

# OMEGA Full DC Modular VRF Outdoor Unit

## SUBMITTAL DATA

**380~415V/3/50-60Hz**

Job:

Location:

Schedule No.:

System Designation:

Engineer:

Architect:

Date:

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

### FEATURES

- Auto-Refrigerant Charge
- Refrigerant Cooling PCB
- Auto Dust-Clean Function
- Real-Time Refrigerant Volume Monitoring
- Automatic Address Setting
- Automatic Fault Detection



## 1- Specifications

### VMEM007-009-010-012N7A

8-14HP specifications

| HP                                |                  |        | 8                                   | 10                 | 12                 | 14                 |
|-----------------------------------|------------------|--------|-------------------------------------|--------------------|--------------------|--------------------|
| Model name                        |                  |        | VMEM007N7A-D13V224                  | VMEM009N7A-D16V280 | VMEM010N7A-D20V335 | VMEM012N7A-D23V400 |
| Power supply                      |                  | V/N/Hz | 380-415/3/50(60)                    |                    |                    |                    |
| Cooling <sup>1</sup>              | Capacity         | kW     | 22.4                                | 28.0               | 33.5               | 40.0               |
|                                   |                  | kBtu/h | 76.4                                | 95.5               | 114.2              | 136.4              |
|                                   | Power input      | kW     | 4.8                                 | 6.8                | 8.8                | 9.7                |
|                                   | EER              |        | 4.65                                | 4.14               | 3.81               | 4.12               |
| Connected indoor unit             | Total capacity   |        | 50-130% of outdoor unit capacity    |                    |                    |                    |
|                                   | Maximum quantity |        | 13                                  | 16                 | 19                 | 23                 |
| Compressor                        | Type             |        | Scroll DC inverter                  |                    |                    |                    |
|                                   | Quantity         |        | 1                                   |                    |                    |                    |
|                                   | Oil type         |        | FV68H                               |                    |                    |                    |
|                                   | Start-up method  |        | Soft start                          |                    |                    |                    |
| Fan                               | Type             |        | Propeller                           |                    |                    |                    |
|                                   | Motor type       |        | DC                                  |                    |                    |                    |
|                                   | Quantity         |        | 1                                   |                    |                    |                    |
|                                   | Motor output     | kW     | 0.56                                |                    |                    | 0.92               |
|                                   | Static pressure  | Pa     | 0-20 (default); 20-120 (customized) |                    |                    |                    |
|                                   | Airflow rate     | m³/h   | 12600                               | 12600              | 13500              | 15600              |
|                                   | Drive type       |        | Direct                              |                    |                    |                    |
| Refrigerant                       | Type             |        | R410A                               |                    |                    |                    |
|                                   | Factory charge   | kg     | 7.4                                 | 7.4                | 7.4                | 8.4                |
| Pipe connections <sup>2</sup>     | Liquid pipe      | mm     | Φ12.7                               |                    |                    | Φ15.9              |
|                                   | Gas pipe         | mm     | Φ25.4                               |                    |                    | Φ28.6              |
| Sound pressure level <sup>3</sup> |                  | dB(A)  | 57                                  | 58                 | 60                 |                    |
| Net dimensions (W×H×D)            |                  | mm     | 940×1760×825                        |                    |                    |                    |
| Packed dimensions (W×H×D)         |                  | mm     | 1010×1945×890                       |                    |                    |                    |
| Net weight                        |                  | kg     | 185                                 |                    |                    | 200                |
| Gross weight                      |                  | kg     | 200                                 |                    |                    | 215                |
| Ambient temp. operation range     | Cooling          | ℃      | -15 to 55                           | -15 to 55          | -15 to 55          | -15 to 55          |

Notes:

1. Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.

