

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | VES F7C         |
| Nominal Voltage/Frequency | 230 V 32-150 Hz |
| Engineering Number        | 513907488       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |   |                                   |           |
|------------------------------------|---|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor                 |                                   |           |
| 2 Refrigerant                      | R-600a  |                                   |           |
| 3 Nominal voltage and frequency    | 230 / 32-150                                      | [ V / Hz ]                        |           |
| 4 Application type                 | Low-Medium Back Pressure (Fullmotion Compressors) |                                   |           |
| 4.1 Evaporating temperature range  | -35°C to 0°C                                      | (-31°F to 32°F)                   |           |
| 5 Motor type                       | BPM   |                                   |           |
| 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  | 187 to 255 V                      | -         |
| 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                      | 6.9   | [kgf/cm <sup>2</sup> ] (98 psig)  | / °C - °F |
| 9.2 Peak                           | 7.8   | [kgf/cm <sup>2</sup> ] (111 psig) | / °C - °F |
| 10 Maximum winding temperature     | 130   | [ °C ]                            |           |

### B - MECHANICAL DATA

|                               |                |                                  |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation      | 1/5            | [hp]                             |
| 2 Displacement                | 7.23           | [cm <sup>3</sup> ] (0.441 cu.in) |
| 2.1 Bore [mm]                 | 24.000         |                                  |
| 2.2 Stroke [mm]               | 16.000         |                                  |
| 3 Lubricant charge            | 205            | [ml] (6.93 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 |                                  |
| 4 Weight (with oil charge)    | 6.2            | [kg] (13.67 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELECTRICAL DATA

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 230 V 31.7-150 Hz 3~ (Three phase) |                                    |
| 2 Starting device type                       | Inverter                           |                                    |
| 2.1 Starting device                          | CF01F22 M                          |                                    |
| 3 Start capacitor                            | -                                  | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                  | [µF(VAC minimum)]                  |
| 5 Motor protection                           | CF01F12 M 0.0 XX F X               |                                    |
| 6 Start winding resistance                   | 15.60                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 15.60                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (32/150 Hz)    | 2.10                               | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (32/150 Hz) | -                                  | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (32/150 Hz)  | -                                  | [A] - Measured according to UL 984 |
| 11 Approval boards certification             |                                    |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|  |          |     |                                     |                            |   |                                |  |       |
|--|----------|-----|-------------------------------------|----------------------------|---|--------------------------------|--|-------|
| TEST CONDITIONS:<br><b>@220V950RPM</b> |          |     | <b>ASHRAELBP32</b><br><b>Static</b> |                            | Evaporating temperature<br>(Condensing temperature) |                                | <b>-23.3°C (-9.94°F)</b><br><b>54.4°C (129.92°F)</b> |       |
| Cooling capacity (Qe)<br>+/- 5%        |          |     | Input power (We)<br>+/- 5%          | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5%                            | Efficiency EER & COP<br>+/- 7% |  |       |
| [Btu/h]                                | [kcal/h] | [W] | [W]                                 | [A]                        | [kg/h]  | [Btu/Wh]                       | [kcal/Wh]  | [W/W] |
| 133                                    | 33       | 39  | 20                                  | 0.19                       | 0.42  | 6.55                           | 1.65   | 1.92  |

|   |          |     |                                     |                            |   |                                |  |       |
|---|----------|-----|-------------------------------------|----------------------------|---|--------------------------------|--|-------|
| TEST CONDITIONS:<br><b>@220V1300RPM</b> |          |     | <b>ASHRAELBP32</b><br><b>Static</b> |                            | Evaporating temperature<br>(Condensing temperature) |                                | <b>-23.3°C (-9.94°F)</b><br><b>54.4°C (129.92°F)</b> |       |
| Cooling capacity (Qe)<br>+/- 5%         |          |     | Input power (We)<br>+/- 5%          | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5%                            | Efficiency EER & COP<br>+/- 7% |  |       |
| [Btu/h]                                 | [kcal/h] | [W] | [W]                                 | [A]                        | [kg/h]  | [Btu/Wh]                       | [kcal/Wh]  | [W/W] |
| 181                                     | 46       | 53  | 27                                  | 0.23                       | 0.57  | 6.70                           | 1.69   | 1.96  |

|   |          |     |                                     |                            |   |                                |  |       |
|---|----------|-----|-------------------------------------|----------------------------|---|--------------------------------|--|-------|
| TEST CONDITIONS:<br><b>@220V1600RPM</b> |          |     | <b>ASHRAELBP32</b><br><b>Static</b> |                            | Evaporating temperature<br>(Condensing temperature) |                                | <b>-23.3°C (-9.94°F)</b><br><b>54.4°C (129.92°F)</b> |       |
| Cooling capacity (Qe)<br>+/- 5%         |          |     | Input power (We)<br>+/- 5%          | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5%                            | Efficiency EER & COP<br>+/- 7% |  |       |
| [Btu/h]                                 | [kcal/h] | [W] | [W]                                 | [A]                        | [kg/h]  | [Btu/Wh]                       | [kcal/Wh]  | [W/W] |
| 227                                     | 57       | 66  | 34                                  | 0.28                       | 0.71  | 6.75                           | 1.70   | 1.98  |

