

No More Pumpouts

Install your own onboard sewage treatment system

BY CAPT. ALAN ROSS HUGENOT

A lot has changed in the way we handle sewage since I first took up boating. Back in the early 1960s, when I was a teenager aboard my first boat, sewage treatment was simple: We had an old

bucket, which we would dump overboard, if we were offshore. When we were boating near a beach, we could carry the bucket up to the local pit toilet at the state launch ramp.

My next boat had a marine toilet installed. Like the bucket, it also flushed directly overboard, as was the practice on every boat in the harbor.

However, by the early 1970s, with rising concerns about water pollution, flushing overboard had become illegal. Suddenly, every boat skipper had a new problem: what to do with head waste.

Today, it remains illegal to discharge untreated sewage unless you are more than 3 miles offshore. Holding tanks are the usual solution to marine sanitation challenges. However, there is another solution that minimizes the need for a large holding tank: adding an onboard sewage treatment system.

ECONOMICAL AND ENVIRONMENTALLY FRIENDLY

Onboard sewage treatment sounds like an expensive proposition — but when you figure the cost of adding a holding tank, and the cost of monthly pumpout service and system maintenance, an onboard treatment

system suddenly looks very attractive.

In the 30 years since those carefree days of my youth, I have designed and installed sewage holding and treatment systems for aircraft carriers, passenger ferries, tugboats, fishing vessels, charter boats and numerous pleasureboats. As a commercial skipper, I have disassembled and unclogged nearly every marine sanitation device (MSD) on the market. The best, most trouble-free system I have used is the LectraSan, made by Raritan Engineering.

This compact system uses electrode plates to convert the natural salt in sea water into chlorine, which the system then uses to disinfect onboard sewage. It virtually eliminates the bacteria and viruses in waste, without adding harmful chemicals.

The LectraSan system can be activated by push button, or can be set to operate automatically — and it can serve up to two marine toilets. While it is ideal for saltwater boaters, the system can also be modified with a salt injection unit for use in fresh water.

A microprocessor regulates each LectraSan unit's treatment cycle to compensate for changes in voltage, salinity and water temperature. Best of all, the system requires no holding tank and no pumpout connection on deck. It can be purchased and installed for around



Capt. Alan Ross Huguenot photos

SANITATION SOLUTION — Raritan Engineering's LectraSan marine sanitation system, designed for boats up to 65 feet, can be installed in just about any 1 by 2 by 1 foot space — such as under a V-berth or in an engine room. If you already have a holding tank installed aboard, you can place a two-way "Y"-valve in the hose between the toilet and the holding tank — then, route a new hose to the LectraSan and to the existing overboard connection. This gives you the option of either using the LectraSan to discharge sanitized wastewater overboard or using the holding tank in no-discharge areas.

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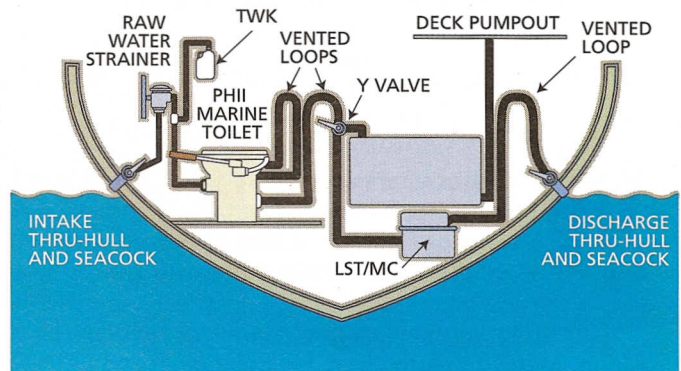
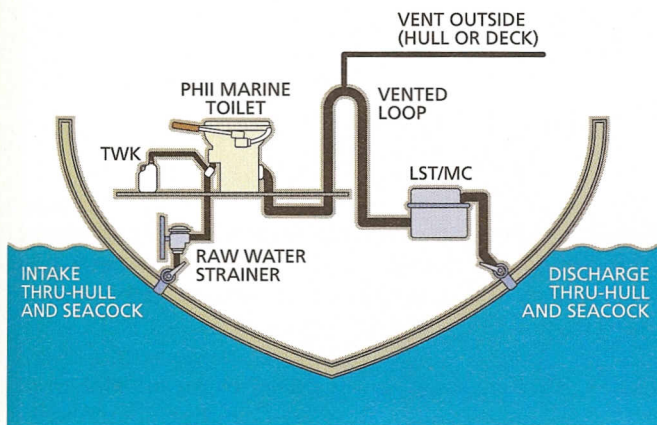
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STEP-BY-STEP



I Feel Flushed

Installing the LectraSan system is surprisingly easy, using your boat's existing marine head. The diagram on the left shows the system installed without a holding tank, while the diagram on the right shows it installed with a holding tank and a Y-valve. Here's how the system works: With the push of a button, the LectraSan MC flushes the toilet and

starts the waste treatment process. Waste enters one chamber of the device, where it comes in contact with salt water (piped in from an intake through-hull) and an electrode that transforms the salt water into natural chlorine, killing virtually all bacteria. Then, the treated wastewater moves to the next chamber, where it is turned into salt water again, before being discharged.

\$1,200 by any "hands-on" boater.

A SIMPLE SYSTEM

Raritan Engineering's LectraSan MC is a U.S. Coast Guard-certified Type 1 marine sanitation device (MSD). That means it is approved for overboard discharge in U.S. navigable waters, for all pleasureboats or commercial boats 65 feet or smaller that carry 16 or fewer passengers.

However, this sewage treatment/discharge system may not be operated in designated "No Discharge Zones." While you're boating in these waters, you'll still need to use your holding tank as usual — and use a locking device to close your boat's discharge seacock, so that the discharge system will not be inadvertently activated.

The LectraSan MC model is the smallest, most popular onboard sewage treatment system available. The main unit can be installed in a 1 by 2 by 1 foot space, with a 12v battery mounted nearby.

Boaters simply install the system "downstream" from the boat's existing toilet, and "upstream" from the boat's present overboard discharge valve. If you have a holding tank already installed aboard, you can place a two-way Y-valve in the hose between the toilet and the holding tank. Then, route a new hose to the LectraSan and to the existing overboard connection. This allows you the option of using the LectraSan to discharge overboard, or using the holding tank to pump out waste later, on shore.

The unit can fit under a forward V-berth or in a corner of an engine room. Installation is easy, and the system comes with complete instructions and plumbing diagrams.

If you have an existing marine toilet in working order, you can easily add this enhancement in two Saturdays, if you plan your work carefully and purchase all the hoses and clamps you will need in advance.

From my own experience, I know that the hose has to bend around inside the bilge more than it appears at first. For that reason, it is a good idea to measure the hose runs carefully — then, buy twice as much hose as you think you will need, and twice as many hose clamps.

After installing the LectraSan system, you might decide to put the spot where your jumbo-size holding tank used to be to better use — perhaps replacing it with a small tank, then adding additional fuel tankage for long-range cruising.

The LectraSan system uses a proven technology, with a 20-year operating history, and it will forever rid you of one of boating's biggest headaches (pardon the pun). It is the first item I personally recommend be installed on any new boat, because it practically eliminates the need to keep sewage aboard, to be pumped out later. With this system on my boat, I can enjoy carefree boating, with no pumpout hassles at the next port.

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