2. Diameters given are those of the unit's stop valve.

. Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

## 1- Specifications

### VMEM014-016-018-020N7A

#### 16-22HP specifications

| HP                                |                  |                   | 16                                  | 18                 | 20                 | 22                 |
|-----------------------------------|------------------|-------------------|-------------------------------------|--------------------|--------------------|--------------------|
| Model name                        |                  |                   | VMEM014N7A-D26V450                  | VMEM016N7A-D29V500 | VMEM018N7A-D33V560 | VMEM020N7A-D36V615 |
| Power supply                      |                  | V/N/Hz            | 380-415/3/50(60)                    |                    |                    |                    |
| Cooling <sup>1</sup>              | Capacity         | kW                | 45.0                                | 50.0               | 56.0               | 61.5               |
|                                   |                  | kBtu/h            | 153.5                               | 170.5              | 191.0              | 209.7              |
|                                   | Power input      | kW                | 12.3                                | 13.4               | 17.4               | 17.3               |
|                                   | EER              |                   | 3.67                                | 3.74               | 3.21               | 3.55               |
| Connected indoor unit             | Total capacity   |                   | 50-130% of outdoor unit capacity    |                    |                    |                    |
|                                   | Maximum quantity |                   | 26                                  | 29                 | 33                 | 36                 |
| Compressor                        | Type             |                   | Scroll DC inverter                  |                    |                    |                    |
|                                   | Quantity         |                   | 1                                   |                    |                    |                    |
|                                   | Oil type         |                   | FV68H                               |                    |                    |                    |
|                                   | Start-up method  |                   | Soft start                          |                    |                    |                    |
| Fan                               | Type             |                   | Propeller                           |                    |                    |                    |
|                                   | Motor type       |                   | DC                                  |                    |                    |                    |
|                                   | Quantity         |                   | 1                                   |                    |                    | 2                  |
|                                   | Motor output     | kW                | 0.92                                |                    |                    | 0.56+0.56          |
|                                   | Static pressure  | Pa                | 0-20 (default); 20-120 (customized) |                    |                    |                    |
|                                   | Airflow rate     | m <sup>3</sup> /h | 15600                               | 16500              | 16500              | 21500              |
|                                   | Drive type       |                   | Direct                              |                    |                    |                    |
| Refrigerant                       | Type             |                   | R410A                               |                    |                    |                    |
|                                   | Factory charge   | kg                | 8.4                                 | 10                 | 10                 | 12.8               |
| Pipe connections <sup>2</sup>     | Liquid pipe      | mm                | Φ15.9                               |                    |                    | Φ19.1              |
|                                   | Gas pipe         | mm                | Φ28.6                               |                    |                    | Φ31.8              |
| Sound pressure level <sup>3</sup> |                  | dB(A)             | 61                                  | 62                 | 63                 |                    |
| Net dimensions (W×H×D)            |                  | mm                | 940×1760×825                        |                    |                    | 1340×1760×825      |
| Packed dimensions (W×H×D)         |                  | mm                | 1010×1945×890                       |                    |                    | 1410×1945×890      |
| Net weight                        |                  | kg                | 200                                 | 212                | 225                | 260                |
| Gross weight                      |                  | kg                | 215                                 | 232                | 245                | 285                |
| Ambient temp. operation range     | Cooling          | °C                | -15 to 55                           | -15 to 55          | -15 to 55          | -15 to 55          |

#### Notes:

- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those of the unit's stop valve.
  - Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

