

### COMPRESSOR DEFINITION

|                           |                 |
|---------------------------|-----------------|
| Designation               | VES D11C        |
| Nominal Voltage/Frequency | 230 V 40-150 Hz |
| Engineering Number        | 513907260       |

### 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                            | 187 to 255 V                      | 187 to 255 V |
| 8.2 LBP (43°C Ambient temperature)         | Static                            | 187 to 255 V                      | 187 to 255 V |
| 8.3 HBP (32°C Ambient temperature)         | -                                 | -                                 | -            |
| 8.4 HBP (43°C Ambient temperature)         | -                                 | -                                 | -            |
| 9 Maximum condensing pressures/temperature |                                   |                                   |              |
| 9.1 Operating (gauge)                      | 6.9                               | [kgf/cm <sup>2</sup> ] (98 psig)  | / °C - °F    |
| 9.2 Peak (gauge)                           | 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                | 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)    | 6.79           | [kg] (14.97 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                          | VES 2456 XX X X                   |                                    |
| 3 Start capacitor                            | -                                 | [µF(VAC minimum)]                  |
| 4 Run capacitor                              | -                                 | [µF(VAC minimum)]                  |
| 5 Motor protection                           | INVERTER VES 2456X                |                                    |
| 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)    | 2.10/2.10                         | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (40/150 Hz) | 2.10/2.10                         | [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 - VDE                         |                                    |

