



Producer: **Copeland**
 Line: **ZR**
 Model: **ZR90K3E-TWD**
 Cooling capacity [kW]: **10.30**
 Heat rejection [kW]: **15.40**
 Displacement [m³/h]: **20.9**
 Refrigerant: **R22, R134a, R407C**
 Capacity control: **None**
 Power supply: **400V/3Ph/50Hz**

Data

Technical data

| | | |
|----------------------|---------------------|---------------|
| Displacement | [m ³ /h] | 20.9 |
| Oil charge | [l] | 4.10 |
| Oil type | | POE RL32-3MAF |
| Internal free volume | [dm ³] | 19.8 |
| Net weight | [kg] | 87.00 |
| Gross weight | [kg] | 93.00 |

Electrical data and limits

| | | |
|-----------------------------|-------|---------------|
| Power supply | | 400V/3Ph/50Hz |
| Maximum continuous current | [A] | 17.0 |
| Locked rotor amperage | [A] | 99.0 |
| Motor resistance main | [Ω] | 1.45 |
| Maximum suction pressure | [bar] | 20.0 |
| Maximum discharge pressure | [bar] | 32.0 |
| Maximum suction temperature | [°C] | 52.0 |
| Minimum suction temperature | [°C] | -35.0 |

Dimensions

| | | |
|--------------------------------------|--------|-------|
| Suction tube diameter | [inch] | 1 3/8 |
| Discharge tube diameter | [inch] | 7/8 |
| Suction connection thread diameter | [inch] | 1 3/4 |
| Discharge connection thread diameter | [inch] | 1 1/4 |
| Length | [mm] | 319 |
| Height | [mm] | 525 |
| Width | [mm] | 357 |

Other

| | |
|-----------------------|---|
| Approved refrigerants | R22, R134a, R407C |
| Allowed oil types | POE RL32-3MAF, POE MOBIL EAL Arctic 22 CC |
| Capacity control | None |
| Protection rating | IP54 (IEC34) |

Performance

Nominal conditions: refrigerant: R407C, evaporation: -10°C (dew point), condensation: 45°C (dew point), superheating: 10K, subcooling: 0°C

Cooling capacity

| | | Evaporation temperature [°C] | | | | | | | | | | | |
|-------------------------------|----|------------------------------|-------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| | | -20 | -15 | -10 | -5 | 0 | 5 | 7 | 10 | 12.5 | 15 | | |
| Condensation temperature [°C] | 10 | 9.99 | 12.67 | 15.85 | 19.60 | | | | | | | | |
| | 15 | 9.37 | 11.96 | 15.03 | 18.64 | 22.86 | | | | | | | |
| | 20 | 8.76 | 11.26 | 14.21 | 17.69 | 21.75 | 26.44 | | | | | | |
| | 25 | 8.17 | 10.57 | 13.41 | 16.74 | 20.64 | 25.15 | 27.13 | 30.33 | | | | |
| | 30 | 7.60 | 9.90 | 12.61 | 15.81 | 19.53 | 23.85 | 25.76 | 28.82 | 31.57 | 34.51 | | |
| | 35 | 7.04 | 9.24 | 11.83 | 14.88 | 18.43 | 22.56 | 24.38 | 27.32 | 29.95 | 32.76 | | |
| | 40 | 6.51 | 8.60 | 11.06 | 13.95 | 17.34 | 21.27 | 23.01 | 25.81 | 28.33 | 31.02 | | |
| | 45 | | 7.97 | 10.30 | 13.04 | 16.25 | 19.98 | 21.64 | 24.30 | 26.70 | 29.26 | | |
| | 50 | | | 9.56 | 12.14 | 15.17 | 18.70 | 20.27 | 22.80 | 25.07 | 27.51 | | |
| | 55 | | | | 11.25 | 14.10 | 17.43 | 18.91 | 21.29 | 23.45 | 25.76 | | |
| | 60 | | | | | 13.04 | 16.16 | 17.55 | 19.79 | 21.82 | 24.01 | | |
| | 65 | | | | | | 14.89 | 16.19 | 18.30 | 20.20 | 22.25 | | |
| | 68 | | | | | | | 14.14 | 15.38 | 17.40 | 19.23 | 21.20 | |

