

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM R60CLP       |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513400024       |

### 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      | 1/6            | [hp]                             |
| 2 Displacement                | 8.59           | [cm <sup>3</sup> ] (0.524 cu.in) |
| 2.1 Bore [mm]                 | 24.000         |                                  |
| 2.2 Stroke [mm]               | 19.000         |                                  |
| 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)    | 6.83           | [kg] (15.06 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELECTRICAL 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                          | 8EA14C1/8EA21C1/QPS2-A4R7MG1       |                                    |
| 3 Start capacitor                            | -                                  | [μF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [μF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM757NFBYY-53                     |                                    |
| 6 Start winding resistance                   | 6.95                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 5.50                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 12.20                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 4.60                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | 4.85                               | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - IMTRO - 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 (Qe)<br>+/- 5% |          |     | Input power<br>(We)<br>+/- 5% | Electric<br>current<br>+/- 5% | Mass flow<br>rate<br>+/- 5%                        | Efficiency EER & COP<br>+/- 7% |  |       |
| [Btu/h]                         | [kcal/h] | [W] | [W]                           | [A]                           | [kg/h]   | [Btu/Wh]                       | [kcal/Wh]                              | [W/W] |
| 594                             | 150      | 174 | 124                           | 1.65                          | 1.86   | 4.78                           | 1.20                                   | 1.40  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@127V60Hz |       |                                 | ASHRAE32<br>Static |     | (Condensing temperature 35°C (+95°F) ) |                            |                             |                                |           |       |
|-------------------------------|-------|---------------------------------|--------------------|-----|--|----------------------------|-----------------------------|--------------------------------|-----------|-------|
| Evaporating<br>temperature    |       | Cooling capacity (Qe)<br>+/- 5% |                    |     | Input power<br>(We)<br>+/- 5%          | Electric current<br>+/- 5% | Mass flow<br>rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                         | [kcal/h]           | [W] | [W]                                    | [A]                        | [kg/h]                      | [Btu/Wh]                       | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 344                             | 87                 | 101 | 88                                     | 1.51                       | 1.08                        | 3.89                           | 0.98      | 1.14  |
| -30                           | (-22) | 460                             | 116                | 135 | 99                                     | 1.55                       | 1.44                        | 4.66                           | 1.18      | 1.37  |
| -25                           | (-13) | 591                             | 149                | 173 | 108                                    | 1.58                       | 1.85                        | 5.47                           | 1.38      | 1.60  |
| -20                           | (- 4) | 747                             | 188                | 219 | 118                                    | 1.62                       | 2.35                        | 6.33                           | 1.60      | 1.86  |
| -15                           | (+ 5) | 938                             | 236                | 275 | 128                                    | 1.67                       | 2.95                        | 7.27                           | 1.83      | 2.13  |
| -10                           | (+14) | 1171                            | 295                | 343 | 140                                    | 1.73                       | 3.69                        | 8.31                           | 2.09      | 2.43  |

| TEST CONDITIONS:<br>@127V60Hz |       |                                 | ASHRAE32<br>Static |     | (Condensing temperature 45°C (+113°F) ) |                            |                             |                                |           |       |
|-------------------------------|-------|---------------------------------|--------------------|-----|---|----------------------------|-----------------------------|--------------------------------|-----------|-------|
| Evaporating<br>temperature    |       | Cooling capacity (Qe)<br>+/- 5% |                    |     | Input power<br>(We)<br>+/- 5%           | Electric current<br>+/- 5% | Mass flow<br>rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                         | [kcal/h]           | [W] | [W]                                     | [A]                        | [kg/h]                      | [Btu/Wh]                       | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 322                             | 81                 | 94  | 91                                      | 1.52                       | 1.01                        | 3.52                           | 0.89      | 1.03  |
| -30                           | (-22) | 440                             | 111                | 129 | 104                                     | 1.56                       | 1.38                        | 4.25                           | 1.07      | 1.25  |
| -25                           | (-13) | 572                             | 144                | 168 | 115                                     | 1.60                       | 1.80                        | 4.98                           | 1.26      | 1.46  |
| -20                           | (- 4) | 726                             | 183                | 213 | 127                                     | 1.65                       | 2.28                        | 5.74                           | 1.45      | 1.68  |
| -15                           | (+ 5) | 912                             | 230                | 267 | 139                                     | 1.71                       | 2.87                        | 6.54                           | 1.65      | 1.92  |
| -10                           | (+14) | 1139                            | 287                | 334 | 153                                     | 1.79                       | 3.59                        | 7.41                           | 1.87      | 2.17  |

| TEST CONDITIONS:<br>@127V60Hz |       |                                 | ASHRAE32<br>Static |     | (Condensing temperature 55°C (+131°F) ) |                            |                             |                                |           |       |
|-------------------------------|-------|---------------------------------|--------------------|-----|---|----------------------------|-----------------------------|--------------------------------|-----------|-------|
| Evaporating<br>temperature    |       | Cooling capacity (Qe)<br>+/- 5% |                    |     | Input power<br>(We)<br>+/- 5%           | Electric current<br>+/- 5% | Mass flow<br>rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                         | [kcal/h]           | [W] | [W]                                     | [A]                        | [kg/h]                      | [Btu/Wh]                       | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 278                             | 70                 | 82  | 89                                      | 1.51                       | 0.87                        | 3.10                           | 0.78      | 0.91  |
| -30                           | (-22) | 403                             | 102                | 118 | 105                                     | 1.56                       | 1.26                        | 3.83                           | 0.97      | 1.12  |
| -25                           | (-13) | 539                             | 136                | 158 | 119                                     | 1.62                       | 1.69                        | 4.53                           | 1.14      | 1.33  |
| -20                           | (- 4) | 695                             | 175                | 204 | 134                                     | 1.68                       | 2.18                        | 5.22                           | 1.31      | 1.53  |
| -15                           | (+ 5) | 880                             | 222                | 258 | 149                                     | 1.76                       | 2.77                        | 5.92                           | 1.49      | 1.73  |
| -10                           | (+14) | 1103                            | 278                | 323 | 166                                     | 1.85                       | 3.48                        | 6.66                           | 1.68      | 1.95  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@127V60Hz |       | ASHRAE32<br>Static              |          |     | (Condensing temperature 65°C (+149°F) ) |                            |                          |                                |           |       |
|-------------------------------|-------|---------------------------------|----------|-----|---|----------------------------|--------------------------|--------------------------------|-----------|-------|
| Evaporating temperature       |       | Cooling capacity (Qe)<br>+/- 5% |          |     | Input power (We)<br>+/- 5%              | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |           |       |
| °C                            | (°F)  | [Btu/h]                         | [kcal/h] | [W] | [W]                                     | [A]                        | [kg/h]                   | [Btu/Wh]                       | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 214                             | 54       | 63  | 83                                      | 1.50                       | 0.67                     | 2.59                           | 0.65      | 0.76  |
| -30                           | (-22) | 349                             | 88       | 102 | 102                                     | 1.56                       | 1.09                     | 3.36                           | 0.85      | 0.98  |
| -25                           | (-13) | 492                             | 124      | 144 | 120                                     | 1.63                       | 1.55                     | 4.06                           | 1.02      | 1.19  |
| -20                           | (- 4) | 653                             | 165      | 191 | 138                                     | 1.71                       | 2.05                     | 4.72                           | 1.19      | 1.38  |
| -15                           | (+ 5) | 841                             | 212      | 246 | 157                                     | 1.80                       | 2.65                     | 5.37                           | 1.35      | 1.57  |
| -10                           | (+14) | 1065                            | 268      | 312 | 177                                     | 1.92                       | 3.36                     | 6.02                           | 1.52      | 1.76  |

### F - EXTERNAL CHARACTERISTICS

|                         |                                |      |                          |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EUEM         |      |                          |
| 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 parallel BP+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 30° up + 24° to Back   |      |                          |
| 3.3 PROCESS             | 6.35 +0.08/-0.08               | [mm] | (0.250" +0.003"/-0.003") |
| 3.3.1 Material          | Copper(OD)                     |      |                          |
| 3.3.2 Shape             | Slanted 43° up + 45° to Back   |      |                          |
| 3.4 Oil cooler (Copper) | No                             | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                   |      |                          |