



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 °C | Cooling Capacity, kW | | | | | | | | |
|------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | -20.0 | -15.0 | -10.0 | -5.0 | 0.0 | 5.0 | 7.0 | 10.0 | 12.5 |
| 27.0 | 8.24 | 10.35 | 12.85 | 15.60 | 18.60 | 21.80 | 23.20 | 25.20 | 27.00 |
| 30.0 | 7.97 | 10.05 | 12.50 | 15.25 | 18.25 | 21.50 | 22.80 | 24.90 | 26.70 |
| 35.0 | 7.54 | 9.53 | 11.90 | 14.55 | 17.55 | 20.80 | 22.20 | 24.30 | 26.10 |
| 40.0 | 7.13 | 8.98 | 11.25 | 13.85 | 16.80 | 20.00 | 21.40 | 23.50 | 25.30 |
| 45.0 | | 8.44 | 10.55 | 13.05 | 15.90 | 19.05 | 20.40 | 22.50 | 24.30 |
| 50.0 | | | 9.86 | 12.20 | 14.95 | 18.05 | 19.35 | 21.40 | 23.20 |
| 55.0 | | | 9.16 | 11.35 | 13.95 | 16.90 | 18.20 | 20.20 | 21.90 |
| 60.0 | | | | 10.45 | 12.90 | 15.70 | 16.90 | 18.85 | 20.60 |
| 65.0 | | | | | 11.80 | 14.40 | 15.60 | 17.45 | 19.10 |

50 Hz

ZR81KCE-TFD

R22

| Cond °C | Power, kW | | | | | | | | |
|------------|-----------|-------|-------|------|------|------|------|------|------|
| | -20.0 | -15.0 | -10.0 | -5.0 | 0.0 | 5.0 | 7.0 | 10.0 | 12.5 |
| 27.0 | 3.10 | 3.14 | 3.18 | 3.22 | 3.27 | 3.34 | 3.37 | 3.42 | 3.47 |
| 30.0 | 3.31 | 3.35 | 3.39 | 3.43 | 3.48 | 3.54 | 3.57 | 3.62 | 3.67 |
| 35.0 | 3.68 | 3.73 | 3.77 | 3.81 | 3.85 | 3.91 | 3.94 | 3.98 | 4.03 |
| 40.0 | 4.09 | 4.14 | 4.18 | 4.22 | 4.27 | 4.32 | 4.34 | 4.39 | 4.43 |
| 45.0 | | 4.61 | 4.65 | 4.69 | 4.73 | 4.78 | 4.80 | 4.84 | 4.88 |
| 50.0 | | | 5.17 | 5.21 | 5.25 | 5.30 | 5.32 | 5.35 | 5.38 |
| 55.0 | | | 5.76 | 5.80 | 5.84 | 5.88 | 5.90 | 5.93 | 5.96 |
| 60.0 | | | | 6.45 | 6.49 | 6.53 | 6.55 | 6.57 | 6.60 |
| 65.0 | | | | | 7.22 | 7.26 | 7.28 | 7.30 | 7.32 |

| Cond °C | Current at 400 V, A | | | | | | | | |
|------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | -20.0 | -15.0 | -10.0 | -5.0 | 0.0 | 5.0 | 7.0 | 10.0 | 12.5 |
| 27.0 | 7.65 | 7.70 | 7.74 | 7.78 | 7.84 | 7.92 | 7.97 | 8.04 | 8.11 |
| 30.0 | 7.86 | 7.91 | 7.95 | 8.00 | 8.05 | 8.13 | 8.17 | 8.24 | 8.31 |
| 35.0 | 8.25 | 8.31 | 8.35 | 8.40 | 8.45 | 8.53 | 8.57 | 8.63 | 8.70 |
| 40.0 | 8.71 | 8.78 | 8.83 | 8.87 | 8.93 | 9.00 | 9.03 | 9.10 | 9.16 |
| 45.0 | | 9.33 | 9.38 | 9.43 | 9.49 | 9.55 | 9.59 | 9.64 | 9.70 |
| 50.0 | | | 10.03 | 10.09 | 10.14 | 10.21 | 10.24 | 10.29 | 10.34 |
| 55.0 | | | 10.79 | 10.85 | 10.90 | 10.97 | 11.00 | 11.05 | 11.10 |
| 60.0 | | | | 11.73 | 11.78 | 11.85 | 11.87 | 11.92 | 11.97 |
| 65.0 | | | | | 12.79 | 12.86 | 12.88 | 12.93 | 12.97 |

