

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM Y60HSC       |
| Nominal Voltage/Frequency | 220-240 V 50 Hz |
| Engineering Number        | 513308598       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |           |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                      | R-134a                            |                                   |           |
| 3 Nominal voltage and frequency    | 220-240 / 50                      | [ 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                       | RSCR                              |                                   |           |
| 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 255 V                      | -         |
| 8.2 LBP (43°C Ambient temperature) | Static                            | 198 to 255 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                | 4.99          | [cm <sup>3</sup> ] (0.305 cu.in)           |
| 2.1 Bore [mm]                 | 21.000        |  |
| 2.2 Stroke [mm]               | 14.400        |  |
| 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)    | 8.24          | [kg] (18.17 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 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | TSD                                |                                    |
| 2.1 Starting device                          | TSD-220V                           |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 5(290)                             | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM189KFBYY-53                     |                                    |
| 6 Start winding resistance                   | 15.54                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 23.56                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50 Hz)        | 4.00                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50 Hz)     | 0.64                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (50 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - 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] |
| 492                           | 124      | 144 | 92                             | 0.43                             | 2.80   | 5.35                      | 1.35                                   | 1.57  |

### 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)                     | 285                        | 72                 | 83  | 60                             | 0.29                             | 1.61                                   | 4.68                      | 1.18      | 1.37  |  |
| -30 (-22)                     | 388                        | 98                 | 114 | 71                             | 0.34                             | 2.20                                   | 5.45                      | 1.37      | 1.60  |  |
| -25 (-13)                     | 511                        | 129                | 150 | 81                             | 0.39                             | 2.90                                   | 6.28                      | 1.58      | 1.84  |  |
| -20 (- 4)                     | 658                        | 166                | 193 | 92                             | 0.44                             | 3.75                                   | 7.18                      | 1.81      | 2.11  |  |
| -15 (+ 5)                     | 834                        | 210                | 244 | 103                            | 0.48                             | 4.76                                   | 8.17                      | 2.06      | 2.39  |  |
| -10 (+14)                     | 1042                       | 263                | 305 | 113                            | 0.52                             | 5.97                                   | 9.24                      | 2.33      | 2.71  |  |

|                               |                            |                    |     |                                |                                  |   |                           |           |       |  |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|---|---------------------------|-----------|-------|--|
| 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)                     | 266                        | 67                 | 78  | 63                             | 0.29                             | 1.50                                    | 4.26                      | 1.07      | 1.25  |  |
| -30 (-22)                     | 366                        | 92                 | 107 | 73                             | 0.34                             | 2.08                                    | 5.00                      | 1.26      | 1.46  |  |
| -25 (-13)                     | 489                        | 123                | 143 | 85                             | 0.40                             | 2.77                                    | 5.76                      | 1.45      | 1.69  |  |
| -20 (- 4)                     | 636                        | 160                | 186 | 97                             | 0.45                             | 3.62                                    | 6.55                      | 1.65      | 1.92  |  |
| -15 (+ 5)                     | 814                        | 205                | 238 | 110                            | 0.51                             | 4.64                                    | 7.40                      | 1.86      | 2.17  |  |
| -10 (+14)                     | 1024                       | 258                | 300 | 123                            | 0.57                             | 5.87                                    | 8.30                      | 2.09      | 2.43  |  |

|                               |                            |                    |     |                                |                                  |   |                           |           |       |  |
|-------------------------------|----------------------------|--------------------|-----|--------------------------------|----------------------------------|---|---------------------------|-----------|-------|--|
| TEST CONDITIONS:<br>@220V50Hz |                            | 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)                     | 231                        | 58                 | 68  | 64                             | 0.30                             | 1.31                                    | 3.67                      | 0.92      | 1.08  |  |
| -30 (-22)                     | 326                        | 82                 | 95  | 75                             | 0.35                             | 1.85                                    | 4.38                      | 1.10      | 1.28  |  |
| -25 (-13)                     | 443                        | 112                | 130 | 87                             | 0.41                             | 2.52                                    | 5.09                      | 1.28      | 1.49  |  |
| -20 (- 4)                     | 587                        | 148                | 172 | 101                            | 0.48                             | 3.34                                    | 5.80                      | 1.46      | 1.70  |  |
| -15 (+ 5)                     | 762                        | 192                | 223 | 116                            | 0.55                             | 4.35                                    | 6.52                      | 1.64      | 1.91  |  |
| -10 (+14)                     | 972                        | 245                | 285 | 133                            | 0.63                             | 5.57                                    | 7.28                      | 1.83      | 2.13  |  |

### E - PERFORMANCE - CURVES

| 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) | 200                        | 50       | 59  | 65                                      | 0.30                          | 1.13                    | 3.04                      | 0.77      | 0.89  |
| -30                           | (-22) | 285                        | 72       | 83  | 76                                      | 0.36                          | 1.61                    | 3.75                      | 0.95      | 1.10  |
| -25                           | (-13) | 393                        | 99       | 115 | 89                                      | 0.42                          | 2.23                    | 4.42                      | 1.11      | 1.29  |
| -20                           | (- 4) | 530                        | 134      | 155 | 105                                     | 0.49                          | 3.02                    | 5.06                      | 1.28      | 1.48  |
| -15                           | (+ 5) | 699                        | 176      | 205 | 123                                     | 0.57                          | 3.99                    | 5.69                      | 1.43      | 1.67  |
| -10                           | (+14) | 904                        | 228      | 265 | 143                                     | 0.67                          | 5.18                    | 6.31                      | 1.59      | 1.85  |

### 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           | 4.94 +0.08/-0.08              | [mm] | (0.194" +0.003"/-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                  |      |                          |