

### COMPRESSOR DEFINITION

|                           |             |
|---------------------------|-------------|
| Designation               | EM IE30HJP  |
| Nominal Voltage/Frequency | 220 V 60 Hz |
| Engineering Number        | 513306203   |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |              |
|------------------------------------|-----------------------------------|-----------------------------------|--------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |              |
| 2 Refrigerant                      | R-134a                            |                                   |              |
| 3 Nominal voltage and frequency    | 220 / 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 |
| 8.2 LBP (43°C Ambient temperature) | Static                            | -                                 | 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      | 1/10          | [hp]                                       |
| 2 Displacement                | 2.83          | [cm <sup>3</sup> ] (0.173 cu.in)           |
| 2.1 Bore [mm]                 | 19.000        |  |
| 2.2 Stroke [mm]               | 10.000        |  |
| 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)    | 7.24          | [kg] (15.96 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 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                   | 25.00                          | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 40.00                          | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 2.90                           | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 0.62                           | [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 - TUV - UKCA                |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| 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] |
| 307                           | 77       | 90  | 70                             | 0.48                             | 1.74   | 4.37                      | 1.10                                   | 1.28  |

### E - PERFORMANCE - CURVES

|                               |                            |                    |         |                                |                                  |  |                           |        |          |           |
|-------------------------------|----------------------------|--------------------|---------|--------------------------------|----------------------------------|--|---------------------------|--------|----------|-----------|
| TEST CONDITIONS:<br>@220V60Hz |                            | 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] |
| -35                           | (-31)                      | 180                | 45      | 53                             | 51                               | 0.43                                   | 1.02                      | 3.56   | 0.90     | 1.04      |
| -30                           | (-22)                      | 255                | 64      | 75                             | 58                               | 0.45                                   | 1.45                      | 4.40   | 1.11     | 1.29      |
| -25                           | (-13)                      | 345                | 87      | 101                            | 66                               | 0.46                                   | 1.96                      | 5.26   | 1.33     | 1.54      |
| -20                           | (- 4)                      | 451                | 114     | 132                            | 73                               | 0.49                                   | 2.57                      | 6.18   | 1.56     | 1.81      |
| -15                           | (+ 5)                      | 576                | 145     | 169                            | 81                               | 0.51                                   | 3.29                      | 7.17   | 1.81     | 2.10      |
| -10                           | (+14)                      | 722                | 182     | 212                            | 88                               | 0.53                                   | 4.14                      | 8.26   | 2.08     | 2.42      |

|                               |                            |                    |         |                                |                                  |   |                           |        |          |           |
|-------------------------------|----------------------------|--------------------|---------|--------------------------------|----------------------------------|---|---------------------------|--------|----------|-----------|
| TEST CONDITIONS:<br>@220V60Hz |                            | 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)                      | 157                | 39      | 46                             | 49                               | 0.42                                    | 0.89                      | 3.17   | 0.80     | 0.93      |
| -30                           | (-22)                      | 226                | 57      | 66                             | 58                               | 0.44                                    | 1.28                      | 3.91   | 0.99     | 1.15      |
| -25                           | (-13)                      | 311                | 78      | 91                             | 67                               | 0.47                                    | 1.77                      | 4.65   | 1.17     | 1.36      |
| -20                           | (- 4)                      | 413                | 104     | 121                            | 76                               | 0.50                                    | 2.35                      | 5.39   | 1.36     | 1.58      |
| -15                           | (+ 5)                      | 535                | 135     | 157                            | 87                               | 0.53                                    | 3.06                      | 6.17   | 1.56     | 1.81      |
| -10                           | (+14)                      | 679                | 171     | 199                            | 97                               | 0.57                                    | 3.89                      | 7.00   | 1.76     | 2.05      |

|                               |                            |                    |         |                                |                                  |   |                           |        |          |           |
|-------------------------------|----------------------------|--------------------|---------|--------------------------------|----------------------------------|---|---------------------------|--------|----------|-----------|
| TEST CONDITIONS:<br>@220V60Hz |                            | 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] |
| -35                           | (-31)                      | 123                | 31      | 36                             | 47                               | 0.42                                    | 0.70                      | 2.64   | 0.67     | 0.77      |
| -30                           | (-22)                      | 188                | 47      | 55                             | 56                               | 0.44                                    | 1.06                      | 3.37   | 0.85     | 0.99      |
| -25                           | (-13)                      | 268                | 68      | 79                             | 66                               | 0.47                                    | 1.52                      | 4.05   | 1.02     | 1.19      |
| -20                           | (- 4)                      | 367                | 92      | 107                            | 78                               | 0.51                                    | 2.09                      | 4.70   | 1.19     | 1.38      |
| -15                           | (+ 5)                      | 486                | 122     | 142                            | 91                               | 0.55                                    | 2.77                      | 5.35   | 1.35     | 1.57      |
| -10                           | (+14)                      | 628                | 158     | 184                            | 104                              | 0.60                                    | 3.60                      | 6.01   | 1.51     | 1.76      |

### 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) | 80                         | 20       | 23  | 42                                      | 0.41                          | 0.45                    | 1.88                      | 0.47      | 0.55  |
| -30                           | (-22) | 140                        | 35       | 41  | 52                                      | 0.43                          | 0.79                    | 2.68                      | 0.67      | 0.78  |
| -25                           | (-13) | 216                        | 54       | 63  | 64                                      | 0.46                          | 1.22                    | 3.39                      | 0.85      | 0.99  |
| -20                           | (- 4) | 311                        | 78       | 91  | 77                                      | 0.50                          | 1.77                    | 4.03                      | 1.01      | 1.18  |
| -15                           | (+ 5) | 427                        | 108      | 125 | 93                                      | 0.55                          | 2.44                    | 4.62                      | 1.16      | 1.35  |
| -10                           | (+14) | 568                        | 143      | 166 | 110                                     | 0.62                          | 3.25                    | 5.18                      | 1.31      | 1.52  |

### F - EXTERNAL CHARACTERISTICS

|                         |                              |      |                          |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate            | New Base Plate EUEM          |      |                          |
| 2 Tray holder           | Yes                          |      |                          |
| 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             | 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 30° up + 24° to Back |      |                          |
| 3.3 PROCESS             | 6.35 +0.08/-0.08             | [mm] | (0.250" +0.003"/-0.003") |
| 3.3.1 Material          | Copper(OD)                   |      |                          |
| 3.3.2 Shape             | Slanted 45° up + 45° to Back |      |                          |
| 3.4 Oil cooler (Copper) | No                           | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                 |      |                          |