Wind & Water Powered Generators

Engineered for life
Aerogen

Wind Generators

AEROGEN wind generators run at low rotational speeds for quietness, safety and minimal wear and tear.

With high strength generator magnets, heavy-duty sealed bearings and tough replaceable blades, AEROGEN is built to give you years of reliable, trouble-free operation.

When you’re sailing

※ Batteries charged without running engine
※ Free, quiet, inexhaustible, planet-friendly power
※ No additional fuel demand or cost

When you’re away

※ Power to keep batteries charged, day & night, whenever there’s a breeze
※ Light, tough, corrosion-resistant, maintenance free
※ Bilge pump and other essential electrics can be allowed to run without risk of flat batteries

When you arrive

※ Lights that light up
※ A dry bilge
※ A refrigerator that gets going straight away

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AEROGEN performance - wind speed (knots)

<table>
<thead>
<tr>
<th>AEROGEN</th>
<th>12</th>
<th>19</th>
<th>25</th>
<th>33</th>
<th>40</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Moderate breeze</td>
<td>Gale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>AERO2GEN</td>
<td>8</td>
<td>10</td>
<td>13</td>
<td>15</td>
<td>17</td>
<td>19</td>
<td>20</td>
<td>25</td>
<td>28</td>
<td>40</td>
<td>60</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Gentle breeze</td>
<td>Storm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AERO4GEN</td>
<td>6.5</td>
<td>7.5</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>14</td>
<td>15</td>
<td>17</td>
<td>20</td>
<td>23</td>
<td>30</td>
<td>45</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Gentle breeze</td>
<td>Gale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AERO6GEN</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>30</td>
<td>35</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>OUTPUT @12v</td>
<td>0.5</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>CURRENT (amps) @24v</td>
<td>0.25</td>
<td>0.5</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
<td>2.5</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>7.5</td>
<td>10</td>
<td>15</td>
</tr>
</tbody>
</table>
Aquagen
Water Generators

AQUAGENS are towed water-driven generators suitable for all sailboats and sailing speeds in blue and coastal waters. They can provide enough power to meet all on-board requirements while under sail. The towed turbine travels 1 to 3 metres (3 to 10 feet) below the surface. AQUAGEN can be used in shallow coastal waters as well as on ocean crossings. Yachtsmen who normally have shore-power when in harbour may find AQUAGEN a preferable alternative to a wind generator when sailing. It can provide more power than a wind generator when running with the wind, because the actual wind speed on a wind generator is reduced by the boat’s speed through the water.

Powerful performance
● The Aqua4gen starts to generate power at 2.5 knots boat speed and the Aqua6gen at 3.5 knots.

Adjustable, replaceable blades
● The Aqua4gen is supplied with 90mm (3.5”) and 115mm (4.5mm) turbine blades. The Aqua6gen is supplied with 90mm (3.5”) blades. The blade length may be reduced to modify power output and drag to suit individual yachts. If the blades snag strongly on the sea bed or on objects, the blades will break away and release the turbine. New blades can quickly be bolted to the turbine.

Low drag
● The well-proven alternator design produces power at low rotating speeds to reduce drag.

Simple, quick installation
● The generator is attached by a rope (supplied) to the pushpit. It is quickly and easily mounted and de-mounted. No expensive mounting kits are required. The turbine is linked to the generator by a rope (supplied).

Robust, self-protecting, maintenance free
● Corrosion-resistant materials are used throughout. Aquagens are maintenance-free. If speed becomes excessive Aquagen will break the surface and output will drop, preventing overheating.

Silent power
● Neither the generator nor the towed turbine produces any discernible noise.

AQUA4GEN
AQ412 Aqua4gen 12 volt water generator & turbine
AQ424 Aqua4gen 24 volt water generator & turbine
Aqua4gen produces up to 11 amps continuously at 8 knots boat speed when fitted with the larger (115mm) turbine blades, and 10 amps at 10 knots when fitted with the smaller (90mm) blades. Both are included.

Weight
Generator – 5.7kg (12.5lb)
Turbine – 3.3kg (7.2lb)

AQUA6GEN
AQ612 Aqua6gen 12 volt water generator & turbine
AQ624 Aqua6gen 24 volt water generator & turbine
Aqua6gen produces up to a continuous 16 amps at 12 knots boat speed. It is fitted with 90mm blades.

Weight
Generator – 5.7kg (12.5lb)
Turbine – 3.3kg (7.2lb)

AQUAGEN PERFORMANCE

<table>
<thead>
<tr>
<th>Boat</th>
<th>AQUA4GEN</th>
<th>AQUA6GEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>115mm</td>
<td>90mm</td>
<td>90mm</td>
</tr>
<tr>
<td>Speed</td>
<td>Turbine Blade</td>
<td>Turbine Blade</td>
</tr>
<tr>
<td>(Knots)</td>
<td>Amps</td>
<td>Drag (kg)</td>
</tr>
<tr>
<td></td>
<td>@ 12v</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>0.1</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>4.5 (10)</td>
</tr>
<tr>
<td>3.5</td>
<td>1.5</td>
<td>5.4 (12)</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>6.8 (15)</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>9 (20)</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>13.6 (30)</td>
</tr>
<tr>
<td>7</td>
<td>10</td>
<td>18 (40)</td>
</tr>
<tr>
<td>8</td>
<td>11</td>
<td>22.7 (50)</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>20.4 (45)</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>22.7 (50)</td>
</tr>
<tr>
<td>11</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Aqua4gen starts to generate power at 2.5 knots boat speed and the Aqua6gen at 3.5 knots. The Aqua4gen generates more power up to 8 knots boat speed and the Aqua6gen more power above 8 knots. At lower boat speeds, some yachtsmen may prefer Aqua4gen, which produces less power but with less drag.

