     |
|------------------------------|------------------------------|----------|-----------------------------------------|---------------------|-----------------------|---------------------|
| Power supply                 |                              | V-Ph, Hz | 220-240V, 1Ph, 60Hz                     |                     |                       |                     |
| Cooling                      | Capacity                     | kW       | 9.0                                     | 10.0                | 11.2                  | 14.0                |
|                              |                              | Btu/h    | 30700                                   | 34100               | 38200                 | 47800               |
|                              | Input                        | W        | 160                                     | 160                 | 160                   | 180                 |
|                              | Rated current                | A        | 0.7                                     | 0.7                 | 0.7                   | 0.8                 |
| Heating                      | Capacity                     | kW       | 10.0                                    | 11.0                | 12.5                  | 15.0                |
|                              |                              | Btu/h    | 34100                                   | 37500               | 42700                 | 51200               |
|                              | Input                        | W        | 160                                     | 160                 | 160                   | 180                 |
|                              | Rated current                | A        | 0.7                                     | 0.7                 | 0.7                   | 0.8                 |
| Indoor fan motor             | Model                        |          | YDK90-6F                                | YDK90-6F            | YDK90-6F              | YDK100-6P           |
|                              | Type                         |          | AC motor                                | AC motor            | AC motor              | AC motor            |
|                              | Brand                        |          | Welling                                 | Welling             | Welling               | Welling             |
|                              | Input                        | W        | 182                                     | 182                 | 182                   | 218                 |
|                              | Capacitor                    | uF       | 3.5uF/450V                              | 3.5uF/450V          | 3.5uF/450V            | 4uF/450V            |
|                              | Speed (h/m/l)                | r/min    | 750/610/500                             | 750/610/500         | 750/610/500           | 750/605/510         |
| Indoor coil                  | Number of rows               |          | 2                                       | 2                   | 2                     | 3                   |
|                              | Tube pitch(a)× row pitch(b)  | in.(mm)  | 13/16×17/32(21×13.37)                   |                     | 13/16×17/32(21×13.37) |                     |
|                              | Fin spacing                  | in.(mm)  | 1/16(1.5)                               | 1/16(1.5)           | 1/16(1.5)             | 1/16(1.5)           |
|                              | Fin type                     |          | Hydrophilic Aluminum                    |                     |                       |                     |
|                              | Tube outside dia. and type   | in.(mm)  | 1/4(Φ6.35), Inner groove Tube           |                     |                       |                     |
|                              | Coil length × height × width | in.(mm)  | 76-31/32×9-29-32×1-1/16(1955×252×26.74) |                     |                       |                     |
|                              | Number of circuits           |          | 8                                       | 8                   | 8                     | 12                  |
| Indoor air flow (H/M/L)      |                              | m3/h     | 1795/1590/1300/1090                     | 1795/1590/1300/1090 | 1795/1590/1300/1090   | 1881/1678/1358/1115 |
|                              |                              | CFM      | 1057/936/765/642                        | 1057/936/765/642    | 1057/936/765/642      | 1107/988/799/656    |
| Indoor noise level (H/M/L)   |                              | dB(A)    | 48/45/43                                | 48/45/43            | 48/45/43              | 50/47/44            |
| Indoor unit                  | Dimension (W×H×D)            | in.(mm)  | 35-19/32×11-13/16×33-5/64(904×300×840)  |                     |                       |                     |
|                              | Packing (W×H×D)              | in.(mm)  | 37-19/32×11-13/16×37-19/32(955×330×955) |                     |                       |                     |
|                              | Net/Gross weight             | lbs.(kg) | 70.6/81.6(32/37)                        | 70.6/81.6(32/37)    | 70.6/81.6(32/37)      | 70.6/81.6(32/37)    |
| Panel                        | Dimension (W×H×D)            | in.(mm)  | 37-13/32×2-9/64×37-13/32(950×54.5×950)  |                     |                       |                     |
|                              | Packing (W×H×D)              | in.(mm)  | 40-3/4×3-35/64×40-3/4(1035×90×1035)     |                     |                       |                     |
|                              | Net/Gross weight             | lbs.(kg) | 11.0/17.6(5/8)                          | 11.0/17.6(5/8)      | 11.0/17.6(5/8)        | 11.0/17.6(5/8)      |
| Refrigerant type             |                              |          | R410A                                   |                     |                       |                     |
| Throttle                     |                              |          | Electronic expansion valve              |                     |                       |                     |
| Design pressure(H/L)         |                              | MPa      | 4.4/2.6                                 | 4.4/2.6             | 4.4/2.6               | 4.4/2.6             |
| Refrigerant piping           | Liquid side                  | in.(mm)  | 3/8(Φ9.53)                              | 3/8(Φ9.53)          | 3/8(Φ9.53)            | 3/8(Φ9.53)          |
|                              | Gas side                     | in.(mm)  | 5/8(Φ15.9)                              | 5/8(Φ15.9)          | 5/8(Φ15.9)            | 5/8(Φ15.9)          |
| Connecting wiring            | Power wiring                 | mm2      | 3×2.5(L≤20m); 3×3.5(L≤50m)              |                     |                       |                     |
|                              | Signal wiring                | mm2      | 3×0.75                                  | 3×0.75              | 3×0.75                | 3×0.75              |
| Drainage water pipe diameter |                              | in.(mm)  | OD1-17/64(Φ32)                          | OD1-17/64(Φ32)      | OD1-17/64(Φ32)        | OD1-17/64(Φ32)      |
| Controller                   |                              |          | Wireless remote controller              |                     |                       |                     |

**Notes:**

- Nominal cooling capacities are based on the following conditions: return air temperature: 80.6°F(27°C)DB, 66.2°F(19°C)WB, and outdoor temperature: 95°F(35°C)DB, equivalent ref. piping: 26.25ft(8m) (horizontal)
- Nominal heating capacities are based on the following conditions: return air temperature: 68°F(20°C)DB, outdoor temperature: 44.6°F(7°C)DB, 42.8°F(6°C)WB, and equivalent ref. Piping: 26.25ft(8m)(horizontal)

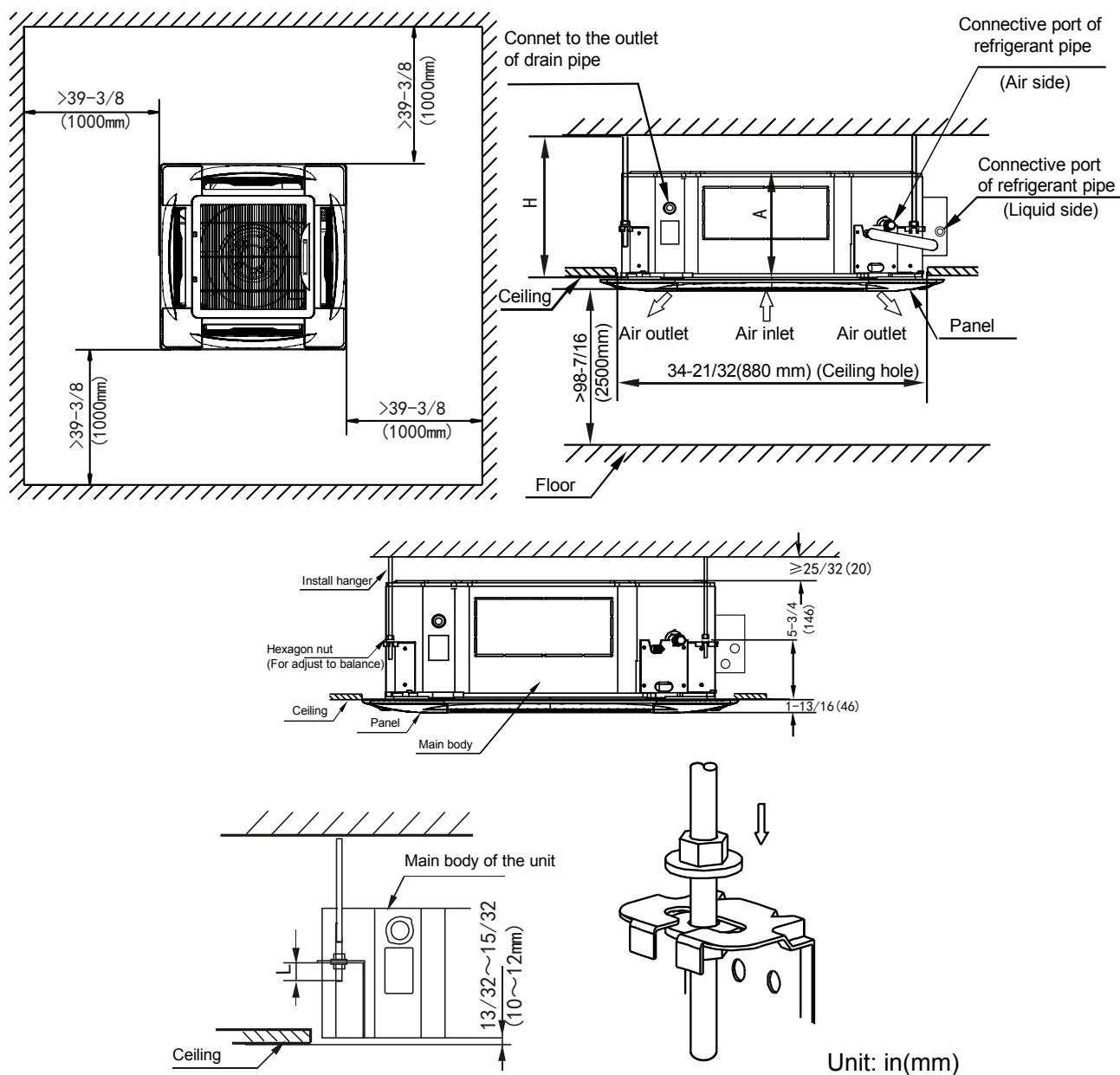
### 3. Dimensions



| Indoor unit model                | A<br>in(mm)   | B<br>in(mm)  | C<br>in(mm) | D<br>in(mm) |
|----------------------------------|---------------|--------------|-------------|-------------|
| MDV-D28Q4/N1-D ~ MDV-D45Q4/N1-D  | 9-1/16(230)   | 6-11/16(170) | 1/4(Φ6.35)  | 1/2(Φ12.7)  |
| MDV-D56Q4/N1-D ~ MDV-D80Q4/N1-D  | 9-1/16(230)   | 6-11/16(170) | 3/8(Φ9.53)  | 5/8(Φ15.9)  |
| MDV-D90Q4/N1-D ~ MDV-D140Q4/N1-D | 11-13/16(300) | 7-15/32(190) | 3/8(Φ9.53)  | 5/8(Φ15.9)  |

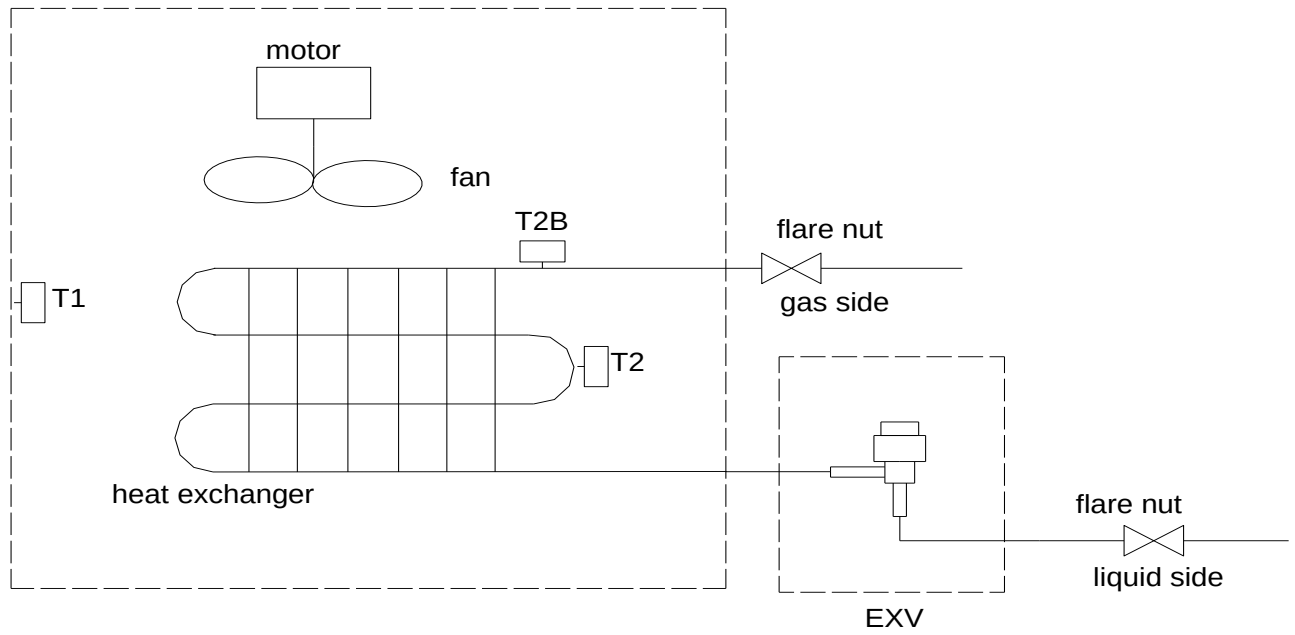
## 4. Service Spaces

- 1) There is enough room for installation and maintenance.
- 2) The ceiling is horizontal, and its structure can endure the weight of the indoor unit.
- 3) The outlet and the inlet are not impeded, and the influence of external air is the least.
- 4) The air flow can reach throughout the room.
- 5) The connecting pipe and drainpipe could be extracted out easily.
- 6) There is no direct radiation from heaters.



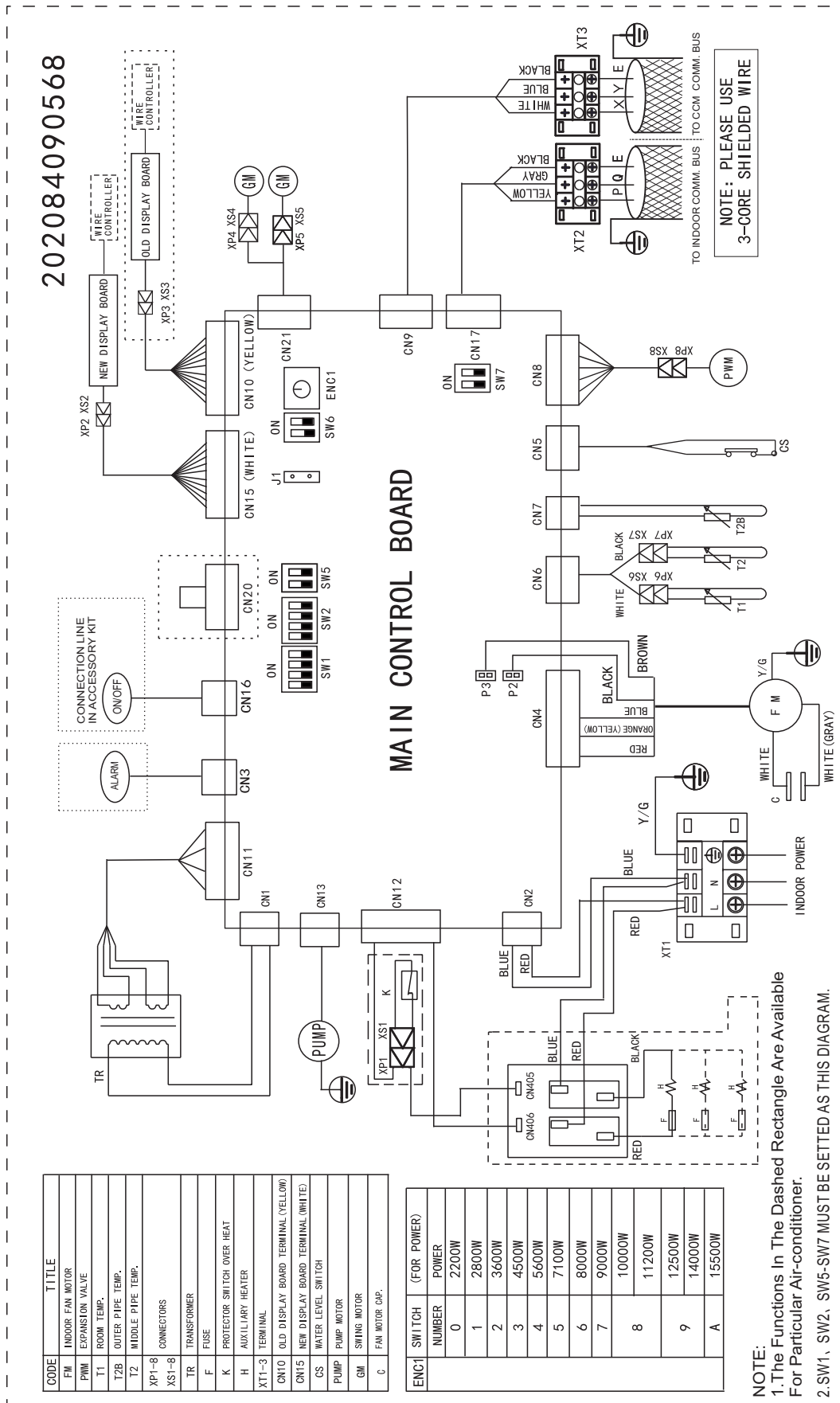
| Indoor unit                     | A<br>in(mm)   | H<br>in(mm)                |
|---------------------------------|---------------|----------------------------|
| MDV-D28Q4/N1-D~ MDV-D80Q4/N1-D  | 9-1/16(230)   | $\geq 10\frac{1}{4}$ (260) |
| MDV-D90Q4/N1-D~ MDV-D140Q4/N1-D | 11-13/16(300) | $\geq 13$ (330)            |

## 5. Piping Diagrams



## 6. Wiring Diagrams

MDV-D28Q4/N1-D MDV-D36Q4/N1-D MDV-D45Q4/N1-D MDV-D56Q4/N1-D MDV-D71Q4/N1-D  
MDV-D80Q4/N1-D MDV-D90Q4/N1-D MDV-D100Q4/N1-D MDV-D112Q4/N1-D MDV-D140Q4/N1-D





## 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 (°F DB) | Indoor temperature (°F WB/DB) |     |           |     |           |     |           |     |         |     |         |     |           |     |
|-----------------------|-----------------------------|-------------------------------|-----|-----------|-----|-----------|-----|-----------|-----|---------|-----|---------|-----|-----------|-----|
|                       |                             | 57.2/68                       |     | 60.8/73.4 |     | 64.4/78.8 |     | 66.2/80.6 |     | 68/82.4 |     | 71.6/86 |     | 75.2/89.6 |     |
|                       |                             | 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                   | 50                          | 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 |
|                       | 53.6                        | 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 |
|                       | 57.2                        | 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 |
|                       | 60.8                        | 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 |
|                       | 64.4                        | 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 |
|                       | 68                          | 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 |
|                       | 69.8                        | 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 |
|                       | 73.4                        | 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 |
|                       | 77                          | 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 |
|                       | 80.6                        | 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 |
|                       | 84.2                        | 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 |
|                       | 87.8                        | 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 |
|                       | 91.4                        | 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 |
|                       | 95                          | 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 |
|                       | 98.6                        | 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 |
|                       | 102.2                       | 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 |
|                       | 107.6                       | 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 |
|                       | 111.2                       | 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 |
|                       | 114.8                       | 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                   | 50                          | 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 |
|                       | 53.6                        | 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 |
|                       | 57.2                        | 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 |
|                       | 60.8                        | 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 |
|                       | 64.4                        | 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 |
|                       | 68                          | 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 |
|                       | 69.8                        | 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 |
|                       | 73.4                        | 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 |
|                       | 77                          | 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 |
|                       | 80.6                        | 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 |
|                       | 84.2                        | 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 |
|                       | 87.8                        | 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 |
|                       | 91.4                        | 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 |
|                       | 95                          | 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 |
|                       | 98.6                        | 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 |
|                       | 102.2                       | 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 |
|                       | 107.6                       | 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 |
|                       | 111.2                       | 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 |
|                       | 114.8                       | 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 |
| 4.5                   | 50                          | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.9       | 3.0 |
|                       | 53.6                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.9       | 3.0 |
|                       | 57.2                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.8       | 3.0 |
|                       | 60.8                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.6       | 2.9 |
|                       | 64.4                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.7       | 3.0 |

