

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM 65HNR        |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513307310       |

### 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-Medium Back Pressure          |                                   |              |
| 4.1 Evaporating temperature range  | -35°C to -5°C                     | (-31°F to 23°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) | Fan                               | -                                 | 103 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | 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                | 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            | 160           | [ml] (5.41 fl.oz.)                         |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 |  |
| 4 Weight (with oil charge)    | 7.62          | [kg] (16.80 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                          | 213514121/213515293                |                                    |
| 3 Start capacitor                            | 189-227(130)                       | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM762NFBZZ-53                     |                                    |
| 6 Start winding resistance                   | 8.40                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 2.90                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 26.00                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 3.60                               | [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 - NOM - TUV - UKCA - UL - VDE   |                                    |

### D - PERFORMANCE - CHECK POINT DATA

| TEST CONDITIONS:<br>@115V60Hz |          |     | ASHRAELBP32<br>Fan             |                                  | 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] |
| 650                           | 164      | 190 | 166                            | 2.65                             | 3.69   | 3.93                      | 0.99                                   | 1.15  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@115V60Hz |       |                            | ASHRAE32<br>Fan |     | (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) | 521                        | 131             | 153 | 152                                    | 2.48                             | 2.95                       | 3.44                      | 0.87      | 1.01  |
| -30                           | (-22) | 574                        | 145             | 168 | 157                                    | 2.49                             | 3.25                       | 3.66                      | 0.92      | 1.07  |
| -25                           | (-13) | 685                        | 173             | 201 | 167                                    | 2.54                             | 3.89                       | 4.10                      | 1.03      | 1.20  |
| -20                           | (- 4) | 850                        | 214             | 249 | 180                                    | 2.61                             | 4.84                       | 4.70                      | 1.18      | 1.38  |
| -15                           | (+ 5) | 1063                       | 268             | 312 | 197                                    | 2.70                             | 6.07                       | 5.40                      | 1.36      | 1.58  |
| -10                           | (+14) | 1320                       | 333             | 387 | 216                                    | 2.80                             | 7.56                       | 6.14                      | 1.55      | 1.80  |
| -5                            | (+23) | 1615                       | 407             | 473 | 235                                    | 2.91                             | 9.29                       | 6.87                      | 1.73      | 2.01  |

| TEST CONDITIONS:<br>@115V60Hz |       |                            | ASHRAE32<br>Fan |     | (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) | 481                        | 121             | 141 | 149                                    | 2.46                             | 2.72                       | 3.23                      | 0.82      | 0.95  |
| -30                           | (-22) | 527                        | 133             | 154 | 155                                    | 2.48                             | 2.98                       | 3.40                      | 0.86      | 1.00  |
| -25                           | (-13) | 632                        | 159             | 185 | 167                                    | 2.53                             | 3.59                       | 3.77                      | 0.95      | 1.11  |
| -20                           | (- 4) | 792                        | 200             | 232 | 184                                    | 2.62                             | 4.51                       | 4.28                      | 1.08      | 1.26  |
| -15                           | (+ 5) | 1002                       | 253             | 294 | 205                                    | 2.73                             | 5.72                       | 4.88                      | 1.23      | 1.43  |
| -10                           | (+14) | 1257                       | 317             | 368 | 229                                    | 2.87                             | 7.20                       | 5.50                      | 1.38      | 1.61  |
| -5                            | (+23) | 1551                       | 391             | 454 | 255                                    | 3.01                             | 8.92                       | 6.08                      | 1.53      | 1.78  |

| TEST CONDITIONS:<br>@115V60Hz |       |                            | ASHRAE32<br>Fan |     | (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) | 436                        | 110             | 128 | 149                                    | 2.45                             | 2.47                       | 2.93                      | 0.74      | 0.86  |
| -30                           | (-22) | 476                        | 120             | 140 | 155                                    | 2.47                             | 2.70                       | 3.10                      | 0.78      | 0.91  |
| -25                           | (-13) | 578                        | 146             | 169 | 168                                    | 2.53                             | 3.28                       | 3.45                      | 0.87      | 1.01  |
| -20                           | (- 4) | 736                        | 185             | 216 | 187                                    | 2.63                             | 4.19                       | 3.93                      | 0.99      | 1.15  |
| -15                           | (+ 5) | 944                        | 238             | 277 | 211                                    | 2.76                             | 5.39                       | 4.47                      | 1.13      | 1.31  |
| -10                           | (+14) | 1199                       | 302             | 351 | 239                                    | 2.93                             | 6.87                       | 5.02                      | 1.27      | 1.47  |
| -5                            | (+23) | 1494                       | 376             | 438 | 270                                    | 3.11                             | 8.59                       | 5.52                      | 1.39      | 1.62  |

### 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             | Straight                      |      |                          |
| 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                  |      |                          |