

### COMPRESSOR DEFINITION

|                           |                        |
|---------------------------|------------------------|
| Designation               | <b>FMF T411U</b>       |
| Nominal Voltage/Frequency | <b>230 V 60-150 Hz</b> |
| Engineering Number        | <b>513805002</b>       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |   |                                   |           |
|------------------------------------|---|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor                       |                                   |           |
| 2 Refrigerant                      | R-290   |                                   |           |
| 3 Nominal voltage and frequency    | 230 / 60-150  | [ V / Hz ]                        |           |
| 4 Application type                 | Low-Medium Back Pressure (Light Commercial) up to -40°C |                                   |           |
| 4.1 Evaporating temperature range  | -40°C to 0°C  | (-40°F to 32°F)                   |           |
| 5 Motor type                       | BPM   |                                   |           |
| 6 Starting torque                  | LST/HST - Low/Hight starting sorque                     |                                   |           |
| 7 Expantion 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 (gauge)              | 18.4  | [kgf/cm <sup>2</sup> ] (262 psig) | / °C - °F |
| 9.2 Peak (gauge)                   | 20.6  | [kgf/cm <sup>2</sup> ] (293 psig) | / °C - °F |
| 10 Maximum winding temperature     | 130   | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |               |  |
|-------------------------------|---------------|--|
| 1 Commercial designation      | 3/4           | [hp]                                       |
| 2 Displacement                | 11.14         | [cm <sup>3</sup> ] (0.680 cu.in)           |
| 2.1 Bore [mm]                 | 26.000        |  |
| 2.2 Stroke [mm]               | 21.000        |  |
| 3 Lubricant charge            | 430           | [ml] (14.54 fl.oz.)                        |
| 3.1 Lubricants approved       |               |  |
| 3.2 Lubricants type/viscosity | ESTER / ISO22 |  |
| 4 Weight (with oil charge)    | 10.87         | [kg] (23.96 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 | 230 V 60-150 Hz 3 ~ (Three phase) |                                    |
| 2 Starting device type                       | Inverter                          |                                    |
| 2.1 Starting device                          | CF10C01 M 0.1 X                   |                                    |
| 3 Start capacitor                            | -                                 | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                 | [µF(VAC minimum)]                  |
| 5 Motor protection                           | CF10C01 M 0.1 XX A Y              |                                    |
| 6 Start winding resistance                   | 4.30                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 4.30                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (50/60 Hz)     | 6.50/6.50                         | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (50/60 Hz)  | 2.00                              | [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             | VDE                               |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|   |          |     |                             |                               |  |  |           |       |
|---|----------|-----|-----------------------------|-------------------------------|--|--|-----------|-------|
| TEST CONDITIONS:<br><b>@220V1800RPM</b> |          |     | <b>ASHRAELBP32<br/>Fan</b>  |                               | Evaporating temperature<br>(Condensing temperature | <b>-23.3°C (-9.94°F)<br/>54.4°C (129.92°F)</b> |           |       |
| 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] |
| 1191                                    | 300      | 349 | 196                         | 1.00                          | 3.54   | 6.08   | 1.53      | 1.78  |

|   |          |     |                             |                               |  |  |           |       |
|---|----------|-----|-----------------------------|-------------------------------|--|--|-----------|-------|
| TEST CONDITIONS:<br><b>@220V2400RPM</b> |          |     | <b>ASHRAELBP32<br/>Fan</b>  |                               | Evaporating temperature<br>(Condensing temperature | <b>-23.3°C (-9.94°F)<br/>54.4°C (129.92°F)</b> |           |       |
| 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] |
| 1592                                    | 401      | 466 | 252                         | 1.25                          | 4.74   | 6.31   | 1.59      | 1.85  |