| Indoor Unit size (kW) | Outdoor temperature (°F DB) | Indoor temperature (°F WB/DB) |     |           |     |           |     |           |     |         |     |         |     |           |     |
|-----------------------|-----------------------------|-------------------------------|-----|-----------|-----|-----------|-----|-----------|-----|---------|-----|---------|-----|-----------|-----|
|                       |                             | 57.2/68                       |     | 60.8/73.4 |     | 64.4/78.8 |     | 66.2/80.6 |     | 68/82.4 |     | 71.6/86 |     | 75.2/89.6 |     |
|                       |                             | 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  |
| 4.5                   | 68                          | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.7       | 3.0 |
|                       | 69.8                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.6       | 3.0 |
|                       | 73.4                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.3     | 3.4 | 5.5       | 3.0 |
|                       | 77                          | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.2     | 3.0 | 5.4       | 2.9 |
|                       | 80.6                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.1     | 3.0 | 5.2       | 2.8 |
|                       | 84.2                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.1     | 2.9 | 5.2       | 2.8 |
|                       | 87.8                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 5.0     | 2.9 | 5.1       | 2.7 |
|                       | 91.4                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 4.9     | 2.8 | 5.1       | 2.7 |
|                       | 95                          | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 4.8     | 2.8 | 5.0       | 2.7 |
|                       | 98.6                        | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.8     | 3.0 | 4.8     | 2.9 | 4.9       | 2.6 |
|                       | 102.2                       | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 2.8 | 4.8       | 2.6 |
|                       | 107.6                       | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 2.8 | 4.8       | 2.6 |
|                       | 111.2                       | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 2.8 | 4.8       | 2.6 |
|                       | 114.8                       | 3.1                           | 2.4 | 3.7       | 2.6 | 4.2       | 2.8 | 4.5       | 2.9 | 4.6     | 2.8 | 4.7     | 3.1 | 4.8       | 2.6 |
| 5.6                   | 50                          | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 7.3       | 3.5 |
|                       | 53.6                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 7.2       | 3.5 |
|                       | 57.2                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 7.1       | 3.5 |
|                       | 60.8                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 7.0       | 3.4 |
|                       | 64.4                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 6.8       | 3.4 |
|                       | 68                          | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 6.7       | 3.3 |
|                       | 69.8                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 6.6       | 3.3 |
|                       | 73.4                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 6.6       | 3.3 |
|                       | 77                          | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.6     | 3.6 | 6.5       | 3.2 |
|                       | 80.6                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.4     | 3.5 | 6.4       | 3.2 |
|                       | 84.2                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.3     | 3.5 | 6.4       | 3.3 |
|                       | 87.8                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.2     | 3.4 | 6.2       | 3.2 |
|                       | 91.4                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.2     | 3.4 | 6.2       | 3.2 |
|                       | 95                          | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 6.0     | 3.3 | 6.0       | 3.1 |
|                       | 98.6                        | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.9     | 3.5 | 5.9     | 3.2 | 6.0       | 3.1 |
|                       | 102.2                       | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.7     | 3.4 | 5.8     | 3.2 | 6.0       | 3.1 |
|                       | 107.6                       | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.7     | 3.4 | 5.8     | 3.2 | 6.0       | 3.1 |
|                       | 111.2                       | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.7     | 3.4 | 5.8     | 3.2 | 6.0       | 3.1 |
|                       | 114.8                       | 3.9                           | 2.7 | 4.6       | 3.0 | 5.3       | 3.3 | 5.6       | 3.4 | 5.7     | 3.7 | 5.8     | 3.2 | 6.0       | 3.1 |
| 7.1                   | 50                          | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 9.2       | 4.6 |
|                       | 53.6                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 9.1       | 4.5 |
|                       | 57.2                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 9.0       | 4.5 |
|                       | 60.8                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.9       | 4.4 |
|                       | 64.4                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.7       | 4.3 |
|                       | 68                          | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.5       | 4.2 |
|                       | 69.8                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.4       | 4.2 |
|                       | 73.4                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.3       | 4.1 |
|                       | 77                          | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.4     | 4.5 | 8.2       | 4.1 |
|                       | 80.6                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.4 | 8.1     | 4.3 | 8.2       | 4.1 |
|                       | 84.2                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.5 | 8.0     | 4.3 | 8.1       | 4.1 |
|                       | 87.8                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.5 | 7.9     | 4.3 | 7.8       | 4.0 |
|                       | 91.4                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.5 | 7.8     | 4.2 | 7.8       | 4.0 |
|                       | 95                          | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.5     | 4.5 | 7.6     | 4.1 | 7.7       | 3.9 |
|                       | 98.6                        | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.4     | 4.4 | 7.5     | 4.1 | 7.6       | 4.0 |

| Indoor Unit size (kW) | Outdoor temperature (°F DB) | Indoor temperature (°F WB/DB) |     |           |     |           |     |           |     |         |     |         |     |           |     |
|-----------------------|-----------------------------|-------------------------------|-----|-----------|-----|-----------|-----|-----------|-----|---------|-----|---------|-----|-----------|-----|
|                       |                             | 57.2/68                       |     | 60.8/73.4 |     | 64.4/78.8 |     | 66.2/80.6 |     | 68/82.4 |     | 71.6/86 |     | 75.2/89.6 |     |
|                       |                             | 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  |
| 7.1                   | 102.2                       | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.2     | 4.3 | 7.4     | 4.1 | 7.6       | 4.0 |
|                       | 107.6                       | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.2     | 4.3 | 7.4     | 4.1 | 7.6       | 4.0 |
|                       | 111.2                       | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.2     | 4.3 | 7.4     | 4.1 | 7.6       | 4.0 |
|                       | 114.8                       | 4.9                           | 3.6 | 5.8       | 4.0 | 6.7       | 4.3 | 7.1       | 4.5 | 7.2     | 4.3 | 7.4     | 4.1 | 7.6       | 4.0 |
| 8.0                   | 50                          | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.4 | 9.4     | 5.5 | 10.4      | 5.6 |
|                       | 53.6                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.4 | 9.4     | 5.5 | 10.2      | 5.5 |
|                       | 57.2                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.4 | 9.4     | 5.5 | 10.2      | 5.5 |
|                       | 60.8                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.4 | 9.4     | 5.5 | 10.0      | 5.4 |
|                       | 64.4                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.4 | 9.4     | 5.5 | 9.8       | 5.3 |
|                       | 68                          | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.4 | 9.4     | 5.5 | 9.6       | 5.2 |
|                       | 69.8                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.4 | 9.4     | 5.5 | 9.4       | 5.1 |
|                       | 73.4                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.4 | 9.4     | 5.5 | 9.4       | 5.1 |
|                       | 77                          | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.4 | 9.4     | 5.5 | 9.3       | 5.0 |
|                       | 80.6                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.4 | 9.1     | 5.3 | 9.2       | 5.1 |
|                       | 84.2                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.5 | 9.0     | 5.3 | 9.1       | 5.0 |
|                       | 87.8                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.5 | 8.9     | 5.2 | 8.8       | 4.8 |
|                       | 91.4                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.5 | 8.8     | 5.2 | 8.8       | 4.8 |
|                       | 95                          | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.4     | 5.5 | 8.6     | 5.1 | 8.6       | 4.8 |
|                       | 98.6                        | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.3     | 5.4 | 8.4     | 5.0 | 8.6       | 4.9 |
|                       | 102.2                       | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.1     | 5.3 | 8.3     | 5.0 | 8.6       | 4.9 |
|                       | 107.6                       | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.1     | 5.3 | 8.3     | 5.0 | 8.6       | 4.9 |
|                       | 111.2                       | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.1     | 5.3 | 8.3     | 5.0 | 8.6       | 4.9 |
|                       | 114.8                       | 5.5                           | 4.4 | 6.6       | 4.9 | 7.5       | 5.3 | 8.0       | 5.5 | 8.1     | 5.3 | 8.3     | 5.0 | 8.6       | 4.9 |
| 9.0                   | 50                          | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.6    | 6.1 | 11.7      | 6.0 |
|                       | 53.6                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.6    | 6.1 | 11.5      | 5.9 |
|                       | 57.2                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.6    | 6.1 | 11.4      | 5.9 |
|                       | 60.8                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.6    | 6.1 | 11.3      | 5.8 |
|                       | 64.4                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.6    | 6.1 | 11.0      | 5.8 |
|                       | 68                          | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.6    | 6.1 | 10.8      | 5.7 |
|                       | 69.8                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.6    | 6.1 | 10.6      | 5.6 |
|                       | 73.4                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.6    | 6.1 | 10.5      | 5.5 |
|                       | 77                          | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.6    | 6.1 | 10.4      | 5.5 |
|                       | 80.6                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.3    | 5.9 | 10.4      | 5.4 |
|                       | 84.2                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.1    | 5.7 | 10.3      | 5.4 |
|                       | 87.8                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 10.0    | 5.7 | 9.9       | 5.3 |
|                       | 91.4                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.6     | 6.0 | 9.9     | 5.6 | 9.9       | 5.3 |
|                       | 95                          | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.5     | 6.0 | 9.6     | 5.5 | 9.7       | 5.3 |
|                       | 98.6                        | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.3     | 5.8 | 9.5     | 5.4 | 9.6       | 5.3 |
|                       | 102.2                       | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.2     | 5.7 | 9.4     | 5.3 | 9.6       | 5.3 |
|                       | 107.6                       | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.2     | 5.7 | 9.4     | 5.3 | 9.6       | 5.3 |
|                       | 111.2                       | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.2     | 5.7 | 9.4     | 5.3 | 9.6       | 5.3 |
|                       | 114.8                       | 6.2                           | 4.9 | 7.3       | 5.3 | 8.4       | 5.8 | 9.0       | 5.9 | 9.2     | 5.7 | 9.4     | 5.3 | 9.6       | 5.3 |
| 10.0                  | 50                          | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.9    | 7.3 | 13.0      | 7.3 |
|                       | 53.6                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.9    | 7.3 | 12.8      | 7.2 |
|                       | 57.2                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.9    | 7.3 | 12.7      | 7.1 |
|                       | 60.8                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.9    | 7.3 | 12.5      | 7.0 |
|                       | 64.4                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.9    | 7.3 | 12.2      | 6.8 |
|                       | 68                          | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.9    | 7.3 | 12.0      | 6.7 |

| Indoor Unit size (kW) | Outdoor temperature (°F DB) | Indoor temperature (°F WB/DB) |     |           |     |           |     |           |     |         |     |         |     |           |     |
|-----------------------|-----------------------------|-------------------------------|-----|-----------|-----|-----------|-----|-----------|-----|---------|-----|---------|-----|-----------|-----|
|                       |                             | 57.2/68                       |     | 60.8/73.4 |     | 64.4/78.8 |     | 66.2/80.6 |     | 68/82.4 |     | 71.6/86 |     | 75.2/89.6 |     |
|                       |                             | 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  |
| 10.0                  | 69.8                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.9    | 7.3 | 11.8      | 6.6 |
|                       | 73.4                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.7    | 7.3 | 11.7      | 6.6 |
|                       | 77                          | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.6    | 7.2 | 11.6      | 6.5 |
|                       | 80.6                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.5    | 7.1 | 11.5      | 6.6 |
|                       | 84.2                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.4    | 7.1 | 11.4      | 6.5 |
|                       | 87.8                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.3    | 7.0 | 11.0      | 6.3 |
|                       | 91.4                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.6    | 7.0 | 11.2    | 6.9 | 11.0      | 6.3 |
|                       | 95                          | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.5    | 6.9 | 10.8    | 6.7 | 10.8      | 6.3 |
|                       | 98.6                        | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.4    | 6.9 | 10.8    | 6.7 | 10.7      | 6.2 |
|                       | 102.2                       | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.2    | 6.7 | 10.4    | 6.6 | 10.7      | 6.3 |
|                       | 107.6                       | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.2    | 6.7 | 10.4    | 6.6 | 10.7      | 6.3 |
|                       | 111.2                       | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.2    | 6.7 | 10.4    | 6.6 | 10.7      | 6.3 |
|                       | 114.8                       | 6.9                           | 5.6 | 8.1       | 6.2 | 9.4       | 6.9 | 10.0      | 7.0 | 10.2    | 6.7 | 10.4    | 6.6 | 10.7      | 6.3 |
| 11.2                  | 50                          | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 13.3    | 7.6 | 15.5      | 8.2 |
|                       | 53.6                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 13.3    | 7.6 | 14.4      | 7.7 |
|                       | 57.2                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 13.3    | 7.6 | 14.2      | 7.6 |
|                       | 60.8                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 13.3    | 7.6 | 14.1      | 7.5 |
|                       | 64.4                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 13.3    | 7.6 | 14.0      | 7.5 |
|                       | 68                          | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 13.3    | 7.6 | 13.9      | 7.4 |
|                       | 69.8                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 13.3    | 7.6 | 13.8      | 7.4 |
|                       | 73.4                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 13.1    | 7.5 | 13.7      | 7.3 |
|                       | 77                          | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 13.0    | 7.4 | 13.6      | 7.2 |
|                       | 80.6                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 12.9    | 7.3 | 13.4      | 7.2 |
|                       | 84.2                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 12.8    | 7.3 | 13.3      | 7.2 |
|                       | 87.8                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 12.7    | 7.2 | 12.8      | 6.9 |
|                       | 91.4                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.9    | 7.4 | 12.5    | 7.2 | 12.5      | 6.8 |
|                       | 95                          | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.8    | 7.4 | 12.4    | 7.1 | 12.3      | 6.7 |
|                       | 98.6                        | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.6    | 7.3 | 12.3    | 7.0 | 12.1      | 6.6 |
|                       | 102.2                       | 7.7                           | 5.9 | 9.1       | 6.5 | 10.5      | 7.1 | 11.2      | 7.2 | 11.4    | 7.1 | 12.2    | 7.0 | 11.9      | 6.6 |
|                       | 107.6                       | 7.7                           | 6.0 | 9.1       | 6.6 | 10.4      | 7.2 | 11.2      | 7.3 | 11.4    | 7.1 | 11.6    | 6.6 | 12.0      | 6.6 |
|                       | 111.2                       | 7.7                           | 6.0 | 9.1       | 6.6 | 10.4      | 7.2 | 11.2      | 7.3 | 11.4    | 7.1 | 11.6    | 6.6 | 12.0      | 6.6 |
|                       | 114.8                       | 7.7                           | 6.0 | 9.1       | 6.6 | 10.4      | 7.2 | 11.2      | 7.3 | 11.4    | 7.1 | 11.6    | 6.6 | 12.0      | 6.6 |
| 14.0                  | 50                          | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.7    | 9.3 | 18.2      | 9.4 |
|                       | 53.6                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.7    | 9.3 | 17.9      | 9.2 |
|                       | 57.2                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.7    | 9.3 | 17.8      | 9.2 |
|                       | 60.8                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.7    | 9.3 | 17.5      | 9.0 |
|                       | 64.4                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.7    | 9.3 | 17.1      | 8.8 |
|                       | 68                          | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.7    | 9.3 | 16.8      | 8.7 |
|                       | 69.8                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.7    | 9.3 | 16.5      | 8.5 |
|                       | 73.4                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.4    | 9.3 | 16.4      | 8.4 |
|                       | 77                          | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.2    | 9.3 | 16.2      | 8.4 |
|                       | 80.6                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.1    | 9.2 | 16.1      | 8.4 |
|                       | 84.2                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 16.0    | 9.1 | 16.0      | 8.4 |
|                       | 87.8                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 15.8    | 9.0 | 15.4      | 8.1 |
|                       | 91.4                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.8    | 9.0 | 15.7    | 8.9 | 15.4      | 8.1 |
|                       | 95                          | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.7    | 8.9 | 15.1    | 8.6 | 15.1      | 8.1 |
|                       | 98.6                        | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.6    | 8.8 | 15.1    | 8.6 | 15.0      | 8.0 |
|                       | 102.2                       | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.3    | 8.7 | 14.6    | 8.4 | 15.0      | 8.1 |

| Indoor<br>Unit size<br>(kW) | Outdoor temperature<br>(°F DB) | Indoor temperature (°F WB/DB) |     |           |     |           |     |           |     |         |     |         |     |           |     |
|-----------------------------|--------------------------------|-------------------------------|-----|-----------|-----|-----------|-----|-----------|-----|---------|-----|---------|-----|-----------|-----|
|                             |                                | 57.2/68                       |     | 60.8/73.4 |     | 64.4/78.8 |     | 66.2/80.6 |     | 68/82.4 |     | 71.6/86 |     | 75.2/89.6 |     |
|                             |                                | 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  |
| 14.0                        | 107.6                          | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.3    | 8.7 | 14.6    | 8.4 | 15.0      | 8.1 |
|                             | 111.2                          | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.3    | 8.7 | 14.6    | 8.4 | 15.0      | 8.1 |
|                             | 114.8                          | 9.7                           | 7.2 | 11.3      | 7.9 | 13.2      | 8.8 | 14.0      | 9.0 | 14.3    | 8.7 | 14.6    | 8.4 | 15.0      | 8.1 |

## 7.2 Heating

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

| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°F) |       | Indoor temperature (°F DB) |      |      |      |      |      |
|--------------------------|-----------------------------|-------|----------------------------|------|------|------|------|------|
|                          |                             |       | 60.8                       | 64.4 | 68   | 69.8 | 71.6 | 75.2 |
|                          |                             |       | TC                         | TC   | TC   | TC   | TC   | TC   |
|                          | WB                          | DB    | kW                         | kW   | kW   | kW   | kW   | kW   |
| 2.8                      | -4                          | -3.64 | 1.79                       | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 |
|                          | -2.2                        | -1.84 | 1.92                       | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 |
|                          | 1.4                         | 1.94  | 2.02                       | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 |
|                          | 5                           | 5.54  | 2.02                       | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 |
|                          | 8.6                         | 9.32  | 2.14                       | 2.14 | 2.14 | 2.14 | 2.14 | 2.14 |
|                          | 12.2                        | 13.1  | 2.24                       | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 |
|                          | 14                          | 14.9  | 2.34                       | 2.34 | 2.34 | 2.34 | 2.34 | 2.34 |
|                          | 15.62                       | 16.7  | 2.40                       | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 |
|                          | 18.32                       | 19.4  | 2.43                       | 2.43 | 2.43 | 2.43 | 2.43 | 2.43 |
|                          | 21.92                       | 23    | 2.53                       | 2.53 | 2.53 | 2.53 | 2.53 | 2.53 |
|                          | 25.34                       | 26.6  | 2.66                       | 2.66 | 2.66 | 2.66 | 2.66 | 2.66 |
|                          | 30.74                       | 32    | 2.85                       | 2.85 | 2.85 | 2.85 | 2.85 | 2.69 |
|                          | 35.96                       | 37.4  | 3.01                       | 3.01 | 3.01 | 3.01 | 2.94 | 2.69 |
|                          | 39.38                       | 41    | 3.10                       | 3.10 | 3.10 | 3.10 | 2.94 | 2.69 |
|                          | 42.8                        | 44.6  | 3.20                       | 3.20 | 3.20 | 3.10 | 2.94 | 2.69 |
|                          | 46.22                       | 48.2  | 3.30                       | 3.30 | 3.20 | 3.10 | 2.94 | 2.69 |
|                          | 49.64                       | 51.8  | 3.39                       | 3.39 | 3.20 | 3.10 | 2.94 | 2.69 |
|                          | 53.24                       | 55.4  | 3.52                       | 3.46 | 3.20 | 3.10 | 2.94 | 2.69 |
|                          | 56.66                       | 59    | 3.62                       | 3.46 | 3.20 | 3.10 | 2.94 | 2.69 |
| 3.6                      | -4                          | -3.64 | 2.24                       | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 |
|                          | -2.2                        | -1.84 | 2.40                       | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 |
|                          | 1.4                         | 1.94  | 2.52                       | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 |
|                          | 5                           | 5.54  | 2.60                       | 2.60 | 2.60 | 2.60 | 2.60 | 2.60 |
|                          | 8.6                         | 9.32  | 2.68                       | 2.68 | 2.68 | 2.68 | 2.68 | 2.68 |
|                          | 12.2                        | 13.1  | 2.80                       | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 |
|                          | 14                          | 14.9  | 2.92                       | 2.92 | 2.92 | 2.92 | 2.92 | 2.92 |
|                          | 15.62                       | 16.7  | 3.00                       | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|                          | 18.32                       | 19.4  | 3.04                       | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 |
|                          | 21.92                       | 23    | 3.16                       | 3.16 | 3.16 | 3.16 | 3.16 | 3.16 |
|                          | 25.34                       | 26.6  | 3.32                       | 3.32 | 3.32 | 3.32 | 3.32 | 3.32 |
|                          | 30.74                       | 32    | 3.56                       | 3.56 | 3.56 | 3.56 | 3.56 | 3.36 |
|                          | 35.96                       | 37.4  | 3.76                       | 3.76 | 3.76 | 3.76 | 3.68 | 3.36 |
|                          | 39.38                       | 41    | 3.88                       | 3.88 | 3.88 | 3.88 | 3.68 | 3.36 |
|                          | 42.8                        | 44.6  | 4.00                       | 4.00 | 4.00 | 3.88 | 3.68 | 3.36 |
|                          | 46.22                       | 48.2  | 4.12                       | 4.12 | 4.00 | 3.88 | 3.68 | 3.36 |
|                          | 49.64                       | 51.8  | 4.24                       | 4.24 | 4.00 | 3.88 | 3.68 | 3.36 |
|                          | 53.24                       | 55.4  | 4.40                       | 4.32 | 4.00 | 3.88 | 3.68 | 3.36 |
|                          | 56.66                       | 59    | 4.52                       | 4.32 | 4.00 | 3.88 | 3.68 | 3.36 |
| 4.5                      | -4                          | -3.64 | 2.80                       | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 |
|                          | -2.2                        | -1.84 | 3.00                       | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|                          | 1.4                         | 1.94  | 3.15                       | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 |
|                          | 5                           | 5.54  | 3.25                       | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 |
|                          | 8.6                         | 9.32  | 3.35                       | 3.35 | 3.35 | 3.35 | 3.35 | 3.35 |
|                          | 12.2                        | 13.1  | 3.50                       | 3.50 | 3.50 | 3.50 | 3.50 | 3.50 |
|                          | 14                          | 14.9  | 3.65                       | 3.65 | 3.65 | 3.65 | 3.65 | 3.65 |

| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°F) |       | Indoor temperature (°F DB) |      |      |      |      |      |
|--------------------------|-----------------------------|-------|----------------------------|------|------|------|------|------|
|                          |                             |       | 60.8                       | 64.4 | 68   | 69.8 | 71.6 | 75.2 |
|                          |                             |       | TC                         | TC   | TC   | TC   | TC   | TC   |
|                          | WB                          | DB    | kW                         | kW   | kW   | kW   | kW   | kW   |
| 4.5                      | 15.62                       | 16.7  | 3.75                       | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 |
|                          | 18.32                       | 19.4  | 3.80                       | 3.80 | 3.80 | 3.80 | 3.80 | 3.80 |
|                          | 21.92                       | 23    | 3.95                       | 3.95 | 3.95 | 3.95 | 3.95 | 3.95 |
|                          | 25.34                       | 26.6  | 4.15                       | 4.15 | 4.15 | 4.15 | 4.15 | 4.15 |
|                          | 30.74                       | 32    | 4.45                       | 4.45 | 4.45 | 4.45 | 4.45 | 4.20 |
|                          | 35.96                       | 37.4  | 4.70                       | 4.70 | 4.70 | 4.70 | 4.60 | 4.20 |
|                          | 39.38                       | 41    | 4.85                       | 4.85 | 4.85 | 4.85 | 4.60 | 4.20 |
|                          | 42.8                        | 44.6  | 5.00                       | 5.00 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 46.22                       | 48.2  | 5.15                       | 5.15 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 49.64                       | 51.8  | 5.30                       | 5.30 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 53.24                       | 55.4  | 5.50                       | 5.40 | 5.00 | 4.85 | 4.60 | 4.20 |
|                          | 56.66                       | 59    | 5.65                       | 5.40 | 5.00 | 4.85 | 4.60 | 4.20 |
| 5.6                      | -4                          | -3.64 | 3.53                       | 3.53 | 3.53 | 3.53 | 3.53 | 3.53 |
|                          | -2.2                        | -1.84 | 3.78                       | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 |
|                          | 1.4                         | 1.94  | 3.97                       | 3.97 | 3.97 | 3.97 | 3.97 | 3.97 |
|                          | 5                           | 5.54  | 4.10                       | 4.10 | 4.10 | 4.10 | 4.10 | 4.10 |
|                          | 8.6                         | 9.32  | 4.22                       | 4.22 | 4.22 | 4.22 | 4.22 | 4.22 |
|                          | 12.2                        | 13.1  | 4.41                       | 4.41 | 4.41 | 4.41 | 4.41 | 4.41 |
|                          | 14                          | 14.9  | 4.60                       | 4.60 | 4.60 | 4.60 | 4.60 | 4.60 |
|                          | 15.62                       | 16.7  | 4.73                       | 4.73 | 4.73 | 4.73 | 4.73 | 4.73 |
|                          | 18.32                       | 19.4  | 4.79                       | 4.79 | 4.79 | 4.79 | 4.79 | 4.79 |
|                          | 21.92                       | 23    | 4.98                       | 4.98 | 4.98 | 4.98 | 4.98 | 4.98 |
|                          | 25.34                       | 26.6  | 5.23                       | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 |
|                          | 30.74                       | 32    | 5.61                       | 5.61 | 5.61 | 5.61 | 5.61 | 5.29 |
|                          | 35.96                       | 37.4  | 5.92                       | 5.92 | 5.92 | 5.92 | 5.80 | 5.29 |
|                          | 39.38                       | 41    | 6.11                       | 6.11 | 6.11 | 6.11 | 5.80 | 5.29 |
|                          | 42.8                        | 44.6  | 6.30                       | 6.30 | 6.30 | 6.11 | 5.80 | 5.29 |
|                          | 46.22                       | 48.2  | 6.49                       | 6.49 | 6.30 | 6.11 | 5.80 | 5.29 |
|                          | 49.64                       | 51.8  | 6.68                       | 6.68 | 6.30 | 6.11 | 5.80 | 5.29 |
|                          | 53.24                       | 55.4  | 6.93                       | 6.80 | 6.30 | 6.11 | 5.80 | 5.29 |
|                          | 56.66                       | 59    | 7.12                       | 6.80 | 6.30 | 6.11 | 5.80 | 5.29 |
| 7.1                      | -4                          | -3.64 | 4.48                       | 4.48 | 4.48 | 4.48 | 4.48 | 4.48 |
|                          | -2.2                        | -1.84 | 4.80                       | 4.80 | 4.80 | 4.80 | 4.80 | 4.80 |
|                          | 1.4                         | 1.94  | 5.04                       | 5.04 | 5.04 | 5.04 | 5.04 | 5.04 |
|                          | 5                           | 5.54  | 5.20                       | 5.20 | 5.20 | 5.20 | 5.20 | 5.20 |
|                          | 8.6                         | 9.32  | 5.36                       | 5.36 | 5.36 | 5.36 | 5.36 | 5.36 |
|                          | 12.2                        | 13.1  | 5.60                       | 5.60 | 5.60 | 5.60 | 5.60 | 5.60 |
|                          | 14                          | 14.9  | 5.84                       | 5.84 | 5.84 | 5.84 | 5.84 | 5.84 |
|                          | 15.62                       | 16.7  | 6.00                       | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
|                          | 18.32                       | 19.4  | 6.08                       | 6.08 | 6.08 | 6.08 | 6.08 | 6.08 |
|                          | 21.92                       | 23    | 6.32                       | 6.32 | 6.32 | 6.32 | 6.32 | 6.32 |
|                          | 25.34                       | 26.6  | 6.64                       | 6.64 | 6.64 | 6.64 | 6.64 | 6.64 |
|                          | 30.74                       | 32    | 7.12                       | 7.12 | 7.12 | 7.12 | 7.12 | 6.72 |
|                          | 35.96                       | 37.4  | 7.52                       | 7.52 | 7.52 | 7.52 | 7.36 | 6.72 |
|                          | 39.38                       | 41    | 7.76                       | 7.76 | 7.76 | 7.76 | 7.36 | 6.72 |
|                          | 42.8                        | 44.6  | 8.00                       | 8.00 | 8.00 | 7.76 | 7.36 | 6.72 |
|                          | 46.22                       | 48.2  | 8.24                       | 8.24 | 8.00 | 7.76 | 7.36 | 6.72 |
|                          | 49.64                       | 51.8  | 8.48                       | 8.48 | 8.00 | 7.76 | 7.36 | 6.72 |

| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°F) |       | Indoor temperature (°F DB) |       |       |      |      |      |
|--------------------------|-----------------------------|-------|----------------------------|-------|-------|------|------|------|
|                          |                             |       | 60.8                       | 64.4  | 68    | 69.8 | 71.6 | 75.2 |
|                          |                             |       | TC                         | TC    | TC    | TC   | TC   | TC   |
|                          | WB                          | DB    | kW                         | kW    | kW    | kW   | kW   | kW   |
| 7.1                      | 53.24                       | 55.4  | 8.80                       | 8.64  | 8.00  | 7.76 | 7.36 | 6.72 |
|                          | 56.66                       | 59    | 9.04                       | 8.64  | 8.00  | 7.76 | 7.36 | 6.72 |
| 8.0                      | -4                          | -3.64 | 5.04                       | 5.04  | 5.04  | 5.04 | 5.04 | 5.04 |
|                          | -2.2                        | -1.84 | 5.40                       | 5.40  | 5.40  | 5.40 | 5.40 | 5.40 |
|                          | 1.4                         | 1.94  | 5.67                       | 5.67  | 5.67  | 5.67 | 5.67 | 5.67 |
|                          | 5                           | 5.54  | 5.85                       | 5.85  | 5.85  | 5.85 | 5.85 | 5.85 |
|                          | 8.6                         | 9.32  | 6.03                       | 6.03  | 6.03  | 6.03 | 6.03 | 6.03 |
|                          | 12.2                        | 13.1  | 6.30                       | 6.30  | 6.30  | 6.30 | 6.30 | 6.30 |
|                          | 14                          | 14.9  | 6.57                       | 6.57  | 6.57  | 6.57 | 6.57 | 6.57 |
|                          | 15.62                       | 16.7  | 6.75                       | 6.75  | 6.75  | 6.75 | 6.75 | 6.75 |
|                          | 18.32                       | 19.4  | 6.84                       | 6.84  | 6.84  | 6.84 | 6.84 | 6.84 |
|                          | 21.92                       | 23    | 7.11                       | 7.11  | 7.11  | 7.11 | 7.11 | 7.11 |
|                          | 25.34                       | 26.6  | 7.47                       | 7.47  | 7.47  | 7.47 | 7.47 | 7.47 |
|                          | 30.74                       | 32    | 8.01                       | 8.01  | 8.01  | 8.01 | 8.01 | 7.56 |
|                          | 35.96                       | 37.4  | 8.46                       | 8.46  | 8.46  | 8.46 | 8.28 | 7.56 |
|                          | 39.38                       | 41    | 8.73                       | 8.73  | 8.73  | 8.73 | 8.28 | 7.56 |
|                          | 42.8                        | 44.6  | 9.00                       | 9.00  | 9.00  | 8.73 | 8.28 | 7.56 |
|                          | 46.22                       | 48.2  | 9.27                       | 9.27  | 9.00  | 8.73 | 8.28 | 7.56 |
|                          | 49.64                       | 51.8  | 9.54                       | 9.54  | 9.00  | 8.73 | 8.28 | 7.56 |
|                          | 53.24                       | 55.4  | 9.90                       | 9.72  | 9.00  | 8.73 | 8.28 | 7.56 |
|                          | 56.66                       | 59    | 10.17                      | 9.72  | 9.00  | 8.73 | 8.28 | 7.56 |
| 9.0                      | -4                          | -3.64 | 5.60                       | 5.04  | 5.60  | 5.60 | 5.60 | 5.60 |
|                          | -2.2                        | -1.84 | 6.00                       | 5.40  | 6.00  | 6.00 | 6.00 | 6.00 |
|                          | 1.4                         | 1.94  | 6.30                       | 6.30  | 6.30  | 6.30 | 6.30 | 6.30 |
|                          | 5                           | 5.54  | 6.50                       | 6.50  | 6.50  | 6.50 | 6.50 | 6.50 |
|                          | 8.6                         | 9.32  | 6.70                       | 6.70  | 6.70  | 6.70 | 6.70 | 6.70 |
|                          | 12.2                        | 13.1  | 7.00                       | 7.00  | 7.00  | 7.00 | 7.00 | 7.00 |
|                          | 14                          | 14.9  | 7.30                       | 7.30  | 7.30  | 7.30 | 7.30 | 7.30 |
|                          | 15.62                       | 16.7  | 7.50                       | 7.50  | 7.50  | 7.50 | 7.50 | 7.50 |
|                          | 18.32                       | 19.4  | 7.60                       | 7.60  | 7.60  | 7.60 | 7.60 | 7.60 |
|                          | 21.92                       | 23    | 7.90                       | 7.90  | 7.90  | 7.90 | 7.90 | 7.90 |
|                          | 25.34                       | 26.6  | 8.30                       | 8.30  | 8.30  | 8.30 | 8.30 | 8.30 |
|                          | 30.74                       | 32    | 8.90                       | 8.90  | 8.90  | 8.90 | 8.90 | 8.40 |
|                          | 35.96                       | 37.4  | 9.40                       | 9.40  | 9.40  | 9.40 | 9.20 | 8.40 |
|                          | 39.38                       | 41    | 9.70                       | 9.70  | 9.70  | 9.70 | 9.20 | 8.40 |
|                          | 42.8                        | 44.6  | 10.00                      | 10.00 | 10.00 | 9.70 | 9.20 | 8.40 |
|                          | 46.22                       | 48.2  | 10.30                      | 10.30 | 10.00 | 9.70 | 9.20 | 8.40 |
|                          | 49.64                       | 51.8  | 10.60                      | 10.60 | 10.00 | 9.70 | 9.20 | 8.40 |
|                          | 53.24                       | 55.4  | 11.00                      | 10.80 | 10.00 | 9.70 | 9.20 | 8.40 |
|                          | 56.66                       | 59    | 11.30                      | 10.80 | 10.00 | 9.70 | 9.20 | 8.40 |
| 10.0                     | -4                          | -3.64 | 6.16                       | 6.16  | 6.16  | 6.16 | 6.16 | 6.16 |
|                          | -2.2                        | -1.84 | 6.60                       | 6.60  | 6.60  | 6.60 | 6.60 | 6.60 |
|                          | 1.4                         | 1.94  | 6.93                       | 6.93  | 6.93  | 6.93 | 6.93 | 6.93 |
|                          | 5                           | 5.54  | 7.15                       | 7.15  | 7.15  | 7.15 | 7.15 | 7.15 |
|                          | 8.6                         | 9.32  | 7.37                       | 7.37  | 7.37  | 7.37 | 7.37 | 7.37 |
|                          | 12.2                        | 13.1  | 7.70                       | 7.70  | 7.70  | 7.70 | 7.70 | 7.70 |
|                          | 14                          | 14.9  | 8.03                       | 8.03  | 8.03  | 8.03 | 8.03 | 8.03 |
|                          | 15.62                       | 16.7  | 8.25                       | 8.25  | 8.25  | 8.25 | 8.25 | 8.25 |



| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°F) |       | Indoor temperature (°F DB) |       |       |       |       |       |
|--------------------------|-----------------------------|-------|----------------------------|-------|-------|-------|-------|-------|
|                          |                             |       | 60.8                       | 64.4  | 68    | 69.8  | 71.6  | 75.2  |
|                          |                             |       | TC                         | TC    | TC    | TC    | TC    | TC    |
|                          | WB                          | DB    | kW                         | kW    | kW    | kW    | kW    | kW    |
| 10.0                     | 18.32                       | 19.4  | 8.36                       | 8.36  | 8.36  | 8.36  | 8.36  | 8.36  |
|                          | 21.92                       | 23    | 8.69                       | 8.69  | 8.69  | 8.69  | 8.69  | 8.69  |
|                          | 25.34                       | 26.6  | 9.13                       | 9.13  | 9.13  | 9.13  | 9.13  | 9.13  |
|                          | 30.74                       | 32    | 9.79                       | 9.79  | 9.79  | 9.79  | 9.79  | 9.24  |
|                          | 35.96                       | 37.4  | 10.34                      | 10.34 | 10.34 | 10.34 | 10.12 | 9.24  |
|                          | 39.38                       | 41    | 10.67                      | 10.67 | 10.67 | 10.67 | 10.12 | 9.24  |
|                          | 42.8                        | 44.6  | 11.00                      | 11.00 | 11.00 | 10.67 | 10.12 | 9.24  |
|                          | 46.22                       | 48.2  | 11.33                      | 11.33 | 11.00 | 10.67 | 10.12 | 9.24  |
|                          | 49.64                       | 51.8  | 11.66                      | 11.66 | 11.00 | 10.67 | 10.12 | 9.24  |
|                          | 53.24                       | 55.4  | 12.10                      | 11.88 | 11.00 | 10.67 | 10.12 | 9.24  |
|                          | 56.66                       | 59    | 12.43                      | 11.88 | 11.00 | 10.67 | 10.12 | 9.24  |
| 11.2                     | -4                          | -3.64 | 7.00                       | 7.00  | 7.00  | 7.00  | 7.00  | 7.00  |
|                          | -2.2                        | -1.84 | 7.50                       | 7.50  | 7.50  | 7.50  | 7.50  | 7.50  |
|                          | 1.4                         | 1.94  | 7.88                       | 7.88  | 7.88  | 7.88  | 7.88  | 7.88  |
|                          | 5                           | 5.54  | 8.13                       | 8.13  | 8.13  | 8.13  | 8.13  | 8.13  |
|                          | 8.6                         | 9.32  | 8.38                       | 8.38  | 8.38  | 8.38  | 8.38  | 8.38  |
|                          | 12.2                        | 13.1  | 8.75                       | 8.75  | 8.75  | 8.75  | 8.75  | 8.75  |
|                          | 14                          | 14.9  | 9.13                       | 9.13  | 9.13  | 9.13  | 9.13  | 9.13  |
|                          | 15.62                       | 16.7  | 9.38                       | 9.38  | 9.38  | 9.38  | 9.38  | 9.38  |
|                          | 18.32                       | 19.4  | 9.50                       | 9.50  | 9.50  | 9.50  | 9.50  | 9.50  |
|                          | 21.92                       | 23    | 9.88                       | 9.88  | 9.88  | 9.88  | 9.88  | 9.88  |
|                          | 25.34                       | 26.6  | 10.38                      | 10.38 | 10.38 | 10.38 | 10.38 | 10.38 |
|                          | 30.74                       | 32    | 11.13                      | 11.13 | 11.13 | 11.13 | 11.13 | 10.50 |
|                          | 35.96                       | 37.4  | 11.75                      | 11.75 | 11.75 | 11.75 | 11.50 | 10.50 |
|                          | 39.38                       | 41    | 12.13                      | 12.13 | 12.13 | 12.13 | 11.50 | 10.50 |
|                          | 42.8                        | 44.6  | 12.50                      | 12.50 | 12.50 | 12.13 | 11.50 | 10.50 |
|                          | 46.22                       | 48.2  | 12.88                      | 12.88 | 12.50 | 12.13 | 11.50 | 10.50 |
|                          | 49.64                       | 51.8  | 13.25                      | 13.25 | 12.50 | 12.13 | 11.50 | 10.50 |
|                          | 53.24                       | 55.4  | 13.75                      | 13.50 | 12.50 | 12.13 | 11.50 | 10.50 |
|                          | 56.66                       | 59    | 14.13                      | 13.50 | 12.50 | 12.13 | 11.50 | 10.50 |
| 14.0                     | -4                          | -3.64 | 8.68                       | 8.68  | 8.68  | 8.68  | 8.68  | 8.68  |
|                          | -2.2                        | -1.84 | 9.30                       | 9.30  | 9.30  | 9.30  | 9.30  | 9.30  |
|                          | 1.4                         | 1.94  | 9.77                       | 9.77  | 9.77  | 9.77  | 9.77  | 9.77  |
|                          | 5                           | 5.54  | 10.08                      | 10.08 | 10.08 | 10.08 | 10.08 | 10.08 |
|                          | 8.6                         | 9.32  | 10.4                       | 10.4  | 10.4  | 10.4  | 10.4  | 10.4  |
|                          | 12.2                        | 13.1  | 10.9                       | 10.9  | 10.9  | 10.9  | 10.9  | 10.9  |
|                          | 14                          | 14.9  | 11.3                       | 11.3  | 11.3  | 11.3  | 11.3  | 11.3  |
|                          | 15.62                       | 16.7  | 11.6                       | 11.6  | 11.6  | 11.6  | 11.6  | 11.6  |
|                          | 18.32                       | 19.4  | 11.8                       | 11.8  | 11.8  | 11.8  | 11.8  | 11.8  |
|                          | 21.92                       | 23    | 12.3                       | 12.3  | 12.3  | 12.3  | 12.3  | 12.3  |
|                          | 25.34                       | 26.6  | 12.9                       | 12.9  | 12.9  | 12.9  | 12.9  | 12.9  |
|                          | 30.74                       | 32    | 13.8                       | 13.8  | 13.8  | 13.8  | 13.8  | 13.0  |
|                          | 35.96                       | 37.4  | 14.6                       | 14.6  | 14.6  | 14.6  | 14.3  | 13.0  |
|                          | 39.38                       | 41    | 15.0                       | 15.0  | 15.0  | 15.0  | 14.3  | 13.0  |
|                          | 42.8                        | 44.6  | 15.5                       | 15.5  | 15.5  | 15.0  | 14.3  | 13.0  |
|                          | 46.22                       | 48.2  | 16.0                       | 16.0  | 15.5  | 15.0  | 14.3  | 13.0  |
|                          | 49.64                       | 51.8  | 16.4                       | 16.4  | 15.5  | 15.0  | 14.3  | 13.0  |
|                          | 53.24                       | 55.4  | 17.1                       | 16.7  | 15.5  | 15.0  | 14.3  | 13.0  |

| Indoor Unit size<br>(kW) | Outdoor temperature<br>(°F) |    | Indoor temperature (°F DB) |      |      |      |      |      |
|--------------------------|-----------------------------|----|----------------------------|------|------|------|------|------|
|                          |                             |    | 60.8                       | 64.4 | 68   | 69.8 | 71.6 | 75.2 |
|                          |                             |    | TC                         | TC   | TC   | TC   | TC   | TC   |
|                          | WB                          | DB | kW                         | kW   | kW   | kW   | kW   | kW   |
| 14.0                     | 56.66                       | 59 | 17.5                       | 16.7 | 15.5 | 15.0 | 14.3 | 13.0 |

## 8. Electrical Characteristics

| Model           | Indoor Unit |          |      |      | Power Supply |     | IFM   |      |
|-----------------|-------------|----------|------|------|--------------|-----|-------|------|
|                 | Hz          | Voltage  | Min. | Max. | MCA          | MFA | kW    | FLA  |
| MDV-D28Q4/N1-D  | 60Hz        | 220-240V | 198V | 254V | 0.5          | 15A | 0.06  | 0.38 |
| MDV-D36Q4/N1-D  | 60Hz        | 220-240V | 198V | 254V | 0.5          | 15A | 0.06  | 0.38 |
| MDV-D45Q4/N1-D  | 60Hz        | 220-240V | 198V | 254V | 0.5          | 15A | 0.06  | 0.38 |
| MDV-D56Q4/N1-D  | 60Hz        | 220-240V | 198V | 254V | 0.5          | 15A | 0.06  | 0.38 |
| MDV-D71Q4/N1-D  | 60Hz        | 220-240V | 198V | 254V | 0.65         | 15A | 0.080 | 0.5  |
| MDV-D80Q4/N1-D  | 60Hz        | 220-240V | 198V | 254V | 0.65         | 15A | 0.080 | 0.5  |
| MDV-D90Q4/N1-D  | 60Hz        | 220-240V | 198V | 254V | 0.85         | 15A | 0.09  | 0.67 |
| MDV-D100Q4/N1-D | 60Hz        | 220-240V | 198V | 254V | 0.85         | 15A | 0.09  | 0.67 |
| MDV-D112Q4/N1-D | 60Hz        | 220-240V | 198V | 254V | 0.85         | 15A | 0.09  | 0.67 |
| MDV-D140Q4/N1-D | 60Hz        | 220-240V | 198V | 254V | 0.85         | 15A | 0.09  | 0.67 |

**Remark:**

MCA: Min. Current Amps. (A)

MFA: Max. Fuse Amps. (A)

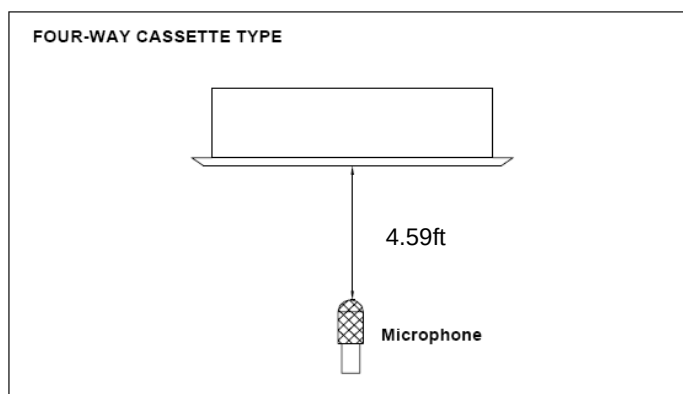
kW: Fan Motor Rated Output (kW)

FLA: Full Load Amps. (A)

IFM: Indoor Fan Motor

## 9. Sound Levels

### 9.1 Test condition



Note:

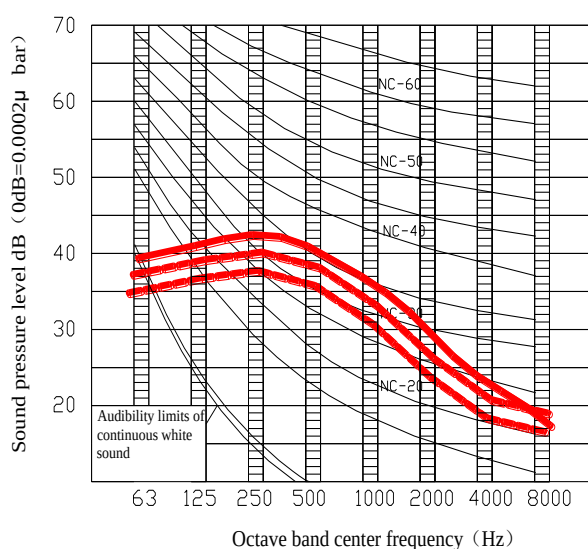
- 1, During actual operation, these values are normally some what higher as a result of ambient conditions.
- 2, Semi-anechoic chamber conversion value, measured at a point which is 4.59ft(1.4m) under the unit.

