

COMPRESSOR DEFINITION

| | |
|---------------------------|-----------------|
| Designation | VEM B11C |
| Nominal Voltage/Frequency | 230 V 53-150 Hz |
| Engineering Number | 513906066 |

A - APPLICATION / LIMIT WORKING CONDITIONS

| | | | |
|------------------------------------|-----------------------------------|-----------------------------------|-----------|
| 1 Type | Hermetic reciprocating compressor | | |
| 2 Refrigerant | R-600a | | |
| 3 Nominal voltage and frequency | 230 / 53-150 | [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 ²] (98 psig) | / °C - °F |
| 9.2 Peak | 7.8 | [kgf/cm ²] (111 psig) | / °C - °F |
| 10 Maximum winding temperature | 130 | [°C] | |

B - MECHANICAL DATA

| | | |
|-------------------------------|----------------|----------------------------------|
| 1 Commercial designation | | [hp] |
| 2 Displacement | 11.14 | [cm ³] (0.680 cu.in) |
| 2.1 Bore [mm] | 26.000 | |
| 2.2 Stroke [mm] | 21.000 | |
| 3 Lubricant charge | 210 | [ml] (7.10 fl.oz.) |
| 3.1 Lubricants approved | | |
| 3.2 Lubricants type/viscosity | ALQUILB / ISO5 | |
| 4 Weight (with oil charge) | 7.8 | [kg] (17.20 lb.) |
| 5 Nitrogen charge | - | [kgf/cm ²] |

C - ELETRICAL DATA

| | | |
|--|-----------------------------------|------------------------------------|
| 1 Nominal Voltage/Frequency/Number of Phases | 230 V 53-150 Hz 3 ~ (Three phase) | |
| 2 Starting device type | Inverter | |
| 2.1 Starting device | CF02D01 M 0.0 X/VCC32456XXXX | |
| 3 Start capacitor | - | [µF(VAC minimum)] |
| 4 Run capacitor | - | [µF(VAC minimum)] |
| 5 Motor protection | VCC32456XXXXX | |
| 6 Start winding resistance | 8.10 | [Ω at 25°C (77°F)] +/- 8% |
| 7 Run winding resistance | 8.10 | [Ω at 25°C (77°F)] +/- 8% |
| 8 LRA - Locked rotor amperage (40/150 Hz) | 2.10 | [A] - Measured according to UL 984 |
| 9 FLA - Full load amperage L/MBP (40/150 Hz) | 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 | | |

D - PERFORMANCE - CHECK POINT DATA

| | | | | | | | | | |
|----------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| TEST CONDITIONS: @220V1600RPM | | | ASHRAELBP32 Static | | Evaporating temperature (Condensing temperature | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | | |
| Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] | |
| 368 | 93 | 108 | 58 | 0.43 | 1.16 | 6.30 | 1.59 | 1.85 | |

| | | | | | | | | | |
|----------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| TEST CONDITIONS: @220V2000RPM | | | ASHRAELBP32 Static | | Evaporating temperature (Condensing temperature | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | | |
| Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] | |
| 460 | 116 | 135 | 71 | 0.52 | 1.44 | 6.48 | 1.63 | 1.90 | |

| | | | | | | | | | |
|----------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| TEST CONDITIONS: @220V3000RPM | | | ASHRAELBP32 Static | | Evaporating temperature (Condensing temperature | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | | |
| Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] | |
| 697 | 176 | 204 | 108 | 0.78 | 2.19 | 6.45 | 1.63 | 1.89 | |

| | | | | | | | | | |
|----------------------------------|----------|-----|--------------------------------|----------------------------------|--|---------------------------|--|-------|--|
| TEST CONDITIONS: @220V4500RPM | | | ASHRAELBP32 Static | | Evaporating temperature (Condensing temperature | | -23.3°C (-9.94°F) 54.4°C (129.92°F) | | |
| Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | | |
| [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] | |
| 959 | 242 | 281 | 161 | 1.16 | 3.01 | 5.96 | 1.50 | 1.75 | |