|   |          |     |                                     |                            |   |                                |  |       |
|---|----------|-----|-------------------------------------|----------------------------|---|--------------------------------|--|-------|
| TEST CONDITIONS:<br><b>@220V2000RPM</b> |          |     | <b>ASHRAELBP32</b><br><b>Static</b> |                            | Evaporating temperature<br>(Condensing temperature) |                                | <b>-23.3°C (-9.94°F)</b><br><b>54.4°C (129.92°F)</b> |       |
| Cooling capacity (Qe)<br>+/- 5%         |          |     | Input power (We)<br>+/- 5%          | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5%                            | Efficiency EER & COP<br>+/- 7% |  |       |
| [Btu/h]                                 | [kcal/h] | [W] | [W]                                 | [A]                        | [kg/h]  | [Btu/Wh]                       | [kcal/Wh]  | [W/W] |
| 283                                     | 71       | 83  | 43                                  | 0.33                       | 0.89  | 6.59                           | 1.66   | 1.93  |

|   |          |     |                                     |                            |   |                                |  |       |
|---|----------|-----|-------------------------------------|----------------------------|---|--------------------------------|--|-------|
| TEST CONDITIONS:<br><b>@220V3000RPM</b> |          |     | <b>ASHRAELBP32</b><br><b>Static</b> |                            | Evaporating temperature<br>(Condensing temperature) |                                | <b>-23.3°C (-9.94°F)</b><br><b>54.4°C (129.92°F)</b> |       |
| Cooling capacity (Qe)<br>+/- 5%         |          |     | Input power (We)<br>+/- 5%          | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5%                            | Efficiency EER & COP<br>+/- 7% |  |       |
| [Btu/h]                                 | [kcal/h] | [W] | [W]                                 | [A]                        | [kg/h]  | [Btu/Wh]                       | [kcal/Wh]  | [W/W] |
| 423                                     | 107      | 124 | 65                                  | 0.49                       | 1.33  | 6.52                           | 1.64   | 1.91  |

|   |          |     |                                     |                            |   |                                |  |       |
|---|----------|-----|-------------------------------------|----------------------------|---|--------------------------------|--|-------|
| TEST CONDITIONS:<br><b>@220V4500RPM</b> |          |     | <b>ASHRAELBP32</b><br><b>Static</b> |                            | Evaporating temperature<br>(Condensing temperature) |                                | <b>-23.3°C (-9.94°F)</b><br><b>54.4°C (129.92°F)</b> |       |
| Cooling capacity (Qe)<br>+/- 5%         |          |     | Input power (We)<br>+/- 5%          | Electric current<br>+/- 5% | Mass flow rate<br>+/- 5%                            | Efficiency EER & COP<br>+/- 7% |  |       |
| [Btu/h]                                 | [kcal/h] | [W] | [W]                                 | [A]                        | [kg/h]  | [Btu/Wh]                       | [kcal/Wh]  | [W/W] |
| 607                                     | 153      | 178 | 96                                  | 0.73                       | 1.90  | 6.31                           | 1.59   | 1.85  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V950RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 35°C (+95°F) ) |                          |                                |       |          |           |
|---------------------------------|---------------------------------|--------------------|---------|----------------------------|--|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature         | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%             | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                 | °C                              | (°F)               | [Btu/h] |                            |  |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                             | (-31)                           | 82                 | 21      | 24                         | 13                                     | 0.13                     | 0.26                           | 6.34  | 1.60     | 1.86      |
| -30                             | (-22)                           | 109                | 28      | 32                         | 15                                     | 0.15                     | 0.34                           | 7.25  | 1.83     | 2.13      |
| -25                             | (-13)                           | 142                | 36      | 42                         | 17                                     | 0.16                     | 0.45                           | 8.30  | 2.09     | 2.43      |
| -20                             | (- 4)                           | 183                | 46      | 54                         | 19                                     | 0.17                     | 0.58                           | 9.52  | 2.40     | 2.79      |
| -15                             | (+ 5)                           | 233                | 59      | 68                         | 21                                     | 0.19                     | 0.73                           | 10.94 | 2.76     | 3.21      |
| -10                             | (+14)                           | 292                | 74      | 86                         | 23                                     | 0.20                     | 0.92                           | 12.61 | 3.18     | 3.70      |
| -5                              | (+23)                           | 362                | 91      | 106                        | 25                                     | 0.21                     | 1.14                           | 14.56 | 3.67     | 4.27      |
| 0                               | (+32)                           | 444                | 112     | 130                        | 26                                     | 0.22                     | 1.41                           | 16.83 | 4.24     | 4.93      |

| TEST CONDITIONS:<br>@220V950RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 45°C (+113°F) ) |                          |                                |       |          |           |
|---------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature         | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                 | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                             | (-31)                           | 74                 | 19      | 22                         | 13                                      | 0.14                     | 0.23                           | 5.67  | 1.43     | 1.66      |
| -30                             | (-22)                           | 101                | 25      | 30                         | 16                                      | 0.16                     | 0.32                           | 6.43  | 1.62     | 1.88      |
| -25                             | (-13)                           | 134                | 34      | 39                         | 18                                      | 0.17                     | 0.42                           | 7.26  | 1.83     | 2.13      |
| -20                             | (- 4)                           | 174                | 44      | 51                         | 21                                      | 0.19                     | 0.55                           | 8.20  | 2.07     | 2.40      |
| -15                             | (+ 5)                           | 222                | 56      | 65                         | 24                                      | 0.21                     | 0.70                           | 9.29  | 2.34     | 2.72      |
| -10                             | (+14)                           | 280                | 71      | 82                         | 26                                      | 0.23                     | 0.88                           | 10.57 | 2.66     | 3.10      |
| -5                              | (+23)                           | 349                | 88      | 102                        | 29                                      | 0.25                     | 1.10                           | 12.06 | 3.04     | 3.54      |
| 0                               | (+32)                           | 429                | 108     | 126                        | 31                                      | 0.27                     | 1.36                           | 13.82 | 3.48     | 4.05      |

