

### COMPRESSOR DEFINITION

|                           |                    |
|---------------------------|--------------------|
| Designation               | EG ZS100HLC        |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number        | 513701125          |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |              |
|--|-----------------------------------|-----------------------------------|--------------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                              | R-134a                            |                                   |              |
| 3 Nominal voltage and frequency            | 220-240 / 50-60                   | [ 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/Fan                        | 198 to 255 V                      | 198 to 255 V |
| 8.2 LBP (43°C Ambient temperature)         | Static/Fan                        | 198 to 255 V                      | 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)                      | 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      | 1/3           | [hp]                                       |
| 2 Displacement                | 7.95          | [cm <sup>3</sup> ] (0.485 cu.in)           |
| 2.1 Bore [mm]                 | 22.500        |  |
| 2.2 Stroke [mm]               | 20.000        |  |
| 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)    | 11.3          | [kg] (24.91 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 | 220-240 V 50-60 Hz 1 ~ (Single phase)       |                                    |
| 2 Starting device type                       | PTC   |                                    |
| 2.1 Starting device                          | 7M220MD2/7M220MD3/8EA17C3/8M220MD2/8M220MD3 |                                    |
| 3 Start capacitor                            | -   | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 4(380)/5(400)                               | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM302KFBYY-53                              |                                    |
| 6 Start winding resistance                   | 25.08                                       | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 9.84  | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50/60 Hz)     | 9.85/8.85                                   | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz)  | 1.60/1.38                                   | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz)   | 1.90/1.70                                   | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | IMTRO - IRAM - TUV - VDE                    |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | 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] |
| 855                           | 215      | 251 | 147                            | 0.82                             | 4.86   | 5.80                      | 1.46                                   | 1.70  |

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 1050                          | 265      | 308 | 175                            | 0.83                             | 5.97   | 5.99                      | 1.51                                   | 1.76  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 442                        | 111      | 129                | 97                             | 0.55                                   | 2.50                       | 4.56                      | 1.15      | 1.34  |
| -30 (-22)                     | 620                        | 156      | 182                | 114                            | 0.64                                   | 3.52                       | 5.47                      | 1.38      | 1.60  |
| -25 (-13)                     | 828                        | 209      | 242                | 132                            | 0.73                                   | 4.70                       | 6.32                      | 1.59      | 1.85  |
| -20 (- 4)                     | 1074                       | 271      | 315                | 150                            | 0.82                                   | 6.11                       | 7.16                      | 1.80      | 2.10  |
| -15 (+ 5)                     | 1369                       | 345      | 401                | 170                            | 0.93                                   | 7.82                       | 8.03                      | 2.02      | 2.35  |
| -10 (+14)                     | 1724                       | 434      | 505                | 191                            | 1.04                                   | 9.88                       | 8.99                      | 2.26      | 2.63  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 362                        | 91       | 106                | 92                             | 0.53                                   | 2.05                       | 3.92                      | 0.99      | 1.15  |
| -30 (-22)                     | 554                        | 140      | 162                | 114                            | 0.64                                   | 3.14                       | 4.84                      | 1.22      | 1.42  |
| -25 (-13)                     | 769                        | 194      | 225                | 136                            | 0.75                                   | 4.36                       | 5.65                      | 1.42      | 1.66  |
| -20 (- 4)                     | 1016                       | 256      | 298                | 159                            | 0.87                                   | 5.78                       | 6.41                      | 1.62      | 1.88  |
| -15 (+ 5)                     | 1306                       | 329      | 383                | 182                            | 0.99                                   | 7.45                       | 7.16                      | 1.80      | 2.10  |
| -10 (+14)                     | 1648                       | 415      | 483                | 207                            | 1.13                                   | 9.44                       | 7.94                      | 2.00      | 2.33  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |                            | 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]  |
| -35                           | (-31)                      | 263                | 66      | 77                          | 78                                     | 0.46                    | 1.49                      | 3.38 | 0.85 | 0.99 |
| -30                           | (-22)                      | 471                | 119     | 138                         | 107                                    | 0.61                    | 2.67                      | 4.31 | 1.09 | 1.26 |
| -25                           | (-13)                      | 695                | 175     | 204                         | 135                                    | 0.76                    | 3.94                      | 5.09 | 1.28 | 1.49 |
| -20                           | (- 4)                      | 945                | 238     | 277                         | 164                                    | 0.91                    | 5.38                      | 5.77 | 1.45 | 1.69 |
| -15                           | (+ 5)                      | 1231               | 310     | 361                         | 194                                    | 1.07                    | 7.03                      | 6.38 | 1.61 | 1.87 |
| -10                           | (+14)                      | 1564               | 394     | 458                         | 224                                    | 1.23                    | 8.96                      | 6.99 | 1.76 | 2.05 |

