

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM Y70HSC       |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513308511       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |              |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                      | R-134a                            |                                   |              |
| 3 Nominal voltage and frequency    | 115-127 / 60                      | [ 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                            | 85 to 110 V                       | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 85 to 110 V                       | 103 to 140 V |
| 8.3 HBP (32°C Ambient temperature) | -                                 | -                                 | -            |
| 8.4 HBP (43°C Ambient temperature) | -                                 | -                                 | -            |
| 9 Maximum condensing temperature   |                                   |                                   |              |
| 9.1 Operating                      | 14.2                              | [kgf/cm <sup>2</sup> ] (202 psig) | / °C - °F    |
| 9.2 Peak                           | 15.9                              | [kgf/cm <sup>2</sup> ] (226 psig) | / °C - °F    |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |              |

### B - MECHANICAL DATA

|                               |               |  |
|-------------------------------|---------------|--|
| 1 Commercial designation      | 1/5           | [hp]                                       |
| 2 Displacement                | 5.72          | [cm <sup>3</sup> ] (0.349 cu.in)           |
| 2.1 Bore [mm]                 | 22.500        |  |
| 2.2 Stroke [mm]               | 14.400        |  |
| 3 Lubricant charge            | 190           | [ml] (6.42 fl.oz.)                         |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 |  |
| 4 Weight (with oil charge)    | 8.3           | [kg] (18.30 lb.)                           |
| 5 Nitrogen charge             | 0.2 to 0.3    | [kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig) |

### C - ELETRICAL DATA

|  |   |                                    |
|--|---|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 115-127 V 60 Hz 1 ~ (Single phase)                |                                    |
| 2 Starting device type                       | PTC   |                                    |
| 2.1 Starting device                          | 8EA14C3/8EA1B3/8EA21C3/8EA3B3/8EA4B3/QPS2-A4R7MD3 |                                    |
| 3 Start capacitor                            | -   | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 12(180)   | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM319RFBYY-53                                    |                                    |
| 6 Start winding resistance                   | 5.80  | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 3.65  | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 11.80   | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 1.80  | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -   | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - UKCA - UL                                    |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@115V60Hz |          |     | 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<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] |
| 680                           | 171      | 199 | 129                            | 1.20                             | 3.86   | 5.28                      | 1.33                                   | 1.55  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<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)                     | 378                        | 95       | 111                | 88                             | 0.84                                   | 2.14                       | 4.28                      | 1.08      | 1.25  |
| -30 (-22)                     | 512                        | 129      | 150                | 105                            | 0.99                                   | 2.90                       | 4.87                      | 1.23      | 1.43  |
| -25 (-13)                     | 681                        | 172      | 200                | 122                            | 1.14                                   | 3.87                       | 5.56                      | 1.40      | 1.63  |
| -20 (- 4)                     | 887                        | 223      | 260                | 140                            | 1.29                                   | 5.05                       | 6.32                      | 1.59      | 1.85  |
| -15 (+ 5)                     | 1130                       | 285      | 331                | 158                            | 1.44                                   | 6.45                       | 7.14                      | 1.80      | 2.09  |
| -10 (+14)                     | 1414                       | 356      | 414                | 177                            | 1.61                                   | 8.10                       | 7.98                      | 2.01      | 2.34  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<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)                     | 318                        | 80       | 93                 | 86                             | 0.83                                   | 1.80                       | 3.70                      | 0.93      | 1.08  |
| -30 (-22)                     | 445                        | 112      | 130                | 104                            | 0.99                                   | 2.52                       | 4.29                      | 1.08      | 1.26  |
| -25 (-13)                     | 610                        | 154      | 179                | 123                            | 1.15                                   | 3.46                       | 4.95                      | 1.25      | 1.45  |
| -20 (- 4)                     | 815                        | 205      | 239                | 143                            | 1.32                                   | 4.64                       | 5.67                      | 1.43      | 1.66  |
| -15 (+ 5)                     | 1062                       | 268      | 311                | 165                            | 1.51                                   | 6.06                       | 6.41                      | 1.62      | 1.88  |
| -10 (+14)                     | 1352                       | 341      | 396                | 189                            | 1.71                                   | 7.74                       | 7.16                      | 1.80      | 2.10  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | ASHRAE32<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)                     | 266                        | 67       | 78                 | 86                             | 0.82                                   | 1.51                       | 3.09                      | 0.78      | 0.91  |
| -30 (-22)                     | 381                        | 96       | 112                | 104                            | 0.98                                   | 2.16                       | 3.69                      | 0.93      | 1.08  |
| -25 (-13)                     | 538                        | 136      | 158                | 124                            | 1.15                                   | 3.05                       | 4.34                      | 1.09      | 1.27  |
| -20 (- 4)                     | 738                        | 186      | 216                | 147                            | 1.35                                   | 4.20                       | 5.02                      | 1.26      | 1.47  |
| -15 (+ 5)                     | 983                        | 248      | 288                | 172                            | 1.57                                   | 5.61                       | 5.70                      | 1.44      | 1.67  |
| -10 (+14)                     | 1274                       | 321      | 373                | 200                            | 1.81                                   | 7.30                       | 6.37                      | 1.61      | 1.87  |

### F - EXTERNAL CHARACTERISTICS

|                         |                               |      |                          |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate            | Universal EG/F/AMEM version 2 |      |                          |
| 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             | Straight                      |      |                          |
| 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                       |      |                          |
| 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             | Straight                      |      |                          |
| 3.4 Oil cooler (Copper) | No                            | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                  |      |                          |