

COMPRESSOR DEFINITION

| | |
|---------------------------|---------------------------|
| Designation | F GS90HA |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number | 513208391 |

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 | 7.95 | [cm ³] (0.485 cu.in) |
| 2.1 Bore [mm] | 22.500 | |
| 2.2 Stroke [mm] | 20.000 | |
| 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) | 11.2 | [kg] (24.69 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 | 4TM283NFBYY-53 | |
| 6 Start winding resistance | 14.60 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 9.70 | [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 | |

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] |
| 800 | 202 | 234 | 162 | 0.00 | 4.55 | 4.94 | 1.24 | 1.45 |

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) | 440 | 111 | 129 | 108 | 0.91 | 2.49 | 4.06 | 1.02 | 1.19 |
| -30 (-22) | 594 | 150 | 174 | 126 | 0.97 | 3.37 | 4.71 | 1.19 | 1.38 |
| -25 (-13) | 782 | 197 | 229 | 145 | 1.04 | 4.44 | 5.40 | 1.36 | 1.58 |
| -20 (- 4) | 1010 | 255 | 296 | 165 | 1.10 | 5.75 | 6.13 | 1.54 | 1.80 |
| -15 (+ 5) | 1287 | 324 | 377 | 186 | 1.17 | 7.35 | 6.93 | 1.75 | 2.03 |
| -10 (+14) | 1619 | 408 | 474 | 207 | 1.25 | 9.28 | 7.81 | 1.97 | 2.29 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|----------------------------------------|----------------------------|---------------------------|-----------|-------|
| 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) | 379 | 95 | 111 | 106 | 0.91 | 2.14 | 3.56 | 0.90 | 1.04 |
| -30 (-22) | 528 | 133 | 155 | 127 | 0.98 | 2.99 | 4.15 | 1.05 | 1.22 |
| -25 (-13) | 708 | 179 | 208 | 150 | 1.05 | 4.02 | 4.73 | 1.19 | 1.39 |
| -20 (- 4) | 928 | 234 | 272 | 174 | 1.13 | 5.28 | 5.33 | 1.34 | 1.56 |
| -15 (+ 5) | 1195 | 301 | 350 | 200 | 1.22 | 6.82 | 5.98 | 1.51 | 1.75 |
| -10 (+14) | 1517 | 382 | 444 | 227 | 1.33 | 8.69 | 6.68 | 1.68 | 1.96 |

| | | | | | | | | | |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|----------------------------------------|----------------------------|---------------------------|-----------|-------|
| 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) | 309 | 78 | 90 | 102 | 0.91 | 1.75 | 3.04 | 0.77 | 0.89 |
| -30 (-22) | 456 | 115 | 134 | 126 | 0.98 | 2.59 | 3.61 | 0.91 | 1.06 |
| -25 (-13) | 634 | 160 | 186 | 152 | 1.06 | 3.60 | 4.16 | 1.05 | 1.22 |
| -20 (- 4) | 850 | 214 | 249 | 181 | 1.15 | 4.83 | 4.70 | 1.18 | 1.38 |
| -15 (+ 5) | 1111 | 280 | 325 | 212 | 1.26 | 6.34 | 5.26 | 1.32 | 1.54 |
| -10 (+14) | 1425 | 359 | 418 | 244 | 1.39 | 8.16 | 5.84 | 1.47 | 1.71 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|-----------------|------|--------------------------|
| 1 Base plate | Universal | | |
| 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 | | |