TURBINE OUT OF WATER
Wind & Water Generator

Aqua to Aerogen

The AQUA4GEN can quickly and easily be converted into a wind generator, providing in a single unit a water generator when sailing and a wind generator when at anchor or sailing, with the same wind performance as AERO4GEN. Battery regulation is required, as for AQUA4GEN or AERO4GEN.

**From AQUA4GEN to AERO4GEN**

Convert AQUA4GEN into wind mode in less than 5 minutes. Remove the mounting rope, bolt the unit into its pole-mounted cradle, add the fan assembly and tail fin, make the waterproof connections and that’s it! Convert AERO4GEN equally quickly into water-towed mode.

**AQUA4AEROGEN**

- AQA412 AQUA4AEROGEN
  - 12 volt, combined wind and water generator

- AQA424 AQUA4AEROGEN
  - 24 volt, combined wind and water generator

**AC412-424**

- Retrofit wind conversion kit for AQA412 and AQA424 25mm (1") fitting
- AQA412-424-1.5
  - Retrofit Wind conversion kit for AQA412 and AQA424 38mm (1½") fitting
Aerogen Furled Inland Wind Generators

AEROGEN inland furling wind generators are designed for unattended applications. They will produce approximately the same output as their marine equivalent, but are automatically furled at wind speeds above 40 knots by the special pivoting tail assembly, which turns the generator side ways to the wind thus limiting its output and protecting the generator.

There are two models available AERO4GEN-F and AERO6GEN-F. They incorporate many of the same components as the marine models and operate continuously and safely in storm force winds. With the introduction of stainless steel tail fin and tube they are ideal for coastal inland sites. Furling generators have been used successfully throughout the world in some of the most remote and extreme weather locatations, often used in combination with solar panels.

Some typical applications include:
- Street lighting
- Data loggers
- Remote telemetry
- Electric fencing

Mounting
They have a flange to flange mounting arrangement. A flange is supplied with the generator, which must be welded to the top of a 2” diameter tube or scaffold pipe, the generator is then simply bolted to this flange.

They ARE NOT suitable for use on Yachts.

For more information please contact your local sales office or check www.lvm-ltd.com

Battery Regulators

**SB-SERIES**
- LVM2SB12  12v battery regulator
- LVM4SB12  12v battery regulator
- LVM2SB24  24v battery regulator
- LVM4SB24  24v battery regulator

- Simple, inexpensive regulator for a stand-alone power system
- Suitable for installations in which an Aerogen or an Aquagen is the only power source
- Not for systems that use additional power inputs such as a mains charger, shore power or a boat engine-driven alternator
- Diverts charger output to a resistor when battery voltage reaches 14.2 (12v systems) or 28.4 (24v systems)
- Takes 10 - 15mA continuous standby current

**TB-SERIES**
- LVM4TB12  12v battery regulator
- LVM6TB12  12v battery regulator
- LVM4TB24  24v battery regulator
- LVM6TB24  24v battery regulator

- Suitable for installations with power input from more than one source, e.g. mains generator, shore power or engine-driven alternator, in addition to Aerogen or Aquagen.
- Recommended for single or twin battery banks
- Diverts charger output to a resistor when battery voltage reaches 14.2 (12v systems) or 28.4 (24v systems)
- Zero draw from battery when on standby

**DIODE UNITS**
- LVM4DU  diode unit, 12/24 volt
- LVM6DU  diode unit, 12/24 volt

- For additional battery banks
- An extra diode unit enables an additional battery bank to be regulated while on charge

**Example:**
To charge 3 battery banks, select LVM4TB regulator plus LVM4DU diode unit
Selection Guide

Step 1
Choose a GENERATOR to suit your needs.

