

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM C20CLT       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 701IA95         |

### 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                            | 187 to 255 V                      | -         |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 187 to 255 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      | 1/12           | [hp]                             |
| 2 Displacement                | 3.97           | [cm <sup>3</sup> ] (0.242 cu.in) |
| 2.1 Bore [mm]                 | 19.000         |                                  |
| 2.2 Stroke [mm]               | 14.000         |                                  |
| 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 | 220-240 V 50 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | TSD                                |                                    |
| 2.1 Starting device                          | MI.E-START 2021                    |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 2.5(350)/2(350)                    | [µF(VAC minimum)]                  |
| 5 Motor protection                           | AE23AHNX                           |                                    |
| 6 Start winding resistance                   | 27.00                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 64.50                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 2.32                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.29                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | 0.35                               | [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] |
| 164                           | 41       | 48  | 35                             | 0.17                             | 0.63   | 4.66                      | 1.17                          | 1.37  |

### 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) | 131                        | 33       | 38  | 26                             | 0.12                                  | 0.42                       | 5.05                      | 1.27      | 1.48  |
| -30                           | (-22) | 177                        | 45       | 52  | 29                             | 0.14                                  | 0.57                       | 6.04                      | 1.52      | 1.77  |
| -25                           | (-13) | 229                        | 58       | 67  | 33                             | 0.16                                  | 0.74                       | 6.91                      | 1.74      | 2.02  |
| -20                           | (- 4) | 290                        | 73       | 85  | 37                             | 0.18                                  | 0.93                       | 7.79                      | 1.96      | 2.28  |
| -15                           | (+ 5) | 362                        | 91       | 106 | 41                             | 0.19                                  | 1.17                       | 8.81                      | 2.22      | 2.58  |
| -10                           | (+14) | 450                        | 113      | 132 | 45                             | 0.21                                  | 1.45                       | 10.11                     | 2.55      | 2.96  |

| 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) | 100                        | 25       | 29  | 26                             | 0.12                                   | 0.35                       | 3.91                      | 0.99      | 1.15  |
| -30                           | (-22) | 145                        | 36       | 42  | 30                             | 0.14                                   | 0.50                       | 4.85                      | 1.22      | 1.42  |
| -25                           | (-13) | 194                        | 49       | 57  | 34                             | 0.16                                   | 0.68                       | 5.60                      | 1.41      | 1.64  |
| -20                           | (- 4) | 251                        | 63       | 74  | 40                             | 0.19                                   | 0.87                       | 6.30                      | 1.59      | 1.85  |
| -15                           | (+ 5) | 318                        | 80       | 93  | 45                             | 0.21                                   | 1.11                       | 7.06                      | 1.78      | 2.07  |
| -10                           | (+14) | 399                        | 101      | 117 | 50                             | 0.23                                   | 1.40                       | 8.03                      | 2.02      | 2.35  |

| 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) | 76                         | 19       | 22  | 25                             | 0.11                                   | 0.29                       | 3.05                      | 0.77      | 0.89  |
| -30                           | (-22) | 118                        | 30       | 34  | 29                             | 0.14                                   | 0.45                       | 3.99                      | 1.00      | 1.17  |
| -25                           | (-13) | 163                        | 41       | 48  | 35                             | 0.17                                   | 0.62                       | 4.66                      | 1.17      | 1.37  |
| -20                           | (- 4) | 215                        | 54       | 63  | 41                             | 0.19                                   | 0.82                       | 5.21                      | 1.31      | 1.53  |
| -15                           | (+ 5) | 275                        | 69       | 81  | 48                             | 0.22                                   | 1.05                       | 5.75                      | 1.45      | 1.69  |
| -10                           | (+14) | 348                        | 88       | 102 | 54                             | 0.25                                   | 1.34                       | 6.43                      | 1.62      | 1.89  |

### 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) | 51                         | 13       | 15  | 23                                      | 0.10                          | 0.22                    | 2.18                      | 0.55      | 0.64  |
| -30                           | (-22) | 89                         | 22       | 26  | 28                                      | 0.13                          | 0.37                    | 3.15                      | 0.79      | 0.92  |
| -25                           | (-13) | 129                        | 33       | 38  | 34                                      | 0.16                          | 0.54                    | 3.78                      | 0.95      | 1.11  |
| -20                           | (- 4) | 174                        | 44       | 51  | 42                                      | 0.20                          | 0.74                    | 4.22                      | 1.06      | 1.24  |
| -15                           | (+ 5) | 227                        | 57       | 67  | 50                                      | 0.23                          | 0.97                    | 4.59                      | 1.16      | 1.35  |
| -10                           | (+14) | 291                        | 73       | 85  | 57                                      | 0.26                          | 1.24                    | 5.03                      | 1.27      | 1.47  |

### F - EXTERNAL CHARACTERISTICS

|                         |                              |      |                          |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate            | European Standard            |      |                          |
| 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           | 5.1 +0.10/+0.00              | [mm] | (0.201" +0.004"/+0.000") |
| 3.2.1 Material          | Copper                       |      |                          |
| 3.2.2 Shape             | Slanted 0° up + 45° 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                 |      |                          |