



Minimum Evaporating Temp. With:

- 20 °C Suction Gas Return — 0 °C Suction Gas Return
- 0 °C Suction Gas Return with add cooling
- Maximum Evaporating Temperature

Suction Superheat 10.0K

Liquid Subcooling 0.0K

Evaporating Temperature, °C

| Cond °C | Cooling Capacity, kW | | | | | | | | | |
|------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | -50.0 | -45.0 | -40.0 | -35.0 | -30.0 | -25.0 | -20.0 | -15.0 | -10.0 | -5.0 |
| 5.0 | 6.95 | 9.77 | 13.35 | 17.80 | 23.10 | 29.50 | 37.00 | | | |
| 10.0 | 6.13 | 8.82 | 12.25 | 16.40 | 21.50 | 27.50 | 34.60 | 42.80 | 52.30 | |
| 15.0 | 5.32 | 7.87 | 11.10 | 15.05 | 19.80 | 25.50 | 32.20 | 40.00 | 49.00 | 59.30 |
| 20.0 | | 6.94 | 9.95 | 13.65 | 18.15 | 23.50 | 29.80 | 37.10 | 45.70 | 55.40 |
| 25.0 | | 6.03 | 8.83 | 12.25 | 16.45 | 21.40 | 27.30 | 34.20 | 42.30 | 51.50 |
| 30.0 | | | 7.74 | 10.90 | 14.75 | 19.40 | 24.90 | 31.30 | 38.90 | 47.60 |
| 35.0 | | | 6.67 | 9.57 | 13.10 | 17.35 | 22.40 | 28.40 | 35.50 | 43.60 |
| 40.0 | | | | 8.26 | 11.45 | 15.35 | 20.00 | 25.50 | 32.10 | 39.70 |
| 45.0 | | | | 7.00 | 9.85 | 13.35 | 17.55 | 22.60 | 28.60 | 35.70 |
| 50.0 | | | | | 8.30 | 11.40 | 15.15 | 19.75 | 25.20 | 31.80 |
| 55.0 | | | | | | 9.49 | 12.80 | 16.90 | 21.90 | 27.80 |
| 60.0 | | | | | | 7.65 | 10.50 | 14.10 | 18.50 | |
| 62.0 | | | | | | 6.94 | 9.62 | 13.00 | 17.15 | |

50 Hz

4MFD-13X 100% Loaded

R404A Dew Point

| Cond °C | Power, kW | | | | | | | | | |
|------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | -50.0 | -45.0 | -40.0 | -35.0 | -30.0 | -25.0 | -20.0 | -15.0 | -10.0 | -5.0 |
| 5.0 | 3.96 | 4.60 | 5.17 | 5.66 | 6.05 | 6.31 | 6.41 | | | |
| 10.0 | 4.06 | 4.78 | 5.45 | 6.06 | 6.58 | 6.98 | 7.24 | 7.34 | 7.26 | |
| 15.0 | 4.11 | 4.92 | 5.69 | 6.41 | 7.05 | 7.59 | 8.01 | 8.28 | 8.38 | 8.29 |
| 20.0 | | 5.01 | 5.88 | 6.70 | 7.47 | 8.15 | 8.72 | 9.16 | 9.44 | 9.54 |
| 25.0 | | 5.06 | 6.02 | 6.95 | 7.84 | 8.65 | 9.37 | 9.97 | 10.45 | 10.70 |
| 30.0 | | | 6.12 | 7.15 | 8.16 | 9.10 | 9.97 | 10.75 | 11.35 | 11.85 |
| 35.0 | | | 6.18 | 7.31 | 8.43 | 9.50 | 10.50 | 11.40 | 12.25 | 12.90 |
| 40.0 | | | | 7.43 | 8.65 | 9.85 | 11.00 | 12.05 | 13.05 | 13.90 |
| 45.0 | | | | 7.50 | 8.83 | 10.15 | 11.45 | 12.65 | 13.80 | 14.80 |
| 50.0 | | | | | 8.97 | 10.40 | 11.80 | 13.20 | 14.50 | 15.70 |
| 55.0 | | | | | | 10.60 | 12.15 | 13.65 | 15.10 | 16.50 |
| 60.0 | | | | | | 10.80 | 12.45 | 14.10 | 15.70 | |
| 62.0 | | | | | | 10.85 | 12.55 | 14.25 | 15.95 | |

