



Minimum Evaporating Temp. With:

- 25 °C Suction Gas Return
- 10 K Suction Superheat
- Maximum Evaporating Temperature

Suction Superheat 10.0K

Liquid Subcooling 0.0K

Evaporating Temperature, °C

| Cond<br>°C | Cooling Capacity, kW |       |       |       |       |       |       |       |       |       |
|------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|            | -20.0                | -15.0 | -10.0 | -5.0  | 0.0   | 5.0   | 7.0   | 10.0  | 12.5  | 15.0  |
| 10.0       | 18.00                | 22.20 | 27.30 | 33.20 |       |       |       |       |       |       |
| 15.0       | 17.15                | 21.20 | 26.10 | 31.90 | 38.60 |       |       |       |       |       |
| 20.0       | 16.25                | 20.20 | 25.00 | 30.50 | 37.00 | 44.50 |       |       |       |       |
| 25.0       | 15.40                | 19.25 | 23.80 | 29.10 | 35.40 | 42.60 | 45.80 | 50.90 |       |       |
| 30.0       | 14.50                | 18.20 | 22.60 | 27.70 | 33.70 | 40.60 | 43.70 | 48.60 | 53.00 | 57.80 |
| 35.0       | 13.60                | 17.10 | 21.30 | 26.20 | 31.90 | 38.60 | 41.50 | 46.30 | 50.50 | 55.00 |
| 40.0       | 12.65                | 16.05 | 20.00 | 24.70 | 30.20 | 36.50 | 39.30 | 43.90 | 47.90 | 52.30 |
| 45.0       |                      | 14.90 | 18.70 | 23.10 | 28.30 | 34.40 | 37.10 | 41.40 | 45.30 | 49.40 |
| 50.0       |                      |       | 17.35 | 21.50 | 26.50 | 32.20 | 34.70 | 38.90 | 42.50 | 46.50 |
| 55.0       |                      |       |       | 19.90 | 24.50 | 30.00 | 32.40 | 36.30 | 39.80 | 43.50 |
| 60.0       |                      |       |       |       | 22.60 | 27.70 | 29.90 | 33.60 | 36.90 | 40.50 |
| 65.0       |                      |       |       |       |       | 25.30 | 27.40 | 30.90 | 34.00 | 37.30 |
| 68.0       |                      |       |       |       |       |       | 23.90 | 25.90 | 29.20 | 32.20 |

50 Hz

ZR16M3E-TWD

R407C Dew Point

| Cond<br>°C | Power, kW |       |       |       |       |       |       |       |       |       |
|------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|            | -20.0     | -15.0 | -10.0 | -5.0  | 0.0   | 5.0   | 7.0   | 10.0  | 12.5  | 15.0  |
| 10.0       | 4.39      | 4.44  | 4.57  | 4.81  |       |       |       |       |       |       |
| 15.0       | 4.81      | 4.83  | 4.90  | 5.05  | 5.33  |       |       |       |       |       |
| 20.0       | 5.29      | 5.30  | 5.33  | 5.41  | 5.60  | 5.92  |       |       |       |       |
| 25.0       | 5.84      | 5.85  | 5.86  | 5.90  | 6.01  | 6.24  | 6.36  | 6.60  |       |       |
| 30.0       | 6.45      | 6.49  | 6.50  | 6.51  | 6.57  | 6.71  | 6.80  | 6.97  | 7.16  | 7.39  |
| 35.0       | 7.13      | 7.21  | 7.24  | 7.24  | 7.27  | 7.35  | 7.41  | 7.53  | 7.66  | 7.83  |
| 40.0       | 7.87      | 8.01  | 8.08  | 8.10  | 8.11  | 8.16  | 8.19  | 8.26  | 8.35  | 8.47  |
| 45.0       |           | 8.90  | 9.03  | 9.08  | 9.10  | 9.12  | 9.14  | 9.18  | 9.24  | 9.32  |
| 50.0       |           |       | 10.10 | 10.20 | 10.25 | 10.25 | 10.25 | 10.30 | 10.30 | 10.35 |
| 55.0       |           |       |       | 11.40 | 11.50 | 11.55 | 11.55 | 11.60 | 11.60 | 11.65 |
| 60.0       |           |       |       |       | 12.95 | 13.00 | 13.05 | 13.05 | 13.05 | 13.10 |
| 65.0       |           |       |       |       |       | 14.65 | 14.70 | 14.70 | 14.75 | 14.75 |
| 68.0       |           |       |       |       |       | 15.70 | 15.75 | 15.80 | 15.85 | 15.85 |

