

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM I70HER       |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513307003       |

### 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                       | RSIR/CSIR                         |                                   |             |
| 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) | Fan                               | -                                 | 98 to 135 V |
| 8.2 LBP (43°C Ambient temperature) | Fan                               | -                                 | 98 to 135 V |
| 8.3 HBP (32°C Ambient temperature) | -                                 | -                                 | -           |
| 8.4 HBP (43°C Ambient temperature) | -                                 | -                                 | -           |
| 9 Maximum condensing temperature   |                                   |                                   |             |
| 9.1 Operating                      | 14.2                              | [kgf/cm <sup>2</sup> ] (202 psig) | / °C - °F   |
| 9.2 Peak                           | 15.9                              | [kgf/cm <sup>2</sup> ] (226 psig) | / °C - °F   |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |             |

### B - MECHANICAL DATA

|                               |               |  |
|-------------------------------|---------------|--|
| 1 Commercial designation      | 1/5           | [hp]                                       |
| 2 Displacement                | 5.89          | [cm <sup>3</sup> ] (0.359 cu.in)           |
| 2.1 Bore [mm]                 | 21.000        |  |
| 2.2 Stroke [mm]               | 17.000        |  |
| 3 Lubricant charge            | 160           | [ml] (5.41 fl.oz.)                         |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 |  |
| 4 Weight (with oil charge)    | 7.68          | [kg] (16.93 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                       | Current Relay                      |                                    |
| 2.1 Starting device                          | 213514067/213515250                |                                    |
| 3 Start capacitor                            | 270-324(115)                       | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM762PFBZZ-53                     |                                    |
| 6 Start winding resistance                   | 7.15                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 3.25                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 25.50                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 2.80                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - TUV - UKCA - UL               |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@115V60Hz |          |     | ASHRAELBP32<br>Fan             |                                  | Evaporating temperature<br>(Condensing temperature |                           | -23.3°C (-9.94°F)<br>54.4°C (129.92°F) |       |
| Cooling capacity<br>+/- 5%    |          |     | Power<br>consumption<br>+/- 5% | Current<br>consumption<br>+/- 5% | Gas flow<br>rate<br>+/- 5%                         | EFFICIENCY RATE<br>+/- 7% |  |       |
| [Btu/h]                       | [kcal/h] | [W] | [W]                            | [A]                              | [kg/h]   | [Btu/Wh]                  | [kcal/Wh]                              | [W/W] |
| 705                           | 178      | 207 | 154                            | 2.13                             | 4.01   | 4.58                      | 1.15                                   | 1.34  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                 |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<br>Fan |                                | (Condensing temperature 45°C (+113°F)) |                            |                           |           |       |
| Evaporating<br>temperature    | Cooling capacity<br>+/- 5% |          |                 | Power<br>consumption<br>+/- 5% | Current<br>consumption<br>+/- 5%       | Gas flow<br>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)                     | 375                        | 95       | 110             | 110                            | 1.92                                   | 2.12                       | 3.40                      | 0.86      | 1.00  |
| -30 (-22)                     | 536                        | 135      | 157             | 126                            | 1.99                                   | 3.04                       | 4.22                      | 1.06      | 1.24  |
| -25 (-13)                     | 707                        | 178      | 207             | 143                            | 2.07                                   | 4.02                       | 4.96                      | 1.25      | 1.45  |
| -20 (- 4)                     | 904                        | 228      | 265             | 160                            | 2.16                                   | 5.14                       | 5.67                      | 1.43      | 1.66  |
| -15 (+ 5)                     | 1138                       | 287      | 334             | 178                            | 2.28                                   | 6.50                       | 6.39                      | 1.61      | 1.87  |
| -10 (+14)                     | 1425                       | 359      | 418             | 199                            | 2.42                                   | 8.17                       | 7.17                      | 1.81      | 2.10  |

|                               |                            |          |                 |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<br>Fan |                                | (Condensing temperature 55°C (+131°F)) |                            |                           |           |       |
| Evaporating<br>temperature    | Cooling capacity<br>+/- 5% |          |                 | Power<br>consumption<br>+/- 5% | Current<br>consumption<br>+/- 5%       | Gas flow<br>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)                     | 340                        | 86       | 100             | 109                            | 1.94                                   | 1.93                       | 3.12                      | 0.79      | 0.91  |
| -30 (-22)                     | 485                        | 122      | 142             | 127                            | 2.01                                   | 2.75                       | 3.78                      | 0.95      | 1.11  |
| -25 (-13)                     | 643                        | 162      | 188             | 147                            | 2.10                                   | 3.65                       | 4.38                      | 1.10      | 1.28  |
| -20 (- 4)                     | 827                        | 208      | 242             | 168                            | 2.22                                   | 4.71                       | 4.95                      | 1.25      | 1.45  |
| -15 (+ 5)                     | 1052                       | 265      | 308             | 190                            | 2.36                                   | 6.00                       | 5.54                      | 1.40      | 1.62  |
| -10 (+14)                     | 1330                       | 335      | 390             | 214                            | 2.52                                   | 7.62                       | 6.20                      | 1.56      | 1.82  |

|                               |                            |          |                 |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|-----------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<br>Fan |                                | (Condensing temperature 65°C (+149°F)) |                            |                           |           |       |
| Evaporating<br>temperature    | Cooling capacity<br>+/- 5% |          |                 | Power<br>consumption<br>+/- 5% | Current<br>consumption<br>+/- 5%       | Gas flow<br>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)                     | 299                        | 75       | 88              | 110                            | 1.91                                   | 1.69                       | 2.74                      | 0.69      | 0.80  |
| -30 (-22)                     | 436                        | 110      | 128             | 130                            | 2.00                                   | 2.47                       | 3.33                      | 0.84      | 0.98  |
| -25 (-13)                     | 586                        | 148      | 172             | 152                            | 2.11                                   | 3.33                       | 3.87                      | 0.97      | 1.13  |
| -20 (- 4)                     | 765                        | 193      | 224             | 175                            | 2.25                                   | 4.36                       | 4.38                      | 1.10      | 1.28  |
| -15 (+ 5)                     | 987                        | 249      | 289             | 200                            | 2.42                                   | 5.63                       | 4.92                      | 1.24      | 1.44  |
| -10 (+14)                     | 1263                       | 318      | 370             | 227                            | 2.62                                   | 7.24                       | 5.54                      | 1.40      | 1.62  |

### 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           | 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                  |      |                          |