| TEST CONDITIONS:<br>@220V950RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 55°C (+131°F) ) |                          |                                |       |          |           |
|---------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature         | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                 | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                             | (-31)                           | 63                 | 16      | 18                         | 13                                      | 0.13                     | 0.20                           | 4.86  | 1.23     | 1.43      |
| -30                             | (-22)                           | 88                 | 22      | 26                         | 16                                      | 0.15                     | 0.28                           | 5.56  | 1.40     | 1.63      |
| -25                             | (-13)                           | 120                | 30      | 35                         | 19                                      | 0.18                     | 0.38                           | 6.26  | 1.58     | 1.83      |
| -20                             | (- 4)                           | 158                | 40      | 46                         | 23                                      | 0.20                     | 0.50                           | 7.02  | 1.77     | 2.06      |
| -15                             | (+ 5)                           | 205                | 52      | 60                         | 26                                      | 0.22                     | 0.65                           | 7.86  | 1.98     | 2.30      |
| -10                             | (+14)                           | 261                | 66      | 77                         | 30                                      | 0.25                     | 0.82                           | 8.83  | 2.23     | 2.59      |
| -5                              | (+23)                           | 328                | 83      | 96                         | 33                                      | 0.27                     | 1.04                           | 9.97  | 2.51     | 2.92      |
| 0                               | (+32)                           | 406                | 102     | 119                        | 36                                      | 0.30                     | 1.29                           | 11.30 | 2.85     | 3.31      |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V1300RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 35°C (+95°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|--|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%             | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |  |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 113                | 28      | 33                         | 18                                     | 0.16                     | 0.35                           | 6.34  | 1.60     | 1.86      |
| -30                              | (-22)                           | 149                | 38      | 44                         | 21                                     | 0.18                     | 0.47                           | 7.26  | 1.83     | 2.13      |
| -25                              | (-13)                           | 194                | 49      | 57                         | 23                                     | 0.20                     | 0.61                           | 8.31  | 2.10     | 2.44      |
| -20                              | (- 4)                           | 250                | 63      | 73                         | 26                                     | 0.22                     | 0.78                           | 9.53  | 2.40     | 2.79      |
| -15                              | (+ 5)                           | 317                | 80      | 93                         | 29                                     | 0.24                     | 1.00                           | 10.95 | 2.76     | 3.21      |
| -10                              | (+14)                           | 397                | 100     | 116                        | 32                                     | 0.25                     | 1.25                           | 12.62 | 3.18     | 3.70      |
| -5                               | (+23)                           | 492                | 124     | 144                        | 34                                     | 0.27                     | 1.56                           | 14.57 | 3.67     | 4.27      |
| 0                                | (+32)                           | 604                | 152     | 177                        | 36                                     | 0.29                     | 1.91                           | 16.85 | 4.25     | 4.94      |

| TEST CONDITIONS:<br>@220V1300RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 45°C (+113°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 102                | 26      | 30                         | 18                                      | 0.17                     | 0.32                           | 5.70  | 1.44     | 1.67      |
| -30                              | (-22)                           | 138                | 35      | 41                         | 21                                      | 0.20                     | 0.43                           | 6.48  | 1.63     | 1.90      |
| -25                              | (-13)                           | 183                | 46      | 54                         | 25                                      | 0.22                     | 0.57                           | 7.33  | 1.85     | 2.15      |
| -20                              | (- 4)                           | 237                | 60      | 69                         | 29                                      | 0.25                     | 0.74                           | 8.28  | 2.09     | 2.43      |
| -15                              | (+ 5)                           | 303                | 76      | 89                         | 32                                      | 0.27                     | 0.95                           | 9.38  | 2.36     | 2.75      |
| -10                              | (+14)                           | 382                | 96      | 112                        | 36                                      | 0.30                     | 1.20                           | 10.66 | 2.69     | 3.12      |
| -5                               | (+23)                           | 475                | 120     | 139                        | 39                                      | 0.32                     | 1.50                           | 12.16 | 3.06     | 3.56      |
| 0                                | (+32)                           | 585                | 147     | 171                        | 42                                      | 0.34                     | 1.85                           | 13.93 | 3.51     | 4.08      |