| Cond<br>°C | Current at 400 V, A |       |       |       |       |       |       |       |       |       |
|------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|            | -20.0               | -15.0 | -10.0 | -5.0  | 0.0   | 5.0   | 7.0   | 10.0  | 12.5  | 15.0  |
| 10.0       | 10.58               | 10.64 | 10.72 | 10.86 |       |       |       |       |       |       |
| 15.0       | 11.13               | 11.18 | 11.23 | 11.33 | 11.50 |       |       |       |       |       |
| 20.0       | 11.71               | 11.76 | 11.80 | 11.86 | 11.98 | 12.20 |       |       |       |       |
| 25.0       | 12.35               | 12.41 | 12.44 | 12.48 | 12.56 | 12.72 | 12.82 | 12.99 |       |       |
| 30.0       | 13.07               | 13.14 | 13.18 | 13.21 | 13.27 | 13.38 | 13.45 | 13.59 | 13.74 | 13.93 |
| 35.0       | 13.88               | 13.99 | 14.04 | 14.07 | 14.11 | 14.19 | 14.25 | 14.36 | 14.48 | 14.63 |
| 40.0       | 14.82               | 14.97 | 15.04 | 15.08 | 15.11 | 15.18 | 15.22 | 15.30 | 15.40 | 15.53 |
| 45.0       |                     | 16.10 | 16.21 | 16.27 | 16.31 | 16.36 | 16.39 | 16.46 | 16.54 | 16.64 |
| 50.0       |                     |       | 17.57 | 17.66 | 17.71 | 17.77 | 17.79 | 17.85 | 17.91 | 18.00 |
| 55.0       |                     |       |       | 19.28 | 19.35 | 19.41 | 19.44 | 19.49 | 19.55 | 19.62 |
| 60.0       |                     |       |       |       | 21.25 | 21.33 | 21.36 | 21.41 | 21.46 | 21.53 |
| 65.0       |                     |       |       |       |       | 23.54 | 23.58 | 23.63 | 23.69 | 23.75 |
| 68.0       |                     |       |       |       |       | 25.01 | 25.06 | 25.12 | 25.18 | 25.24 |

50 Hz

ZR16M3E-TWD

R407C Dew Point

| Cond<br>°C | Suction Mass Flow, g/s |        |        |        |        |        |        |        |        |        |
|------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|            | -20.0                  | -15.0  | -10.0  | -5.0   | 0.0    | 5.0    | 7.0    | 10.0   | 12.5   | 15.0   |
| 10.0       | 89.30                  | 109.00 | 132.00 | 158.50 |        |        |        |        |        |        |
| 15.0       | 88.30                  | 108.00 | 131.00 | 157.50 | 188.50 |        |        |        |        |        |
| 20.0       | 87.20                  | 107.00 | 130.00 | 156.50 | 187.50 | 222.00 |        |        |        |        |
| 25.0       | 86.00                  | 106.00 | 129.00 | 155.50 | 186.00 | 221.00 | 237.00 | 261.00 |        |        |
| 30.0       | 84.70                  | 104.50 | 127.50 | 154.50 | 185.00 | 220.00 | 235.00 | 260.00 | 281.00 | 304.00 |
| 35.0       | 83.30                  | 103.00 | 126.00 | 153.00 | 183.50 | 218.00 | 234.00 | 258.00 | 280.00 | 303.00 |
| 40.0       | 81.70                  | 101.50 | 124.50 | 151.00 | 181.50 | 217.00 | 232.00 | 256.00 | 278.00 | 301.00 |
| 45.0       |                        | 99.90  | 123.00 | 149.50 | 179.50 | 215.00 | 230.00 | 254.00 | 276.00 | 299.00 |
| 50.0       |                        |        | 121.00 | 147.00 | 177.50 | 212.00 | 228.00 | 252.00 | 274.00 | 297.00 |
| 55.0       |                        |        |        | 145.00 | 175.00 | 210.00 | 225.00 | 250.00 | 271.00 | 295.00 |
| 60.0       |                        |        |        |        | 172.50 | 207.00 | 223.00 | 247.00 | 269.00 | 292.00 |
| 65.0       |                        |        |        |        |        | 205.00 | 220.00 | 245.00 | 267.00 | 290.00 |
| 68.0       |                        |        |        |        |        | 203.00 | 219.00 | 243.00 | 266.00 | 289.00 |

