

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | VES D11C        |
| Nominal Voltage/Frequency | 230 V 40-150 Hz |
| Engineering Number        | 513907335       |

### A - APPLICATION / LIMIT WORKING CONDITIONS

|                                    |                                   |                                   |           |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type                             | Hermetic reciprocating compressor |                                   |           |
| 2 Refrigerant                      | R-600a                            |                                   |           |
| 3 Nominal voltage and frequency    | 230 / 40-150                      | [ V / Hz ]                        |           |
| 4 Application type                 | Low Back Pressure                 |                                   |           |
| 4.1 Evaporating temperature range  | -35°C to -10°C                    | (-31°F to 14°F)                   |           |
| 5 Motor type                       | 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                            | -                                 | -         |
| 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      | 1/4+           | [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            | 190            | [ml] (6.42 fl.oz.)               |
| 3.1 Lubricants approved       |                |                                  |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 |                                  |
| 4 Weight (with oil charge)    | 6.7            | [kg] (14.77 lb.)                 |
| 5 Nitrogen charge             | -              | [kgf/cm <sup>2</sup> ]           |

### C - ELETRICAL DATA

|  |                                   |                                    |
|--|-----------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 230 V 40-150 Hz 3 ~ (Three phase) |                                    |
| 2 Starting device type                       | Inverter                          |                                    |
| 2.1 Starting device                          | PFC CF02D01 M                     |                                    |
| 3 Start capacitor                            | -                                 | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                 | [µF(VAC minimum)]                  |
| 5 Motor protection                           | SP(PFC CF02D01M)                  |                                    |
| 6 Start winding resistance                   | 9.60                              | [Ω at 25°C (77°F)] +/- 8%          |
| 7 Run winding resistance                     | 9.60                              | [Ω at 25°C (77°F)] +/- 8%          |
| 8 LRA - Locked rotor amperage (40/150 Hz)    | -                                 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (40/150 Hz) | -                                 | [A] - Measured according to UL 984 |
| 10 FLA - Full Load Amperage HBP (40/150 Hz)  | -                                 | [A] - Measured according to UL 984 |
| 11 Approval boards certification             | CCC                               |                                    |

### D - PERFORMANCE - CHECK POINT DATA

|   |          |     |                                     |                               |   |                           |  |       |
|---|----------|-----|-------------------------------------|-------------------------------|---|---------------------------|--|-------|
| 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<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] |
| 294                                     | 74       | 86  | 45                                  | 0.33                          | 0.92  | 6.59                      | 1.66   | 1.93  |

|   |          |     |                                     |                               |   |                           |  |       |
|---|----------|-----|-------------------------------------|-------------------------------|---|---------------------------|--|-------|
| 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<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] |
| 366                                     | 92       | 107 | 55                                  | 0.40                          | 1.15  | 6.69                      | 1.69   | 1.96  |

|   |          |     |                                     |                               |   |                           |  |       |
|---|----------|-----|-------------------------------------|-------------------------------|---|---------------------------|--|-------|
| 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<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] |
| 467                                     | 118      | 137 | 69                                  | 0.51                          | 1.47  | 6.75                      | 1.70   | 1.98  |

|   |          |     |                                     |                               |   |                           |  |       |
|---|----------|-----|-------------------------------------|-------------------------------|---|---------------------------|--|-------|
| 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<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] |
| 707                                     | 178      | 207 | 108                                 | 0.78                          | 2.22  | 6.53                      | 1.65   | 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<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] |
| 942                                     | 237      | 276 | 156                                 | 1.04                          | 2.96  | 6.06                      | 1.53   | 1.78  |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V1300RPM |                            | ASHRAE32<br>Static |         |                             | (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]  |
| -35                              | (-31)                      | 177                | 45      | 52                          | 28                                    | 0.22                    | 0.56                      | 6.43  | 1.62 | 1.88 |
| -30                              | (-22)                      | 237                | 60      | 69                          | 32                                    | 0.26                    | 0.74                      | 7.30  | 1.84 | 2.14 |
| -25                              | (-13)                      | 309                | 78      | 90                          | 37                                    | 0.29                    | 0.97                      | 8.26  | 2.08 | 2.42 |
| -20                              | (- 4)                      | 396                | 100     | 116                         | 42                                    | 0.33                    | 1.24                      | 9.36  | 2.36 | 2.74 |
| -15                              | (+ 5)                      | 499                | 126     | 146                         | 47                                    | 0.36                    | 1.57                      | 10.64 | 2.68 | 3.12 |
| -10                              | (+14)                      | 621                | 156     | 182                         | 51                                    | 0.39                    | 1.96                      | 12.15 | 3.06 | 3.56 |

