

### COMPRESSOR DEFINITION

|                           |                |
|---------------------------|----------------|
| Designation               | EM IE40HJP     |
| Nominal Voltage/Frequency | 220 V 50-60 Hz |
| Engineering Number        | 513306198      |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |              |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                      | R-134a                            |                                   |              |
| 3 Nominal voltage and frequency    | 220 / 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                              |                                   |              |
| 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 242 V                      | 198 to 242 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 198 to 242 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      | 1/8           | [hp]                                       |
| 2 Displacement                | 3.40          | [cm <sup>3</sup> ] (0.207 cu.in)           |
| 2.1 Bore [mm]                 | 19.000        |  |
| 2.2 Stroke [mm]               | 12.000        |  |
| 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)    | 6.55          | [kg] (14.44 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 V 50-60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | PTC                               |                                    |
| 2.1 Starting device                          | MSC34X 220V                       |                                    |
| 3 Start capacitor                            | -                                 | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                 | [µF(VAC minimum)]                  |
| 5 Motor protection                           | MSC34A23J3                        |                                    |
| 6 Start winding resistance                   | 19.75                             | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 33.45                             | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50/60 Hz)     | 4.15/3.70                         | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz)  | 0.81/0.70                         | [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 - IMTRO - IRAM - TUV - UKCA    |                                    |

### 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] |
| 325                           | 82       | 95  | 83                             | 0.69                             | 1.85   | 3.94                      | 0.99                                   | 1.15  |

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 393                           | 99       | 115 | 90                             | 0.62                             | 2.23   | 4.36                      | 1.10                                   | 1.28  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                                |                                       |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|---------------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@220V50Hz |                            |          | ASHRAE32<br>Static |                                | (Condensing temperature 35°C (+95°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)                     | 190                        | 48       | 56                 | 62                             | 0.66                                  | 1.08                       | 3.08                      | 0.78      | 0.90  |
| -30 (-22)                     | 249                        | 63       | 73                 | 68                             | 0.67                                  | 1.41                       | 3.72                      | 0.94      | 1.09  |
| -25 (-13)                     | 336                        | 85       | 98                 | 74                             | 0.68                                  | 1.91                       | 4.57                      | 1.15      | 1.34  |
| -20 (- 4)                     | 454                        | 114      | 133                | 81                             | 0.69                                  | 2.58                       | 5.62                      | 1.42      | 1.65  |
| -15 (+ 5)                     | 606                        | 153      | 178                | 88                             | 0.70                                  | 3.46                       | 6.87                      | 1.73      | 2.01  |
| -10 (+14)                     | 796                        | 201      | 233                | 95                             | 0.72                                  | 4.56                       | 8.31                      | 2.09      | 2.44  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| 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)                     | 181                        | 46       | 53                 | 62                             | 0.66                                   | 1.03                       | 2.88                      | 0.73      | 0.84  |
| -30 (-22)                     | 237                        | 60       | 70                 | 69                             | 0.67                                   | 1.34                       | 3.43                      | 0.86      | 1.01  |
| -25 (-13)                     | 315                        | 79       | 92                 | 77                             | 0.68                                   | 1.79                       | 4.11                      | 1.04      | 1.20  |
| -20 (- 4)                     | 419                        | 105      | 123                | 85                             | 0.69                                   | 2.38                       | 4.91                      | 1.24      | 1.44  |
| -15 (+ 5)                     | 550                        | 139      | 161                | 94                             | 0.71                                   | 3.14                       | 5.85                      | 1.47      | 1.71  |
| -10 (+14)                     | 713                        | 180      | 209                | 103                            | 0.73                                   | 4.09                       | 6.90                      | 1.74      | 2.02  |

### 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]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                     | 146                        | 37                 | 43       | 61                          | 0.66                                   | 0.83                    | 2.39                      | 0.60     | 0.70      |       |
| -30 (-22)                     | 207                        | 52                 | 61       | 70                          | 0.67                                   | 1.17                    | 2.98                      | 0.75     | 0.87      |       |
| -25 (-13)                     | 285                        | 72                 | 83       | 79                          | 0.68                                   | 1.62                    | 3.61                      | 0.91     | 1.06      |       |
| -20 (- 4)                     | 381                        | 96                 | 112      | 89                          | 0.70                                   | 2.17                    | 4.31                      | 1.09     | 1.26      |       |
| -15 (+ 5)                     | 501                        | 126                | 147      | 99                          | 0.72                                   | 2.86                    | 5.05                      | 1.27     | 1.48      |       |
| -10 (+14)                     | 645                        | 163                | 189      | 110                         | 0.75                                   | 3.70                    | 5.85                      | 1.47     | 1.71      |       |