|   |          |     |                             |                               |  |  |           |       |
|---|----------|-----|-----------------------------|-------------------------------|--|--|-----------|-------|
| TEST CONDITIONS:<br><b>@220V3000RPM</b> |          |     | <b>ASHRAELBP32<br/>Fan</b>  |                               | Evaporating temperature<br>(Condensing temperature | <b>-23.3°C (-9.94°F)<br/>54.4°C (129.92°F)</b> |           |       |
| 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] |
| 2024                                    | 510      | 593 | 322                         | 1.54                          | 6.02   | 6.28   | 1.58      | 1.84  |

|   |          |     |                             |                               |  |  |           |       |
|---|----------|-----|-----------------------------|-------------------------------|--|--|-----------|-------|
| TEST CONDITIONS:<br><b>@220V3600RPM</b> |          |     | <b>ASHRAELBP32<br/>Fan</b>  |                               | Evaporating temperature<br>(Condensing temperature | <b>-23.3°C (-9.94°F)<br/>54.4°C (129.92°F)</b> |           |       |
| 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] |
| 2335                                    | 588      | 684 | 380                         | 1.78                          | 6.95   | 6.14   | 1.55      | 1.80  |

|   |          |     |                             |                               |  |  |           |       |
|---|----------|-----|-----------------------------|-------------------------------|--|--|-----------|-------|
| TEST CONDITIONS:<br><b>@220V4500RPM</b> |          |     | <b>ASHRAELBP32<br/>Fan</b>  |                               | Evaporating temperature<br>(Condensing temperature | <b>-23.3°C (-9.94°F)<br/>54.4°C (129.92°F)</b> |           |       |
| 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] |
| 2959                                    | 746      | 867 | 494                         | 2.27                          | 8.81   | 5.99   | 1.51      | 1.76  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:        |       | ASHRAE32         |          |     | (Condensing temperature 35°C (+95°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|-----|---------------------------------------|---------------------|---------------|-----------------|-----------|-------|
| @220V1800RPM            |       | Fan              |          |     |                                       |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |     | Power consumption                     | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |     | +/- 5%                                | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W] | [W]                                   | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 514              | 130      | 151 | 101                                   | 0.69                | 1.51          | 5.38            | 1.36      | 1.58  |
| -35                     | (-31) | 752              | 190      | 220 | 124                                   | 0.71                | 2.23          | 6.07            | 1.53      | 1.78  |
| -30                     | (-22) | 989              | 249      | 290 | 143                                   | 0.75                | 2.93          | 6.84            | 1.72      | 2.00  |
| -25                     | (-13) | 1238             | 312      | 363 | 160                                   | 0.81                | 3.68          | 7.72            | 1.95      | 2.26  |
| -20                     | (- 4) | 1512             | 381      | 443 | 173                                   | 0.88                | 4.51          | 8.75            | 2.20      | 2.56  |
| -15                     | (+ 5) | 1826             | 460      | 535 | 184                                   | 0.96                | 5.47          | 9.95            | 2.51      | 2.92  |
| -10                     | (+14) | 2192             | 552      | 642 | 194                                   | 1.04                | 6.60          | 11.37           | 2.87      | 3.33  |
| -5                      | (+23) | 2624             | 661      | 769 | 202                                   | 1.12                | 7.94          | 13.04           | 3.29      | 3.82  |
| 0                       | (+32) | 3136             | 790      | 919 | 208                                   | 1.19                | 9.53          | 14.99           | 3.78      | 4.39  |