E - PERFORMANCE - CURVES

| | | | | | | | | | | |
|----------------------------------|----------------------------|--------------------|---------|--------------------------------|----------------------------------|----------------------------|--|--------|----------|-----------|
| TEST CONDITIONS: @220V1600RPM | | ASHRAE32 Static | | | | | (Condensing temperature 35°C (+95°F)) | | | |
| Evaporating temperature | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | | |
| | °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] |
| -35 | (-31) | 223 | 56 | 65 | 37 | 0.29 | 0.70 | 0.00 | 0.00 | 0.00 |
| -30 | (-22) | 229 | 58 | 67 | 35 | 0.28 | 0.72 | 0.00 | 0.00 | 0.00 |
| -25 | (-13) | 372 | 94 | 109 | 46 | 0.36 | 1.17 | 0.00 | 0.00 | 0.00 |
| -20 | (- 4) | 537 | 135 | 157 | 59 | 0.45 | 1.69 | 0.00 | 0.00 | 0.00 |
| -15 | (+ 5) | 607 | 153 | 178 | 63 | 0.47 | 1.91 | 0.00 | 0.00 | 0.00 |
| -10 | (+14) | 466 | 117 | 137 | 47 | 0.35 | 1.47 | 0.00 | 0.00 | 0.00 |

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% | | | | | | +/- 7% | | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] | |
| -35 (-31) | 207 | 52 | 61 | 38 | 0.31 | 0.65 | 0.00 | 0.00 | 0.00 | |
| -30 (-22) | 215 | 54 | 63 | 41 | 0.32 | 0.67 | 0.00 | 0.00 | 0.00 | |
| -25 (-13) | 361 | 91 | 106 | 55 | 0.42 | 1.13 | 0.00 | 0.00 | 0.00 | |
| -20 (- 4) | 528 | 133 | 155 | 68 | 0.52 | 1.66 | 0.00 | 0.00 | 0.00 | |
| -15 (+ 5) | 601 | 152 | 176 | 70 | 0.53 | 1.89 | 0.00 | 0.00 | 0.00 | |
| -10 (+14) | 464 | 117 | 136 | 52 | 0.39 | 1.46 | 0.00 | 0.00 | 0.00 | |

| 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% | | | | | | +/- 7% | | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] | |
| -35 (-31) | 278 | 70 | 81 | 45 | 0.36 | 0.87 | 0.00 | 0.00 | 0.00 | |
| -30 (-22) | 299 | 75 | 88 | 46 | 0.36 | 0.93 | 0.00 | 0.00 | 0.00 | |
| -25 (-13) | 480 | 121 | 141 | 60 | 0.46 | 1.51 | 0.00 | 0.00 | 0.00 | |
| -20 (- 4) | 681 | 172 | 199 | 75 | 0.57 | 2.14 | 0.00 | 0.00 | 0.00 | |
| -15 (+ 5) | 761 | 192 | 223 | 78 | 0.59 | 2.40 | 0.00 | 0.00 | 0.00 | |
| -10 (+14) | 582 | 147 | 170 | 57 | 0.43 | 1.83 | 0.00 | 0.00 | 0.00 | |

| 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% | | | | | | +/- 7% | | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] | |
| -35 (-31) | 265 | 67 | 78 | 49 | 0.39 | 0.83 | 0.00 | 0.00 | 0.00 | |
| -30 (-22) | 276 | 69 | 81 | 52 | 0.41 | 0.86 | 0.00 | 0.00 | 0.00 | |
| -25 (-13) | 451 | 114 | 132 | 68 | 0.53 | 1.42 | 0.00 | 0.00 | 0.00 | |
| -20 (- 4) | 651 | 164 | 191 | 83 | 0.63 | 2.05 | 0.00 | 0.00 | 0.00 | |
| -15 (+ 5) | 736 | 185 | 216 | 85 | 0.64 | 2.32 | 0.00 | 0.00 | 0.00 | |
| -10 (+14) | 565 | 142 | 165 | 62 | 0.46 | 1.78 | 0.00 | 0.00 | 0.00 | |

