

### COMPRESSOR DEFINITION

|                           |                    |
|---------------------------|--------------------|
| Designation               | <b>F GT80HA</b>    |
| Nominal Voltage/Frequency | <b>115 V 60 Hz</b> |
| Engineering Number        | <b>513200225</b>   |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |              |
|--|-----------------------------------|-----------------------------------|--------------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                              | R-134a                            |                                   |              |
| 3 Nominal voltage and frequency            | 115 / 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 135 V |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | -                                 | 103 to 135 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      | 1/4           | [hp]                                       |
| 2 Displacement                | 7.15          | [cm <sup>3</sup> ] (0.436 cu.in)           |
| 2.1 Bore [mm]                 | 22.500        |  |
| 2.2 Stroke [mm]               | 18.000        |  |
| 3 Lubricant charge            | 350           | [ml] (11.84 fl.oz.)                        |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 |  |
| 4 Weight (with oil charge)    | 11.35         | [kg] (25.02 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 V 60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | PTC                            |                                    |
| 2.1 Starting device                          | 7M4R7MD3/8EA14C3/8EA1B3        |                                    |
| 3 Start capacitor                            | -                              | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 20(180)                        | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM319RFBYY-53                 |                                    |
| 6 Start winding resistance                   | 3.15                           | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 3.05                           | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 13.00                          | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 2.50                           | [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] |
| 825                           | 208      | 242 | 157                         | 1.40                          | 4.69   | 5.27                      | 1.33                                   | 1.54  |

### 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)                     | 430                        | 108      | 126                | 106                         | 0.94                                   | 2.43                    | 4.03                      | 1.02      | 1.18  |
| -30 (-22)                     | 596                        | 150      | 175                | 121                         | 1.11                                   | 3.38                    | 4.93                      | 1.24      | 1.45  |
| -25 (-13)                     | 809                        | 204      | 237                | 141                         | 1.29                                   | 4.59                    | 5.75                      | 1.45      | 1.68  |
| -20 (- 4)                     | 1074                       | 271      | 315                | 164                         | 1.49                                   | 6.11                    | 6.54                      | 1.65      | 1.92  |
| -15 (+ 5)                     | 1396                       | 352      | 409                | 189                         | 1.70                                   | 7.97                    | 7.37                      | 1.86      | 2.16  |
| -10 (+14)                     | 1779                       | 448      | 521                | 214                         | 1.91                                   | 10.20                   | 8.30                      | 2.09      | 2.43  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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)                     | 346                        | 87       | 101                | 99                          | 0.91                                   | 1.96                    | 3.48                      | 0.88      | 1.02  |
| -30 (-22)                     | 525                        | 132      | 154                | 123                         | 1.09                                   | 2.98                    | 4.27                      | 1.07      | 1.25  |
| -25 (-13)                     | 742                        | 187      | 218                | 150                         | 1.30                                   | 4.21                    | 4.96                      | 1.25      | 1.45  |
| -20 (- 4)                     | 1002                       | 253      | 294                | 178                         | 1.52                                   | 5.70                    | 5.63                      | 1.42      | 1.65  |
| -15 (+ 5)                     | 1309                       | 330      | 384                | 207                         | 1.77                                   | 7.47                    | 6.34                      | 1.60      | 1.86  |
| -10 (+14)                     | 1669                       | 421      | 489                | 234                         | 2.02                                   | 9.56                    | 7.14                      | 1.80      | 2.09  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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)                     | 260                        | 65       | 76                 | 95                          | 0.85                                   | 1.47                    | 2.76                      | 0.70      | 0.81  |
| -30 (-22)                     | 445                        | 112      | 131                | 120                         | 1.06                                   | 2.53                    | 3.64                      | 0.92      | 1.07  |
| -25 (-13)                     | 660                        | 166      | 193                | 147                         | 1.30                                   | 3.75                    | 4.44                      | 1.12      | 1.30  |
| -20 (- 4)                     | 908                        | 229      | 266                | 174                         | 1.56                                   | 5.16                    | 5.21                      | 1.31      | 1.53  |
| -15 (+ 5)                     | 1194                       | 301      | 350                | 200                         | 1.85                                   | 6.81                    | 6.01                      | 1.51      | 1.76  |
| -10 (+14)                     | 1523                       | 384      | 446                | 222                         | 2.15                                   | 8.73                    | 6.90                      | 1.74      | 2.02  |

### 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    |      |                          |