

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM I45HER       |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513307209       |

### 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                              |                                   |              |
| 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                            | 90 to 110 V                       | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 90 to 110 V                       | 103 to 140 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      | 1/8           | [hp]                                       |
| 2 Displacement                | 3.77          | [cm <sup>3</sup> ] (0.230 cu.in)           |
| 2.1 Bore [mm]                 | 19.000        |  |
| 2.2 Stroke [mm]               | 13.300        |  |
| 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)    | 7.33          | [kg] (16.16 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                          | 213514040                          |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM757KFBYY-53                     |                                    |
| 6 Start winding resistance                   | 11.90                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 5.00                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 15.00                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 1.62                               | [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>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] |
| 420                           | 106      | 123 | 93                          | 1.27                          | 2.39   | 4.50                      | 1.13                                   | 1.32  |

### 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)                     | 212                        | 53       | 62                 | 67                          | 1.12                                   | 1.20                    | 3.14                      | 0.79      | 0.92  |
| -30 (-22)                     | 308                        | 78       | 90                 | 77                          | 1.17                                   | 1.74                    | 4.01                      | 1.01      | 1.17  |
| -25 (-13)                     | 425                        | 107      | 125                | 88                          | 1.23                                   | 2.41                    | 4.84                      | 1.22      | 1.42  |
| -20 (- 4)                     | 563                        | 142      | 165                | 100                         | 1.30                                   | 3.20                    | 5.66                      | 1.43      | 1.66  |
| -15 (+ 5)                     | 720                        | 181      | 211                | 111                         | 1.38                                   | 4.11                    | 6.45                      | 1.63      | 1.89  |
| -10 (+14)                     | 896                        | 226      | 262                | 123                         | 1.46                                   | 5.13                    | 7.25                      | 1.83      | 2.12  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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)                     | 157                        | 40       | 46                 | 62                          | 1.10                                   | 0.89                    | 2.52                      | 0.64      | 0.74  |
| -30 (-22)                     | 254                        | 64       | 74                 | 75                          | 1.16                                   | 1.44                    | 3.38                      | 0.85      | 0.99  |
| -25 (-13)                     | 372                        | 94       | 109                | 89                          | 1.23                                   | 2.11                    | 4.18                      | 1.05      | 1.23  |
| -20 (- 4)                     | 512                        | 129      | 150                | 103                         | 1.32                                   | 2.91                    | 4.94                      | 1.25      | 1.45  |
| -15 (+ 5)                     | 670                        | 169      | 196                | 118                         | 1.42                                   | 3.83                    | 5.66                      | 1.43      | 1.66  |
| -10 (+14)                     | 848                        | 214      | 248                | 133                         | 1.53                                   | 4.86                    | 6.36                      | 1.60      | 1.86  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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)                     | 112                        | 28       | 33                 | 57                          | 1.08                                   | 0.63                    | 1.96                      | 0.49      | 0.57  |
| -30 (-22)                     | 206                        | 52       | 60                 | 73                          | 1.15                                   | 1.17                    | 2.82                      | 0.71      | 0.83  |
| -25 (-13)                     | 321                        | 81       | 94                 | 89                          | 1.23                                   | 1.82                    | 3.61                      | 0.91      | 1.06  |
| -20 (- 4)                     | 458                        | 115      | 134                | 106                         | 1.34                                   | 2.60                    | 4.32                      | 1.09      | 1.27  |
| -15 (+ 5)                     | 614                        | 155      | 180                | 124                         | 1.46                                   | 3.50                    | 4.97                      | 1.25      | 1.46  |
| -10 (+14)                     | 789                        | 199      | 231                | 142                         | 1.59                                   | 4.52                    | 5.58                      | 1.40      | 1.63  |

### 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             | Slanted                       |      |                          |
| 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                  |      |                          |