

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | EM X4125U       |
| Nominal Voltage/Frequency | 115-127 V 60 Hz |
| Engineering Number        | 513301824       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |   |                                   |           |
|------------------------------------|---|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor                 |                                   |           |
| 2 Refrigerant                      | R-290   |                                   |           |
| 3 Nominal voltage and frequency    | 115-127 / 60                                      | [ V / Hz ]                        |           |
| 4 Application type                 | Low-Medium Back Pressure (Commercial Compressors) |                                   |           |
| 4.1 Evaporating temperature range  | -35°C to 0°C                                      | (-31°F to 32°F)                   |           |
| 5 Motor type                       | CSIR  |                                   |           |
| 6 Starting torque                  | HST - High starting torque                        |                                   |           |
| 7 Expansion device                 | Capillary tube or Expansion valve                 |                                   |           |
| 8 Compressor cooling               | Operating voltage range                           |                                   |           |
|                                    |   | 50 Hz                             | 60 Hz     |
| 8.1 LBP (32°C Ambient temperature) | -   | -                                 | -         |
| 8.2 LBP (43°C Ambient temperature) | -   | -                                 | -         |
| 8.3 HBP (32°C Ambient temperature) | -   | -                                 | -         |
| 8.4 HBP (43°C Ambient temperature) | -   | -                                 | -         |
| 9 Maximum condensing temperature   |   |                                   |           |
| 9.1 Operating                      | 18.4  | [kgf/cm <sup>2</sup> ] (262 psig) | / °C - °F |
| 9.2 Peak                           | 20.6  | [kgf/cm <sup>2</sup> ] (293 psig) | / °C - °F |
| 10 Maximum winding temperature     | 130   | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                 |  |
|-------------------------------|-----------------|--|
| 1 Commercial designation      | 1/3             | [hp]                                       |
| 2 Displacement                | 5.89            | [cm <sup>3</sup> ] (0.359 cu.in)           |
| 2.1 Bore [mm]                 | 21.000          |  |
| 2.2 Stroke [mm]               | 17.000          |  |
| 3 Lubricant charge            | 150             | [ml] (5.07 fl.oz.)                         |
| 3.1 Lubricants approved       |                 |  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO22 |  |
| 4 Weight (with oil charge)    | 8.5             | [kg] (18.74 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                       | Current Relay                      |                                    |
| 2.1 Starting device                          | QL2-9.1                            |                                    |
| 3 Start capacitor                            | 189-227(220)                       | [μF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [μF(VAC minimum)]                  |
| 5 Motor protection                           | 4TM762NFBZZ-53                     |                                    |
| 6 Start winding resistance                   | 6.76                               | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 2.17                               | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (60 Hz)        | 21.36                              | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (60 Hz)     | 3.76                               | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (60 Hz)      | 4.33                               | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | UL                                 |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|                               |          |     |                             |                               |  |                           |  |       |  |
|-------------------------------|----------|-----|-----------------------------|-------------------------------|--|---------------------------|--|-------|--|
| TEST CONDITIONS:<br>@115V60Hz |          |     | 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 consumption<br>+/- 5% | Current consumption<br>+/- 5% | Gas flow rate<br>+/- 5%                            | EFFICIENCY RATE<br>+/- 7% |  |       |  |
| [Btu/h]                       | [kcal/h] | [W] | [W]                         | [A]                           | [kg/h]   | [Btu/Wh]                  | [kcal/Wh]                              | [W/W] |  |
| 1210                          | 305      | 355 | 207                         | 2.40                          | 3.60   | 5.85                      | 1.47                                   | 1.71  |  |