| TEST CONDITIONS:        |       | ASHRAE32         |          |     | (Condensing temperature 45°C (+113°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|-----|--|---------------------|---------------|-----------------|-----------|-------|
| @220V1800RPM            |       | Fan              |          |     |  |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |     | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |     | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W] | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 515              | 130      | 151 | 110                                    | 0.77                | 1.52          | 4.89            | 1.23      | 1.43  |
| -35                     | (-31) | 730              | 184      | 214 | 134                                    | 0.78                | 2.16          | 5.46            | 1.38      | 1.60  |
| -30                     | (-22) | 945              | 238      | 277 | 155                                    | 0.82                | 2.80          | 6.06            | 1.53      | 1.78  |
| -25                     | (-13) | 1174             | 296      | 344 | 174                                    | 0.88                | 3.49          | 6.72            | 1.69      | 1.97  |
| -20                     | (- 4) | 1432             | 361      | 420 | 191                                    | 0.96                | 4.27          | 7.47            | 1.88      | 2.19  |
| -15                     | (+ 5) | 1730             | 436      | 507 | 207                                    | 1.05                | 5.18          | 8.36            | 2.11      | 2.45  |
| -10                     | (+14) | 2084             | 525      | 611 | 221                                    | 1.15                | 6.27          | 9.41            | 2.37      | 2.76  |
| -5                      | (+23) | 2506             | 632      | 734 | 235                                    | 1.25                | 7.58          | 10.66           | 2.69      | 3.12  |
| 0                       | (+32) | 3010             | 758      | 882 | 248                                    | 1.34                | 9.15          | 12.14           | 3.06      | 3.56  |

| TEST CONDITIONS:        |       | ASHRAE32         |          |     | (Condensing temperature 55°C (+131°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|-----|--|---------------------|---------------|-----------------|-----------|-------|
| @220V1800RPM            |       | Fan              |          |     |  |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |     | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |     | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W] | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 458              | 115      | 134 | 111                                    | 0.87                | 1.35          | 4.26            | 1.07      | 1.25  |
| -35                     | (-31) | 663              | 167      | 194 | 138                                    | 0.88                | 1.96          | 4.80            | 1.21      | 1.41  |
| -30                     | (-22) | 871              | 220      | 255 | 164                                    | 0.92                | 2.58          | 5.32            | 1.34      | 1.56  |
| -25                     | (-13) | 1096             | 276      | 321 | 187                                    | 0.98                | 3.26          | 5.86            | 1.48      | 1.72  |
| -20                     | (- 4) | 1351             | 340      | 396 | 210                                    | 1.07                | 4.03          | 6.44            | 1.62      | 1.89  |
| -15                     | (+ 5) | 1649             | 416      | 483 | 232                                    | 1.18                | 4.94          | 7.10            | 1.79      | 2.08  |
| -10                     | (+14) | 2005             | 505      | 587 | 253                                    | 1.29                | 6.03          | 7.88            | 1.99      | 2.31  |
| -5                      | (+23) | 2431             | 613      | 712 | 275                                    | 1.42                | 7.35          | 8.82            | 2.22      | 2.58  |
| 0                       | (+32) | 2941             | 741      | 862 | 297                                    | 1.54                | 8.94          | 9.94            | 2.50      | 2.91  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V1800RPM |       | ASHRAE32<br>Fan            |          |     | (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] |
| -40                              | (-40) | 342                        | 86       | 100 | 105                                    | 1.01                          | 1.00                    | 3.37                      | 0.85      | 0.99  |
| -35                              | (-31) | 552                        | 139      | 162 | 138                                    | 1.01                          | 1.63                    | 3.99                      | 1.00      | 1.17  |
| -30                              | (-22) | 768                        | 193      | 225 | 169                                    | 1.05                          | 2.28                    | 4.53                      | 1.14      | 1.33  |
| -25                              | (-13) | 1002                       | 253      | 294 | 200                                    | 1.12                          | 2.98                    | 5.04                      | 1.27      | 1.48  |
| -20                              | (- 4) | 1269                       | 320      | 372 | 230                                    | 1.22                          | 3.78                    | 5.55                      | 1.40      | 1.63  |
| -15                              | (+ 5) | 1582                       | 399      | 463 | 260                                    | 1.35                          | 4.74                    | 6.10                      | 1.54      | 1.79  |
| -10                              | (+14) | 1953                       | 492      | 572 | 291                                    | 1.48                          | 5.88                    | 6.71                      | 1.69      | 1.96  |
| -5                               | (+23) | 2398                       | 604      | 703 | 322                                    | 1.63                          | 7.25                    | 7.42                      | 1.87      | 2.17  |
| 0                                | (+32) | 2929                       | 738      | 858 | 355                                    | 1.79                          | 8.90                    | 8.27                      | 2.08      | 2.42  |

