

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM 2Z60HLT      |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513304005       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |             |
|------------------------------------|-----------------------------------|-----------------------------------|-------------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |             |
| 2 Refrigerant                      | R-134a                            |                                   |             |
| 3 Nominal voltage and frequency    | 115-127 / 60                      | [ V / Hz ]                        |             |
| 4 Application type                 | Low 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                            | -                                 | 98 to 140 V |
| 8.2 LBP (43°C Ambient temperature) | Static                            | -                                 | 98 to 140 V |
| 8.3 HBP (32°C Ambient temperature) | -                                 | -                                 | -           |
| 8.4 HBP (43°C Ambient temperature) | -                                 | -                                 | -           |
| 9 Maximum condensing temperature   |                                   |                                   |             |
| 9.1 Operating                      | 14.2                              | [kgf/cm <sup>2</sup> ] (202 psig) | / °C - °F   |
| 9.2 Peak                           | 15.9                              | [kgf/cm <sup>2</sup> ] (226 psig) | / °C - °F   |
| 10 Maximum winding temperature     | 130                               | [ °C ]                            |             |

### B - MECHANICAL DATA

|                               |               |  |
|-------------------------------|---------------|--|
| 1 Commercial designation      | 1/5           | [hp]                                       |
| 2 Displacement                | 5.54          | [cm <sup>3</sup> ] (0.338 cu.in)           |
| 2.1 Bore [mm]                 | 21.000        |  |
| 2.2 Stroke [mm]               | 16.000        |  |
| 3 Lubricant charge            | 150           | [ml] (5.07 fl.oz.)                         |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO10 |  |
| 4 Weight (with oil charge)    | 8.36          | [kg] (18.43 lb.)                           |
| 5 Nitrogen charge             | 0.2 to 0.3    | [kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig) |

### C - ELETRICAL DATA

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 115-127 V 60 Hz 1 ~ (Single phase) |                                    |
| 2 Starting device type                       | Combo                              |                                    |
| 2.1 Starting device                          | 3ARR5XM4F                          |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | 12(180)/15(180)                    | [µF(VAC minimum)]                  |
| 5 Motor protection                           | 3ARR5XM4F                          |                                    |
| 6 Start winding resistance                   | 5.30                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 4.25                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 10.50                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 1.60                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CE - UKCA - UL                     |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                                |                                  |  |                           |  |       |
|-------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|
| TEST CONDITIONS:<br>@115V60Hz |          |     | 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] |
| 675                           | 170      | 198 | 117                            | 1.00                             | 3.84   | 5.78                      | 1.46                                   | 1.69  |

### E - PERFORMANCE - CURVES

|                               |                            |          |                    |                                |                                       |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|---------------------------------------|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | 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)                     | 391                        | 98       | 115                | 71                             | 0.64                                  | 2.21                       | 5.48                      | 1.38      | 1.61  |
| -30 (-22)                     | 499                        | 126      | 146                | 85                             | 0.72                                  | 2.83                       | 5.98                      | 1.51      | 1.75  |
| -25 (-13)                     | 662                        | 167      | 194                | 98                             | 0.82                                  | 3.76                       | 6.78                      | 1.71      | 1.99  |
| -20 (- 4)                     | 876                        | 221      | 257                | 112                            | 0.93                                  | 4.99                       | 7.80                      | 1.97      | 2.29  |
| -15 (+ 5)                     | 1138                       | 287      | 334                | 126                            | 1.06                                  | 6.50                       | 8.98                      | 2.26      | 2.63  |
| -10 (+14)                     | 1445                       | 364      | 423                | 141                            | 1.20                                  | 8.28                       | 10.22                     | 2.58      | 3.00  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | 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)                     | 364                        | 92       | 107                | 73                             | 0.68                                   | 2.06                       | 5.00                      | 1.26      | 1.46  |
| -30 (-22)                     | 472                        | 119      | 138                | 88                             | 0.78                                   | 2.68                       | 5.43                      | 1.37      | 1.59  |
| -25 (-13)                     | 630                        | 159      | 185                | 103                            | 0.89                                   | 3.58                       | 6.13                      | 1.55      | 1.80  |
| -20 (- 4)                     | 834                        | 210      | 244                | 118                            | 1.02                                   | 4.75                       | 7.04                      | 1.77      | 2.06  |
| -15 (+ 5)                     | 1081                       | 272      | 317                | 134                            | 1.16                                   | 6.17                       | 8.06                      | 2.03      | 2.36  |
| -10 (+14)                     | 1368                       | 345      | 401                | 150                            | 1.31                                   | 7.84                       | 9.12                      | 2.30      | 2.67  |

|                               |                            |          |                    |                                |  |                            |                           |           |       |
|-------------------------------|----------------------------|----------|--------------------|--------------------------------|--|----------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |                            |          | 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)                     | 338                        | 85       | 99                 | 76                             | 0.71                                   | 1.91                       | 4.45                      | 1.12      | 1.30  |
| -30 (-22)                     | 445                        | 112      | 130                | 92                             | 0.82                                   | 2.52                       | 4.83                      | 1.22      | 1.42  |
| -25 (-13)                     | 597                        | 150      | 175                | 109                            | 0.95                                   | 3.39                       | 5.46                      | 1.38      | 1.60  |
| -20 (- 4)                     | 790                        | 199      | 232                | 126                            | 1.09                                   | 4.50                       | 6.26                      | 1.58      | 1.84  |
| -15 (+ 5)                     | 1022                       | 257      | 299                | 143                            | 1.25                                   | 5.83                       | 7.15                      | 1.80      | 2.10  |
| -10 (+14)                     | 1289                       | 325      | 378                | 161                            | 1.42                                   | 7.38                       | 8.05                      | 2.03      | 2.36  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@115V60Hz |       | 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) | 311                        | 78       | 91  | 81                                      | 0.73                          | 1.76                    | 3.86                      | 0.97      | 1.13  |
| -30                           | (-22) | 417                        | 105      | 122 | 99                                      | 0.85                          | 2.36                    | 4.22                      | 1.06      | 1.24  |
| -25                           | (-13) | 563                        | 142      | 165 | 117                                     | 0.99                          | 3.20                    | 4.80                      | 1.21      | 1.41  |
| -20                           | (- 4) | 745                        | 188      | 218 | 135                                     | 1.15                          | 4.24                    | 5.51                      | 1.39      | 1.61  |
| -15                           | (+ 5) | 961                        | 242      | 282 | 154                                     | 1.32                          | 5.49                    | 6.28                      | 1.58      | 1.84  |
| -10                           | (+14) | 1207                       | 304      | 354 | 173                                     | 1.50                          | 6.92                    | 7.03                      | 1.77      | 2.06  |

### F - EXTERNAL CHARACTERISTICS

|                         |                  |      |                          |
|-------------------------|------------------|------|--------------------------|
| 1 Base plate            | Universal EUEM   |      |                          |
| 2 Tray holder           | No               |      |                          |
| 3 Connectors            |                  |      |                          |
| 3.1 SUCTION             | 8.2 +0.12/-0.08  | [mm] | (0.323" +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     |      |                          |