

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM U45HSC       |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513308010       |

### 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                       | RSCR                              |                                   |             |
| 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                            | 85 to 110 V                       | 98 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 85 to 110 V                       | 98 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      | 1/6           | [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)    | 7.76          | [kg] (17.11 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                       | PTC   |                                    |
| 2.1 Starting device                          | 8EA14C3/8EA1B3/8EA21C3/8EA3B3/8EA4B3/QPS2-A4R7MD3 |                                    |
| 3 Start capacitor                            | -   | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 20(160)   | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM283NFBYY-53                                    |                                    |
| 6 Start winding resistance                   | 5.60  | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 6.70  | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 6.50  | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 1.50  | [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 - NOM - 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<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] |
| 450                           | 113      | 132 | 93                             | 0.81                             | 2.56   | 4.86                      | 1.22                                   | 1.42  |

### 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)                     | 243                        | 61       | 71                 | 67                             | 0.58                                   | 1.38                       | 3.64                      | 0.92      | 1.07  |
| -30 (-22)                     | 338                        | 85       | 99                 | 77                             | 0.66                                   | 1.92                       | 4.42                      | 1.11      | 1.30  |
| -25 (-13)                     | 452                        | 114      | 133                | 87                             | 0.76                                   | 2.57                       | 5.20                      | 1.31      | 1.52  |
| -20 (- 4)                     | 590                        | 149      | 173                | 98                             | 0.86                                   | 3.36                       | 6.01                      | 1.51      | 1.76  |
| -15 (+ 5)                     | 754                        | 190      | 221                | 110                            | 0.96                                   | 4.30                       | 6.86                      | 1.73      | 2.01  |
| -10 (+14)                     | 946                        | 238      | 277                | 121                            | 1.06                                   | 5.42                       | 7.79                      | 1.96      | 2.28  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 197                        | 50       | 58                 | 65                             | 0.58                                   | 1.11                       | 3.02                      | 0.76      | 0.88  |
| -30 (-22)                     | 294                        | 74       | 86                 | 77                             | 0.67                                   | 1.67                       | 3.82                      | 0.96      | 1.12  |
| -25 (-13)                     | 409                        | 103      | 120                | 89                             | 0.78                                   | 2.32                       | 4.59                      | 1.16      | 1.35  |
| -20 (- 4)                     | 546                        | 137      | 160                | 102                            | 0.89                                   | 3.10                       | 5.34                      | 1.35      | 1.56  |
| -15 (+ 5)                     | 705                        | 178      | 207                | 116                            | 1.01                                   | 4.03                       | 6.09                      | 1.53      | 1.78  |
| -10 (+14)                     | 892                        | 225      | 261                | 130                            | 1.14                                   | 5.11                       | 6.87                      | 1.73      | 2.01  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 147                        | 37       | 43                 | 60                             | 0.54                                   | 0.83                       | 2.46                      | 0.62      | 0.72  |
| -30 (-22)                     | 246                        | 62       | 72                 | 74                             | 0.65                                   | 1.40                       | 3.30                      | 0.83      | 0.97  |
| -25 (-13)                     | 361                        | 91       | 106                | 89                             | 0.77                                   | 2.05                       | 4.05                      | 1.02      | 1.19  |
| -20 (- 4)                     | 495                        | 125      | 145                | 104                            | 0.91                                   | 2.81                       | 4.74                      | 1.19      | 1.39  |
| -15 (+ 5)                     | 650                        | 164      | 190                | 121                            | 1.06                                   | 3.71                       | 5.38                      | 1.36      | 1.58  |
| -10 (+14)                     | 830                        | 209      | 243                | 138                            | 1.21                                   | 4.75                       | 6.01                      | 1.51      | 1.76  |

### 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                  |      |                          |