## 1- Specifications

### VMEM022-024-026-028N7A

24-30HP specifications

| HP                                |                  |        | 24                                  | 26                 | 28                 | 30                 |
|-----------------------------------|------------------|--------|-------------------------------------|--------------------|--------------------|--------------------|
| Model name                        |                  |        | VMEM022N7A-D39V670                  | VMEM024N7A-D43V730 | VMEM026N7A-D46V785 | VMEM028N7A-D50V850 |
| Power supply                      |                  | V/N/Hz | 380-415/3/50(60)                    |                    |                    |                    |
| Cooling <sup>1</sup>              | Capacity         | kW     | 67.0                                | 73.0               | 78.5               | 85.0               |
|                                   |                  | kBtu/h | 228.5                               | 248.9              | 267.7              | 289.9              |
|                                   | Power input      | kW     | 19.0                                | 19.4               | 22.3               | 26.4               |
|                                   | EER              |        | 3.52                                | 3.76               | 3.52               | 3.22               |
| Connected indoor unit             | Total capacity   |        | 50-130% of outdoor unit capacity    |                    |                    |                    |
|                                   | Maximum quantity |        | 39                                  | 43                 | 46                 | 50                 |
| Compressor                        | Type             |        | Scroll DC inverter                  |                    |                    |                    |
|                                   | Quantity         |        | 1                                   | 2                  |                    |                    |
|                                   | Oil type         |        | FV68H                               |                    |                    |                    |
|                                   | Start-up method  |        | Soft start                          |                    |                    |                    |
| Fan                               | Type             |        | Propeller                           |                    |                    |                    |
|                                   | Motor type       |        | DC                                  |                    |                    |                    |
|                                   | Quantity         |        | 2                                   |                    |                    |                    |
|                                   | Motor output     | kW     | 0.56+0.56                           |                    |                    |                    |
|                                   | Static pressure  | Pa     | 0-20 (default); 20-120 (customized) |                    |                    |                    |
|                                   | Airflow rate     | m³/h   | 21500                               | 22000              | 22000              | 22000              |
|                                   | Drive type       |        | Direct                              |                    |                    |                    |
| Refrigerant                       | Type             |        | R410A                               |                    |                    |                    |
|                                   | Factory charge   | kg     | 12.8                                | 15.4               | 15.4               | 15.4               |
| Pipe connections <sup>2</sup>     | Liquid pipe      | mm     | Φ19.1                               | Φ22.2              |                    |                    |
|                                   | Gas pipe         | mm     | Φ31.8                               |                    |                    |                    |
| Sound pressure level <sup>3</sup> |                  | dB(A)  | 64                                  |                    |                    |                    |
| Net dimensions (W×H×D)            |                  | mm     | 1340×1760×825                       |                    |                    |                    |
| Packed dimensions (W×H×D)         |                  | mm     | 1410×1945×890                       |                    |                    |                    |
| Net weight                        |                  | kg     | 260                                 | 325                |                    |                    |
| Gross weight                      |                  | kg     | 285                                 | 350                |                    |                    |
| Ambient temp. operation range     | Cooling          | ℃      | -15 to 55                           | -15 to 55          | -15 to 55          | -15 to 55          |

Notes:

