

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM T2121GK      |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513306220       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |           |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                      | R-404A                            |                                   |           |
| 3 Nominal voltage and frequency    | 220-240 / 50                      | [ V / Hz ]                        |           |
| 4 Application type                 | Low Back Pressure R404A           |                                   |           |
| 4.1 Evaporating temperature range  | -40°C to -10°C                    | (-40°F to 14°F)                   |           |
| 5 Motor type                       | CSIR                              |                                   |           |
| 6 Starting torque                  | HST - Hight starting torque       |                                   |           |
| 7 Expansion device                 | Capillary tube or Expansion valve |                                   |           |
| 8 Compressor cooling               | Operating voltage range           |                                   |           |
|                                    |                                   | 50 Hz                             | 60 Hz     |
| 8.1 LBP (32°C Ambient temperature) | -                                 | -                                 | -         |
| 8.2 LBP (43°C Ambient temperature) | -                                 | -                                 | -         |
| 8.3 HBP (32°C Ambient temperature) | -                                 | -                                 | -         |
| 8.4 HBP (43°C Ambient temperature) | -                                 | -                                 | -         |
| 9 Maximum condensing temperature   |                                   |                                   |           |
| 9.1 Operating                      | 25.2                              | [kgf/cm <sup>2</sup> ] (358 psig) | / °C - °F |
| 9.2 Peak                           | 28.3                              | [kgf/cm <sup>2</sup> ] (402 psig) | / °C - °F |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |               |  |
|-------------------------------|---------------|--|
| 1 Commercial designation      | 1/3           | [hp]                                       |
| 2 Displacement                | 5.19          | [cm <sup>3</sup> ] (0.317 cu.in)           |
| 2.1 Bore [mm]                 | 21.000        |  |
| 2.2 Stroke [mm]               | 15.000        |  |
| 3 Lubricant charge            | 180           | [ml] (6.09 fl.oz.)                         |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 |  |
| 4 Weight (with oil charge)    | 7.73          | [kg] (17.04 lb.)                           |
| 5 Nitrogen charge             | 0.2 to 0.3    | [kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig) |

### C - ELETRICAL DATA

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 220-240 V 50 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Current Relay                      |                                    |
| 2.1 Starting device                          | MTRP-34/QL2-3.95 **                |                                    |
| 3 Start capacitor                            | 43-53(330)                         | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | T0827/G6                           |                                    |
| 6 Start winding resistance                   | 21.30                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 12.95                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 8.50                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 2.15                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | 2.30                               | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - UKCA - VDE                    |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |                               |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|-------------------------------|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | EN12900LBP_HH<br>Fan           |                                  | Evaporating temperature<br>(Condensing temperature |                           | -35°C (-31°F)<br>40°C (104°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] |
| 594                           | 150      | 174 | 155                            | 1.19                             | 4.37   | 3.82                      | 0.96                          | 1.12  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                  |     |                                       |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|------------------|-----|---------------------------------------|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | EN12900HH<br>Fan |     | (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] |
| -40                           | (-40) | 493                        | 124              | 145 | 135                                   | 1.14                             | 3.41                       | 3.65                      | 0.92      | 1.07  |
| -35                           | (-31) | 649                        | 164              | 190 | 152                                   | 1.18                             | 4.52                       | 4.27                      | 1.08      | 1.25  |
| -30                           | (-22) | 835                        | 210              | 245 | 170                                   | 1.23                             | 5.83                       | 4.91                      | 1.24      | 1.44  |
| -25                           | (-13) | 1055                       | 266              | 309 | 189                                   | 1.28                             | 7.40                       | 5.59                      | 1.41      | 1.64  |
| -20                           | (- 4) | 1317                       | 332              | 386 | 208                                   | 1.34                             | 9.27                       | 6.32                      | 1.59      | 1.85  |
| -15                           | (+ 5) | 1624                       | 409              | 476 | 228                                   | 1.40                             | 11.51                      | 7.14                      | 1.80      | 2.09  |
| -10                           | (+14) | 1983                       | 500              | 581 | 246                                   | 1.47                             | 14.17                      | 8.05                      | 2.03      | 2.36  |

|                               |       |                            |                  |     |  |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | EN12900HH<br>Fan |     | (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] |
| -40                           | (-40) | 411                        | 104              | 120 | 140                                    | 1.14                             | 3.20                       | 2.95                      | 0.74      | 0.86  |
| -35                           | (-31) | 542                        | 137              | 159 | 158                                    | 1.19                             | 4.24                       | 3.42                      | 0.86      | 1.00  |
| -30                           | (-22) | 696                        | 175              | 204 | 179                                    | 1.25                             | 5.46                       | 3.89                      | 0.98      | 1.14  |
| -25                           | (-13) | 880                        | 222              | 258 | 201                                    | 1.31                             | 6.94                       | 4.37                      | 1.10      | 1.28  |
| -20                           | (- 4) | 1098                       | 277              | 322 | 224                                    | 1.39                             | 8.71                       | 4.89                      | 1.23      | 1.43  |
| -15                           | (+ 5) | 1357                       | 342              | 398 | 248                                    | 1.47                             | 10.84                      | 5.47                      | 1.38      | 1.60  |
| -10                           | (+14) | 1661                       | 419              | 487 | 272                                    | 1.56                             | 13.38                      | 6.12                      | 1.54      | 1.79  |

|                               |       |                            |                  |     |  |                                  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|------------------|-----|--|----------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | EN12900HH<br>Fan |     | (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] |
| -40                           | (-40) | 334                        | 84               | 98  | 141                                    | 1.13                             | 3.01                       | 2.36                      | 0.60      | 0.69  |
| -35                           | (-31) | 444                        | 112              | 130 | 162                                    | 1.19                             | 4.01                       | 2.74                      | 0.69      | 0.80  |
| -30                           | (-22) | 572                        | 144              | 167 | 185                                    | 1.27                             | 5.18                       | 3.09                      | 0.78      | 0.91  |
| -25                           | (-13) | 722                        | 182              | 212 | 210                                    | 1.35                             | 6.60                       | 3.44                      | 0.87      | 1.01  |
| -20                           | (- 4) | 901                        | 227              | 264 | 238                                    | 1.45                             | 8.30                       | 3.79                      | 0.95      | 1.11  |
| -15                           | (+ 5) | 1114                       | 281              | 327 | 267                                    | 1.55                             | 10.34                      | 4.18                      | 1.05      | 1.22  |
| -10                           | (+14) | 1367                       | 345              | 401 | 296                                    | 1.66                             | 12.79                      | 4.62                      | 1.16      | 1.35  |

### F - EXTERNAL CHARACTERISTICS

|                         |                                |      |                          |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EUEM         |      |                          |
| 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           | 4.94 +0.08/-0.08               | [mm] | (0.194" +0.003"/-0.003") |
| 3.2.1 Material          | Copper                         |      |                          |
| 3.2.2 Shape             | Slanted parallel BP+24°to Back |      |                          |
| 3.3 PROCESS             | 6.1 +0.10/+0.00                | [mm] | (0.240" +0.004"/+0.000") |
| 3.3.1 Material          | Copper                         |      |                          |
| 3.3.2 Shape             | Slanted 45° up + 45° to Back   |      |                          |
| 3.4 Oil cooler (Copper) | No                             | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                   |      |                          |