

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM 55HNR        |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513307800       |

### 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                       | RSIR-CSIR                         |                                   |              |
| 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/Fan                        | -                                 | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan                        | -                                 | 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      | 1/6           | [hp]                                       |
| 2 Displacement                | 4.60          | [cm <sup>3</sup> ] (0.281 cu.in)           |
| 2.1 Bore [mm]                 | 21.000        |  |
| 2.2 Stroke [mm]               | 13.300        |  |
| 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)    | 7.57          | [kg] (16.69 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                       | Current Relay                      |                                    |
| 2.1 Starting device                          | 213514105/213515292                |                                    |
| 3 Start capacitor                            | 161-193(130)                       | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM762KHBYY-53                     |                                    |
| 6 Start winding resistance                   | 8.35                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 4.60                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | -                                  | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | -                                  | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | IRAM - TUV - 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] |
| 510                           | 129      | 149 | 126                            | 1.69                             | 2.90   | 4.05                      | 1.02                                   | 1.19  |

### 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)                     | 250                        | 63       | 73                 | 90                             | 1.50                                   | 1.42                       | 2.76                      | 0.70      | 0.81  |
| -30 (-22)                     | 351                        | 88       | 103                | 102                            | 1.55                                   | 1.99                       | 3.45                      | 0.87      | 1.01  |
| -25 (-13)                     | 479                        | 121      | 140                | 115                            | 1.61                                   | 2.72                       | 4.16                      | 1.05      | 1.22  |
| -20 (- 4)                     | 637                        | 160      | 187                | 130                            | 1.69                                   | 3.62                       | 4.92                      | 1.24      | 1.44  |
| -15 (+ 5)                     | 828                        | 209      | 243                | 145                            | 1.79                                   | 4.73                       | 5.72                      | 1.44      | 1.68  |
| -10 (+14)                     | 1056                       | 266      | 309                | 160                            | 1.89                                   | 6.05                       | 6.59                      | 1.66      | 1.93  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 214                        | 54       | 63                 | 88                             | 1.48                                   | 1.21                       | 2.43                      | 0.61      | 0.71  |
| -30 (-22)                     | 311                        | 78       | 91                 | 102                            | 1.54                                   | 1.76                       | 3.06                      | 0.77      | 0.90  |
| -25 (-13)                     | 435                        | 110      | 127                | 118                            | 1.62                                   | 2.47                       | 3.70                      | 0.93      | 1.08  |
| -20 (- 4)                     | 588                        | 148      | 172                | 135                            | 1.72                                   | 3.35                       | 4.35                      | 1.10      | 1.27  |
| -15 (+ 5)                     | 774                        | 195      | 227                | 154                            | 1.84                                   | 4.42                       | 5.02                      | 1.26      | 1.47  |
| -10 (+14)                     | 995                        | 251      | 292                | 174                            | 1.98                                   | 5.70                       | 5.72                      | 1.44      | 1.68  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 160                        | 40       | 47                 | 81                             | 1.43                                   | 0.91                       | 2.00                      | 0.50      | 0.59  |
| -30 (-22)                     | 255                        | 64       | 75                 | 97                             | 1.50                                   | 1.45                       | 2.64                      | 0.67      | 0.77  |
| -25 (-13)                     | 377                        | 95       | 110                | 115                            | 1.60                                   | 2.14                       | 3.26                      | 0.82      | 0.95  |
| -20 (- 4)                     | 527                        | 133      | 154                | 136                            | 1.73                                   | 3.00                       | 3.86                      | 0.97      | 1.13  |
| -15 (+ 5)                     | 709                        | 179      | 208                | 159                            | 1.88                                   | 4.05                       | 4.45                      | 1.12      | 1.30  |
| -10 (+14)                     | 925                        | 233      | 271                | 183                            | 2.06                                   | 5.30                       | 5.05                      | 1.27      | 1.48  |

### 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           | 6.5 +0.12/-0.08               | [mm] | (0.256" +0.005"/-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                  |      |                          |