

### COMPRESSOR DEFINITION

|                           |             |
|---------------------------|-------------|
| Designation               | EM I50HER   |
| Nominal Voltage/Frequency | 115 V 60 Hz |
| Engineering Number        | 513303800   |

### 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                       | 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/Fan                        | -                                 | 103 to 127 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan                        | -                                 | 103 to 127 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      | 1/6           | [hp]                                       |
| 2 Displacement                | 4.99          | [cm <sup>3</sup> ] (0.305 cu.in)           |
| 2.1 Bore [mm]                 | 21.000        |  |
| 2.2 Stroke [mm]               | 14.400        |  |
| 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)    | 7.6           | [kg] (16.75 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                       | Current Relay                  |                                    |
| 2.1 Starting device                          | 213514105                      |                                    |
| 3 Start capacitor                            | -                              | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                              | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM757KFBYY-53                 |                                    |
| 6 Start winding resistance                   | 12.10                          | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 3.91                           | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 18.00                          | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 2.00                           | [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 - UKCA - UL - VDE           |                                    |

### 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<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] |
| 510                           | 129      | 149 | 117                            | 1.53                             | 2.90   | 4.35                      | 1.10                                   | 1.27  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<br>Static |                                | (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)                     | 281                        | 71       | 82                 | 69                             | 1.30                                   | 1.59                       | 4.02                      | 1.01      | 1.18  |
| -30 (-22)                     | 375                        | 95       | 110                | 86                             | 1.37                                   | 2.13                       | 4.42                      | 1.11      | 1.29  |
| -25 (-13)                     | 514                        | 130      | 151                | 103                            | 1.46                                   | 2.92                       | 5.00                      | 1.26      | 1.46  |
| -20 (- 4)                     | 689                        | 174      | 202                | 121                            | 1.56                                   | 3.92                       | 5.70                      | 1.44      | 1.67  |
| -15 (+ 5)                     | 891                        | 225      | 261                | 139                            | 1.68                                   | 5.09                       | 6.44                      | 1.62      | 1.89  |
| -10 (+14)                     | 1112                       | 280      | 326                | 156                            | 1.81                                   | 6.37                       | 7.18                      | 1.81      | 2.10  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<br>Static |                                | (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)                     | 228                        | 57       | 67                 | 73                             | 1.35                                   | 1.29                       | 3.16                      | 0.80      | 0.92  |
| -30 (-22)                     | 316                        | 80       | 92                 | 87                             | 1.42                                   | 1.79                       | 3.66                      | 0.92      | 1.07  |
| -25 (-13)                     | 450                        | 113      | 132                | 104                            | 1.50                                   | 2.55                       | 4.30                      | 1.08      | 1.26  |
| -20 (- 4)                     | 622                        | 157      | 182                | 124                            | 1.61                                   | 3.54                       | 4.99                      | 1.26      | 1.46  |
| -15 (+ 5)                     | 823                        | 207      | 241                | 145                            | 1.74                                   | 4.70                       | 5.68                      | 1.43      | 1.66  |
| -10 (+14)                     | 1045                       | 263      | 306                | 167                            | 1.89                                   | 5.99                       | 6.29                      | 1.59      | 1.84  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<br>Static |                                | (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)                     | 175                        | 44       | 51                 | 69                             | 1.30                                   | 0.99                       | 2.51                      | 0.63      | 0.74  |
| -30 (-22)                     | 253                        | 64       | 74                 | 82                             | 1.36                                   | 1.43                       | 3.14                      | 0.79      | 0.92  |
| -25 (-13)                     | 380                        | 96       | 111                | 99                             | 1.46                                   | 2.16                       | 3.83                      | 0.97      | 1.12  |
| -20 (- 4)                     | 546                        | 138      | 160                | 120                            | 1.58                                   | 3.11                       | 4.53                      | 1.14      | 1.33  |
| -15 (+ 5)                     | 743                        | 187      | 218                | 144                            | 1.73                                   | 4.24                       | 5.16                      | 1.30      | 1.51  |
| -10 (+14)                     | 963                        | 243      | 282                | 171                            | 1.91                                   | 5.52                       | 5.67                      | 1.43      | 1.66  |

### F - EXTERNAL CHARACTERISTICS

|                         |                     |      |                          |
|-------------------------|---------------------|------|--------------------------|
| 1 Base plate            | Universal 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        |      |                          |