

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM U40CLC       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513306116       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |           |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                              | R-600a                            |                                   |           |
| 3 Nominal voltage and frequency            | 220-240 / 50                      | [ 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-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                            | 198 to 254 V                      | -         |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 198 to 254 V                      | -         |
| 8.3 HBP (32°C Ambient temperature)         | -                                 | -                                 | -         |
| 8.4 HBP (43°C Ambient temperature)         | -                                 | -                                 | -         |
| 9 Maximum condensing pressures/temperature |                                   |                                   |           |
| 9.1 Operating (gauge)                      | 7.7                               | [kgf/cm <sup>2</sup> ] (109 psig) | / °C - °F |
| 9.2 Peak (gauge)                           | 9.8                               | [kgf/cm <sup>2</sup> ] (139 psig) | / °C - °F |
| 10 Maximum winding temperature             | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                |                                  |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation      |                | [hp]                             |
| 2 Displacement                | 7.23           | [cm <sup>3</sup> ] (0.441 cu.in) |
| 2.1 Bore [mm]                 | 24.000         |                                  |
| 2.2 Stroke [mm]               | 16.000         |                                  |
| 3 Lubricant charge            | 180            | [ml] (6.09 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 |                                  |
| 4 Weight (with oil charge)    | 7.3            | [kg] (16.09 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                       | PTC                                |                                    |
| 2.1 Starting device                          | V230                               |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 4(350)                             | [µF(VAC minimum)]                  |
| 5 Motor protection                           | T0881/07                           |                                    |
| 6 Start winding resistance                   | 25.80                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 26.20                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 4.35                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.73                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | VDE                                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |                            | 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] |
| -35 (-31)                     | 213                        | 54                 | 62       | 56                          | 0.36                                   | 0.67                    | 3.80                      | 0.96 | 1.11 |        |
| -30 (-22)                     | 297                        | 75                 | 87       | 66                          | 0.37                                   | 0.93                    | 4.52                      | 1.14 | 1.32 |        |
| -25 (-13)                     | 396                        | 100                | 116      | 76                          | 0.38                                   | 1.24                    | 5.23                      | 1.32 | 1.53 |        |
| -20 (- 4)                     | 513                        | 129                | 150      | 86                          | 0.39                                   | 1.61                    | 5.95                      | 1.50 | 1.74 |        |
| -15 (+ 5)                     | 651                        | 164                | 191      | 97                          | 0.41                                   | 2.05                    | 6.71                      | 1.69 | 1.97 |        |
| -10 (+14)                     | 814                        | 205                | 239      | 108                         | 0.42                                   | 2.57                    | 7.56                      | 1.91 | 2.22 |        |

| TEST CONDITIONS:<br>@220V50Hz |                            | 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] |
| -35 (-31)                     | 188                        | 47                 | 55       | 57                          | 0.36                                   | 0.59                    | 3.31                      | 0.83 | 0.97 |        |
| -30 (-22)                     | 272                        | 69                 | 80       | 67                          | 0.37                                   | 0.85                    | 4.03                      | 1.02 | 1.18 |        |
| -25 (-13)                     | 371                        | 94                 | 109      | 78                          | 0.39                                   | 1.16                    | 4.72                      | 1.19 | 1.38 |        |
| -20 (- 4)                     | 487                        | 123                | 143      | 90                          | 0.40                                   | 1.53                    | 5.42                      | 1.36 | 1.59 |        |
| -15 (+ 5)                     | 625                        | 157                | 183      | 102                         | 0.42                                   | 1.97                    | 6.14                      | 1.55 | 1.80 |        |
| -10 (+14)                     | 787                        | 198                | 231      | 113                         | 0.44                                   | 2.48                    | 6.93                      | 1.75 | 2.03 |        |

| TEST CONDITIONS:<br>@220V50Hz |                            | 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] |
| -35 (-31)                     | 170                        | 43                 | 50       | 56                          | 0.36                                   | 0.53                    | 3.03                      | 0.76 | 0.89 |        |
| -30 (-22)                     | 252                        | 63                 | 74       | 68                          | 0.38                                   | 0.79                    | 3.69                      | 0.93 | 1.08 |        |
| -25 (-13)                     | 347                        | 87                 | 102      | 81                          | 0.40                                   | 1.09                    | 4.31                      | 1.09 | 1.26 |        |
| -20 (- 4)                     | 460                        | 116                | 135      | 94                          | 0.42                                   | 1.45                    | 4.91                      | 1.24 | 1.44 |        |
| -15 (+ 5)                     | 593                        | 149                | 174      | 107                         | 0.44                                   | 1.87                    | 5.53                      | 1.39 | 1.62 |        |
| -10 (+14)                     | 750                        | 189                | 220      | 121                         | 0.47                                   | 2.37                    | 6.19                      | 1.56 | 1.81 |        |

### F - EXTERNAL CHARACTERISTICS

|                         |                                |      |                          |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EUEM         |      |                          |
| 2 Tray holder           | No                             |      |                          |
| 3 Connectors            |                                |      |                          |
| 3.1 SUCTION             | 8.1 +0.10/+0.00                | [mm] | (0.319" +0.004"/+0.000") |
| 3.1.1 Material          | Copper(OD)                     |      |                          |
| 3.1.2 Shape             | Slanted 42° up + 45° to Back   |      |                          |
| 3.2 DISCHARGE           | 5.1 +0.10/+0.00                | [mm] | (0.201" +0.004"/+0.000") |
| 3.2.1 Material          | Copper                         |      |                          |
| 3.2.2 Shape             | Slanted parallel BP+24°to Back |      |                          |
| 3.3 PROCESS             | 6 +0.08/-0.08                  | [mm] | (0.236" +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                   |      |                          |