



Minimum Evaporating Temp. With:

- 10 K Suction Superheat ASERCOM certified
- 25 °C Suction Gas Return
- 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   |
| 25.0       | 30.80                | 39.00 | 48.80 | 60.30 | 73.70 | 89.20 | 96.10 | 107.00 |        |        |
| 30.0       | 28.50                | 36.50 | 45.80 | 56.80 | 69.70 | 84.60 | 91.20 | 101.50 | 111.00 | 121.50 |
| 35.0       | 26.30                | 33.90 | 42.80 | 53.30 | 65.60 | 79.80 | 86.10 | 96.30  | 105.50 | 115.00 |
| 40.0       | 24.00                | 31.20 | 39.70 | 49.70 | 61.40 | 75.00 | 81.00 | 90.70  | 99.30  | 108.50 |
| 45.0       |                      | 28.60 | 36.60 | 46.10 | 57.20 | 70.10 | 75.80 | 85.00  | 93.20  | 102.00 |
| 50.0       |                      |       | 33.50 | 42.40 | 52.80 | 65.00 | 70.40 | 79.10  | 87.00  | 95.40  |
| 55.0       |                      |       |       | 38.60 | 48.40 | 59.90 | 65.00 | 73.20  | 80.60  | 88.60  |
| 60.0       |                      |       |       |       | 43.90 | 54.60 | 59.40 | 67.20  | 74.20  | 81.70  |
| 65.0       |                      |       |       |       |       | 49.30 | 53.80 | 61.00  | 67.60  | 74.60  |
| 68.0       |                      |       |       |       |       | 46.10 | 50.40 | 57.30  | 63.60  | 70.30  |

50 Hz

ZR310KCE-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  |
| 25.0       | 11.05     | 11.25 | 11.50 | 11.80 | 12.10 | 12.45 | 12.60 | 12.85 |       |       |
| 30.0       | 12.30     | 12.45 | 12.65 | 12.90 | 13.20 | 13.55 | 13.65 | 13.90 | 14.10 | 14.30 |
| 35.0       | 13.80     | 13.90 | 14.05 | 14.25 | 14.50 | 14.80 | 14.95 | 15.15 | 15.35 | 15.55 |
| 40.0       | 15.55     | 15.60 | 15.70 | 15.85 | 16.05 | 16.30 | 16.40 | 16.60 | 16.80 | 16.95 |
| 45.0       |           | 17.60 | 17.65 | 17.75 | 17.85 | 18.05 | 18.15 | 18.35 | 18.50 | 18.65 |
| 50.0       |           |       | 19.95 | 19.95 | 20.00 | 20.20 | 20.20 | 20.40 | 20.50 | 20.60 |
| 55.0       |           |       |       | 22.50 | 22.50 | 22.60 | 22.60 | 22.70 | 22.80 | 22.90 |
| 60.0       |           |       |       |       | 25.50 | 25.40 | 25.40 | 25.50 | 25.60 | 25.60 |
| 65.0       |           |       |       |       |       | 28.70 | 28.70 | 28.70 | 28.70 | 28.70 |
| 68.0       |           |       |       |       |       | 30.90 | 30.80 | 30.80 | 30.80 | 30.80 |

| 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  |
| 25.0       | 24.37               | 24.64 | 24.86 | 25.10 | 25.38 | 25.77 | 25.96 | 26.30 |       |       |
| 30.0       | 25.73               | 26.00 | 26.22 | 26.42 | 26.67 | 27.00 | 27.16 | 27.45 | 27.74 | 28.08 |
| 35.0       | 27.32               | 27.59 | 27.80 | 27.98 | 28.19 | 28.46 | 28.60 | 28.84 | 29.09 | 29.38 |
| 40.0       | 29.21               | 29.49 | 29.69 | 29.85 | 30.01 | 30.23 | 30.34 | 30.55 | 30.75 | 31.00 |
| 45.0       |                     | 31.78 | 31.97 | 32.11 | 32.23 | 32.40 | 32.48 | 32.64 | 32.81 | 33.02 |
| 50.0       |                     |       | 34.72 | 34.84 | 34.93 | 35.04 | 35.10 | 35.22 | 35.35 | 35.51 |
| 55.0       |                     |       |       | 38.12 | 38.18 | 38.24 | 38.27 | 38.35 | 38.44 | 38.56 |
| 60.0       |                     |       |       |       | 42.06 | 42.07 | 42.08 | 42.12 | 42.17 | 42.24 |
| 65.0       |                     |       |       |       |       | 46.62 | 46.61 | 46.60 | 46.61 | 46.65 |
| 68.0       |                     |       |       |       |       | 49.73 | 49.70 | 49.67 | 49.66 | 49.67 |

