

# OMEGA MINI VRF ULTIMA

## SUBMITTAL DATA

**220~240V/1/50-60Hz**

Job:

Location:

Schedule No.:

System Designation:

Engineer:

Architect:

Date:

| For: | Reference | Approval | Review | Construction |
|------|-----------|----------|--------|--------------|
|------|-----------|----------|--------|--------------|

### FEATURES

- Anti-Corrosion Protection
- Welding Free Branch Piping
- Automatic Fault Detection
- Cooling and Heating System
- Refrigerant-Cooled PCB Board
- Linear Capacity Match with IDU
- Intelligent Soft Start
- Full DC Inverter Technology



## 1. Specifications

### B R Four-way Cassette Mini VRF Ultima

| Model                             |                                     |                   | BECR010N0A-DWV028           | BECR012N0A-DWV036 | BECR015N0A-DWV045           | BECR019N0A-DWV056           |
|-----------------------------------|-------------------------------------|-------------------|-----------------------------|-------------------|-----------------------------|-----------------------------|
| Power supply                      |                                     |                   | 1-phase, 220-240V, 50/60Hz  |                   |                             |                             |
| Cooling <sup>1</sup>              | Capacity                            | kW                | 2.8                         | 3.6               | 4.5                         | 5.6                         |
|                                   |                                     | kBtu/h            | 9.6                         | 12.3              | 15.4                        | 19.1                        |
|                                   | Power input                         | W                 | 17                          | 17                | 36                          | 23                          |
| Heating <sup>2</sup>              | Capacity                            | kW                | 3.2                         | 4.0               | 5.0                         | 6.3                         |
|                                   |                                     | kBtu/h            | 10.9                        | 13.7              | 17.1                        | 21.5                        |
|                                   | Power input                         | W                 | 17                          | 17                | 36                          | 23                          |
| Fan motor type                    |                                     |                   | DC                          |                   |                             |                             |
| Indoor coil                       | Number of rows                      |                   | 1                           | 1                 | 1                           | 2                           |
|                                   | Tube pitch × row pitch              | mm                | 18×10.72                    |                   |                             |                             |
|                                   | Fin spacing and type                | mm                | 1.2 Hydrophilic aluminum    |                   |                             |                             |
|                                   | Tube OD and type                    | mm                | Φ5 Inner-groove             |                   |                             |                             |
|                                   | Dimensions (L×H×W)                  | mm                | 2165×144×10.72              |                   |                             |                             |
|                                   | Number of circuits                  |                   | 4                           | 4                 | 4                           | 8                           |
| Air flow rate <sup>3</sup>        |                                     | m <sup>3</sup> /h | 790/740/691/641/591/542/492 |                   | 910/840/770/701/631/561/491 | 840/791/741/692/642/593/543 |
| Sound pressure level <sup>4</sup> |                                     | dB(A)             | 30/29/28/27.5/27/26/25      |                   | 37/35/34/32/30/29/27        | 33/32/31/30/29/28/27        |
| Sound power level                 |                                     | dB(A)             | 44/43/42/42/41/40/39        |                   | 52/51/49/47/45/43/40        | 49/48/47/47/46/45/44        |
| Main body                         | Net dimensions <sup>5</sup> (W×H×D) | mm                | 840×204×840                 |                   |                             |                             |
|                                   | Packed dimensions (W×H×D)           | mm                | 940×250×940                 |                   |                             |                             |
|                                   | Net/Gross weight                    | kg                | 18/20.5                     |                   |                             | 19.5/22                     |
| Panel                             | Net dimensions <sup>6</sup> (W×H×D) | mm                | 950×53×950                  |                   |                             |                             |
|                                   | Packed dimensions (W×H×D)           | mm                | 1020×90×1020                |                   |                             |                             |
|                                   | Net/Gross weight                    | kg                | 5.6/7.3                     |                   |                             |                             |
| Refrigerant type                  |                                     |                   | R410A/R32                   |                   |                             |                             |
| Design pressure (H/L)             |                                     | MPa               | 4.4/2.6                     |                   |                             |                             |
| Pipe connections                  | Liquid/Gas pipe                     | mm                | Φ6.35/Φ12.7                 |                   |                             |                             |
|                                   | Drain pipe                          | mm                | OD Φ25                      |                   |                             |                             |

#### Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured 1.5m below the unit in a semi-anechoic chamber.
- The dimension is only the body size, excluding the size of the installation lug, connecting copper pipe, etc. For detailed dimensions, please refer to the installation manual.
- Exposed height of the panel after being installed on the ceiling.

