



Features and issues common to all Wallas products:

1. Voltage level of DC supply: *12.6VDC Minimum to start*

All Wallas marine products need to have good, clean DC power supply, with a minimum of 12.6VDC available at the device prior to starting the unit.

a. Typically, starting current will surge to between 11 and 13 amps and then settle to between 8 and 10 amps, which can drop the available voltage by a significant amount. Most of the starting current is drawn by the glow plug, which begins running a few seconds after starting the unit and continues for up to four minutes. When this happens, if available power drops below 11.6 volts, the control circuitry may stop trying to start and go directly into the shut down cycle. **Some users may need to start their main engine to ensure available voltage is sufficient to start the Wallas device.**

b. Once up and running, Wallas products will continue to run on a battery with voltage well below 12.0VDC. Pre-2011 products have a minimum voltage requirement of 11.6VDC, while newer units will run at voltages below 11VDC.

c. Other devices sharing the electrical supply. If there are other DC electrical consumers sharing the same battery with a Wallas device, pay close attention to the operation of these devices when and if battery voltages get very low. In particular, refrigeration units which start and stop automatically can cause system voltage to sag momentarily below the critical level, causing the Wallas device to stop producing heat and fall into its shutdown cycle.

2. Fuel supply: *Fuel must stay below the device*

All Wallas marine products are equipped with their own integral fuel pump. These pumps are low volume (.07cc per stroke) and very accurate if located above the fuel supply. They will lift fuel effectively up to 6 feet above the fuel level and will prime themselves from a dry line.

Wallas fuel pumps typically run at between 15 and 85 strokes per minute, moving between 1.0 and 6.0 cc per minute. Since these are very small volumes, the use of small bore fuel line is highly recommended, with the standard Wallas supply being 2mm internal diameter. This is plastic fuel pipe, with copper pipe available as an option.

If the fuel supply to a Wallas product were to be placed above the Wallas device, the fuel system would over-fuel the device by virtue of its inherent design. This kind of application should be avoided under all circumstances.

Given the nature of these fuel systems, Wallas products should never be plumbed directly into a fuel manifold that supplies fuel to any non-Wallas products. Ideally, each Wallas product should have its own fuel connection to a vented fuel reservoir, although many Wallas products can share a single supply line (in pairs only).

Wallas products come with fuel filters and these are the specific filters which should be used with Wallas products. There is no need to install additional filtration and this practice is not encouraged.

Wallas diesel products may be plumbed directly into a vessel's main fuel tanks, as long as a discrete fuel pickup tube is used through the top of the fuel tank. Wallas and Scan Marine have a variety of solutions to accomplish this kind of adaptation. If this method is not possible or if the vessel is not diesel powered, then a variety of dedicated tanks are available for easy installation.

3. Exhaust:

All Wallas marine products vent their exhaust through the hull side, transom, side or rear of the house or the roof. A variety of through hull adapters are available for each of these options. Many Wallas furnace products utilize a "duplex" or combined exhaust/combustion air pipe, where combustion air is drawn in around the exhaust fitting and supplied to the furnace by way of a large pipe surrounding the exhaust pipe. This process preheats the inbound combustion air and reduces the pressure differential encountered at the through hull fitting in high wind conditions.

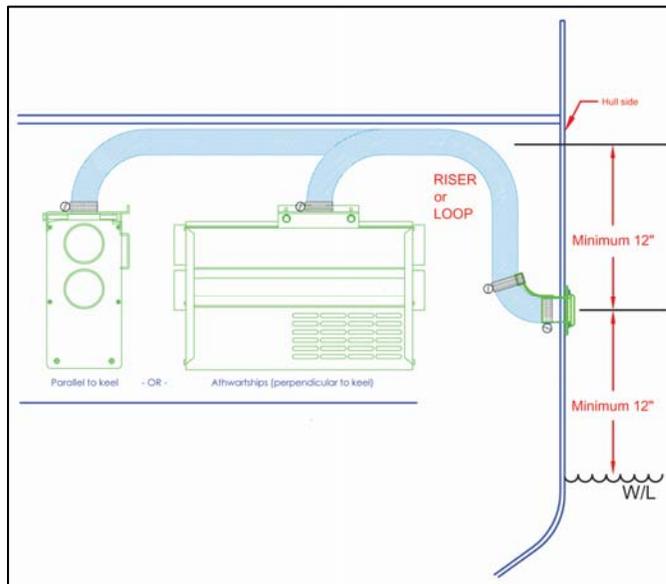
Wallas cooking products and the 40Dt furnace use a simple insulated 28mm flexible exhaust pipe running to a through hull fitment. For these products, the combustion air is drawn from the space where the device is mounted.

4. Exhaust routing: *Keep water out*

- a. In most cases, Wallas products have their exhaust through hull located through the side of the hull or house. Since this method means passing through a vertical surface, there are some important configuration specifics that should be observed:

The exhaust or exhaust combustion pipe must have a water trap loop formed in it as it comes from the hull side. This prevents water from entering the pipework and staying there. See Figure 3.

Figure 3:



Transom mounted through hulls should be treated similarly to those discussed in a., above. A water trap loop should be formed in the exhaust pipe to preclude water intrusion.

- b. Through deck (horizontal surface) fittings must be one of our covered designs. We also offer a closeable version that can be fitted to any Wallas product. Through deck fittings can be mounted on horizontal, vertical or slanted surfaces. **Please consult closely with Scan Marine if you are planning to have a through deck arrangement for exhaust on you Wallas product.**
- c. The total number of turns in the exhaust run should not exceed 360 degrees. While this is a more important consideration on long exhaust runs, it should be considered the target value for all installations.

5. Warranty considerations: **Three year or 2,000 hours**

Wallas products now carry a two year or 2,000 operating hour warranty (whichever comes first), covering parts and labor for goods being serviced at and authorized service facility. The owner can activate the third year of coverage by registering at the Wallas web site:

www.wallas.fi/takuu

Wallas recommends that all products should be inspected by an authorized service center after the first 500 hours of operation.

6. Wallas marine stoves, ovens and furnaces are intended for recreational use. Live-aboard or commercial use will bring about the need for more frequent servicing, not covered by warranty.