

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM T40CLP       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 891DA79         |

### 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-Medium Back Pressure          |                                   |           |
| 4.1 Evaporating temperature range          | -35°C to -5°C                     | (-31°F to 23°F)                   |           |
| 5 Motor type                               | RSIR                              |                                   |           |
| 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 254 V                      | -         |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 198 to 254 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      |                | [hp]                             |
| 2 Displacement                | 7.23           | [cm <sup>3</sup> ] (0.441 cu.in) |
| 2.1 Bore [mm]                 | 24.000         |                                  |
| 2.2 Stroke [mm]               | 16.000         |                                  |
| 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              | [kg] (15.43 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                          | MSDA3                              |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM189NFBYY-153                    |                                    |
| 6 Start winding resistance                   | 32.00                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 26.60                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 3.90                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.63                               | [A]                                |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A]                                |
| 11 Approval boards certification             | VDE                                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

| TEST CONDITIONS:<br>@220V50Hz |          |     | CECOMAF<br>Static              |                                  | Evaporating temperature<br>(Condensing temperature |                           | -25°C (-13°F)<br>55°C (131°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] |
| 310                           | 78       | 91  | 90                             | 0.63                             | 1.18   | 3.44                      | 0.87                          | 1.01  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       | CECOMAF<br>Static          |          |     |                                | (Condensing temperature 35°C (+95°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) | 239                        | 60       | 70  | 65                             | 0.57                                  | 0.76                       | 3.68                      | 0.93      | 1.08  |
| -30                           | (-22) | 323                        | 81       | 95  | 74                             | 0.58                                  | 1.04                       | 4.37                      | 1.10      | 1.28  |
| -25                           | (-13) | 423                        | 107      | 124 | 82                             | 0.60                                  | 1.36                       | 5.15                      | 1.30      | 1.51  |
| -20                           | (- 4) | 542                        | 136      | 159 | 90                             | 0.62                                  | 1.74                       | 6.01                      | 1.51      | 1.76  |
| -15                           | (+ 5) | 681                        | 172      | 200 | 98                             | 0.65                                  | 2.19                       | 6.93                      | 1.75      | 2.03  |
| -10                           | (+14) | 845                        | 213      | 248 | 107                            | 0.67                                  | 2.72                       | 7.90                      | 1.99      | 2.31  |
| -5                            | (+23) | 1035                       | 261      | 303 | 116                            | 0.70                                  | 3.35                       | 8.89                      | 2.24      | 2.61  |

| TEST CONDITIONS:<br>@220V50Hz |       | CECOMAF<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) | 208                        | 53       | 61  | 67                             | 0.57                                   | 0.72                       | 3.10                      | 0.78      | 0.91  |
| -30                           | (-22) | 282                        | 71       | 83  | 77                             | 0.59                                   | 0.98                       | 3.64                      | 0.92      | 1.07  |
| -25                           | (-13) | 370                        | 93       | 109 | 87                             | 0.61                                   | 1.29                       | 4.26                      | 1.07      | 1.25  |
| -20                           | (- 4) | 476                        | 120      | 139 | 96                             | 0.64                                   | 1.66                       | 4.94                      | 1.24      | 1.45  |
| -15                           | (+ 5) | 601                        | 151      | 176 | 106                            | 0.67                                   | 2.10                       | 5.67                      | 1.43      | 1.66  |
| -10                           | (+14) | 748                        | 188      | 219 | 116                            | 0.70                                   | 2.62                       | 6.43                      | 1.62      | 1.88  |
| -5                            | (+23) | 919                        | 232      | 269 | 128                            | 0.74                                   | 3.23                       | 7.21                      | 1.82      | 2.11  |

| TEST CONDITIONS:<br>@220V50Hz |       | CECOMAF<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) | 169                        | 43       | 50  | 68                             | 0.57                                   | 0.64                       | 2.52                      | 0.64      | 0.74  |
| -30                           | (-22) | 234                        | 59       | 68  | 79                             | 0.59                                   | 0.89                       | 2.96                      | 0.75      | 0.87  |
| -25                           | (-13) | 311                        | 78       | 91  | 90                             | 0.62                                   | 1.18                       | 3.46                      | 0.87      | 1.01  |
| -20                           | (- 4) | 404                        | 102      | 118 | 101                            | 0.65                                   | 1.54                       | 4.01                      | 1.01      | 1.17  |
| -15                           | (+ 5) | 514                        | 130      | 151 | 112                            | 0.69                                   | 1.97                       | 4.59                      | 1.16      | 1.35  |
| -10                           | (+14) | 645                        | 163      | 189 | 124                            | 0.73                                   | 2.48                       | 5.20                      | 1.31      | 1.52  |
| -5                            | (+23) | 800                        | 201      | 234 | 138                            | 0.78                                   | 3.08                       | 5.80                      | 1.46      | 1.70  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       | CECOMAF<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) | 131                        | 33       | 38  | 68                                      | 0.57                          | 0.55                    | 1.92                      | 0.48      | 0.56  |
| -30                           | (-22) | 187                        | 47       | 55  | 81                                      | 0.59                          | 0.79                    | 2.30                      | 0.58      | 0.67  |
| -25                           | (-13) | 254                        | 64       | 74  | 93                                      | 0.62                          | 1.07                    | 2.73                      | 0.69      | 0.80  |
| -20                           | (- 4) | 335                        | 84       | 98  | 105                                     | 0.66                          | 1.42                    | 3.20                      | 0.81      | 0.94  |
| -15                           | (+ 5) | 432                        | 109      | 126 | 118                                     | 0.70                          | 1.84                    | 3.69                      | 0.93      | 1.08  |
| -10                           | (+14) | 548                        | 138      | 160 | 131                                     | 0.76                          | 2.34                    | 4.18                      | 1.05      | 1.22  |
| -5                            | (+23) | 685                        | 173      | 201 | 147                                     | 0.82                          | 2.93                    | 4.66                      | 1.17      | 1.37  |

### 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°       |      |                          |
| 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             | Straight          |      |                          |
| 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 42°       |      |                          |
| 3.4 Oil cooler (Copper) | No                | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs      |      |                          |