

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>F GS130HAW</b>      |
| Nominal Voltage/Frequency | <b>220-240 V 50 Hz</b> |
| Engineering Number        | <b>513200607</b>       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                            |                                   |                                   |           |
|--------------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                              | R-134a                            |                                   |           |
| 3 Nominal voltage and frequency            | 220-240 / 50                      | [ 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                      | -         |
| 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 <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                | 11.14         | [cm <sup>3</sup> ] (0.680 cu.in)           |
| 2.1 Bore [mm]                 | 26.000        |                                            |
| 2.2 Stroke [mm]               | 21.000        |                                            |
| 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)    | 11.46         | [kg] (25.26 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 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                           | 4TM283RFBYY-53                     |                                    |
| 6 Start winding resistance                   | 13.70                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 7.90                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 10.00                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 1.70                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | VDE                                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |                                                    |                           |                                        |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|----------------------------------------------------|---------------------------|----------------------------------------|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | 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] |
| 1080                          | 272      | 316 | 213                         | 1.12                          | 6.14                                               | 5.07                      | 1.28                                   | 1.49  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                             |                                        |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|----------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 581                        | 146      | 170                | 158                         | 0.88                                   | 3.29                    | 3.70                      | 0.93      | 1.08  |
| -30 (-22)                     | 809                        | 204      | 237                | 171                         | 0.95                                   | 4.59                    | 4.73                      | 1.19      | 1.39  |
| -25 (-13)                     | 1100                       | 277      | 322                | 193                         | 1.06                                   | 6.25                    | 5.67                      | 1.43      | 1.66  |
| -20 (- 4)                     | 1449                       | 365      | 425                | 222                         | 1.19                                   | 8.25                    | 6.50                      | 1.64      | 1.90  |
| -15 (+ 5)                     | 1853                       | 467      | 543                | 257                         | 1.33                                   | 10.58                   | 7.22                      | 1.82      | 2.11  |
| -10 (+14)                     | 2307                       | 581      | 676                | 297                         | 1.48                                   | 13.22                   | 7.80                      | 1.97      | 2.29  |

|                               |                            |          |                    |                             |                                        |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|----------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 489                        | 123      | 143                | 151                         | 0.89                                   | 2.77                    | 3.22                      | 0.81      | 0.94  |
| -30 (-22)                     | 690                        | 174      | 202                | 173                         | 0.97                                   | 3.91                    | 4.01                      | 1.01      | 1.18  |
| -25 (-13)                     | 961                        | 242      | 282                | 202                         | 1.09                                   | 5.45                    | 4.76                      | 1.20      | 1.39  |
| -20 (- 4)                     | 1297                       | 327      | 380                | 238                         | 1.23                                   | 7.38                    | 5.45                      | 1.37      | 1.60  |
| -15 (+ 5)                     | 1693                       | 427      | 496                | 279                         | 1.40                                   | 9.67                    | 6.08                      | 1.53      | 1.78  |
| -10 (+14)                     | 2147                       | 541      | 629                | 324                         | 1.58                                   | 12.30                   | 6.64                      | 1.67      | 1.95  |

|                               |                            |          |                    |                             |                                        |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|----------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 397                        | 100      | 116                | 140                         | 0.82                                   | 2.25                    | 2.82                      | 0.71      | 0.83  |
| -30 (-22)                     | 572                        | 144      | 167                | 171                         | 0.92                                   | 3.24                    | 3.38                      | 0.85      | 0.99  |
| -25 (-13)                     | 822                        | 207      | 241                | 209                         | 1.06                                   | 4.67                    | 3.94                      | 0.99      | 1.16  |
| -20 (- 4)                     | 1145                       | 288      | 335                | 253                         | 1.23                                   | 6.51                    | 4.51                      | 1.14      | 1.32  |
| -15 (+ 5)                     | 1535                       | 387      | 450                | 302                         | 1.43                                   | 8.76                    | 5.07                      | 1.28      | 1.49  |
| -10 (+14)                     | 1989                       | 501      | 583                | 355                         | 1.65                                   | 11.39                   | 5.60                      | 1.41      | 1.64  |

### 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                  |      |                          |