| 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% | | | | | | +/- 7% | | | |
| °C (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] | |
| -35 (-31) | 413 | 104 | 121 | 70 | 0.55 | 1.29 | 5.95 | 1.50 | 1.74 | |
| -30 (-22) | 455 | 115 | 133 | 69 | 0.52 | 1.42 | 6.33 | 1.60 | 1.85 | |
| -25 (-13) | 730 | 184 | 214 | 92 | 0.68 | 2.29 | 7.84 | 1.98 | 2.30 | |
| -20 (- 4) | 1031 | 260 | 302 | 117 | 0.87 | 3.24 | 9.22 | 2.32 | 2.70 | |
| -15 (+ 5) | 1148 | 289 | 336 | 125 | 0.94 | 3.61 | 9.23 | 2.33 | 2.70 | |
| -10 (+14) | 875 | 221 | 257 | 93 | 0.70 | 2.76 | 6.61 | 1.66 | 1.94 | |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V3000RPM | | ASHRAE32 Static | | | (Condensing temperature 45°C (+113°F)) | | | | | |
|----------------------------------|-------|----------------------------|----------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 399 | 100 | 117 | 73 | 0.56 | 1.25 | 5.44 | 1.37 | 1.60 |
| -30 | (-22) | 423 | 107 | 124 | 76 | 0.56 | 1.32 | 5.50 | 1.39 | 1.61 |
| -25 | (-13) | 688 | 173 | 202 | 101 | 0.75 | 2.16 | 6.84 | 1.72 | 2.00 |
| -20 | (- 4) | 986 | 248 | 289 | 127 | 0.95 | 3.10 | 8.21 | 2.07 | 2.41 |
| -15 | (+ 5) | 1108 | 279 | 325 | 133 | 1.00 | 3.49 | 8.36 | 2.11 | 2.45 |
| -10 | (+14) | 849 | 214 | 249 | 98 | 0.74 | 2.67 | 6.04 | 1.52 | 1.77 |

| TEST CONDITIONS: @220V3000RPM | | ASHRAE32 Static | | | (Condensing temperature 55°C (+131°F)) | | | | | |
|----------------------------------|-------|----------------------------|----------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 342 | 86 | 100 | 71 | 0.53 | 1.07 | 4.78 | 1.20 | 1.40 |
| -30 | (-22) | 356 | 90 | 104 | 79 | 0.58 | 1.11 | 4.54 | 1.14 | 1.33 |
| -25 | (-13) | 619 | 156 | 181 | 108 | 0.80 | 1.94 | 5.75 | 1.45 | 1.68 |
| -20 | (- 4) | 922 | 232 | 270 | 136 | 1.02 | 2.90 | 7.14 | 1.80 | 2.09 |
| -15 | (+ 5) | 1058 | 267 | 310 | 142 | 1.07 | 3.33 | 7.47 | 1.88 | 2.19 |
| -10 | (+14) | 819 | 206 | 240 | 104 | 0.79 | 2.58 | 5.48 | 1.38 | 1.60 |

| TEST CONDITIONS: @220V4500RPM | | ASHRAE32 Static | | | (Condensing temperature 35°C (+95°F)) | | | | | |
|----------------------------------|-------|----------------------------|----------|-----|---------------------------------------|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 570 | 144 | 167 | 104 | 0.80 | 1.78 | 5.53 | 1.39 | 1.62 |
| -30 | (-22) | 661 | 167 | 194 | 109 | 0.79 | 2.07 | 5.78 | 1.46 | 1.69 |
| -25 | (-13) | 989 | 249 | 290 | 139 | 1.01 | 3.10 | 7.07 | 1.78 | 2.07 |
| -20 | (- 4) | 1320 | 333 | 387 | 169 | 1.25 | 4.15 | 8.27 | 2.08 | 2.42 |
| -15 | (+ 5) | 1422 | 358 | 417 | 172 | 1.30 | 4.48 | 8.25 | 2.08 | 2.42 |
| -10 | (+14) | 1063 | 268 | 312 | 125 | 0.95 | 3.35 | 5.89 | 1.48 | 1.73 |