<table>
<thead>
<tr>
<th>Model</th>
<th>Typical Duty</th>
<th>Usage*</th>
<th>Power Generated**</th>
</tr>
</thead>
<tbody>
<tr>
<td>AERO2GEN</td>
<td>Trickle charging a small battery</td>
<td>20-75</td>
<td>85</td>
</tr>
<tr>
<td>AERO4GEN</td>
<td>Moderate lighting load, small refrigerator or bilge pump</td>
<td>70-300</td>
<td>300</td>
</tr>
<tr>
<td>AERO6GEN</td>
<td>Heavier loads, including lighting, navigational equipment, medium-sized refrigerator or bilge pump</td>
<td>300-650</td>
<td>670</td>
</tr>
</tbody>
</table>

* Typical power usage per week, amp hours (at 12 volts dc)
** Power generated by Aerogen. Amp-hours per week at 12 volts dc (at average wind speed 12 knots)

<table>
<thead>
<tr>
<th>Model</th>
<th>Blades (mm)</th>
<th>Amps(@12v)</th>
<th>Amps Hours (per 24 hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQUA4GEN</td>
<td>Large Turbine Blades 115</td>
<td>4</td>
<td>95</td>
</tr>
<tr>
<td>AQUA6GEN</td>
<td>Small Turbine Blades 90</td>
<td>8</td>
<td>190</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Blades (mm)</th>
<th>Amps(@12v)</th>
<th>Amps Hours (per 24 hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIND Mode</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate lighting load, small refrigerator or bilge pump</td>
<td>Usage*</td>
<td>Power Generated**</td>
<td></td>
</tr>
<tr>
<td>Boat Speed (knots)</td>
<td>Usage*</td>
<td>Power Generated**</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>70 - 300</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>9</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>290</td>
<td>385</td>
<td></td>
</tr>
</tbody>
</table>

* Typical power usage per week, amp hours (at 12 volts dc)
** Power generated by Aerogen. Amp-hours per week at 12 volts dc (at average wind speed 12 knots)

<table>
<thead>
<tr>
<th>Application</th>
<th>Choice</th>
<th>Usage*</th>
<th>Power Generated**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telemetry/Remote</td>
<td>Aero4gen-F</td>
<td>100-300</td>
<td>300</td>
</tr>
<tr>
<td>Extreme Conditions</td>
<td>Aero6gen-F</td>
<td>300-650</td>
<td>670</td>
</tr>
<tr>
<td>Summer/Remote Houses</td>
<td>Aero6gen-F</td>
<td>300-650</td>
<td>670</td>
</tr>
<tr>
<td>Alternative Lifestyle</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Possible Extreme Conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Typical power usage per week, amp hours (at 12 volts dc)
** Power generated by Aerogen. Amp-hours per week at 12 volts dc (at average wind speed 12 knots). In winter these locations wind speeds can average over 25 knots with frequent gales.
**Selection Guide**

**Step 2**
Choose a BATTERY REGULATOR.

<table>
<thead>
<tr>
<th></th>
<th>1 Battery</th>
<th>2 Batteries in parallel</th>
<th>3 Batteries in parallel</th>
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<tbody>
<tr>
<td></td>
<td>12 volt</td>
<td>24 volt</td>
<td>12 volt</td>
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<tr>
<td>AERO2GEN</td>
<td>LVM2SB12</td>
<td>LVM2SB24</td>
<td>LVM2TB12</td>
</tr>
<tr>
<td>AERO4GEN</td>
<td>LVM4SB12</td>
<td>LVM4SB24</td>
<td>LVM4TB12</td>
</tr>
<tr>
<td>AERO6GEN</td>
<td>LVM6TB12</td>
<td>LVM6TB24</td>
<td>LVM6TB24</td>
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</table>

**Step 3**
Choose a MOUNTING METHOD (AEROGEN ONLY).

<table>
<thead>
<tr>
<th>Part No</th>
<th>Description</th>
<th>AERO 2GEN</th>
<th>AERO 4GEN</th>
<th>AERO 6GEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVMK1</td>
<td>Bracket fixing to pushpit and 0.5m x 25mm dia (1&quot;) stainless steel tube</td>
<td>✔</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>LVMK2</td>
<td>1.2m x 25 mm dia (1&quot;) stainless steel tube complete with 1&quot; stanchion mount: universal plate, to fix 1&quot; mounting tube to 1&quot; pushpit tube</td>
<td>✔️</td>
<td>✔️</td>
<td>❌</td>
</tr>
<tr>
<td>LVMK3</td>
<td>Offset 1.2m x 25 mm dia (1&quot;) stainless steel tube with 1&quot; stanchion mount: universal plate, to fix 1&quot; mounting tube to 1&quot; pushpit tube</td>
<td>✔️</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>LVMK4</td>
<td>1.45m x 38 mm dia (1.5&quot;) stainless steel tube complete with 1.5&quot; stanchion mount: universal plate, to fix 1.5&quot; mounting tube to 1&quot; pushpit tube</td>
<td>❌</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>LVMK5</td>
<td>2.9m x 38 mm dia (1.5&quot;) stainless steel tube complete with 1.5&quot; stanchion mount: universal plate, to fix 1.5&quot; mounting tube to 1&quot; pushpit tube: 4mm wire rope, stays and fixings</td>
<td>❌</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>LVM163</td>
<td>To fix 25mm dia (1&quot;) tube to 25mm dia (1&quot;) tube</td>
<td>✔</td>
<td>❌</td>
<td>❌</td>
</tr>
<tr>
<td>LVM168</td>
<td>To fix 25mm dia (1&quot;) tube to 38mm dia (1.5&quot;) tube</td>
<td>❌</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>