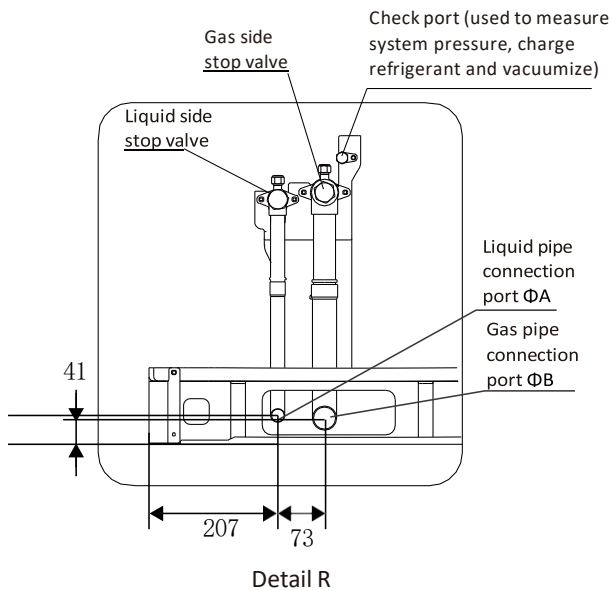
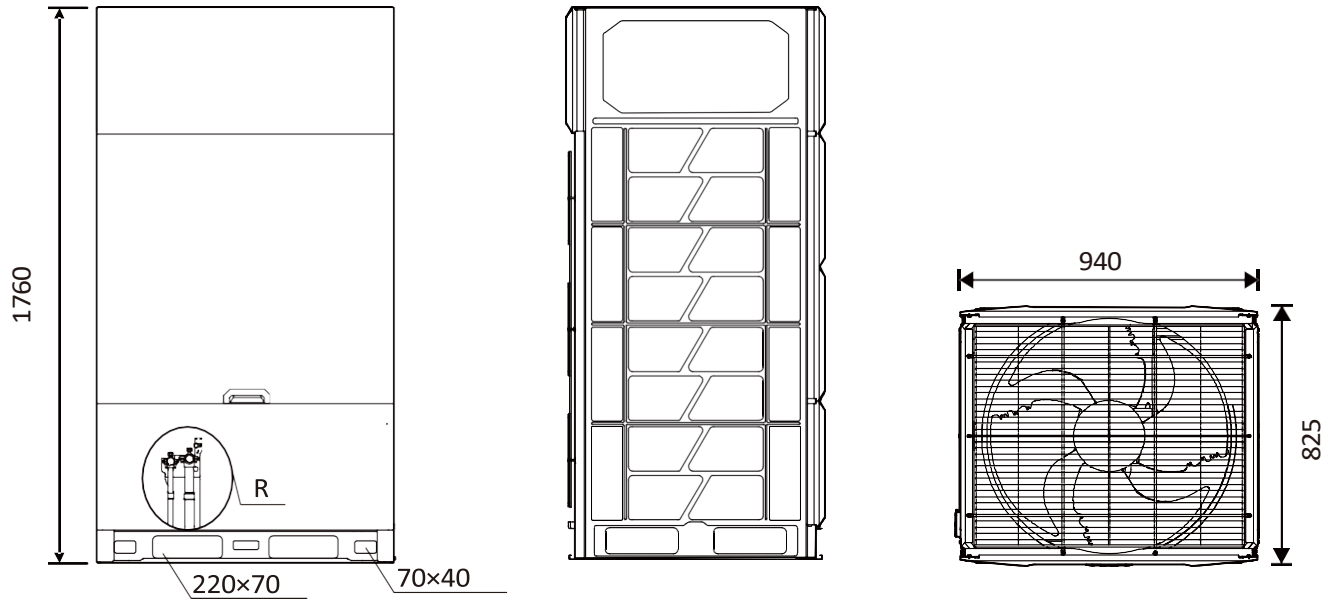
- Indoor air temperature 27°C DB, 19°C WB; outdoor air temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Diameters given are those of the unit's stop valve.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

## DIMENSIONAL DRAWINGS - (MM)

### Single Units

8/10/12/14/16/18/20HP

8/10/12/14/16/18/20HP dimensions (unit: mm)

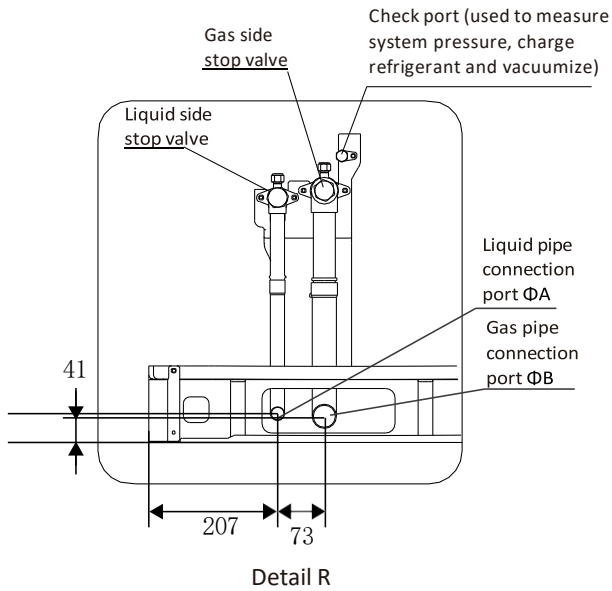
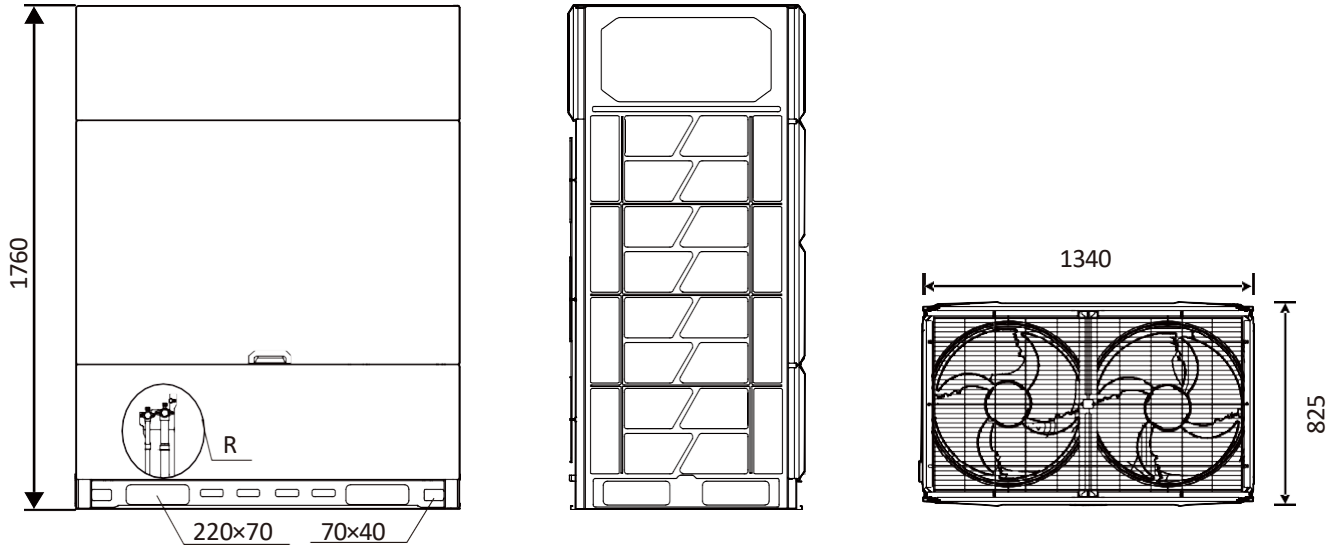


| Size | ΦA    | ΦB    |
|------|-------|-------|
| 8HP  | Φ12.7 | Φ25.4 |
| 10HP | Φ12.7 | Φ25.4 |
| 12HP | Φ12.7 | Φ25.4 |
| 14HP | Φ15.9 | Φ28.6 |
| 16HP | Φ15.9 | Φ28.6 |
| 18HP | Φ15.9 | Φ28.6 |
| 20HP | Φ15.9 | Φ28.6 |

## DIMENSIONAL DRAWINGS - (MM)

### 22/24/26/28/30HP

22/24/26/28/30HP dimensions (unit: mm)



| Size | ΦA    | ΦB    |
|------|-------|-------|
| 22HP | Φ19.1 | Φ31.8 |
| 24HP | Φ19.1 | Φ31.8 |
| 26HP | Φ22.2 | Φ31.8 |
| 28HP | Φ22.2 | Φ31.8 |
| 30HP | Φ22.2 | Φ31.8 |