### **COMPRESSOR MECHANICAL AND PHYSICAL DATA**

|  |  |
|--|--|
| Displacement @ 50 Hz, m³/h   | 35.5   |
| Length/Width, mm   | 319/357                                      |
| Height, mm   | 532  |
| Net Weight, kg   | 95   |
| Gross Weight, kg   | 101  |
| Rotalock Suction, inch   | 1 3/4  |
| Rotalock Discharge, inch   | 1 1/4  |
| Stub Suction, inch   | 1 3/8  |
| Stub Discharge, inch   | 7/8  |
| Oil Quantity, l  | 4.1  |
| Oil type (original charge)   | POE RL32-3MAF                                |
| Oil type (approved oils)   | POE RL32-3MAF, POE MOBIL<br>EAL Arctic 22 CC |
| Base mounting (hole dia), mm   | 220 x 220 (8.5)                              |
| Sound Pressure @ 1m (HT), dBA  | 69   |
| Sound Power (HT), dBA  | 80   |
| Sound Power with Sound Shell (HT), dBA                                     | 68   |
| Sound Conditions (HT, Temperatures:<br>Evap./Cond./Suction at freq./speed) | 7 / 54 / 18 °C at 50 Hz                      |
| PED Category   | 2  |
| Max. Internal Free Volume, l   | 20.2   |
| High Side PS gauge, bar  | 32   |
| Low Side PS gauge, bar   | 20   |
| Low Side TS Max., °C   | 52   |
| Low Side TS Min., °C   | -35  |
| Refrigerant's GWP  | 1774   |
| Refrigerant's classification   | A1   |

### **COMPRESSOR ELECTRICAL DATA (380-420 V / 3~ / 50 Hz)**

|                              |                |
|------------------------------|----------------|
| Maximum Operating Current, A | 27             |
| Locked Rotor Current, A      | 167            |
| Winding Resistance, ohm      | 0.83           |
| Default Enclosure Class      | IP 54 (IEC 34) |

### **ACCESSORIES INCLUDED**

|                                  |                     |
|----------------------------------|---------------------|
| Discharge Temperature Protection | Internal Thermistor |
| Mounting Grommets                | Standard            |

50 Hz

ZR16M3E-TWD

R407C Dew Point

### **ACCESSORIES OPTIONAL**

|                    |                             |
|--------------------|-----------------------------|
| Crankcase Heater   | 49 W External               |
| Oil Control System | ALCO Trax-Oil OM3           |
| Sound Attenuation  | Sound Shell (10dBA)         |
| Mounting Grommets  | Hard Mounts for Paralleling |

### **MOTOR OPTIONS**

| <b>Motor Code</b> | <b>Power Supply</b>    | <b>Nominal Voltage, V</b> | <b>Start Connection</b> | <b>DOL Connection</b> | <b>Amps Factor</b> |
|-------------------|------------------------|---------------------------|-------------------------|-----------------------|--------------------|
| TWD               | 380-420 V / 3~ / 50 Hz | 400                       |                         | Y                     | 1.00               |
| TWD               | 460 V / 3~ / 60 Hz     | 460                       |                         | Y                     | 1.04               |