

### COMPRESSOR DEFINITION

|                           |                    |
|---------------------------|--------------------|
| Designation               | EM I45HER          |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number        | 513307417          |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |           |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                      | R-134a                            |                                   |           |
| 3 Nominal voltage and frequency    | 220-240 / 50-60                   | [ 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                            | 160 to 260 V                      | -         |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 160 to 260 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 / ISO22 |  |
| 4 Weight (with oil charge)    | 7.69          | [kg] (16.95 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 50-60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Current Relay                         |                                    |
| 2.1 Starting device                          | 213514016                             |                                    |
| 3 Start capacitor                            | -                                     | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                     | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM718KFBYY-53                        |                                    |
| 6 Start winding resistance                   | 33.50                                 | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 20.60                                 | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | -                                     | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | -                                     | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                     | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - IRAM - TUV - UKCA - VDE          |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                              |                               |  |                           |  |       |
|-------------------------------|----------|-----|------------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | <b>ASHRAELBP32</b><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] |
| 340                           | 86       | 100 | 86                           | 0.74                          | 1.93   | 3.97                      | 1.00                                   | 1.16  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                           |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|---------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | <b>ASHRAE32</b><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)                     | 190                        | 48       | 56                        | 61                          | 0.68                                   | 1.07                    | 3.09                      | 0.78      | 0.91  |
| -30 (-22)                     | 262                        | 66       | 77                        | 70                          | 0.70                                   | 1.48                    | 3.74                      | 0.94      | 1.10  |
| -25 (-13)                     | 349                        | 88       | 102                       | 79                          | 0.72                                   | 1.98                    | 4.42                      | 1.11      | 1.30  |
| -20 (- 4)                     | 456                        | 115      | 134                       | 88                          | 0.74                                   | 2.59                    | 5.17                      | 1.30      | 1.51  |
| -15 (+ 5)                     | 588                        | 148      | 172                       | 98                          | 0.76                                   | 3.36                    | 6.01                      | 1.52      | 1.76  |
| -10 (+14)                     | 752                        | 190      | 220                       | 107                         | 0.78                                   | 4.31                    | 6.99                      | 1.76      | 2.05  |

|                               |                            |          |                           |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|---------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | <b>ASHRAE32</b><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)                     | 145                        | 37       | 43                        | 60                          | 0.68                                   | 0.82                    | 2.47                      | 0.62      | 0.72  |
| -30 (-22)                     | 221                        | 56       | 65                        | 70                          | 0.69                                   | 1.25                    | 3.17                      | 0.80      | 0.93  |
| -25 (-13)                     | 310                        | 78       | 91                        | 80                          | 0.71                                   | 1.76                    | 3.85                      | 0.97      | 1.13  |
| -20 (- 4)                     | 417                        | 105      | 122                       | 91                          | 0.74                                   | 2.37                    | 4.55                      | 1.15      | 1.33  |
| -15 (+ 5)                     | 548                        | 138      | 161                       | 103                         | 0.76                                   | 3.13                    | 5.30                      | 1.34      | 1.55  |
| -10 (+14)                     | 707                        | 178      | 207                       | 115                         | 0.80                                   | 4.05                    | 6.14                      | 1.55      | 1.80  |

|                               |                            |          |                           |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|---------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | <b>ASHRAE32</b><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)                     | 114                        | 29       | 33                        | 57                          | 0.67                                   | 0.64                    | 1.97                      | 0.50      | 0.58  |
| -30 (-22)                     | 186                        | 47       | 55                        | 68                          | 0.69                                   | 1.06                    | 2.71                      | 0.68      | 0.79  |
| -25 (-13)                     | 269                        | 68       | 79                        | 80                          | 0.71                                   | 1.53                    | 3.38                      | 0.85      | 0.99  |
| -20 (- 4)                     | 368                        | 93       | 108                       | 92                          | 0.73                                   | 2.10                    | 4.02                      | 1.01      | 1.18  |
| -15 (+ 5)                     | 489                        | 123      | 143                       | 105                         | 0.77                                   | 2.79                    | 4.66                      | 1.17      | 1.36  |
| -10 (+14)                     | 636                        | 160      | 186                       | 119                         | 0.81                                   | 3.64                    | 5.33                      | 1.34      | 1.56  |

### F - EXTERNAL CHARACTERISTICS

|                         |                               |      |                          |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate            | Universal EG/F/AMEM version 2 |      |                          |
| 2 Tray holder           | Yes                           |      |                          |
| 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                  |      |                          |