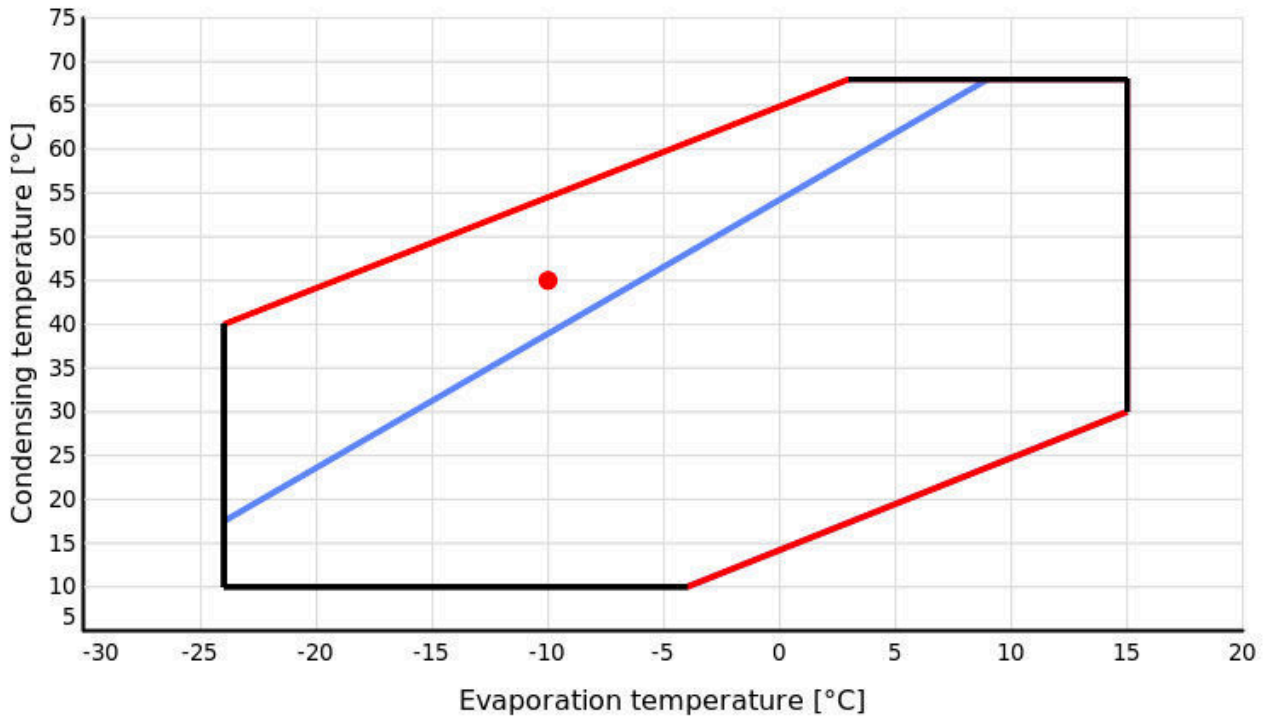
Heat rejection

| | | Evaporation temperature [°C] | | | | | | | | | | | |
|-------------------------------|----|------------------------------|-------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| | | -20 | -15 | -10 | -5 | 0 | 5 | 7 | 10 | 12.5 | 15 | | |
| Condensation temperature [°C] | 10 | 12.65 | 15.34 | 18.63 | 22.61 | | | | | | | | |
| | 15 | 12.24 | 14.80 | 17.90 | 21.65 | 26.13 | | | | | | | |
| | 20 | 11.89 | 14.33 | 17.27 | 20.80 | 25.02 | 30.03 | | | | | | |
| | 25 | 11.59 | 13.94 | 16.74 | 20.07 | 24.04 | 28.74 | 30.85 | 34.27 | | | | |
| | 30 | 11.34 | 13.62 | 16.28 | 19.44 | 23.18 | 27.61 | 29.59 | 32.80 | 35.73 | 38.88 | | |
| | 35 | 11.14 | 13.36 | 15.92 | 18.91 | 22.44 | 26.60 | 28.47 | 31.49 | 34.24 | 37.20 | | |
| | 40 | 10.98 | 13.16 | 15.62 | 18.48 | 21.82 | 25.73 | 27.48 | 30.32 | 32.90 | 35.69 | | |
| | 45 | | 13.01 | 15.40 | 18.13 | 21.30 | 24.99 | 26.63 | 29.30 | 31.73 | 34.34 | | |
| | 50 | | | 15.24 | 17.87 | 20.88 | 24.36 | 25.91 | 28.42 | 30.70 | 33.15 | | |
| | 55 | | | | 17.69 | 20.56 | 23.85 | 25.31 | 27.67 | 29.81 | 32.11 | | |
| | 60 | | | | | 20.33 | 23.45 | 24.83 | 27.05 | 29.06 | 31.22 | | |
| | 65 | | | | | | 23.16 | 24.46 | 26.56 | 28.44 | 30.47 | | |
| | 68 | | | | | | | 23.03 | 24.29 | 26.32 | 28.13 | 30.09 | |

