

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM Z32CLC       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513309008       |

### 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 pressures/temperature |                                   |                                   |           |
| 9.1 Operating (gauge)                      | 7.7                               | [kgf/cm <sup>2</sup> ] (109 psig) | / °C - °F |
| 9.2 Peak (gauge)                           | 9.8                               | [kgf/cm <sup>2</sup> ] (139 psig) | / °C - °F |
| 10 Maximum winding temperature             | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                |                                  |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation      | 1/11           | [hp]                             |
| 2 Displacement                | 5.96           | [cm <sup>3</sup> ] (0.364 cu.in) |
| 2.1 Bore [mm]                 | 22.500         |                                  |
| 2.2 Stroke [mm]               | 15.000         |                                  |
| 3 Lubricant charge            | 180            | [ml] (6.09 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 |                                  |
| 4 Weight (with oil charge)    | 7.91           | [kg] (17.44 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                              | 2.5(380)/2(380)                    | [µF(VAC minimum)]                  |
| 5 Motor protection                           | T0223/07                           |                                    |
| 6 Start winding resistance                   | 34.75                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 37.70                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 2.60                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.40                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CCC - 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 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] |
| 339                           | 85       | 99  | 60                          | 0.28                          | 1.06   | 5.64                      | 1.42                                   | 1.65  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 206                        | 52       | 60                 | 40                          | 0.20                                   | 0.64                    | 5.08                      | 1.28      | 1.49  |
| -30 (-22)                     | 265                        | 67       | 78                 | 48                          | 0.23                                   | 0.83                    | 5.59                      | 1.41      | 1.64  |
| -25 (-13)                     | 342                        | 86       | 100                | 55                          | 0.26                                   | 1.07                    | 6.32                      | 1.59      | 1.85  |
| -20 (- 4)                     | 441                        | 111      | 129                | 61                          | 0.29                                   | 1.39                    | 7.26                      | 1.83      | 2.13  |
| -15 (+ 5)                     | 565                        | 142      | 166                | 67                          | 0.32                                   | 1.78                    | 8.36                      | 2.11      | 2.45  |
| -10 (+14)                     | 717                        | 181      | 210                | 74                          | 0.36                                   | 2.26                    | 9.58                      | 2.42      | 2.81  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 156                        | 39       | 46                 | 41                          | 0.20                                   | 0.49                    | 3.83                      | 0.96      | 1.12  |
| -30 (-22)                     | 223                        | 56       | 65                 | 50                          | 0.23                                   | 0.70                    | 4.49                      | 1.13      | 1.32  |
| -25 (-13)                     | 304                        | 77       | 89                 | 58                          | 0.27                                   | 0.95                    | 5.29                      | 1.33      | 1.55  |
| -20 (- 4)                     | 402                        | 101      | 118                | 65                          | 0.31                                   | 1.26                    | 6.20                      | 1.56      | 1.82  |
| -15 (+ 5)                     | 519                        | 131      | 152                | 73                          | 0.35                                   | 1.63                    | 7.17                      | 1.81      | 2.10  |
| -10 (+14)                     | 660                        | 166      | 193                | 81                          | 0.39                                   | 2.08                    | 8.17                      | 2.06      | 2.39  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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)                     | 106                        | 27       | 31                 | 35                          | 0.18                                   | 0.33                    | 3.04                      | 0.77      | 0.89  |
| -30 (-22)                     | 185                        | 47       | 54                 | 47                          | 0.23                                   | 0.58                    | 3.85                      | 0.97      | 1.13  |
| -25 (-13)                     | 274                        | 69       | 80                 | 57                          | 0.28                                   | 0.86                    | 4.69                      | 1.18      | 1.38  |
| -20 (- 4)                     | 374                        | 94       | 109                | 67                          | 0.32                                   | 1.17                    | 5.54                      | 1.40      | 1.62  |
| -15 (+ 5)                     | 489                        | 123      | 143                | 77                          | 0.37                                   | 1.54                    | 6.36                      | 1.60      | 1.86  |
| -10 (+14)                     | 622                        | 157      | 182                | 88                          | 0.42                                   | 1.96                    | 7.12                      | 1.79      | 2.09  |

### F - EXTERNAL CHARACTERISTICS

|                         |                              |      |                          |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EUEM       |      |                          |
| 2 Tray holder           | Yes                          |      |                          |
| 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           | 4.9 +0.10/-0.05              | [mm] | (0.193" +0.004"/-0.002") |
| 3.2.1 Material          | Copper                       |      |                          |
| 3.2.2 Shape             | Slanted 90° 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                 |      |                          |