

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EG Y80HLP       |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513700160       |

### 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 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                | 6.76          | [cm <sup>3</sup> ] (0.413 cu.in)           |
| 2.1 Bore [mm]                 | 22.500        |  |
| 2.2 Stroke [mm]               | 17.000        |  |
| 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)    | 11.37         | [kg] (25.07 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                       | Combo                              |                                    |
| 2.1 Starting device                          | 3ARR51D4A/3ARR55D4A                |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 12(180)                            | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 3ARR55D4A                          |                                    |
| 6 Start winding resistance                   | 5.60                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 3.50                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 13.00                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 1.70                               | [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 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] |
| 815                           | 205      | 239 | 143                         | 1.30                          | 4.63   | 5.70                      | 1.44                                   | 1.67  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | 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)                     | 436                        | 110      | 128                | 97                          | 0.90                                   | 2.46                    | 4.52                      | 1.14      | 1.32  |
| -30 (-22)                     | 609                        | 154      | 179                | 115                         | 1.08                                   | 3.45                    | 5.28                      | 1.33      | 1.55  |
| -25 (-13)                     | 823                        | 207      | 241                | 134                         | 1.25                                   | 4.67                    | 6.11                      | 1.54      | 1.79  |
| -20 (- 4)                     | 1082                       | 273      | 317                | 154                         | 1.42                                   | 6.16                    | 7.00                      | 1.76      | 2.05  |
| -15 (+ 5)                     | 1394                       | 351      | 409                | 175                         | 1.59                                   | 7.96                    | 7.96                      | 2.01      | 2.33  |
| -10 (+14)                     | 1766                       | 445      | 518                | 196                         | 1.77                                   | 10.12                   | 9.00                      | 2.27      | 2.64  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | 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)                     | 400                        | 101      | 117                | 96                          | 0.90                                   | 2.27                    | 4.19                      | 1.05      | 1.23  |
| -30 (-22)                     | 556                        | 140      | 163                | 115                         | 1.09                                   | 3.15                    | 4.83                      | 1.22      | 1.41  |
| -25 (-13)                     | 751                        | 189      | 220                | 137                         | 1.27                                   | 4.26                    | 5.50                      | 1.39      | 1.61  |
| -20 (- 4)                     | 993                        | 250      | 291                | 160                         | 1.47                                   | 5.65                    | 6.21                      | 1.56      | 1.82  |
| -15 (+ 5)                     | 1287                       | 324      | 377                | 185                         | 1.68                                   | 7.35                    | 6.95                      | 1.75      | 2.04  |
| -10 (+14)                     | 1642                       | 414      | 481                | 212                         | 1.91                                   | 9.41                    | 7.75                      | 1.95      | 2.27  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | 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)                     | 334                        | 84       | 98                 | 93                          | 0.87                                   | 1.89                    | 3.59                      | 0.90      | 1.05  |
| -30 (-22)                     | 478                        | 120      | 140                | 113                         | 1.06                                   | 2.71                    | 4.22                      | 1.06      | 1.24  |
| -25 (-13)                     | 661                        | 167      | 194                | 136                         | 1.26                                   | 3.75                    | 4.85                      | 1.22      | 1.42  |
| -20 (- 4)                     | 891                        | 225      | 261                | 163                         | 1.48                                   | 5.07                    | 5.49                      | 1.38      | 1.61  |
| -15 (+ 5)                     | 1175                       | 296      | 344                | 192                         | 1.73                                   | 6.70                    | 6.13                      | 1.54      | 1.80  |
| -10 (+14)                     | 1518                       | 383      | 445                | 223                         | 2.01                                   | 8.70                    | 6.79                      | 1.71      | 1.99  |

### 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                  |      |                          |