### E - PERFORMANCE - CURVES

|                               |       |                            |                 |     |                                       |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|-----|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       |                            | ASHRAE32<br>Fan |     | (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) | 749                        | 189             | 219 | 140                                   | 2.08                          | 2.21                    | 5.39                      | 1.36      | 1.58  |
| -30                           | (-22) | 1001                       | 252             | 293 | 160                                   | 2.26                          | 2.97                    | 6.20                      | 1.56      | 1.82  |
| -25                           | (-13) | 1286                       | 324             | 377 | 180                                   | 2.44                          | 3.83                    | 7.10                      | 1.79      | 2.08  |
| -20                           | (- 4) | 1604                       | 404             | 470 | 197                                   | 2.60                          | 4.79                    | 8.09                      | 2.04      | 2.37  |
| -15                           | (+ 5) | 1954                       | 492             | 573 | 213                                   | 2.75                          | 5.85                    | 9.19                      | 2.32      | 2.69  |
| -10                           | (+14) | 2337                       | 589             | 685 | 226                                   | 2.88                          | 7.03                    | 10.41                     | 2.62      | 3.05  |
| -5                            | (+23) | 2753                       | 694             | 807 | 235                                   | 2.97                          | 8.32                    | 11.79                     | 2.97      | 3.45  |
| 0                             | (+32) | 3201                       | 807             | 938 | 240                                   | 3.02                          | 9.73                    | 13.32                     | 3.36      | 3.90  |

|                               |       |                            |                 |     |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       |                            | ASHRAE32<br>Fan |     | (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) | 682                        | 172             | 200 | 144                                    | 2.21                          | 2.02                    | 4.78                      | 1.21      | 1.40  |
| -30                           | (-22) | 908                        | 229             | 266 | 166                                    | 2.38                          | 2.69                    | 5.47                      | 1.38      | 1.60  |
| -25                           | (-13) | 1173                       | 296             | 344 | 188                                    | 2.57                          | 3.49                    | 6.21                      | 1.57      | 1.82  |
| -20                           | (- 4) | 1477                       | 372             | 433 | 210                                    | 2.75                          | 4.41                    | 7.02                      | 1.77      | 2.06  |
| -15                           | (+ 5) | 1820                       | 459             | 533 | 230                                    | 2.93                          | 5.45                    | 7.90                      | 1.99      | 2.31  |
| -10                           | (+14) | 2203                       | 555             | 645 | 248                                    | 3.10                          | 6.63                    | 8.88                      | 2.24      | 2.60  |
| -5                            | (+23) | 2625                       | 661             | 769 | 263                                    | 3.25                          | 7.94                    | 9.97                      | 2.51      | 2.92  |
| 0                             | (+32) | 3086                       | 778             | 904 | 275                                    | 3.36                          | 9.38                    | 11.20                     | 2.82      | 3.28  |

|                               |       |                            |                 |     |  |                               |                         |                           |           |       |
|-------------------------------|-------|----------------------------|-----------------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| TEST CONDITIONS:<br>@115V60Hz |       |                            | ASHRAE32<br>Fan |     | (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) | 618                        | 156             | 181 | 145                                    | 2.22                          | 1.83                    | 4.23                      | 1.07      | 1.24  |
| -30                           | (-22) | 820                        | 207             | 240 | 169                                    | 2.41                          | 2.43                    | 4.85                      | 1.22      | 1.42  |
| -25                           | (-13) | 1067                       | 269             | 313 | 195                                    | 2.61                          | 3.17                    | 5.50                      | 1.39      | 1.61  |
| -20                           | (- 4) | 1360                       | 343             | 398 | 221                                    | 2.83                          | 4.06                    | 6.17                      | 1.55      | 1.81  |
| -15                           | (+ 5) | 1698                       | 428             | 498 | 247                                    | 3.06                          | 5.09                    | 6.89                      | 1.74      | 2.02  |
| -10                           | (+14) | 2083                       | 525             | 610 | 271                                    | 3.29                          | 6.27                    | 7.68                      | 1.94      | 2.25  |
| -5                            | (+23) | 2513                       | 633             | 736 | 294                                    | 3.50                          | 7.60                    | 8.56                      | 2.16      | 2.51  |
| 0                             | (+32) | 2989                       | 753             | 876 | 314                                    | 3.70                          | 9.09                    | 9.53                      | 2.40      | 2.79  |

### F - EXTERNAL CHARACTERISTICS

|                         |                 |      |                          |
|-------------------------|-----------------|------|--------------------------|
| 1 Base plate            | Universal       |      |                          |
| 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           | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-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    |      |                          |