| TEST CONDITIONS:<br>@220V1300RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 55°C (+131°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 88                 | 22      | 26                         | 18                                      | 0.16                     | 0.28                           | 4.93  | 1.24     | 1.44      |
| -30                              | (-22)                           | 123                | 31      | 36                         | 22                                      | 0.19                     | 0.38                           | 5.67  | 1.43     | 1.66      |
| -25                              | (-13)                           | 165                | 42      | 48                         | 26                                      | 0.23                     | 0.52                           | 6.41  | 1.61     | 1.88      |
| -20                              | (- 4)                           | 218                | 55      | 64                         | 30                                      | 0.26                     | 0.69                           | 7.19  | 1.81     | 2.11      |
| -15                              | (+ 5)                           | 282                | 71      | 83                         | 35                                      | 0.29                     | 0.89                           | 8.06  | 2.03     | 2.36      |
| -10                              | (+14)                           | 359                | 90      | 105                        | 40                                      | 0.32                     | 1.13                           | 9.05  | 2.28     | 2.65      |
| -5                               | (+23)                           | 450                | 113     | 132                        | 44                                      | 0.35                     | 1.42                           | 10.20 | 2.57     | 2.99      |
| 0                                | (+32)                           | 556                | 140     | 163                        | 48                                      | 0.38                     | 1.77                           | 11.55 | 2.91     | 3.38      |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V1600RPM |                                 | ASHRAE32<br>Static |     |                            | (Condensing temperature 35°C (+95°F) ) |                          |                                |           |       |      |
|----------------------------------|---------------------------------|--------------------|-----|----------------------------|--|--------------------------|--------------------------------|-----------|-------|------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |     | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%             | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |           |       |      |
|                                  | °C                              | (°F)               | [W] |                            |  |                          | [Btu/Wh]                       | [kcal/Wh] | [W/W] |      |
| -35                              | (-31)                           | 139                | 35  | 41                         | 22                                     | 0.19                     | 0.44                           | 6.31      | 1.59  | 1.85 |
| -30                              | (-22)                           | 183                | 46  | 54                         | 25                                     | 0.21                     | 0.57                           | 7.23      | 1.82  | 2.12 |
| -25                              | (-13)                           | 238                | 60  | 70                         | 29                                     | 0.24                     | 0.75                           | 8.27      | 2.08  | 2.42 |
| -20                              | (- 4)                           | 306                | 77  | 90                         | 32                                     | 0.26                     | 0.96                           | 9.47      | 2.39  | 2.78 |
| -15                              | (+ 5)                           | 388                | 98  | 114                        | 36                                     | 0.29                     | 1.22                           | 10.88     | 2.74  | 3.19 |
| -10                              | (+14)                           | 486                | 123 | 142                        | 39                                     | 0.31                     | 1.53                           | 12.54     | 3.16  | 3.67 |
| -5                               | (+23)                           | 603                | 152 | 177                        | 42                                     | 0.33                     | 1.90                           | 14.48     | 3.65  | 4.24 |
| 0                                | (+32)                           | 739                | 186 | 216                        | 44                                     | 0.34                     | 2.34                           | 16.76     | 4.22  | 4.91 |

| TEST CONDITIONS:<br>@220V1600RPM |                                 | ASHRAE32<br>Static |     |                            | (Condensing temperature 45°C (+113°F) ) |                          |                                |           |       |      |
|----------------------------------|---------------------------------|--------------------|-----|----------------------------|---|--------------------------|--------------------------------|-----------|-------|------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |     | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |           |       |      |
|                                  | °C                              | (°F)               | [W] |                            |   |                          | [Btu/Wh]                       | [kcal/Wh] | [W/W] |      |
| -35                              | (-31)                           | 127                | 32  | 37                         | 22                                      | 0.20                     | 0.40                           | 5.69      | 1.43  | 1.67 |
| -30                              | (-22)                           | 170                | 43  | 50                         | 26                                      | 0.22                     | 0.53                           | 6.48      | 1.63  | 1.90 |
| -25                              | (-13)                           | 225                | 57  | 66                         | 31                                      | 0.25                     | 0.70                           | 7.33      | 1.85  | 2.15 |
| -20                              | (- 4)                           | 291                | 73  | 85                         | 35                                      | 0.29                     | 0.91                           | 8.27      | 2.09  | 2.42 |
| -15                              | (+ 5)                           | 372                | 94  | 109                        | 40                                      | 0.32                     | 1.17                           | 9.37      | 2.36  | 2.74 |
| -10                              | (+14)                           | 468                | 118 | 137                        | 44                                      | 0.35                     | 1.48                           | 10.64     | 2.68  | 3.12 |
| -5                               | (+23)                           | 582                | 147 | 171                        | 48                                      | 0.38                     | 1.84                           | 12.15     | 3.06  | 3.56 |
| 0                                | (+32)                           | 716                | 181 | 210                        | 52                                      | 0.40                     | 2.27                           | 13.92     | 3.51  | 4.08 |

| TEST CONDITIONS:<br>@220V1600RPM |                                 | ASHRAE32<br>Static |     |                            | (Condensing temperature 55°C (+131°F) ) |                          |                                |           |       |      |
|----------------------------------|---------------------------------|--------------------|-----|----------------------------|---|--------------------------|--------------------------------|-----------|-------|------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |     | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |           |       |      |
|                                  | °C                              | (°F)               | [W] |                            |   |                          | [Btu/Wh]                       | [kcal/Wh] | [W/W] |      |
| -35                              | (-31)                           | 110                | 28  | 32                         | 22                                      | 0.19                     | 0.34                           | 4.95      | 1.25  | 1.45 |
| -30                              | (-22)                           | 152                | 38  | 45                         | 27                                      | 0.22                     | 0.48                           | 5.71      | 1.44  | 1.67 |
| -25                              | (-13)                           | 205                | 52  | 60                         | 32                                      | 0.26                     | 0.64                           | 6.47      | 1.63  | 1.90 |
| -20                              | (- 4)                           | 270                | 68  | 79                         | 37                                      | 0.30                     | 0.85                           | 7.27      | 1.83  | 2.13 |
| -15                              | (+ 5)                           | 348                | 88  | 102                        | 43                                      | 0.34                     | 1.10                           | 8.15      | 2.05  | 2.39 |
| -10                              | (+14)                           | 442                | 111 | 130                        | 48                                      | 0.38                     | 1.40                           | 9.15      | 2.30  | 2.68 |
| -5                               | (+23)                           | 554                | 140 | 162                        | 54                                      | 0.42                     | 1.75                           | 10.31     | 2.60  | 3.02 |
| 0                                | (+32)                           | 685                | 173 | 201                        | 59                                      | 0.45                     | 2.17                           | 11.69     | 2.95  | 3.42 |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V2000RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 35°C (+95°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|--|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%             | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |  |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 173                | 44      | 51                         | 28                                     | 0.23                     | 0.54                           | 6.20  | 1.56     | 1.82      |
| -30                              | (-22)                           | 228                | 57      | 67                         | 32                                     | 0.26                     | 0.71                           | 7.12  | 1.79     | 2.09      |
| -25                              | (-13)                           | 296                | 75      | 87                         | 36                                     | 0.29                     | 0.93                           | 8.15  | 2.05     | 2.39      |
| -20                              | (- 4)                           | 380                | 96      | 111                        | 41                                     | 0.32                     | 1.19                           | 9.34  | 2.35     | 2.74      |
| -15                              | (+ 5)                           | 482                | 121     | 141                        | 45                                     | 0.35                     | 1.52                           | 10.72 | 2.70     | 3.14      |
| -10                              | (+14)                           | 603                | 152     | 177                        | 49                                     | 0.37                     | 1.90                           | 12.35 | 3.11     | 3.62      |
| -5                               | (+23)                           | 748                | 188     | 219                        | 52                                     | 0.40                     | 2.36                           | 14.26 | 3.59     | 4.18      |
| 0                                | (+32)                           | 916                | 231     | 268                        | 55                                     | 0.43                     | 2.90                           | 16.50 | 4.16     | 4.83      |

