

COMPRESSOR DEFINITION

| | |
|---------------------------|---------------------------|
| Designation | F GS100HA |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513200232 |

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 | 1/3 | [hp] |
| 2 Displacement | 9.04 | [cm ³] (0.552 cu.in) |
| 2.1 Bore [mm] | 24.000 | |
| 2.2 Stroke [mm] | 20.000 | |
| 3 Lubricant charge | 350 | [ml] (11.84 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 | |
| 4 Weight (with oil charge) | 11.4 | [kg] (25.13 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 | 8EA17C1/8EA5B1 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | 4TM302KFBYY-53 | |
| 6 Start winding resistance | 10.80 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 8.00 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (50 Hz) | - | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz) | - | [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 | |

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] |
| 850 | 214 | 249 | 176 | 1.33 | 4.83 | 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) | 450 | 113 | 132 | 123 | 0.89 | 2.55 | 3.65 | 0.92 | 1.07 |
| -30 (-22) | 641 | 162 | 188 | 143 | 1.08 | 3.64 | 4.47 | 1.13 | 1.31 |
| -25 (-13) | 849 | 214 | 249 | 165 | 1.25 | 4.82 | 5.14 | 1.30 | 1.51 |
| -20 (- 4) | 1093 | 275 | 320 | 190 | 1.41 | 6.22 | 5.78 | 1.46 | 1.69 |
| -15 (+ 5) | 1391 | 350 | 408 | 215 | 1.56 | 7.94 | 6.47 | 1.63 | 1.90 |
| -10 (+14) | 1762 | 444 | 516 | 240 | 1.72 | 10.10 | 7.32 | 1.85 | 2.15 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 371 | 94 | 109 | 121 | 0.84 | 2.10 | 3.07 | 0.77 | 0.90 |
| -30 (-22) | 565 | 142 | 166 | 143 | 1.06 | 3.20 | 3.92 | 0.99 | 1.15 |
| -25 (-13) | 773 | 195 | 227 | 168 | 1.27 | 4.39 | 4.59 | 1.16 | 1.35 |
| -20 (- 4) | 1014 | 256 | 297 | 196 | 1.46 | 5.77 | 5.17 | 1.30 | 1.52 |
| -15 (+ 5) | 1306 | 329 | 383 | 226 | 1.65 | 7.46 | 5.77 | 1.45 | 1.69 |
| -10 (+14) | 1669 | 421 | 489 | 257 | 1.85 | 9.56 | 6.48 | 1.63 | 1.90 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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) | 293 | 74 | 86 | 113 | 0.79 | 1.66 | 2.58 | 0.65 | 0.76 |
| -30 (-22) | 487 | 123 | 143 | 138 | 1.05 | 2.76 | 3.49 | 0.88 | 1.02 |
| -25 (-13) | 692 | 175 | 203 | 166 | 1.30 | 3.93 | 4.16 | 1.05 | 1.22 |
| -20 (- 4) | 928 | 234 | 272 | 199 | 1.53 | 5.28 | 4.70 | 1.18 | 1.38 |
| -15 (+ 5) | 1213 | 306 | 355 | 233 | 1.76 | 6.92 | 5.21 | 1.31 | 1.53 |
| -10 (+14) | 1565 | 394 | 459 | 269 | 1.99 | 8.97 | 5.79 | 1.46 | 1.70 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-----------------|------|--------------------------|
| 1 Base plate | Universal EG/F | | |
| 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 | | |