



Minimum Evaporating Temp. With:

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

Suction Return Temperature 20.0°C

Liquid Subcooling 0.0K

Evaporating Temperature, °C

| Cond<br>°C | Cooling Capacity, kW |       |       |       |       |       |       |       |       |
|------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|
|            | -25.0                | -20.0 | -15.0 | -10.0 | -5.0  | 0.0   | 5.0   | 7.0   | 10.0  |
| 10.0       | 11.85                | 14.20 | 17.00 | 20.40 |       |       |       |       |       |
| 15.0       | 11.05                | 13.35 | 16.10 | 19.30 | 23.10 |       |       |       |       |
| 20.0       | 10.35                | 12.55 | 15.20 | 18.30 | 21.90 | 26.00 |       |       |       |
| 25.0       | 9.69                 | 11.85 | 14.35 | 17.30 | 20.70 | 24.60 | 29.10 |       |       |
| 30.0       | 9.08                 | 11.10 | 13.50 | 16.30 | 19.55 | 23.20 | 27.40 | 29.30 | 32.20 |
| 35.0       | 8.50                 | 10.45 | 12.70 | 15.30 | 18.35 | 21.80 | 25.70 | 27.50 | 30.20 |
| 40.0       | 7.92                 | 9.74  | 11.85 | 14.30 | 17.10 | 20.30 | 24.00 | 25.60 | 28.10 |
| 45.0       |                      | 9.03  | 11.00 | 13.20 | 15.80 | 18.75 | 22.10 | 23.60 | 26.00 |
| 50.0       |                      | 8.28  | 10.05 | 12.10 | 14.45 | 17.10 | 20.20 | 21.50 | 23.70 |
| 55.0       |                      |       | 9.06  | 10.85 | 12.95 | 15.35 | 18.15 | 19.35 | 21.30 |
| 60.0       |                      |       |       | 9.56  | 11.40 | 13.50 | 15.90 | 17.00 | 18.70 |

50 Hz

ZBD57KCE-TFD

R404A Dew Point

| Cond<br>°C | Power, kW |       |       |       |      |      |      |      |      |
|------------|-----------|-------|-------|-------|------|------|------|------|------|
|            | -25.0     | -20.0 | -15.0 | -10.0 | -5.0 | 0.0  | 5.0  | 7.0  | 10.0 |
| 10.0       | 2.95      | 3.06  | 3.16  | 3.26  |      |      |      |      |      |
| 15.0       | 3.14      | 3.27  | 3.40  | 3.51  | 3.60 |      |      |      |      |
| 20.0       | 3.38      | 3.53  | 3.67  | 3.80  | 3.91 | 3.99 |      |      |      |
| 25.0       | 3.65      | 3.82  | 3.98  | 4.13  | 4.25 | 4.36 | 4.43 |      |      |
| 30.0       | 3.95      | 4.15  | 4.33  | 4.50  | 4.64 | 4.76 | 4.85 | 4.88 | 4.90 |
| 35.0       | 4.30      | 4.52  | 4.72  | 4.91  | 5.07 | 5.21 | 5.31 | 5.34 | 5.38 |
| 40.0       | 4.69      | 4.93  | 5.16  | 5.36  | 5.54 | 5.70 | 5.82 | 5.86 | 5.90 |
| 45.0       |           | 5.38  | 5.63  | 5.86  | 6.06 | 6.23 | 6.37 | 6.41 | 6.47 |
| 50.0       |           | 5.88  | 6.15  | 6.40  | 6.62 | 6.81 | 6.96 | 7.01 | 7.08 |
| 55.0       |           |       | 6.71  | 6.98  | 7.22 | 7.43 | 7.60 | 7.66 | 7.74 |
| 60.0       |           |       |       | 7.61  | 7.87 | 8.10 | 8.29 | 8.36 | 8.44 |

| Cond<br>°C | Current at 400 V, A |       |       |       |       |       |       |       |       |
|------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
|            | -25.0               | -20.0 | -15.0 | -10.0 | -5.0  | 0.0   | 5.0   | 7.0   | 10.0  |
| 10.0       | 7.33                | 7.38  | 7.44  | 7.51  |       |       |       |       |       |
| 15.0       | 7.44                | 7.52  | 7.60  | 7.68  | 7.77  |       |       |       |       |
| 20.0       | 7.60                | 7.71  | 7.81  | 7.92  | 8.02  | 8.12  |       |       |       |
| 25.0       | 7.81                | 7.96  | 8.09  | 8.22  | 8.33  | 8.45  | 8.55  |       |       |
| 30.0       | 8.08                | 8.26  | 8.43  | 8.58  | 8.72  | 8.85  | 8.96  | 9.00  | 9.07  |
| 35.0       | 8.40                | 8.63  | 8.83  | 9.02  | 9.18  | 9.32  | 9.45  | 9.49  | 9.56  |
| 40.0       | 8.79                | 9.06  | 9.30  | 9.52  | 9.70  | 9.87  | 10.01 | 10.06 | 10.13 |
| 45.0       |                     | 9.55  | 9.84  | 10.09 | 10.30 | 10.49 | 10.65 | 10.71 | 10.78 |
| 50.0       |                     | 10.11 | 10.44 | 10.72 | 10.98 | 11.19 | 11.37 | 11.43 | 11.52 |
| 55.0       |                     |       | 11.10 | 11.43 | 11.72 | 11.97 | 12.17 | 12.24 | 12.34 |
| 60.0       |                     |       |       | 12.22 | 12.54 | 12.82 | 13.05 | 13.13 | 13.24 |

