

### COMPRESSOR DEFINITION

|                           |             |
|---------------------------|-------------|
| Designation               | EG Z90HLC   |
| Nominal Voltage/Frequency | 220 V 60 Hz |
| Engineering Number        | 513700191   |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |              |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                      | R-134a                            |                                   |              |
| 3 Nominal voltage and frequency    | 220 / 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                            | -                                 | 187 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | -                                 | 187 to 242 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                | 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 / ISO10 |  |
| 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 | 220 V 60 Hz 1 ~ (Single phase)             |                                    |
| 2 Starting device type                       | PTC  |                                    |
| 2.1 Starting device                          | 8EA17C3/8EA5B3/QPS2-A22MD3/QPS2-A22MD3 091 |                                    |
| 3 Start capacitor                            | -  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 4(330)                                     | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM276RFBYY-53                             |                                    |
| 6 Start winding resistance                   | 21.70                                      | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 10.40                                      | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 9.30                                       | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 1.30                                       | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             |  |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 963                           | 243      | 282 | 164                            | 0.78                             | 5.47   | 5.88                      | 1.48                                   | 1.72  |

### E - PERFORMANCE - CURVES

|                               |       |                            |          |     |                                |                                       |                            |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---------------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V60Hz |       | ASHRAE32<br>Static         |          |     |                                | (Condensing temperature 35°C (+95°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) | 612                        | 154      | 179 | 116                            | 0.53                                  | 3.46                       | 5.24                      | 1.32      | 1.54  |
| -30                           | (-22) | 786                        | 198      | 230 | 131                            | 0.60                                  | 4.45                       | 6.01                      | 1.51      | 1.76  |
| -25                           | (-13) | 1009                       | 254      | 296 | 147                            | 0.67                                  | 5.73                       | 6.90                      | 1.74      | 2.02  |
| -20                           | (- 4) | 1285                       | 324      | 377 | 162                            | 0.75                                  | 7.32                       | 7.92                      | 2.00      | 2.32  |
| -15                           | (+ 5) | 1621                       | 408      | 475 | 178                            | 0.83                                  | 9.25                       | 9.08                      | 2.29      | 2.66  |
| -10                           | (+14) | 2020                       | 509      | 592 | 194                            | 0.92                                  | 11.58                      | 10.39                     | 2.62      | 3.04  |

|                               |       |                            |          |     |                                |  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V60Hz |       | 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) | 525                        | 132      | 154 | 112                            | 0.54                                   | 2.97                       | 4.71                      | 1.19      | 1.38  |
| -30                           | (-22) | 709                        | 179      | 208 | 131                            | 0.63                                   | 4.02                       | 5.46                      | 1.38      | 1.60  |
| -25                           | (-13) | 938                        | 236      | 275 | 150                            | 0.72                                   | 5.33                       | 6.28                      | 1.58      | 1.84  |
| -20                           | (- 4) | 1218                       | 307      | 357 | 170                            | 0.81                                   | 6.93                       | 7.17                      | 1.81      | 2.10  |
| -15                           | (+ 5) | 1553                       | 391      | 455 | 190                            | 0.91                                   | 8.87                       | 8.14                      | 2.05      | 2.39  |
| -10                           | (+14) | 1949                       | 491      | 571 | 211                            | 1.01                                   | 11.17                      | 9.22                      | 2.32      | 2.70  |

|                               |       |                            |          |     |                                |  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V60Hz |       | 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) | 440                        | 111      | 129 | 107                            | 0.52                                   | 2.49                       | 4.09                      | 1.03      | 1.20  |
| -30                           | (-22) | 634                        | 160      | 186 | 131                            | 0.63                                   | 3.59                       | 4.85                      | 1.22      | 1.42  |
| -25                           | (-13) | 870                        | 219      | 255 | 155                            | 0.74                                   | 4.94                       | 5.62                      | 1.42      | 1.65  |
| -20                           | (- 4) | 1153                       | 291      | 338 | 180                            | 0.85                                   | 6.56                       | 6.42                      | 1.62      | 1.88  |
| -15                           | (+ 5) | 1489                       | 375      | 436 | 206                            | 0.97                                   | 8.50                       | 7.25                      | 1.83      | 2.12  |
| -10                           | (+14) | 1882                       | 474      | 552 | 232                            | 1.09                                   | 10.78                      | 8.12                      | 2.05      | 2.38  |

### E - PERFORMANCE - CURVES

| 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) | 326                        | 82       | 96  | 97                                      | 0.50                          | 1.84                    | 3.36                      | 0.85      | 0.99  |
| -30                           | (-22) | 531                        | 134      | 155 | 126                                     | 0.63                          | 3.01                    | 4.17                      | 1.05      | 1.22  |
| -25                           | (-13) | 774                        | 195      | 227 | 156                                     | 0.76                          | 4.40                    | 4.94                      | 1.25      | 1.45  |
| -20                           | (- 4) | 1062                       | 268      | 311 | 187                                     | 0.90                          | 6.04                    | 5.68                      | 1.43      | 1.67  |
| -15                           | (+ 5) | 1398                       | 352      | 410 | 219                                     | 1.03                          | 7.98                    | 6.40                      | 1.61      | 1.88  |
| -10                           | (+14) | 1789                       | 451      | 524 | 252                                     | 1.18                          | 10.25                   | 7.11                      | 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) | No                            | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                  |      |                          |