

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | EG ZS100HLC |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513701223 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 220-240 / 50-60 | [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/Fan | 198 to 255 V | 198 to 255 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan | 198 to 255 V | 198 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) | 16.2 | [kgf/cm ²] (230 psig) | / °C - °F |
| 9.2 Peak (gauge) | 20.6 | [kgf/cm ²] (293 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|---------------|--|
| 1 Commercial designation | 1/3 | [hp] |
| 2 Displacement | 7.95 | [cm ³] (0.485 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 20.000 | |
| 3 Lubricant charge | 230 | [ml] (7.78 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 11.23 | [kg] (24.76 lb.) |
| 5 Nitrogen charge | 0.2 to 0.3 | [kgf/cm ²] (2.84 to 4.27 psig) |

C - ELETRICAL DATA

| | | |
|--|---------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50-60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | PTC | |
| 2.1 Starting device | 5SP17X302K | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 4(380) | [µF(VAC minimum)] |
| 5 Motor protection | 5SP17X302KFX | |
| 6 Start winding resistance | 25.08 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 9.84 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 9.85/8.85 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | IMTRO - IRAM - TUV - 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] |
| 855 | 215 | 251 | 147 | 0.82 | 4.86 | 5.80 | 1.46 | 1.70 |

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @220V60Hz | | | 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] |
| 1050 | 265 | 308 | 175 | 0.83 | 5.97 | 5.99 | 1.51 | 1.76 |

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) | 442 | 111 | 129 | 97 | 0.55 | 2.50 | 4.56 | 1.15 | 1.34 |
| -30 (-22) | 620 | 156 | 182 | 114 | 0.64 | 3.52 | 5.47 | 1.38 | 1.60 |
| -25 (-13) | 828 | 209 | 242 | 132 | 0.73 | 4.70 | 6.32 | 1.59 | 1.85 |
| -20 (- 4) | 1074 | 271 | 315 | 150 | 0.82 | 6.11 | 7.16 | 1.80 | 2.10 |
| -15 (+ 5) | 1369 | 345 | 401 | 170 | 0.93 | 7.82 | 8.03 | 2.02 | 2.35 |
| -10 (+14) | 1724 | 434 | 505 | 191 | 1.04 | 9.88 | 8.99 | 2.26 | 2.63 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 362 | 91 | 106 | 92 | 0.53 | 2.05 | 3.92 | 0.99 | 1.15 |
| -30 (-22) | 554 | 140 | 162 | 114 | 0.64 | 3.14 | 4.84 | 1.22 | 1.42 |
| -25 (-13) | 769 | 194 | 225 | 136 | 0.75 | 4.36 | 5.65 | 1.42 | 1.66 |
| -20 (- 4) | 1016 | 256 | 298 | 159 | 0.87 | 5.78 | 6.41 | 1.62 | 1.88 |
| -15 (+ 5) | 1306 | 329 | 383 | 182 | 0.99 | 7.45 | 7.16 | 1.80 | 2.10 |
| -10 (+14) | 1648 | 415 | 483 | 207 | 1.13 | 9.44 | 7.94 | 2.00 | 2.33 |

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) | 263 | 66 | 77 | 78 | 0.46 | 1.49 | 3.38 | 0.85 | 0.99 | |
| -30 (-22) | 471 | 119 | 138 | 107 | 0.61 | 2.67 | 4.31 | 1.09 | 1.26 | |
| -25 (-13) | 695 | 175 | 204 | 135 | 0.76 | 3.94 | 5.09 | 1.28 | 1.49 | |
| -20 (- 4) | 945 | 238 | 277 | 164 | 0.91 | 5.38 | 5.77 | 1.45 | 1.69 | |
| -15 (+ 5) | 1231 | 310 | 361 | 194 | 1.07 | 7.03 | 6.38 | 1.61 | 1.87 | |
| -10 (+14) | 1564 | 394 | 458 | 224 | 1.23 | 8.96 | 6.99 | 1.76 | 2.05 | |

| TEST CONDITIONS: @220V60Hz | | 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) | 543 | 137 | 159 | 115 | 0.55 | 3.07 | 4.70 | 1.18 | 1.38 | |
| -30 (-22) | 762 | 192 | 223 | 136 | 0.64 | 4.32 | 5.63 | 1.42 | 1.65 | |
| -25 (-13) | 1017 | 256 | 298 | 157 | 0.74 | 5.77 | 6.50 | 1.64 | 1.91 | |
| -20 (- 4) | 1319 | 332 | 387 | 179 | 0.83 | 7.51 | 7.36 | 1.85 | 2.16 | |
| -15 (+ 5) | 1682 | 424 | 493 | 203 | 0.94 | 9.60 | 8.25 | 2.08 | 2.42 | |
| -10 (+14) | 2117 | 534 | 620 | 228 | 1.05 | 12.13 | 9.24 | 2.33 | 2.71 | |

| TEST CONDITIONS: @220V60Hz | | 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) | 445 | 112 | 130 | 110 | 0.53 | 2.52 | 4.03 | 1.02 | 1.18 | |
| -30 (-22) | 681 | 172 | 200 | 136 | 0.64 | 3.86 | 4.98 | 1.25 | 1.46 | |
| -25 (-13) | 945 | 238 | 277 | 163 | 0.76 | 5.36 | 5.82 | 1.47 | 1.70 | |
| -20 (- 4) | 1248 | 314 | 366 | 190 | 0.88 | 7.10 | 6.59 | 1.66 | 1.93 | |
| -15 (+ 5) | 1604 | 404 | 470 | 218 | 1.01 | 9.15 | 7.36 | 1.85 | 2.16 | |
| -10 (+14) | 2024 | 510 | 593 | 247 | 1.14 | 11.60 | 8.16 | 2.06 | 2.39 | |

| TEST CONDITIONS: @220V60Hz | | 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) | 323 | 81 | 95 | 93 | 0.46 | 1.83 | 3.47 | 0.87 | 1.02 | |
| -30 (-22) | 578 | 146 | 170 | 127 | 0.61 | 3.28 | 4.44 | 1.12 | 1.30 | |
| -25 (-13) | 854 | 215 | 250 | 161 | 0.76 | 4.85 | 5.24 | 1.32 | 1.54 | |
| -20 (- 4) | 1160 | 292 | 340 | 196 | 0.91 | 6.60 | 5.93 | 1.50 | 1.74 | |
| -15 (+ 5) | 1512 | 381 | 443 | 231 | 1.07 | 8.63 | 6.57 | 1.65 | 1.92 | |
| -10 (+14) | 1921 | 484 | 563 | 268 | 1.24 | 11.00 | 7.18 | 1.81 | 2.10 | |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate | Universal EG/F/AMEM version 2 | | |
| 2 Tray holder | No | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Straight | | |
| 3.2 DISCHARGE | 4.94 +0.08/-0.08 | [mm] | (0.194" +0.003"/-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 | | |