

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM Z46CLC       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513309016       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |           |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                      | R-600a                            |                                   |           |
| 3 Nominal voltage and frequency    | 220-240 / 50                      | [ 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 255 V                      | -         |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 187 to 255 V                      | -         |
| 8.3 HBP (32°C Ambient temperature) | -                                 | -                                 | -         |
| 8.4 HBP (43°C Ambient temperature) | -                                 | -                                 | -         |
| 9 Maximum condensing temperature   |                                   |                                   |           |
| 9.1 Operating                      | 6.9                               | [kgf/cm <sup>2</sup> ] (98 psig)  | / °C - °F |
| 9.2 Peak                           | 7.8                               | [kgf/cm <sup>2</sup> ] (111 psig) | / °C - °F |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                |                                  |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation      | 1/12           | [hp]                             |
| 2 Displacement                | 7.96           | [cm <sup>3</sup> ] (0.486 cu.in) |
| 2.1 Bore [mm]                 | 24.000         |                                  |
| 2.2 Stroke [mm]               | 17.600         |                                  |
| 3 Lubricant charge            | 180            | [ml] (6.09 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | MINERAL / ISO7 |                                  |
| 4 Weight (with oil charge)    | 7.89           | [kg] (17.39 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELETRICAL DATA

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | PTC                                |                                    |
| 2.1 Starting device                          | V230                               |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 4(300)                             | [µF(VAC minimum)]                  |
| 5 Motor protection                           | T0224/07                           |                                    |
| 6 Start winding resistance                   | 17.80                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 25.00                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 3.70                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.60                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - UKCA - VDE                    |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |                               |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|-------------------------------|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | <b>CECOMAFLBP</b><br>Static |                               | Evaporating temperature<br>(Condensing temperature |                           | -25°C (-13°F)<br>55°C (131°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] |
| 365                           | 92       | 107 | 81                          | 0.39                          | 1.39   | 4.53                      | 1.14                          | 1.33  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                          |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | <b>CECOMAF</b><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)                     | 239                        | 60       | 70                       | 62                          | 0.31                                   | 0.83                    | 3.87                      | 0.97      | 1.13  |
| -30 (-22)                     | 325                        | 82       | 95                       | 70                          | 0.35                                   | 1.13                    | 4.66                      | 1.17      | 1.37  |
| -25 (-13)                     | 425                        | 107      | 125                      | 79                          | 0.39                                   | 1.48                    | 5.40                      | 1.36      | 1.58  |
| -20 (- 4)                     | 542                        | 137      | 159                      | 89                          | 0.43                                   | 1.89                    | 6.12                      | 1.54      | 1.79  |
| -15 (+ 5)                     | 682                        | 172      | 200                      | 99                          | 0.47                                   | 2.38                    | 6.89                      | 1.74      | 2.02  |
| -10 (+14)                     | 848                        | 214      | 248                      | 109                         | 0.52                                   | 2.97                    | 7.76                      | 1.96      | 2.27  |

|                               |                            |          |                          |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | <b>CECOMAF</b><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)                     | 194                        | 49       | 57                       | 61                          | 0.31                                   | 0.74                    | 3.17                      | 0.80      | 0.93  |
| -30 (-22)                     | 273                        | 69       | 80                       | 70                          | 0.35                                   | 1.04                    | 3.88                      | 0.98      | 1.14  |
| -25 (-13)                     | 363                        | 91       | 106                      | 81                          | 0.40                                   | 1.38                    | 4.49                      | 1.13      | 1.32  |
| -20 (- 4)                     | 466                        | 118      | 137                      | 92                          | 0.45                                   | 1.78                    | 5.06                      | 1.28      | 1.48  |
| -15 (+ 5)                     | 589                        | 149      | 173                      | 104                         | 0.50                                   | 2.26                    | 5.64                      | 1.42      | 1.65  |
| -10 (+14)                     | 736                        | 185      | 216                      | 117                         | 0.56                                   | 2.82                    | 6.27                      | 1.58      | 1.84  |

|                               |                            |          |                          |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | <b>CECOMAF</b><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)                     | 148                        | 37       | 43                       | 63                          | 0.32                                   | 0.63                    | 2.35                      | 0.59      | 0.69  |
| -30 (-22)                     | 221                        | 56       | 65                       | 72                          | 0.36                                   | 0.93                    | 3.04                      | 0.77      | 0.89  |
| -25 (-13)                     | 299                        | 75       | 88                       | 83                          | 0.41                                   | 1.26                    | 3.61                      | 0.91      | 1.06  |
| -20 (- 4)                     | 389                        | 98       | 114                      | 96                          | 0.46                                   | 1.65                    | 4.08                      | 1.03      | 1.20  |
| -15 (+ 5)                     | 495                        | 125      | 145                      | 110                         | 0.52                                   | 2.11                    | 4.53                      | 1.14      | 1.33  |
| -10 (+14)                     | 621                        | 157      | 182                      | 124                         | 0.58                                   | 2.65                    | 4.99                      | 1.26      | 1.46  |

### F - EXTERNAL CHARACTERISTICS

|                         |                              |      |                          |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EUEM       |      |                          |
| 2 Tray holder           | No                           |      |                          |
| 3 Connectors            |                              |      |                          |
| 3.1 SUCTION             | 6.1 +0.10/+0.00              | [mm] | (0.240" +0.004"/+0.000") |
| 3.1.1 Material          | Copper                       |      |                          |
| 3.1.2 Shape             | Slanted 42° up + 45° to Back |      |                          |
| 3.2 DISCHARGE           | 5.1 +0.10/+0.00              | [mm] | (0.201" +0.004"/+0.000") |
| 3.2.1 Material          | Copper                       |      |                          |
| 3.2.2 Shape             | Slanted 42° up + 24° to Back |      |                          |
| 3.3 PROCESS             | 6 +0.08/-0.08                | [mm] | (0.236" +0.003"/-0.003") |
| 3.3.1 Material          | Copper(OD)                   |      |                          |
| 3.3.2 Shape             | Slanted 43° up + 45° to Back |      |                          |
| 3.4 Oil cooler (Copper) | No                           | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                 |      |                          |