

### COMPRESSOR DEFINITION

|                           |                    |
|---------------------------|--------------------|
| Designation               | EG U80HLC          |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number        | 513700118          |

### 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                               | 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                            | 198 to 255 V                      | 198 to 242 V |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 198 to 255 V                      | 198 to 242 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 / ISO10 |  |
| 4 Weight (with oil charge)    | 11.14         | [kg] (24.56 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                       | PTC                                   |                                    |
| 2.1 Starting device                          | 7M220MD3/8EA17C3/8EA5B3               |                                    |
| 3 Start capacitor                            | -                                     | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 4(350)/5(350)                         | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM283KFBYY-53                        |                                    |
| 6 Start winding resistance                   | 14.25                                 | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 12.45                                 | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50/60 Hz)     | 8.30/6.80                             | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz)  | 1.30/1.20                             | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz)   | -                                     | [A] - Measured according to UL 984 |
| 11 Approval boards certification             |                                       |                                    |

### 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<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] |
| 700                           | 176      | 205 | 129                            | 0.66                             | 3.98   | 5.42                      | 1.37                                   | 1.59  |

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V60Hz |          |     | 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 | 149                            | 0.70                             | 4.66   | 5.50                      | 1.39                                   | 1.61  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                    |     |  |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | 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) | 391                        | 99                 | 115 | 86                                     | 0.50                             | 2.21                       | 4.47                      | 1.13      | 1.31  |
| -30                           | (-22) | 500                        | 126                | 147 | 104                                    | 0.57                             | 2.83                       | 4.90                      | 1.24      | 1.44  |
| -25                           | (-13) | 675                        | 170                | 198 | 119                                    | 0.63                             | 3.83                       | 5.74                      | 1.45      | 1.68  |
| -20                           | (- 4) | 907                        | 229                | 266 | 133                                    | 0.69                             | 5.16                       | 6.81                      | 1.72      | 2.00  |
| -15                           | (+ 5) | 1185                       | 299                | 347 | 148                                    | 0.76                             | 6.77                       | 7.97                      | 2.01      | 2.33  |
| -10                           | (+14) | 1498                       | 378                | 439 | 165                                    | 0.83                             | 8.59                       | 9.04                      | 2.28      | 2.65  |

|                               |       |                            |                    |     |  |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | 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) | 314                        | 79                 | 92  | 85                                     | 0.49                             | 1.77                       | 3.71                      | 0.94      | 1.09  |
| -30                           | (-22) | 442                        | 111                | 129 | 105                                    | 0.57                             | 2.50                       | 4.26                      | 1.07      | 1.25  |
| -25                           | (-13) | 626                        | 158                | 183 | 122                                    | 0.64                             | 3.56                       | 5.12                      | 1.29      | 1.50  |
| -20                           | (- 4) | 856                        | 216                | 251 | 139                                    | 0.71                             | 4.87                       | 6.10                      | 1.54      | 1.79  |
| -15                           | (+ 5) | 1122                       | 283                | 329 | 158                                    | 0.79                             | 6.40                       | 7.07                      | 1.78      | 2.07  |
| -10                           | (+14) | 1413                       | 356                | 414 | 180                                    | 0.89                             | 8.09                       | 7.85                      | 1.98      | 2.30  |

### E - PERFORMANCE - CURVES

| 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)                     | 240                        | 61                 | 70       | 81                          | 0.47                                   | 1.36                    | 3.00                      | 0.76     | 0.88      |       |
| -30 (-22)                     | 382                        | 96                 | 112      | 102                         | 0.56                                   | 2.16                    | 3.69                      | 0.93     | 1.08      |       |
| -25 (-13)                     | 568                        | 143                | 167      | 122                         | 0.64                                   | 3.23                    | 4.58                      | 1.15     | 1.34      |       |
| -20 (- 4)                     | 790                        | 199                | 232      | 143                         | 0.73                                   | 4.50                    | 5.51                      | 1.39     | 1.61      |       |
| -15 (+ 5)                     | 1037                       | 261                | 304      | 166                         | 0.83                                   | 5.92                    | 6.31                      | 1.59     | 1.85      |       |
| -10 (+14)                     | 1299                       | 327                | 381      | 193                         | 0.95                                   | 7.44                    | 6.82                      | 1.72     | 2.00      |       |

