

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM X80CLT       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 701AA89         |

### 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                            | 180 to 255 V                      | -         |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 180 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      | 1/7            | [hp]                             |
| 2 Displacement                | 12.21          | [cm <sup>3</sup> ] (0.745 cu.in) |
| 2.1 Bore [mm]                 | 26.000         |                                  |
| 2.2 Stroke [mm]               | 23.000         |                                  |
| 3 Lubricant charge            | 150            | [ml] (5.07 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 |                                  |
| 4 Weight (with oil charge)    | 7.9            | [kg] (17.42 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                       | TSD                                |                                    |
| 2.1 Starting device                          | TSD2-220V/TSD2-220V1.2/TSD2-D-220V |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 5(350)/4(350)                      | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM276KFBYY-73                     |                                    |
| 6 Start winding resistance                   | 18.65                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 13.71                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 7.47                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 1.26                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | 1.52                               | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | VDE                                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |  |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | ASHRAE LBP-NOFAN<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] |
| 726                           | 183      | 213 | 123                         | 0.60                          | 2.28   | 5.90                      | 1.49                                   | 1.73  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                          |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | ASHRAE32-NOFAN<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)                     | 392                        | 99       | 115                      | 83                          | 0.40                                   | 1.23                    | 4.74                      | 1.19      | 1.39  |
| -30 (-22)                     | 529                        | 133      | 155                      | 97                          | 0.46                                   | 1.66                    | 5.46                      | 1.38      | 1.60  |
| -25 (-13)                     | 702                        | 177      | 206                      | 113                         | 0.53                                   | 2.20                    | 6.24                      | 1.57      | 1.83  |
| -20 (- 4)                     | 910                        | 229      | 267                      | 129                         | 0.61                                   | 2.86                    | 7.07                      | 1.78      | 2.07  |
| -15 (+ 5)                     | 1155                       | 291      | 339                      | 146                         | 0.69                                   | 3.64                    | 7.93                      | 2.00      | 2.32  |
| -10 (+14)                     | 1438                       | 362      | 421                      | 163                         | 0.77                                   | 4.54                    | 8.80                      | 2.22      | 2.58  |

|                               |                            |          |                          |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | ASHRAE32-NOFAN<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)                     | 361                        | 91       | 106                      | 84                          | 0.41                                   | 1.13                    | 4.27                      | 1.08      | 1.25  |
| -30 (-22)                     | 493                        | 124      | 145                      | 100                         | 0.49                                   | 1.55                    | 4.92                      | 1.24      | 1.44  |
| -25 (-13)                     | 660                        | 166      | 193                      | 117                         | 0.57                                   | 2.07                    | 5.61                      | 1.41      | 1.64  |
| -20 (- 4)                     | 861                        | 217      | 252                      | 136                         | 0.66                                   | 2.71                    | 6.34                      | 1.60      | 1.86  |
| -15 (+ 5)                     | 1099                       | 277      | 322                      | 155                         | 0.74                                   | 3.46                    | 7.09                      | 1.79      | 2.08  |
| -10 (+14)                     | 1375                       | 346      | 403                      | 176                         | 0.84                                   | 4.34                    | 7.84                      | 1.98      | 2.30  |

|                               |                            |          |                          |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | ASHRAE32-NOFAN<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)                     | 326                        | 82       | 95                       | 82                          | 0.40                                   | 1.02                    | 3.98                      | 1.00      | 1.17  |
| -30 (-22)                     | 452                        | 114      | 132                      | 100                         | 0.48                                   | 1.42                    | 4.54                      | 1.14      | 1.33  |
| -25 (-13)                     | 612                        | 154      | 179                      | 119                         | 0.58                                   | 1.92                    | 5.14                      | 1.30      | 1.51  |
| -20 (- 4)                     | 807                        | 203      | 236                      | 140                         | 0.67                                   | 2.54                    | 5.76                      | 1.45      | 1.69  |
| -15 (+ 5)                     | 1037                       | 261      | 304                      | 162                         | 0.78                                   | 3.27                    | 6.39                      | 1.61      | 1.87  |
| -10 (+14)                     | 1305                       | 329      | 382                      | 186                         | 0.88                                   | 4.12                    | 7.01                      | 1.77      | 2.05  |

### F - EXTERNAL CHARACTERISTICS

|                         |   |
|-------------------------|---|
| 1 Base plate            | European Standard                             |
| 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 + 45° 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                                  |