50 Hz

ZBD57KCE-TFD

R404A Dew Point

| Cond<br>°C | Suction Mass Flow, g/s |       |       |        |        |        |        |        |        |
|------------|------------------------|-------|-------|--------|--------|--------|--------|--------|--------|
|            | -25.0                  | -20.0 | -15.0 | -10.0  | -5.0   | 0.0    | 5.0    | 7.0    | 10.0   |
| 10.0       | 66.80                  | 80.30 | 96.80 | 116.50 |        |        |        |        |        |
| 15.0       | 64.90                  | 78.70 | 95.40 | 115.50 | 139.00 |        |        |        |        |
| 20.0       | 63.40                  | 77.40 | 94.30 | 114.50 | 138.00 | 165.50 |        |        |        |
| 25.0       | 62.30                  | 76.50 | 93.40 | 113.50 | 137.00 | 165.00 | 197.50 |        |        |
| 30.0       | 61.40                  | 75.70 | 92.70 | 112.50 | 136.50 | 164.00 | 196.50 | 211.00 | 234.00 |
| 35.0       | 60.70                  | 75.10 | 92.00 | 112.00 | 135.50 | 163.00 | 195.50 | 210.00 | 233.00 |
| 40.0       | 60.10                  | 74.50 | 91.30 | 111.00 | 134.50 | 162.00 | 194.00 | 209.00 | 232.00 |
| 45.0       |                        | 73.80 | 90.50 | 110.00 | 133.00 | 160.50 | 192.50 | 207.00 | 230.00 |
| 50.0       |                        | 73.00 | 89.40 | 108.50 | 131.50 | 158.50 | 190.50 | 205.00 | 228.00 |
| 55.0       |                        |       | 88.00 | 107.00 | 129.00 | 156.00 | 187.50 | 202.00 | 226.00 |
| 60.0       |                        |       |       | 104.50 | 126.50 | 152.50 | 184.00 | 198.50 | 223.00 |

### COMPRESSOR MECHANICAL AND PHYSICAL DATA

|  |  |
|--|--|
| Displacement @ 50 Hz, m <sup>3</sup> /h                                    | 21.4   |
| Length/Width, mm   | 246/257                                      |
| Height, mm   | 481  |
| Net Weight, kg   | 43.1   |
| Rotalock Suction, inch   | 1 1/4  |
| Rotalock Discharge, inch   | 1 1/4  |
| Oil Quantity, l  | 1.89   |
| 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   | 190 x 190 (19)                               |
| Sound Pressure @ 1m (MT), dBA  | 68   |
| Sound Power (MT), dBA  | 79   |
| Sound Power with Sound Shell (MT), dBA                                     | 69   |
| Sound Conditions (MT, Temperatures:<br>Evap./Cond./Suction at freq./speed) | -10 / 45 / 20 °C at 50 Hz                    |
| PED Category   | 1  |
| Max. Low Side Internal Free Volume, l                                      | 6.3  |
| Max. High Side Internal Free Volume, l                                     | 0.5  |
| Max. Internal Free Volume, l   | 6.80   |
| High Side PS gauge, bar  | 32   |
| Low Side PS gauge, bar   | 20   |
| Refrigerant's GWP  | 3922   |
| Refrigerant's classification   | A1   |

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

|                              |                |
|------------------------------|----------------|
| Maximum Operating Current, A | 15.9           |
| Locked Rotor Current, A      | 102            |
| Winding Resistance, ohm      | 1.72           |
| Default Enclosure Class      | IP 54 (IEC 34) |

### **ACCESSORIES INCLUDED**

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

### **ACCESSORIES OPTIONAL**

|                    |                             |
|--------------------|-----------------------------|
| Crankcase Heater   | 70 W External               |
| Sound Attenuation  | Sound Shell (10dBA)         |
| Rotalock valves    | suction and discharge       |
| Oil Control System | ALCO Trax-Oil OM3           |
| Enclosure Class    | IP66 With Molded Plug       |
| 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> |
|-------------------|------------------------|---------------------------|-------------------------|-----------------------|--------------------|
| TFD               | 380-420 V / 3~ / 50 Hz | 400                       |                         | Y                     | 1.00               |
| TF5               | 200-220 V / 3~ / 50 Hz | 200                       |                         | Y                     | 2.09               |
| TFD               | 460 V / 3~ / 60 Hz     | 460                       |                         | Y                     | 1.04               |
| TF5               | 200-230 V / 3~ / 60 Hz | 230                       |                         | Y                     | 2.09               |