

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EG Z90HLPW      |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513700267       |

### 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                | 7.55         | [cm <sup>3</sup> ] (0.461 cu.in)           |
| 2.1 Bore [mm]                 | 22.500       |  |
| 2.2 Stroke [mm]               | 19.000       |  |
| 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)    | 11.52        | [kg] (25.40 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                          | 5SP04X437N/5SP14X437N              |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 12(180)                            | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 5SP14X437NFX                       |                                    |
| 6 Start winding resistance                   | 6.05                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 2.95                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | -                                  | [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             | 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] |
| 963                           | 243      | 282 | 161                         | 1.51                          | 5.47   | 5.97                      | 1.50                                   | 1.75  |

### E - PERFORMANCE - CURVES

|                               |       |                            |          |     |                             |                                       |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       | ASHRAE32<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) | 612                        | 154      | 179 | 114                         | 0.96                                  | 3.46                    | 5.36                      | 1.35      | 1.57  |
| -30                           | (-22) | 786                        | 198      | 230 | 128                         | 1.09                                  | 4.45                    | 6.14                      | 1.55      | 1.80  |
| -25                           | (-13) | 1009                       | 254      | 296 | 144                         | 1.23                                  | 5.73                    | 7.02                      | 1.77      | 2.06  |
| -20                           | (- 4) | 1285                       | 324      | 377 | 161                         | 1.38                                  | 7.32                    | 8.00                      | 2.02      | 2.35  |
| -15                           | (+ 5) | 1621                       | 408      | 475 | 177                         | 1.54                                  | 9.25                    | 9.12                      | 2.30      | 2.67  |
| -10                           | (+14) | 2020                       | 509      | 592 | 194                         | 1.71                                  | 11.58                   | 10.39                     | 2.62      | 3.04  |

|                               |       |                            |          |     |                             |  |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 525                        | 132      | 154 | 109                         | 1.08                                   | 2.97                    | 4.84                      | 1.22      | 1.42  |
| -30                           | (-22) | 709                        | 179      | 208 | 128                         | 1.23                                   | 4.02                    | 5.58                      | 1.41      | 1.63  |
| -25                           | (-13) | 938                        | 236      | 275 | 148                         | 1.40                                   | 5.33                    | 6.37                      | 1.60      | 1.87  |
| -20                           | (- 4) | 1218                       | 307      | 357 | 168                         | 1.57                                   | 6.93                    | 7.22                      | 1.82      | 2.12  |
| -15                           | (+ 5) | 1553                       | 391      | 455 | 190                         | 1.75                                   | 8.87                    | 8.15                      | 2.05      | 2.39  |
| -10                           | (+14) | 1949                       | 491      | 571 | 211                         | 1.94                                   | 11.17                   | 9.18                      | 2.31      | 2.69  |

|                               |       |                            |          |     |                             |  |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 440                        | 111      | 129 | 105                         | 1.06                                   | 2.49                    | 4.20                      | 1.06      | 1.23  |
| -30                           | (-22) | 634                        | 160      | 186 | 128                         | 1.25                                   | 3.59                    | 4.94                      | 1.25      | 1.45  |
| -25                           | (-13) | 870                        | 219      | 255 | 153                         | 1.45                                   | 4.94                    | 5.69                      | 1.43      | 1.67  |
| -20                           | (- 4) | 1153                       | 291      | 338 | 179                         | 1.66                                   | 6.56                    | 6.45                      | 1.62      | 1.89  |
| -15                           | (+ 5) | 1489                       | 375      | 436 | 206                         | 1.89                                   | 8.50                    | 7.24                      | 1.82      | 2.12  |
| -10                           | (+14) | 1882                       | 474      | 552 | 233                         | 2.12                                   | 10.78                   | 8.08                      | 2.04      | 2.37  |

### E - PERFORMANCE - CURVES

| 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) | 326                        | 82       | 96  | 94                                      | 0.96                          | 1.84                    | 3.46                      | 0.87      | 1.01  |
| -30                           | (-22) | 531                        | 134      | 155 | 124                                     | 1.20                          | 3.01                    | 4.25                      | 1.07      | 1.25  |
| -25                           | (-13) | 774                        | 195      | 227 | 154                                     | 1.46                          | 4.40                    | 4.99                      | 1.26      | 1.46  |
| -20                           | (- 4) | 1062                       | 268      | 311 | 187                                     | 1.73                          | 6.04                    | 5.70                      | 1.44      | 1.67  |
| -15                           | (+ 5) | 1398                       | 352      | 410 | 220                                     | 2.01                          | 7.98                    | 6.39                      | 1.61      | 1.87  |
| -10                           | (+14) | 1789                       | 451      | 524 | 253                                     | 2.30                          | 10.25                   | 7.09                      | 1.79      | 2.08  |

### 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) | 4.9 +0.02/-0.05               | [mm] | (0.193" +0.001"/-0.002") |
| 3.5 Connector sealing   | Rubber Plugs                  |      |                          |