### 9.2 Test data (Sound Pressure Levels)

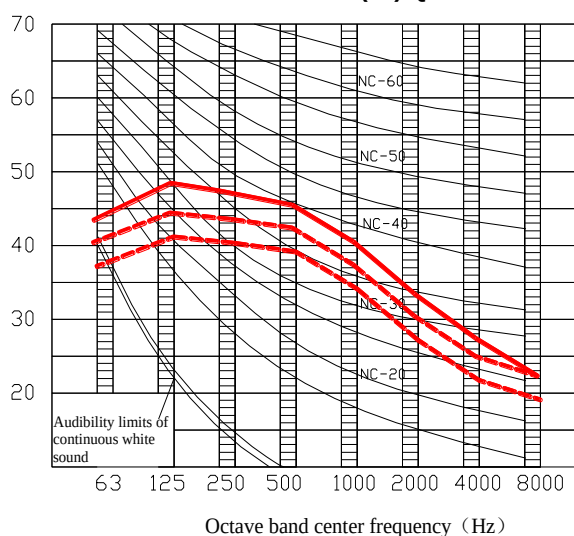
| Model           | Noise level under three speeds of fan (dB(A)) |    |    |
|-----------------|-----------------------------------------------|----|----|
|                 | H                                             | M  | L  |
| MDV-D28Q4/N1-D  | 42                                            | 38 | 35 |
| MDV-D36Q4/N1-D  | 42                                            | 38 | 35 |
| MDV-D45Q4/N1-D  | 42                                            | 38 | 35 |
| MDV-D56Q4/N1-D  | 42                                            | 38 | 35 |
| MDV-D71Q4/N1-D  | 45                                            | 42 | 39 |
| MDV-D80Q4/N1-D  | 45                                            | 42 | 39 |
| MDV-D90Q4/N1-D  | 48                                            | 45 | 43 |
| MDV-D100Q4/N1-D | 48                                            | 45 | 43 |
| MDV-D112Q4/N1-D | 48                                            | 45 | 43 |
| MDV-D140Q4/N1-D | 50                                            | 47 | 44 |

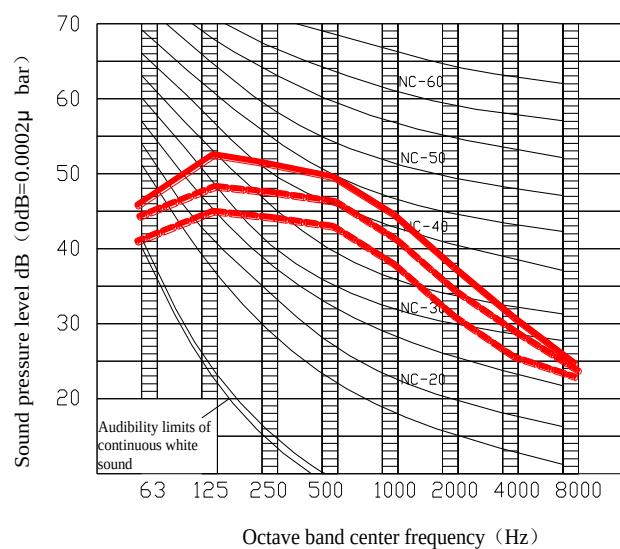
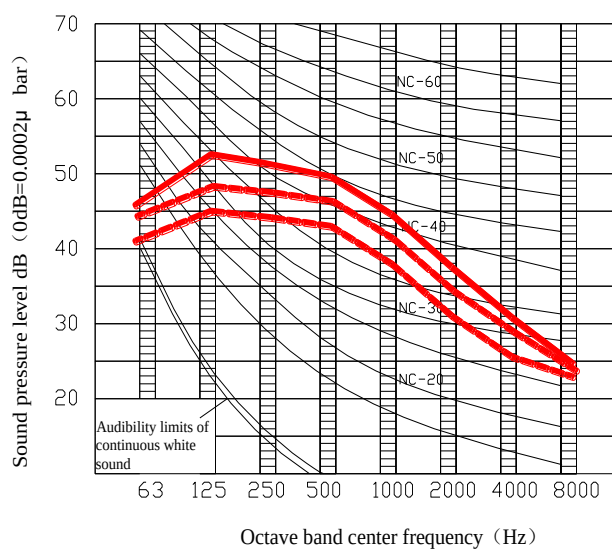
### 9.3 Octave Band Level

MDV-D28 (36, 45, 56) Q4/N1-D

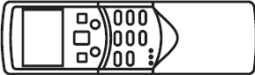


MDV-D71 (80) Q4/N1-D



**MDV-D90 (100,112) Q4/N1-D****MDV-D140 Q4/N1-D**

## 10. Accessories

| Name                                                      | Quantity | Shape                                                                               | Purpose                                                                  |
|-----------------------------------------------------------|----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Installation manual for indoor unit                       | 1        |    | Must deliver to the customer                                             |
| Insulation sheath                                         | 2        |    | Thermal insulation for the jointing part of piping                       |
| Installation paper board                                  | 1        |    | For confirming the ceiling site and unit location                        |
| Installation gauge                                        | 1        |    | For confirming the ceiling site (Integrated on installation paper board) |
| Installation screw for paper board                        | 4        |    | For installing paper board                                               |
| Thermal insulated material                                | 1        |    | Thermal insulation for the jointing part of drain pipe                   |
| Bushing                                                   | 8        |    | Hanger assembly                                                          |
| Flexible hose tube                                        | 1        |    | For drain pipe                                                           |
| Thermal insulation material                               | 1        |    | For sealing the jointing part of piping                                  |
| Remote controller                                         | 1        |    | For remote controlling the air conditioner                               |
| Mounting screw                                            | 4        |    | For installing defrosting tray                                           |
| Drain pipe clasp                                          | 1        |   | For installing drain pipe                                                |
| Connective pipe for restriction assembly                  | 1        |  | /                                                                        |
| Tightening band                                           | 5        |  | /                                                                        |
| Electrical throttle (that has been installed at the unit) | 1        |  | /                                                                        |

## Silent Four-way Cassette

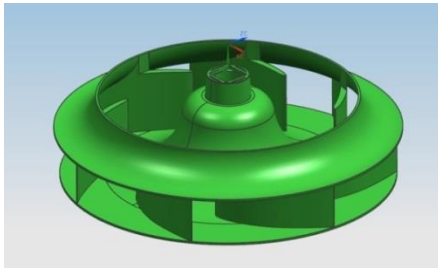
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## 1. Features

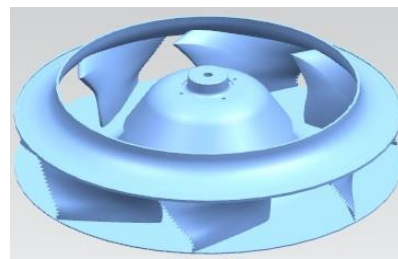
### External appearance



- **Regardless of difference in capacity, all indoor units feature the same panel size and design, in consideration or harmonized interior decoration.**
- **Four way uniform airflow**  
Four air discharge ports provide strong air flow circulation to cool or heat every corner of a room and evenly distribute temperature. High airflow mode can maximize the conditioning effect in rooms that are over 3m high.
- **Ultra-thin machine body to easy installation and maintenance**  
2.8kW~8.0kW models in 230mm height and 9.0kW~14kW models in 300mm height which can be installed in narrow false ceilings.
- **Low operating sound**  
The new designed wind wheel, ring and the built-in throttling part make the noise reduced greatly.

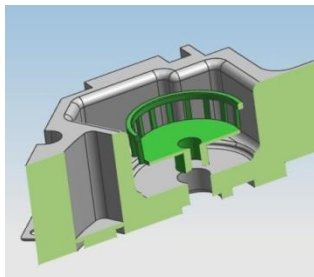


The former wind wheel

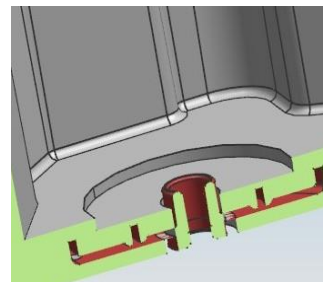


Optimized wind wheel

- **More reliability**
  - a) The vacuum forming mould thickness of drainage pan is increased from 0.45 mm to 0.8 mm. Further improve quality and reliability.
  - b) The connection of drainage pan adopts foaming technology which can further improve the connection tightness.



The former connection



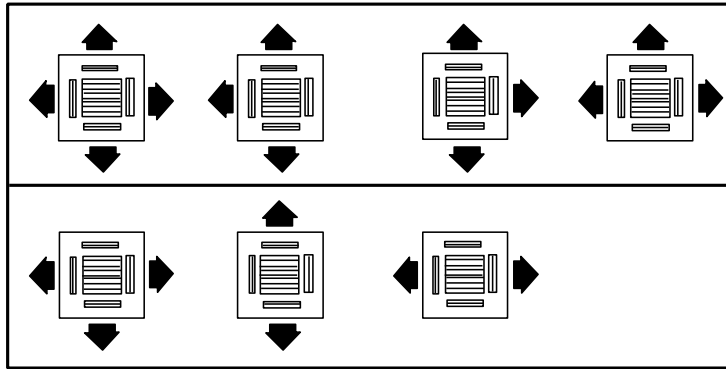
The new connection

- a) Capacitance is isolated by sheet metal box making more safety and higher reliability.
  - b) Adopt the new water level switch .The floater is on the water surface which can avoid impurity plugging.
  - c) The strong and weak electricity wires are separated in electronic control box making the interference decreased greatly.
- **Easier installation and maintenance**
    - a) The optimized wiring connection and the application of pluggable terminal block make the installation and maintenance easier.
    - b) Built-in electronic throttle components make the installation easier.

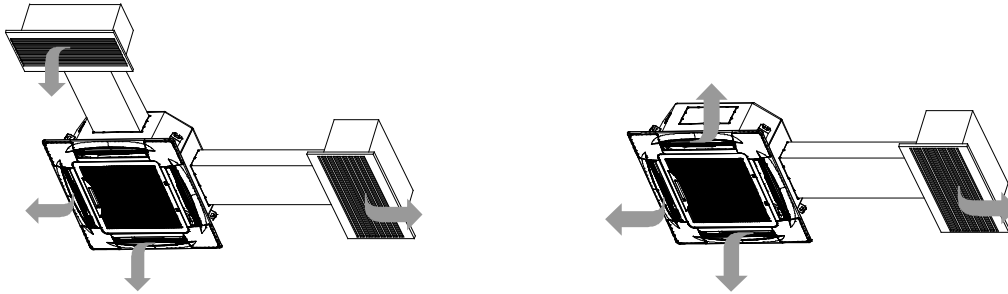


- **Flexible air distribution type**

- a) 7 discharge patterns in 2 to 4 directions can be selected to suit the requirements of installation site or the shape of the room.



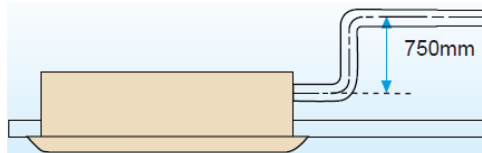
- b) Duct connection is possible.



- **Fresh air makes life healthier and more comfortable.**



- **Provided with high lift 700mm drain water pump.**



## 2. Specifications

| Model                        |                            |                   | MDV-D28Q4/<br>VN1-E        | MDV-D36Q4/<br>VN1-E | MDV-D45Q4/<br>VN1-E     |
|------------------------------|----------------------------|-------------------|----------------------------|---------------------|-------------------------|
| Power supply                 |                            |                   | 208-230V~ 60Hz             |                     |                         |
| Cooling                      | Capacity                   | kW                | 2.8                        | 3.6                 | 4.5                     |
|                              |                            | Btu/h             | 9554                       | 12283               | 15354                   |
|                              | Power input                | W                 | 80                         | 80                  | 88                      |
| Heating                      | Capacity                   | kW                | 3.2                        | 4.0                 | 5.0                     |
|                              |                            | Btu/h             | 10918                      | 13648               | 17060                   |
|                              | Power input                | W                 | 80                         | 80                  | 88                      |
| Indoor fan motor             | Model                      |                   | YDK26-6SA                  |                     |                         |
|                              | Type                       |                   | AC motor                   |                     |                         |
|                              | Brand                      |                   | Weiling, Tongde            |                     |                         |
|                              | Insulation class           |                   | B                          |                     |                         |
|                              | Safe class                 |                   | IPX0                       |                     |                         |
|                              | Input                      | W                 | 72                         | 72                  | 80                      |
|                              | Output                     | W                 | 26                         | 26                  | 26                      |
|                              | Capacitor                  | uF                | 2                          | 2                   | 3                       |
| Indoor fan                   | Material                   |                   | Plastic                    |                     |                         |
|                              | Type                       |                   | Centrifugal fan            |                     |                         |
|                              | Diameter                   | in. (mm)          | 18-3/4 (476)               |                     |                         |
|                              | Height                     | in. (mm)          | 4-15/16 (125)              |                     |                         |
| Indoor coil                  | Number of rows             |                   | 1                          | 1                   | 2                       |
|                              | Tube pitch(a)×row pitch(b) | in. (mm)          | 13/16×17/32 (21×13.37)     |                     |                         |
|                              | Fin spacing                | in. (mm)          | 1/16 (1.5)                 |                     |                         |
|                              | Fin type                   |                   | Hydrophilic aluminium      |                     |                         |
|                              | Tube size                  | in. (mm)          | Φ9/32 (7)                  |                     |                         |
|                              | Tube type                  |                   | Innergroove tube           |                     |                         |
|                              | Coil length×height         | in. (mm)          | 80-1/16×6-5/8 (2033×168)   |                     | 80-3/4×6-5/8 (2051×168) |
|                              | Number of circuits         |                   | 4                          |                     | 8                       |
| Indoor air flow (H/M/L)      |                            | m <sup>3</sup> /h | 791/674/596                | 791/674/596         | 942/777/662             |
|                              |                            | CFM               | 465/396/351                | 465/396/351         | 554/457/389             |
| Sound pressure level (H/M/L) |                            | dB(A)             | 30/25/22                   | 30/25/22            | 35/31/27                |
| Indoor unit body             | Net dimension (W×H×D)      | inch              | 33-1/16×9-1/16×33-1/16     |                     |                         |
|                              |                            | mm                | 840×230×840                |                     |                         |
|                              | Packing size (W×H×D)       | inch              | 37-19/32×10-1/4×37-19/32   |                     |                         |
|                              |                            | mm                | 955×260×955                |                     |                         |
|                              | Net/Gross weight           | lbs               | 47.3/58.7                  | 47.3/58.7           | 52.1/63.6               |
|                              |                            | kg                | 21.5/26.7                  | 21.5/26.7           | 23.7/28.9               |
| Indoor unit panel            | Model                      |                   | T-MBQ4-02B1                |                     |                         |
|                              | Net dimension (W×H×D)      | inch              | 37-13/32×2-9/64×37-13/32   |                     |                         |
|                              |                            | mm                | 950×54.5×950               |                     |                         |
|                              | Packing size (W×H×D)       | inch              | 40-3/4×3-9/16×40-3/4       |                     |                         |
|                              |                            | mm                | 1035×90×1035               |                     |                         |
|                              | Net/Gross weight           | lbs               | 13.2/19.8                  |                     |                         |
|                              |                            | kg                | 6/9                        |                     |                         |
| Refrigerant type             |                            |                   | R410A                      |                     |                         |
| Throttle type                |                            |                   | Electronic expansion valve |                     |                         |
| Design pressure (H/L)        |                            | MPa               | 4.4/2.6                    |                     |                         |
| Pipe connections             | Liquid pipe                | in. (mm)          | Φ1/4 (6.35)                |                     |                         |
|                              | Gas pipe                   | in. (mm)          | Φ1/2 (12.7)                |                     |                         |
|                              | Drain pipe                 | in. (mm)          | Φ1-1/4 (32)                |                     |                         |
| Controller                   |                            |                   | Wireless remote controller |                     |                         |

### Notes:

Capacities are based on the following conditions:

Cooling: Indoor temperature 27°C DB / 19°C WB; Outdoor temperature 35°C DB / 24°C WB.

Heating: Indoor temperature 20°C DB / 15°C WB; Outdoor temperature 7°C DB / 6°C WB.

Piping length: Interconnecting piping length is 7.5m, level difference is 0m.

Sound values are measured in a semi-anechoic room, at a position 1.4m downward from the unit center.

**Specifications**

| Model                        |                            |                   | MDV-D56Q4/<br>VN1-E        | MDV-D71Q4/<br>VN1-E | MDV-D80Q4/<br>VN1-E |
|------------------------------|----------------------------|-------------------|----------------------------|---------------------|---------------------|
| Power supply                 |                            |                   | 208-230V~ 60Hz             |                     |                     |
| Cooling                      | Capacity                   | kW                | 5.6                        | 7.1                 | 8.0                 |
|                              |                            | Btu/h             | 19107                      | 24225               | 27296               |
|                              | Power input                | W                 | 88                         | 105                 | 120                 |
| Heating                      | Capacity                   | kW                | 6.3                        | 8.0                 | 9.0                 |
|                              |                            | Btu/h             | 21496                      | 27296               | 30708               |
|                              | Power input                | W                 | 88                         | 105                 | 120                 |
| Indoor fan motor             | Model                      |                   | YDK26-6SA                  | YDK37-6SA           | YDK37-6SA           |
|                              | Type                       |                   | AC motor                   |                     |                     |
|                              | Brand                      |                   | Weiling, Tongde            |                     |                     |
|                              | Insulation class           |                   | B                          |                     |                     |
|                              | Safe class                 |                   | IPX0                       |                     |                     |
|                              | Input                      | W                 | 80                         | 99                  | 110                 |
|                              | Output                     | W                 | 26                         | 37                  | 37                  |
|                              | Capacitor                  | uF                | 3                          | 2.5                 | 3.5                 |
| Indoor fan                   | Material                   |                   | Plastic                    |                     |                     |
|                              | Type                       |                   | Centrifugal fan            |                     |                     |
|                              | Diameter                   | in. (mm)          | 18-3/4 (476)               |                     |                     |
|                              | Height                     | in. (mm)          | 4-15/16 (125)              |                     |                     |
| Indoor coil                  | Number of rows             |                   | 2                          |                     |                     |
|                              | Tube pitch(a)×row pitch(b) | in. (mm)          | 13/16×17/32 (21×13.37)     |                     |                     |
|                              | Fin spacing                | in. (mm)          | 1/16 (1.5)                 |                     |                     |
|                              | Fin type                   |                   | Hydrophilic aluminium      |                     |                     |
|                              | Tube size                  | in. (mm)          | Φ9/32 (7)                  |                     |                     |
|                              | Tube type                  |                   | Innergroove tube           |                     |                     |
|                              | Coil length×height         | in. (mm)          | 80-3/4×6-5/8 (2051×168)    |                     |                     |
|                              | Number of circuits         |                   | 8                          |                     |                     |
| Indoor air flow (H/M/L)      |                            | m <sup>3</sup> /h | 942/777/662                | 1235/1013/805       | 1235/1013/805       |
|                              |                            | CFM               | 554/457/389                | 726/596/474         | 726/596/474         |
| Sound pressure level (H/M/L) |                            | dB(A)             | 35/31/27                   | 43/37/31            | 43/37/31            |
| Indoor unit body             | Net dimension (W×H×D)      | inch              | 33-1/16×9-1/16×33-1/16     |                     |                     |
|                              |                            | mm                | 840×230×840                |                     |                     |
|                              | Packing size (W×H×D)       | inch              | 37-19/32×10-1/4×37-19/32   |                     |                     |
|                              |                            | mm                | 955×260×955                |                     |                     |
|                              | Net/Gross weight           | lbs               | 52.1/63.6                  |                     |                     |
|                              |                            | kg                | 23.7/28.9                  |                     |                     |
| Indoor unit panel            | Model                      |                   | T-MBQ4-02B1                |                     |                     |
|                              | Net dimension (W×H×D)      | inch              | 37-13/32×2-9/64×37-13/32   |                     |                     |
|                              |                            | mm                | 950×54.5×950               |                     |                     |
|                              | Packing size (W×H×D)       | inch              | 40-3/4×3-9/16×40-3/4       |                     |                     |
|                              |                            | mm                | 1035×90×1035               |                     |                     |
|                              | Net/Gross weight           | lbs               | 13.2/19.8                  |                     |                     |
| kg                           |                            | 6/9               |                            |                     |                     |
| Refrigerant type             |                            |                   | R410A                      |                     |                     |
| Throttle type                |                            |                   | Electronic expansion valve |                     |                     |
| Design pressure (H/L)        |                            | MPa               | 4.4/2.6                    |                     |                     |
| Pipe connections             | Liquid pipe                | in. (mm)          | Φ3/8 (9.53)                |                     |                     |
|                              | Gas pipe                   | in. (mm)          | Φ5/8 (15.9)                |                     |                     |
|                              | Drain pipe                 | in. (mm)          | Φ1-1/4 (32)                |                     |                     |
| Controller                   |                            |                   | Wireless remote controller |                     |                     |

**Notes:**

Capacities are based on the following conditions:

Cooling: Indoor temperature 27°C DB / 19°C WB; Outdoor temperature 35°C DB / 24°C WB.