| TEST CONDITIONS:<br>@220V1300RPM |                            | ASHRAE32<br>Static |         |                             | (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]  |
| -35                              | (-31)                      | 163                | 41      | 48                          | 29                                     | 0.23                    | 0.51                      | 5.71  | 1.44 | 1.67 |
| -30                              | (-22)                      | 220                | 56      | 65                          | 34                                     | 0.27                    | 0.69                      | 6.47  | 1.63 | 1.89 |
| -25                              | (-13)                      | 291                | 73      | 85                          | 40                                     | 0.32                    | 0.91                      | 7.26  | 1.83 | 2.13 |
| -20                              | (- 4)                      | 377                | 95      | 110                         | 46                                     | 0.36                    | 1.18                      | 8.14  | 2.05 | 2.38 |
| -15                              | (+ 5)                      | 479                | 121     | 140                         | 52                                     | 0.40                    | 1.51                      | 9.13  | 2.30 | 2.68 |
| -10                              | (+14)                      | 600                | 151     | 176                         | 58                                     | 0.44                    | 1.89                      | 10.30 | 2.60 | 3.02 |

| TEST CONDITIONS:<br>@220V1300RPM |                            | ASHRAE32<br>Static |         |                             | (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]  |
| -35                              | (-31)                      | 145                | 36      | 42                          | 29                                     | 0.23                    | 0.45                      | 4.89 | 1.23 | 1.43 |
| -30                              | (-22)                      | 199                | 50      | 58                          | 36                                     | 0.27                    | 0.62                      | 5.60 | 1.41 | 1.64 |
| -25                              | (-13)                      | 266                | 67      | 78                          | 43                                     | 0.32                    | 0.84                      | 6.29 | 1.58 | 1.84 |
| -20                              | (- 4)                      | 349                | 88      | 102                         | 50                                     | 0.37                    | 1.10                      | 7.00 | 1.76 | 2.05 |
| -15                              | (+ 5)                      | 449                | 113     | 131                         | 58                                     | 0.43                    | 1.41                      | 7.78 | 1.96 | 2.28 |
| -10                              | (+14)                      | 567                | 143     | 166                         | 65                                     | 0.48                    | 1.79                      | 8.68 | 2.19 | 2.54 |

| TEST CONDITIONS:<br>@220V1600RPM |                            | ASHRAE32<br>Static |         |                             | (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]  |
| -35                              | (-31)                      | 215                | 54      | 63                          | 34                                    | 0.27                    | 0.67                      | 6.39  | 1.61 | 1.87 |
| -30                              | (-22)                      | 289                | 73      | 85                          | 40                                    | 0.31                    | 0.91                      | 7.25  | 1.83 | 2.13 |
| -25                              | (-13)                      | 381                | 96      | 112                         | 46                                    | 0.36                    | 1.20                      | 8.23  | 2.07 | 2.41 |
| -20                              | (- 4)                      | 491                | 124     | 144                         | 53                                    | 0.40                    | 1.54                      | 9.34  | 2.35 | 2.74 |
| -15                              | (+ 5)                      | 622                | 157     | 182                         | 59                                    | 0.44                    | 1.96                      | 10.63 | 2.68 | 3.12 |
| -10                              | (+14)                      | 776                | 196     | 227                         | 64                                    | 0.48                    | 2.45                      | 12.14 | 3.06 | 3.56 |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V1600RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 45°C (+113°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|--|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                    | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 204                        | 51                 | 60       | 35                          | 0.29                                   | 0.64                    | 5.76                      | 1.45     | 1.69      |       |
| -30 (-22)                        | 273                        | 69                 | 80       | 42                          | 0.33                                   | 0.86                    | 6.47                      | 1.63     | 1.90      |       |
| -25 (-13)                        | 359                        | 91                 | 105      | 49                          | 0.38                                   | 1.13                    | 7.25                      | 1.83     | 2.12      |       |
| -20 (- 4)                        | 465                        | 117                | 136      | 57                          | 0.43                                   | 1.46                    | 8.12                      | 2.05     | 2.38      |       |
| -15 (+ 5)                        | 593                        | 149                | 174      | 65                          | 0.48                                   | 1.87                    | 9.12                      | 2.30     | 2.67      |       |
| -10 (+14)                        | 743                        | 187                | 218      | 72                          | 0.53                                   | 2.34                    | 10.29                     | 2.59     | 3.01      |       |

| TEST CONDITIONS:<br>@220V1600RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 55°C (+131°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|--|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                    | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 185                        | 47                 | 54       | 36                          | 0.29                                   | 0.58                    | 5.06                      | 1.28     | 1.48      |       |
| -30 (-22)                        | 249                        | 63                 | 73       | 44                          | 0.34                                   | 0.78                    | 5.73                      | 1.44     | 1.68      |       |
| -25 (-13)                        | 332                        | 84                 | 97       | 52                          | 0.39                                   | 1.04                    | 6.40                      | 1.61     | 1.88      |       |
| -20 (- 4)                        | 435                        | 110                | 127      | 61                          | 0.46                                   | 1.37                    | 7.13                      | 1.80     | 2.09      |       |
| -15 (+ 5)                        | 560                        | 141                | 164      | 71                          | 0.52                                   | 1.76                    | 7.93                      | 2.00     | 2.32      |       |
| -10 (+14)                        | 710                        | 179                | 208      | 80                          | 0.59                                   | 2.24                    | 8.86                      | 2.23     | 2.60      |       |

| TEST CONDITIONS:<br>@220V2000RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 35°C (+95°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|---------------------------------------|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%         | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                   | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 272                        | 69                 | 80       | 43                          | 0.33                                  | 0.85                    | 6.26                      | 1.58     | 1.83      |       |
| -30 (-22)                        | 363                        | 91                 | 106      | 51                          | 0.38                                  | 1.14                    | 7.13                      | 1.80     | 2.09      |       |
| -25 (-13)                        | 476                        | 120                | 140      | 59                          | 0.44                                  | 1.49                    | 8.08                      | 2.04     | 2.37      |       |
| -20 (- 4)                        | 614                        | 155                | 180      | 67                          | 0.50                                  | 1.93                    | 9.14                      | 2.30     | 2.68      |       |
| -15 (+ 5)                        | 778                        | 196                | 228      | 75                          | 0.55                                  | 2.45                    | 10.34                     | 2.61     | 3.03      |       |
| -10 (+14)                        | 968                        | 244                | 284      | 83                          | 0.60                                  | 3.05                    | 11.73                     | 2.95     | 3.44      |       |

| TEST CONDITIONS:<br>@220V2000RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 45°C (+113°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|--|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                    | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 254                        | 64                 | 74       | 45                          | 0.34                                   | 0.80                    | 5.68                      | 1.43     | 1.66      |       |
| -30 (-22)                        | 341                        | 86                 | 100      | 53                          | 0.40                                   | 1.07                    | 6.43                      | 1.62     | 1.89      |       |
| -25 (-13)                        | 452                        | 114                | 132      | 63                          | 0.47                                   | 1.42                    | 7.22                      | 1.82     | 2.12      |       |
| -20 (- 4)                        | 587                        | 148                | 172      | 72                          | 0.54                                   | 1.84                    | 8.08                      | 2.04     | 2.37      |       |
| -15 (+ 5)                        | 747                        | 188                | 219      | 83                          | 0.61                                   | 2.35                    | 9.04                      | 2.28     | 2.65      |       |
| -10 (+14)                        | 935                        | 236                | 274      | 92                          | 0.67                                   | 2.95                    | 10.14                     | 2.55     | 2.97      |       |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V2000RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 55°C (+131°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|--|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                    | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 229                        | 58                 | 67       | 45                          | 0.35                                   | 0.72                    | 5.03                      | 1.27     | 1.47      |       |
| -30 (-22)                        | 314                        | 79                 | 92       | 55                          | 0.41                                   | 0.99                    | 5.74                      | 1.45     | 1.68      |       |
| -25 (-13)                        | 423                        | 107                | 124      | 66                          | 0.49                                   | 1.33                    | 6.45                      | 1.63     | 1.89      |       |
| -20 (- 4)                        | 557                        | 140                | 163      | 77                          | 0.57                                   | 1.75                    | 7.19                      | 1.81     | 2.11      |       |
| -15 (+ 5)                        | 716                        | 180                | 210      | 89                          | 0.65                                   | 2.25                    | 7.99                      | 2.01     | 2.34      |       |
| -10 (+14)                        | 903                        | 227                | 265      | 101                         | 0.73                                   | 2.85                    | 8.88                      | 2.24     | 2.60      |       |