| TEST CONDITIONS:<br>@220V2000RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 45°C (+113°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 158                | 40      | 46                         | 28                                      | 0.24                     | 0.50                           | 5.62  | 1.42     | 1.65      |
| -30                              | (-22)                           | 212                | 54      | 62                         | 33                                      | 0.27                     | 0.67                           | 6.43  | 1.62     | 1.88      |
| -25                              | (-13)                           | 280                | 70      | 82                         | 38                                      | 0.31                     | 0.88                           | 7.28  | 1.84     | 2.13      |
| -20                              | (- 4)                           | 362                | 91      | 106                        | 44                                      | 0.35                     | 1.14                           | 8.23  | 2.07     | 2.41      |
| -15                              | (+ 5)                           | 462                | 116     | 135                        | 49                                      | 0.38                     | 1.45                           | 9.32  | 2.35     | 2.73      |
| -10                              | (+14)                           | 582                | 147     | 171                        | 55                                      | 0.42                     | 1.84                           | 10.58 | 2.67     | 3.10      |
| -5                               | (+23)                           | 724                | 182     | 212                        | 60                                      | 0.46                     | 2.29                           | 12.06 | 3.04     | 3.53      |
| 0                                | (+32)                           | 890                | 224     | 261                        | 65                                      | 0.50                     | 2.82                           | 13.81 | 3.48     | 4.05      |

| TEST CONDITIONS:<br>@220V2000RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 55°C (+131°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 139                | 35      | 41                         | 28                                      | 0.23                     | 0.43                           | 4.93  | 1.24     | 1.44      |
| -30                              | (-22)                           | 192                | 48      | 56                         | 34                                      | 0.27                     | 0.60                           | 5.72  | 1.44     | 1.68      |
| -25                              | (-13)                           | 257                | 65      | 75                         | 40                                      | 0.32                     | 0.81                           | 6.50  | 1.64     | 1.91      |
| -20                              | (- 4)                           | 338                | 85      | 99                         | 46                                      | 0.36                     | 1.06                           | 7.31  | 1.84     | 2.14      |
| -15                              | (+ 5)                           | 436                | 110     | 128                        | 53                                      | 0.41                     | 1.37                           | 8.19  | 2.06     | 2.40      |
| -10                              | (+14)                           | 553                | 139     | 162                        | 60                                      | 0.46                     | 1.75                           | 9.19  | 2.32     | 2.69      |
| -5                               | (+23)                           | 692                | 174     | 203                        | 67                                      | 0.51                     | 2.19                           | 10.34 | 2.61     | 3.03      |
| 0                                | (+32)                           | 855                | 216     | 251                        | 73                                      | 0.56                     | 2.71                           | 11.70 | 2.95     | 3.43      |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V3000RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 35°C (+95°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|--|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%             | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |  |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 255                | 64      | 75                         | 44                                     | 0.34                     | 0.80                           | 5.86  | 1.48     | 1.72      |
| -30                              | (-22)                           | 337                | 85      | 99                         | 50                                     | 0.38                     | 1.06                           | 6.74  | 1.70     | 1.97      |
| -25                              | (-13)                           | 438                | 110     | 128                        | 57                                     | 0.43                     | 1.37                           | 7.71  | 1.94     | 2.26      |
| -20                              | (- 4)                           | 562                | 142     | 165                        | 64                                     | 0.49                     | 1.76                           | 8.81  | 2.22     | 2.58      |
| -15                              | (+ 5)                           | 712                | 179     | 209                        | 71                                     | 0.54                     | 2.24                           | 10.08 | 2.54     | 2.95      |
| -10                              | (+14)                           | 892                | 225     | 261                        | 77                                     | 0.58                     | 2.81                           | 11.58 | 2.92     | 3.39      |
| -5                               | (+23)                           | 1105               | 279     | 324                        | 83                                     | 0.62                     | 3.49                           | 13.34 | 3.36     | 3.91      |
| 0                                | (+32)                           | 1355               | 341     | 397                        | 87                                     | 0.65                     | 4.29                           | 15.41 | 3.88     | 4.52      |