| TEST CONDITIONS:<br>@220V3000RPM |       | 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] |
| -40                              | (-40) | 906                        | 228      | 265  | 179                                   | 0.97                          | 2.67                    | 5.19                      | 1.31      | 1.52  |
| -35                              | (-31) | 1243                       | 313      | 364  | 210                                   | 1.05                          | 3.68                    | 5.92                      | 1.49      | 1.74  |
| -30                              | (-22) | 1602                       | 404      | 469  | 239                                   | 1.15                          | 4.75                    | 6.69                      | 1.69      | 1.96  |
| -25                              | (-13) | 1999                       | 504      | 586  | 265                                   | 1.26                          | 5.94                    | 7.52                      | 1.90      | 2.20  |
| -20                              | (- 4) | 2452                       | 618      | 718  | 290                                   | 1.38                          | 7.32                    | 8.46                      | 2.13      | 2.48  |
| -15                              | (+ 5) | 2978                       | 751      | 873  | 313                                   | 1.51                          | 8.92                    | 9.54                      | 2.40      | 2.80  |
| -10                              | (+14) | 3596                       | 906      | 1054 | 334                                   | 1.63                          | 10.82                   | 10.80                     | 2.72      | 3.17  |
| -5                               | (+23) | 4321                       | 1089     | 1266 | 352                                   | 1.75                          | 13.07                   | 12.28                     | 3.10      | 3.60  |
| 0                                | (+32) | 5172                       | 1303     | 1515 | 368                                   | 1.86                          | 15.72                   | 14.02                     | 3.53      | 4.11  |

| TEST CONDITIONS:<br>@220V3000RPM |       | 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] |
| -40                              | (-40) | 859                        | 216      | 252  | 188                                    | 1.03                          | 2.53                    | 4.73                      | 1.19      | 1.39  |
| -35                              | (-31) | 1198                       | 302      | 351  | 223                                    | 1.12                          | 3.54                    | 5.38                      | 1.36      | 1.58  |
| -30                              | (-22) | 1556                       | 392      | 456  | 257                                    | 1.24                          | 4.61                    | 6.03                      | 1.52      | 1.77  |
| -25                              | (-13) | 1950                       | 491      | 571  | 290                                    | 1.37                          | 5.80                    | 6.70                      | 1.69      | 1.96  |
| -20                              | (- 4) | 2398                       | 604      | 703  | 321                                    | 1.52                          | 7.15                    | 7.44                      | 1.88      | 2.18  |
| -15                              | (+ 5) | 2917                       | 735      | 855  | 351                                    | 1.67                          | 8.74                    | 8.29                      | 2.09      | 2.43  |
| -10                              | (+14) | 3523                       | 888      | 1032 | 379                                    | 1.82                          | 10.60                   | 9.28                      | 2.34      | 2.72  |
| -5                               | (+23) | 4236                       | 1067     | 1241 | 406                                    | 1.97                          | 12.81                   | 10.44                     | 2.63      | 3.06  |
| 0                                | (+32) | 5071                       | 1278     | 1486 | 430                                    | 2.11                          | 15.42                   | 11.83                     | 2.98      | 3.47  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V3000RPM |       | 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] |
| -40                              | (-40) | 763                        | 192      | 223  | 188                                    | 1.09                          | 2.25                    | 4.21                      | 1.06      | 1.23  |
| -35                              | (-31) | 1106                       | 279      | 324  | 229                                    | 1.20                          | 3.27                    | 4.85                      | 1.22      | 1.42  |
| -30                              | (-22) | 1466                       | 369      | 430  | 269                                    | 1.33                          | 4.35                    | 5.45                      | 1.37      | 1.60  |
| -25                              | (-13) | 1860                       | 469      | 545  | 308                                    | 1.49                          | 5.53                    | 6.03                      | 1.52      | 1.77  |
| -20                              | (- 4) | 2304                       | 581      | 675  | 347                                    | 1.66                          | 6.87                    | 6.64                      | 1.67      | 1.95  |
| -15                              | (+ 5) | 2817                       | 710      | 826  | 384                                    | 1.83                          | 8.44                    | 7.32                      | 1.84      | 2.14  |
| -10                              | (+14) | 3416                       | 861      | 1001 | 421                                    | 2.01                          | 10.28                   | 8.10                      | 2.04      | 2.37  |
| -5                               | (+23) | 4118                       | 1038     | 1207 | 455                                    | 2.19                          | 12.45                   | 9.02                      | 2.27      | 2.64  |
| 0                                | (+32) | 4940                       | 1245     | 1448 | 489                                    | 2.36                          | 15.01                   | 10.11                     | 2.55      | 2.96  |