## 1. Specifications

## BECR Four-way Cassette Mini VRF Ultima

| Model                             |                                     |                   | BECR024N0A-DWV071                | BECR027N0A-DWV080                 | BECR031N0A-DWV090                   |
|-----------------------------------|-------------------------------------|-------------------|----------------------------------|-----------------------------------|-------------------------------------|
| Power supply                      |                                     |                   | 1-phase, 220-240V, 50/60Hz       |                                   |                                     |
| Cooling <sup>1</sup>              | Capacity                            | kW                | 7.1                              | 8.0                               | 9.0                                 |
|                                   |                                     | kBtu/h            | 24.2                             | 27.3                              | 30.7                                |
|                                   | Power input                         | W                 | 32                               | 41                                | 43                                  |
| Heating <sup>2</sup>              | Capacity                            | kW                | 8.0                              | 9.0                               | 10.0                                |
|                                   |                                     | kBtu/h            | 27.3                             | 30.7                              | 34.1                                |
|                                   | Power input                         | W                 | 32                               | 41                                | 43                                  |
| Fan motor type                    |                                     |                   | DC                               |                                   |                                     |
| Indoor coil                       | Number of rows                      |                   | 2                                | 3                                 | 2                                   |
|                                   | Tube pitch × row pitch              | mm                | 18×10.72                         |                                   |                                     |
|                                   | Fin spacing and type                | mm                | 1.2 Hydrophilic aluminum         |                                   |                                     |
|                                   | Tube OD and type                    | mm                | Φ5 Inner-groove                  |                                   |                                     |
|                                   | Dimensions (L×H×W)                  | mm                | 2165×144×21.44                   |                                   | 2165×198×21.44                      |
|                                   | Number of circuits                  |                   | 8                                | 8                                 | 11                                  |
| Air flow rate <sup>3</sup>        |                                     | m <sup>3</sup> /h | 1000/943/886/829/772<br>/715/658 | 1100/1019/939/858/777/<br>697/616 | 1330/1239/1148/1057/965<br>/874/783 |
| Sound pressure level <sup>4</sup> |                                     | dB(A)             | 37/36/34/33/31/30/28             | 42.5/40/38/36/34/32/30            | 38/37/35/34/32/31/29                |
| Sound power level                 |                                     | dB(A)             | 52/51/50/48/47/45/44             | 57/55/53/51/49/47/45              | 55/54/52/51/50/48/47                |
| Main body                         | Net dimensions <sup>5</sup> (W×H×D) | mm                | 840×204×840                      |                                   | 840×246×840                         |
|                                   | Packed dimensions (W×H×D)           | mm                | 940×250×940                      |                                   | 940×295×940                         |
|                                   | Net/Gross weight                    | kg                | 19.5/22                          |                                   | 21.5/24                             |
| Panel                             | Net dimensions <sup>6</sup> (W×H×D) | mm                | 950×53×950                       |                                   |                                     |
|                                   | Packed dimensions (W×H×D)           | mm                | 1020×90×1020                     |                                   |                                     |
|                                   | Net/Gross weight                    | kg                | 5.6/7.3                          |                                   |                                     |
| Refrigerant type                  |                                     |                   | R410A/R32                        |                                   |                                     |
| Design pressure (H/L)             |                                     | MPa               | 4.4/2.6                          |                                   |                                     |
| Pipe connections                  | Liquid/Gas pipe                     | mm                | Φ9.52/Φ15.9                      |                                   |                                     |
|                                   | Drain pipe                          | mm                | OD Φ25                           |                                   |                                     |

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured 1.5m below the unit in a semi-anechoic chamber.
- The dimension is only the body size, excluding the size of the installation lug, connecting copper pipe, etc. For detailed dimensions, please refer to the installation manual.
- Exposed height of the panel after being installed on the ceiling.