| TEST CONDITIONS:<br>@220V3000RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 35°C (+95°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|---------------------------------------|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%         | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                   | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 414                        | 104                | 121      | 69                          | 0.52                                  | 1.30                    | 6.01                      | 1.52     | 1.76      |       |
| -30 (-22)                        | 551                        | 139                | 161      | 80                          | 0.59                                  | 1.73                    | 6.85                      | 1.73     | 2.01      |       |
| -25 (-13)                        | 720                        | 181                | 211      | 93                          | 0.68                                  | 2.26                    | 7.71                      | 1.94     | 2.26      |       |
| -20 (- 4)                        | 925                        | 233                | 271      | 107                         | 0.78                                  | 2.91                    | 8.62                      | 2.17     | 2.53      |       |
| -15 (+ 5)                        | 1168                       | 294                | 342      | 122                         | 0.87                                  | 3.67                    | 9.58                      | 2.41     | 2.81      |       |
| -10 (+14)                        | 1451                       | 366                | 425      | 137                         | 0.97                                  | 4.58                    | 10.60                     | 2.67     | 3.11      |       |

| TEST CONDITIONS:<br>@220V3000RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 45°C (+113°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|--|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                    | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 379                        | 96                 | 111      | 70                          | 0.52                                   | 1.19                    | 5.40                      | 1.36     | 1.58      |       |
| -30 (-22)                        | 515                        | 130                | 151      | 84                          | 0.61                                   | 1.61                    | 6.15                      | 1.55     | 1.80      |       |
| -25 (-13)                        | 682                        | 172                | 200      | 99                          | 0.71                                   | 2.14                    | 6.91                      | 1.74     | 2.03      |       |
| -20 (- 4)                        | 883                        | 223                | 259      | 115                         | 0.82                                   | 2.78                    | 7.71                      | 1.94     | 2.26      |       |
| -15 (+ 5)                        | 1121                       | 282                | 328      | 131                         | 0.94                                   | 3.53                    | 8.55                      | 2.16     | 2.51      |       |
| -10 (+14)                        | 1397                       | 352                | 409      | 148                         | 1.05                                   | 4.41                    | 9.45                      | 2.38     | 2.77      |       |

| TEST CONDITIONS:<br>@220V3000RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 55°C (+131°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|--|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                    | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 340                        | 86                 | 100      | 69                          | 0.52                                   | 1.06                    | 4.89                      | 1.23     | 1.43      |       |
| -30 (-22)                        | 475                        | 120                | 139      | 85                          | 0.62                                   | 1.49                    | 5.57                      | 1.40     | 1.63      |       |
| -25 (-13)                        | 641                        | 161                | 188      | 102                         | 0.74                                   | 2.01                    | 6.26                      | 1.58     | 1.83      |       |
| -20 (- 4)                        | 838                        | 211                | 246      | 120                         | 0.86                                   | 2.63                    | 6.97                      | 1.76     | 2.04      |       |
| -15 (+ 5)                        | 1071                       | 270                | 314      | 139                         | 0.99                                   | 3.37                    | 7.71                      | 1.94     | 2.26      |       |
| -10 (+14)                        | 1340                       | 338                | 393      | 158                         | 1.12                                   | 4.23                    | 8.49                      | 2.14     | 2.49      |       |