| TEST CONDITIONS:<br>@220V3000RPM |       | ASHRAE32<br>Fan            |          |      | (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] |
| -40                              | (-40) | 618                        | 156      | 181  | 182                                    | 1.15                          | 1.82                    | 3.52                      | 0.89      | 1.03  |
| -35                              | (-31) | 968                        | 244      | 284  | 229                                    | 1.28                          | 2.86                    | 4.21                      | 1.06      | 1.23  |
| -30                              | (-22) | 1332                       | 336      | 390  | 275                                    | 1.44                          | 3.95                    | 4.82                      | 1.22      | 1.41  |
| -25                              | (-13) | 1727                       | 435      | 506  | 322                                    | 1.61                          | 5.13                    | 5.38                      | 1.36      | 1.58  |
| -20                              | (- 4) | 2171                       | 547      | 636  | 368                                    | 1.80                          | 6.47                    | 5.93                      | 1.49      | 1.74  |
| -15                              | (+ 5) | 2680                       | 675      | 785  | 413                                    | 2.00                          | 8.03                    | 6.51                      | 1.64      | 1.91  |
| -10                              | (+14) | 3273                       | 825      | 959  | 458                                    | 2.20                          | 9.85                    | 7.14                      | 1.80      | 2.09  |
| -5                               | (+23) | 3967                       | 1000     | 1162 | 502                                    | 2.41                          | 11.99                   | 7.88                      | 1.99      | 2.31  |
| 0                                | (+32) | 4778                       | 1204     | 1400 | 546                                    | 2.60                          | 14.52                   | 8.76                      | 2.21      | 2.57  |

