

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | EG ZS100HLC |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513701125 |

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 / ISO7 | |
| 4 Weight (with oil charge) | 11.3 | [kg] (24.91 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 | 146 | 0.82 | 4.86 | 5.84 | 1.47 | 1.71 | |

| | | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| 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 | 174 | 0.83 | 5.97 | 6.03 | 1.52 | 1.77 | |

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 | 96 | 0.55 | 2.50 | 4.60 | 1.16 | 1.35 | |
| -30 (-22) | 620 | 156 | 182 | 113 | 0.64 | 3.52 | 5.51 | 1.39 | 1.61 | |
| -25 (-13) | 828 | 209 | 242 | 131 | 0.73 | 4.70 | 6.36 | 1.60 | 1.86 | |
| -20 (- 4) | 1074 | 271 | 315 | 149 | 0.82 | 6.11 | 7.20 | 1.82 | 2.11 | |
| -15 (+ 5) | 1369 | 345 | 401 | 169 | 0.93 | 7.82 | 8.08 | 2.04 | 2.37 | |
| -10 (+14) | 1724 | 434 | 505 | 190 | 1.04 | 9.88 | 9.05 | 2.28 | 2.65 | |

| | | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|--|
| 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 | 3.94 | 0.99 | 1.16 | |
| -30 (-22) | 554 | 140 | 162 | 113 | 0.64 | 3.14 | 4.87 | 1.23 | 1.43 | |
| -25 (-13) | 769 | 194 | 225 | 135 | 0.75 | 4.36 | 5.69 | 1.43 | 1.67 | |
| -20 (- 4) | 1016 | 256 | 298 | 158 | 0.87 | 5.78 | 6.46 | 1.63 | 1.89 | |
| -15 (+ 5) | 1306 | 329 | 383 | 181 | 0.99 | 7.45 | 7.20 | 1.82 | 2.11 | |
| -10 (+14) | 1648 | 415 | 483 | 206 | 1.13 | 9.44 | 7.99 | 2.01 | 2.34 | |

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 | 3.40 | 0.86 | 1.00 | |
| -30 (-22) | 471 | 119 | 138 | 106 | 0.61 | 2.67 | 4.34 | 1.09 | 1.27 | |
| -25 (-13) | 695 | 175 | 204 | 134 | 0.76 | 3.94 | 5.13 | 1.29 | 1.50 | |
| -20 (- 4) | 945 | 238 | 277 | 163 | 0.91 | 5.38 | 5.81 | 1.46 | 1.70 | |
| -15 (+ 5) | 1231 | 310 | 361 | 192 | 1.07 | 7.03 | 6.43 | 1.62 | 1.88 | |
| -10 (+14) | 1564 | 394 | 458 | 223 | 1.23 | 8.96 | 7.03 | 1.77 | 2.06 | |

| 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 | 4.73 | 1.19 | 1.39 | |
| -30 (-22) | 762 | 192 | 223 | 135 | 0.64 | 4.32 | 5.67 | 1.43 | 1.66 | |
| -25 (-13) | 1017 | 256 | 298 | 156 | 0.74 | 5.77 | 6.54 | 1.65 | 1.92 | |
| -20 (- 4) | 1319 | 332 | 387 | 178 | 0.83 | 7.51 | 7.41 | 1.87 | 2.17 | |
| -15 (+ 5) | 1682 | 424 | 493 | 202 | 0.94 | 9.60 | 8.31 | 2.09 | 2.43 | |
| -10 (+14) | 2117 | 534 | 620 | 227 | 1.05 | 12.13 | 9.29 | 2.34 | 2.72 | |

| 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 | 4.05 | 1.02 | 1.19 | |
| -30 (-22) | 681 | 172 | 200 | 136 | 0.64 | 3.86 | 5.01 | 1.26 | 1.47 | |
| -25 (-13) | 945 | 238 | 277 | 162 | 0.76 | 5.36 | 5.85 | 1.47 | 1.71 | |
| -20 (- 4) | 1248 | 314 | 366 | 189 | 0.88 | 7.10 | 6.63 | 1.67 | 1.94 | |
| -15 (+ 5) | 1604 | 404 | 470 | 217 | 1.01 | 9.15 | 7.40 | 1.87 | 2.17 | |
| -10 (+14) | 2024 | 510 | 593 | 246 | 1.14 | 11.60 | 8.21 | 2.07 | 2.41 | |

| 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 | 3.49 | 0.88 | 1.02 | |
| -30 (-22) | 578 | 146 | 170 | 127 | 0.61 | 3.28 | 4.46 | 1.12 | 1.31 | |
| -25 (-13) | 854 | 215 | 250 | 161 | 0.76 | 4.85 | 5.27 | 1.33 | 1.55 | |
| -20 (- 4) | 1160 | 292 | 340 | 195 | 0.91 | 6.60 | 5.97 | 1.50 | 1.75 | |
| -15 (+ 5) | 1512 | 381 | 443 | 230 | 1.07 | 8.63 | 6.61 | 1.66 | 1.94 | |
| -10 (+14) | 1921 | 484 | 563 | 266 | 1.24 | 11.00 | 7.23 | 1.82 | 2.12 | |

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 | 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 | | |