

### COMPRESSOR DEFINITION

|                           |                               |
|---------------------------|-------------------------------|
| Designation               | EM DS55CLC                    |
| Nominal Voltage/Frequency | 115-127 V 60 Hz / 110 V 50 Hz |
| Engineering Number        | 513301766                     |

### 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                       | RSCR                              |                                   |              |
| 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                            | 98 to 127 V                       | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 98 to 127 V                       | 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      | 0.13           | [hp]                             |
| 2 Displacement                | 9.04           | [cm <sup>3</sup> ] (0.552 cu.in) |
| 2.1 Bore [mm]                 | 24.000         |                                  |
| 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)    | 7.6            | [kg] (16.75 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELETRICAL DATA

|  |  |                                    |
|--|--|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 115-127 V 60Hz / 110 V 50 Hz 1~ (Single phase) |                                    |
| 2 Starting device type                       | TSD  |                                    |
| 2.1 Starting device                          | TSD2-115V                                      |                                    |
| 3 Start capacitor                            | -  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 12(180)  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM319KFBYY-53                                 |                                    |
| 6 Start winding resistance                   | 6.87   | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 5.54   | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50/60 Hz)     | 9.60/9.60                                      | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz)  | 2.50/2.50                                      | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz)   | -  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | NOM - UL                                       |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@115V60Hz |          |     | 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<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] |
| 658                           | 166      | 193 | 102                            | 0.91                             | 2.07   | 6.45                      | 1.63                                   | 1.89  |

### E - PERFORMANCE - CURVES

|                               |       |                            |          |     |                                |                                       |                            |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|---------------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       | ASHRAE32<br>Static         |          |     |                                | (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] |
| -35                           | (-31) | 409                        | 103      | 120 | 70                             | 0.62                                  | 1.28                       | 5.83                      | 1.47      | 1.71  |
| -30                           | (-22) | 528                        | 133      | 155 | 79                             | 0.70                                  | 1.65                       | 6.71                      | 1.69      | 1.97  |
| -25                           | (-13) | 675                        | 170      | 198 | 89                             | 0.78                                  | 2.12                       | 7.62                      | 1.92      | 2.23  |
| -20                           | (- 4) | 853                        | 215      | 250 | 99                             | 0.88                                  | 2.68                       | 8.59                      | 2.17      | 2.52  |
| -15                           | (+ 5) | 1067                       | 269      | 313 | 111                            | 0.98                                  | 3.36                       | 9.63                      | 2.43      | 2.82  |
| -10                           | (+14) | 1319                       | 332      | 386 | 123                            | 1.08                                  | 4.16                       | 10.75                     | 2.71      | 3.15  |

|                               |       |                            |          |     |                                |  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       | ASHRAE32<br>Static         |          |     |                                | (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] |
| -35                           | (-31) | 375                        | 94       | 110 | 71                             | 0.62                                   | 1.17                       | 5.28                      | 1.33      | 1.55  |
| -30                           | (-22) | 494                        | 125      | 145 | 82                             | 0.72                                   | 1.55                       | 6.05                      | 1.52      | 1.77  |
| -25                           | (-13) | 640                        | 161      | 188 | 94                             | 0.83                                   | 2.01                       | 6.83                      | 1.72      | 2.00  |
| -20                           | (- 4) | 816                        | 206      | 239 | 107                            | 0.95                                   | 2.56                       | 7.65                      | 1.93      | 2.24  |
| -15                           | (+ 5) | 1025                       | 258      | 300 | 120                            | 1.07                                   | 3.23                       | 8.50                      | 2.14      | 2.49  |
| -10                           | (+14) | 1271                       | 320      | 372 | 135                            | 1.20                                   | 4.01                       | 9.41                      | 2.37      | 2.76  |

|                               |       |                            |          |     |                                |  |                            |                           |           |       |
|-------------------------------|-------|----------------------------|----------|-----|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       | ASHRAE32<br>Static         |          |     |                                | (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] |
| -35                           | (-31) | 339                        | 85       | 99  | 71                             | 0.63                                   | 1.06                       | 4.79                      | 1.21      | 1.40  |
| -30                           | (-22) | 458                        | 116      | 134 | 84                             | 0.74                                   | 1.44                       | 5.48                      | 1.38      | 1.61  |
| -25                           | (-13) | 603                        | 152      | 177 | 98                             | 0.87                                   | 1.89                       | 6.16                      | 1.55      | 1.81  |
| -20                           | (- 4) | 776                        | 195      | 227 | 113                            | 1.01                                   | 2.44                       | 6.85                      | 1.73      | 2.01  |
| -15                           | (+ 5) | 980                        | 247      | 287 | 130                            | 1.16                                   | 3.09                       | 7.56                      | 1.90      | 2.21  |
| -10                           | (+14) | 1221                       | 308      | 358 | 147                            | 1.32                                   | 3.85                       | 8.30                      | 2.09      | 2.43  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@115V60Hz |       | 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) | 300                        | 76       | 88  | 70                                      | 0.62                          | 0.94                    | 4.29                      | 1.08      | 1.26  |
| -30                           | (-22) | 419                        | 106      | 123 | 85                                      | 0.75                          | 1.32                    | 4.94                      | 1.24      | 1.45  |
| -25                           | (-13) | 562                        | 142      | 165 | 101                                     | 0.90                          | 1.76                    | 5.56                      | 1.40      | 1.63  |
| -20                           | (- 4) | 732                        | 184      | 214 | 119                                     | 1.06                          | 2.30                    | 6.16                      | 1.55      | 1.80  |
| -15                           | (+ 5) | 932                        | 235      | 273 | 138                                     | 1.23                          | 2.93                    | 6.75                      | 1.70      | 1.98  |
| -10                           | (+14) | 1166                       | 294      | 342 | 159                                     | 1.41                          | 3.68                    | 7.35                      | 1.85      | 2.15  |

### F - EXTERNAL CHARACTERISTICS

|                         |                  |      |                          |
|-------------------------|------------------|------|--------------------------|
| 1 Base plate            | Universal        |      |                          |
| 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             | Straight         |      |                          |
| 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             | 6.5 +0.12/-0.08  | [mm] | (0.256" +0.005"/-0.003") |
| 3.3.1 Material          | Copper           |      |                          |
| 3.3.2 Shape             | Straight         |      |                          |
| 3.4 Oil cooler (Copper) | No               | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs     |      |                          |