| Cond °C | Current at 400 V, A | | | | | | | | | |
|------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | -50.0 | -45.0 | -40.0 | -35.0 | -30.0 | -25.0 | -20.0 | -15.0 | -10.0 | -5.0 |
| 5.0 | 9.07 | 9.83 | 10.58 | 11.27 | 11.83 | 12.23 | 12.40 | | | |
| 10.0 | 9.28 | 10.12 | 10.98 | 11.80 | 12.54 | 13.13 | 13.54 | 13.69 | 13.55 | |
| 15.0 | 9.41 | 10.33 | 11.30 | 12.26 | 13.16 | 13.96 | 14.59 | 15.01 | 15.16 | 14.99 |
| 20.0 | | 10.46 | 11.54 | 12.64 | 13.72 | 14.71 | 15.57 | 16.25 | 16.69 | 16.85 |
| 25.0 | | 10.52 | 11.71 | 12.95 | 14.20 | 15.40 | 16.49 | 17.43 | 18.16 | 18.64 |
| 30.0 | | | 11.81 | 13.20 | 14.62 | 16.02 | 17.34 | 18.55 | 19.57 | 20.37 |
| 35.0 | | | 11.86 | 13.39 | 14.98 | 16.58 | 18.14 | 19.61 | 20.93 | 22.05 |
| 40.0 | | | | 13.52 | 15.29 | 17.10 | 18.89 | 20.62 | 22.23 | 23.68 |
| 45.0 | | | | 13.61 | 15.55 | 17.56 | 19.59 | 21.59 | 23.50 | 25.27 |
| 50.0 | | | | | 15.78 | 17.99 | 20.26 | 22.52 | 24.72 | 26.82 |
| 55.0 | | | | | | 18.39 | 20.89 | 23.42 | 25.92 | 28.34 |
| 60.0 | | | | | | 18.76 | 21.50 | 24.29 | 27.09 | |
| 62.0 | | | | | | 18.90 | 21.73 | 24.64 | 27.55 | |

50 Hz

4MFD-13X 100% Loaded

R404A Dew Point

| Cond °C | Suction Mass Flow, g/s | | | | | | | | | |
|------------|------------------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| | -50.0 | -45.0 | -40.0 | -35.0 | -30.0 | -25.0 | -20.0 | -15.0 | -10.0 | -5.0 |
| 5.0 | 50.20 | 69.00 | 92.20 | 120.00 | 153.00 | 191.50 | 235.00 | | | |
| 10.0 | 46.70 | 65.60 | 88.80 | 116.50 | 149.00 | 187.00 | 230.00 | 280.00 | 335.00 | |
| 15.0 | 42.90 | 61.90 | 85.00 | 112.50 | 145.00 | 182.50 | 225.00 | 274.00 | 329.00 | 391.00 |
| 20.0 | | 57.90 | 80.90 | 108.00 | 140.00 | 177.00 | 220.00 | 268.00 | 323.00 | 384.00 |
| 25.0 | | 53.70 | 76.50 | 103.50 | 135.00 | 171.50 | 214.00 | 262.00 | 316.00 | 377.00 |
| 30.0 | | | 71.80 | 98.30 | 129.50 | 165.50 | 207.00 | 254.00 | 308.00 | 369.00 |
| 35.0 | | | 66.80 | 92.90 | 123.50 | 159.00 | 199.50 | 247.00 | 300.00 | 360.00 |
| 40.0 | | | | 87.10 | 117.00 | 151.50 | 192.00 | 238.00 | 291.00 | 351.00 |
| 45.0 | | | | 81.10 | 110.00 | 144.00 | 183.50 | 230.00 | 282.00 | 342.00 |
| 50.0 | | | | | 103.00 | 136.00 | 175.00 | 220.00 | 273.00 | 333.00 |
| 55.0 | | | | | | 128.00 | 166.00 | 211.00 | 263.00 | 323.00 |
| 60.0 | | | | | | 119.50 | 157.00 | 201.00 | 254.00 | |
| 62.0 | | | | | | 116.50 | 153.50 | 198.00 | 251.00 | |