| TEST CONDITIONS:<br>@220V60Hz |                            | 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]  |
| -35                           | (-31)                      | 543                | 137     | 159                         | 115                                    | 0.55                    | 3.07                      | 4.70 | 1.18 | 1.38 |
| -30                           | (-22)                      | 762                | 192     | 223                         | 136                                    | 0.64                    | 4.32                      | 5.63 | 1.42 | 1.65 |
| -25                           | (-13)                      | 1017               | 256     | 298                         | 157                                    | 0.74                    | 5.77                      | 6.50 | 1.64 | 1.91 |
| -20                           | (- 4)                      | 1319               | 332     | 387                         | 179                                    | 0.83                    | 7.51                      | 7.36 | 1.85 | 2.16 |
| -15                           | (+ 5)                      | 1682               | 424     | 493                         | 203                                    | 0.94                    | 9.60                      | 8.25 | 2.08 | 2.42 |
| -10                           | (+14)                      | 2117               | 534     | 620                         | 228                                    | 1.05                    | 12.13                     | 9.24 | 2.33 | 2.71 |

| TEST CONDITIONS:<br>@220V60Hz |                            | 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]  |
| -35                           | (-31)                      | 445                | 112     | 130                         | 110                                    | 0.53                    | 2.52                      | 4.03 | 1.02 | 1.18 |
| -30                           | (-22)                      | 681                | 172     | 200                         | 136                                    | 0.64                    | 3.86                      | 4.98 | 1.25 | 1.46 |
| -25                           | (-13)                      | 945                | 238     | 277                         | 163                                    | 0.76                    | 5.36                      | 5.82 | 1.47 | 1.70 |
| -20                           | (- 4)                      | 1248               | 314     | 366                         | 190                                    | 0.88                    | 7.10                      | 6.59 | 1.66 | 1.93 |
| -15                           | (+ 5)                      | 1604               | 404     | 470                         | 218                                    | 1.01                    | 9.15                      | 7.36 | 1.85 | 2.16 |
| -10                           | (+14)                      | 2024               | 510     | 593                         | 247                                    | 1.14                    | 11.60                     | 8.16 | 2.06 | 2.39 |

| 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]  |
| -35                           | (-31)                      | 323                | 81      | 95                          | 93                                     | 0.46                    | 1.83                      | 3.47 | 0.87 | 1.02 |
| -30                           | (-22)                      | 578                | 146     | 170                         | 127                                    | 0.61                    | 3.28                      | 4.44 | 1.12 | 1.30 |
| -25                           | (-13)                      | 854                | 215     | 250                         | 161                                    | 0.76                    | 4.85                      | 5.24 | 1.32 | 1.54 |
| -20                           | (- 4)                      | 1160               | 292     | 340                         | 196                                    | 0.91                    | 6.60                      | 5.93 | 1.50 | 1.74 |
| -15                           | (+ 5)                      | 1512               | 381     | 443                         | 231                                    | 1.07                    | 8.63                      | 6.57 | 1.65 | 1.92 |
| -10                           | (+14)                      | 1921               | 484     | 563                         | 268                                    | 1.24                    | 11.00                     | 7.18 | 1.81 | 2.10 |

### F - EXTERNAL CHARACTERISTICS

|                         |                               |      |                          |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate            | Universal EG/F/AMEM version 2 |      |                          |
| 2 Tray holder           | No                            |      |                          |
| 3 Connectors            |                               |      |                          |
| 3.1 SUCTION             | 8.2 +0.12/-0.08               | [mm] | (0.323" +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                  |      |                          |