

### COMPRESSOR DEFINITION

|                           |                    |
|---------------------------|--------------------|
| Designation               | EM IE65HER         |
| Nominal Voltage/Frequency | 220-240 V 50-60 Hz |
| Engineering Number        | 513306195          |

### 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/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                        | 198 to 255 V                      | 198 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static/Fan                        | 198 to 255 V                      | 198 to 242 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                | 5.19          | [cm <sup>3</sup> ] (0.317 cu.in)           |
| 2.1 Bore [mm]                 | 21.000        |  |
| 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)    | 8.29          | [kg] (18.28 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                       | Current Relay                         |                                    |
| 2.1 Starting device                          | 213514130/213515004                   |                                    |
| 3 Start capacitor                            | 72-88(210)                            | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                     | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM734LFBYY-53                        |                                    |
| 6 Start winding resistance                   | 27.80                                 | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 13.70                                 | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50/60 Hz)     | 12.50/11.50                           | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz)  | 1.35/1.15                             | [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 - 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] |  |
| 510                           | 129      | 149 | 123                            | 1.02                             | 2.90   | 4.15                      | 1.05                                   | 1.22  |  |

|                               |          |     |                                |                                  |  |                           |  |       |  |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| TEST CONDITIONS:<br>@220V50Hz |          |     | 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] |  |
| 510                           | 129      | 149 | 123                            | 1.02                             | 2.90   | 4.15                      | 1.05                                   | 1.22  |  |

|                               |          |     |                                |                                  |  |                           |  |       |  |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| 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] |  |
| 630                           | 159      | 185 | 138                            | 0.91                             | 3.58   | 4.55                      | 1.15                                   | 1.33  |  |

|                               |          |     |                                |                                  |  |                           |  |       |  |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| TEST CONDITIONS:<br>@220V60Hz |          |     | 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] |  |
| 630                           | 159      | 185 | 138                            | 0.91                             | 3.58   | 4.55                      | 1.15                                   | 1.33  |  |

### 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] |
| -35                           | (-31)                      | 267                | 67      | 78                             | 91                               | 0.97                       | 1.51                                   | 2.95   | 0.74     | 0.86      |
| -30                           | (-22)                      | 371                | 93      | 109                            | 102                              | 0.99                       | 2.10                                   | 3.64   | 0.92     | 1.07      |
| -25                           | (-13)                      | 499                | 126     | 146                            | 114                              | 1.01                       | 2.83                                   | 4.38   | 1.10     | 1.28      |
| -20                           | (- 4)                      | 653                | 165     | 191                            | 127                              | 1.03                       | 3.72                                   | 5.15   | 1.30     | 1.51      |
| -15                           | (+ 5)                      | 836                | 211     | 245                            | 140                              | 1.05                       | 4.77                                   | 5.96   | 1.50     | 1.75      |
| -10                           | (+14)                      | 1051               | 265     | 308                            | 154                              | 1.05                       | 6.02                                   | 6.80   | 1.71     | 1.99      |

### E - PERFORMANCE - CURVES

| 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]  |
| -35                           | (-31)                      | 238                | 60      | 70                          | 91                                     | 0.96                    | 1.35                      | 2.61 | 0.66 | 0.76 |
| -30                           | (-22)                      | 339                | 86      | 99                          | 104                                    | 0.98                    | 1.92                      | 3.25 | 0.82 | 0.95 |
| -25                           | (-13)                      | 462                | 117     | 136                         | 118                                    | 1.01                    | 2.63                      | 3.91 | 0.99 | 1.15 |
| -20                           | (- 4)                      | 610                | 154     | 179                         | 133                                    | 1.05                    | 3.47                      | 4.59 | 1.16 | 1.34 |
| -15                           | (+ 5)                      | 784                | 198     | 230                         | 149                                    | 1.09                    | 4.47                      | 5.28 | 1.33 | 1.55 |
| -10                           | (+14)                      | 987                | 249     | 289                         | 165                                    | 1.14                    | 5.65                      | 5.98 | 1.51 | 1.75 |