## 1. Specifications

## BECR Four-way Cassette Mini VRF Ultima

| Model                             |                                     |                   | BECR036N0A-DWV100                | BECR038N0A-DWV112                 | BECR048N0A-DWV140                  |
|-----------------------------------|-------------------------------------|-------------------|----------------------------------|-----------------------------------|------------------------------------|
| Power supply                      |                                     |                   | 1-phase, 220-240V, 50/60Hz       |                                   |                                    |
| Cooling <sup>1</sup>              | Capacity                            | kW                | 10.0                             | 11.2                              | 14.0                               |
|                                   |                                     | kBtu/h            | 34.1                             | 38.2                              | 47.8                               |
|                                   | Power input                         | W                 | 74                               | 61                                | 118                                |
| Heating <sup>2</sup>              | Capacity                            | kW                | 11.2                             | 12.5                              | 16.0                               |
|                                   |                                     | kBtu/h            | 38.2                             | 42.7                              | 54.6                               |
|                                   | Power input                         | W                 | 74                               | 61                                | 118                                |
| Fan motor type                    |                                     |                   | DC                               |                                   |                                    |
| Indoor coil                       | Number of rows                      |                   | 2                                | 2                                 | 2                                  |
|                                   | Tube pitch × row pitch              | mm                | 18×10.72                         |                                   |                                    |
|                                   | Fin spacing and type                | mm                | 1.2 Hydrophilic aluminum         |                                   |                                    |
|                                   | Tube OD and type                    | mm                | Φ5 Inner-groove                  |                                   |                                    |
|                                   | Dimensions (L×H×W)                  | mm                | 2165×198×21.44                   | 2165×252×21.44                    |                                    |
|                                   | Number of circuits                  |                   | 11                               | 14                                | 14                                 |
| Air flow rate <sup>3</sup>        |                                     | m <sup>3</sup> /h | 1470/1360/1250/1141/1031/921/811 | 1600/1497/1393/1290/1186/1083/979 | 1900/1787/1673/1560/1446/1333/1219 |
| Sound pressure level <sup>4</sup> |                                     | dB(A)             | 43/41/40/38/36/35/33             | 41/40/38/37/36/34/33              | 47.5/46/44/42/40/38/36.5           |
| Sound power level                 |                                     | dB(A)             | 58/57/55/53/51/49/47             | 57/56/55/54/53/52/51              | 64/63/61/60/58/56/54               |
| Main body                         | Net dimensions <sup>6</sup> (W×H×D) | mm                | 840×246×840                      | 840×288×840                       |                                    |
|                                   | Packed dimensions (W×H×D)           | mm                | 940×295×940                      | 940×335×940                       |                                    |
|                                   | Net/Gross weight                    | kg                | 21.5/24                          | 24/26.5                           | 24/26.5                            |
| Panel                             | Net dimensions (W×H×D)              | mm                | 950×53×950                       |                                   |                                    |
|                                   | Packed dimensions (W×H×D)           | mm                | 1020×90×1020                     |                                   |                                    |
|                                   | Net/Gross weight                    | kg                | 5.6/7.3                          |                                   |                                    |
| Refrigerant type                  |                                     |                   | R410A/R32                        |                                   |                                    |
| Design pressure (H/L)             |                                     | MPa               | 4.4/2.6                          |                                   |                                    |
| Pipe connections                  | Liquid/Gas pipe                     | mm                | Φ9.52/Φ15.9                      |                                   |                                    |
|                                   | Drain pipe                          | mm                | OD Φ25                           |                                   |                                    |

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured 1.5m below the unit in a semi-anechoic chamber.
- The dimension is only the body size, excluding the size of the installation lug, connecting copper pipe, etc. For detailed dimensions, please refer to the installation manual.
- Exposed height of the panel after being installed on the ceiling.

