

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>EM T2121GK</b>      |
| Nominal Voltage/Frequency | <b>220-240 V 50 Hz</b> |
| Engineering Number        | <b>912CA67</b>         |

### 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 - High 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)    | 7.8           | [kg] (17.20 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                       | Current Relay                      |                                    |
| 2.1 Starting device                          | MTRP-34                            |                                    |
| 3 Start capacitor                            | 43-53(330)                         | [μF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [μF(VAC minimum)]                  |
| 5 Motor protection                           | T0827/G6                           |                                    |
| 6 Start winding resistance                   |                                    | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     |                                    | [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)     | -                                  | [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>Fan          |                               | 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] |
| 1024                          | 258      | 300 | 214                         | 1.33                          | 6.94   | 4.79                      | 1.21                                   | 1.40  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                 |     |                                       |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|-----|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE32<br>Fan |     | (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] |
| -40                           | (-40) | 506                        | 127             | 148 | 135                                   | 1.14                          | 3.40                    | 3.75                      | 0.94      | 1.10  |
| -35                           | (-31) | 669                        | 169             | 196 | 152                                   | 1.18                          | 4.51                    | 4.40                      | 1.11      | 1.29  |
| -30                           | (-22) | 860                        | 217             | 252 | 170                                   | 1.23                          | 5.82                    | 5.06                      | 1.27      | 1.48  |
| -25                           | (-13) | 1086                       | 274             | 318 | 189                                   | 1.28                          | 7.38                    | 5.75                      | 1.45      | 1.68  |
| -20                           | (- 4) | 1354                       | 341             | 397 | 208                                   | 1.34                          | 9.24                    | 6.50                      | 1.64      | 1.91  |
| -15                           | (+ 5) | 1670                       | 421             | 489 | 228                                   | 1.40                          | 11.48                   | 7.34                      | 1.85      | 2.15  |
| -10                           | (+14) | 2042                       | 515             | 598 | 246                                   | 1.47                          | 14.13                   | 8.29                      | 2.09      | 2.43  |

|                               |       |                            |                 |     |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE32<br>Fan |     | (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] |
| -40                           | (-40) | 475                        | 120             | 139 | 140                                    | 1.14                          | 3.19                    | 3.40                      | 0.86      | 1.00  |
| -35                           | (-31) | 627                        | 158             | 184 | 158                                    | 1.19                          | 4.22                    | 3.96                      | 1.00      | 1.16  |
| -30                           | (-22) | 807                        | 203             | 236 | 179                                    | 1.25                          | 5.45                    | 4.51                      | 1.14      | 1.32  |
| -25                           | (-13) | 1020                       | 257             | 299 | 201                                    | 1.31                          | 6.91                    | 5.07                      | 1.28      | 1.49  |
| -20                           | (- 4) | 1273                       | 321             | 373 | 224                                    | 1.39                          | 8.68                    | 5.68                      | 1.43      | 1.66  |
| -15                           | (+ 5) | 1574                       | 397             | 461 | 248                                    | 1.47                          | 10.80                   | 6.34                      | 1.60      | 1.86  |
| -10                           | (+14) | 1930                       | 486             | 565 | 272                                    | 1.56                          | 13.32                   | 7.10                      | 1.79      | 2.08  |

|                               |       |                            |                 |     |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE32<br>Fan |     | (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] |
| -40                           | (-40) | 448                        | 113             | 131 | 141                                    | 1.13                          | 3.00                    | 3.17                      | 0.80      | 0.93  |
| -35                           | (-31) | 594                        | 150             | 174 | 162                                    | 1.19                          | 3.99                    | 3.68                      | 0.93      | 1.08  |
| -30                           | (-22) | 766                        | 193             | 224 | 185                                    | 1.27                          | 5.16                    | 4.15                      | 1.05      | 1.22  |
| -25                           | (-13) | 970                        | 244             | 284 | 210                                    | 1.35                          | 6.56                    | 4.61                      | 1.16      | 1.35  |
| -20                           | (- 4) | 1214                       | 306             | 356 | 238                                    | 1.45                          | 8.25                    | 5.10                      | 1.29      | 1.49  |
| -15                           | (+ 5) | 1503                       | 379             | 441 | 267                                    | 1.55                          | 10.29                   | 5.63                      | 1.42      | 1.65  |
| -10                           | (+14) | 1846                       | 465             | 541 | 296                                    | 1.66                          | 12.72                   | 6.23                      | 1.57      | 1.83  |

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