Heating: Indoor temperature 20°C DB / 15°C WB; Outdoor temperature 7°C DB / 6°C WB.

Piping length: Interconnecting piping length is 7.5m, level difference is 0m.

Sound values are measured in a semi-anechoic room, at a position 1.4m downward from the unit center.

**Specifications**

| Model                        |                                |                   | MDV-D90Q4/<br>VN1-E          | MDV-D100Q4/<br>VN1-E | MDV-D112Q4/<br>VN1-E | MDV-D140Q4/<br>VN1-E     |
|------------------------------|--------------------------------|-------------------|------------------------------|----------------------|----------------------|--------------------------|
| Power supply                 |                                |                   | 208-230V~ 60Hz               |                      |                      |                          |
| Cooling                      | Capacity                       | kW                | 9.0                          | 10.0                 | 11.2                 | 14.0                     |
|                              |                                | Btu/h             | 30708                        | 34120                | 38214                | 47768                    |
|                              | Power input                    | W                 | 187                          | 200                  | 200                  | 220                      |
| Heating                      | Capacity                       | kW                | 10.0                         | 11.1                 | 12.5                 | 16.0                     |
|                              |                                | Btu/h             | 34120                        | 37873                | 42650                | 54592                    |
|                              | Power input                    | W                 | 187                          | 200                  | 200                  | 220                      |
| Indoor fan motor             | Model                          |                   | YDK50-6SA                    | YDK65-6SA            | YDK65-6SA            | YDK65-6SA                |
|                              | Type                           |                   | AC motor                     |                      |                      |                          |
|                              | Brand                          |                   | Weiling, Tongde              |                      |                      |                          |
|                              | Insulation class               |                   | B                            |                      |                      |                          |
|                              | Safe class                     |                   | IPX0                         |                      |                      |                          |
|                              | Input                          | W                 | 170                          | 180                  | 180                  | 200                      |
|                              | Output                         | W                 | 50                           | 65                   | 65                   | 65                       |
|                              | Capacitor                      | uF                | 2.5                          | 3.5                  | 3.5                  | 4                        |
| Indoor fan                   | Material                       |                   | Plastic                      |                      |                      |                          |
|                              | Type                           |                   | Centrifugal fan              |                      |                      |                          |
|                              | Diameter                       | in. (mm)          | 18-3/4 (476)                 |                      |                      |                          |
|                              | Height                         | in. (mm)          | 6-11/16 (170)                |                      |                      |                          |
| Indoor coil                  | Number of rows                 |                   | 2                            | 2                    | 2                    | 3                        |
|                              | Tube pitch(a)×<br>row pitch(b) | in. (mm)          | 13/16×17/32 (21×13.37)       |                      |                      |                          |
|                              | Fin spacing                    | in. (mm)          | 1/16 (1.5)                   |                      |                      |                          |
|                              | Fin type                       |                   | Hydrophilic aluminium        |                      |                      |                          |
|                              | Tube size                      | in. (mm)          | Φ9/32 (7)                    |                      |                      |                          |
|                              | Tube type                      |                   | Innergroove tube             |                      |                      |                          |
|                              | Coil length×<br>height         | in. (mm)          | 80-3/4×9-15/16<br>(2051×252) |                      |                      | 79×9-15/16<br>(2007×252) |
|                              | Number of circuits             |                   | 8                            |                      |                      | 12                       |
| Indoor air flow (H/M/L)      |                                | m <sup>3</sup> /h | 1333/1158/957                | 1634/1219/1139       |                      | 1692/1243/1157           |
|                              |                                | CFM               | 784/681/563                  | 961/717/670          |                      | 995/731/681              |
| Sound pressure level (H/M/L) |                                | dB(A)             | 43/38/32                     | 45/37/35             |                      | 46/38/37                 |
| Indoor unit body             | Net dimension<br>(W×H×D)       | in. (mm)          | 33-1/16×11-13/16×33-1/16     |                      |                      |                          |
|                              |                                | mm                | 840×300×840                  |                      |                      |                          |
|                              | Packing size<br>(W×H×D)        | in. (mm)          | 37-19/32×13×37-19/32         |                      |                      |                          |
|                              |                                | mm                | 955×330×955                  |                      |                      |                          |
|                              | Net/Gross<br>weight            | lbs               | 63.1/75                      | 63.1/75              | 63.1/75              | 68/79.9                  |
|                              |                                | kg                | 28.7/34.1                    | 28.7/34.1            | 28.7/34.1            | 30.9/36.3                |
| Indoor unit panel            | Model                          |                   | T-MBQ4-02B1                  |                      |                      |                          |
|                              | Net dimension<br>(W×H×D)       | in. (mm)          | 37-13/32×2-9/64×37-13/32     |                      |                      |                          |
|                              |                                | mm                | 950×54.5×950                 |                      |                      |                          |
|                              | Packing size<br>(W×H×D)        | in. (mm)          | 40-3/4×3-9/16×40-3/4         |                      |                      |                          |
|                              |                                | mm                | 1035×90×1035                 |                      |                      |                          |
|                              | Net/Gross<br>weight            | lbs               | 13.2/19.8                    |                      |                      |                          |
| kg                           |                                | 6/9               |                              |                      |                      |                          |
| Refrigerant type             |                                |                   | R410A                        |                      |                      |                          |
| Throttle type                |                                |                   | Electronic expansion valve   |                      |                      |                          |
| Design pressure (H/L)        |                                | MPa               | 4.4/2.6                      |                      |                      |                          |
| Pipe connections             | Liquid pipe                    | in. (mm)          | Φ3/8 (9.53)                  |                      |                      |                          |
|                              | Gas pipe                       | in. (mm)          | Φ5/8 (15.9)                  |                      |                      |                          |
|                              | Drain pipe                     | in. (mm)          | Φ1-1/4 (32)                  |                      |                      |                          |
| Controller                   |                                |                   | Wireless remote controller   |                      |                      |                          |

**Notes:**

Capacities are based on the following conditions:

Cooling: Indoor temperature 27°C DB / 19°C WB; Outdoor temperature 35°C DB / 24°C WB.

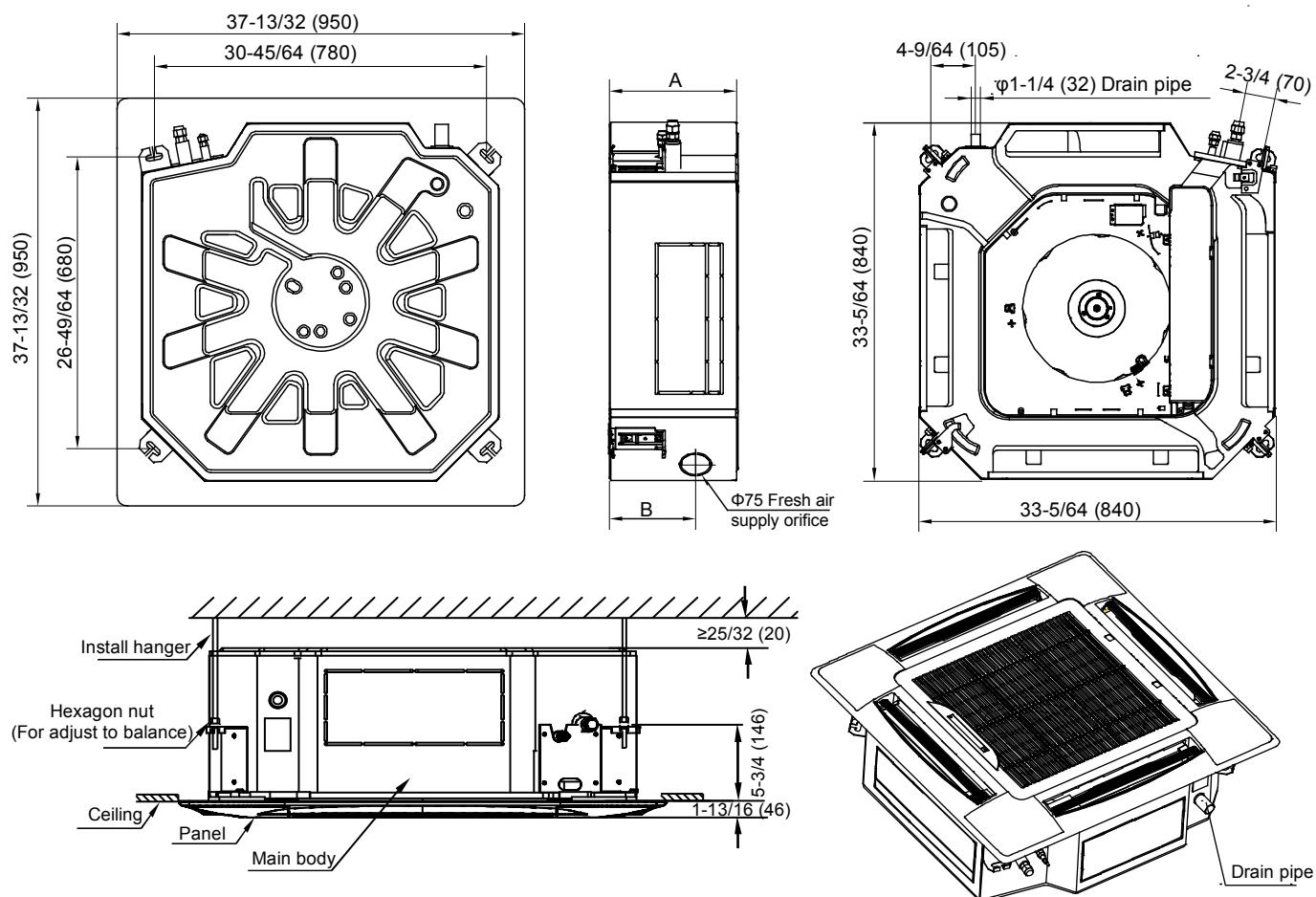
Heating: Indoor temperature 20°C DB / 15°C WB; Outdoor temperature 7°C DB / 6°C WB.

Piping length: Interconnecting piping length is 7.5m, level difference is 0m.

Sound values are measured in a semi-anechoic room, at a position 1.4m downward from the unit center.

### 3. Dimensions

Unit: in. (mm)

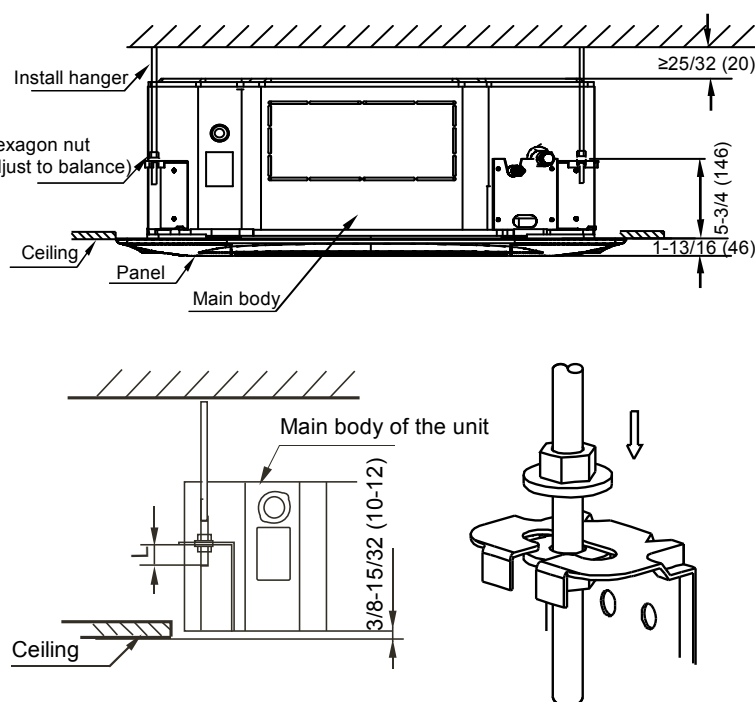
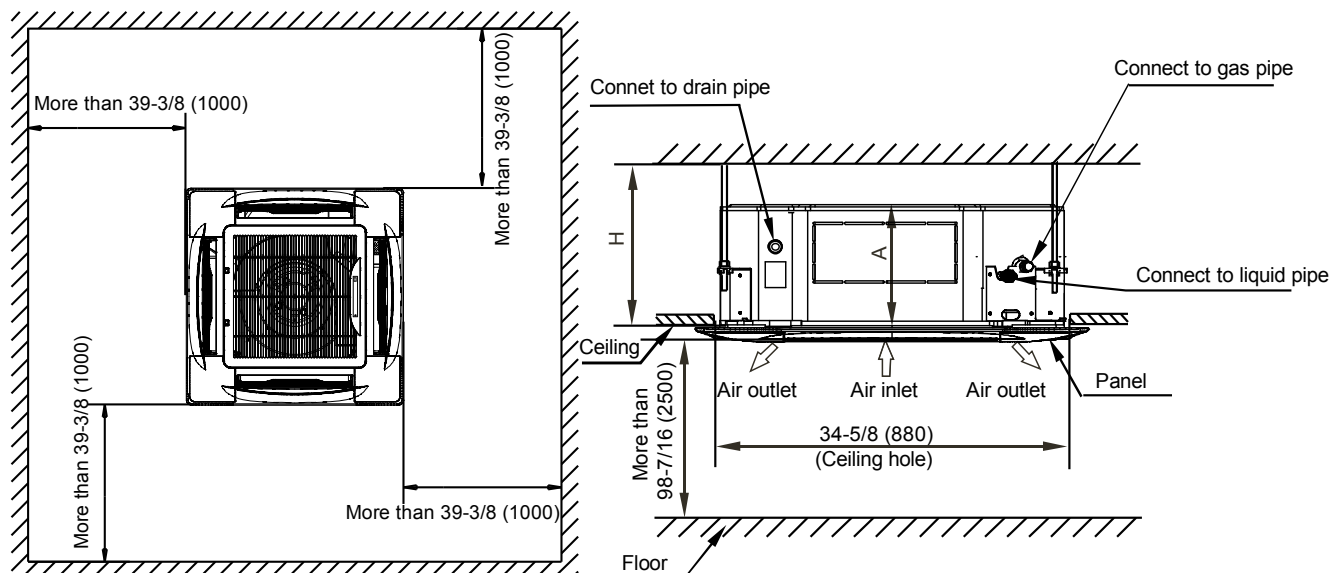


| Model | A<br>in. (mm)  | B<br>in.(mm)  |
|-------|----------------|---------------|
| ≤8kW  | 9-1/16 (230)   | 4-15/16 (126) |
| ≥9kW  | 11-13/16 (300) | 7-3/4 (197)   |

#### 4. Service spaces

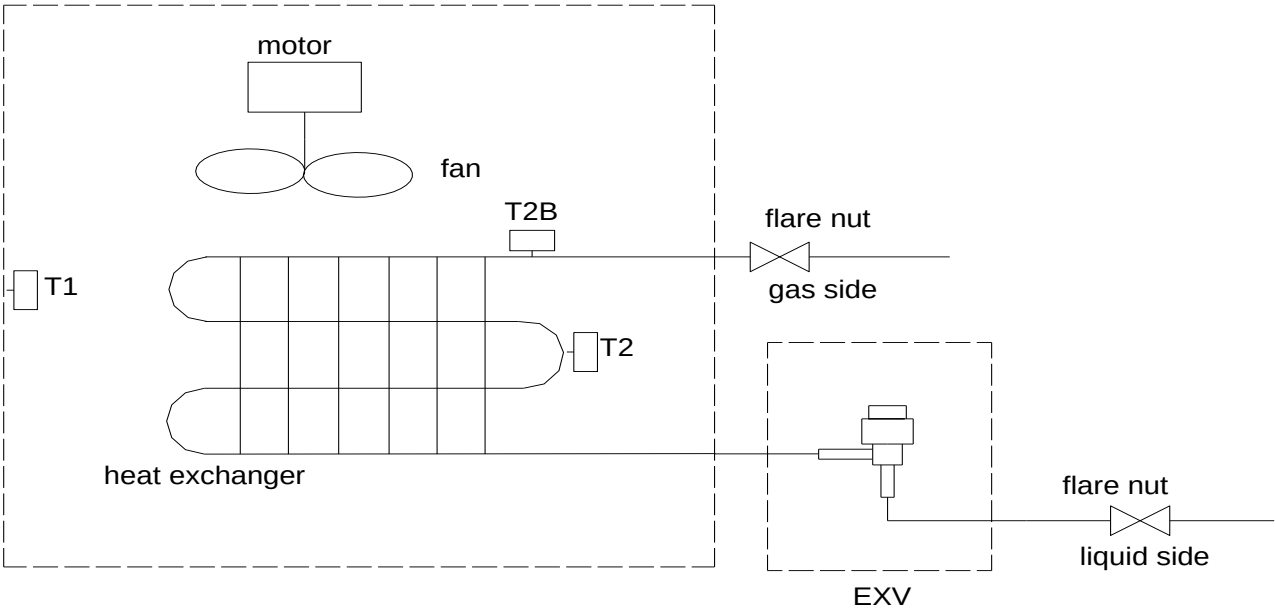
- 1) There is enough room for installation and maintenance.
- 2) The ceiling is horizontal, and its structure can endure the weight of the indoor unit.
- 3) The outlet and the inlet are not impeded, and the influence of external air is the least.
- 4) The air flow can reach throughout the room.
- 5) The connecting pipe and drainpipe could be extracted out easily.
- 6) There is no direct radiation from heaters.

Unit: in. (mm)



| Model | A<br>in. (mm)  | H<br>in.(mm)           |
|-------|----------------|------------------------|
| ≤8kW  | 9-1/16 (230)   | More than 10-1/4 (260) |
| ≥9kW  | 11-13/16 (300) | More than 13 (330)     |

5. Piping diagrams

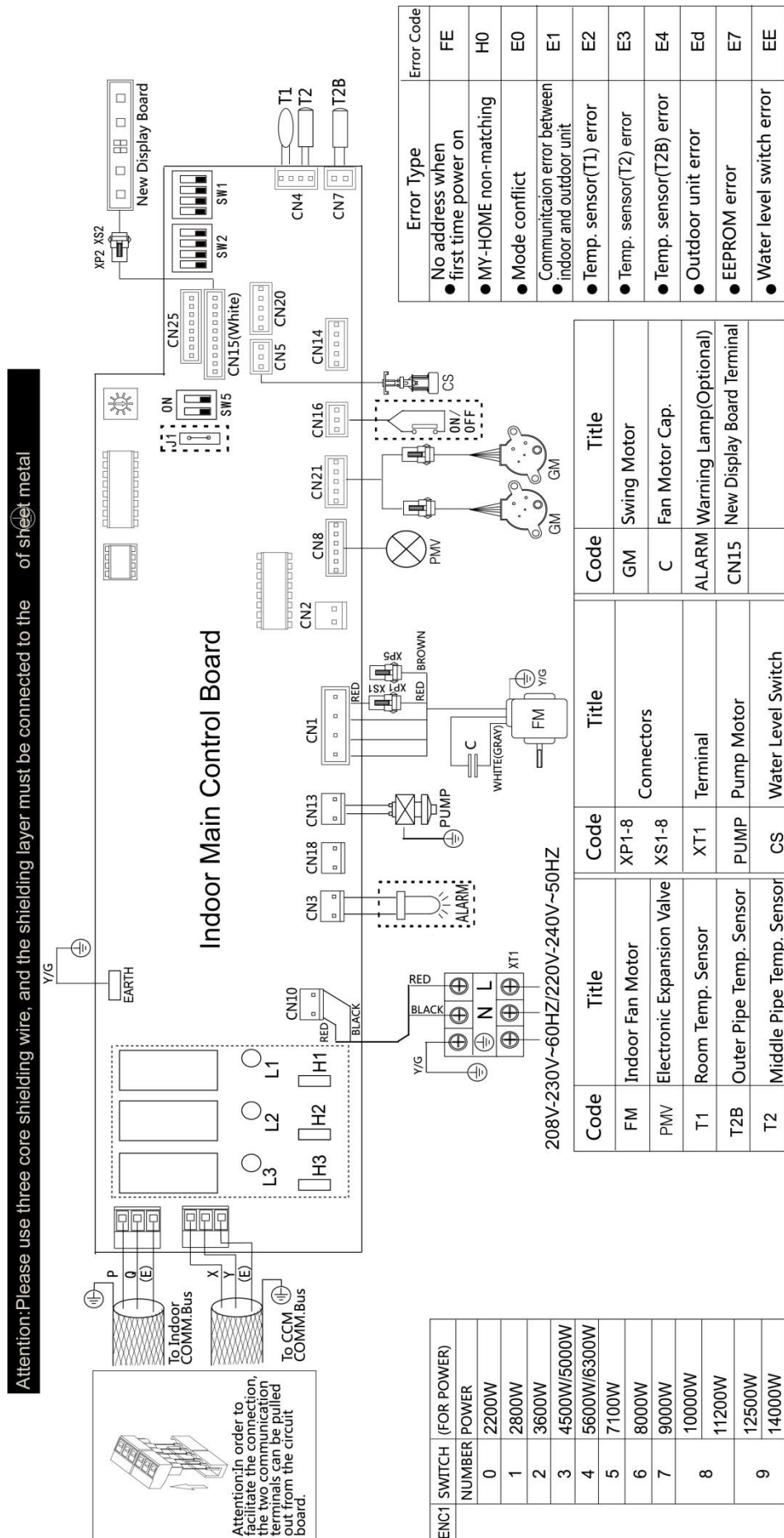


- T1:** Indoor ambient temperature sensor;  
**T2:** Temperature sensor in the middle of evaporator;  
**T2B:** Evaporator outlet temperature sensor.
- Refrigerant pipe connection port diameters

| in. (mm)  |             |             |
|-----------|-------------|-------------|
| Model     | Gas pipe    | Liquid pipe |
| 2.8-4.5kW | Φ1/2 (12.7) | Φ1/4 (6.35) |
| 5.6-14kW  | Φ5/8 (15.9) | Φ3/8 (9.53) |

