

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM 2P70CLP      |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513304613       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |              |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                      | R-600a                            |                                   |              |
| 3 Nominal voltage and frequency    | 115-127 / 60                      | [ V / Hz ]                        |              |
| 4 Application type                 | Low Back Pressure                 |                                   |              |
| 4.1 Evaporating temperature range  | -35°C to -10°C                    | (-31°F to 14°F)                   |              |
| 5 Motor type                       | RSIR                              |                                   |              |
| 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                            | -                                 | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | -                                 | 103 to 140 V |
| 8.3 HBP (32°C Ambient temperature) | -                                 | -                                 | -            |
| 8.4 HBP (43°C Ambient temperature) | -                                 | -                                 | -            |
| 9 Maximum condensing temperature   |                                   |                                   |              |
| 9.1 Operating                      | 6.9                               | [kgf/cm <sup>2</sup> ] (98 psig)  | / °C - °F    |
| 9.2 Peak                           | 7.8                               | [kgf/cm <sup>2</sup> ] (111 psig) | / °C - °F    |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |              |

### B - MECHANICAL DATA

|                               |                |                                  |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation      | 1/5            | [hp]                             |
| 2 Displacement                | 10.61          | [cm <sup>3</sup> ] (0.647 cu.in) |
| 2.1 Bore [mm]                 | 26.000         |                                  |
| 2.2 Stroke [mm]               | 20.000         |                                  |
| 3 Lubricant charge            | 150            | [ml] (5.07 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 |                                  |
| 4 Weight (with oil charge)    | 7.1            | [kg] (15.65 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELETRICAL DATA

|  |   |                                    |
|--|---|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 115-127 V 60 Hz 1 ~ (Single phase)                |                                    |
| 2 Starting device type                       | PTC   |                                    |
| 2.1 Starting device                          | 8EA14C1/8EA14E63/8EA14E64/8EA21C1/QPS2-A4R7MG1/QP |                                    |
| 3 Start capacitor                            | -   | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -   | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM427NFBYY-53                                    |                                    |
| 6 Start winding resistance                   | 6.14  | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 3.65  | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 15.40   | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 1.57  | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | 1.87  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - IMTRO - NOM - TUV - UKCA                     |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |  |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@127V60Hz |          |     | 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] |
| 674                           | 170      | 197 | 138                         | 2.01                          | 2.12   | 4.88                      | 1.23                                   | 1.43  |

### E - PERFORMANCE - CURVES

|                               |       |                            |          |     |                             |  |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@127V60Hz |       | 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) | 447                        | 113      | 131 | 90                          | 1.64                                   | 1.40                    | 4.95                      | 1.25      | 1.45  |
| -30                           | (-22) | 569                        | 143      | 167 | 101                         | 1.70                                   | 1.78                    | 5.71                      | 1.44      | 1.67  |
| -25                           | (-13) | 737                        | 186      | 216 | 112                         | 1.77                                   | 2.31                    | 6.63                      | 1.67      | 1.94  |
| -20                           | (- 4) | 955                        | 241      | 280 | 124                         | 1.86                                   | 3.00                    | 7.68                      | 1.94      | 2.25  |
| -15                           | (+ 5) | 1228                       | 309      | 360 | 139                         | 1.97                                   | 3.86                    | 8.83                      | 2.23      | 2.59  |
| -10                           | (+14) | 1561                       | 393      | 457 | 155                         | 2.10                                   | 4.92                    | 10.06                     | 2.53      | 2.95  |

|                               |       |                            |          |     |                             |   |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@127V60Hz |       | 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) | 392                        | 99       | 115 | 95                          | 1.64                                    | 1.23                    | 4.11                      | 1.04      | 1.20  |
| -30                           | (-22) | 513                        | 129      | 150 | 109                         | 1.70                                    | 1.61                    | 4.68                      | 1.18      | 1.37  |
| -25                           | (-13) | 673                        | 170      | 197 | 125                         | 1.79                                    | 2.11                    | 5.39                      | 1.36      | 1.58  |
| -20                           | (- 4) | 878                        | 221      | 257 | 142                         | 1.89                                    | 2.76                    | 6.19                      | 1.56      | 1.81  |
| -15                           | (+ 5) | 1132                       | 285      | 332 | 160                         | 2.02                                    | 3.56                    | 7.05                      | 1.78      | 2.07  |
| -10                           | (+14) | 1441                       | 363      | 422 | 181                         | 2.17                                    | 4.55                    | 7.96                      | 2.01      | 2.33  |

|                               |       |                            |          |     |                             |   |                         |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|-----------------------------|---|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@127V60Hz |       | 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) | 342                        | 86       | 100 | 96                          | 1.64                                    | 1.07                    | 3.60                      | 0.91      | 1.05  |
| -30                           | (-22) | 463                        | 117      | 136 | 113                         | 1.71                                    | 1.45                    | 4.11                      | 1.04      | 1.21  |
| -25                           | (-13) | 618                        | 156      | 181 | 131                         | 1.81                                    | 1.94                    | 4.72                      | 1.19      | 1.38  |
| -20                           | (- 4) | 813                        | 205      | 238 | 151                         | 1.93                                    | 2.55                    | 5.39                      | 1.36      | 1.58  |
| -15                           | (+ 5) | 1051                       | 265      | 308 | 172                         | 2.07                                    | 3.31                    | 6.10                      | 1.54      | 1.79  |
| -10                           | (+14) | 1339                       | 337      | 392 | 196                         | 2.24                                    | 4.22                    | 6.81                      | 1.72      | 2.00  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@127V60Hz |       | 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) | 297                        | 75       | 87  | 94                                      | 1.64                          | 0.93                    | 3.16                      | 0.80      | 0.93  |
| -30                           | (-22) | 421                        | 106      | 123 | 112                                     | 1.71                          | 1.32                    | 3.73                      | 0.94      | 1.09  |
| -25                           | (-13) | 574                        | 145      | 168 | 131                                     | 1.81                          | 1.80                    | 4.37                      | 1.10      | 1.28  |
| -20                           | (- 4) | 761                        | 192      | 223 | 151                                     | 1.95                          | 2.39                    | 5.03                      | 1.27      | 1.47  |
| -15                           | (+ 5) | 986                        | 248      | 289 | 174                                     | 2.11                          | 3.10                    | 5.69                      | 1.43      | 1.67  |
| -10                           | (+14) | 1255                       | 316      | 368 | 199                                     | 2.29                          | 3.96                    | 6.33                      | 1.60      | 1.86  |

### F - EXTERNAL CHARACTERISTICS

|                         |                                       |      |                          |
|-------------------------|---------------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EG/F/AMEM Version 2 |      |                          |
| 2 Tray holder           | No                                    |      |                          |
| 3 Connectors            |                                       |      |                          |
| 3.1 SUCTION             | 6.5 +0.12/-0.08                       | [mm] | (0.256" +0.005"/-0.003") |
| 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 42° up + 24° to Back          |      |                          |
| 3.3 PROCESS             | 6.5 +0.12/-0.08                       | [mm] | (0.256" +0.005"/-0.003") |
| 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                          |      |                          |