

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM C70CLT       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 701HA95         |

### 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                            | 198 to 255 V                      | -         |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 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                      | 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      |                | [hp]                             |
| 2 Displacement                | 11.14          | [cm <sup>3</sup> ] (0.680 cu.in) |
| 2.1 Bore [mm]                 | 26.000         |                                  |
| 2.2 Stroke [mm]               | 21.000         |                                  |
| 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)    | 8.1            | [kg] (17.86 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                          | M.I.E-START ES1B                   |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 5(350)                             | [µF(VAC minimum)]                  |
| 5 Motor protection                           | AE37FQ                             |                                    |
| 6 Start winding resistance                   | 14.75                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 19.97                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 5.30                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.78                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | 0.97                               | [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] |
| 652                           | 164      | 191 | 102                         | 0.49                          | 2.05   | 6.37                      | 1.61                                   | 1.87  |

### E - PERFORMANCE - CURVES

|                               |       |                            |          |     |                             |                                       |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE32-NOFAN<br>Static   |          |     |                             | (Condensing temperature 35°C (+95°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) | 389                        | 98       | 114 | 67                          | 0.32                                  | 1.22                    | 5.80                      | 1.46      | 1.70  |
| -30                           | (-22) | 518                        | 131      | 152 | 76                          | 0.37                                  | 1.62                    | 6.76                      | 1.70      | 1.98  |
| -25                           | (-13) | 674                        | 170      | 198 | 88                          | 0.43                                  | 2.11                    | 7.68                      | 1.94      | 2.25  |
| -20                           | (- 4) | 859                        | 216      | 252 | 100                         | 0.49                                  | 2.70                    | 8.58                      | 2.16      | 2.51  |
| -15                           | (+ 5) | 1074                       | 271      | 315 | 114                         | 0.55                                  | 3.38                    | 9.48                      | 2.39      | 2.78  |
| -10                           | (+14) | 1324                       | 334      | 388 | 127                         | 0.61                                  | 4.18                    | 10.42                     | 2.63      | 3.05  |

|                               |       |                            |          |     |                             |  |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 362                        | 91       | 106 | 70                          | 0.34                                   | 1.14                    | 5.18                      | 1.31      | 1.52  |
| -30                           | (-22) | 488                        | 123      | 143 | 81                          | 0.39                                   | 1.53                    | 6.04                      | 1.52      | 1.77  |
| -25                           | (-13) | 641                        | 162      | 188 | 93                          | 0.45                                   | 2.01                    | 6.85                      | 1.73      | 2.01  |
| -20                           | (- 4) | 824                        | 208      | 242 | 108                         | 0.52                                   | 2.59                    | 7.64                      | 1.92      | 2.24  |
| -15                           | (+ 5) | 1039                       | 262      | 305 | 123                         | 0.59                                   | 3.27                    | 8.42                      | 2.12      | 2.47  |
| -10                           | (+14) | 1290                       | 325      | 378 | 140                         | 0.66                                   | 4.07                    | 9.23                      | 2.33      | 2.71  |

|                               |       |                            |          |     |                             |  |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 324                        | 82       | 95  | 71                          | 0.34                                   | 1.01                    | 4.62                      | 1.16      | 1.35  |
| -30                           | (-22) | 444                        | 112      | 130 | 83                          | 0.40                                   | 1.39                    | 5.38                      | 1.36      | 1.58  |
| -25                           | (-13) | 592                        | 149      | 174 | 97                          | 0.47                                   | 1.86                    | 6.08                      | 1.53      | 1.78  |
| -20                           | (- 4) | 771                        | 194      | 226 | 114                         | 0.54                                   | 2.42                    | 6.74                      | 1.70      | 1.98  |
| -15                           | (+ 5) | 984                        | 248      | 288 | 132                         | 0.63                                   | 3.10                    | 7.40                      | 1.87      | 2.17  |
| -10                           | (+14) | 1233                       | 311      | 361 | 152                         | 0.72                                   | 3.89                    | 8.08                      | 2.04      | 2.37  |

### E - PERFORMANCE - CURVES

| 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) | 297                        | 75       | 87  | 69                                      | 0.34                          | 0.93                    | 4.29                      | 1.08      | 1.26  |
| -30                           | (-22) | 409                        | 103      | 120 | 83                                      | 0.40                          | 1.28                    | 4.94                      | 1.25      | 1.45  |
| -25                           | (-13) | 550                        | 139      | 161 | 100                                     | 0.48                          | 1.73                    | 5.53                      | 1.39      | 1.62  |
| -20                           | (- 4) | 724                        | 182      | 212 | 119                                     | 0.57                          | 2.28                    | 6.07                      | 1.53      | 1.78  |
| -15                           | (+ 5) | 932                        | 235      | 273 | 141                                     | 0.67                          | 2.94                    | 6.61                      | 1.67      | 1.94  |
| -10                           | (+14) | 1178                       | 297      | 345 | 164                                     | 0.78                          | 3.72                    | 7.16                      | 1.80      | 2.10  |

### F - EXTERNAL CHARACTERISTICS

|                         |                              |      |                          |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate            | European Standard            |      |                          |
| 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           | 5.1 +0.10/+0.00              | [mm] | (0.201" +0.004"/+0.000") |
| 3.2.1 Material          | Copper                       |      |                          |
| 3.2.2 Shape             | Slanted 0° 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                 |      |                          |