## 1. Specifications

## BECR Four-way Cassette Mini VRF Ultima

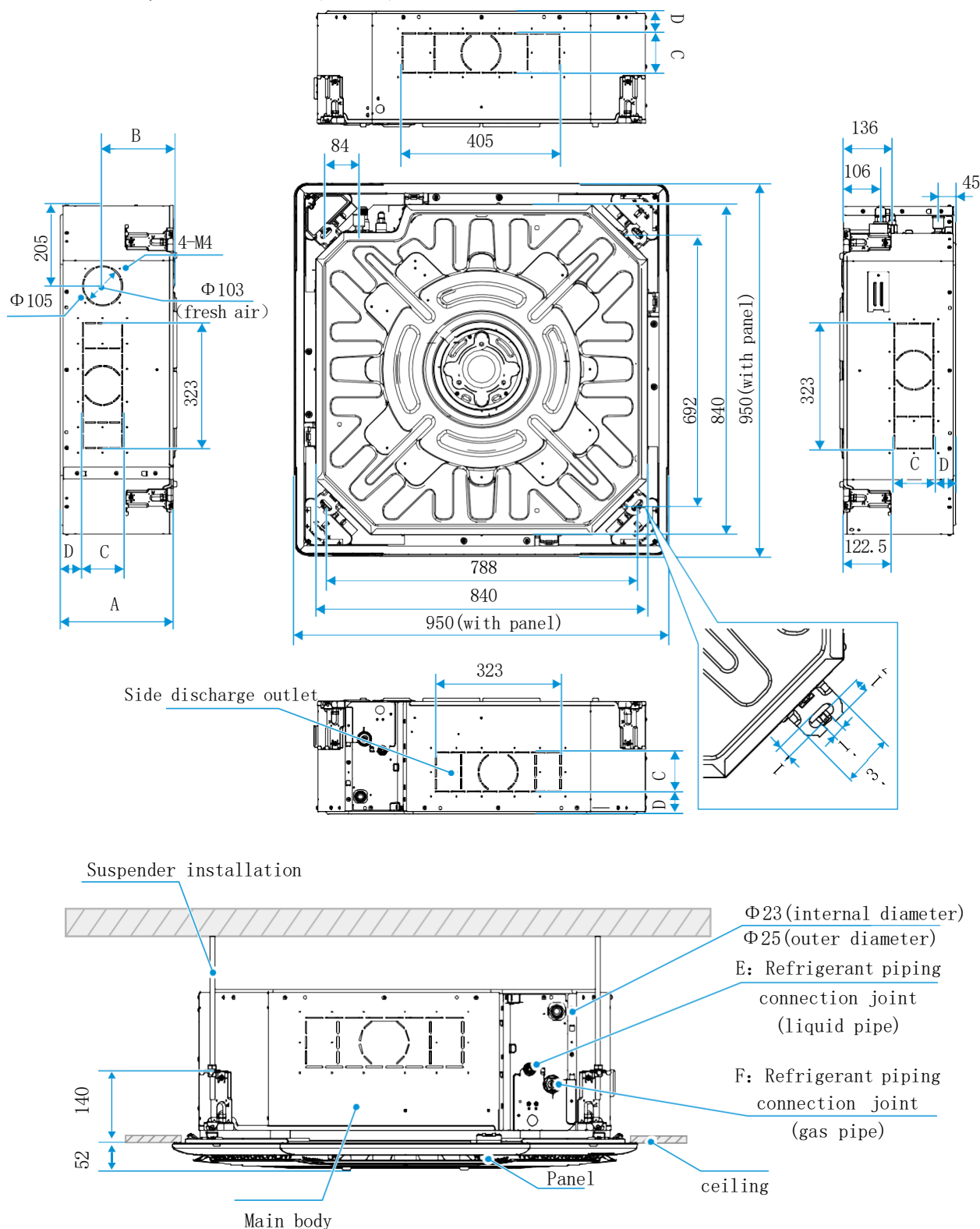
| Model                             |                                     |                   | BECR060N0A-DWV160                      | BECR062N0A-DWV180                      |
|-----------------------------------|-------------------------------------|-------------------|----------------------------------------|----------------------------------------|
| Power supply                      |                                     |                   | 1-phase, 220-240V, 50/60Hz             |                                        |
| Cooling <sup>1</sup>              | Capacity                            | kW                | 16.0                                   | 18.0                                   |
|                                   |                                     | kBtu/h            | 54.6                                   | 61.4                                   |
|                                   | Power input                         | W                 | 110.0                                  | 145.0                                  |
| Heating <sup>2</sup>              | Capacity                            | kW                | 18.0                                   | 20.0                                   |
|                                   |                                     | kBtu/h            | 61.4                                   | 68.2                                   |
|                                   | Power input                         | W                 | 110.0                                  | 145.0                                  |
| Fan motor type                    |                                     |                   | DC                                     |                                        |
| Indoor coil                       | Number of rows                      |                   | 3                                      | 3                                      |
|                                   | Tube pitch × row pitch              | mm                | 18×10.72                               |                                        |
|                                   | Fin spacing and type                | mm                | 1.2 Hydrophilic aluminum               |                                        |
|                                   | Tube OD and type                    | mm                | Φ5 Inner-groove                        |                                        |
