

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM 2C40CLT      |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513304607       |

### 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 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      |                | [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            | 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                          | 8EA17C3/QPS2-A22MD3                |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 2.5(300)/2(300)/3(300)             | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM134NFBYY-53                     |                                    |
| 6 Start winding resistance                   | 26.30                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 26.00                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 3.60                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.55                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - IRAM - UKCA - 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] |
| 310                           | 78       | 91  | 67                             | 0.30                             | 1.18   | 4.64                      | 1.17                          | 1.36  |

### 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) | 229                        | 58       | 67  | 45                             | 0.22                                  | 0.73                       | 5.03                      | 1.27      | 1.47  |
| -30                           | (-22) | 314                        | 79       | 92  | 53                             | 0.25                                  | 1.01                       | 5.91                      | 1.49      | 1.73  |
| -25                           | (-13) | 421                        | 106      | 123 | 61                             | 0.28                                  | 1.35                       | 6.90                      | 1.74      | 2.02  |
| -20                           | (- 4) | 549                        | 138      | 161 | 69                             | 0.31                                  | 1.77                       | 7.99                      | 2.01      | 2.34  |
| -15                           | (+ 5) | 698                        | 176      | 205 | 77                             | 0.34                                  | 2.25                       | 9.16                      | 2.31      | 2.69  |
| -10                           | (+14) | 868                        | 219      | 254 | 83                             | 0.38                                  | 2.80                       | 10.43                     | 2.63      | 3.05  |

| 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) | 194                        | 49       | 57  | 47                             | 0.22                                   | 0.67                       | 4.13                      | 1.04      | 1.21  |
| -30                           | (-22) | 269                        | 68       | 79  | 55                             | 0.26                                   | 0.94                       | 4.87                      | 1.23      | 1.43  |
| -25                           | (-13) | 365                        | 92       | 107 | 64                             | 0.29                                   | 1.27                       | 5.68                      | 1.43      | 1.66  |
| -20                           | (- 4) | 481                        | 121      | 141 | 73                             | 0.33                                   | 1.67                       | 6.55                      | 1.65      | 1.92  |
| -15                           | (+ 5) | 616                        | 155      | 180 | 82                             | 0.37                                   | 2.15                       | 7.48                      | 1.89      | 2.19  |
| -10                           | (+14) | 770                        | 194      | 226 | 91                             | 0.41                                   | 2.70                       | 8.47                      | 2.13      | 2.48  |

| 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) | 162                        | 41       | 48  | 49                             | 0.23                                   | 0.62                       | 3.36                      | 0.85      | 0.98  |
| -30                           | (-22) | 227                        | 57       | 67  | 57                             | 0.26                                   | 0.86                       | 3.99                      | 1.00      | 1.17  |
| -25                           | (-13) | 310                        | 78       | 91  | 67                             | 0.30                                   | 1.18                       | 4.65                      | 1.17      | 1.36  |
| -20                           | (- 4) | 413                        | 104      | 121 | 77                             | 0.34                                   | 1.58                       | 5.34                      | 1.35      | 1.57  |
| -15                           | (+ 5) | 533                        | 134      | 156 | 88                             | 0.39                                   | 2.04                       | 6.06                      | 1.53      | 1.78  |
| -10                           | (+14) | 672                        | 169      | 197 | 99                             | 0.44                                   | 2.58                       | 6.80                      | 1.71      | 1.99  |

### 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) | 134                        | 34       | 39  | 48                                      | 0.23                          | 0.56                    | 2.74                      | 0.69      | 0.80  |
| -30                           | (-22) | 187                        | 47       | 55  | 57                                      | 0.27                          | 0.79                    | 3.28                      | 0.83      | 0.96  |
| -25                           | (-13) | 257                        | 65       | 75  | 68                                      | 0.31                          | 1.09                    | 3.83                      | 0.96      | 1.12  |
| -20                           | (- 4) | 345                        | 87       | 101 | 79                                      | 0.36                          | 1.46                    | 4.37                      | 1.10      | 1.28  |
| -15                           | (+ 5) | 450                        | 113      | 132 | 92                                      | 0.42                          | 1.91                    | 4.91                      | 1.24      | 1.44  |
| -10                           | (+14) | 572                        | 144      | 168 | 105                                     | 0.48                          | 2.44                    | 5.43                      | 1.37      | 1.59  |

### F - EXTERNAL CHARACTERISTICS

|                         |                                |      |                          |
|-------------------------|--------------------------------|------|--------------------------|
| 1 Base plate            | Universal EUEM                 |      |                          |
| 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             | 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             | 6.5 +0.12/-0.08                | [mm] | (0.256" +0.005"/-0.003") |
| 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                   |      |                          |