| 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   |
| 25.0       | 172.00                 | 215.00 | 264.00 | 322.00 | 388.00 | 463.00 | 496.00 | 549.00 |        |        |
| 30.0       | 167.00                 | 210.00 | 259.00 | 317.00 | 383.00 | 458.00 | 491.00 | 543.00 | 590.00 | 640.00 |
| 35.0       | 161.50                 | 204.00 | 254.00 | 311.00 | 377.00 | 452.00 | 484.00 | 537.00 | 583.00 | 633.00 |
| 40.0       | 155.00                 | 198.00 | 247.00 | 304.00 | 370.00 | 445.00 | 477.00 | 530.00 | 576.00 | 626.00 |
| 45.0       |                        | 191.00 | 241.00 | 297.00 | 362.00 | 437.00 | 470.00 | 522.00 | 568.00 | 618.00 |
| 50.0       |                        |        | 233.00 | 289.00 | 354.00 | 429.00 | 461.00 | 513.00 | 560.00 | 609.00 |
| 55.0       |                        |        |        | 281.00 | 345.00 | 419.00 | 452.00 | 504.00 | 550.00 | 600.00 |
| 60.0       |                        |        |        |        | 336.00 | 410.00 | 442.00 | 494.00 | 540.00 | 590.00 |
| 65.0       |                        |        |        |        |        | 399.00 | 431.00 | 484.00 | 530.00 | 580.00 |
| 68.0       |                        |        |        |        |        | 392.00 | 425.00 | 477.00 | 524.00 | 574.00 |

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

|  |  |
|--|--|
| Displacement @ 50 Hz, m³/h   | 71.4   |
| Length/Width, mm   | 447/390                                      |
| Height, mm   | 724  |
| Net Weight, kg   | 160  |
| Gross Weight, kg   | 188  |
| Rotalock Suction, inch   | 2 1/4 x 12 UN                                |
| Rotalock Discharge, inch   | 1 3/4 x 12 UN                                |
| Stub Suction, inch   | 1 5/8  |
| Stub Discharge, inch   | 1 3/8  |
| Oil Quantity, l  | 6.8  |
| 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   | 266.7 x 266.7 (22.6)                         |
| Sound Pressure @ 1m (HT), dBA  | 74   |
| Sound Power (HT), dBA  | 85   |
| 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   | 34.0   |
| 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 | 52             |
| Locked Rotor Current, A      | 272            |
| Winding Resistance, ohm      | 0.51           |
| Default Enclosure Class      | IP 54 (IEC 34) |

### **ACCESSORIES INCLUDED**

|                                  |                                |
|----------------------------------|--------------------------------|
| Enclosure Class                  | IP 54                          |
| Discharge Temperature Protection | Internal Thermistor            |
| Discharge Temperature Protection | PTC in Scroll Discharge Port   |
| Oil Charge                       |                                |
| Mounting Grommets                | Standard                       |
| Oil Service Valve                | Schraeder Valve                |
| Check Valve                      | Discharge Low Leak Check Valve |

### **ACCESSORIES OPTIONAL**

|  |   |
|--|---|
| <p>Mounting Grommets<br/>         Oil Control System<br/>         Mounting Grommets<br/>         Crankcase Heater<br/>         Adapter Kit</p> | <p>Rubber Grommet For Parallel Operation<br/>         ALCO Trax-Oil OM3<br/>         Rubber Grommet For Single<br/>         102 W External<br/>         R1"3/4 - B1"3/8 For TPTL for Parallel Operation</p> |
|--|---|

### **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               |
| TWC               | 200 V / 3~ / 50 Hz     | 200                       |                         | Y                     | 2.09               |
| TWE               | 500 V / 3~ / 50 Hz     | 500                       |                         | Y                     | 0.80               |
| TWR               | 220-240 V / 3~ / 50 Hz | 230                       |                         | Y                     | 1.73               |
| TWD               | 460 V / 3~ / 60 Hz     | 460                       |                         | Y                     | 1.04               |
| TWC               | 208-230 V / 3~ / 60 Hz | 230                       |                         | Y                     | 2.09               |
| TWE               | 575 V / 3~ / 60 Hz     | 575                       |                         | Y                     | 0.80               |
| TW7               | 380 V / 3~ / 60 Hz     | 380                       |                         | Y                     | 1.26               |