

### COMPRESSOR DEFINITION

|                           |                           |
|---------------------------|---------------------------|
| Designation               | <b>F GS100HA</b>          |
| Nominal Voltage/Frequency | <b>220-240 V 50-60 Hz</b> |
| Engineering Number        | <b>513200436</b>          |

### 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                            | -                                 | 187 to 255 V |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | -                                 | 187 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 <sup>2</sup> ] (230 psig) | / °C - °F    |
| 9.2 Peak (gauge)                           | 20.6                              | [kgf/cm <sup>2</sup> ] (293 psig) | / °C - °F    |
| 10 Maximum winding temperature             | 130                               | [ °C ]                            |              |

### B - MECHANICAL DATA

|                               |               |  |
|-------------------------------|---------------|--|
| 1 Commercial designation      | 1/3           | [hp]                                       |
| 2 Displacement                | 9.04          | [cm <sup>3</sup> ] (0.552 cu.in)           |
| 2.1 Bore [mm]                 | 24.000        |  |
| 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 / ISO22 |  |
| 4 Weight (with oil charge)    | 11.61         | [kg] (25.60 lb.)                           |
| 5 Nitrogen charge             | 0.2 to 0.3    | [kgf/cm <sup>2</sup> ] (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                          | 7M220MD3/8M220MD3                     |                                    |
| 3 Start capacitor                            | -                                     | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 5(330)                                | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM276RFBYY-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 (60 Hz)        | -                                     | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | -                                     | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -                                     | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CCC                                   |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |  |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V60Hz |          |     | ASHRAELBP32<br>Static       |                               | Evaporating temperature<br>(Condensing temperature |                           | -23.3°C (-9.94°F)<br>54.4°C (129.92°F) |       |
| Cooling capacity<br>+/- 5%    |          |     | Power consumption<br>+/- 5% | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5%                            | EFFICIENCY RATE<br>+/- 7% |  |       |
| [Btu/h]                       | [kcal/h] | [W] | [W]                         | [A]                           | [kg/h]   | [Btu/Wh]                  | [kcal/Wh]                              | [W/W] |
| 850                           | 214      | 249 | 167                         | 0.97                          | 4.83   | 5.10                      | 1.29                                   | 1.49  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V60Hz |                            |          | ASHRAE32<br>Static |                             | (Condensing temperature 45°C (+113°F)) |                         |                           |           |       |
| Evaporating temperature       | Cooling capacity<br>+/- 5% |          |                    | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C (°F)                       | [Btu/h]                    | [kcal/h] | [W]                | [W]                         | [A]                                    | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35 (-31)                     | 544                        | 137      | 160                | 137                         | 0.65                                   | 3.08                    | 3.98                      | 1.00      | 1.17  |
| -30 (-22)                     | 790                        | 199      | 231                | 162                         | 0.75                                   | 4.48                    | 4.85                      | 1.22      | 1.42  |
| -25 (-13)                     | 1052                       | 265      | 308                | 189                         | 0.86                                   | 5.97                    | 5.59                      | 1.41      | 1.64  |
| -20 (- 4)                     | 1350                       | 340      | 396                | 216                         | 0.98                                   | 7.68                    | 6.26                      | 1.58      | 1.83  |
| -15 (+ 5)                     | 1706                       | 430      | 500                | 246                         | 1.11                                   | 9.74                    | 6.94                      | 1.75      | 2.03  |
| -10 (+14)                     | 2140                       | 539      | 627                | 277                         | 1.25                                   | 12.26                   | 7.69                      | 1.94      | 2.25  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V60Hz |                            |          | ASHRAE32<br>Static |                             | (Condensing temperature 55°C (+131°F)) |                         |                           |           |       |
| Evaporating temperature       | Cooling capacity<br>+/- 5% |          |                    | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C (°F)                       | [Btu/h]                    | [kcal/h] | [W]                | [W]                         | [A]                                    | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35 (-31)                     | 453                        | 114      | 133                | 131                         | 0.62                                   | 2.56                    | 3.46                      | 0.87      | 1.01  |
| -30 (-22)                     | 701                        | 177      | 205                | 161                         | 0.74                                   | 3.97                    | 4.33                      | 1.09      | 1.27  |
| -25 (-13)                     | 963                        | 243      | 282                | 191                         | 0.87                                   | 5.47                    | 5.03                      | 1.27      | 1.47  |
| -20 (- 4)                     | 1260                       | 317      | 369                | 224                         | 1.01                                   | 7.17                    | 5.63                      | 1.42      | 1.65  |
| -15 (+ 5)                     | 1612                       | 406      | 472                | 260                         | 1.17                                   | 9.20                    | 6.21                      | 1.56      | 1.82  |
| -10 (+14)                     | 2039                       | 514      | 598                | 298                         | 1.35                                   | 11.68                   | 6.82                      | 1.72      | 2.00  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V60Hz |                            |          | ASHRAE32<br>Static |                             | (Condensing temperature 65°C (+149°F)) |                         |                           |           |       |
| Evaporating temperature       | Cooling capacity<br>+/- 5% |          |                    | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |           |       |
| °C (°F)                       | [Btu/h]                    | [kcal/h] | [W]                | [W]                         | [A]                                    | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35 (-31)                     | 355                        | 89       | 104                | 123                         | 0.59                                   | 2.00                    | 2.88                      | 0.73      | 0.85  |
| -30 (-22)                     | 599                        | 151      | 176                | 155                         | 0.71                                   | 3.40                    | 3.79                      | 0.96      | 1.11  |
| -25 (-13)                     | 855                        | 216      | 251                | 190                         | 0.86                                   | 4.86                    | 4.50                      | 1.13      | 1.32  |
| -20 (- 4)                     | 1144                       | 288      | 335                | 227                         | 1.02                                   | 6.51                    | 5.07                      | 1.28      | 1.48  |
| -15 (+ 5)                     | 1486                       | 375      | 436                | 267                         | 1.20                                   | 8.48                    | 5.57                      | 1.40      | 1.63  |
| -10 (+14)                     | 1902                       | 479      | 557                | 312                         | 1.40                                   | 10.90                   | 6.08                      | 1.53      | 1.78  |

### F - EXTERNAL CHARACTERISTICS

|                         |                                       |      |                          |
|-------------------------|---------------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EG/F/AMEM Version 2 |      |                          |
| 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 plated steel                   |      |                          |
| 3.1.2 Shape             | Slanted                               |      |                          |
| 3.2 DISCHARGE           | 5 +0.18/-0.06                         | [mm] | (0.197" +0.007"/-0.002") |
| 3.2.1 Material          | Copper plated steel                   |      |                          |
| 3.2.2 Shape             | Slanted                               |      |                          |
| 3.3 PROCESS             | 6.5 +0.12/-0.08                       | [mm] | (0.256" +0.005"/-0.003") |
| 3.3.1 Material          | Copper plated steel                   |      |                          |
| 3.3.2 Shape             | Slanted                               |      |                          |
| 3.4 Oil cooler (Copper) | No                                    | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                          |      |                          |