| TEST CONDITIONS:<br>@220V3000RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 45°C (+113°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 235                | 59      | 69                         | 44                                      | 0.34                     | 0.73                           | 5.35  | 1.35     | 1.57      |
| -30                              | (-22)                           | 315                | 79      | 92                         | 51                                      | 0.39                     | 0.99                           | 6.15  | 1.55     | 1.80      |
| -25                              | (-13)                           | 414                | 104     | 121                        | 59                                      | 0.45                     | 1.30                           | 6.99  | 1.76     | 2.05      |
| -20                              | (- 4)                           | 537                | 135     | 157                        | 68                                      | 0.51                     | 1.69                           | 7.89  | 1.99     | 2.31      |
| -15                              | (+ 5)                           | 685                | 173     | 201                        | 77                                      | 0.58                     | 2.16                           | 8.90  | 2.24     | 2.61      |
| -10                              | (+14)                           | 863                | 217     | 253                        | 85                                      | 0.64                     | 2.72                           | 10.08 | 2.54     | 2.95      |
| -5                               | (+23)                           | 1074               | 271     | 315                        | 94                                      | 0.70                     | 3.40                           | 11.46 | 2.89     | 3.36      |
| 0                                | (+32)                           | 1321               | 333     | 387                        | 101                                     | 0.75                     | 4.19                           | 13.10 | 3.30     | 3.84      |

| TEST CONDITIONS:<br>@220V3000RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 55°C (+131°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 209                | 53      | 61                         | 44                                      | 0.34                     | 0.65                           | 4.73  | 1.19     | 1.39      |
| -30                              | (-22)                           | 287                | 72      | 84                         | 52                                      | 0.40                     | 0.90                           | 5.56  | 1.40     | 1.63      |
| -25                              | (-13)                           | 385                | 97      | 113                        | 61                                      | 0.46                     | 1.21                           | 6.36  | 1.60     | 1.86      |
| -20                              | (- 4)                           | 505                | 127     | 148                        | 71                                      | 0.54                     | 1.59                           | 7.16  | 1.80     | 2.10      |
| -15                              | (+ 5)                           | 651                | 164     | 191                        | 81                                      | 0.61                     | 2.05                           | 8.02  | 2.02     | 2.35      |
| -10                              | (+14)                           | 827                | 208     | 242                        | 92                                      | 0.69                     | 2.61                           | 8.97  | 2.26     | 2.63      |
| -5                               | (+23)                           | 1035               | 261     | 303                        | 103                                     | 0.77                     | 3.27                           | 10.08 | 2.54     | 2.95      |
| 0                                | (+32)                           | 1279               | 322     | 375                        | 113                                     | 0.84                     | 4.06                           | 11.37 | 2.86     | 3.33      |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V3600RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 35°C (+95°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|--|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%             | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |  |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 303                | 76      | 89                         | 54                                     | 0.41                     | 0.95                           | 5.65  | 1.42     | 1.65      |
| -30                              | (-22)                           | 401                | 101     | 117                        | 62                                     | 0.47                     | 1.26                           | 6.49  | 1.64     | 1.90      |
| -25                              | (-13)                           | 522                | 132     | 153                        | 70                                     | 0.53                     | 1.64                           | 7.41  | 1.87     | 2.17      |
| -20                              | (- 4)                           | 671                | 169     | 197                        | 80                                     | 0.60                     | 2.11                           | 8.44  | 2.13     | 2.47      |
| -15                              | (+ 5)                           | 852                | 215     | 250                        | 88                                     | 0.67                     | 2.68                           | 9.64  | 2.43     | 2.83      |
| -10                              | (+14)                           | 1068               | 269     | 313                        | 97                                     | 0.73                     | 3.37                           | 11.06 | 2.79     | 3.24      |
| -5                               | (+23)                           | 1324               | 334     | 388                        | 104                                    | 0.78                     | 4.19                           | 12.73 | 3.21     | 3.73      |
| 0                                | (+32)                           | 1624               | 409     | 476                        | 110                                    | 0.82                     | 5.15                           | 14.72 | 3.71     | 4.31      |

| TEST CONDITIONS:<br>@220V3600RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 45°C (+113°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 279                | 70      | 82                         | 54                                      | 0.42                     | 0.87                           | 5.18  | 1.31     | 1.52      |
| -30                              | (-22)                           | 375                | 94      | 110                        | 63                                      | 0.48                     | 1.17                           | 5.97  | 1.51     | 1.75      |
| -25                              | (-13)                           | 494                | 125     | 145                        | 73                                      | 0.55                     | 1.55                           | 6.77  | 1.71     | 1.98      |
| -20                              | (- 4)                           | 641                | 162     | 188                        | 84                                      | 0.64                     | 2.02                           | 7.63  | 1.92     | 2.24      |
| -15                              | (+ 5)                           | 820                | 207     | 240                        | 95                                      | 0.72                     | 2.58                           | 8.59  | 2.17     | 2.52      |
| -10                              | (+14)                           | 1034               | 261     | 303                        | 106                                     | 0.80                     | 3.26                           | 9.71  | 2.45     | 2.84      |
| -5                               | (+23)                           | 1288               | 325     | 377                        | 117                                     | 0.88                     | 4.07                           | 11.02 | 2.78     | 3.23      |
| 0                                | (+32)                           | 1585               | 399     | 464                        | 127                                     | 0.95                     | 5.02                           | 12.58 | 3.17     | 3.69      |

| TEST CONDITIONS:<br>@220V3600RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 55°C (+131°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 247                | 62      | 72                         | 54                                      | 0.41                     | 0.77                           | 4.58  | 1.15     | 1.34      |
| -30                              | (-22)                           | 341                | 86      | 100                        | 63                                      | 0.48                     | 1.07                           | 5.42  | 1.37     | 1.59      |
| -25                              | (-13)                           | 459                | 116     | 134                        | 74                                      | 0.56                     | 1.44                           | 6.20  | 1.56     | 1.82      |
| -20                              | (- 4)                           | 604                | 152     | 177                        | 87                                      | 0.66                     | 1.90                           | 6.99  | 1.76     | 2.05      |
| -15                              | (+ 5)                           | 780                | 197     | 229                        | 100                                     | 0.76                     | 2.46                           | 7.81  | 1.97     | 2.29      |
| -10                              | (+14)                           | 991                | 250     | 290                        | 113                                     | 0.86                     | 3.13                           | 8.72  | 2.20     | 2.56      |
| -5                               | (+23)                           | 1242               | 313     | 364                        | 127                                     | 0.96                     | 3.93                           | 9.78  | 2.46     | 2.86      |
| 0                                | (+32)                           | 1536               | 387     | 450                        | 140                                     | 1.06                     | 4.87                           | 11.01 | 2.77     | 3.23      |



### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V4000RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 35°C (+95°F) ) |                          |                                |        |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|--|--------------------------|--------------------------------|--------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%             | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |        |          |           |
|                                  | °C                              | (°F)               | [Btu/h] | [kcal/h]                   | [W]                                    | [W]                      | [A]                            | [kg/h] | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 335                | 84      | 98                         | 61                                     | 0.46                     | 1.05                           | 5.54   | 1.40     | 1.62      |
| -30                              | (-22)                           | 444                | 112     | 130                        | 70                                     | 0.53                     | 1.39                           | 6.36   | 1.60     | 1.86      |
| -25                              | (-13)                           | 580                | 146     | 170                        | 80                                     | 0.60                     | 1.82                           | 7.25   | 1.83     | 2.12      |
| -20                              | (- 4)                           | 746                | 188     | 219                        | 91                                     | 0.68                     | 2.34                           | 8.24   | 2.08     | 2.42      |
| -15                              | (+ 5)                           | 948                | 239     | 278                        | 101                                    | 0.76                     | 2.98                           | 9.40   | 2.37     | 2.75      |
| -10                              | (+14)                           | 1190               | 300     | 349                        | 111                                    | 0.84                     | 3.75                           | 10.75  | 2.71     | 3.15      |
| -5                               | (+23)                           | 1476               | 372     | 433                        | 119                                    | 0.90                     | 4.67                           | 12.36  | 3.12     | 3.62      |
| 0                                | (+32)                           | 1812               | 457     | 531                        | 126                                    | 0.95                     | 5.74                           | 14.27  | 3.60     | 4.18      |

| TEST CONDITIONS:<br>@220V4000RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 45°C (+113°F) ) |                          |                                |        |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|--------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |        |          |           |
|                                  | °C                              | (°F)               | [Btu/h] | [kcal/h]                   | [W]                                     | [W]                      | [A]                            | [kg/h] | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 307                | 77      | 90                         | 60                                      | 0.46                     | 0.96                           | 5.09   | 1.28     | 1.49      |
| -30                              | (-22)                           | 415                | 104     | 121                        | 71                                      | 0.53                     | 1.30                           | 5.87   | 1.48     | 1.72      |
| -25                              | (-13)                           | 548                | 138     | 161                        | 82                                      | 0.62                     | 1.72                           | 6.66   | 1.68     | 1.95      |
| -20                              | (- 4)                           | 713                | 180     | 209                        | 95                                      | 0.72                     | 2.24                           | 7.49   | 1.89     | 2.19      |
| -15                              | (+ 5)                           | 913                | 230     | 268                        | 108                                     | 0.82                     | 2.87                           | 8.42   | 2.12     | 2.47      |
| -10                              | (+14)                           | 1153               | 290     | 338                        | 121                                     | 0.92                     | 3.64                           | 9.49   | 2.39     | 2.78      |
| -5                               | (+23)                           | 1437               | 362     | 421                        | 134                                     | 1.01                     | 4.54                           | 10.75  | 2.71     | 3.15      |
| 0                                | (+32)                           | 1769               | 446     | 518                        | 145                                     | 1.09                     | 5.61                           | 12.25  | 3.09     | 3.59      |

| TEST CONDITIONS:<br>@220V4000RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 55°C (+131°F) ) |                          |                                |        |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|--------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |        |          |           |
|                                  | °C                              | (°F)               | [Btu/h] | [kcal/h]                   | [W]                                     | [W]                      | [A]                            | [kg/h] | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 270                | 68      | 79                         | 60                                      | 0.46                     | 0.85                           | 4.50   | 1.13     | 1.32      |
| -30                              | (-22)                           | 376                | 95      | 110                        | 71                                      | 0.54                     | 1.18                           | 5.33   | 1.34     | 1.56      |
| -25                              | (-13)                           | 507                | 128     | 149                        | 83                                      | 0.63                     | 1.59                           | 6.11   | 1.54     | 1.79      |
| -20                              | (- 4)                           | 669                | 169     | 196                        | 98                                      | 0.74                     | 2.10                           | 6.88   | 1.73     | 2.02      |
| -15                              | (+ 5)                           | 867                | 218     | 254                        | 113                                     | 0.85                     | 2.73                           | 7.68   | 1.94     | 2.25      |
| -10                              | (+14)                           | 1103               | 278     | 323                        | 129                                     | 0.97                     | 3.48                           | 8.56   | 2.16     | 2.51      |
| -5                               | (+23)                           | 1384               | 349     | 406                        | 144                                     | 1.09                     | 4.38                           | 9.58   | 2.41     | 2.81      |
| 0                                | (+32)                           | 1713               | 432     | 502                        | 160                                     | 1.20                     | 5.43                           | 10.77  | 2.71     | 3.16      |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V4500RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 35°C (+95°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|--|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%             | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |  |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 376                | 95      | 110                        | 69                                     | 0.52                     | 1.18                           | 5.47  | 1.38     | 1.60      |
| -30                              | (-22)                           | 499                | 126     | 146                        | 79                                     | 0.60                     | 1.56                           | 6.26  | 1.58     | 1.84      |
| -25                              | (-13)                           | 646                | 163     | 189                        | 91                                     | 0.68                     | 2.03                           | 7.12  | 1.80     | 2.09      |
| -20                              | (- 4)                           | 820                | 207     | 240                        | 101                                    | 0.76                     | 2.58                           | 8.10  | 2.04     | 2.37      |
| -15                              | (+ 5)                           | 1026               | 259     | 301                        | 111                                    | 0.84                     | 3.23                           | 9.24  | 2.33     | 2.71      |
| -10                              | (+14)                           | 1267               | 319     | 371                        | 120                                    | 0.90                     | 3.99                           | 10.60 | 2.67     | 3.11      |
| -5                               | (+23)                           | 1544               | 389     | 453                        | 126                                    | 0.95                     | 4.88                           | 12.23 | 3.08     | 3.58      |
| 0                                | (+32)                           | 1863               | 470     | 546                        | 130                                    | 0.99                     | 5.91                           | 14.16 | 3.57     | 4.15      |