| 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]  |
| -35                           | (-31)                      | 209                | 53      | 61                          | 89                                     | 0.97                    | 1.18                      | 2.35 | 0.59 | 0.69 |
| -30                           | (-22)                      | 312                | 79      | 91                          | 105                                    | 0.97                    | 1.77                      | 2.97 | 0.75 | 0.87 |
| -25                           | (-13)                      | 434                | 109     | 127                         | 121                                    | 1.00                    | 2.46                      | 3.58 | 0.90 | 1.05 |
| -20                           | (- 4)                      | 578                | 146     | 169                         | 138                                    | 1.05                    | 3.29                      | 4.19 | 1.06 | 1.23 |
| -15                           | (+ 5)                      | 747                | 188     | 219                         | 156                                    | 1.10                    | 4.26                      | 4.79 | 1.21 | 1.40 |
| -10                           | (+14)                      | 942                | 237     | 276                         | 175                                    | 1.16                    | 5.40                      | 5.38 | 1.36 | 1.58 |

| TEST CONDITIONS:<br>@220V60Hz |                            | 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]  |
| -35                           | (-31)                      | 335                | 84      | 98                          | 97                                     | 0.78                    | 1.90                      | 3.46 | 0.87 | 1.01 |
| -30                           | (-22)                      | 467                | 118     | 137                         | 112                                    | 0.83                    | 2.65                      | 4.16 | 1.05 | 1.22 |
| -25                           | (-13)                      | 619                | 156     | 181                         | 128                                    | 0.88                    | 3.51                      | 4.86 | 1.22 | 1.42 |
| -20                           | (- 4)                      | 799                | 201     | 234                         | 143                                    | 0.93                    | 4.55                      | 5.58 | 1.41 | 1.64 |
| -15                           | (+ 5)                      | 1016               | 256     | 298                         | 160                                    | 0.99                    | 5.80                      | 6.36 | 1.60 | 1.86 |
| -10                           | (+14)                      | 1278               | 322     | 374                         | 177                                    | 1.06                    | 7.32                      | 7.21 | 1.82 | 2.11 |

| TEST CONDITIONS:<br>@220V60Hz |                            | 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]  |
| -35                           | (-31)                      | 286                | 72      | 84                          | 97                                     | 0.78                    | 1.62                      | 2.96 | 0.75 | 0.87 |
| -30                           | (-22)                      | 419                | 106     | 123                         | 114                                    | 0.83                    | 2.38                      | 3.65 | 0.92 | 1.07 |
| -25                           | (-13)                      | 570                | 144     | 167                         | 133                                    | 0.89                    | 3.24                      | 4.30 | 1.08 | 1.26 |
| -20                           | (- 4)                      | 747                | 188     | 219                         | 151                                    | 0.96                    | 4.25                      | 4.95 | 1.25 | 1.45 |
| -15                           | (+ 5)                      | 958                | 241     | 281                         | 171                                    | 1.04                    | 5.47                      | 5.61 | 1.41 | 1.64 |
| -10                           | (+14)                      | 1212               | 305     | 355                         | 191                                    | 1.13                    | 6.94                      | 6.32 | 1.59 | 1.85 |

### 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) | 232                        | 58       | 68  | 90                                      | 0.77                          | 1.31                    | 2.59                      | 0.65      | 0.76  |
| -30                           | (-22) | 367                        | 93       | 108 | 111                                     | 0.83                          | 2.08                    | 3.27                      | 0.82      | 0.96  |
| -25                           | (-13) | 518                        | 131      | 152 | 133                                     | 0.90                          | 2.94                    | 3.88                      | 0.98      | 1.14  |
| -20                           | (- 4) | 692                        | 174      | 203 | 156                                     | 0.98                          | 3.94                    | 4.45                      | 1.12      | 1.31  |
| -15                           | (+ 5) | 899                        | 227      | 263 | 180                                     | 1.08                          | 5.13                    | 5.01                      | 1.26      | 1.47  |
| -10                           | (+14) | 1146                       | 289      | 336 | 205                                     | 1.18                          | 6.56                    | 5.58                      | 1.41      | 1.63  |

### 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             | 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 parallel BP+24°to Back        |      |                          |
| 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             | Slanted 45° up + 45° to Back          |      |                          |
| 3.4 Oil cooler (Copper) | No                                    | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                          |      |                          |