| TEST CONDITIONS:<br>@220V3600RPM |       | 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] |
| -40                              | (-40) | 1090                       | 275      | 320  | 216                                   | 1.13                          | 3.22                    | 5.11                      | 1.29      | 1.50  |
| -35                              | (-31) | 1458                       | 367      | 427  | 252                                   | 1.24                          | 4.32                    | 5.78                      | 1.46      | 1.69  |
| -30                              | (-22) | 1892                       | 477      | 554  | 289                                   | 1.37                          | 5.61                    | 6.51                      | 1.64      | 1.91  |
| -25                              | (-13) | 2400                       | 605      | 703  | 327                                   | 1.53                          | 7.14                    | 7.31                      | 1.84      | 2.14  |
| -20                              | (- 4) | 2991                       | 754      | 876  | 364                                   | 1.70                          | 8.92                    | 8.22                      | 2.07      | 2.41  |
| -15                              | (+ 5) | 3674                       | 926      | 1077 | 399                                   | 1.87                          | 11.01                   | 9.25                      | 2.33      | 2.71  |
| -10                              | (+14) | 4459                       | 1124     | 1306 | 430                                   | 2.04                          | 13.42                   | 10.42                     | 2.63      | 3.05  |
| -5                               | (+23) | 5353                       | 1349     | 1569 | 457                                   | 2.19                          | 16.19                   | 11.76                     | 2.96      | 3.45  |
| 0                                | (+32) | 6366                       | 1604     | 1865 | 477                                   | 2.32                          | 19.36                   | 13.29                     | 3.35      | 3.89  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:        |       | ASHRAE32         |          |      | (Condensing temperature 45°C (+113°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|------|--|---------------------|---------------|-----------------|-----------|-------|
| @220V3600RPM            |       | Fan              |          |      |  |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |      | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |      | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W]  | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 1042             | 262      | 305  | 227                                    | 1.20                | 3.07          | 4.66            | 1.18      | 1.37  |
| -35                     | (-31) | 1384             | 349      | 405  | 265                                    | 1.31                | 4.09          | 5.25            | 1.32      | 1.54  |
| -30                     | (-22) | 1795             | 452      | 526  | 306                                    | 1.45                | 5.32          | 5.86            | 1.48      | 1.72  |
| -25                     | (-13) | 2285             | 576      | 670  | 349                                    | 1.63                | 6.80          | 6.52            | 1.64      | 1.91  |
| -20                     | (- 4) | 2862             | 721      | 839  | 392                                    | 1.82                | 8.54          | 7.27            | 1.83      | 2.13  |
| -15                     | (+ 5) | 3535             | 891      | 1036 | 435                                    | 2.02                | 10.59         | 8.10            | 2.04      | 2.37  |
| -10                     | (+14) | 4313             | 1087     | 1264 | 475                                    | 2.23                | 12.98         | 9.06            | 2.28      | 2.66  |
| -5                      | (+23) | 5204             | 1311     | 1525 | 513                                    | 2.43                | 15.74         | 10.16           | 2.56      | 2.98  |
| 0                       | (+32) | 6218             | 1567     | 1822 | 545                                    | 2.61                | 18.90         | 11.43           | 2.88      | 3.35  |

| TEST CONDITIONS:        |       | ASHRAE32         |          |      | (Condensing temperature 55°C (+131°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|------|--|---------------------|---------------|-----------------|-----------|-------|
| @220V3600RPM            |       | Fan              |          |      |  |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |      | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |      | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W]  | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 976              | 246      | 286  | 231                                    | 1.26                | 2.88          | 4.23            | 1.07      | 1.24  |
| -35                     | (-31) | 1285             | 324      | 376  | 271                                    | 1.38                | 3.80          | 4.77            | 1.20      | 1.40  |
| -30                     | (-22) | 1667             | 420      | 488  | 315                                    | 1.53                | 4.94          | 5.31            | 1.34      | 1.56  |
| -25                     | (-13) | 2131             | 537      | 625  | 363                                    | 1.72                | 6.34          | 5.88            | 1.48      | 1.72  |
| -20                     | (- 4) | 2686             | 677      | 787  | 412                                    | 1.94                | 8.01          | 6.50            | 1.64      | 1.91  |
| -15                     | (+ 5) | 3341             | 842      | 979  | 463                                    | 2.17                | 10.01         | 7.19            | 1.81      | 2.11  |
| -10                     | (+14) | 4105             | 1034     | 1203 | 512                                    | 2.41                | 12.35         | 7.98            | 2.01      | 2.34  |
| -5                      | (+23) | 4986             | 1256     | 1461 | 560                                    | 2.64                | 15.07         | 8.88            | 2.24      | 2.60  |
| 0                       | (+32) | 5993             | 1510     | 1756 | 605                                    | 2.87                | 18.21         | 9.92            | 2.50      | 2.91  |