| TEST CONDITIONS:<br>@220V60Hz |                            | 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)                     | 481                        | 121                | 141      | 99                          | 0.48                                   | 2.72                    | 4.86                      | 1.22     | 1.42      |       |
| -30 (-22)                     | 671                        | 169                | 197      | 122                         | 0.55                                   | 3.81                    | 5.46                      | 1.38     | 1.60      |       |
| -25 (-13)                     | 843                        | 212                | 247      | 142                         | 0.62                                   | 4.78                    | 5.99                      | 1.51     | 1.75      |       |
| -20 (- 4)                     | 1041                       | 262                | 305      | 160                         | 0.70                                   | 5.92                    | 6.56                      | 1.65     | 1.92      |       |
| -15 (+ 5)                     | 1311                       | 330                | 384      | 179                         | 0.80                                   | 7.48                    | 7.29                      | 1.84     | 2.13      |       |
| -10 (+14)                     | 1698                       | 428                | 497      | 202                         | 0.92                                   | 9.73                    | 8.29                      | 2.09     | 2.43      |       |

| TEST CONDITIONS:<br>@220V60Hz |                            | 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)                     | 402                        | 101                | 118      | 97                          | 0.47                                   | 2.27                    | 4.14                      | 1.04     | 1.21      |       |
| -30 (-22)                     | 595                        | 150                | 174      | 122                         | 0.55                                   | 3.38                    | 4.79                      | 1.21     | 1.40      |       |
| -25 (-13)                     | 761                        | 192                | 223      | 143                         | 0.63                                   | 4.32                    | 5.32                      | 1.34     | 1.56      |       |
| -20 (- 4)                     | 945                        | 238                | 277      | 163                         | 0.74                                   | 5.38                    | 5.83                      | 1.47     | 1.71      |       |
| -15 (+ 5)                     | 1192                       | 300                | 349      | 185                         | 0.85                                   | 6.80                    | 6.44                      | 1.62     | 1.89      |       |
| -10 (+14)                     | 1547                       | 390                | 453      | 211                         | 1.00                                   | 8.87                    | 7.26                      | 1.83     | 2.13      |       |

| TEST CONDITIONS:<br>@220V60Hz |                            | 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)                     | 327                        | 82                 | 96       | 91                          | 0.44                                   | 1.85                    | 3.61                      | 0.91     | 1.06      |       |
| -30 (-22)                     | 522                        | 132                | 153      | 118                         | 0.53                                   | 2.96                    | 4.29                      | 1.08     | 1.26      |       |
| -25 (-13)                     | 681                        | 172                | 200      | 141                         | 0.63                                   | 3.87                    | 4.79                      | 1.21     | 1.40      |       |
| -20 (- 4)                     | 849                        | 214                | 249      | 164                         | 0.74                                   | 4.83                    | 5.21                      | 1.31     | 1.53      |       |
| -15 (+ 5)                     | 1072                       | 270                | 314      | 190                         | 0.87                                   | 6.12                    | 5.67                      | 1.43     | 1.66      |       |
| -10 (+14)                     | 1394                       | 351                | 408      | 221                         | 1.02                                   | 7.99                    | 6.28                      | 1.58     | 1.84      |       |

### F - EXTERNAL CHARACTERISTICS

|                         |                               |      |                          |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate            | Universal EG/F/AMEM version 2 |      |                          |
| 2 Tray holder           | No                            |      |                          |
| 3 Connectors            |                               |      |                          |
| 3.1 SUCTION             | 8.2 +0.12/-0.08               | [mm] | (0.323" +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                  |      |                          |