

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM T46CLP       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 891EA73         |

### 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                | 7.96           | [cm <sup>3</sup> ] (0.486 cu.in) |
| 2.1 Bore [mm]                 | 24.000         |                                  |
| 2.2 Stroke [mm]               | 17.600         |                                  |
| 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)    | 7.4            | [kg] (16.31 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(450)                           | [µF(VAC minimum)]                  |
| 5 Motor protection                           | T0225/07                           |                                    |
| 6 Start winding resistance                   | 30.80                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 25.00                              | [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<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] |
| 464                           | 117      | 136 | 99                             | 0.56                             | 1.46   | 4.69                      | 1.18                                   | 1.37  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                    |     |                                       |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|--------------------|-----|---------------------------------------|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE32<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) | 275                        | 69                 | 81  | 70                                    | 0.48                             | 0.86                       | 3.90                      | 0.98      | 1.14  |
| -30                           | (-22) | 365                        | 92                 | 107 | 79                                    | 0.50                             | 1.14                       | 4.65                      | 1.17      | 1.36  |
| -25                           | (-13) | 474                        | 120                | 139 | 87                                    | 0.52                             | 1.49                       | 5.46                      | 1.38      | 1.60  |
| -20                           | (- 4) | 605                        | 152                | 177 | 95                                    | 0.54                             | 1.90                       | 6.34                      | 1.60      | 1.86  |
| -15                           | (+ 5) | 760                        | 191                | 223 | 104                                   | 0.57                             | 2.39                       | 7.29                      | 1.84      | 2.14  |
| -10                           | (+14) | 942                        | 237                | 276 | 113                                   | 0.60                             | 2.97                       | 8.29                      | 2.09      | 2.43  |
| -5                            | (+23) | 1154                       | 291                | 338 | 123                                   | 0.64                             | 3.65                       | 9.36                      | 2.36      | 2.74  |

|                               |       |                            |                    |     |  |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE32<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) | 256                        | 65                 | 75  | 72                                     | 0.49                             | 0.80                       | 3.54                      | 0.89      | 1.04  |
| -30                           | (-22) | 345                        | 87                 | 101 | 82                                     | 0.51                             | 1.08                       | 4.22                      | 1.06      | 1.24  |
| -25                           | (-13) | 451                        | 114                | 132 | 91                                     | 0.54                             | 1.42                       | 4.95                      | 1.25      | 1.45  |
| -20                           | (- 4) | 578                        | 146                | 169 | 101                                    | 0.57                             | 1.82                       | 5.71                      | 1.44      | 1.67  |
| -15                           | (+ 5) | 729                        | 184                | 214 | 112                                    | 0.60                             | 2.30                       | 6.52                      | 1.64      | 1.91  |
| -10                           | (+14) | 906                        | 228                | 266 | 123                                    | 0.64                             | 2.86                       | 7.37                      | 1.86      | 2.16  |
| -5                            | (+23) | 1112                       | 280                | 326 | 135                                    | 0.68                             | 3.52                       | 8.25                      | 2.08      | 2.42  |

|                               |       |                            |                    |     |  |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|--------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE32<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) | 229                        | 58                 | 67  | 73                                     | 0.49                             | 0.72                       | 3.14                      | 0.79      | 0.92  |
| -30                           | (-22) | 316                        | 80                 | 93  | 83                                     | 0.52                             | 0.99                       | 3.78                      | 0.95      | 1.11  |
| -25                           | (-13) | 420                        | 106                | 123 | 94                                     | 0.55                             | 1.32                       | 4.44                      | 1.12      | 1.30  |
| -20                           | (- 4) | 543                        | 137                | 159 | 106                                    | 0.58                             | 1.71                       | 5.12                      | 1.29      | 1.50  |
| -15                           | (+ 5) | 689                        | 174                | 202 | 118                                    | 0.62                             | 2.17                       | 5.81                      | 1.46      | 1.70  |
| -10                           | (+14) | 861                        | 217                | 252 | 132                                    | 0.67                             | 2.72                       | 6.52                      | 1.64      | 1.91  |
| -5                            | (+23) | 1062                       | 267                | 311 | 147                                    | 0.73                             | 3.36                       | 7.24                      | 1.83      | 2.12  |

### 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) | 202                        | 51       | 59  | 72                                      | 0.48                          | 0.63                    | 2.79                      | 0.70      | 0.82  |
| -30                           | (-22) | 286                        | 72       | 84  | 84                                      | 0.51                          | 0.90                    | 3.40                      | 0.86      | 1.00  |
| -25                           | (-13) | 387                        | 97       | 113 | 96                                      | 0.55                          | 1.21                    | 4.02                      | 1.01      | 1.18  |
| -20                           | (- 4) | 506                        | 128      | 148 | 110                                     | 0.59                          | 1.59                    | 4.63                      | 1.17      | 1.36  |
| -15                           | (+ 5) | 648                        | 163      | 190 | 124                                     | 0.64                          | 2.04                    | 5.23                      | 1.32      | 1.53  |
| -10                           | (+14) | 814                        | 205      | 239 | 140                                     | 0.70                          | 2.57                    | 5.82                      | 1.47      | 1.71  |
| -5                            | (+23) | 1008                       | 254      | 295 | 157                                     | 0.77                          | 3.19                    | 6.40                      | 1.61      | 1.88  |

### 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           | 4.95 +0.05/+0.05  | [mm] | (0.195" +0.002"/+0.002") |
| 3.2.1 Material          | Copper            |      |                          |
| 3.2.2 Shape             | Vertical          |      |                          |
| 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      |      |                          |