3.4 Exhaust hose

The WP-WL & WP-WGS parts can withstand a much higher temperature than a waterlock system. The exhaust hose should not exceed a continuous temperature of 40°C (104°F).

2.1.2 Specifications Waterlock WP-WL

<table>
<thead>
<tr>
<th>Specification</th>
<th>WP-WL 40/40/40</th>
<th>WP-WL 51/40/51</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part number</td>
<td>402300877</td>
<td>40230088</td>
</tr>
<tr>
<td>Type of hose</td>
<td>40/40/40mm</td>
<td>51/40/51mm</td>
</tr>
<tr>
<td>Nominal bore</td>
<td>PE + SST 40/40/40</td>
<td>PE + SST 51/40/51</td>
</tr>
<tr>
<td>Pressure rating</td>
<td>0 – 4 bar</td>
<td>0 – 4 bar</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>PE + SST 0 – 4 bar</td>
<td>PE + SST 0 – 4 bar</td>
</tr>
<tr>
<td>Temperature range</td>
<td>PE + SST -40°C – 70°C</td>
<td>PE + SST -40°C – 70°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>PE + SST -40°C – 70°C</td>
<td>PE + SST -40°C – 70°C</td>
</tr>
<tr>
<td>Weight*</td>
<td>2.3 kg</td>
<td>2.3 kg</td>
</tr>
</tbody>
</table>

*See Figure 1

2. TECHNICAL DATA

3.1 General

3.2 Low backpressure

WARNING

3.3 No connection size

The WP-WL & WP-WGS exhaust parts are equipped with stop in fittings that make the installation easy. Inexpensive and bent fittings can be utilized in this way. The best routing of the hoses can be achieved.

- The turning parts need to be turned 180° one time.
- The hoses must be fixed with hose clamps at the location of articulated parts.
- Approx. 40cm from the turning parts the hose must be fixed with a pull belt.
- Between the WP-WL & WP-WGS parts, Victaulic supplies all necessary accessories to install generator-ends such as stainless steel hose clamps, alien, and rubber exhaust hoses in accordance with ISO 13363. These accessories are available in individual kits or in complete kits.

The hose clamps supplied by WhisperPower in the exhaust installation is made of a high quality stainless steel and designed to comply with the hose in all circumstances. However APRO and CE standards prescribe the use of 2 clamps for each connection which is no problem in the waterlock. See our web page aboutwaterlock.com for an extensive overview of all kinds of generator parts.

3.4 Ultraviolet

It is absolutely necessary to use proper exhaust hoses of good quality.

WARNING

The exhaust hose applied in a wet exhaust system should comply with ISO 13363.

The WP-WL & WP-WGS exhaust parts are made of a polyethylene material. Polyethylene is non-combustible and can be utilized to certain temperatures. This is important because in case of malfunctions, wherein the cooling-water is blocked, the exhaust parts can identify the area of cooled exhaust gases and therefore for a limited time, without this result in leaks. During this period it must intensively the safety system and stop the generator motor or alert the captian, so that he can stop the propulsion engine.

Although the WP-WL & WP-WGS parts can withstand a much higher temperature than a waterlock system. The exhaust hose should not exceed a continuous temperature of 40°C (104°F).
3.5 Exhaust diameter

**WARNING**

Only use exhaust hose and fittings with correct diameter as specified by the engine (generator) manufacturer.

The WP-WL & WP-WGS series are available for exhaust diameters as specified in section 2.1.3 and following. They are made of stainless steel and are supplied in sets of 4 meters to be cut to the required length.

**3.6 positioning of the parts**

All dimensions should be calculated with a fully loaded boat being valid in all circumstances. Else extra volume must be installed in the exhaust system to protect the engine in extreme circumstances. The waterlock is meant to be installed just below the generator or engine, but not too low, because when the waterlock is positioned too low, the vessel is prone to taking on water. On the other hand the waterlock must be installed too high, also risks may run from the waterlock back into the engine if the vessel is not driven safely.

**3.6.1** The one time up and down routing

When the vessel is floating, the waterlock should still be below the waterline. The gas outlet hose may go up once and then should slope down. When heeling the waterlock should still be below the waterline. See figure 11. When the result is still unsatisfactory one should contact WhisperPower customer service for an expert advice.

**3.6.2** The North Sea Exhaust

This feature of the water/gas separator makes it possible to let the gas hose go up one time to pass a high object or bulkhead and even to bring the outlet into the stern of the ship. See figure 12. When the result is still unsatisfactory one should contact WhisperPower customer service for expert advice.

**3.6.3** North Sea Exhaust

The gas outlet of installations near the waterline in the hull side could, in long passage, be below the waterline for too long a period. A possible solution in this case is to use a new type gas outlet also known as a North Sea Exhaust. See figure 13.

**3.6.4** Extra muffler

When applying an extra muffler this must be installed in the form that slopes downwards and not in the rising line. When applying an extra muffler this must be installed in the form that slopes downwards and not in the rising line. See figure 14. When the result is still unsatisfactory one should contact WhisperPower customer service for expert advice.

**4.1 General**

The Waterlock and Water/Gas separator do not need maintenance. The Whips are lubricated with a long lasting silicon-grease. The fittings are lubricated with a long lasting silicon-grease. The WP-WL & WP-WGS components are resistant to many chemicals including alcohols as used in coolants and anti freeze.

**4.2 Meter preparations**

A method to fill the system with air flows. The WP-98 & WP-98B containers are resistant to many chemicals including alcohols as used in coolants and anti freeze.

**4.3 Maintenance & drainage**

**3.7** Length of the hoses.

The length of the hoses should be according to the instructions and drawings below. The hose before the water/gas separator should be as short as possible, and not more than 3 m (10') long in total (A-B in Figure 8). The hoses after the water/gas separator sloping down can be up to 7m (21') long. When stopping the transport of the water will cost less energy and length is less critical.

Long hoses containing water will be heavy and must be supported by brackets. The hoses should be prevented from swinging caused by the movements of the boat.

**3.8 Avoid bunches**

To avoid bunches the hose between the generator and the waterlock must be installed with a slope downwards.

Bends and especially those that go up forming a 90° or hanging bend cause extra backpressures. In a hanging bend water will collect after stopping the engine and could possibly flow back into the engine due to movements of the ship.

Water in a hanging bend of the gas outlet hose will block this outlet and cause a too high backpressure.

**3.10 Filling the boat**

When filling the water/gas separator can get below the waterline and water may enter the engine. By removing the water/gas separator close to the centre of the boat it will be above the waterline in all circumstances.

**3.11 Extra muffler**

When applying an extra muffler this must be installed in the form that slopes downwards and not in the rising line. When applying an extra muffler this must be installed in the form that slopes downwards and not in the rising line. See figure 14. When the result is still unsatisfactory one should contact WhisperPower customer service for expert advice.

**3.12 The North Sea Exhaust**

This feature of the water/gas separator makes it possible to let the exhaust gas go up one time to pass a high object or bulkhead and even to bring the outlet into the stern of the ship. See figure 12. When the result is still unsatisfactory one should contact WhisperPower customer service for expert advice.

**3.13 The one time up and down routing**

Windy conditions during the window gas outlet pumping down. See figure 16. Many times the connections are only little above the waterline while the hose should not go up again because the gas will be blocked by water collected in the hose.

**4.3.1** The one time up and down routing

Windy conditions during the window gas outlet pumping down. See figure 16. Many times the connections are only little above the waterline while the hose should not go up again because the gas will be blocked by water collected in the hose.