### 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:        |                  | ASHRAE32 |     |                   | (Condensing temperature 35°C (+95°F)) |               |                 |           |       |  |
|-------------------------|------------------|----------|-----|-------------------|---------------------------------------|---------------|-----------------|-----------|-------|--|
| @220V1300RPM            |                  | Static   |     |                   |                                       |               |                 |           |       |  |
| Evaporating temperature | Cooling capacity |          |     | Power consumption | Current consumption                   | Gas flow rate | EFFICIENCY RATE |           |       |  |
|                         | +/- 5%           |          |     | +/- 5%            | +/- 5%                                | +/- 5%        | +/- 7%          |           |       |  |
| °C (°F)                 | [Btu/h]          | [kcal/h] | [W] | [W]               | [A]                                   | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |  |
| -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:        |                  | ASHRAE32 |     |                   | (Condensing temperature 45°C (+113°F)) |               |                 |           |       |  |
|-------------------------|------------------|----------|-----|-------------------|--|---------------|-----------------|-----------|-------|--|
| @220V1300RPM            |                  | Static   |     |                   |  |               |                 |           |       |  |
| Evaporating temperature | Cooling capacity |          |     | Power consumption | Current consumption                    | Gas flow rate | EFFICIENCY RATE |           |       |  |
|                         | +/- 5%           |          |     | +/- 5%            | +/- 5%                                 | +/- 5%        | +/- 7%          |           |       |  |
| °C (°F)                 | [Btu/h]          | [kcal/h] | [W] | [W]               | [A]                                    | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |  |
| -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:        |                  | ASHRAE32 |     |                   | (Condensing temperature 55°C (+131°F)) |               |                 |           |       |  |
|-------------------------|------------------|----------|-----|-------------------|--|---------------|-----------------|-----------|-------|--|
| @220V1300RPM            |                  | Static   |     |                   |  |               |                 |           |       |  |
| Evaporating temperature | Cooling capacity |          |     | Power consumption | Current consumption                    | Gas flow rate | EFFICIENCY RATE |           |       |  |
|                         | +/- 5%           |          |     | +/- 5%            | +/- 5%                                 | +/- 5%        | +/- 7%          |           |       |  |
| °C (°F)                 | [Btu/h]          | [kcal/h] | [W] | [W]               | [A]                                    | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |  |
| -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:        |                  | ASHRAE32 |     |                   | (Condensing temperature 35°C (+95°F)) |               |                 |           |       |  |
|-------------------------|------------------|----------|-----|-------------------|---------------------------------------|---------------|-----------------|-----------|-------|--|
| @220V1600RPM            |                  | Static   |     |                   |                                       |               |                 |           |       |  |
| Evaporating temperature | Cooling capacity |          |     | Power consumption | Current consumption                   | Gas flow rate | EFFICIENCY RATE |           |       |  |
|                         | +/- 5%           |          |     | +/- 5%            | +/- 5%                                | +/- 5%        | +/- 7%          |           |       |  |
| °C (°F)                 | [Btu/h]          | [kcal/h] | [W] | [W]               | [A]                                   | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |  |
| -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:        |       | ASHRAE32         |          |     | (Condensing temperature 45°C (+113°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|-----|--|---------------------|---------------|-----------------|-----------|-------|
| @220V1600RPM            |       | Static           |          |     |  |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |     | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |     | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W] | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -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:        |       | ASHRAE32         |          |     | (Condensing temperature 55°C (+131°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|-----|--|---------------------|---------------|-----------------|-----------|-------|
| @220V1600RPM            |       | Static           |          |     |  |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |     | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |     | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W] | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -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:        |       | ASHRAE32         |          |     | (Condensing temperature 35°C (+95°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|-----|---------------------------------------|---------------------|---------------|-----------------|-----------|-------|
| @220V2000RPM            |       | Static           |          |     |                                       |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |     | Power consumption                     | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |     | +/- 5%                                | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W] | [W]                                   | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -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:        |       | ASHRAE32         |          |     | (Condensing temperature 45°C (+113°F)) |                     |               |                 |           |       |
|-------------------------|-------|------------------|----------|-----|--|---------------------|---------------|-----------------|-----------|-------|
| @220V2000RPM            |       | Static           |          |     |  |                     |               |                 |           |       |
| Evaporating temperature |       | Cooling capacity |          |     | Power consumption                      | Current consumption | Gas flow rate | EFFICIENCY RATE |           |       |
|                         |       | +/- 5%           |          |     | +/- 5%                                 | +/- 5%              | +/- 5%        | +/- 7%          |           |       |
| °C                      | (°F)  | [Btu/h]          | [kcal/h] | [W] | [W]                                    | [A]                 | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |
| -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:        |                  | ASHRAE32 |     |                   | (Condensing temperature 55°C (+131°F)) |               |                 |           |       |  |
|-------------------------|------------------|----------|-----|-------------------|--|---------------|-----------------|-----------|-------|--|
| @220V2000RPM            |                  | Static   |     |                   |  |               |                 |           |       |  |
| Evaporating temperature | Cooling capacity |          |     | Power consumption | Current consumption                    | Gas flow rate | EFFICIENCY RATE |           |       |  |
|                         | +/- 5%           |          |     | +/- 5%            | +/- 5%                                 | +/- 5%        | +/- 7%          |           |       |  |
| °C (°F)                 | [Btu/h]          | [kcal/h] | [W] | [W]               | [A]                                    | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |  |
| -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:        |                  | ASHRAE32 |     |                   | (Condensing temperature 35°C (+95°F)) |               |                 |           |       |  |
|-------------------------|------------------|----------|-----|-------------------|---------------------------------------|---------------|-----------------|-----------|-------|--|
| @220V3000RPM            |                  | Static   |     |                   |                                       |               |                 |           |       |  |
| Evaporating temperature | Cooling capacity |          |     | Power consumption | Current consumption                   | Gas flow rate | EFFICIENCY RATE |           |       |  |
|                         | +/- 5%           |          |     | +/- 5%            | +/- 5%                                | +/- 5%        | +/- 7%          |           |       |  |
| °C (°F)                 | [Btu/h]          | [kcal/h] | [W] | [W]               | [A]                                   | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |  |
| -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:        |                  | ASHRAE32 |     |                   | (Condensing temperature 45°C (+113°F)) |               |                 |           |       |  |
|-------------------------|------------------|----------|-----|-------------------|--|---------------|-----------------|-----------|-------|--|
| @220V3000RPM            |                  | Static   |     |                   |  |               |                 |           |       |  |
| Evaporating temperature | Cooling capacity |          |     | Power consumption | Current consumption                    | Gas flow rate | EFFICIENCY RATE |           |       |  |
|                         | +/- 5%           |          |     | +/- 5%            | +/- 5%                                 | +/- 5%        | +/- 7%          |           |       |  |
| °C (°F)                 | [Btu/h]          | [kcal/h] | [W] | [W]               | [A]                                    | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |  |
| -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:        |                  | ASHRAE32 |     |                   | (Condensing temperature 55°C (+131°F)) |               |                 |           |       |  |
|-------------------------|------------------|----------|-----|-------------------|--|---------------|-----------------|-----------|-------|--|
| @220V3000RPM            |                  | Static   |     |                   |  |               |                 |           |       |  |
| Evaporating temperature | Cooling capacity |          |     | Power consumption | Current consumption                    | Gas flow rate | EFFICIENCY RATE |           |       |  |
|                         | +/- 5%           |          |     | +/- 5%            | +/- 5%                                 | +/- 5%        | +/- 7%          |           |       |  |
| °C (°F)                 | [Btu/h]          | [kcal/h] | [W] | [W]               | [A]                                    | [kg/h]        | [Btu/Wh]        | [kcal/Wh] | [W/W] |  |
| -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    |      |                          |