

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>F GS70HAW</b>       |
| Nominal Voltage/Frequency | <b>115-127 V 60 Hz</b> |
| Engineering Number        | <b>513200337</b>       |

### 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 <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      | 1/5+          | [hp]                                       |
| 2 Displacement                | 6.36          | [cm <sup>3</sup> ] (0.388 cu.in)           |
| 2.1 Bore [mm]                 | 22.500        |  |
| 2.2 Stroke [mm]               | 16.000        |  |
| 3 Lubricant charge            | 335           | [ml] (11.33 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 <sup>2</sup> ] (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                       | Combo                              |                                    |
| 2.1 Starting device                          | 5SP14X427N                         |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 20(180)                            | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 5SP14X427NFX                       |                                    |
| 6 Start winding resistance                   | 2.68                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 3.69                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 12.00                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 1.91                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | UL                                 |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |  |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@115V60Hz |          |     | 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] |
| 710                           | 179      | 208 | 140                         | 1.24                          | 4.03   | 5.07                      | 1.28                                   | 1.49  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | 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)                     | 348                        | 88       | 102                | 100                         | 0.91                                   | 1.97                    | 3.49                      | 0.88      | 1.02  |
| -30 (-22)                     | 527                        | 133      | 154                | 117                         | 1.03                                   | 2.99                    | 4.49                      | 1.13      | 1.32  |
| -25 (-13)                     | 732                        | 184      | 214                | 135                         | 1.18                                   | 4.16                    | 5.39                      | 1.36      | 1.58  |
| -20 (- 4)                     | 971                        | 245      | 284                | 155                         | 1.35                                   | 5.52                    | 6.27                      | 1.58      | 1.84  |
| -15 (+ 5)                     | 1250                       | 315      | 366                | 174                         | 1.52                                   | 7.13                    | 7.19                      | 1.81      | 2.11  |
| -10 (+14)                     | 1576                       | 397      | 462                | 192                         | 1.71                                   | 9.03                    | 8.20                      | 2.07      | 2.40  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | 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)                     | 273                        | 69       | 80                 | 95                          | 0.88                                   | 1.54                    | 2.87                      | 0.72      | 0.84  |
| -30 (-22)                     | 439                        | 111      | 129                | 114                         | 1.01                                   | 2.49                    | 3.87                      | 0.98      | 1.13  |
| -25 (-13)                     | 635                        | 160      | 186                | 135                         | 1.17                                   | 3.60                    | 4.72                      | 1.19      | 1.38  |
| -20 (- 4)                     | 866                        | 218      | 254                | 158                         | 1.36                                   | 4.93                    | 5.49                      | 1.38      | 1.61  |
| -15 (+ 5)                     | 1139                       | 287      | 334                | 182                         | 1.57                                   | 6.50                    | 6.23                      | 1.57      | 1.83  |
| -10 (+14)                     | 1463                       | 369      | 429                | 208                         | 1.80                                   | 8.38                    | 7.02                      | 1.77      | 2.06  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | 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)                     | 187                        | 47       | 55                 | 91                          | 0.84                                   | 1.06                    | 2.03                      | 0.51      | 0.59  |
| -30 (-22)                     | 345                        | 87       | 101                | 108                         | 0.97                                   | 1.96                    | 3.18                      | 0.80      | 0.93  |
| -25 (-13)                     | 535                        | 135      | 157                | 130                         | 1.15                                   | 3.04                    | 4.12                      | 1.04      | 1.21  |
| -20 (- 4)                     | 764                        | 192      | 224                | 156                         | 1.36                                   | 4.34                    | 4.91                      | 1.24      | 1.44  |
| -15 (+ 5)                     | 1037                       | 261      | 304                | 185                         | 1.60                                   | 5.92                    | 5.63                      | 1.42      | 1.65  |
| -10 (+14)                     | 1363                       | 344      | 399                | 215                         | 1.87                                   | 7.81                    | 6.32                      | 1.59      | 1.85  |

### 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           | 4.94 +0.08/-0.08              | [mm] | (0.194" +0.003"/-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                  |      |                          |