

### 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-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 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                          | MI2021                             |                                    |
| 3 Start capacitor                            | -                                  | [μF(VAC minimum)]                  |
| 4 Run capacitor                              | 2.5(440)                           | [μF(VAC minimum)]                  |
| 5 Motor protection                           | AE23AHNX                           |                                    |
| 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)     | 0.20                               | [A]                                |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A]                                |
| 11 Approval boards certification             | VDE                                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |  |       |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@220V50Hz |          |     | ASHRAELBP32<br>Static       |                               | Evaporating temperature<br>(Condensing temperature |                           | -23.3°C (-9.94°F)<br>54.4°C (129.92°F) |       |
| Cooling capacity<br>+/- 5%    |          |     | Power consumption<br>+/- 5% | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5%                            | EFFICIENCY RATE<br>+/- 7% |  |       |
| [Btu/h]                       | [kcal/h] | [W] | [W]                         | [A]                           | [kg/h]   | [Btu/Wh]                  | [kcal/Wh]                              | [W/W] |
| 213                           | 54       | 62  | 43                          | 0.20                          | 0.67   | 4.95                      | 1.25                                   | 1.45  |

### 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]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 111                        | 28                 | 33  | 32                                     | 0.17                          | 0.35                    | 3.51                      | 0.88      | 1.03  |
| -30                           | (-22) | 150                        | 38                 | 44  | 35                                     | 0.18                          | 0.47                    | 4.28                      | 1.08      | 1.26  |
| -25                           | (-13) | 206                        | 52                 | 60  | 39                                     | 0.19                          | 0.65                    | 5.21                      | 1.31      | 1.53  |
| -20                           | (- 4) | 276                        | 70                 | 81  | 44                                     | 0.21                          | 0.87                    | 6.24                      | 1.57      | 1.83  |
| -15                           | (+ 5) | 361                        | 91                 | 106 | 49                                     | 0.23                          | 1.14                    | 7.37                      | 1.86      | 2.16  |
| -10                           | (+14) | 457                        | 115                | 134 | 54                                     | 0.25                          | 1.44                    | 8.55                      | 2.16      | 2.51  |

|                               |       |                            |                    |     |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|--------------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| 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]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 99                         | 25                 | 29  | 31                                     | 0.17                          | 0.31                    | 3.20                      | 0.81      | 0.94  |
| -30                           | (-22) | 134                        | 34                 | 39  | 35                                     | 0.18                          | 0.42                    | 3.84                      | 0.97      | 1.12  |
| -25                           | (-13) | 186                        | 47                 | 54  | 40                                     | 0.19                          | 0.58                    | 4.59                      | 1.16      | 1.35  |
| -20                           | (- 4) | 254                        | 64                 | 74  | 46                                     | 0.21                          | 0.80                    | 5.45                      | 1.37      | 1.60  |
| -15                           | (+ 5) | 335                        | 85                 | 98  | 53                                     | 0.24                          | 1.06                    | 6.37                      | 1.61      | 1.87  |
| -10                           | (+14) | 430                        | 108                | 126 | 59                                     | 0.26                          | 1.36                    | 7.33                      | 1.85      | 2.15  |

|                               |       |                            |                    |     |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|--------------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| 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]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 82                         | 21                 | 24  | 30                                     | 0.17                          | 0.26                    | 2.77                      | 0.70      | 0.81  |
| -30                           | (-22) | 114                        | 29                 | 33  | 35                                     | 0.18                          | 0.36                    | 3.33                      | 0.84      | 0.98  |
| -25                           | (-13) | 164                        | 41                 | 48  | 41                                     | 0.20                          | 0.51                    | 4.00                      | 1.01      | 1.17  |
| -20                           | (- 4) | 229                        | 58                 | 67  | 48                                     | 0.22                          | 0.72                    | 4.75                      | 1.20      | 1.39  |
| -15                           | (+ 5) | 310                        | 78                 | 91  | 56                                     | 0.25                          | 0.98                    | 5.55                      | 1.40      | 1.63  |
| -10                           | (+14) | 403                        | 102                | 118 | 63                                     | 0.28                          | 1.27                    | 6.37                      | 1.61      | 1.87  |

### 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      |      |                          |