## 3- Electrical Characteristics

### Electrical Characteristics

| Model    |         |      |      | Power Supply <sup>1</sup> |         |            |            |                  |                   |                  | Compressor       |                     | OFM                      |                     |
|----------|---------|------|------|---------------------------|---------|------------|------------|------------------|-------------------|------------------|------------------|---------------------|--------------------------|---------------------|
| Capacity | Modules |      |      | Hz                        | Volts   | Min. volts | Max. volts | MCA <sup>2</sup> | TOCA <sup>3</sup> | MFA <sup>4</sup> | MSC <sup>5</sup> | RLA <sup>6</sup>    | kW                       | FLA                 |
| 8HP      |         |      |      | 50/60                     | 380~415 | 342        | 440        | 18.3             | 22.8              | 25               | -                | 12.1                | 0.56                     | 1.7                 |
| 10HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 22.2             | 26.7              | 32               | -                | 14.3                | 0.56                     | 1.7                 |
| 12HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 24.7             | 29.2              | 32               | -                | 18.2                | 0.56                     | 1.7                 |
| 14HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 28.6             | 33.1              | 40               | -                | 20.5                | 0.92                     | 1.8                 |
| 16HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 30.3             | 34.8              | 40               | -                | 24                  | 0.92                     | 2.8                 |
| 18HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 33               | 37.5              | 40               | -                | 29                  | 0.92                     | 2.8                 |
| 20HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 42               | 47                | 50               | -                | 37                  | 0.92                     | 2.8                 |
| 22HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 42.5             | 47.5              | 50               | -                | 38                  | 0.56+0.56                | 1.8+1.8             |
| 24HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 44.5             | 49.5              | 63               | -                | 41                  | 0.56+0.56                | 2.0+2.0             |
| 26HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 50.5             | 55                | 63               | -                | 19.0+19.2           | 0.56+0.56                | 2.2+2.2             |
| 28HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 53               | 57.5              | 63               | -                | 20.3+20.2           | 0.56+0.56                | 2.2+2.2             |
| 30HP     |         |      |      | 50/60                     | 380~415 | 342        | 440        | 55.1             | 59.6              | 63               | -                | 21.0+21.3           | 0.56+0.56                | 2.2+2.2             |
| 32HP     | 16HP    | 16HP |      | 50/60                     | 380~415 | 342        | 440        | 60.6             | 69.6              | 80.0             |                  | 24+24               | 0.92+0.92                | 2.8+2.8             |
| 34HP     | 14HP    | 20HP |      | 50/60                     | 380~415 | 342        | 440        | 70.6             | 80.1              | 90.0             |                  | 20.5+37             | 0.92+0.92                | 1.8+2.8             |
| 36HP     | 16HP    | 20HP |      | 50/60                     | 380~415 | 342        | 440        | 72.3             | 81.8              | 90.0             |                  | 24+37               | 0.92+0.92                | 2.8+2.8             |
| 38HP     | 18HP    | 20HP |      | 50/60                     | 380~415 | 342        | 440        | 75.0             | 84.5              | 90.0             |                  | 29+37               | 0.92+0.92                | 2.8+2.8             |
| 40HP     | 16HP    | 24HP |      | 50/60                     | 380~415 | 342        | 440        | 74.8             | 84.3              | 103.0            |                  | 24+41               | 0.92+0.56+0.56           | 2.8+2.0+2.0         |