| TEST CONDITIONS: @220V4500RPM | | ASHRAE32 Static | | | (Condensing temperature 45°C (+113°F)) | | | | | |
|----------------------------------|-------|----------------------------|----------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 554 | 140 | 162 | 110 | 0.83 | 1.73 | 4.99 | 1.26 | 1.46 |
| -30 | (-22) | 614 | 155 | 180 | 116 | 0.84 | 1.92 | 5.08 | 1.28 | 1.49 |
| -25 | (-13) | 925 | 233 | 271 | 147 | 1.07 | 2.90 | 6.31 | 1.59 | 1.85 |
| -20 | (- 4) | 1252 | 316 | 367 | 176 | 1.31 | 3.94 | 7.53 | 1.90 | 2.21 |
| -15 | (+ 5) | 1364 | 344 | 400 | 179 | 1.36 | 4.29 | 7.64 | 1.93 | 2.24 |
| -10 | (+14) | 1028 | 259 | 301 | 129 | 0.99 | 3.24 | 5.50 | 1.39 | 1.61 |

E - PERFORMANCE - CURVES

| TEST CONDITIONS: @220V4500RPM | | ASHRAE32 Static | | | (Condensing temperature 55°C (+131°F)) | | | | | |
|----------------------------------|-------|----------------------------|----------|-----|--|-------------------------------|-------------------------|---------------------------|-----------|-------|
| Evaporating temperature | | Cooling capacity +/- 5% | | | Power consumption +/- 5% | Current consumption +/- 5% | Gas flow rate +/- 5% | EFFICIENCY RATE +/- 7% | | |
| °C | (°F) | [Btu/h] | [kcal/h] | [W] | [W] | [A] | [kg/h] | [Btu/Wh] | [kcal/Wh] | [W/W] |
| -35 | (-31) | 518 | 130 | 152 | 110 | 0.80 | 1.62 | 4.67 | 1.18 | 1.37 |
| -30 | (-22) | 545 | 137 | 160 | 117 | 0.85 | 1.70 | 4.57 | 1.15 | 1.34 |
| -25 | (-13) | 835 | 211 | 245 | 148 | 1.11 | 2.62 | 5.70 | 1.44 | 1.67 |
| -20 | (- 4) | 1156 | 291 | 339 | 177 | 1.36 | 3.64 | 6.92 | 1.74 | 2.03 |
| -15 | (+ 5) | 1275 | 321 | 374 | 179 | 1.40 | 4.02 | 7.13 | 1.80 | 2.09 |
| -10 | (+14) | 960 | 242 | 281 | 128 | 1.02 | 3.02 | 5.17 | 1.30 | 1.52 |

F - EXTERNAL CHARACTERISTICS

| | | | |
|-------------------------|------------------------------|------|--------------------------|
| 1 Base plate | Universal EUEM | | |
| 2 Tray holder | Yes | | |
| 3 Connectors | | | |
| 3.1 SUCTION | 6.5 +0.12/-0.08 | [mm] | (0.256" +0.005"/-0.003") |
| 3.1.1 Material | Copper | | |
| 3.1.2 Shape | Slanted 40° up + 0° to Back | | |
| 3.2 DISCHARGE | 4.9 +0.10/-0.05 | [mm] | (0.193" +0.004"/-0.002") |
| 3.2.1 Material | Copper | | |
| 3.2.2 Shape | Slanted 0° up + 24° to Back | | |
| 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 | Slanted 40° up + 45° to Back | | |
| 3.4 Oil cooler (Copper) | No | [mm] | |
| 3.5 Connector sealing | Rubber Plugs | | |