## 6. Wiring diagrams

Models: 2.8-14kW





## 7. Capacity tables

### 7.1 Cooling capacity tables

**TC:** Total Cooling Capacity; **SC:** Sensible Cooling Capacity

| Unit size (kW) | Outdoor air temp. (°C DB) | Indoor air temp. (°C WB/DB) |          |          |          |          |          |          |          |          |          |          |          |          |          |
|----------------|---------------------------|-----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|                |                           | 14/20                       |          | 16/23    |          | 18/26    |          | 19/27    |          | 20/28    |          | 22/30    |          | 24/32    |          |
|                |                           | TC<br>kW                    | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW |
| 2.8            | 10                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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      |
|                | 23                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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                        | 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      |
| 4.5            | 10                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.3      | 3.4      | 5.9      | 3.0      |
|                | 12                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.3      | 3.4      | 5.9      | 3.0      |
|                | 14                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.3      | 3.4      | 5.8      | 3.0      |
|                | 16                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.3      | 3.4      | 5.6      | 3.0      |
|                | 18                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.3      | 3.4      | 5.7      | 3.0      |
|                | 20                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.3      | 3.4      | 5.7      | 3.0      |
|                | 21                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.3      | 3.4      | 5.6      | 3.0      |
|                | 23                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.3      | 3.4      | 5.5      | 3.0      |
|                | 25                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.2      | 3.0      | 5.4      | 2.9      |
|                | 27                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.1      | 3.0      | 5.2      | 2.8      |
|                | 29                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.1      | 2.9      | 5.2      | 2.8      |
|                | 31                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 5.0      | 2.9      | 5.1      | 2.7      |
|                | 33                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 4.9      | 2.8      | 5.1      | 2.7      |
|                | 35                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 4.8      | 2.8      | 5.0      | 2.7      |
|                | 37                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.8      | 3.0      | 4.8      | 2.9      | 4.9      | 2.6      |
|                | 39                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.6      | 2.8      | 4.7      | 2.8      | 4.8      | 2.6      |
|                | 42                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.6      | 2.8      | 4.7      | 2.8      | 4.8      | 2.6      |
|                | 44                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.6      | 2.8      | 4.7      | 2.8      | 4.8      | 2.6      |
|                | 46                        | 3.1                         | 2.4      | 3.7      | 2.6      | 4.2      | 2.8      | 4.5      | 2.9      | 4.6      | 2.8      | 4.7      | 3.1      | 4.8      | 2.6      |

**Cooling capacity tables****TC:** Total Cooling Capacity; **SC:** Sensible Cooling Capacity

| Unit size (kW) | Outdoor air temp. (°C DB) | Indoor air temp. (°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  |
| 5.6            | 10                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 7.3   | 3.5 |
|                | 12                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 7.2   | 3.5 |
|                | 14                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 7.1   | 3.5 |
|                | 16                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 7.0   | 3.4 |
|                | 18                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 6.8   | 3.4 |
|                | 20                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 6.7   | 3.3 |
|                | 21                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 6.6   | 3.3 |
|                | 23                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 6.6   | 3.3 |
|                | 25                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.6   | 3.6 | 6.5   | 3.2 |
|                | 27                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.4   | 3.5 | 6.4   | 3.2 |
|                | 29                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.3   | 3.5 | 6.4   | 3.3 |
|                | 31                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.2   | 3.4 | 6.2   | 3.2 |
|                | 33                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.2   | 3.4 | 6.2   | 3.2 |
|                | 35                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 6.0   | 3.3 | 6.0   | 3.1 |
|                | 37                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.9   | 3.5 | 5.9   | 3.2 | 6.0   | 3.1 |
|                | 39                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.7   | 3.4 | 5.8   | 3.2 | 6.0   | 3.1 |
|                | 42                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.7   | 3.4 | 5.8   | 3.2 | 6.0   | 3.1 |
|                | 44                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.7   | 3.4 | 5.8   | 3.2 | 6.0   | 3.1 |
|                | 46                        | 3.9                         | 2.7 | 4.6   | 3.0 | 5.3   | 3.3 | 5.6   | 3.4 | 5.7   | 3.7 | 5.8   | 3.2 | 6.0   | 3.1 |
| 7.1            | 10                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 9.2   | 4.6 |
|                | 12                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 9.1   | 4.5 |
|                | 14                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 9.0   | 4.5 |
|                | 16                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.9   | 4.4 |
|                | 18                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.7   | 4.3 |
|                | 20                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.5   | 4.2 |
|                | 21                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.4   | 4.2 |
|                | 23                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.3   | 4.1 |
|                | 25                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.4   | 4.5 | 8.2   | 4.1 |
|                | 27                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.4 | 8.1   | 4.3 | 8.2   | 4.1 |
|                | 29                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.5 | 8.0   | 4.3 | 8.1   | 4.1 |
|                | 31                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.5 | 7.9   | 4.3 | 7.8   | 4.0 |
|                | 33                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.5 | 7.8   | 4.2 | 7.8   | 4.0 |
|                | 35                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.5   | 4.5 | 7.6   | 4.1 | 7.7   | 4.0 |
|                | 37                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.4   | 4.4 | 7.5   | 4.1 | 7.6   | 4.0 |
|                | 39                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.2   | 4.3 | 7.4   | 4.1 | 7.6   | 4.0 |
|                | 42                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.2   | 4.3 | 7.4   | 4.1 | 7.6   | 4.0 |
|                | 44                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.2   | 4.3 | 7.4   | 4.1 | 7.6   | 4.0 |
|                | 46                        | 4.9                         | 3.6 | 5.8   | 4.0 | 6.7   | 4.3 | 7.1   | 4.5 | 7.2   | 4.3 | 7.4   | 4.1 | 7.6   | 4.0 |
| 8.0            | 10                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.4 | 9.4   | 5.5 | 10.4  | 5.6 |
|                | 12                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.4 | 9.4   | 5.5 | 10.2  | 5.5 |
|                | 14                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.4 | 9.4   | 5.5 | 10.2  | 5.5 |
|                | 16                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.4 | 9.4   | 5.5 | 10.0  | 5.4 |
|                | 18                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.4 | 9.4   | 5.5 | 9.8   | 5.3 |
|                | 20                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.4 | 9.4   | 5.5 | 9.6   | 5.2 |
|                | 21                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.4 | 9.4   | 5.5 | 9.4   | 5.1 |
|                | 23                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.4 | 9.4   | 5.5 | 9.4   | 5.1 |
|                | 25                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.4 | 9.4   | 5.5 | 9.3   | 5.1 |
|                | 27                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.4 | 9.1   | 5.3 | 9.2   | 5.1 |
|                | 29                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.5 | 9.0   | 5.3 | 9.1   | 5.0 |
|                | 31                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.5 | 8.9   | 5.2 | 8.8   | 4.9 |
|                | 33                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.5 | 8.8   | 5.2 | 8.8   | 4.9 |
|                | 35                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.4   | 5.5 | 8.6   | 5.1 | 8.6   | 4.8 |
|                | 37                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.3   | 5.4 | 8.4   | 5.0 | 8.6   | 4.8 |
|                | 39                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.1   | 5.3 | 8.3   | 5.0 | 8.6   | 4.8 |
|                | 42                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.1   | 5.3 | 8.3   | 5.0 | 8.6   | 4.8 |
|                | 44                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.1   | 5.3 | 8.3   | 5.0 | 8.6   | 4.8 |
|                | 46                        | 5.5                         | 4.4 | 6.6   | 4.9 | 7.5   | 5.3 | 8.0   | 5.5 | 8.1   | 5.3 | 8.3   | 5.0 | 8.6   | 4.8 |

**Cooling capacity tables****TC:** Total Cooling Capacity; **SC:** Sensible Cooling Capacity

| Unit size (kW) | Outdoor air temp. (°C DB) | Indoor air temp. (°C WB/DB) |          |          |          |          |          |          |          |          |          |          |          |          |          |
|----------------|---------------------------|-----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|                |                           | 14/20                       |          | 16/23    |          | 18/26    |          | 19/27    |          | 20/28    |          | 22/30    |          | 24/32    |          |
|                |                           | TC<br>kW                    | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW | TC<br>kW | SC<br>kW |
| 9.0            | 10                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.6     | 6.1      | 11.7     | 6.0      |
|                | 12                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.6     | 6.1      | 11.5     | 5.9      |
|                | 14                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.6     | 6.1      | 11.4     | 5.9      |
|                | 16                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.6     | 6.1      | 11.3     | 5.8      |
|                | 18                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.6     | 6.1      | 11.0     | 5.8      |
|                | 20                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.6     | 6.1      | 10.8     | 5.7      |
|                | 21                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.6     | 6.1      | 10.6     | 5.6      |
|                | 23                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.6     | 6.1      | 10.5     | 5.5      |
|                | 25                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.6     | 6.1      | 10.4     | 5.5      |
|                | 27                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.3     | 5.9      | 10.4     | 5.4      |
|                | 29                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.1     | 5.7      | 10.3     | 5.4      |
|                | 31                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 10.0     | 5.7      | 9.9      | 5.3      |
|                | 33                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.6      | 6.0      | 9.9      | 5.6      | 9.9      | 5.3      |
|                | 35                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.5      | 6.0      | 9.6      | 5.5      | 9.7      | 5.3      |
|                | 37                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.3      | 5.8      | 9.5      | 5.4      | 9.6      | 5.3      |
|                | 39                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.2      | 5.7      | 9.4      | 5.3      | 9.6      | 5.3      |
|                | 42                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.2      | 5.7      | 9.4      | 5.3      | 9.6      | 5.3      |
|                | 44                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.2      | 5.7      | 9.4      | 5.3      | 9.6      | 5.3      |
|                | 46                        | 6.2                         | 4.9      | 7.3      | 5.3      | 8.4      | 5.8      | 9.0      | 5.9      | 9.2      | 5.7      | 9.4      | 5.3      | 9.6      | 5.3      |
| 10.0           | 10                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.9     | 7.3      | 13.0     | 7.3      |
|                | 12                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.9     | 7.3      | 12.8     | 7.2      |
|                | 14                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.9     | 7.3      | 12.7     | 7.1      |
|                | 16                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.9     | 7.3      | 12.5     | 7.0      |
|                | 18                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.9     | 7.3      | 12.2     | 6.8      |
|                | 20                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.9     | 7.3      | 12.0     | 6.7      |
|                | 21                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.9     | 7.3      | 11.8     | 6.6      |
|                | 23                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.7     | 7.3      | 11.7     | 6.6      |
|                | 25                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.6     | 7.2      | 11.6     | 6.5      |
|                | 27                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.5     | 7.1      | 11.5     | 6.6      |
|                | 29                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.4     | 7.1      | 11.4     | 6.5      |
|                | 31                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.3     | 7.0      | 11.0     | 6.3      |
|                | 33                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.6     | 7.0      | 11.2     | 6.9      | 11.0     | 6.3      |
|                | 35                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.5     | 6.9      | 10.8     | 6.7      | 10.8     | 6.3      |
|                | 37                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.4     | 6.9      | 10.8     | 6.7      | 10.7     | 6.2      |
|                | 39                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.2     | 6.7      | 10.4     | 6.6      | 10.7     | 6.3      |
|                | 42                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.2     | 6.7      | 10.4     | 6.6      | 10.7     | 6.3      |
|                | 44                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.2     | 6.7      | 10.4     | 6.6      | 10.7     | 6.3      |
|                | 46                        | 6.9                         | 5.6      | 8.1      | 6.2      | 9.4      | 6.9      | 10.0     | 7.0      | 10.2     | 6.7      | 10.4     | 6.6      | 10.7     | 6.3      |
| 11.2           | 10                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 13.3     | 7.6      | 15.5     | 8.2      |
|                | 12                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 13.3     | 7.6      | 14.4     | 7.7      |
|                | 14                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 13.3     | 7.6      | 14.2     | 7.6      |
|                | 16                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 13.3     | 7.6      | 14.1     | 7.5      |
|                | 18                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 13.3     | 7.6      | 14.0     | 7.5      |
|                | 20                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 13.3     | 7.6      | 13.9     | 7.4      |
|                | 21                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 13.3     | 7.6      | 13.8     | 7.4      |
|                | 23                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 13.1     | 7.5      | 13.7     | 7.3      |
|                | 25                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 13.0     | 7.4      | 13.6     | 7.2      |
|                | 27                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 12.9     | 7.3      | 13.4     | 7.2      |
|                | 29                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 12.8     | 7.3      | 13.3     | 7.2      |
|                | 31                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 12.7     | 7.2      | 12.8     | 6.9      |
|                | 33                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.9     | 7.4      | 12.5     | 7.2      | 12.5     | 6.8      |
|                | 35                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.8     | 7.4      | 12.4     | 7.1      | 12.3     | 6.7      |
|                | 37                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.6     | 7.3      | 12.3     | 7.0      | 12.1     | 6.6      |
|                | 39                        | 7.7                         | 5.9      | 9.1      | 6.5      | 10.5     | 7.1      | 11.2     | 7.2      | 11.4     | 7.1      | 12.2     | 7.0      | 11.9     | 6.6      |
|                | 42                        | 7.7                         | 6.0      | 9.1      | 6.6      | 10.4     | 7.2      | 11.2     | 7.3      | 11.4     | 7.1      | 11.6     | 6.6      | 12.0     | 6.6      |
|                | 44                        | 7.7                         | 6.0      | 9.1      | 6.6      | 10.4     | 7.2      | 11.2     | 7.3      | 11.4     | 7.1      | 11.6     | 6.6      | 12.0     | 6.6      |
|                | 46                        | 7.7                         | 6.0      | 9.1      | 6.6      | 10.4     | 7.2      | 11.2     | 7.3      | 11.4     | 7.1      | 11.6     | 6.6      | 12.0     | 6.6      |

**Cooling capacity tables****TC:** Total Cooling Capacity; **SC:** Sensible Cooling Capacity

| Unit size (kW) | Outdoor air temp. (°C DB) | Indoor air temp. (°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  |
| 14.0           | 10                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.7  | 9.3 | 18.2  | 9.4 |
|                | 12                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.7  | 9.3 | 17.9  | 9.2 |
|                | 14                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.7  | 9.3 | 17.8  | 9.2 |
|                | 16                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.7  | 9.3 | 17.5  | 9.0 |
|                | 18                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.7  | 9.3 | 17.1  | 8.8 |
|                | 20                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.7  | 9.3 | 16.8  | 8.7 |
|                | 21                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.7  | 9.3 | 16.5  | 8.5 |
|                | 23                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.4  | 9.3 | 16.4  | 8.4 |
|                | 25                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.2  | 9.3 | 16.2  | 8.4 |
|                | 27                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.1  | 9.2 | 16.1  | 8.4 |
|                | 29                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 16.0  | 9.1 | 16.0  | 8.4 |
|                | 31                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 15.8  | 9.0 | 15.4  | 8.1 |
|                | 33                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.8  | 9.0 | 15.7  | 8.9 | 15.4  | 8.1 |
|                | 35                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.7  | 8.9 | 15.1  | 8.6 | 15.1  | 8.1 |
|                | 37                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.6  | 8.8 | 15.1  | 8.6 | 15.0  | 8.0 |
|                | 39                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.3  | 8.7 | 14.6  | 8.4 | 15.0  | 8.1 |
|                | 42                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.3  | 8.7 | 14.6  | 8.4 | 15.0  | 8.1 |
|                | 44                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.3  | 8.7 | 14.6  | 8.4 | 15.0  | 8.1 |
|                | 46                        | 9.7                         | 7.2 | 11.3  | 7.9 | 13.2  | 8.8 | 14.0  | 9.0 | 14.3  | 8.7 | 14.6  | 8.4 | 15.0  | 8.1 |

**7.2 Heating capacity tables****TC:** Total Heating Capacity

| Unit size (kW) | Outdoor air temp. (°C) |       | Indoor air temp. (°C DB) |      |      |      |      |      |
|----------------|------------------------|-------|--------------------------|------|------|------|------|------|
|                |                        |       | 16.0                     | 18.0 | 20.0 | 21.0 | 22.0 | 24.0 |
|                |                        |       | TC                       | TC   | TC   | TC   | TC   | TC   |
|                | WB                     | DB    | kW                       | kW   | kW   | kW   | kW   | kW   |
| 2.8            | -20.0                  | -19.8 | 1.79                     | 1.79 | 1.79 | 1.79 | 1.79 | 1.79 |
|                | -19.0                  | -18.8 | 1.92                     | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 |
|                | -17.0                  | -16.7 | 2.02                     | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 |
|                | -15.0                  | -14.7 | 2.08                     | 2.08 | 2.08 | 2.08 | 2.08 | 2.08 |
|                | -13.0                  | -12.6 | 2.21                     | 2.21 | 2.21 | 2.21 | 2.21 | 2.21 |
|                | -11.0                  | -10.5 | 2.24                     | 2.27 | 2.27 | 2.27 | 2.27 | 2.27 |
|                | -10.0                  | -9.5  | 2.34                     | 2.34 | 2.34 | 2.34 | 2.34 | 2.34 |
|                | -9.1                   | -8.5  | 2.40                     | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 |
|                | -7.6                   | -7.0  | 2.43                     | 2.43 | 2.43 | 2.43 | 2.43 | 2.43 |
|                | -5.6                   | -5.0  | 2.53                     | 2.53 | 2.53 | 2.53 | 2.53 | 2.53 |
|                | -3.7                   | -3.0  | 2.66                     | 2.66 | 2.66 | 2.66 | 2.66 | 2.66 |
|                | -0.7                   | 0.0   | 2.85                     | 2.85 | 2.85 | 2.85 | 2.85 | 2.69 |
|                | 2.2                    | 3.0   | 3.01                     | 3.01 | 3.01 | 3.01 | 2.94 | 2.69 |
|                | 4.1                    | 5.0   | 3.10                     | 3.10 | 3.10 | 3.10 | 2.94 | 2.69 |
|                | 6.0                    | 7.0   | 3.20                     | 3.20 | 3.20 | 3.10 | 2.94 | 2.69 |
|                | 7.9                    | 9.0   | 3.30                     | 3.30 | 3.20 | 3.10 | 2.94 | 2.69 |
|                | 9.8                    | 11.0  | 3.39                     | 3.39 | 3.20 | 3.10 | 2.94 | 2.69 |
|                | 11.8                   | 13.0  | 3.52                     | 3.46 | 3.20 | 3.10 | 2.94 | 2.69 |
|                | 13.7                   | 15.0  | 3.62                     | 3.46 | 3.20 | 3.10 | 2.94 | 2.69 |