| TEST CONDITIONS:<br>@220V4500RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 45°C (+113°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 342                | 86      | 100                        | 68                                      | 0.52                     | 1.07                           | 5.04  | 1.27     | 1.48      |
| -30                              | (-22)                           | 461                | 116     | 135                        | 79                                      | 0.61                     | 1.44                           | 5.81  | 1.46     | 1.70      |
| -25                              | (-13)                           | 604                | 152     | 177                        | 92                                      | 0.70                     | 1.90                           | 6.58  | 1.66     | 1.93      |
| -20                              | (- 4)                           | 775                | 195     | 227                        | 105                                     | 0.79                     | 2.43                           | 7.40  | 1.86     | 2.17      |
| -15                              | (+ 5)                           | 976                | 246     | 286                        | 117                                     | 0.88                     | 3.07                           | 8.32  | 2.10     | 2.44      |
| -10                              | (+14)                           | 1212               | 305     | 355                        | 129                                     | 0.97                     | 3.82                           | 9.40  | 2.37     | 2.75      |
| -5                               | (+23)                           | 1484               | 374     | 435                        | 139                                     | 1.05                     | 4.69                           | 10.68 | 2.69     | 3.13      |
| 0                                | (+32)                           | 1798               | 453     | 527                        | 148                                     | 1.12                     | 5.70                           | 12.20 | 3.08     | 3.58      |

| TEST CONDITIONS:<br>@220V4500RPM |                                 | ASHRAE32<br>Static |         |                            | (Condensing temperature 55°C (+131°F) ) |                          |                                |       |          |           |
|----------------------------------|---------------------------------|--------------------|---------|----------------------------|---|--------------------------|--------------------------------|-------|----------|-----------|
| Evaporating temperature          | Cooling capacity (Qe)<br>+/- 5% |                    |         | Input power (We)<br>+/- 5% | Electric current<br>+/- 5%              | Mass flow rate<br>+/- 5% | Efficiency EER & COP<br>+/- 7% |       |          |           |
|                                  | °C                              | (°F)               | [Btu/h] |                            |   |                          | [kcal/h]                       | [W]   | [Btu/Wh] | [kcal/Wh] |
| -35                              | (-31)                           | 297                | 75      | 87                         | 67                                      | 0.50                     | 0.93                           | 4.44  | 1.12     | 1.30      |
| -30                              | (-22)                           | 412                | 104     | 121                        | 78                                      | 0.59                     | 1.29                           | 5.27  | 1.33     | 1.55      |
| -25                              | (-13)                           | 550                | 139     | 161                        | 91                                      | 0.69                     | 1.73                           | 6.05  | 1.52     | 1.77      |
| -20                              | (- 4)                           | 716                | 181     | 210                        | 105                                     | 0.79                     | 2.25                           | 6.81  | 1.72     | 2.00      |
| -15                              | (+ 5)                           | 913                | 230     | 268                        | 120                                     | 0.90                     | 2.87                           | 7.62  | 1.92     | 2.23      |
| -10                              | (+14)                           | 1144               | 288     | 335                        | 134                                     | 1.01                     | 3.61                           | 8.51  | 2.14     | 2.49      |
| -5                               | (+23)                           | 1411               | 356     | 414                        | 148                                     | 1.12                     | 4.46                           | 9.54  | 2.40     | 2.79      |
| 0                                | (+32)                           | 1719               | 433     | 504                        | 160                                     | 1.22                     | 5.45                           | 10.75 | 2.71     | 3.15      |

### F - EXTERNAL CHARACTERISTICS

|                         |                              |      |                          |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate            | European Standard VES        |      |                          |
| 2 Tray holder           | Yes                          |      |                          |
| 3 Connectors            |                              |      |                          |
| 3.1 SUCTION             | 6.1 +0.10/+0.00              | [mm] | (0.240" +0.004"/+0.000") |
| 3.1.1 Material          | Copper                       |      |                          |
| 3.1.2 Shape             | Slanted 79° up + 0° back     |      |                          |
| 3.2 DISCHARGE           | 5.1 +0.10/+0.00              | [mm] | (0.201" +0.004"/+0.000") |
| 3.2.1 Material          | Copper                       |      |                          |
| 3.2.2 Shape             | Slanted 47° up + 24° to Back |      |                          |
| 3.3 PROCESS             | 6 +0.08/-0.08                | [mm] | (0.236" +0.003"/-0.003") |
| 3.3.1 Material          | Copper(OD)                   |      |                          |
| 3.3.2 Shape             | Slanted 47° up + 59° to Back |      |                          |
| 3.4 Oil cooler (Copper) | No                           | [mm] |                          |
| 3.5 Connector sealing   | Rubber Plugs                 |      |                          |