



The
Green
Guide
to
Holding Tank
Installation



A joint environment programme



Holding Tank Installation



Having a holding tank on your boat enables you and your crew to enjoy your time on the water knowing that you are comfortable, responsible and compliant with relevant, local legislation. If you are thinking of installing

a holding tank, our guide will answer some common questions, whether you choose to self-install or find a company to do it for you.

What capacity will I need?

This depends on the type of toilet, how many crew you carry and how long they operate the flush. For a rough calculation assume somewhere between 0.5gal-2gal (2lt-9lt) per day per person. Ideally go for as large a tank as you can without affecting your boat's stability.

Where should I install the holding tank?

Install the tank as close to the toilet as possible. If you install the tank close to, or below the waterline, you'll need a pump to retain the ability to discharge at sea. If you can fit the tank above the waterline, then gravity discharge is an option.

Do I need any new hull or deck fittings?

You'll usually be able to reutilise the toilet's discharge seacock as the discharge seacock for the holding tank. So the only new holes required will be above the waterline – for the tank vent, labelled pump-out fitting and a labelled tank flush fitting.

Which construction material is best for holding tanks?

Effluent is highly corrosive, so avoid aluminium. Stainless steel is commonly used but is also vulnerable to corrosion, especially on seams and at the top of the tank. The lighter and typically cheaper option is high-density thick wall polyethylene (6mm min. thickness is best).

There is a wide range of standard sizes and shapes on the market, as well as custom fabrication options.

What installation best practice should I follow?

- Check the tank can fit through the companionway or hatch of your boat
- Install all fittings, except the manual discharge, in the top surface of the tank
- Locate the pump-out fitting directly above the sea discharge fitting, to aid rodding through in case of blockage
- Leave space for inspection hatch and tank gauge fitting access
- Ensure the tank slopes towards the discharge pipe and pump out pick-up tube
- Secure the tank to withstand boat movement – every litre of water carried in your tank weighs 1kg (1gal=10lb)
- Use marine grade stainless steel worm-drive clips, two for each hose connection
- Employ anti-syphon fittings on the toilet discharge to the tank and also on the discharge pipes if the tank is below the waterline
- Eliminate sags in the hose runs to avoid accumulation of stagnant effluent

How can I make the system work well at the pump-out?

- Fit a pump-out deck fitting that complies with ISO 8099
- Ensure the pump-out fitting has an identification plate or stamp
- Check that your holding tank has a pump-out dip tube that runs close to the bottom of the tank
- Keep the pump-out hose run from tank to deck as short and straight as possible
- Run the tank vent in 1.5in ID (38mm) sanitary grade hose to prevent a vacuum building up in the tank when it is pumped-out (this also provides a better flow of oxygen to the tank to assist the breakdown of waste)
- Utilise a plain shell vent without a flame arrester mesh for the holding tank vent pipe (to prevent the mesh corroding and becoming restricted)

When will I know the holding tank needs to be emptied?

Install a warning gauge. Float-switch types can work well but may need maintaining. Alternatively consider an electronic sensor/digital model. Some units can also be connected to an electric toilet, to prevent flushing when full.



How do I prevent holding tank pong?

- Use quality sanitary grade pipework for all connections and a good grade of hose on the raw water inlet connection to your toilet
- Ensure connections are sound to prevent leaks. Avoid the use of metal fittings (which can corrode)
- Choose a holding tank that is impermeable and suitable for effluent
- Install a carbon filter in the vent line
- Locate the vent outlet as far away as possible from accommodation air inlets



How can I prevent system blockages?

- Use smooth bore pipework and avoid fittings with sharp bends
- Use toilet paper suitable for holding tanks that breaks down quickly
- Flush the pipework through before you leave the boat, to prevent build-up of scale
- Flush the tank from time to time to minimise sludge build up, discharging the contents safely

What holding tank treatment should I use?

None! Just leave it to look after itself. If you do employ a treatment, ensure it is designed to work in marine holding tanks and is environmentally safe.

Further information

For more advice on Black Water and to view The Green Blue UK Pump Out Directory visit:

www.thegreenblue.org.uk

The Green Blue

The Green Blue is a UK wide programme created by the Royal Yachting Association and British Marine in 2005 to enable the UK recreational boating sector to decrease its impact on the environment by:

- Raising awareness amongst industry and users
- Reducing harmful discharges
- Reducing environmental disturbance
- Encouraging sustainable choices

For more information visit our website
www.thegreenblue.org.uk



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