

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM 50HNP        |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513302487       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |           |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                      | R-134a                            |                                   |           |
| 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                            | 187 to 255 V                      | -         |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 187 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      | 1/8           | [hp]                                       |
| 2 Displacement                | 4.99          | [cm <sup>3</sup> ] (0.305 cu.in)           |
| 2.1 Bore [mm]                 | 21.000        |  |
| 2.2 Stroke [mm]               | 14.400        |  |
| 3 Lubricant charge            | 160           | [ml] (5.41 fl.oz.)                         |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 |  |
| 4 Weight (with oil charge)    | 7.6           | [kg] (16.75 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 Hz 1 ~ (Single phase)  |                                    |
| 2 Starting device type                       | PTC                                 |                                    |
| 2.1 Starting device                          | 7M220MC1/8EA17C1/8EA5B1/QPS2-A22MG1 |                                    |
| 3 Start capacitor                            | -                                   | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                   | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM189RHBYY-53                      |                                    |
| 6 Start winding resistance                   | 24.50                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 17.90                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 6.00                                | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 1.10                                | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                   | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CCC - IRAM - 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] |
| 425                           | 107      | 125 | 110                         | 0.85                          | 2.41   | 3.86                      | 0.97                                   | 1.13  |

### 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)                     | 178                        | 45       | 52                 | 76                          | 0.76                                   | 1.00                    | 2.36                      | 0.59      | 0.69  |
| -30 (-22)                     | 288                        | 73       | 84                 | 90                          | 0.83                                   | 1.63                    | 3.17                      | 0.80      | 0.93  |
| -25 (-13)                     | 409                        | 103      | 120                | 103                         | 0.85                                   | 2.32                    | 3.96                      | 1.00      | 1.16  |
| -20 (- 4)                     | 547                        | 138      | 160                | 115                         | 0.86                                   | 3.11                    | 4.76                      | 1.20      | 1.39  |
| -15 (+ 5)                     | 711                        | 179      | 208                | 127                         | 0.86                                   | 4.06                    | 5.56                      | 1.40      | 1.63  |
| -10 (+14)                     | 907                        | 228      | 266                | 141                         | 0.90                                   | 5.20                    | 6.41                      | 1.61      | 1.88  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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)                     | 150                        | 38       | 44                 | 75                          | 0.79                                   | 0.85                    | 2.01                      | 0.51      | 0.59  |
| -30 (-22)                     | 252                        | 63       | 74                 | 91                          | 0.82                                   | 1.43                    | 2.76                      | 0.69      | 0.81  |
| -25 (-13)                     | 365                        | 92       | 107                | 105                         | 0.83                                   | 2.07                    | 3.48                      | 0.88      | 1.02  |
| -20 (- 4)                     | 499                        | 126      | 146                | 120                         | 0.85                                   | 2.84                    | 4.19                      | 1.06      | 1.23  |
| -15 (+ 5)                     | 661                        | 167      | 194                | 135                         | 0.91                                   | 3.77                    | 4.91                      | 1.24      | 1.44  |
| -10 (+14)                     | 858                        | 216      | 251                | 151                         | 1.02                                   | 4.91                    | 5.65                      | 1.42      | 1.65  |

|                               |                            |          |                    |                             |  |                         |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|-----------------------------|--|-------------------------|---------------------------|-----------|-------|
| 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)                     | 109                        | 27       | 32                 | 67                          | 0.76                                   | 0.62                    | 1.59                      | 0.40      | 0.47  |
| -30 (-22)                     | 197                        | 50       | 58                 | 85                          | 0.76                                   | 1.12                    | 2.30                      | 0.58      | 0.67  |
| -25 (-13)                     | 300                        | 76       | 88                 | 102                         | 0.78                                   | 1.70                    | 2.97                      | 0.75      | 0.87  |
| -20 (- 4)                     | 426                        | 107      | 125                | 118                         | 0.83                                   | 2.42                    | 3.62                      | 0.91      | 1.06  |
| -15 (+ 5)                     | 581                        | 147      | 170                | 136                         | 0.94                                   | 3.32                    | 4.27                      | 1.08      | 1.25  |
| -10 (+14)                     | 775                        | 195      | 227                | 156                         | 1.13                                   | 4.44                    | 4.94                      | 1.24      | 1.45  |

### F - EXTERNAL CHARACTERISTICS

|                         |                                       |      |                          |
|-------------------------|---------------------------------------|------|--------------------------|
| 1 Base plate            | European Standard EG/F/AMEM Version 2 |      |                          |
| 2 Tray holder           | Yes                                   |      |                          |
| 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             | 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             | 6.1 +0.10/+0.00                       | [mm] | (0.240" +0.004"/+0.000") |
| 3.3.1 Material          | Copper                                |      |                          |
| 3.3.2 Shape             | Straight                              |      |                          |
| 3.4 Oil cooler (Copper) | No                                    | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                          |      |                          |