### E - PERFORMANCE - CURVES

| TEST CONDITIONS:<br>@220V4500RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 35°C (+95°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|---------------------------------------|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%         | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                   | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 567                        | 143                | 166      | 104                         | 0.74                                  | 1.78                    | 5.45                      | 1.37     | 1.60      |       |
| -30 (-22)                        | 743                        | 187                | 218      | 120                         | 0.81                                  | 2.33                    | 6.15                      | 1.55     | 1.80      |       |
| -25 (-13)                        | 938                        | 236                | 275      | 136                         | 0.91                                  | 2.94                    | 6.90                      | 1.74     | 2.02      |       |
| -20 (- 4)                        | 1182                       | 298                | 346      | 153                         | 1.02                                  | 3.71                    | 7.73                      | 1.95     | 2.27      |       |
| -15 (+ 5)                        | 1507                       | 380                | 442      | 173                         | 1.11                                  | 4.74                    | 8.70                      | 2.19     | 2.55      |       |
| -10 (+14)                        | 1945                       | 490                | 570      | 197                         | 1.18                                  | 6.13                    | 9.84                      | 2.48     | 2.88      |       |

| TEST CONDITIONS:<br>@220V4500RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 45°C (+113°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|--|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                    | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 537                        | 135                | 157      | 107                         | 0.77                                   | 1.68                    | 5.03                      | 1.27     | 1.47      |       |
| -30 (-22)                        | 707                        | 178                | 207      | 124                         | 0.85                                   | 2.22                    | 5.67                      | 1.43     | 1.66      |       |
| -25 (-13)                        | 899                        | 227                | 263      | 142                         | 0.96                                   | 2.82                    | 6.33                      | 1.60     | 1.86      |       |
| -20 (- 4)                        | 1144                       | 288                | 335      | 162                         | 1.07                                   | 3.59                    | 7.07                      | 1.78     | 2.07      |       |
| -15 (+ 5)                        | 1473                       | 371                | 432      | 185                         | 1.17                                   | 4.64                    | 7.93                      | 2.00     | 2.32      |       |
| -10 (+14)                        | 1917                       | 483                | 562      | 213                         | 1.23                                   | 6.05                    | 8.96                      | 2.26     | 2.63      |       |

| TEST CONDITIONS:<br>@220V4500RPM |                            | ASHRAE32<br>Static |          |                             | (Condensing temperature 55°C (+131°F)) |                         |                           |          |           |       |
|----------------------------------|----------------------------|--------------------|----------|-----------------------------|--|-------------------------|---------------------------|----------|-----------|-------|
| Evaporating temperature          | Cooling capacity<br>+/- 5% |                    |          | Power consumption<br>+/- 5% | Current consumption<br>+/- 5%          | Gas flow rate<br>+/- 5% | EFFICIENCY RATE<br>+/- 7% |          |           |       |
|                                  | °C (°F)                    | [Btu/h]            | [kcal/h] | [W]                         | [W]                                    | [A]                     | [kg/h]                    | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 (-31)                        | 514                        | 130                | 151      | 110                         | 0.78                                   | 1.61                    | 4.66                      | 1.17     | 1.36      |       |
| -30 (-22)                        | 677                        | 171                | 199      | 129                         | 0.88                                   | 2.12                    | 5.23                      | 1.32     | 1.53      |       |
| -25 (-13)                        | 865                        | 218                | 254      | 149                         | 1.00                                   | 2.72                    | 5.82                      | 1.47     | 1.71      |       |
| -20 (- 4)                        | 1109                       | 280                | 325      | 172                         | 1.11                                   | 3.49                    | 6.48                      | 1.63     | 1.90      |       |
| -15 (+ 5)                        | 1440                       | 363                | 422      | 199                         | 1.21                                   | 4.53                    | 7.24                      | 1.82     | 2.12      |       |
| -10 (+14)                        | 1889                       | 476                | 554      | 231                         | 1.26                                   | 5.96                    | 8.16                      | 2.06     | 2.39      |       |

### F - EXTERNAL CHARACTERISTICS

|                         |                 |      |                          |
|-------------------------|-----------------|------|--------------------------|
| 1 Base plate            | Universal VES   |      |                          |
| 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    |      |                          |