|                                   | Dimensions (L×H×W)                  | mm                | 2165×144×10.72                         | 2165×144×10.72                         |
|                                   | Number of circuits                  |                   | 14                                     | 14                                     |
| Air flow rate <sup>3</sup>        |                                     | m <sup>3</sup> /h | 2100/1900/1760/1630/1500/1380<br>/1270 | 2300/2140/1960/1770/1600/143<br>0/1270 |
| Sound pressure level <sup>4</sup> |                                     | dB(A)             | 48/46/44/43/41/39/37                   | 52/49/47/45/42/39/38                   |
| Sound power level                 |                                     | dB(A)             | 57/56/54/52/50/47/46                   | 60/58/56/54/52/49/46                   |
| Main body                         | Net dimensions <sup>5</sup> (W×H×D) | mm                | 950×300×950                            | 950×300×950                            |
|                                   | Packed dimensions (W×H×D)           | mm                | 1050×350×1050                          | 1050×350×1050                          |
|                                   | Net/Gross weight                    | kg                | 32.6/37.2                              | 32.7/37.3                              |
| Panel                             | Net dimensions <sup>6</sup> (W×H×D) | mm                | 1050×55×1050                           | 1050×55×1050                           |
|                                   | Packed dimensions (W×H×D)           | mm                | 1115×100×1115                          | 1115×100×1115                          |
|                                   | Net/Gross weight                    | kg                | 7.4/9.7                                | 7.4/9.7                                |
| Refrigerant type                  |                                     |                   | R410A/R32                              |                                        |
| Design pressure (H/L)             |                                     | MPa               | 4.4/2.6                                |                                        |
| Pipe connections                  | Liquid/Gas pipe                     | mm                | Φ9.52/Φ15.9                            | Φ9.52/Φ19.1                            |
|                                   | Drain pipe                          | mm                | OD Φ25                                 |                                        |

## Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured 1.5m below the unit in a semi-anechoic chamber.
- The dimension is only the body size, excluding the size of the installation lug, connecting copper pipe, etc. For detailed dimensions, please refer to the installation manual.
- Exposed height of the panel after being installed on the ceiling.

## 2 Dimensional Drawings - (MM)

2.8-14.0kW Four-way Cassette dimensions (unit: mm)

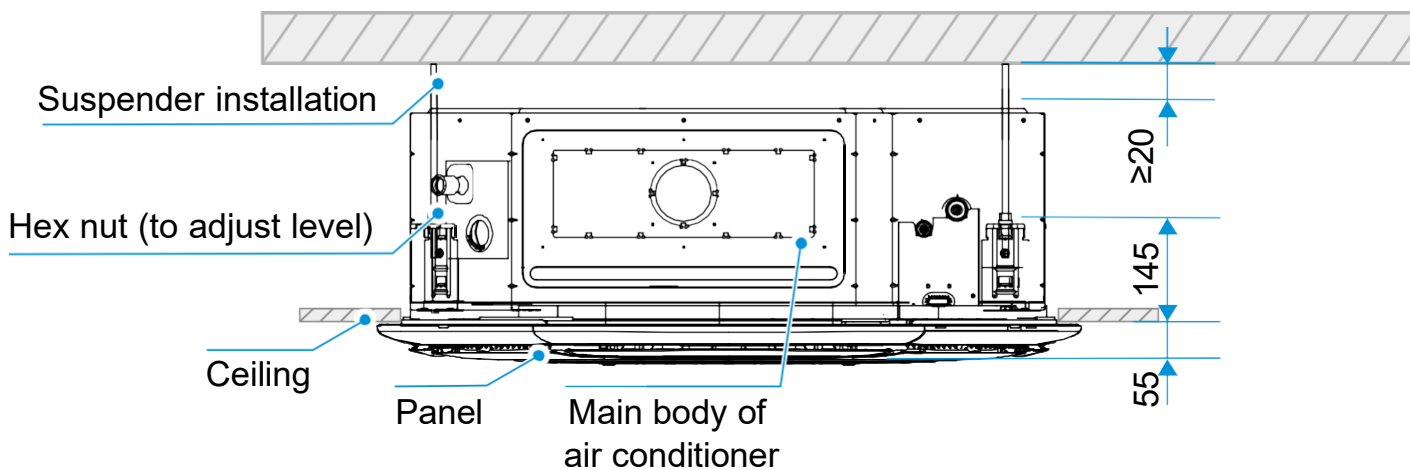
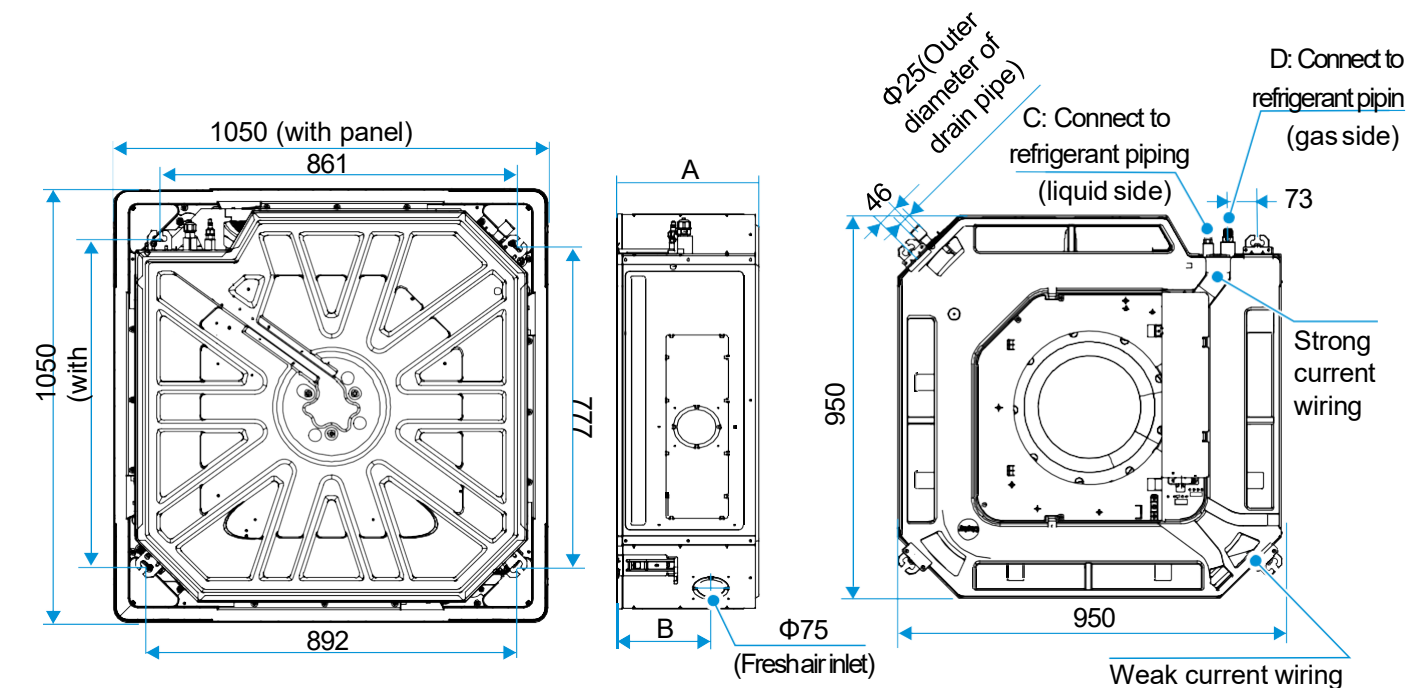