| 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)                     | 93                         | 24                 | 27       | 57                          | 0.65                                   | 0.53                    | 1.68                      | 0.42     | 0.49      |       |
| -30 (-22)                     | 168                        | 42                 | 49       | 68                          | 0.66                                   | 0.95                    | 2.43                      | 0.61     | 0.71      |       |
| -25 (-13)                     | 253                        | 64                 | 74       | 79                          | 0.68                                   | 1.44                    | 3.15                      | 0.79     | 0.92      |       |
| -20 (- 4)                     | 352                        | 89                 | 103      | 91                          | 0.70                                   | 2.00                    | 3.86                      | 0.97     | 1.13      |       |
| -15 (+ 5)                     | 467                        | 118                | 137      | 103                         | 0.73                                   | 2.66                    | 4.55                      | 1.15     | 1.33      |       |
| -10 (+14)                     | 601                        | 152                | 176      | 116                         | 0.76                                   | 3.44                    | 5.22                      | 1.32     | 1.53      |       |

| TEST CONDITIONS:<br>@220V60Hz |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 35°C (+95°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       | 66                          | 0.56                                  | 1.31                    | 3.52                      | 0.89     | 1.03      |       |
| -30 (-22)                     | 311                        | 78                 | 91       | 75                          | 0.58                                  | 1.77                    | 4.17                      | 1.05     | 1.22      |       |
| -25 (-13)                     | 414                        | 104                | 121      | 84                          | 0.60                                  | 2.35                    | 4.94                      | 1.25     | 1.45      |       |
| -20 (- 4)                     | 541                        | 136                | 158      | 93                          | 0.63                                  | 3.08                    | 5.84                      | 1.47     | 1.71      |       |
| -15 (+ 5)                     | 693                        | 175                | 203      | 101                         | 0.65                                  | 3.96                    | 6.84                      | 1.72     | 2.00      |       |
| -10 (+14)                     | 873                        | 220                | 256      | 110                         | 0.68                                  | 5.00                    | 7.94                      | 2.00     | 2.33      |       |

| 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]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                     | 216                        | 54                 | 63       | 67                          | 0.56                                   | 1.22                    | 3.23                      | 0.81     | 0.95      |       |
| -30 (-22)                     | 297                        | 75                 | 87       | 78                          | 0.58                                   | 1.69                    | 3.84                      | 0.97     | 1.12      |       |
| -25 (-13)                     | 400                        | 101                | 117      | 88                          | 0.61                                   | 2.27                    | 4.52                      | 1.14     | 1.33      |       |
| -20 (- 4)                     | 525                        | 132                | 154      | 99                          | 0.64                                   | 2.99                    | 5.28                      | 1.33     | 1.55      |       |
| -15 (+ 5)                     | 675                        | 170                | 198      | 110                         | 0.68                                   | 3.85                    | 6.10                      | 1.54     | 1.79      |       |
| -10 (+14)                     | 850                        | 214                | 249      | 122                         | 0.72                                   | 4.87                    | 6.98                      | 1.76     | 2.04      |       |

### E - PERFORMANCE - CURVES

| 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]                           | [kg/h]                  | [Btu/Wh]                  | [kcal/Wh] | [W/W] |
| -35                           | (-31) | 183                        | 46       | 54  | 66                                      | 0.56                          | 1.03                    | 2.76                      | 0.70      | 0.81  |
| -30                           | (-22) | 266                        | 67       | 78  | 79                                      | 0.59                          | 1.51                    | 3.36                      | 0.85      | 0.99  |
| -25                           | (-13) | 368                        | 93       | 108 | 92                                      | 0.62                          | 2.09                    | 4.00                      | 1.01      | 1.17  |
| -20                           | (- 4) | 491                        | 124      | 144 | 105                                     | 0.66                          | 2.79                    | 4.66                      | 1.17      | 1.37  |
| -15                           | (+ 5) | 637                        | 161      | 187 | 119                                     | 0.71                          | 3.64                    | 5.34                      | 1.34      | 1.56  |
| -10                           | (+14) | 807                        | 203      | 236 | 134                                     | 0.76                          | 4.62                    | 6.02                      | 1.52      | 1.77  |

| 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) | 137                        | 35       | 40  | 62                                      | 0.55                          | 0.77                    | 2.23                      | 0.56      | 0.65  |
| -30                           | (-22) | 220                        | 55       | 65  | 76                                      | 0.58                          | 1.25                    | 2.86                      | 0.72      | 0.84  |
| -25                           | (-13) | 321                        | 81       | 94  | 92                                      | 0.62                          | 1.82                    | 3.48                      | 0.88      | 1.02  |
| -20                           | (- 4) | 442                        | 111      | 129 | 108                                     | 0.67                          | 2.51                    | 4.08                      | 1.03      | 1.20  |
| -15                           | (+ 5) | 583                        | 147      | 171 | 126                                     | 0.73                          | 3.33                    | 4.66                      | 1.17      | 1.36  |
| -10                           | (+14) | 746                        | 188      | 219 | 144                                     | 0.80                          | 4.28                    | 5.19                      | 1.31      | 1.52  |

### 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                          |      |                          |