**Heating capacity tables****TC: Total Heating Capacity**

| Unit size<br>(kW) | Outdoor<br>air temp. (°C) |       | Indoor air temp. (°C DB) |      |      |      |      |      |
|-------------------|---------------------------|-------|--------------------------|------|------|------|------|------|
|                   |                           |       | 16.0                     | 18.0 | 20.0 | 21.0 | 22.0 | 24.0 |
|                   |                           |       | TC                       | TC   | TC   | TC   | TC   | TC   |
|                   | WB                        | DB    | kW                       | kW   | kW   | kW   | kW   | kW   |
| 3.6               | -20.0                     | -19.8 | 2.24                     | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 |
|                   | -19.0                     | -18.8 | 2.40                     | 2.40 | 2.40 | 2.40 | 2.40 | 2.40 |
|                   | -17.0                     | -16.7 | 2.52                     | 2.52 | 2.52 | 2.52 | 2.52 | 2.52 |
|                   | -15.0                     | -14.7 | 2.60                     | 2.60 | 2.60 | 2.60 | 2.60 | 2.60 |
|                   | -13.0                     | -12.6 | 2.76                     | 2.76 | 2.76 | 2.76 | 2.76 | 2.76 |
|                   | -11.0                     | -10.5 | 2.80                     | 2.84 | 2.84 | 2.84 | 2.84 | 2.84 |
|                   | -10.0                     | -9.5  | 2.92                     | 2.92 | 2.92 | 2.92 | 2.92 | 2.92 |
|                   | -9.1                      | -8.5  | 3.00                     | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|                   | -7.6                      | -7.0  | 3.04                     | 3.04 | 3.04 | 3.04 | 3.04 | 3.04 |
|                   | -5.6                      | -5.0  | 3.16                     | 3.16 | 3.16 | 3.16 | 3.16 | 3.16 |
|                   | -3.7                      | -3.0  | 3.32                     | 3.32 | 3.32 | 3.32 | 3.32 | 3.32 |
|                   | -0.7                      | 0.0   | 3.56                     | 3.56 | 3.56 | 3.56 | 3.56 | 3.36 |
|                   | 2.2                       | 3.0   | 3.76                     | 3.76 | 3.76 | 3.76 | 3.68 | 3.36 |
|                   | 4.1                       | 5.0   | 3.88                     | 3.88 | 3.88 | 3.88 | 3.68 | 3.36 |
|                   | 6.0                       | 7.0   | 4.00                     | 4.00 | 4.00 | 3.88 | 3.68 | 3.36 |
|                   | 7.9                       | 9.0   | 4.12                     | 4.12 | 4.00 | 3.88 | 3.68 | 3.36 |
|                   | 9.8                       | 11.0  | 4.24                     | 4.24 | 4.00 | 3.88 | 3.68 | 3.36 |
|                   | 11.8                      | 13.0  | 4.40                     | 4.32 | 4.00 | 3.88 | 3.68 | 3.36 |
|                   | 13.7                      | 15.0  | 4.52                     | 4.32 | 4.00 | 3.88 | 3.68 | 3.36 |
| 4.5               | -20.0                     | -19.8 | 2.80                     | 2.80 | 2.80 | 2.80 | 2.80 | 2.80 |
|                   | -19.0                     | -18.8 | 3.00                     | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
|                   | -17.0                     | -16.7 | 3.15                     | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 |
|                   | -15.0                     | -14.7 | 3.25                     | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 |
|                   | -13.0                     | -12.6 | 3.45                     | 3.45 | 3.45 | 3.45 | 3.45 | 3.45 |
|                   | -11.0                     | -10.5 | 3.50                     | 3.55 | 3.55 | 3.55 | 3.55 | 3.55 |
|                   | -10.0                     | -9.5  | 3.65                     | 3.65 | 3.65 | 3.65 | 3.65 | 3.65 |
|                   | -9.1                      | -8.5  | 3.75                     | 3.75 | 3.75 | 3.75 | 3.75 | 3.75 |
|                   | -7.6                      | -7.0  | 3.80                     | 3.80 | 3.80 | 3.80 | 3.80 | 3.80 |
|                   | -5.6                      | -5.0  | 3.95                     | 3.95 | 3.95 | 3.95 | 3.95 | 3.95 |
|                   | -3.7                      | -3.0  | 4.15                     | 4.15 | 4.15 | 4.15 | 4.15 | 4.15 |
|                   | -0.7                      | 0.0   | 4.45                     | 4.45 | 4.45 | 4.45 | 4.45 | 4.20 |
|                   | 2.2                       | 3.0   | 4.70                     | 4.70 | 4.70 | 4.70 | 4.60 | 4.20 |
|                   | 4.1                       | 5.0   | 4.85                     | 4.85 | 4.85 | 4.85 | 4.60 | 4.20 |
|                   | 6.0                       | 7.0   | 5.00                     | 5.00 | 5.00 | 4.85 | 4.60 | 4.20 |
|                   | 7.9                       | 9.0   | 5.15                     | 5.15 | 5.00 | 4.85 | 4.60 | 4.20 |
|                   | 9.8                       | 11.0  | 5.30                     | 5.30 | 5.00 | 4.85 | 4.60 | 4.20 |
|                   | 11.8                      | 13.0  | 5.50                     | 5.40 | 5.00 | 4.85 | 4.60 | 4.20 |
|                   | 13.7                      | 15.0  | 5.65                     | 5.40 | 5.00 | 4.85 | 4.60 | 4.20 |
| 5.6               | -20.0                     | -19.8 | 3.53                     | 3.53 | 3.53 | 3.53 | 3.53 | 3.53 |
|                   | -19.0                     | -18.8 | 3.78                     | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 |
|                   | -17.0                     | -16.7 | 3.97                     | 3.97 | 3.97 | 3.97 | 3.97 | 3.97 |
|                   | -15.0                     | -14.7 | 4.10                     | 4.10 | 4.10 | 4.10 | 4.10 | 4.10 |
|                   | -13.0                     | -12.6 | 4.35                     | 4.35 | 4.35 | 4.35 | 4.35 | 4.35 |
|                   | -11.0                     | -10.5 | 4.41                     | 4.47 | 4.47 | 4.47 | 4.47 | 4.47 |
|                   | -10.0                     | -9.5  | 4.60                     | 4.60 | 4.60 | 4.60 | 4.60 | 4.60 |
|                   | -9.1                      | -8.5  | 4.73                     | 4.73 | 4.73 | 4.73 | 4.73 | 4.73 |
|                   | -7.6                      | -7.0  | 4.79                     | 4.79 | 4.79 | 4.79 | 4.79 | 4.79 |
|                   | -5.6                      | -5.0  | 4.98                     | 4.98 | 4.98 | 4.98 | 4.98 | 4.98 |
|                   | -3.7                      | -3.0  | 5.23                     | 5.23 | 5.23 | 5.23 | 5.23 | 5.23 |
|                   | -0.7                      | 0.0   | 5.61                     | 5.61 | 5.61 | 5.61 | 5.61 | 5.29 |
|                   | 2.2                       | 3.0   | 5.92                     | 5.92 | 5.92 | 5.92 | 5.80 | 5.29 |
|                   | 4.1                       | 5.0   | 6.11                     | 6.11 | 6.11 | 6.11 | 5.80 | 5.29 |
|                   | 6.0                       | 7.0   | 6.30                     | 6.30 | 6.30 | 6.11 | 5.80 | 5.29 |
|                   | 7.9                       | 9.0   | 6.49                     | 6.49 | 6.30 | 6.11 | 5.80 | 5.29 |
|                   | 9.8                       | 11.0  | 6.68                     | 6.68 | 6.30 | 6.11 | 5.80 | 5.29 |
|                   | 11.8                      | 13.0  | 6.93                     | 6.80 | 6.30 | 6.11 | 5.80 | 5.29 |
|                   | 13.7                      | 15.0  | 7.12                     | 6.80 | 6.30 | 6.11 | 5.80 | 5.29 |

**Heating capacity tables****TC: Total Heating Capacity**

| Unit size<br>(kW) | Outdoor<br>air temp. (°C) |       | Indoor air temp. (°C DB) |       |       |      |      |      |
|-------------------|---------------------------|-------|--------------------------|-------|-------|------|------|------|
|                   |                           |       | 16.0                     | 18.0  | 20.0  | 21.0 | 22.0 | 24.0 |
|                   |                           |       | TC                       | TC    | TC    | TC   | TC   | TC   |
|                   | WB                        | DB    | kW                       | kW    | kW    | kW   | kW   | kW   |
| 7.1               | -20.0                     | -19.8 | 4.48                     | 4.48  | 4.48  | 4.48 | 4.48 | 4.48 |
|                   | -19.0                     | -18.8 | 4.80                     | 4.80  | 4.80  | 4.80 | 4.80 | 4.80 |
|                   | -17.0                     | -16.7 | 5.04                     | 5.04  | 5.04  | 5.04 | 5.04 | 5.04 |
|                   | -15.0                     | -14.7 | 5.20                     | 5.20  | 5.20  | 5.20 | 5.20 | 5.20 |
|                   | -13.0                     | -12.6 | 5.52                     | 5.52  | 5.52  | 5.52 | 5.52 | 5.52 |
|                   | -11.0                     | -10.5 | 5.60                     | 5.68  | 5.68  | 5.68 | 5.68 | 5.68 |
|                   | -10.0                     | -9.5  | 5.84                     | 5.84  | 5.84  | 5.84 | 5.84 | 5.84 |
|                   | -9.1                      | -8.5  | 6.00                     | 6.00  | 6.00  | 6.00 | 6.00 | 6.00 |
|                   | -7.6                      | -7.0  | 6.08                     | 6.08  | 6.08  | 6.08 | 6.08 | 6.08 |
|                   | -5.6                      | -5.0  | 6.32                     | 6.32  | 6.32  | 6.32 | 6.32 | 6.32 |
|                   | -3.7                      | -3.0  | 6.64                     | 6.64  | 6.64  | 6.64 | 6.64 | 6.64 |
|                   | -0.7                      | 0.0   | 7.12                     | 7.12  | 7.12  | 7.12 | 7.12 | 6.72 |
|                   | 2.2                       | 3.0   | 7.52                     | 7.52  | 7.52  | 7.52 | 7.36 | 6.72 |
|                   | 4.1                       | 5.0   | 7.76                     | 7.76  | 7.76  | 7.76 | 7.36 | 6.72 |
|                   | 6.0                       | 7.0   | 8.00                     | 8.00  | 8.00  | 7.76 | 7.36 | 6.72 |
|                   | 7.9                       | 9.0   | 8.24                     | 8.24  | 8.00  | 7.76 | 7.36 | 6.72 |
|                   | 9.8                       | 11.0  | 8.48                     | 8.48  | 8.00  | 7.76 | 7.36 | 6.72 |
| 8.0               | 11.8                      | 13.0  | 8.80                     | 8.64  | 8.00  | 7.76 | 7.36 | 6.72 |
|                   | 13.7                      | 15.0  | 9.04                     | 8.64  | 8.00  | 7.76 | 7.36 | 6.72 |
|                   | -20.0                     | -19.8 | 5.04                     | 5.04  | 5.04  | 5.04 | 5.04 | 5.04 |
|                   | -19.0                     | -18.8 | 5.40                     | 5.40  | 5.40  | 5.40 | 5.40 | 5.40 |
|                   | -17.0                     | -16.7 | 5.67                     | 5.67  | 5.67  | 5.67 | 5.67 | 5.67 |
|                   | -15.0                     | -14.7 | 5.85                     | 5.85  | 5.85  | 5.85 | 5.85 | 5.85 |
|                   | -13.0                     | -12.6 | 6.21                     | 6.21  | 6.21  | 6.21 | 6.21 | 6.21 |
|                   | -11.0                     | -10.5 | 6.30                     | 6.39  | 6.39  | 6.39 | 6.39 | 6.39 |
|                   | -10.0                     | -9.5  | 6.57                     | 6.57  | 6.57  | 6.57 | 6.57 | 6.57 |
|                   | -9.1                      | -8.5  | 6.75                     | 6.75  | 6.75  | 6.75 | 6.75 | 6.75 |
|                   | -7.6                      | -7.0  | 6.84                     | 6.84  | 6.84  | 6.84 | 6.84 | 6.84 |
|                   | -5.6                      | -5.0  | 7.11                     | 7.11  | 7.11  | 7.11 | 7.11 | 7.11 |
|                   | -3.7                      | -3.0  | 7.47                     | 7.47  | 7.47  | 7.47 | 7.47 | 7.47 |
|                   | -0.7                      | 0.0   | 8.01                     | 8.01  | 8.01  | 8.01 | 8.01 | 7.56 |
|                   | 2.2                       | 3.0   | 8.46                     | 8.46  | 8.46  | 8.46 | 8.28 | 7.56 |
|                   | 4.1                       | 5.0   | 8.73                     | 8.73  | 8.73  | 8.73 | 8.28 | 7.56 |
|                   | 6.0                       | 7.0   | 9.00                     | 9.00  | 9.00  | 8.73 | 8.28 | 7.56 |
| 9.0               | 7.9                       | 9.0   | 9.27                     | 9.27  | 9.00  | 8.73 | 8.28 | 7.56 |
|                   | 9.8                       | 11.0  | 9.54                     | 9.54  | 9.00  | 8.73 | 8.28 | 7.56 |
|                   | 11.8                      | 13.0  | 9.90                     | 9.72  | 9.00  | 8.73 | 8.28 | 7.56 |
|                   | 13.7                      | 15.0  | 10.17                    | 9.72  | 9.00  | 8.73 | 8.28 | 7.56 |
|                   | -20.0                     | -19.8 | 5.60                     | 5.60  | 5.60  | 5.60 | 5.60 | 5.60 |
|                   | -19.0                     | -18.8 | 6.00                     | 6.00  | 6.00  | 6.00 | 6.00 | 6.00 |
|                   | -17.0                     | -16.7 | 6.30                     | 6.30  | 6.30  | 6.30 | 6.30 | 6.30 |
|                   | -15.0                     | -14.7 | 6.50                     | 6.50  | 6.50  | 6.50 | 6.50 | 6.50 |
|                   | -13.0                     | -12.6 | 6.90                     | 6.90  | 6.90  | 6.90 | 6.90 | 6.90 |
|                   | -11.0                     | -10.5 | 7.00                     | 7.10  | 7.10  | 7.10 | 7.10 | 7.10 |
|                   | -10.0                     | -9.5  | 7.30                     | 7.30  | 7.30  | 7.30 | 7.30 | 7.30 |
|                   | -9.1                      | -8.5  | 7.50                     | 7.50  | 7.50  | 7.50 | 7.50 | 7.50 |
|                   | -7.6                      | -7.0  | 7.60                     | 7.60  | 7.60  | 7.60 | 7.60 | 7.60 |
|                   | -5.6                      | -5.0  | 7.90                     | 7.90  | 7.90  | 7.90 | 7.90 | 7.90 |
|                   | -3.7                      | -3.0  | 8.30                     | 8.30  | 8.30  | 8.30 | 8.30 | 8.30 |
|                   | -0.7                      | 0.0   | 8.90                     | 8.90  | 8.90  | 8.90 | 8.90 | 8.40 |
|                   | 2.2                       | 3.0   | 9.40                     | 9.40  | 9.40  | 9.40 | 9.20 | 8.40 |
|                   | 4.1                       | 5.0   | 9.70                     | 9.70  | 9.70  | 9.70 | 9.20 | 8.40 |
|                   | 6.0                       | 7.0   | 10.00                    | 10.00 | 10.00 | 9.70 | 9.20 | 8.40 |
|                   | 7.9                       | 9.0   | 10.30                    | 10.30 | 10.00 | 9.70 | 9.20 | 8.40 |
|                   | 9.8                       | 11.0  | 10.60                    | 10.60 | 10.00 | 9.70 | 9.20 | 8.40 |
|                   | 11.8                      | 13.0  | 11.00                    | 10.80 | 10.00 | 9.70 | 9.20 | 8.40 |
|                   | 13.7                      | 15.0  | 11.30                    | 10.80 | 10.00 | 9.70 | 9.20 | 8.40 |

**Heating capacity tables****TC: Total Heating Capacity**

| Unit size<br>(kW) | Outdoor<br>air temp. (°C) |       | Indoor air temp. (°C DB) |       |       |       |       |       |
|-------------------|---------------------------|-------|--------------------------|-------|-------|-------|-------|-------|
|                   |                           |       | 16.0                     | 18.0  | 20.0  | 21.0  | 22.0  | 24.0  |
|                   |                           |       | TC                       | TC    | TC    | TC    | TC    | TC    |
|                   | WB                        | DB    | kW                       | kW    | kW    | kW    | kW    | kW    |
| 10.0              | -20.0                     | -19.8 | 6.22                     | 6.22  | 6.22  | 6.22  | 6.22  | 6.22  |
|                   | -19.0                     | -18.8 | 6.66                     | 6.66  | 6.66  | 6.66  | 6.66  | 6.66  |
|                   | -17.0                     | -16.7 | 6.99                     | 6.99  | 6.99  | 6.99  | 6.99  | 6.99  |
|                   | -15.0                     | -14.7 | 7.22                     | 7.22  | 7.22  | 7.22  | 7.22  | 7.22  |
|                   | -13.0                     | -12.6 | 7.66                     | 7.66  | 7.66  | 7.66  | 7.66  | 7.66  |
|                   | -11.0                     | -10.5 | 7.77                     | 7.88  | 7.88  | 7.88  | 7.88  | 7.88  |
|                   | -10.0                     | -9.5  | 8.10                     | 8.10  | 8.10  | 8.10  | 8.10  | 8.10  |
|                   | -9.1                      | -8.5  | 8.33                     | 8.33  | 8.33  | 8.33  | 8.33  | 8.33  |
|                   | -7.6                      | -7.0  | 8.44                     | 8.44  | 8.44  | 8.44  | 8.44  | 8.44  |
|                   | -5.6                      | -5.0  | 8.77                     | 8.77  | 8.77  | 8.77  | 8.77  | 8.77  |
|                   | -3.7                      | -3.0  | 9.21                     | 9.21  | 9.21  | 9.21  | 9.21  | 9.21  |
|                   | -0.7                      | 0.0   | 9.88                     | 9.88  | 9.88  | 9.88  | 9.88  | 9.32  |
|                   | 2.2                       | 3.0   | 10.43                    | 10.43 | 10.43 | 10.43 | 10.21 | 9.32  |
|                   | 4.1                       | 5.0   | 10.77                    | 10.77 | 10.77 | 10.77 | 10.21 | 9.32  |
|                   | 6.0                       | 7.0   | 11.10                    | 11.10 | 11.10 | 10.77 | 10.21 | 9.32  |
|                   | 7.9                       | 9.0   | 11.43                    | 11.43 | 11.10 | 10.77 | 10.21 | 9.32  |
|                   | 9.8                       | 11.0  | 11.77                    | 11.77 | 11.10 | 10.77 | 10.21 | 9.32  |
|                   | 11.8                      | 13.0  | 12.21                    | 11.99 | 11.10 | 10.77 | 10.21 | 9.32  |
|                   | 13.7                      | 15.0  | 12.54                    | 11.99 | 11.10 | 10.77 | 10.21 | 9.32  |
| 11.2              | -20.0                     | -19.8 | 7.00                     | 7.00  | 7.00  | 7.00  | 7.00  | 7.00  |
|                   | -19.0                     | -18.8 | 7.50                     | 7.50  | 7.50  | 7.50  | 7.50  | 7.50  |
|                   | -17.0                     | -16.7 | 7.88                     | 7.88  | 7.88  | 7.88  | 7.88  | 7.88  |
|                   | -15.0                     | -14.7 | 8.13                     | 8.13  | 8.13  | 8.13  | 8.13  | 8.13  |
|                   | -13.0                     | -12.6 | 8.63                     | 8.63  | 8.63  | 8.63  | 8.63  | 8.63  |
|                   | -11.0                     | -10.5 | 8.75                     | 8.88  | 8.88  | 8.88  | 8.88  | 8.88  |
|                   | -10.0                     | -9.5  | 9.13                     | 9.13  | 9.13  | 9.13  | 9.13  | 9.13  |
|                   | -9.1                      | -8.5  | 9.38                     | 9.38  | 9.38  | 9.38  | 9.38  | 9.38  |
|                   | -7.6                      | -7.0  | 9.50                     | 9.50  | 9.50  | 9.50  | 9.50  | 9.50  |
|                   | -5.6                      | -5.0  | 9.88                     | 9.88  | 9.88  | 9.88  | 9.88  | 9.88  |
|                   | -3.7                      | -3.0  | 10.38                    | 10.38 | 10.38 | 10.38 | 10.38 | 10.38 |
|                   | -0.7                      | 0.0   | 11.13                    | 11.13 | 11.13 | 11.13 | 11.13 | 10.50 |
|                   | 2.2                       | 3.0   | 11.75                    | 11.75 | 11.75 | 11.75 | 11.50 | 10.50 |
|                   | 4.1                       | 5.0   | 12.13                    | 12.13 | 12.13 | 12.13 | 11.50 | 10.50 |
|                   | 6.0                       | 7.0   | 12.50                    | 12.50 | 12.50 | 12.13 | 11.50 | 10.50 |
|                   | 7.9                       | 9.0   | 12.88                    | 12.88 | 12.50 | 12.13 | 11.50 | 10.50 |
|                   | 9.8                       | 11.0  | 13.25                    | 13.25 | 12.50 | 12.13 | 11.50 | 10.50 |
|                   | 11.8                      | 13.0  | 13.75                    | 13.50 | 12.50 | 12.13 | 11.50 | 10.50 |
|                   | 13.7                      | 15.0  | 14.13                    | 13.50 | 12.50 | 12.13 | 11.50 | 10.50 |
| 14.0              | -20.0                     | -19.8 | 8.96                     | 8.96  | 8.96  | 8.96  | 8.96  | 8.96  |
|                   | -19.0                     | -18.8 | 9.60                     | 9.60  | 9.60  | 9.60  | 9.60  | 9.60  |
|                   | -17.0                     | -16.7 | 10.08                    | 10.08 | 10.08 | 10.08 | 10.08 | 10.08 |
|                   | -15.0                     | -14.7 | 10.40                    | 10.40 | 10.40 | 10.40 | 10.40 | 10.40 |
|                   | -13.0                     | -12.6 | 11.04                    | 11.04 | 11.04 | 11.04 | 11.04 | 11.04 |
|                   | -11.0                     | -10.5 | 11.20                    | 11.36 | 11.36 | 11.36 | 11.36 | 11.36 |
|                   | -10.0                     | -9.5  | 11.68                    | 11.68 | 11.68 | 11.68 | 11.68 | 11.68 |
|                   | -9.1                      | -8.5  | 12.00                    | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
|                   | -7.6                      | -7.0  | 12.16                    | 12.16 | 12.16 | 12.16 | 12.16 | 12.16 |
|                   | -5.6                      | -5.0  | 12.64                    | 12.64 | 12.64 | 12.64 | 12.64 | 12.64 |
|                   | -3.7                      | -3.0  | 13.28                    | 13.28 | 13.28 | 13.28 | 13.28 | 13.28 |
|                   | -0.7                      | 0.0   | 14.24                    | 14.24 | 14.24 | 14.24 | 14.24 | 13.44 |
|                   | 2.2                       | 3.0   | 15.04                    | 15.04 | 15.04 | 15.04 | 14.72 | 13.44 |
|                   | 4.1                       | 5.0   | 15.52                    | 15.52 | 15.52 | 15.52 | 14.72 | 13.44 |
|                   | 6.0                       | 7.0   | 16.00                    | 16.00 | 16.00 | 15.52 | 14.72 | 13.44 |
|                   | 7.9                       | 9.0   | 16.48                    | 16.48 | 16.00 | 15.52 | 14.72 | 13.44 |
|                   | 9.8                       | 11.0  | 16.96                    | 16.96 | 16.00 | 15.52 | 14.72 | 13.44 |
|                   | 11.8                      | 13.0  | 17.60                    | 17.28 | 16.00 | 15.52 | 14.72 | 13.44 |
|                   | 13.7                      | 15.0  | 18.08                    | 17.28 | 16.00 | 15.52 | 14.72 | 13.44 |

## 8. Electrical characteristics

| Model            | Indoor unit |         |      |      | Power supply |     | IFM   |      |
|------------------|-------------|---------|------|------|--------------|-----|-------|------|
|                  | Hz          | Voltage | Min. | Max. | MCA          | MFA | kW    | FLA  |
| MDV-D28Q4/VN1-E  | 60          | 208-230 | 198  | 242  | 0.39         | 10  | 0.026 | 0.31 |
| MDV-D36Q4/VN1-E  | 60          | 208-230 | 198  | 242  | 0.39         | 10  | 0.026 | 0.31 |
| MDV-D45Q4/VN1-E  | 60          | 208-230 | 198  | 242  | 0.5          | 10  | 0.026 | 0.4  |
| MDV-D56Q4/VN1-E  | 60          | 208-230 | 198  | 242  | 0.5          | 10  | 0.026 | 0.4  |
| MDV-D71Q4/VN1-E  | 60          | 208-230 | 198  | 242  | 0.54         | 15  | 0.037 | 0.43 |
| MDV-D80Q4/VN1-E  | 60          | 208-230 | 198  | 242  | 0.67         | 15  | 0.037 | 0.53 |
| MDV-D90Q4/VN1-E  | 60          | 208-230 | 198  | 242  | 1.05         | 15  | 0.05  | 0.84 |
| MDV-D100Q4/VN1-E | 60          | 208-230 | 198  | 242  | 1.09         | 15  | 0.065 | 0.87 |
| MDV-D112Q4/VN1-E | 60          | 208-230 | 198  | 242  | 1.09         | 15  | 0.065 | 0.87 |
| MDV-D140Q4/VN1-E | 60          | 208-230 | 198  | 242  | 1.18         | 15  | 0.065 | 0.94 |

### Remarks:

**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

### Note:

1) Voltage range

Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.

