

COMPRESSOR DEFINITION

| | |
|---------------------------|------------------------|
| Designation | F GS80HAW |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number | 513200010 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|--|-----------------------------------|-----------------------------------|--------------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-134a | | |
| 3 Nominal voltage and frequency | 115-127 / 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 | - | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static | - | 103 to 140 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) | 11.54 | [kg] (25.44 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 | 115-127 V 60 Hz 1 ~ (Single phase) | |
| 2 Starting device type | PTC | |
| 2.1 Starting device | 7M4R7MD3/8EA14C3/8EA1B3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 20(180) | [µF(VAC minimum)] |
| 5 Motor protection | 4TM319RFBYY-53 | |
| 6 Start winding resistance | 3.20 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 2.77 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (60 Hz) | 13.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz) | 2.40 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz) | - | [A] - Measured according to UL 984 |
| 11 Approval boards certification | IRAM - UL | |

D - PERFORMANCE - CHECK POINT DATA

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|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS: @115V60Hz | | | 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] |
| 832 | 210 | 244 | 161 | 1.42 | 4.73 | 5.16 | 1.30 | 1.51 |

E - PERFORMANCE - CURVES

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | 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) | 434 | 109 | 127 | 109 | 1.10 | 2.45 | 3.99 | 1.01 | 1.17 |
| -30 (-22) | 618 | 156 | 181 | 131 | 1.18 | 3.50 | 4.73 | 1.19 | 1.39 |
| -25 (-13) | 840 | 212 | 246 | 153 | 1.33 | 4.77 | 5.48 | 1.38 | 1.61 |
| -20 (- 4) | 1106 | 279 | 324 | 176 | 1.52 | 6.29 | 6.28 | 1.58 | 1.84 |
| -15 (+ 5) | 1421 | 358 | 416 | 199 | 1.73 | 8.11 | 7.13 | 1.80 | 2.09 |
| -10 (+14) | 1792 | 452 | 525 | 222 | 1.94 | 10.27 | 8.06 | 2.03 | 2.36 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | 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) | 343 | 87 | 101 | 104 | 1.13 | 1.94 | 3.31 | 0.83 | 0.97 |
| -30 (-22) | 521 | 131 | 153 | 127 | 1.22 | 2.95 | 4.07 | 1.03 | 1.19 |
| -25 (-13) | 737 | 186 | 216 | 153 | 1.39 | 4.18 | 4.80 | 1.21 | 1.41 |
| -20 (- 4) | 996 | 251 | 292 | 180 | 1.61 | 5.67 | 5.52 | 1.39 | 1.62 |
| -15 (+ 5) | 1304 | 329 | 382 | 208 | 1.85 | 7.45 | 6.25 | 1.57 | 1.83 |
| -10 (+14) | 1668 | 420 | 489 | 238 | 2.10 | 9.56 | 7.00 | 1.76 | 2.05 |

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|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS: @115V60Hz | | | 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 | 101 | 0.93 | 1.48 | 2.60 | 0.65 | 0.76 |
| -30 (-22) | 430 | 108 | 126 | 125 | 1.07 | 2.44 | 3.44 | 0.87 | 1.01 |
| -25 (-13) | 636 | 160 | 186 | 151 | 1.29 | 3.61 | 4.20 | 1.06 | 1.23 |
| -20 (- 4) | 884 | 223 | 259 | 181 | 1.56 | 5.03 | 4.90 | 1.23 | 1.43 |
| -15 (+ 5) | 1182 | 298 | 346 | 214 | 1.88 | 6.75 | 5.54 | 1.40 | 1.62 |
| -10 (+14) | 1535 | 387 | 450 | 249 | 2.20 | 8.79 | 6.16 | 1.55 | 1.81 |

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 | 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) | 4.9 +0.02/-0.05 | [mm] | (0.193" +0.001"/-0.002") |
| 3.5 Connector sealing | Rubber Plugs | | |