| Cond °C | Suction Mass Flow, g/s | | | | | | | | |
|------------|------------------------|-------|-------|-------|--------|--------|--------|--------|--------|
| | -20.0 | -15.0 | -10.0 | -5.0 | 0.0 | 5.0 | 7.0 | 10.0 | 12.5 |
| 27.0 | 48.10 | 59.70 | 73.00 | 87.60 | 103.50 | 120.00 | 127.00 | 137.00 | 146.00 |
| 30.0 | 47.60 | 59.20 | 72.60 | 87.50 | 103.50 | 120.50 | 127.50 | 138.50 | 147.50 |
| 35.0 | 46.80 | 58.30 | 71.80 | 86.90 | 103.50 | 121.00 | 128.50 | 139.50 | 149.50 |
| 40.0 | 46.10 | 57.20 | 70.60 | 85.90 | 103.00 | 121.00 | 128.50 | 140.50 | 150.50 |
| 45.0 | | 56.20 | 69.30 | 84.50 | 101.50 | 120.00 | 128.00 | 140.00 | 150.50 |
| 50.0 | | | 67.70 | 82.80 | 99.90 | 119.00 | 127.00 | 139.50 | 150.00 |
| 55.0 | | | 66.10 | 80.70 | 97.70 | 117.00 | 125.00 | 137.50 | 148.50 |
| 60.0 | | | | 78.40 | 95.10 | 114.00 | 122.50 | 135.50 | 146.50 |
| 65.0 | | | | | 92.10 | 111.00 | 119.00 | 132.50 | 143.50 |

COMPRESSOR MECHANICAL AND PHYSICAL DATA

| | |
|--|--|
| Displacement @ 50 Hz, m³/h | 18.8 |
| Length/Width, mm | 246/246 |
| Height, mm | 456 |
| Net Weight, kg | 39 |
| Gross Weight, kg | 45 |
| Rotalock Suction, inch | 1 1/4 |
| Rotalock Discharge, inch | 1 1/4 |
| Stub Suction, inch | 7/8 |
| Stub Discharge, inch | 3/4 |
| Oil Quantity, l | 1.77 |
| Oil type (original charge) | POE RL32-3MAF |
| Oil type (approved oils) | POE RL32-3MAF, POE MOBIL EAL Arctic 22 CC |
| Base mounting (hole dia), mm | 190 x 190 (8.5) |
| Sound Pressure @ 1m (HT), dBA | 61 |
| Sound Power (HT), dBA | 72 |
| Sound Power with Sound Shell (HT), dBA | 67 |
| Sound Conditions (HT, Temperatures: Evap./Cond./Suction at freq./speed) | 7 / 54 / 18 °C at 50 Hz |
| PED Category | 1 |
| Max. Internal Free Volume, l | 4.20 |
| High Side PS gauge, bar | 29.5 |
| Low Side PS gauge, bar | 20 |
| Low Side TS Max., °C | 50 |
| Refrigerant's GWP | 1810 |
| Refrigerant's classification | A1 |

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

| | |
|------------------------------|----------------|
| Maximum Operating Current, A | 15 |
| Locked Rotor Current, A | 101 |
| Winding Resistance, ohm | 1.79 |
| Default Enclosure Class | IP 21 (IEC 34) |

ACCESSORIES INCLUDED

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

ACCESSORIES OPTIONAL

| | |
|------------------|---------------|
| Crankcase Heater | 70 W External |
|------------------|---------------|

MOTOR OPTIONS

| Motor Code | Power Supply | Nominal Voltage, V | Start Connection | DOL Connection | Amps Factor |
|-------------------|------------------------|---------------------------|-------------------------|-----------------------|--------------------|
| 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 |