2.8-14.0kW Four-way Cassette dimensions (unit: mm)

| Model(kW) | A   | B   | C   | D    | E     | F     |
|-----------|-----|-----|-----|------|-------|-------|
| 2.8-5.6   | 204 | 141 | 63  | 41.5 | Φ12.7 | Φ6.35 |
| 7.1-8.0   | 204 | 141 | 63  | 41.5 | Φ15.9 | Φ9.52 |
| 9.0-10.0  | 246 | 163 | 103 | 41.5 | Φ15.9 | Φ9.52 |
| 11.2-14.0 | 288 | 190 | 103 | 56.5 | Φ15.9 | Φ9.52 |

## 2 Dimensinal Drawings - (MM)

16.0-18.0kW Four-way Cassette dimensions (unit: mm)



16.0-18.0kW Four-way Cassette dimensions (unit: mm)

| Model(kW) | A   | B   | C           | D           |
|-----------|-----|-----|-------------|-------------|
| 16.0      | 300 | 200 | $\Phi 9.52$ | $\Phi 15.9$ |
| 18.0      | 300 | 200 | $\Phi 9.52$ | $\Phi 19.1$ |

### 3-Electrical Characteristics

## Electrical Characteristics

*Four-way Cassette electrical characteristics*

| Model name        | Power supply |         |            |            |      |     | Indoor fan motors       |      |
|-------------------|--------------|---------|------------|------------|------|-----|-------------------------|------|
|                   | Hz           | Volts   | Min. volts | Max. volts | MCA  | MFA | Rated motor output (kW) | FLA  |
| BECR010N0A-DWV028 | 50/60        | 220-240 | 198        | 264        | 0.27 | 15  | 0.045                   | 0.22 |
| BECR012N0A-DWV036 | 50/60        | 220-240 | 198        | 264        | 0.27 | 15  | 0.045                   | 0.22 |
| BECR015N0A-DWV045 | 50/60        | 220-240 | 198        | 264        | 0.52 | 15  | 0.045                   | 0.41 |
| BECR019N0A-DWV056 | 50/60        | 220-240 | 198        | 264        | 0.33 | 15  | 0.045                   | 0.26 |
| BECR024N0A-DWV071 | 50/60        | 220-240 | 198        | 264        | 0.42 | 15  | 0.045                   | 0.33 |
| BECR027N0A-DWV080 | 50/60        | 220-240 | 198        | 264        | 0.63 | 15  | 0.045                   | 0.51 |
| BECR031N0A-DWV090 | 50/60        | 220-240 | 198        | 264        | 0.58 | 15  | 0.045                   | 0.46 |
| BECR036N0A-DWV100 | 50/60        | 220-240 | 198        | 264        | 0.91 | 15  | 0.045                   | 0.72 |
| BECR038N0A-DWV112 | 50/60        | 220-240 | 198        | 264        | 0.78 | 15  | 0.125                   | 0.62 |
| BECR048N0A-DWV140 | 50/60        | 220-240 | 198        | 264        | 1.42 | 15  | 0.125                   | 1.14 |
| BECR060N0A-DWV160 | 50/60        | 220-240 | 198        | 264        | 2.30 | 15  | 0.125                   | 1.83 |
| BECR062N0A-DWV180 | 50/60        | 220-240 | 198        | 264        | 2.73 | 15  | 0.125                   | 2.10 |

Abbreviations:

MCA: Minimum Circuit Amps

MFA: Maximum Fuse Amps

FLA: Full Load Amps



11380 Interchange Circle North  
Miramar, FL 33025 .USA  
Tel: (305) 731-2140  
Fax: (954) 212-8280  
info@otecomega.com  
www.otecomega.com



**Showroom & Technology Center**  
11380 Interchange Circle North  
Miramar, FL 33025 .USA  
Tel: (305) 731-2140  
Fax: (954) 212-8280  
info@otecomega.com  
www.otecomega.com

