

### COMPRESSOR DEFINITION

|                           |             |
|---------------------------|-------------|
| Designation               | EG U80HLC   |
| Nominal Voltage/Frequency | 115 V 60 Hz |
| Engineering Number        | 513700253   |

### 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                               | 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                       | 103 to 135 V |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 85 to 110 V                       | 103 to 135 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      | 1/4          | [hp]                                       |
| 2 Displacement                | 7.15         | [cm <sup>3</sup> ] (0.436 cu.in)           |
| 2.1 Bore [mm]                 | 22.500       |  |
| 2.2 Stroke [mm]               | 18.000       |  |
| 3 Lubricant charge            | 280          | [ml] (9.47 fl.oz.)                         |
| 3.1 Lubricants approved       |              |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO7 |  |
| 4 Weight (with oil charge)    | 11.18        | [kg] (24.65 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                       | Combo                          |                                    |
| 2.1 Starting device                          | 3ARR5XC1E1/3ARR5XC4E1          |                                    |
| 3 Start capacitor                            | -                              | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 20(180)                        | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 3ARR5XC1E /3ARR5XC4E           |                                    |
| 6 Start winding resistance                   | 3.15                           | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 3.05                           | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 14.50                          | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 2.30                           | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -                              | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | 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] |
| 820                           | 207      | 240 | 146                            | 1.28                             | 4.66   | 5.61                      | 1.41                                   | 1.64  |

### 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)                     | 439                        | 111      | 129                | 96                             | 0.86                                   | 2.48                       | 4.58                      | 1.15      | 1.34  |
| -30 (-22)                     | 609                        | 154      | 178                | 114                            | 1.03                                   | 3.45                       | 5.34                      | 1.35      | 1.56  |
| -25 (-13)                     | 816                        | 206      | 239                | 134                            | 1.19                                   | 4.63                       | 6.09                      | 1.54      | 1.79  |
| -20 (- 4)                     | 1072                       | 270      | 314                | 155                            | 1.37                                   | 6.10                       | 6.90                      | 1.74      | 2.02  |
| -15 (+ 5)                     | 1391                       | 351      | 408                | 178                            | 1.56                                   | 7.94                       | 7.79                      | 1.96      | 2.28  |
| -10 (+14)                     | 1785                       | 450      | 523                | 202                            | 1.77                                   | 10.23                      | 8.81                      | 2.22      | 2.58  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 359                        | 90       | 105                | 93                             | 0.84                                   | 2.03                       | 3.86                      | 0.97      | 1.13  |
| -30 (-22)                     | 534                        | 134      | 156                | 115                            | 1.03                                   | 3.02                       | 4.62                      | 1.16      | 1.35  |
| -25 (-13)                     | 738                        | 186      | 216                | 138                            | 1.22                                   | 4.19                       | 5.34                      | 1.35      | 1.57  |
| -20 (- 4)                     | 986                        | 248      | 289                | 163                            | 1.43                                   | 5.61                       | 6.07                      | 1.53      | 1.78  |
| -15 (+ 5)                     | 1289                       | 325      | 378                | 188                            | 1.64                                   | 7.36                       | 6.85                      | 1.73      | 2.01  |
| -10 (+14)                     | 1661                       | 418      | 487                | 215                            | 1.88                                   | 9.51                       | 7.73                      | 1.95      | 2.27  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 266                        | 67       | 78                 | 81                             | 0.76                                   | 1.51                       | 3.31                      | 0.83      | 0.97  |
| -30 (-22)                     | 447                        | 113      | 131                | 109                            | 0.98                                   | 2.53                       | 4.05                      | 1.02      | 1.19  |
| -25 (-13)                     | 651                        | 164      | 191                | 138                            | 1.21                                   | 3.70                       | 4.71                      | 1.19      | 1.38  |
| -20 (- 4)                     | 891                        | 225      | 261                | 167                            | 1.45                                   | 5.07                       | 5.35                      | 1.35      | 1.57  |
| -15 (+ 5)                     | 1180                       | 297      | 346                | 198                            | 1.70                                   | 6.74                       | 5.99                      | 1.51      | 1.76  |
| -10 (+14)                     | 1531                       | 386      | 449                | 229                            | 1.97                                   | 8.77                       | 6.70                      | 1.69      | 1.96  |

### 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           | 4.94 +0.08/-0.08              | [mm] | (0.194" +0.003"/-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                  |      |                          |