Power consumption

| | | Evaporation temperature [°C] | | | | | | | | | |
|-------------------------------|----|------------------------------|------|-------------|------|------|------|------|------|------|------|
| | | -20 | -15 | -10 | -5 | 0 | 5 | 7 | 10 | 12.5 | 15 |
| Condensation temperature [°C] | 10 | 2.80 | 2.81 | 2.92 | 3.17 | | | | | | |
| | 15 | 3.02 | 2.99 | 3.03 | 3.17 | 3.45 | | | | | |
| | 20 | 3.29 | 3.24 | 3.22 | 3.28 | 3.45 | 3.77 | | | | |
| | 25 | 3.60 | 3.55 | 3.50 | 3.50 | 3.58 | 3.79 | 3.91 | 4.15 | | |
| | 30 | 3.94 | 3.92 | 3.86 | 3.83 | 3.84 | 3.95 | 4.03 | 4.19 | 4.37 | 4.60 |
| | 35 | 4.32 | 4.34 | 4.30 | 4.25 | 4.22 | 4.26 | 4.30 | 4.39 | 4.51 | 4.67 |
| | 40 | 4.71 | 4.80 | 4.80 | 4.76 | 4.71 | 4.70 | 4.71 | 4.75 | 4.82 | 4.92 |
| | 45 | | 5.30 | 5.37 | 5.36 | 5.31 | 5.27 | 5.26 | 5.27 | 5.29 | 5.34 |
| | 50 | | | 5.98 | 6.03 | 6.01 | 5.96 | 5.94 | 5.92 | 5.92 | 5.94 |
| | 55 | | | | 6.77 | 6.80 | 6.77 | 6.75 | 6.72 | 6.70 | 6.69 |
| | 60 | | | | | 7.67 | 7.68 | 7.67 | 7.64 | 7.62 | 7.60 |
| | 65 | | | | | | 8.70 | 8.71 | 8.70 | 8.68 | 8.65 |
| | 68 | | | | | | | 9.36 | 9.38 | 9.39 | 9.37 |

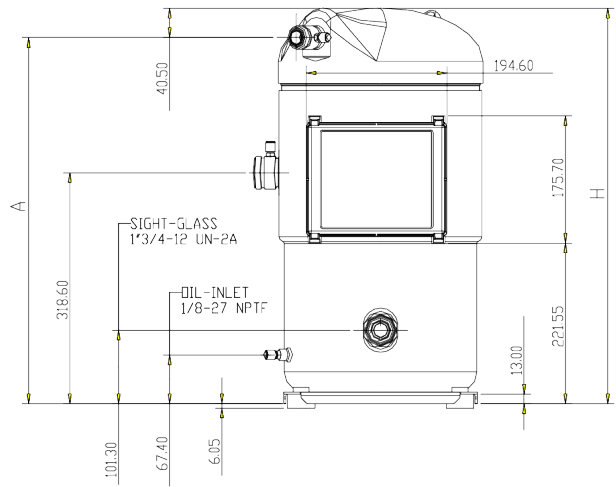
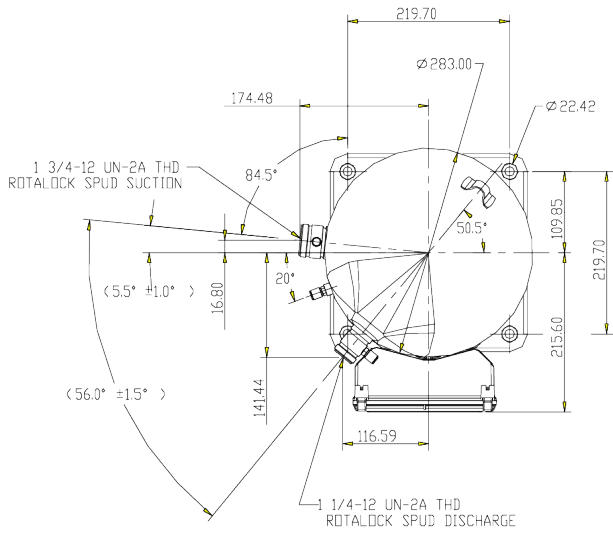
Application range



Legend

- Suction gas superheating: 10 K
- Suction gas temperature: 25°C

Dimensions



Dimensions

| | | |
|-------------|------|--------|
| Dimension A | [mm] | 497,34 |
|-------------|------|--------|

Tube diameters

| | |
|-------------|--------|
| Dimension H | 537,84 |
|-------------|--------|