

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM T40CLP       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 891DA75         |

### 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                               | 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 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                              | 2.5(450)                           | [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)        | -                                  | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | -                                  | [A]                                |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A]                                |
| 11 Approval boards certification             | 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] |
| 414                           | 104      | 121 | 89                          | 0.47                          | 1.30   | 4.63                      | 1.17                                   | 1.36  |

### E - PERFORMANCE - CURVES

|                               |       |                            |          |     |                             |                                       |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---------------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       | ASHRAE32<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) | 247                        | 62       | 72  | 63                          | 0.57                                  | 0.77                    | 3.89                      | 0.98      | 1.14  |
| -30                           | (-22) | 330                        | 83       | 97  | 71                          | 0.59                                  | 1.03                    | 4.64                      | 1.17      | 1.36  |
| -25                           | (-13) | 431                        | 109      | 126 | 79                          | 0.60                                  | 1.35                    | 5.46                      | 1.38      | 1.60  |
| -20                           | (- 4) | 552                        | 139      | 162 | 87                          | 0.62                                  | 1.73                    | 6.36                      | 1.60      | 1.86  |
| -15                           | (+ 5) | 696                        | 175      | 204 | 95                          | 0.65                                  | 2.19                    | 7.33                      | 1.85      | 2.15  |
| -10                           | (+14) | 863                        | 218      | 253 | 103                         | 0.67                                  | 2.72                    | 8.40                      | 2.12      | 2.46  |
| -5                            | (+23) | 1058                       | 267      | 310 | 111                         | 0.70                                  | 3.35                    | 9.55                      | 2.41      | 2.80  |

|                               |       |                            |          |     |                             |  |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 230                        | 58       | 67  | 64                          | 0.57                                   | 0.72                    | 3.59                      | 0.90      | 1.05  |
| -30                           | (-22) | 311                        | 78       | 91  | 73                          | 0.59                                   | 0.97                    | 4.25                      | 1.07      | 1.25  |
| -25                           | (-13) | 409                        | 103      | 120 | 82                          | 0.61                                   | 1.28                    | 4.96                      | 1.25      | 1.45  |
| -20                           | (- 4) | 527                        | 133      | 154 | 92                          | 0.64                                   | 1.66                    | 5.74                      | 1.45      | 1.68  |
| -15                           | (+ 5) | 667                        | 168      | 195 | 101                         | 0.67                                   | 2.10                    | 6.57                      | 1.66      | 1.93  |
| -10                           | (+14) | 831                        | 209      | 243 | 111                         | 0.70                                   | 2.62                    | 7.48                      | 1.88      | 2.19  |
| -5                            | (+23) | 1021                       | 257      | 299 | 121                         | 0.74                                   | 3.23                    | 8.46                      | 2.13      | 2.48  |

|                               |       |                            |          |     |                             |  |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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) | 203                        | 51       | 59  | 65                          | 0.57                                   | 0.64                    | 3.15                      | 0.79      | 0.92  |
| -30                           | (-22) | 281                        | 71       | 82  | 75                          | 0.59                                   | 0.88                    | 3.75                      | 0.94      | 1.10  |
| -25                           | (-13) | 376                        | 95       | 110 | 86                          | 0.62                                   | 1.18                    | 4.38                      | 1.10      | 1.28  |
| -20                           | (- 4) | 489                        | 123      | 143 | 97                          | 0.65                                   | 1.54                    | 5.06                      | 1.27      | 1.48  |
| -15                           | (+ 5) | 625                        | 157      | 183 | 108                         | 0.68                                   | 1.97                    | 5.78                      | 1.46      | 1.69  |
| -10                           | (+14) | 784                        | 197      | 230 | 119                         | 0.73                                   | 2.47                    | 6.56                      | 1.65      | 1.92  |
| -5                            | (+23) | 969                        | 244      | 284 | 131                         | 0.78                                   | 3.06                    | 7.39                      | 1.86      | 2.17  |

### E - PERFORMANCE - CURVES

| 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) | 176                        | 44       | 52  | 64                                      | 0.57                          | 0.55                    | 2.74                      | 0.69      | 0.80  |
| -30                           | (-22) | 250                        | 63       | 73  | 76                                      | 0.59                          | 0.78                    | 3.30                      | 0.83      | 0.97  |
| -25                           | (-13) | 341                        | 86       | 100 | 88                                      | 0.62                          | 1.07                    | 3.87                      | 0.98      | 1.14  |
| -20                           | (- 4) | 450                        | 113      | 132 | 101                                     | 0.66                          | 1.41                    | 4.48                      | 1.13      | 1.31  |
| -15                           | (+ 5) | 580                        | 146      | 170 | 114                                     | 0.70                          | 1.83                    | 5.11                      | 1.29      | 1.50  |
| -10                           | (+14) | 733                        | 185      | 215 | 127                                     | 0.76                          | 2.31                    | 5.78                      | 1.46      | 1.69  |
| -5                            | (+23) | 912                        | 230      | 267 | 140                                     | 0.82                          | 2.89                    | 6.50                      | 1.64      | 1.90  |

### 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           | 5.02 +0.02/-0.02  | [mm] | (0.198" +0.001"/-0.001") |
| 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      |      |                          |