

### COMPRESSOR DEFINITION

|                           |                    |
|---------------------------|--------------------|
| Designation               | EM YE70HEP         |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number        | 513309037          |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |              |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                      | R-134a                            |                                   |              |
| 3 Nominal voltage and frequency    | 220-240 / 50-60                   | [ 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                       | 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 255 V                      | 198 to 255 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 198 to 255 V                      | 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                      | 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                | 5.96          | [cm <sup>3</sup> ] (0.364 cu.in)           |
| 2.1 Bore [mm]                 | 22.500        |  |
| 2.2 Stroke [mm]               | 15.000        |  |
| 3 Lubricant charge            | 180           | [ml] (6.09 fl.oz.)                         |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 |  |
| 4 Weight (with oil charge)    | 7.78          | [kg] (17.15 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 | 220-240 V 50-60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | PTC                                   |                                    |
| 2.1 Starting device                          | 8EA17C1/QPS2-A22MG1                   |                                    |
| 3 Start capacitor                            | -                                     | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                     | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM232RFBYY-53                        |                                    |
| 6 Start winding resistance                   | 19.95                                 | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 13.30                                 | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50/60 Hz)     | 7.30/6.50                             | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz)  | 1.30/1.20                             | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50/60 Hz)   | -                                     | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - IMTRO - IRAM - TUV - UKCA - 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<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] |  |
| 574                           | 145      | 168 | 117                            | 0.92                             | 3.26   | 4.89                      | 1.23                                   | 1.43  |  |

|                               |          |     |                                |                                  |  |                           |  |       |  |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| TEST CONDITIONS:<br>@220V60Hz |          |     | 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] |  |
| 688                           | 173      | 202 | 133                            | 0.84                             | 3.91   | 5.18                      | 1.31                                   | 1.52  |  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                                |  |                            |                           |           |       |  |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|--|
| TEST CONDITIONS:<br>@220V60Hz |                            |          | 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)                     | 394                        | 99       | 115                | 89                             | 0.71                                   | 2.23                       | 4.41                      | 1.11      | 1.29  |  |
| -30 (-22)                     | 514                        | 129      | 151                | 103                            | 0.75                                   | 2.91                       | 5.01                      | 1.26      | 1.47  |  |
| -25 (-13)                     | 651                        | 164      | 191                | 117                            | 0.80                                   | 3.70                       | 5.57                      | 1.40      | 1.63  |  |
| -20 (- 4)                     | 822                        | 207      | 241                | 134                            | 0.85                                   | 4.68                       | 6.15                      | 1.55      | 1.80  |  |
| -15 (+ 5)                     | 1041                       | 262      | 305                | 152                            | 0.92                                   | 5.94                       | 6.80                      | 1.71      | 1.99  |  |
| -10 (+14)                     | 1324                       | 334      | 388                | 174                            | 1.01                                   | 7.59                       | 7.57                      | 1.91      | 2.22  |  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |  |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|--|
| TEST CONDITIONS:<br>@220V60Hz |                            |          | 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)                     | 339                        | 85       | 99                 | 88                             | 0.71                                   | 1.92                       | 3.84                      | 0.97      | 1.13  |  |
| -30 (-22)                     | 478                        | 120      | 140                | 107                            | 0.77                                   | 2.71                       | 4.45                      | 1.12      | 1.30  |  |
| -25 (-13)                     | 625                        | 158      | 183                | 125                            | 0.83                                   | 3.55                       | 5.00                      | 1.26      | 1.46  |  |
| -20 (- 4)                     | 796                        | 200      | 233                | 144                            | 0.90                                   | 4.53                       | 5.53                      | 1.39      | 1.62  |  |
| -15 (+ 5)                     | 1005                       | 253      | 295                | 165                            | 0.97                                   | 5.74                       | 6.10                      | 1.54      | 1.79  |  |
| -10 (+14)                     | 1269                       | 320      | 372                | 187                            | 1.06                                   | 7.27                       | 6.76                      | 1.70      | 1.98  |  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V60Hz |       | 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) | 268                        | 68       | 79  | 81                                      | 0.66                          | 1.52                    | 3.32                      | 0.84      | 0.97  |
| -30                           | (-22) | 424                        | 107      | 124 | 105                                     | 0.75                          | 2.41                    | 3.94                      | 0.99      | 1.15  |
| -25                           | (-13) | 579                        | 146      | 170 | 129                                     | 0.84                          | 3.29                    | 4.46                      | 1.12      | 1.31  |
| -20                           | (- 4) | 747                        | 188      | 219 | 152                                     | 0.93                          | 4.25                    | 4.93                      | 1.24      | 1.45  |
| -15                           | (+ 5) | 945                        | 238      | 277 | 175                                     | 1.02                          | 5.39                    | 5.42                      | 1.36      | 1.59  |
| -10                           | (+14) | 1187                       | 299      | 348 | 199                                     | 1.11                          | 6.80                    | 5.96                      | 1.50      | 1.75  |

### F - EXTERNAL CHARACTERISTICS

|                         |                                       |      |                          |
|-------------------------|---------------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EG/F/AMEM Version 2 |      |                          |
| 2 Tray holder           | No                                    |      |                          |
| 3 Connectors            |                                       |      |                          |
| 3.1 SUCTION             | 8.2 +0.12/-0.08                       | [mm] | (0.323" +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 30° up + 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                          |      |                          |