| 42HP     | 18HP    | 24HP |      | 50/60                     | 380~415 | 342        | 440        | 77.5             | 87.0              | 103.0            |                  | 29+41               | 0.92+0.56+0.56           | 2.8+2.0+2.0         |
| 44HP     | 20HP    | 24HP |      | 50/60                     | 380~415 | 342        | 440        | 86.5             | 96.5              | 113.0            |                  | 37+41               | 0.92+0.56+0.56           | 2.8+2.0+2.0         |
| 46HP     | 16HP    | 30HP |      | 50/60                     | 380~415 | 342        | 440        | 85.4             | 94.4              | 103.0            |                  | 24+21.0+21.3        | 0.92+0.56+0.56           | 2.8+2.2+2.2         |
| 48HP     | 18HP    | 30HP |      | 50/60                     | 380~415 | 342        | 440        | 88.1             | 97.1              | 103.0            |                  | 29+21.0+21.3        | 0.92+0.56+0.56           | 2.8+2.2+2.2         |
| 50HP     | 20HP    | 30HP |      | 50/60                     | 380~415 | 342        | 440        | 97.1             | 106.6             | 113.0            |                  | 37+21.0+21.3        | 0.92+0.56+0.56           | 2.8+2.2+2.2         |
| 52HP     | 22HP    | 30HP |      | 50/60                     | 380~415 | 342        | 440        | 97.6             | 107.1             | 113.0            |                  | 38+21.0+21.3        | 0.56+0.56+0.56+0.56      | 1.8+1.8+2.2+2.2     |
| 54HP     | 24HP    | 30HP |      | 50/60                     | 380~415 | 342        | 440        | 99.6             | 109.1             | 126.0            |                  | 41+21.0+21.3        | 0.56+0.56+0.56+0.56      | 2.0+2.0+2.2+2.2     |
| 56HP     | 26HP    | 30HP |      | 50/60                     | 380~415 | 342        | 440        | 105.6            | 114.6             | 126.0            |                  | 19.0+19.2+21.0+21.3 | 0.56+0.56+0.56+0.56      | 2.2+2.2+2.2+2.2     |
| 58HP     | 28HP    | 30HP |      | 50/60                     | 380~415 | 342        | 440        | 108.1            | 117.1             | 126.0            |                  | 20.3+20.2+21.0+21.3 | 0.56+0.56+0.56+0.56      | 2.2+2.2+2.2+2.2     |
| 60HP     | 30HP    | 30HP |      | 50/60                     | 380~415 | 342        | 440        | 110.2            | 119.2             | 126.0            |                  | 21.0+21.3+21.0+21.3 | 0.56+0.56+0.56+0.56      | 2.2+2.2+2.2+2.2     |
| 62HP     | 16HP    | 16HP | 30HP | 50/60                     | 380~415 | 342        | 440        | 115.7            | 129.2             | 143.0            |                  | 24+24+21.0+21.3     | 0.92+0.92+0.56+0.56      | 2.8+2.8+2.2+2.2     |
| 64HP     | 14HP    | 20HP | 30HP | 50/60                     | 380~415 | 342        | 440        | 125.7            | 139.7             | 153.0            |                  | 20.5+37+21.0+21.3   | 0.92+0.92+0.56+0.56      | 1.8+2.8+2.2+2.2     |
| 66HP     | 16HP    | 20HP | 30HP | 50/60                     | 380~415 | 342        | 440        | 127.4            | 141.4             | 153.0            |                  | 24+37+21.0+21.3     | 0.92+0.92+0.56+0.56      | 2.8+2.8+2.2+2.2     |
| 68HP     | 18HP    | 20HP | 30HP | 50/60                     | 380~415 | 342        | 440        | 130.1            | 144.1             | 153.0            |                  | 29+37+21.0+21.3     | 0.92+0.92+0.56+0.56      | 2.8+2.8+2.2+2.2     |
| 70HP     | 16HP    | 24HP | 30HP | 50/60                     | 380~415 | 342        | 440        | 129.9            | 143.9             | 166.0            |                  | 24+41+21.0+21.3     | 0.92+0.56+0.56+0.56+0.56 | 2.8+2.0+2.0+2.2+2.2 |

Abbreviations:

MCA: Minimum Circuit Amps; TOCA: Total Over-current Amps; MFA: Maximum Fuse Amps; MSC: Maximum Starting Current (A); RLA: Rated Load Amps; FLA: Full Load Amps

Notes:

- Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits. Maximum allowable voltage variation between phases is 2%.
- Select wire size based on the value of MCA.
- TOCA indicates the total overcurrent amps value of each OC set.
- MFA is used to select overcurrent circuit breakers and residual-current circuit breakers.
- MSC indicates the maximum current on compressor start-up in amps.
- RLA is based on the following conditions: indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB