

### COMPRESSOR DEFINITION

|                           |                    |
|---------------------------|--------------------|
| Designation               | EG ZS70HLC         |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number        | 513701008          |

### 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                            | 198 to 255 V                      | 198 to 255 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 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 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)    | 11.25         | [kg] (24.80 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                          | 8EA17C3/QPS2-A22MD3/QPS2-A22MD3 091   |                                    |
| 3 Start capacitor                            | -                                     | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 4(380)/5(380)                         | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM232KFBYY-53                        |                                    |
| 6 Start winding resistance                   | 18.38                                 | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 15.31                                 | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50/60 Hz)     | 6.15/5.75                             | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz)  | 0.97/0.87                             | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz)   | 1.20/1.07                             | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - IRAM - TUV - UKCA - 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] |
| 557                           | 140      | 163 | 97                             | 0.46                             | 3.16   | 5.72                      | 1.44                                   | 1.68  |

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 687                           | 173      | 201 | 116                            | 0.53                             | 3.90   | 5.93                      | 1.49                                   | 1.74  |

### 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)                     | 270                        | 68       | 79                 | 61                             | 0.30                                   | 1.53                       | 4.41                      | 1.11      | 1.29  |
| -30 (-22)                     | 400                        | 101      | 117                | 75                             | 0.37                                   | 2.27                       | 5.28                      | 1.33      | 1.55  |
| -25 (-13)                     | 563                        | 142      | 165                | 90                             | 0.44                                   | 3.20                       | 6.20                      | 1.56      | 1.82  |
| -20 (- 4)                     | 756                        | 190      | 221                | 106                            | 0.51                                   | 4.30                       | 7.17                      | 1.81      | 2.10  |
| -15 (+ 5)                     | 972                        | 245      | 285                | 120                            | 0.58                                   | 5.55                       | 8.19                      | 2.06      | 2.40  |
| -10 (+14)                     | 1209                       | 305      | 354                | 132                            | 0.64                                   | 6.93                       | 9.24                      | 2.33      | 2.71  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 230                        | 58       | 67                 | 54                             | 0.27                                   | 1.30                       | 4.26                      | 1.07      | 1.25  |
| -30 (-22)                     | 343                        | 86       | 101                | 70                             | 0.34                                   | 1.94                       | 4.90                      | 1.23      | 1.44  |
| -25 (-13)                     | 496                        | 125      | 145                | 88                             | 0.43                                   | 2.81                       | 5.59                      | 1.41      | 1.64  |
| -20 (- 4)                     | 683                        | 172      | 200                | 107                            | 0.52                                   | 3.89                       | 6.33                      | 1.60      | 1.86  |
| -15 (+ 5)                     | 901                        | 227      | 264                | 126                            | 0.61                                   | 5.14                       | 7.12                      | 1.79      | 2.09  |
| -10 (+14)                     | 1146                       | 289      | 336                | 144                            | 0.70                                   | 6.56                       | 7.95                      | 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)                      | 181                | 46      | 53                          | 49                                     | 0.24                    | 1.02                      | 3.71 | 0.93 | 1.09 |
| -30                           | (-22)                      | 274                | 69      | 80                          | 66                                     | 0.32                    | 1.55                      | 4.25 | 1.07 | 1.25 |
| -25                           | (-13)                      | 412                | 104     | 121                         | 85                                     | 0.41                    | 2.34                      | 4.85 | 1.22 | 1.42 |
| -20                           | (- 4)                      | 592                | 149     | 173                         | 107                                    | 0.52                    | 3.37                      | 5.50 | 1.39 | 1.61 |
| -15                           | (+ 5)                      | 808                | 204     | 237                         | 130                                    | 0.63                    | 4.62                      | 6.20 | 1.56 | 1.82 |
| -10                           | (+14)                      | 1058               | 266     | 310                         | 152                                    | 0.75                    | 6.06                      | 6.93 | 1.75 | 2.03 |

| 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)                      | 335                | 85      | 98                          | 74                                     | 0.34                    | 1.90                      | 4.56 | 1.15 | 1.34 |
| -30                           | (-22)                      | 497                | 125     | 146                         | 90                                     | 0.41                    | 2.82                      | 5.46 | 1.38 | 1.60 |
| -25                           | (-13)                      | 700                | 176     | 205                         | 109                                    | 0.50                    | 3.97                      | 6.41 | 1.62 | 1.88 |
| -20                           | (- 4)                      | 938                | 236     | 275                         | 127                                    | 0.59                    | 5.34                      | 7.42 | 1.87 | 2.17 |
| -15                           | (+ 5)                      | 1207               | 304     | 354                         | 144                                    | 0.67                    | 6.89                      | 8.47 | 2.13 | 2.48 |
| -10                           | (+14)                      | 1501               | 378     | 440                         | 158                                    | 0.74                    | 8.60                      | 9.56 | 2.41 | 2.80 |

| 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)                      | 286                | 72      | 84                          | 65                                     | 0.31                    | 1.62                      | 4.41 | 1.11 | 1.29 |
| -30                           | (-22)                      | 426                | 107     | 125                         | 84                                     | 0.39                    | 2.42                      | 5.07 | 1.28 | 1.49 |
| -25                           | (-13)                      | 616                | 155     | 180                         | 106                                    | 0.49                    | 3.50                      | 5.79 | 1.46 | 1.70 |
| -20                           | (- 4)                      | 848                | 214     | 249                         | 129                                    | 0.60                    | 4.83                      | 6.56 | 1.65 | 1.92 |
| -15                           | (+ 5)                      | 1119               | 282     | 328                         | 152                                    | 0.71                    | 6.39                      | 7.37 | 1.86 | 2.16 |
| -10                           | (+14)                      | 1422               | 358     | 417                         | 173                                    | 0.81                    | 8.15                      | 8.22 | 2.07 | 2.41 |

| 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)                      | 224                | 56      | 66                          | 59                                     | 0.28                    | 1.27                      | 3.83 | 0.96 | 1.12 |
| -30                           | (-22)                      | 340                | 86      | 100                         | 79                                     | 0.37                    | 1.93                      | 4.40 | 1.11 | 1.29 |
| -25                           | (-13)                      | 512                | 129     | 150                         | 103                                    | 0.47                    | 2.91                      | 5.02 | 1.26 | 1.47 |
| -20                           | (- 4)                      | 735                | 185     | 215                         | 129                                    | 0.59                    | 4.18                      | 5.69 | 1.43 | 1.67 |
| -15                           | (+ 5)                      | 1004               | 253     | 294                         | 156                                    | 0.73                    | 5.73                      | 6.41 | 1.61 | 1.88 |
| -10                           | (+14)                      | 1313               | 331     | 385                         | 183                                    | 0.86                    | 7.52                      | 7.17 | 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             | 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                  |      |                          |