

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM Y20CLC       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 897AA96         |

### 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                              |                                   |           |
| 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 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                | 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            | 180            | [ml] (6.09 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 |                                  |
| 4 Weight (with oil charge)    | 7.5            | [kg] (16.53 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                              | -                                  | [μF(VAC minimum)]                  |
| 5 Motor protection                           | T0285/07                           |                                    |
| 6 Start winding resistance                   | 27.10                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 40.30                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 2.35                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.30                               | [A]                                |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A]                                |
| 11 Approval boards certification             | VDE                                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

| TEST CONDITIONS:<br>@220V50Hz |          |     | CECOMAFLBP<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] |
| 157                           | 40       | 46  | 42                             | 0.29                             | 0.60   | 3.76                      | 0.95                           | 1.10  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V50Hz |       |                            | CECOMAF<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) | 105                        | 27                | 31  | 33                                     | 0.27                             | 0.37                       | 3.19                      | 0.80      | 0.93  |
| -30                           | (-22) | 140                        | 35                | 41  | 37                                     | 0.28                             | 0.49                       | 3.80                      | 0.96      | 1.11  |
| -25                           | (-13) | 190                        | 48                | 56  | 41                                     | 0.29                             | 0.66                       | 4.57                      | 1.15      | 1.34  |
| -20                           | (- 4) | 254                        | 64                | 74  | 46                                     | 0.31                             | 0.89                       | 5.48                      | 1.38      | 1.61  |
| -15                           | (+ 5) | 330                        | 83                | 97  | 51                                     | 0.33                             | 1.15                       | 6.49                      | 1.63      | 1.90  |
| -10                           | (+14) | 417                        | 105               | 122 | 55                                     | 0.35                             | 1.46                       | 7.56                      | 1.91      | 2.22  |

| TEST CONDITIONS:<br>@220V50Hz |       |                            | CECOMAF<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) | 86                         | 22                | 25  | 32                                     | 0.27                             | 0.33                       | 2.71                      | 0.68      | 0.79  |
| -30                           | (-22) | 115                        | 29                | 34  | 37                                     | 0.28                             | 0.44                       | 3.16                      | 0.80      | 0.93  |
| -25                           | (-13) | 158                        | 40                | 46  | 42                                     | 0.29                             | 0.60                       | 3.75                      | 0.95      | 1.10  |
| -20                           | (- 4) | 214                        | 54                | 63  | 48                                     | 0.31                             | 0.82                       | 4.44                      | 1.12      | 1.30  |
| -15                           | (+ 5) | 281                        | 71                | 82  | 54                                     | 0.34                             | 1.08                       | 5.19                      | 1.31      | 1.52  |
| -10                           | (+14) | 359                        | 90                | 105 | 60                                     | 0.36                             | 1.38                       | 5.98                      | 1.51      | 1.75  |

| TEST CONDITIONS:<br>@220V50Hz |       |                            | CECOMAF<br>Static |     | (Condensing temperature 65°C (+149°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) | 67                         | 17                | 20  | 31                                     | 0.27                             | 0.28                       | 2.12                      | 0.53      | 0.62  |
| -30                           | (-22) | 89                         | 23                | 26  | 36                                     | 0.28                             | 0.38                       | 2.51                      | 0.63      | 0.74  |
| -25                           | (-13) | 126                        | 32                | 37  | 42                                     | 0.30                             | 0.53                       | 3.01                      | 0.76      | 0.88  |
| -20                           | (- 4) | 175                        | 44                | 51  | 49                                     | 0.32                             | 0.74                       | 3.56                      | 0.90      | 1.04  |
| -15                           | (+ 5) | 235                        | 59                | 69  | 57                                     | 0.35                             | 1.00                       | 4.14                      | 1.04      | 1.21  |
| -10                           | (+14) | 305                        | 77                | 89  | 65                                     | 0.38                             | 1.30                       | 4.72                      | 1.19      | 1.38  |

### F - EXTERNAL CHARACTERISTICS

|                         |                   |      |                          |
|-------------------------|-------------------|------|--------------------------|
| 1 Base plate            | European Standard |      |                          |
| 2 Tray holder           | No                |      |                          |
| 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°       |      |                          |
| 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             | Straight          |      |                          |
| 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 42°       |      |                          |
| 3.4 Oil cooler (Copper) | No                | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs      |      |                          |