

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM 65NP         |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513303360       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|  |                                   |                                   |           |
|--|-----------------------------------|-----------------------------------|-----------|
| 1 Type                                     | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                              | Blend                             |                                   |           |
| 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 255 V                      | -         |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 198 to 255 V                      | -         |
| 8.3 HBP (32°C Ambient temperature)         | -                                 | -                                 | -         |
| 8.4 HBP (43°C Ambient temperature)         | -                                 | -                                 | -         |
| 9 Maximum condensing pressures/temperature |                                   |                                   |           |
| 9.1 Operating (gauge)                      | 14.5                              | [kgf/cm <sup>2</sup> ] (206 psig) | / °C - °F |
| 9.2 Peak (gauge)                           | 18.2                              | [kgf/cm <sup>2</sup> ] (259 psig) | / °C - °F |
| 10 Maximum winding temperature             | 130                               | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                 |  |
|-------------------------------|-----------------|--|
| 1 Commercial designation      | 1/6+            | [hp]                                       |
| 2 Displacement                | 5.54            | [cm <sup>3</sup> ] (0.338 cu.in)           |
| 2.1 Bore [mm]                 | 21.000          |  |
| 2.2 Stroke [mm]               | 16.000          |  |
| 3 Lubricant charge            | 170             | [ml] (5.75 fl.oz.)                         |
| 3.1 Lubricants approved       |                 |  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO32 |  |
| 4 Weight (with oil charge)    | 7.48            | [kg] (16.49 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                          | 8EA5B1/8EA5B3                      |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 4(280)                             | [µF(VAC minimum)]                  |
| 5 Motor protection                           | MRA58104-5590                      |                                    |
| 6 Start winding resistance                   | 26.00                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 19.50                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 5.50                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 1.20                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | IRAM                               |                                    |

### 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] |
| 545                           | 137      | 160 | 140                            | 0.92                             | 3.99   | 3.89                      | 0.98                                   | 1.14  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 283                        | 71       | 83                 | 97                             | 0.80                                   | 2.06                       | 2.93                      | 0.74      | 0.86  |
| -30 (-22)                     | 405                        | 102      | 119                | 111                            | 0.85                                   | 2.96                       | 3.66                      | 0.92      | 1.07  |
| -25 (-13)                     | 539                        | 136      | 158                | 125                            | 0.89                                   | 3.95                       | 4.34                      | 1.09      | 1.27  |
| -20 (- 4)                     | 690                        | 174      | 202                | 139                            | 0.92                                   | 5.06                       | 4.99                      | 1.26      | 1.46  |
| -15 (+ 5)                     | 860                        | 217      | 252                | 153                            | 0.96                                   | 6.32                       | 5.64                      | 1.42      | 1.65  |
| -10 (+14)                     | 1055                       | 266      | 309                | 167                            | 1.01                                   | 7.78                       | 6.31                      | 1.59      | 1.85  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 250                        | 63       | 73                 | 97                             | 0.81                                   | 1.82                       | 2.56                      | 0.64      | 0.75  |
| -30 (-22)                     | 367                        | 92       | 107                | 112                            | 0.85                                   | 2.68                       | 3.26                      | 0.82      | 0.95  |
| -25 (-13)                     | 496                        | 125      | 145                | 128                            | 0.90                                   | 3.63                       | 3.88                      | 0.98      | 1.14  |
| -20 (- 4)                     | 641                        | 162      | 188                | 144                            | 0.94                                   | 4.70                       | 4.45                      | 1.12      | 1.30  |
| -15 (+ 5)                     | 807                        | 203      | 236                | 161                            | 1.00                                   | 5.93                       | 4.99                      | 1.26      | 1.46  |
| -10 (+14)                     | 997                        | 251      | 292                | 180                            | 1.06                                   | 7.35                       | 5.53                      | 1.39      | 1.62  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | 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)                     | 210                        | 53       | 62                 | 95                             | 0.80                                   | 1.53                       | 2.22                      | 0.56      | 0.65  |
| -30 (-22)                     | 322                        | 81       | 94                 | 111                            | 0.85                                   | 2.35                       | 2.91                      | 0.73      | 0.85  |
| -25 (-13)                     | 447                        | 113      | 131                | 128                            | 0.89                                   | 3.27                       | 3.49                      | 0.88      | 1.02  |
| -20 (- 4)                     | 588                        | 148      | 172                | 147                            | 0.95                                   | 4.31                       | 4.00                      | 1.01      | 1.17  |
| -15 (+ 5)                     | 749                        | 189      | 219                | 168                            | 1.01                                   | 5.51                       | 4.46                      | 1.12      | 1.31  |
| -10 (+14)                     | 935                        | 236      | 274                | 191                            | 1.09                                   | 6.89                       | 4.89                      | 1.23      | 1.43  |

### 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 plated steel           |      |                          |
| 3.1.2 Shape             | Straight                      |      |                          |
| 3.2 DISCHARGE           | 5 +0.18/-0.06                 | [mm] | (0.197" +0.007"/-0.002") |
| 3.2.1 Material          | Copper plated steel           |      |                          |
| 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 plated steel           |      |                          |
| 3.3.2 Shape             | Straight                      |      |                          |
| 3.4 Oil cooler (Copper) | No                            | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                  |      |                          |