

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EM Z40CLC |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513309014 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-600a | | |
| 3 Nominal voltage and frequency | 220-240 / 50 | [V / Hz] | |
| 4 Application type | Low Back Pressure | | |
| 4.1 Evaporating temperature range | -35°C to -10°C | (-31°F to 14°F) | |
| 5 Motor type | RSCR | | |
| 6 Starting torque | LST - Low Starting Torque | | |
| 7 Expansion device | Capillary tube | | |
| 8 Compressor cooling | Operating voltage range | | |
| | | 50 Hz | 60 Hz |
| 8.1 LBP (32°C Ambient temperature) | Static | 187 to 255 V | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 187 to 255 V | - |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing pressures/temperature | | | |
| 9.1 Operating (gauge) | 7.7 | [kgf/cm ²] (109 psig) | / °C - °F |
| 9.2 Peak (gauge) | 9.8 | [kgf/cm ²] (139 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation | 1/10 | [hp] |
| 2 Displacement | 7.23 | [cm ³] (0.441 cu.in) |
| 2.1 Bore [mm] | 24.000 | |
| 2.2 Stroke [mm] | 16.000 | |
| 3 Lubricant charge | 180 | [ml] (6.09 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | MINERAL / ISO7 | |
| 4 Weight (with oil charge) | 7.89 | [kg] (17.39 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

C - ELETRICAL DATA

| | | |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50 Hz 1 ~ (Single phase) | |
| 2 Starting device type | PTC | |
| 2.1 Starting device | V230 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 4(280) | [µF(VAC minimum)] |
| 5 Motor protection | T0224/07 | |
| 6 Start winding resistance | 22.40 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 28.80 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 3.30 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 0.60 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CCC - VDE | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAELBP32 Static | | Evaporating temperature (Condensing temperature | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | |
| Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| 417 | 105 | 122 | 73 | 0.34 | 1.31 | 5.69 | 1.43 | 1.67 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Static | | (Condensing temperature 45°C (+113°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 225 | 57 | 66 | 51 | 0.24 | 0.70 | 4.42 | 1.11 | 1.29 |
| -30 (-22) | 303 | 76 | 89 | 59 | 0.27 | 0.95 | 5.17 | 1.30 | 1.52 |
| -25 (-13) | 411 | 104 | 120 | 67 | 0.31 | 1.29 | 6.10 | 1.54 | 1.79 |
| -20 (- 4) | 544 | 137 | 160 | 76 | 0.34 | 1.71 | 7.15 | 1.80 | 2.09 |
| -15 (+ 5) | 698 | 176 | 204 | 85 | 0.38 | 2.20 | 8.25 | 2.08 | 2.42 |
| -10 (+14) | 866 | 218 | 254 | 93 | 0.42 | 2.73 | 9.34 | 2.35 | 2.74 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Static | | (Condensing temperature 55°C (+131°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 193 | 49 | 56 | 54 | 0.25 | 0.60 | 3.61 | 0.91 | 1.06 |
| -30 (-22) | 270 | 68 | 79 | 62 | 0.28 | 0.85 | 4.38 | 1.10 | 1.28 |
| -25 (-13) | 377 | 95 | 110 | 71 | 0.32 | 1.18 | 5.28 | 1.33 | 1.55 |
| -20 (- 4) | 509 | 128 | 149 | 81 | 0.36 | 1.60 | 6.27 | 1.58 | 1.84 |
| -15 (+ 5) | 659 | 166 | 193 | 91 | 0.41 | 2.08 | 7.26 | 1.83 | 2.13 |
| -10 (+14) | 824 | 208 | 242 | 101 | 0.45 | 2.60 | 8.20 | 2.07 | 2.40 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | | ASHRAE32 Static | | (Condensing temperature 65°C (+149°F)) | | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31) | 155 | 39 | 45 | 50 | 0.23 | 0.49 | 3.11 | 0.78 | 0.91 |
| -30 (-22) | 229 | 58 | 67 | 60 | 0.27 | 0.72 | 3.84 | 0.97 | 1.13 |
| -25 (-13) | 331 | 83 | 97 | 71 | 0.32 | 1.04 | 4.67 | 1.18 | 1.37 |
| -20 (- 4) | 457 | 115 | 134 | 82 | 0.37 | 1.44 | 5.54 | 1.40 | 1.62 |
| -15 (+ 5) | 602 | 152 | 176 | 95 | 0.43 | 1.90 | 6.37 | 1.61 | 1.87 |
| -10 (+14) | 760 | 192 | 223 | 107 | 0.49 | 2.40 | 7.12 | 1.79 | 2.09 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | European Standard EUEM | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.1 +0.10/+0.00 | [mm] | (0.240" +0.004"/+0.000") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Slanted 42° up + 45° to Back | | |
| 3.2 DISCHARGE | 5.1 +0.10/+0.00 | [mm] | (0.201" +0.004"/+0.000") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted 42° up + 24° to Back | | |
| 3.3 PROCESS | 6 +0.08/-0.08 | [mm] | (0.236" +0.003"/-0.003") |
| 3.3.1 Material | Copper(OD) | | |
| 3.3.2 Shape | Slanted 43° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |