

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | EG ZS90CLC |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number | 513701320 |

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 | 198 to 255 V | - |
| 8.2 LBP (43°C Ambient temperature) | Static | 198 to 255 V | - |
| 8.3 HBP (32°C Ambient temperature) | - | - | - |
| 8.4 HBP (43°C Ambient temperature) | - | - | - |
| 9 Maximum condensing temperature | | | |
| 9.1 Operating | 6.9 | [kgf/cm ²] (98 psig) | / °C - °F |
| 9.2 Peak | 7.8 | [kgf/cm ²] (111 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation | 1/4+ | [hp] |
| 2 Displacement | 12.21 | [cm ³] (0.745 cu.in) |
| 2.1 Bore [mm] | 26.000 | |
| 2.2 Stroke [mm] | 23.000 | |
| 3 Lubricant charge | 280 | [ml] (9.47 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 | |
| 4 Weight (with oil charge) | 11.05 | [kg] (24.36 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 | 8EA17E61/8EA17E62/8EA17E63/QPS2-C22MD3J6/QPS2-C22 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(270)/4(270) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM283KFBYY-53 | |
| 6 Start winding resistance | 18.50 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 13.70 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 7.60 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 1.13 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | CE - IRAM - UKCA | |

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] |
| 735 | 185 | 215 | 123 | 0.61 | 2.31 | 5.96 | 1.50 | 1.75 |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @220V50Hz | | ASHRAE32 Static | | | | (Condensing temperature 35°C (+95°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) | 418 | 105 | 123 | 77 | 0.48 | 1.31 | 5.40 | 1.36 | 1.58 |
| -30 | (-22) | 546 | 138 | 160 | 90 | 0.51 | 1.71 | 6.06 | 1.53 | 1.78 |
| -25 | (-13) | 714 | 180 | 209 | 103 | 0.56 | 2.24 | 6.96 | 1.75 | 2.04 |
| -20 | (- 4) | 925 | 233 | 271 | 115 | 0.62 | 2.91 | 8.05 | 2.03 | 2.36 |
| -15 | (+ 5) | 1184 | 298 | 347 | 127 | 0.68 | 3.73 | 9.27 | 2.34 | 2.72 |
| -10 | (+14) | 1496 | 377 | 438 | 141 | 0.74 | 4.72 | 10.59 | 2.67 | 3.10 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| 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) | 415 | 105 | 122 | 84 | 0.48 | 1.30 | 4.93 | 1.24 | 1.44 |
| -30 | (-22) | 537 | 135 | 157 | 98 | 0.52 | 1.68 | 5.49 | 1.38 | 1.61 |
| -25 | (-13) | 696 | 175 | 204 | 111 | 0.57 | 2.18 | 6.26 | 1.58 | 1.84 |
| -20 | (- 4) | 896 | 226 | 262 | 124 | 0.64 | 2.81 | 7.20 | 1.81 | 2.11 |
| -15 | (+ 5) | 1140 | 287 | 334 | 138 | 0.71 | 3.59 | 8.26 | 2.08 | 2.42 |
| -10 | (+14) | 1434 | 361 | 420 | 153 | 0.78 | 4.52 | 9.38 | 2.36 | 2.75 |

| | | | | | | | | | | |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---|----------------------------|---------------------------|-----------|-------|
| 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) | 397 | 100 | 116 | 87 | 0.50 | 1.24 | 4.55 | 1.15 | 1.33 |
| -30 | (-22) | 518 | 130 | 152 | 103 | 0.53 | 1.62 | 5.04 | 1.27 | 1.48 |
| -25 | (-13) | 672 | 169 | 197 | 118 | 0.59 | 2.11 | 5.72 | 1.44 | 1.67 |
| -20 | (- 4) | 865 | 218 | 253 | 132 | 0.67 | 2.72 | 6.53 | 1.65 | 1.91 |
| -15 | (+ 5) | 1100 | 277 | 322 | 148 | 0.75 | 3.46 | 7.44 | 1.88 | 2.18 |
| -10 | (+14) | 1381 | 348 | 405 | 165 | 0.83 | 4.36 | 8.41 | 2.12 | 2.46 |

E - PERFORMANCE - CURVES

| 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) | 363 | 92 | 106 | 86 | 0.52 | 1.14 | 4.22 | 1.06 | 1.24 |
| -30 | (-22) | 488 | 123 | 143 | 104 | 0.56 | 1.53 | 4.66 | 1.18 | 1.37 |
| -25 | (-13) | 643 | 162 | 188 | 121 | 0.62 | 2.02 | 5.27 | 1.33 | 1.54 |
| -20 | (- 4) | 833 | 210 | 244 | 139 | 0.70 | 2.62 | 5.99 | 1.51 | 1.76 |
| -15 | (+ 5) | 1063 | 268 | 311 | 157 | 0.79 | 3.35 | 6.79 | 1.71 | 1.99 |
| -10 | (+14) | 1337 | 337 | 392 | 176 | 0.89 | 4.22 | 7.61 | 1.92 | 2.23 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 8.2 +0.12/-0.08 | [mm] | (0.323" +0.005"/-0.003") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Straight | | |
| 3.2 DISCHARGE | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Straight | | |
| 3.3 PROCESS | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.3.1 Material | Copper | | |
| 3.3.2 Shape | Straight | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |