

COMPRESSOR DEFINITION

| | |
|---------------------------|--------------------|
| Designation | EG ZS70HLC |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513701018 |

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 | 198 to 255 V | 198 to 255 V |
| 8.2 LBP (43°C Ambient temperature) | Static | 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 | 1/4 | [hp] |
| 2 Displacement | 5.56 | [cm ³] (0.339 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 14.000 | |
| 3 Lubricant charge | 280 | [ml] (9.47 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 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 | 7M220MD3/8EA17C3/8M220MD3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(380)/4(380) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM232KFBYY-53 | |
| 6 Start winding resistance | 18.38 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 15.31 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50/60 Hz) | 6.15/5.75 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 0.97/0.87 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz) | 1.20/1.07 | [A] - Measured according to UL 984 |
| 11 Approval boards certification | IRAM - OFT - 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] |
| 560 | 141 | 164 | 95 | 0.46 | 3.18 | 5.90 | 1.49 | 1.73 |

| | | | | | | | | |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| 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] |
| 695 | 175 | 204 | 114 | 0.53 | 3.95 | 6.10 | 1.54 | 1.79 |

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) | 270 | 68 | 79 | 61 | 0.30 | 1.53 | 4.41 | 1.11 | 1.29 |
| -30 (-22) | 400 | 101 | 117 | 75 | 0.37 | 2.27 | 5.28 | 1.33 | 1.55 |
| -25 (-13) | 563 | 142 | 165 | 90 | 0.44 | 3.20 | 6.20 | 1.56 | 1.82 |
| -20 (- 4) | 756 | 190 | 221 | 106 | 0.51 | 4.30 | 7.17 | 1.81 | 2.10 |
| -15 (+ 5) | 972 | 245 | 285 | 120 | 0.58 | 5.55 | 8.19 | 2.06 | 2.40 |
| -10 (+14) | 1209 | 305 | 354 | 132 | 0.64 | 6.93 | 9.24 | 2.33 | 2.71 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 230 | 58 | 67 | 54 | 0.27 | 1.30 | 4.26 | 1.07 | 1.25 |
| -30 (-22) | 343 | 86 | 101 | 70 | 0.34 | 1.94 | 4.90 | 1.23 | 1.44 |
| -25 (-13) | 496 | 125 | 145 | 88 | 0.43 | 2.81 | 5.59 | 1.41 | 1.64 |
| -20 (- 4) | 683 | 172 | 200 | 107 | 0.52 | 3.89 | 6.33 | 1.60 | 1.86 |
| -15 (+ 5) | 901 | 227 | 264 | 126 | 0.61 | 5.14 | 7.12 | 1.79 | 2.09 |
| -10 (+14) | 1146 | 289 | 336 | 144 | 0.70 | 6.56 | 7.95 | 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) | 181 | 46 | 53 | 49 | 0.24 | 1.02 | 3.71 | 0.93 | 1.09 | |
| -30 (-22) | 274 | 69 | 80 | 66 | 0.32 | 1.55 | 4.25 | 1.07 | 1.25 | |
| -25 (-13) | 412 | 104 | 121 | 85 | 0.41 | 2.34 | 4.85 | 1.22 | 1.42 | |
| -20 (- 4) | 592 | 149 | 173 | 107 | 0.52 | 3.37 | 5.50 | 1.39 | 1.61 | |
| -15 (+ 5) | 808 | 204 | 237 | 130 | 0.63 | 4.62 | 6.20 | 1.56 | 1.82 | |
| -10 (+14) | 1058 | 266 | 310 | 152 | 0.75 | 6.06 | 6.93 | 1.75 | 2.03 | |

| 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) | 335 | 85 | 98 | 74 | 0.34 | 1.90 | 4.56 | 1.15 | 1.34 | |
| -30 (-22) | 497 | 125 | 146 | 90 | 0.41 | 2.82 | 5.46 | 1.38 | 1.60 | |
| -25 (-13) | 700 | 176 | 205 | 109 | 0.50 | 3.97 | 6.41 | 1.62 | 1.88 | |
| -20 (- 4) | 938 | 236 | 275 | 127 | 0.59 | 5.34 | 7.42 | 1.87 | 2.17 | |
| -15 (+ 5) | 1207 | 304 | 354 | 144 | 0.67 | 6.89 | 8.47 | 2.13 | 2.48 | |
| -10 (+14) | 1501 | 378 | 440 | 158 | 0.74 | 8.60 | 9.56 | 2.41 | 2.80 | |

| 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) | 286 | 72 | 84 | 65 | 0.31 | 1.62 | 4.41 | 1.11 | 1.29 | |
| -30 (-22) | 426 | 107 | 125 | 84 | 0.39 | 2.42 | 5.07 | 1.28 | 1.49 | |
| -25 (-13) | 616 | 155 | 180 | 106 | 0.49 | 3.50 | 5.79 | 1.46 | 1.70 | |
| -20 (- 4) | 848 | 214 | 249 | 129 | 0.60 | 4.83 | 6.56 | 1.65 | 1.92 | |
| -15 (+ 5) | 1119 | 282 | 328 | 152 | 0.71 | 6.39 | 7.37 | 1.86 | 2.16 | |
| -10 (+14) | 1422 | 358 | 417 | 173 | 0.81 | 8.15 | 8.22 | 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) | 224 | 56 | 66 | 59 | 0.28 | 1.27 | 3.83 | 0.96 | 1.12 | |
| -30 (-22) | 340 | 86 | 100 | 79 | 0.37 | 1.93 | 4.40 | 1.11 | 1.29 | |
| -25 (-13) | 512 | 129 | 150 | 103 | 0.47 | 2.91 | 5.02 | 1.26 | 1.47 | |
| -20 (- 4) | 735 | 185 | 215 | 129 | 0.59 | 4.18 | 5.69 | 1.43 | 1.67 | |
| -15 (+ 5) | 1004 | 253 | 294 | 156 | 0.73 | 5.73 | 6.41 | 1.61 | 1.88 | |
| -10 (+14) | 1313 | 331 | 385 | 183 | 0.86 | 7.52 | 7.17 | 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 | 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 | | |