COMPRESSOR MECHANICAL AND PHYSICAL DATA

| | |
|--|--|
| Number of cylinders | 4 |
| Displacement @ 50 Hz, m ³ /h | 61.7 |
| Bore/Stroke, mm | 63.5/56.0 |
| Length/Width, mm | 638/501 |
| Height, mm | 452 |
| Net Weight, kg | 183 |
| Suction, inch | 1 5/8 |
| Discharge, inch | 1 1/8 |
| Oil Quantity, l | 3.3 |
| 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 | 381 x 305 (18) |
| Sound Pressure @ 1m (LT), dBA | 70 |
| Sound Power (LT), dBA | 81 |
| Sound Power with Sound Shell (LT), dBA | 69 |
| Sound Conditions (LT, Temperatures: Evap./Cond./Suction at freq./speed) | -35 / 40 / 20 °C at 50 Hz |
| Sound Pressure @ 1m (MT), dBA | 68 |
| Sound Power (MT), dBA | 79 |
| Sound Power with Sound Shell (MT), dBA | 67 |
| Sound Conditions (MT, Temperatures: Evap./Cond./Suction at freq./speed) | -10 / 45 / 20 °C at 50 Hz |
| High Side PS gauge, bar | 32.5 |
| Low Side PS gauge, bar | 22.5 |
| Digital Modulation | 50-100% |
| Refrigerant's GWP | 3922 |
| Refrigerant's classification | A1 |

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

| | |
|------------------------------|----------------|
| Maximum Operating Current, A | 30.8 |
| Locked Rotor Current, A | 105 |
| Default Enclosure Class | IP 54 (IEC 34) |

ACCESSORIES INCLUDED

| | |
|-------------------------------------|--|
| Oil Pressure Switch (-P) | OPS2 Sensor |
| CoreSense Protection (-P) | Motor protection |
| Mounting Parts | Spring |
| Copeland Compressor Electronic (-N) | Oil pressure, motor and discharge line temperature protection; advanced diagnostics features and power measurement |

ACCESSORIES OPTIONAL

| | |
|---------------------------------------|------------------------------|
| Adapter Kit | For Parallel Operation |
| Check Valve | For unloaded start operation |
| Digital Driver | EC3-D23 |
| Mounting Parts | Rubber |
| Additional Cooling | 70 W Vertical Air Flow Fan |
| Crankcase Heater | 100 W Internal |
| Oil Pressure Switch | OPS2 Electronic Switch |
| Sound Attenuation | Sound Shell |
| Digital Modulation | 50-100 % |
| Copeland Compressor Electronic module | Modbus extension module |

MOTOR OPTIONS

| <i>Motor Code</i> | <i>Power Supply</i> | <i>Nominal Voltage, V</i> | <i>Start Connection</i> | <i>DOL Connection</i> | <i>Amps Factor</i> |
|-------------------|------------------------|---------------------------|-------------------------|-----------------------|--------------------|
| AWM | 380-420 V / 3~ / 50 Hz | 400 | YYY | Y | 1.00 |
| EWL | 220-240 V / 3~ / 50 Hz | 230 | Y/DELTA | DELTA | 1.73 |
| EWL | 380-420 V / 3~ / 50 Hz | 400 | | Y | 1.00 |
| EWM | 380-420 V / 3~ / 50 Hz | 400 | Y/DELTA | DELTA | 1.00 |
| AWR | 220-240 V / 3~ / 50 Hz | 230 | YYY | Y | 1.73 |
| AWY | 500-550 V / 3~ / 50 Hz | 525 | YYY | Y | 0.76 |
| EWK | 220-240 V / 3~ / 60 Hz | 230 | Y/DELTA | DELTA | 2.10 |
| EWK | 380-420 V / 3~ / 60 Hz | 380 | | Y | 1.20 |
| EWD | 440-480 V / 3~ / 60 Hz | 460 | Y/DELTA | DELTA | 1.00 |
| AWC | 208-230 V / 3~ / 60 Hz | 230 | YYY | Y | 2.19 |
| AWX | 380 V / 3~ / 60 Hz | 380 | YYY | Y | 1.20 |
| AWD | 440-480 V / 3~ / 60 Hz | 460 | YYY | Y | 1.00 |