

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM 2C46CLT      |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513304504       |

### 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                               | 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 255 V                      | -         |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 198 to 255 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                | 7.96           | [cm <sup>3</sup> ] (0.486 cu.in) |
| 2.1 Bore [mm]                 | 24.000         |                                  |
| 2.2 Stroke [mm]               | 17.600         |                                  |
| 3 Lubricant charge            | 150            | [ml] (5.07 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | MINERAL / ISO5 |                                  |
| 4 Weight (with oil charge)    | 7.68           | [kg] (16.93 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                          | MI2021                             |                                    |
| 3 Start capacitor                            | -                                  | [μF(VAC minimum)]                  |
| 4 Run capacitor                              | 4(310)                             | [μF(VAC minimum)]                  |
| 5 Motor protection                           | AE37FN                             |                                    |
| 6 Start winding resistance                   | 20.60                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 23.30                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 4.00                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.60                               | [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

| TEST CONDITIONS:<br>@220V50Hz |          |     | CECOMAFLBP-NOFAN<br>Static     |                                  | Evaporating temperature<br>(Condensing temperature |                           | -25°C (-13°F)<br>55°C (131°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] |
| 342                           | 86       | 100 | 74                             | 0.34                             | 1.30   | 4.60                      | 1.16                           | 1.35  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       |                            | CECOMAF-NOFAN<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) | 260                        | 66                      | 76  | 51                                    | 0.23                             | 0.83                       | 5.10                      | 1.28      | 1.49  |
| -30                           | (-22) | 354                        | 89                      | 104 | 59                                    | 0.25                             | 1.14                       | 5.97                      | 1.50      | 1.75  |
| -25                           | (-13) | 464                        | 117                     | 136 | 68                                    | 0.28                             | 1.49                       | 6.90                      | 1.74      | 2.02  |
| -20                           | (- 4) | 595                        | 150                     | 174 | 76                                    | 0.32                             | 1.91                       | 7.91                      | 1.99      | 2.32  |
| -15                           | (+ 5) | 752                        | 189                     | 220 | 84                                    | 0.36                             | 2.42                       | 9.03                      | 2.28      | 2.65  |
| -10                           | (+14) | 939                        | 237                     | 275 | 91                                    | 0.39                             | 3.03                       | 10.28                     | 2.59      | 3.01  |

| TEST CONDITIONS:<br>@220V50Hz |       |                            | CECOMAF-NOFAN<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) | 215                        | 54                      | 63  | 53                                     | 0.22                             | 0.75                       | 4.11                      | 1.03      | 1.20  |
| -30                           | (-22) | 301                        | 76                      | 88  | 62                                     | 0.25                             | 1.05                       | 4.85                      | 1.22      | 1.42  |
| -25                           | (-13) | 401                        | 101                     | 117 | 71                                     | 0.29                             | 1.40                       | 5.61                      | 1.41      | 1.64  |
| -20                           | (- 4) | 520                        | 131                     | 152 | 81                                     | 0.33                             | 1.81                       | 6.43                      | 1.62      | 1.88  |
| -15                           | (+ 5) | 663                        | 167                     | 194 | 90                                     | 0.38                             | 2.31                       | 7.32                      | 1.84      | 2.14  |
| -10                           | (+14) | 834                        | 210                     | 244 | 100                                    | 0.43                             | 2.92                       | 8.31                      | 2.09      | 2.43  |

| TEST CONDITIONS:<br>@220V50Hz |       |                            | CECOMAF-NOFAN<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) | 178                        | 45                      | 52  | 54                                     | 0.23                             | 0.68                       | 3.32                      | 0.84      | 0.97  |
| -30                           | (-22) | 253                        | 64                      | 74  | 64                                     | 0.26                             | 0.96                       | 3.96                      | 1.00      | 1.16  |
| -25                           | (-13) | 341                        | 86                      | 100 | 74                                     | 0.30                             | 1.30                       | 4.58                      | 1.15      | 1.34  |
| -20                           | (- 4) | 446                        | 112                     | 131 | 85                                     | 0.35                             | 1.70                       | 5.23                      | 1.32      | 1.53  |
| -15                           | (+ 5) | 573                        | 144                     | 168 | 97                                     | 0.41                             | 2.19                       | 5.91                      | 1.49      | 1.73  |
| -10                           | (+14) | 727                        | 183                     | 213 | 109                                    | 0.47                             | 2.79                       | 6.66                      | 1.68      | 1.95  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       | CECOMAF-NOFAN<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) | 149                        | 38       | 44  | 54                          | 0.24                          | 0.63                                   | 2.74                      | 0.69      | 0.80  |
| -30                           | (-22) | 212                        | 53       | 62  | 64                          | 0.27                          | 0.89                                   | 3.30                      | 0.83      | 0.97  |
| -25                           | (-13) | 285                        | 72       | 84  | 75                          | 0.31                          | 1.20                                   | 3.82                      | 0.96      | 1.12  |
| -20                           | (- 4) | 374                        | 94       | 110 | 87                          | 0.37                          | 1.59                                   | 4.31                      | 1.09      | 1.26  |
| -15                           | (+ 5) | 483                        | 122      | 142 | 101                         | 0.43                          | 2.06                                   | 4.82                      | 1.21      | 1.41  |
| -10                           | (+14) | 616                        | 155      | 181 | 115                         | 0.50                          | 2.63                                   | 5.35                      | 1.35      | 1.57  |

### F - EXTERNAL CHARACTERISTICS

|                         |                                |      |                          |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EUEM         |      |                          |
| 2 Tray holder           | Yes                            |      |                          |
| 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° 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 parallel BP+24°to Back |      |                          |
| 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 45° up + 45° to Back   |      |                          |
| 3.4 Oil cooler (Copper) | No                             | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                   |      |                          |