| TEST CONDITIONS:        |       | ASHRAE32         |          |      | (Condensing temperature 65°C (+149°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|------|--|---------------------|---------------|-----------------|-----------|-------|
| @220V3600RPM            |       | Fan              |          |      |  |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |      | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |      | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W]  | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 893              | 225      | 262  | 228                                    | 1.34                | 2.63          | 3.74            | 0.94      | 1.09  |
| -35                     | (-31) | 1161             | 293      | 340  | 270                                    | 1.45                | 3.44          | 4.27            | 1.08      | 1.25  |
| -30                     | (-22) | 1507             | 380      | 441  | 317                                    | 1.61                | 4.47          | 4.78            | 1.20      | 1.40  |
| -25                     | (-13) | 1938             | 488      | 568  | 369                                    | 1.81                | 5.76          | 5.29            | 1.33      | 1.55  |
| -20                     | (- 4) | 2464             | 621      | 722  | 425                                    | 2.04                | 7.35          | 5.83            | 1.47      | 1.71  |
| -15                     | (+ 5) | 3093             | 779      | 906  | 483                                    | 2.30                | 9.26          | 6.42            | 1.62      | 1.88  |
| -10                     | (+14) | 3835             | 966      | 1124 | 541                                    | 2.57                | 11.54         | 7.07            | 1.78      | 2.07  |
| -5                      | (+23) | 4698             | 1184     | 1377 | 599                                    | 2.85                | 14.20         | 7.82            | 1.97      | 2.29  |
| 0                       | (+32) | 5691             | 1434     | 1668 | 656                                    | 3.12                | 17.30         | 8.68            | 2.19      | 2.54  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:        |       | ASHRAE32         |          |      | (Condensing temperature 35°C (+95°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|------|---------------------------------------|---------------------|---------------|-----------------|-----------|-------|
| @220V4500RPM            |       | Fan              |          |      |                                       |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |      | Power consumption                     | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |      | +/- 5%                                | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W]  | [W]                                   | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 1348             | 340      | 395  | 278                                   | 1.38                | 3.97          | 4.92            | 1.24      | 1.44  |
| -35                     | (-31) | 1804             | 455      | 529  | 325                                   | 1.56                | 5.34          | 5.55            | 1.40      | 1.63  |
| -30                     | (-22) | 2305             | 581      | 675  | 369                                   | 1.74                | 6.84          | 6.24            | 1.57      | 1.83  |
| -25                     | (-13) | 2871             | 723      | 841  | 409                                   | 1.92                | 8.54          | 7.01            | 1.77      | 2.05  |
| -20                     | (- 4) | 3522             | 887      | 1032 | 448                                   | 2.10                | 10.51         | 7.86            | 1.98      | 2.30  |
| -15                     | (+ 5) | 4277             | 1078     | 1253 | 486                                   | 2.28                | 12.81         | 8.79            | 2.22      | 2.58  |
| -10                     | (+14) | 5156             | 1299     | 1511 | 524                                   | 2.48                | 15.52         | 9.83            | 2.48      | 2.88  |
| -5                      | (+23) | 6179             | 1557     | 1811 | 563                                   | 2.68                | 18.69         | 10.97           | 2.77      | 3.22  |
| 0                       | (+32) | 7366             | 1856     | 2158 | 602                                   | 2.89                | 22.40         | 12.23           | 3.08      | 3.58  |

| TEST CONDITIONS:        |       | ASHRAE32         |          |      | (Condensing temperature 45°C (+113°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|------|--|---------------------|---------------|-----------------|-----------|-------|
| @220V4500RPM            |       | Fan              |          |      |  |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |      | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |      | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W]  | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 1321             | 333      | 387  | 294                                    | 1.47                | 3.89          | 4.55            | 1.15      | 1.33  |
| -35                     | (-31) | 1773             | 447      | 520  | 348                                    | 1.67                | 5.25          | 5.09            | 1.28      | 1.49  |
| -30                     | (-22) | 2268             | 571      | 665  | 398                                    | 1.87                | 6.73          | 5.68            | 1.43      | 1.67  |
| -25                     | (-13) | 2825             | 712      | 828  | 446                                    | 2.07                | 8.40          | 6.33            | 1.60      | 1.86  |
| -20                     | (- 4) | 3465             | 873      | 1015 | 492                                    | 2.27                | 10.34         | 7.05            | 1.78      | 2.06  |
| -15                     | (+ 5) | 4206             | 1060     | 1232 | 537                                    | 2.47                | 12.60         | 7.84            | 1.97      | 2.30  |
| -10                     | (+14) | 5069             | 1277     | 1485 | 582                                    | 2.69                | 15.25         | 8.71            | 2.19      | 2.55  |
| -5                      | (+23) | 6074             | 1531     | 1780 | 627                                    | 2.91                | 18.37         | 9.68            | 2.44      | 2.84  |
| 0                       | (+32) | 7240             | 1824     | 2121 | 674                                    | 3.14                | 22.01         | 10.74           | 2.71      | 3.15  |

