

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM I40HEP       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513307446       |

### 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                               | 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                            | 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      | 1/8           | [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            | 200           | [ml] (6.76 fl.oz.)                         |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 |  |
| 4 Weight (with oil charge)    | 7             | [kg] (15.43 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                          | 7M220MC1/8EA5B1                    |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM189NFBYY-53                     |                                    |
| 6 Start winding resistance                   | 33.40                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 25.70                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 4.00                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.70                               | [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] |
| 350                           | 88       | 103 | 82                          | 0.57                          | 1.99   | 4.28                      | 1.08                                   | 1.25  |

### 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)                     | 187                        | 47       | 55                 | 58                          | 0.50                                   | 1.06                    | 3.23                      | 0.81      | 0.95  |
| -30 (-22)                     | 266                        | 67       | 78                 | 68                          | 0.53                                   | 1.51                    | 3.91                      | 0.99      | 1.15  |
| -25 (-13)                     | 355                        | 89       | 104                | 78                          | 0.56                                   | 2.02                    | 4.56                      | 1.15      | 1.34  |
| -20 (- 4)                     | 458                        | 115      | 134                | 88                          | 0.59                                   | 2.61                    | 5.24                      | 1.32      | 1.53  |
| -15 (+ 5)                     | 581                        | 146      | 170                | 98                          | 0.62                                   | 3.32                    | 5.96                      | 1.50      | 1.75  |
| -10 (+14)                     | 729                        | 184      | 214                | 107                         | 0.66                                   | 4.18                    | 6.79                      | 1.71      | 1.99  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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)                     | 150                        | 38       | 44                 | 58                          | 0.50                                   | 0.85                    | 2.59                      | 0.65      | 0.76  |
| -30 (-22)                     | 229                        | 58       | 67                 | 69                          | 0.53                                   | 1.30                    | 3.32                      | 0.84      | 0.97  |
| -25 (-13)                     | 316                        | 80       | 93                 | 79                          | 0.57                                   | 1.79                    | 3.97                      | 1.00      | 1.16  |
| -20 (- 4)                     | 417                        | 105      | 122                | 91                          | 0.60                                   | 2.37                    | 4.59                      | 1.16      | 1.34  |
| -15 (+ 5)                     | 537                        | 135      | 157                | 103                         | 0.64                                   | 3.06                    | 5.22                      | 1.32      | 1.53  |
| -10 (+14)                     | 681                        | 172      | 200                | 115                         | 0.69                                   | 3.90                    | 5.91                      | 1.49      | 1.73  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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)                     | 111                        | 28       | 33                 | 58                          | 0.50                                   | 0.63                    | 1.92                      | 0.48      | 0.56  |
| -30 (-22)                     | 186                        | 47       | 55                 | 69                          | 0.53                                   | 1.06                    | 2.69                      | 0.68      | 0.79  |
| -25 (-13)                     | 269                        | 68       | 79                 | 81                          | 0.57                                   | 1.53                    | 3.34                      | 0.84      | 0.98  |
| -20 (- 4)                     | 365                        | 92       | 107                | 94                          | 0.61                                   | 2.08                    | 3.91                      | 0.99      | 1.15  |
| -15 (+ 5)                     | 480                        | 121      | 141                | 108                         | 0.66                                   | 2.74                    | 4.46                      | 1.12      | 1.31  |
| -10 (+14)                     | 618                        | 156      | 181                | 123                         | 0.71                                   | 3.54                    | 5.01                      | 1.26      | 1.47  |

### F - EXTERNAL CHARACTERISTICS

|                         |                        |      |                          |
|-------------------------|------------------------|------|--------------------------|
| 1 Base plate            | European Standard AMEM |      |                          |
| 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 plated steel    |      |                          |
| 3.1.2 Shape             | Straight               |      |                          |
| 3.2 DISCHARGE           | 5 +0.18/-0.06          | [mm] | (0.197" +0.007"/-0.002") |
| 3.2.1 Material          | Copper plated steel    |      |                          |
| 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 plated steel    |      |                          |
| 3.3.2 Shape             | Straight               |      |                          |
| 3.4 Oil cooler (Copper) | No                     | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs           |      |                          |