



## COMPRESSOR TECHNICAL DATA

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM T2130GK      |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 913AA62         |

### 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 pressures/temperature |                                   |                                   |           |
| 9.1 Operating (gauge)                      | 25.7                              | [kgf/cm <sup>2</sup> ] (365 psig) | / °C - °F |
| 9.2 Peak (gauge)                           | 28.7                              | [kgf/cm <sup>2</sup> ] (408 psig) | / °C - °F |
| 10 Maximum winding temperature             | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |               |                                  |
|-------------------------------|---------------|----------------------------------|
| 1 Commercial designation      | 1/2-          | [hp]                             |
| 2 Displacement                | 6.76          | [cm <sup>3</sup> ] (0.413 cu.in) |
| 2.1 Bore [mm]                 | 22.500        |                                  |
| 2.2 Stroke [mm]               | 17.000        |                                  |
| 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)    | 8             | [kg] (17.64 lb.)                 |
| 5 Nitrogen charge             | -             | [kgf/cm <sup>2</sup> ]           |

### C - ELECTRICAL 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                          | MTRPH-0025-59                      |                                    |
| 3 Start capacitor                            | 72-88(330)                         | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | T0971/G6                           |                                    |
| 6 Start winding resistance                   | 17.00                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 10.00                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 12.40                              | [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                                |                                    |



## COMPRESSOR TECHNICAL DATA

### 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<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] |
| 1332                          | 336      | 390 | 292                            | 1.80                             | 9.03   | 4.56                      | 1.15                                   | 1.34  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE32<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) | 658                        | 166             | 193 | 180                                   | 1.50                             | 4.42                       | 3.66                      | 0.92      | 1.07  |
| -35                           | (-31) | 860                        | 217             | 252 | 203                                   | 1.55                             | 5.80                       | 4.24                      | 1.07      | 1.24  |
| -30                           | (-22) | 1099                       | 277             | 322 | 227                                   | 1.62                             | 7.44                       | 4.84                      | 1.22      | 1.42  |
| -25                           | (-13) | 1381                       | 348             | 405 | 253                                   | 1.71                             | 9.38                       | 5.45                      | 1.37      | 1.60  |
| -20                           | (- 4) | 1711                       | 431             | 502 | 281                                   | 1.80                             | 11.69                      | 6.09                      | 1.54      | 1.79  |
| -15                           | (+ 5) | 2096                       | 528             | 614 | 310                                   | 1.90                             | 14.40                      | 6.76                      | 1.70      | 1.98  |
| -10                           | (+14) | 2541                       | 640             | 745 | 340                                   | 2.00                             | 17.58                      | 7.47                      | 1.88      | 2.19  |

| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE32<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) | 594                        | 150             | 174 | 184                                    | 1.50                             | 3.98                       | 3.24                      | 0.82      | 0.95  |
| -35                           | (-31) | 790                        | 199             | 231 | 209                                    | 1.56                             | 5.32                       | 3.77                      | 0.95      | 1.11  |
| -30                           | (-22) | 1021                       | 257             | 299 | 237                                    | 1.64                             | 6.90                       | 4.30                      | 1.08      | 1.26  |
| -25                           | (-13) | 1294                       | 326             | 379 | 268                                    | 1.74                             | 8.77                       | 4.82                      | 1.22      | 1.41  |
| -20                           | (- 4) | 1613                       | 406             | 473 | 301                                    | 1.86                             | 10.99                      | 5.35                      | 1.35      | 1.57  |
| -15                           | (+ 5) | 1985                       | 500             | 582 | 337                                    | 1.98                             | 13.61                      | 5.89                      | 1.48      | 1.73  |
| -10                           | (+14) | 2415                       | 608             | 708 | 375                                    | 2.11                             | 16.67                      | 6.45                      | 1.63      | 1.89  |

| TEST CONDITIONS:<br>@220V50Hz |       |                            | ASHRAE32<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) | 525                        | 132             | 154 | 185                                    | 1.50                             | 3.51                       | 2.83                      | 0.71      | 0.83  |
| -35                           | (-31) | 712                        | 179             | 209 | 214                                    | 1.56                             | 4.79                       | 3.33                      | 0.84      | 0.98  |
| -30                           | (-22) | 933                        | 235             | 273 | 246                                    | 1.66                             | 6.29                       | 3.80                      | 0.96      | 1.11  |
| -25                           | (-13) | 1193                       | 301             | 350 | 281                                    | 1.78                             | 8.07                       | 4.24                      | 1.07      | 1.24  |
| -20                           | (- 4) | 1498                       | 378             | 439 | 321                                    | 1.92                             | 10.19                      | 4.68                      | 1.18      | 1.37  |
| -15                           | (+ 5) | 1854                       | 467             | 543 | 364                                    | 2.08                             | 12.69                      | 5.10                      | 1.28      | 1.49  |
| -10                           | (+14) | 2266                       | 571             | 664 | 410                                    | 2.25                             | 15.62                      | 5.52                      | 1.39      | 1.62  |



## COMPRESSOR TECHNICAL DATA

### 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           | 4.94 +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      |      |                          |