

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EG ZS80CLC      |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513701291       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |           |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                              | R-600a                            |                                   |           |
| 3 Nominal voltage and frequency            | 220-240 / 50                      | [ 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                      | -         |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 198 to 255 V                      | -         |
| 8.3 HBP (32°C Ambient temperature)         | -                                 | -                                 | -         |
| 8.4 HBP (43°C Ambient temperature)         | -                                 | -                                 | -         |
| 9 Maximum condensing pressures/temperature |                                   |                                   |           |
| 9.1 Operating (gauge)                      | 7.7                               | [kgf/cm <sup>2</sup> ] (109 psig) | / °C - °F |
| 9.2 Peak (gauge)                           | 9.8                               | [kgf/cm <sup>2</sup> ] (139 psig) | / °C - °F |
| 10 Maximum winding temperature             | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                |                                  |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation      |                | [hp]                             |
| 2 Displacement                | 11.14          | [cm <sup>3</sup> ] (0.680 cu.in) |
| 2.1 Bore [mm]                 | 26.000         |                                  |
| 2.2 Stroke [mm]               | 21.000         |                                  |
| 3 Lubricant charge            | 280            | [ml] (9.47 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 |                                  |
| 4 Weight (with oil charge)    | 10.97          | [kg] (24.18 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELETRICAL DATA

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Combo                              |                                    |
| 2.1 Starting device                          | 5SP17X283K                         |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 5(270)/4(270)                      | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 5SP17X283KFX                       |                                    |
| 6 Start winding resistance                   | 18.50                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 13.70                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | -                                  | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | -                                  | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | VDE                                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |                               |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|-------------------------------|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | <b>CECOMAFLBP</b><br>Static |                               | Evaporating temperature<br>(Condensing temperature |                           | -25°C (-13°F)<br>55°C (131°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] |
| 513                           | 129      | 150 | 108                         | 0.54                          | 1.96   | 4.77                      | 1.20                          | 1.40  |

### E - PERFORMANCE - CURVES

|                               |       |                            |          |     |                             |                                       |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       | <b>CECOMAF</b><br>Static   |          |     |                             | (Condensing temperature 35°C (+95°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) | 387                        | 98       | 114 | 76                          | 0.47                                  | 1.24                    | 5.09                      | 1.28      | 1.49  |
| -30                           | (-22) | 511                        | 129      | 150 | 86                          | 0.49                                  | 1.65                    | 5.94                      | 1.50      | 1.74  |
| -25                           | (-13) | 658                        | 166      | 193 | 97                          | 0.53                                  | 2.12                    | 6.84                      | 1.72      | 2.00  |
| -20                           | (- 4) | 839                        | 211      | 246 | 107                         | 0.58                                  | 2.69                    | 7.83                      | 1.97      | 2.30  |
| -15                           | (+ 5) | 1064                       | 268      | 312 | 119                         | 0.64                                  | 3.42                    | 8.96                      | 2.26      | 2.63  |
| -10                           | (+14) | 1343                       | 338      | 394 | 131                         | 0.70                                  | 4.33                    | 10.25                     | 2.58      | 3.00  |

|                               |       |                            |          |     |                             |  |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       | <b>CECOMAF</b><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) | 344                        | 87       | 101 | 80                          | 0.47                                   | 1.19                    | 4.32                      | 1.09      | 1.27  |
| -30                           | (-22) | 458                        | 115      | 134 | 91                          | 0.49                                   | 1.59                    | 5.03                      | 1.27      | 1.47  |
| -25                           | (-13) | 589                        | 148      | 173 | 102                         | 0.53                                   | 2.05                    | 5.76                      | 1.45      | 1.69  |
| -20                           | (- 4) | 748                        | 188      | 219 | 114                         | 0.59                                   | 2.61                    | 6.55                      | 1.65      | 1.92  |
| -15                           | (+ 5) | 945                        | 238      | 277 | 127                         | 0.66                                   | 3.30                    | 7.43                      | 1.87      | 2.18  |
| -10                           | (+14) | 1191                       | 300      | 349 | 140                         | 0.72                                   | 4.17                    | 8.45                      | 2.13      | 2.48  |

|                               |       |                            |          |     |                             |  |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       | <b>CECOMAF</b><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) | 297                        | 75       | 87  | 82                          | 0.47                                   | 1.13                    | 3.62                      | 0.91      | 1.06  |
| -30                           | (-22) | 401                        | 101      | 118 | 95                          | 0.50                                   | 1.53                    | 4.21                      | 1.06      | 1.23  |
| -25                           | (-13) | 517                        | 130      | 151 | 108                         | 0.55                                   | 1.97                    | 4.79                      | 1.21      | 1.40  |
| -20                           | (- 4) | 655                        | 165      | 192 | 121                         | 0.61                                   | 2.50                    | 5.39                      | 1.36      | 1.58  |
| -15                           | (+ 5) | 825                        | 208      | 242 | 136                         | 0.69                                   | 3.16                    | 6.05                      | 1.53      | 1.77  |
| -10                           | (+14) | 1038                       | 262      | 304 | 152                         | 0.77                                   | 3.99                    | 6.82                      | 1.72      | 2.00  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       | CECOMAF<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) | 248                        | 62       | 73  | 83                                      | 0.50                          | 1.05                    | 3.00                      | 0.76      | 0.88  |
| -30                           | (-22) | 344                        | 87       | 101 | 97                                      | 0.53                          | 1.44                    | 3.49                      | 0.88      | 1.02  |
| -25                           | (-13) | 445                        | 112      | 130 | 113                                     | 0.58                          | 1.87                    | 3.94                      | 0.99      | 1.15  |
| -20                           | (- 4) | 563                        | 142      | 165 | 129                                     | 0.66                          | 2.38                    | 4.37                      | 1.10      | 1.28  |
| -15                           | (+ 5) | 707                        | 178      | 207 | 147                                     | 0.74                          | 3.01                    | 4.84                      | 1.22      | 1.42  |
| -10                           | (+14) | 888                        | 224      | 260 | 165                                     | 0.84                          | 3.79                    | 5.37                      | 1.35      | 1.57  |

### 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           | 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                  |      |                          |