

### COMPRESSOR DEFINITION

|                           |                    |
|---------------------------|--------------------|
| Designation               | EG ZS70HLC         |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number        | 513701145          |

### 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            | 280           | [ml] (9.47 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                          | 5SP17X232K                            |                                    |
| 3 Start capacitor                            | -                                     | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 5(380)/4(380)                         | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 5SP17X232KFX                          |                                    |
| 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)  | -                                     | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz)   | -                                     | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - IRAM - 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] |
| 560                           | 141      | 164 | 95                             | 0.46                             | 3.18   | 5.90                      | 1.49                                   | 1.73  |

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 695                           | 175      | 204 | 114                            | 0.53                             | 3.95   | 6.10                      | 1.54                                   | 1.79  |

### 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]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -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]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -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]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -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]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -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           | 6.5 +0.12/-0.08               | [mm] | (0.256" +0.005"/-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                  |      |                          |