2) Maximum allowable voltage unbalance between phase is 2%.

3) MCA

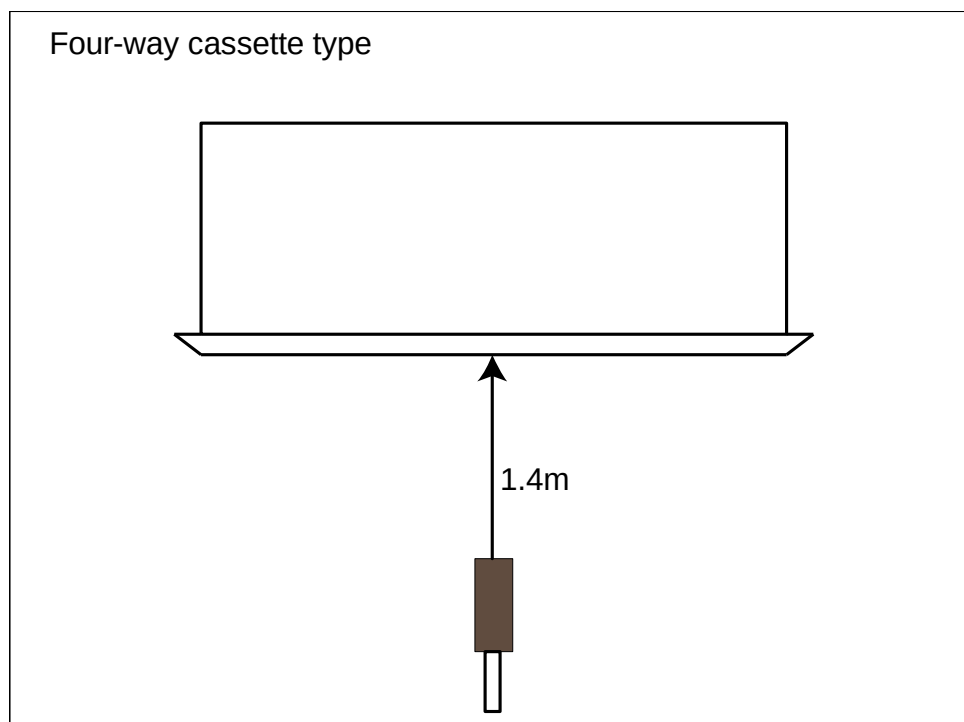
$$MCA = 1.25 \times FLA$$

4) Select wire size based on the MCA.

5) Instead of fuse, use Circuit Breaker.



## 9. Sound levels

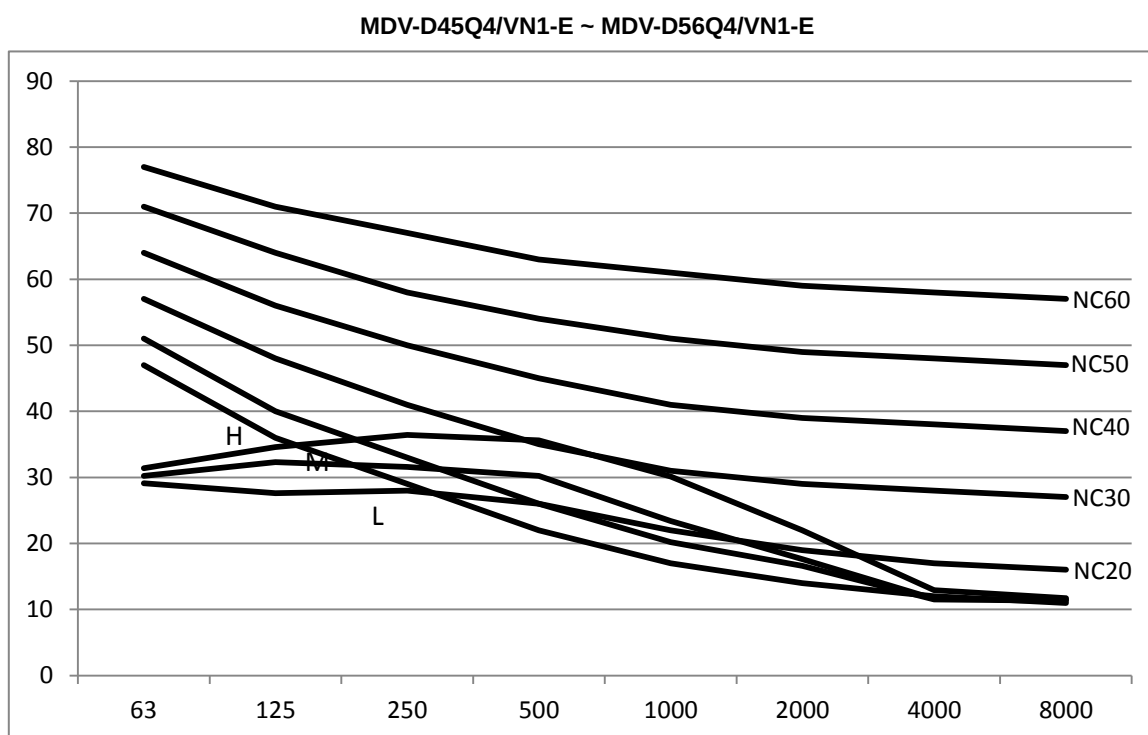
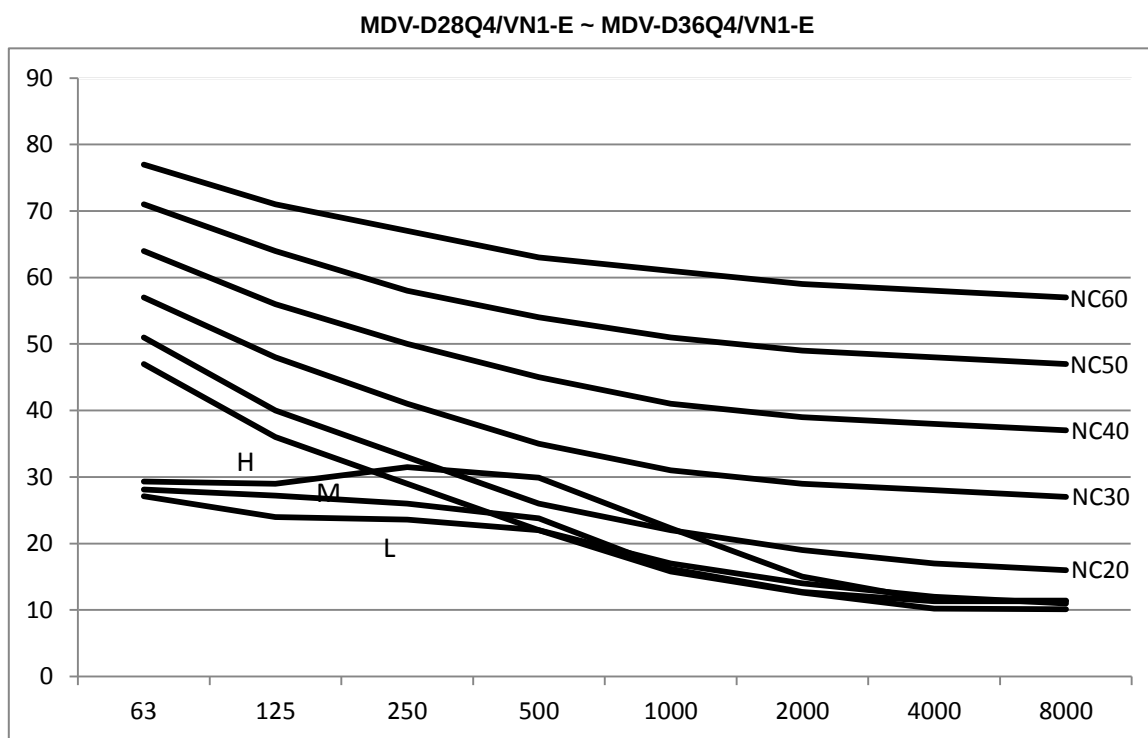


Note:

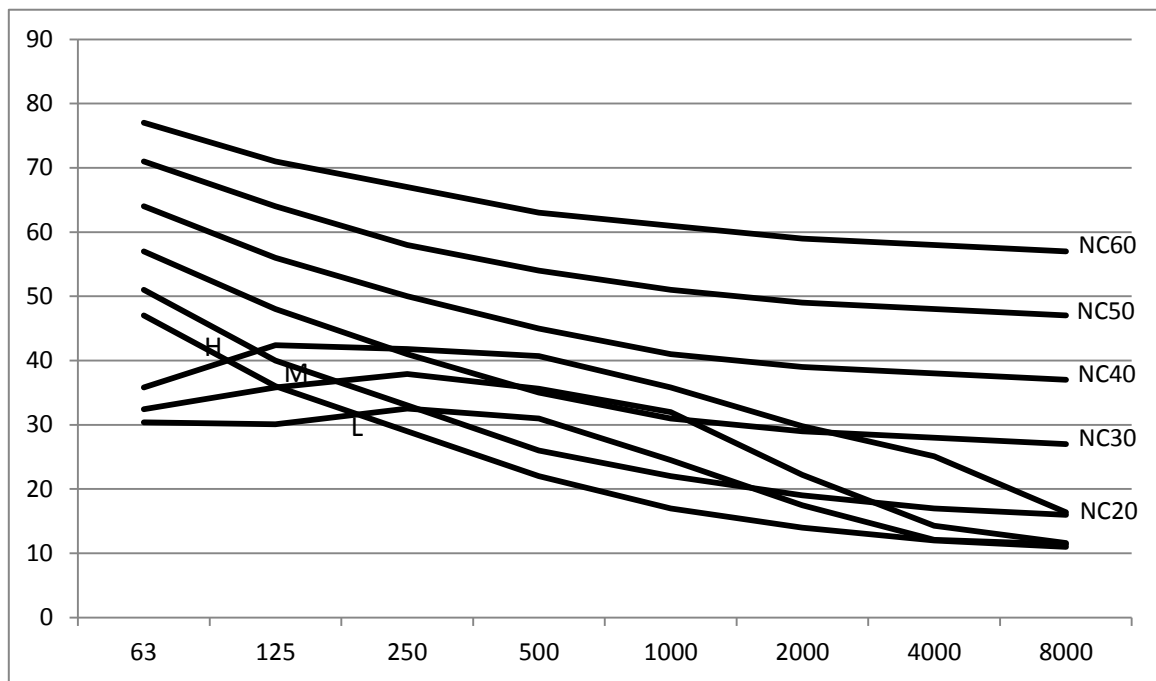
1. Sound values are measured in a semi-anechoic room, at a position 1.4m downward from the unit center.
2. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

| Model            | Sound pressure level dB(A) |    |    |
|------------------|----------------------------|----|----|
|                  | H                          | M  | L  |
| MDV-D28Q4/VN1-E  | 30                         | 25 | 22 |
| MDV-D36Q4/VN1-E  | 30                         | 25 | 22 |
| MDV-D45Q4/VN1-E  | 35                         | 31 | 27 |
| MDV-D56Q4/VN1-E  | 35                         | 31 | 27 |
| MDV-D71Q4/VN1-E  | 43                         | 37 | 31 |
| MDV-D80Q4/VN1-E  | 43                         | 37 | 31 |
| MDV-D90Q4/VN1-E  | 43                         | 38 | 32 |
| MDV-D100Q4/VN1-E | 45                         | 37 | 35 |
| MDV-D112Q4/VN1-E | 45                         | 37 | 35 |
| MDV-D140Q4/VN1-E | 46                         | 38 | 37 |

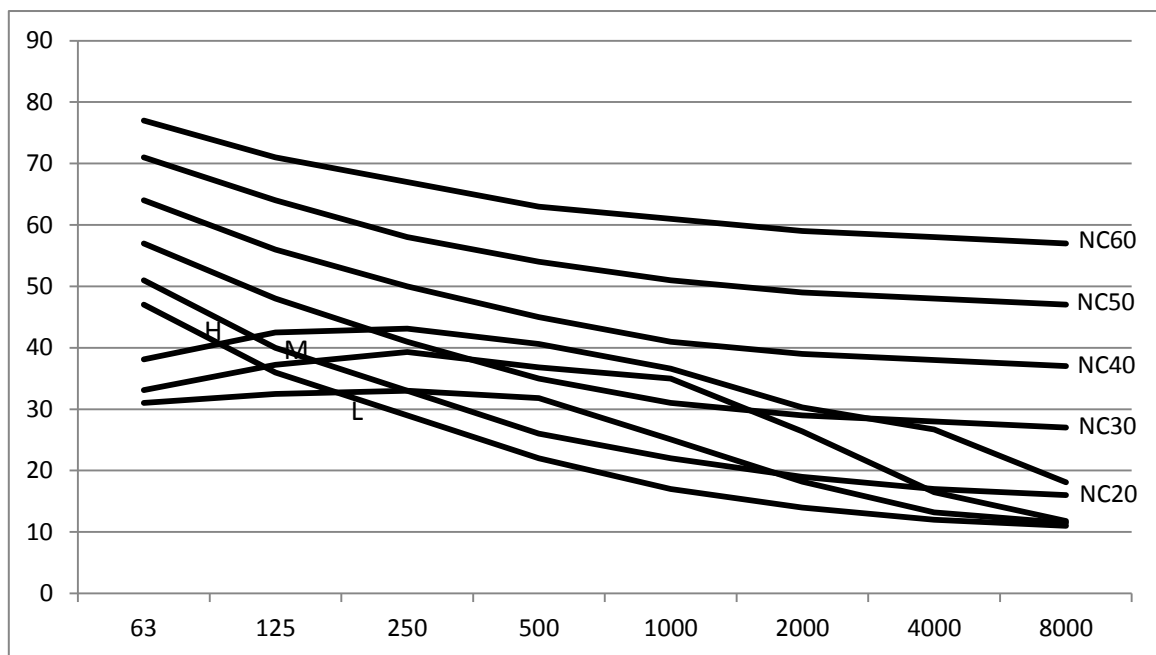
Octave band level



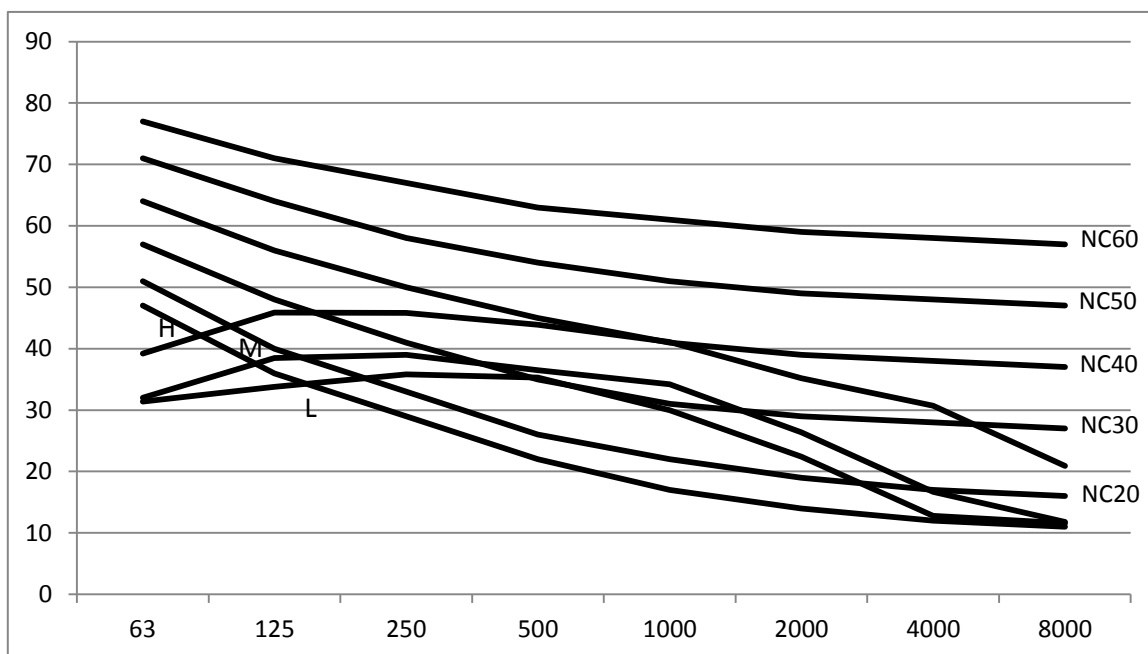
MDV-D71Q4/VN1-E ~ MDV-D80Q4/VN1-E



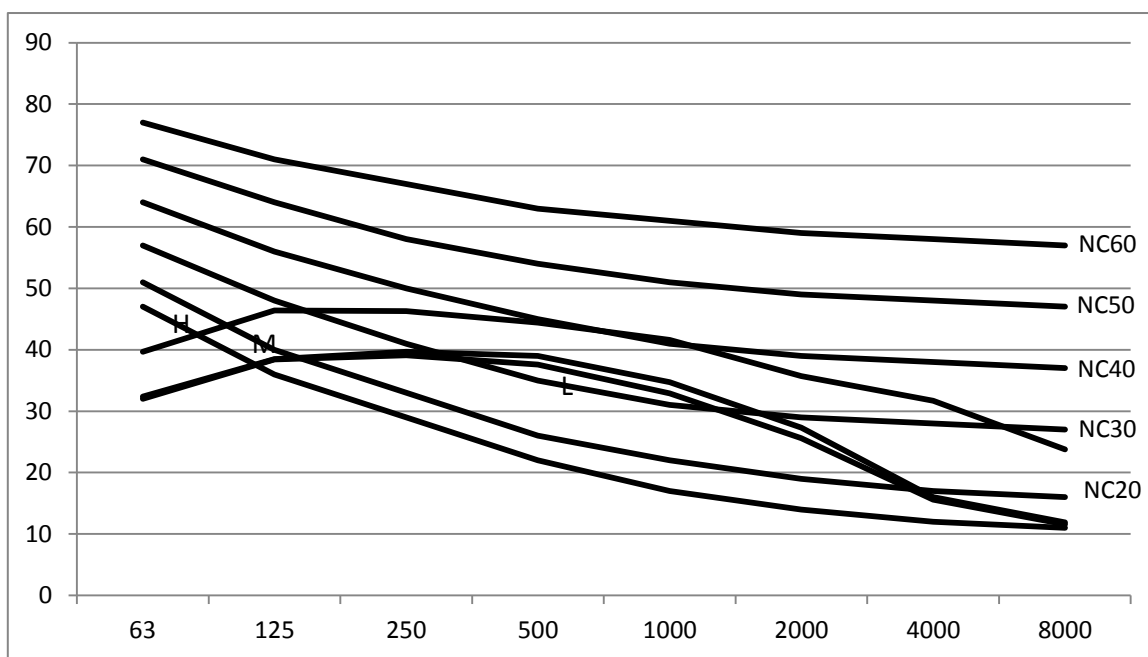
MDV-D90Q4/VN1-E



MDV-D100Q4/VN1-E ~ MDV-D112Q4/VN1-E



MDV-D140Q4/VN1-E



## 10. Accessories

### Attached accessories

| Name                               | Shape                                                                               | Quantity |
|------------------------------------|-------------------------------------------------------------------------------------|----------|
| Nut                                |    | 8        |
| Washer                             |    | 8        |
| Installation paper board           |    | 1        |
| Bolt M6                            |    | 4        |
| Connection pipe                    |    | 1        |
| Soundproof / insulation sheath     |    | 2        |
| Sponge (250×250×10)                |    | 1        |
| Sponge (60×100×5)                  |    | 1        |
| Outlet pipe sheath                 |    | 1        |
| Outlet pipe clasp                  |    | 1        |
| Tightening band                    |    | 5        |
| Flexible hose tube                 |    | 1        |
| Signal line                        |    | 1        |
| Remote controller                  |   | 1        |
| Frame                              |  | 1        |
| Alkaline dry batteries (AM4)       |  | 2        |
| Remote controller operation manual |  | 1        |
| Installation manual                |  | 1        |
| Copper (use for pipe connection)   |  | 1        |

### Local purchased accessories

| Name                        | Shape                                                                               | Specification                                                                                                                                              | Quantity                  | Remark                                                                                           |
|-----------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------|
| Copper pipe                 |  | Liquid pipe & gas pipe<br>Refer to specifications                                                                                                          | According to actual needs | Use for connecting the indoor unit refrigerant system, suggest to use flexible copper pipe (T2M) |
| PVC pipe                    |  | external diameter is about 37~39mm,<br>inner diameter is 32mm                                                                                              | According to actual needs | Use for draining the water in the indoor unit                                                    |
| Heat insulation casing pipe |  | Inner diameter corresponds with the copper pipe and PVC pipe, the thickness should be 10mm (above), and it should be thicker when in the close humid area. | According to actual needs | Use for preventing the condensate water                                                          |
| Expansile hook              |  | M10                                                                                                                                                        | 4                         | Use for the installation of the indoor unit, please purchase from the market                     |
| Installation hook           |  | M10                                                                                                                                                        | 4                         | Use for the installation of the indoor unit, please purchase from the market                     |



GD Midea Heating & Ventilating Equipment Co., Ltd.  
Is certified under the ISO 14001 International standard  
for environmental management.  
Certificate No.15912E10020R0L



GD Midea Heating & Ventilating Equipment Co., Ltd.  
Is certified under the ISO 9001 International standard  
for quality assurance.  
NO.01 100 019209



GD Midea Heating & Ventilating Equipment Co., Ltd.  
Certificate of Occupational Health and Safety Management System  
Certificate No. 15912S20006R0L-1.

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quality and performance.

Midea CAC After-service Application



iOS Version

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iOS Version