

COMPRESSOR DEFINITION

| | |
|---------------------------|---------------------------|
| Designation | F GS100HA |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513200063 |

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 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static | 198 to 255 V | 198 to 242 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 | 8EA17C3/8EA5B3 | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | 5(330) | [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 (50/60 Hz) | 10.00/9.00 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz) | 1.75/1.40 | [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 | 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 | 165 | 0.94 | 4.83 | 5.15 | 1.30 | 1.51 |

| | | | | | | | | |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 1065 | 268 | 312 | 200 | 0.91 | 6.05 | 5.33 | 1.34 | 1.56 |

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 | 116 | 0.62 | 2.55 | 3.88 | 0.98 | 1.14 |
| -30 (-22) | 641 | 162 | 188 | 135 | 0.76 | 3.64 | 4.72 | 1.19 | 1.38 |
| -25 (-13) | 849 | 214 | 249 | 156 | 0.88 | 4.82 | 5.45 | 1.37 | 1.60 |
| -20 (- 4) | 1093 | 275 | 320 | 178 | 0.99 | 6.22 | 6.16 | 1.55 | 1.81 |
| -15 (+ 5) | 1391 | 350 | 408 | 200 | 1.09 | 7.94 | 6.94 | 1.75 | 2.03 |
| -10 (+14) | 1762 | 444 | 516 | 223 | 1.20 | 10.10 | 7.87 | 1.98 | 2.31 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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 | 112 | 0.59 | 2.10 | 3.31 | 0.83 | 0.97 |
| -30 (-22) | 565 | 142 | 166 | 134 | 0.75 | 3.20 | 4.17 | 1.05 | 1.22 |
| -25 (-13) | 773 | 195 | 227 | 158 | 0.90 | 4.39 | 4.89 | 1.23 | 1.43 |
| -20 (- 4) | 1014 | 256 | 297 | 184 | 1.03 | 5.77 | 5.54 | 1.40 | 1.62 |
| -15 (+ 5) | 1306 | 329 | 383 | 210 | 1.15 | 7.46 | 6.20 | 1.56 | 1.82 |
| -10 (+14) | 1669 | 421 | 489 | 238 | 1.28 | 9.56 | 6.98 | 1.76 | 2.04 |

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] |
| -35 | (-31) | 293 | 74 | 86 | 106 | 0.56 | 1.66 | 2.76 | 0.69 | 0.81 |
| -30 | (-22) | 487 | 123 | 143 | 131 | 0.74 | 2.76 | 3.66 | 0.92 | 1.07 |
| -25 | (-13) | 692 | 175 | 203 | 158 | 0.91 | 3.93 | 4.38 | 1.10 | 1.28 |
| -20 | (- 4) | 928 | 234 | 272 | 187 | 1.07 | 5.28 | 4.99 | 1.26 | 1.46 |
| -15 | (+ 5) | 1213 | 306 | 355 | 218 | 1.22 | 6.92 | 5.57 | 1.40 | 1.63 |
| -10 | (+14) | 1565 | 394 | 459 | 252 | 1.38 | 8.97 | 6.21 | 1.56 | 1.82 |

| 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] |
| -35 | (-31) | 544 | 137 | 160 | 137 | 0.65 | 3.08 | 3.97 | 1.00 | 1.16 |
| -30 | (-22) | 790 | 199 | 231 | 160 | 0.75 | 4.48 | 4.91 | 1.24 | 1.44 |
| -25 | (-13) | 1052 | 265 | 308 | 186 | 0.86 | 5.97 | 5.65 | 1.42 | 1.66 |
| -20 | (- 4) | 1350 | 340 | 396 | 215 | 0.98 | 7.68 | 6.30 | 1.59 | 1.85 |
| -15 | (+ 5) | 1706 | 430 | 500 | 246 | 1.11 | 9.74 | 6.94 | 1.75 | 2.03 |
| -10 | (+14) | 2140 | 539 | 627 | 278 | 1.25 | 12.26 | 7.67 | 1.93 | 2.25 |

| 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] |
| -35 | (-31) | 453 | 114 | 133 | 131 | 0.62 | 2.56 | 3.47 | 0.87 | 1.02 |
| -30 | (-22) | 701 | 177 | 205 | 158 | 0.74 | 3.97 | 4.39 | 1.11 | 1.29 |
| -25 | (-13) | 963 | 243 | 282 | 189 | 0.87 | 5.47 | 5.09 | 1.28 | 1.49 |
| -20 | (- 4) | 1260 | 317 | 369 | 223 | 1.01 | 7.17 | 5.67 | 1.43 | 1.66 |
| -15 | (+ 5) | 1612 | 406 | 472 | 260 | 1.17 | 9.20 | 6.20 | 1.56 | 1.82 |
| -10 | (+14) | 2039 | 514 | 598 | 299 | 1.35 | 11.68 | 6.80 | 1.71 | 1.99 |

| 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] |
| -35 | (-31) | 355 | 89 | 104 | 123 | 0.59 | 2.00 | 2.88 | 0.73 | 0.84 |
| -30 | (-22) | 599 | 151 | 176 | 154 | 0.71 | 3.40 | 3.83 | 0.97 | 1.12 |
| -25 | (-13) | 855 | 216 | 251 | 188 | 0.86 | 4.86 | 4.53 | 1.14 | 1.33 |
| -20 | (- 4) | 1144 | 288 | 335 | 227 | 1.02 | 6.51 | 5.08 | 1.28 | 1.49 |
| -15 | (+ 5) | 1486 | 375 | 436 | 269 | 1.20 | 8.48 | 5.55 | 1.40 | 1.63 |
| -10 | (+14) | 1902 | 479 | 557 | 314 | 1.40 | 10.90 | 6.05 | 1.52 | 1.77 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-----------------|------|--------------------------|
| 1 Base plate | Universal EG/F | | |
| 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) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |