

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EG ZS70HLP      |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513701345       |

### 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                            | -                                 | 98 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | -                                 | 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      | 1/4           | [hp]                                       |
| 2 Displacement                | 5.56          | [cm <sup>3</sup> ] (0.339 cu.in)           |
| 2.1 Bore [mm]                 | 22.500        |  |
| 2.2 Stroke [mm]               | 14.000        |  |
| 3 Lubricant charge            | 230           | [ml] (7.78 fl.oz.)                         |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 |  |
| 4 Weight (with oil charge)    | 10.56         | [kg] (23.28 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                          | 3ARR55M4B1                         |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 12(180)/15(200)/20(200)            | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 3ARR51/55M4B                       |                                    |
| 6 Start winding resistance                   | 6.94                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 4.88                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 11.30                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | -                                  | [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                     |                                    |

### 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] |
| 695                           | 175      | 204 | 117                            | 1.04                             | 3.95   | 5.96                      | 1.50                                   | 1.75  |

### 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)                     | 335                        | 85       | 98                 | 75                             | 0.67                                   | 1.90                       | 4.45                      | 1.12      | 1.31  |
| -30 (-22)                     | 497                        | 125      | 146                | 93                             | 0.82                                   | 2.82                       | 5.33                      | 1.34      | 1.56  |
| -25 (-13)                     | 700                        | 176      | 205                | 111                            | 0.98                                   | 3.97                       | 6.26                      | 1.58      | 1.83  |
| -20 (- 4)                     | 938                        | 236      | 275                | 130                            | 1.15                                   | 5.34                       | 7.24                      | 1.83      | 2.12  |
| -15 (+ 5)                     | 1207                       | 304      | 354                | 147                            | 1.31                                   | 6.89                       | 8.27                      | 2.08      | 2.42  |
| -10 (+14)                     | 1501                       | 378      | 440                | 162                            | 1.45                                   | 8.60                       | 9.33                      | 2.35      | 2.74  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 286                        | 72       | 84                 | 67                             | 0.61                                   | 1.62                       | 4.30                      | 1.08      | 1.26  |
| -30 (-22)                     | 426                        | 107      | 125                | 86                             | 0.78                                   | 2.42                       | 4.95                      | 1.25      | 1.45  |
| -25 (-13)                     | 616                        | 155      | 180                | 109                            | 0.97                                   | 3.50                       | 5.65                      | 1.42      | 1.66  |
| -20 (- 4)                     | 848                        | 214      | 249                | 132                            | 1.18                                   | 4.83                       | 6.40                      | 1.61      | 1.88  |
| -15 (+ 5)                     | 1119                       | 282      | 328                | 155                            | 1.39                                   | 6.39                       | 7.20                      | 1.81      | 2.11  |
| -10 (+14)                     | 1422                       | 358      | 417                | 177                            | 1.59                                   | 8.15                       | 8.03                      | 2.02      | 2.35  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 224                        | 56       | 66                 | 60                             | 0.55                                   | 1.27                       | 3.74                      | 0.94      | 1.10  |
| -30 (-22)                     | 340                        | 86       | 100                | 81                             | 0.72                                   | 1.93                       | 4.29                      | 1.08      | 1.26  |
| -25 (-13)                     | 512                        | 129      | 150                | 105                            | 0.93                                   | 2.91                       | 4.90                      | 1.24      | 1.44  |
| -20 (- 4)                     | 735                        | 185      | 215                | 132                            | 1.17                                   | 4.18                       | 5.56                      | 1.40      | 1.63  |
| -15 (+ 5)                     | 1004                       | 253      | 294                | 159                            | 1.43                                   | 5.73                       | 6.26                      | 1.58      | 1.83  |
| -10 (+14)                     | 1313                       | 331      | 385                | 187                            | 1.69                                   | 7.52                       | 7.00                      | 1.76      | 2.05  |

### 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                  |      |                          |