

COMPRESSOR DEFINITION

| | |
|---------------------------|---------------------------|
| Designation | F GS80HA |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513200323 |

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 | RSIR | | |
| 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 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 | 7.15 | [cm ³] (0.436 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 18.000 | |
| 3 Lubricant charge | 280 | [ml] (9.47 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 | |
| 4 Weight (with oil charge) | 11.52 | [kg] (25.40 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 | 7M220MC1/8EA17C1/8EA5B1 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM189RHBYY-53 | |
| 6 Start winding resistance | 15.00 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 10.50 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | 7.50 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | 1.10 | [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 - IRAM - UL - 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] |
| 693 | 175 | 203 | 143 | 0.95 | 3.94 | 4.83 | 1.22 | 1.42 |

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) | 380 | 96 | 111 | 99 | 0.83 | 2.15 | 3.84 | 0.97 | 1.13 |
| -30 (-22) | 549 | 138 | 161 | 116 | 0.88 | 3.11 | 4.72 | 1.19 | 1.38 |
| -25 (-13) | 727 | 183 | 213 | 134 | 0.93 | 4.13 | 5.44 | 1.37 | 1.59 |
| -20 (- 4) | 931 | 235 | 273 | 153 | 0.99 | 5.30 | 6.10 | 1.54 | 1.79 |
| -15 (+ 5) | 1176 | 296 | 345 | 172 | 1.05 | 6.71 | 6.82 | 1.72 | 2.00 |
| -10 (+14) | 1479 | 373 | 433 | 191 | 1.12 | 8.48 | 7.70 | 1.94 | 2.26 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 312 | 79 | 91 | 97 | 0.82 | 1.76 | 3.23 | 0.81 | 0.95 |
| -30 (-22) | 495 | 125 | 145 | 117 | 0.88 | 2.80 | 4.16 | 1.05 | 1.22 |
| -25 (-13) | 680 | 171 | 199 | 139 | 0.94 | 3.86 | 4.88 | 1.23 | 1.43 |
| -20 (- 4) | 884 | 223 | 259 | 162 | 1.01 | 5.03 | 5.48 | 1.38 | 1.61 |
| -15 (+ 5) | 1122 | 283 | 329 | 185 | 1.09 | 6.40 | 6.07 | 1.53 | 1.78 |
| -10 (+14) | 1410 | 355 | 413 | 208 | 1.18 | 8.08 | 6.76 | 1.70 | 1.98 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 236 | 59 | 69 | 88 | 0.79 | 1.33 | 2.71 | 0.68 | 0.79 |
| -30 (-22) | 428 | 108 | 125 | 113 | 0.86 | 2.42 | 3.70 | 0.93 | 1.08 |
| -25 (-13) | 614 | 155 | 180 | 139 | 0.94 | 3.49 | 4.40 | 1.11 | 1.29 |
| -20 (- 4) | 811 | 204 | 238 | 166 | 1.02 | 4.62 | 4.92 | 1.24 | 1.44 |
| -15 (+ 5) | 1035 | 261 | 303 | 194 | 1.12 | 5.91 | 5.38 | 1.35 | 1.58 |
| -10 (+14) | 1302 | 328 | 381 | 222 | 1.23 | 7.46 | 5.86 | 1.48 | 1.72 |

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 | | |