| TEST CONDITIONS:        |       | ASHRAE32         |          |      | (Condensing temperature 55°C (+131°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|------|--|---------------------|---------------|-----------------|-----------|-------|
| @220V4500RPM            |       | Fan              |          |      |  |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |      | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |      | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W]  | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -40                     | (-40) | 1204             | 303      | 353  | 292                                    | 1.51                | 3.55          | 4.18            | 1.05      | 1.23  |
| -35                     | (-31) | 1664             | 419      | 488  | 356                                    | 1.74                | 4.92          | 4.67            | 1.18      | 1.37  |
| -30                     | (-22) | 2164             | 545      | 634  | 416                                    | 1.98                | 6.42          | 5.19            | 1.31      | 1.52  |
| -25                     | (-13) | 2724             | 686      | 798  | 474                                    | 2.21                | 8.10          | 5.75            | 1.45      | 1.69  |
| -20                     | (- 4) | 3364             | 848      | 986  | 529                                    | 2.45                | 10.03         | 6.36            | 1.60      | 1.86  |
| -15                     | (+ 5) | 4104             | 1034     | 1203 | 584                                    | 2.69                | 12.29         | 7.04            | 1.77      | 2.06  |
| -10                     | (+14) | 4963             | 1251     | 1454 | 638                                    | 2.94                | 14.93         | 7.78            | 1.96      | 2.28  |
| -5                      | (+23) | 5960             | 1502     | 1747 | 693                                    | 3.20                | 18.02         | 8.60            | 2.17      | 2.52  |
| 0                       | (+32) | 7117             | 1793     | 2085 | 749                                    | 3.47                | 21.63         | 9.50            | 2.39      | 2.78  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V4500RPM |       | ASHRAE32<br>Fan            |          |      | (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] |
| -40                              | (-40) | 997                        | 251      | 292  | 274                                    | 1.50                          | 2.93                    | 3.76                      | 0.95      | 1.10  |
| -35                              | (-31) | 1476                       | 372      | 433  | 350                                    | 1.79                          | 4.36                    | 4.22                      | 1.06      | 1.24  |
| -30                              | (-22) | 1993                       | 502      | 584  | 422                                    | 2.07                          | 5.91                    | 4.70                      | 1.19      | 1.38  |
| -25                              | (-13) | 2568                       | 647      | 753  | 492                                    | 2.35                          | 7.63                    | 5.21                      | 1.31      | 1.53  |
| -20                              | (- 4) | 3220                       | 812      | 944  | 560                                    | 2.64                          | 9.60                    | 5.75                      | 1.45      | 1.69  |
| -15                              | (+ 5) | 3970                       | 1000     | 1163 | 626                                    | 2.94                          | 11.89                   | 6.34                      | 1.60      | 1.86  |
| -10                              | (+14) | 4836                       | 1219     | 1417 | 693                                    | 3.24                          | 14.55                   | 6.98                      | 1.76      | 2.05  |
| -5                               | (+23) | 5838                       | 1471     | 1711 | 759                                    | 3.55                          | 17.65                   | 7.69                      | 1.94      | 2.25  |
| 0                                | (+32) | 6997                       | 1763     | 2050 | 827                                    | 3.88                          | 21.26                   | 8.46                      | 2.13      | 2.48  |



### F - EXTERNAL CHARACTERISTICS

|                         |                               |      |                          |
|-------------------------|-------------------------------|------|--------------------------|
| 1 Base plate            | Universal EG/F/AMEM version 2 |      |                          |
| 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                  |      |                          |