

# Five Reasons Why Sailors Can Now Sail Longer and Pump-Out Less

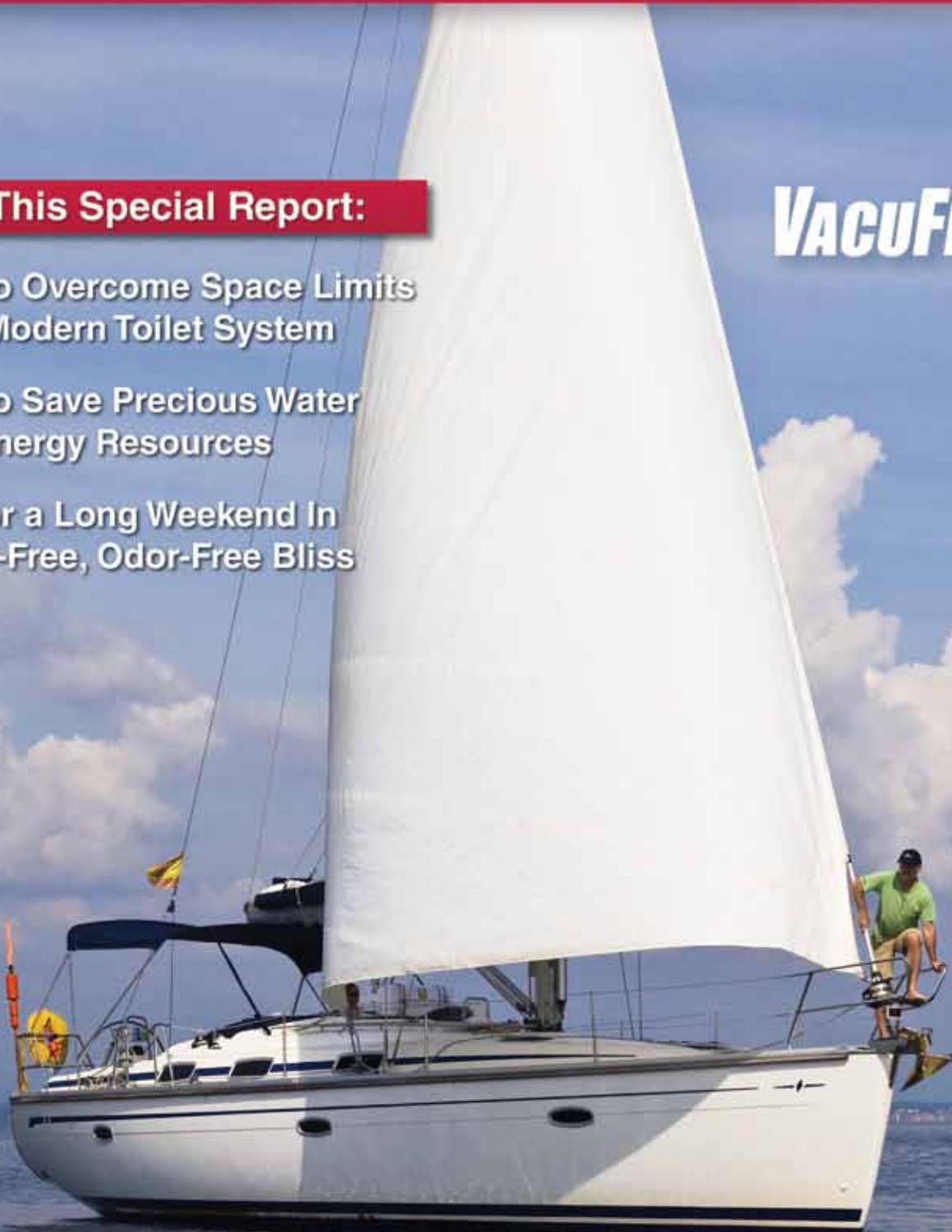
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A FREE SPECIAL REPORT BY DOMETIC MARINE

## Inside This Special Report:

- How to Overcome Space Limits for a Modern Toilet System
- How to Save Precious Water and Energy Resources
- Sail for a Long Weekend In Worry-Free, Odor-Free Bliss

# VACUFLUSH<sup>®</sup>



**Sealand<sup>®</sup>**  
by Dometic GROUP

### SAILVAC™ 5200 VACUUM HOLDING TANK



SailVac™  
5200

VacuFlush® technology is now optimized for sailboats. SailVac incorporates an odor-free, leak-proof holding tank, vacuum reservoir, and vacuum pump into a single, slim, hull-hugging package.

The SailVac 5200 features a 14-gallon (53 L) holding tank and uses only 3 amps per flush\* from a 12V DC power source.

- Slim, hull-hugging unit incorporates holding tank, vacuum reservoir and vacuum pump.
- Roto-molded, 8 mm-thick polyethylene construction.
- Corrosion-proof, leak-proof, and odor-proof holding tank.
- Thorough pump-out with diptube discharge.
- Auto shutdown relay turns off system to prevent tank overfilling.
- 3/4-full and full-tank sensors.



Watch the SailVac video:  
[www.dometic.com/sailvacusa](http://www.dometic.com/sailvacusa)

Historically, the electrical, freshwater and space restrictions of sailboats, especially in the 30 - 50 ft. category, meant that it was simply not possible to install a modern convenient toilet system similar to those enjoyed aboard powerboats of the same size. Instead, sailboat builders and owners have been making do with what was available, which is essentially a manually operated toilet that causes malodor, uses too much water and is inefficient, unreliable and difficult to pump.

**“My holding tank is too small and I repeatedly have to cut my cruises short to return to shore to pump-out.”**

This was a complaint often heard by luxury sailboat manufacturer, Beneteau USA. In an attempt to improve the cruising experience for sailors, the boat builder approached Dometic Marine for a solution. The company soon got to work developing a product that would revolutionize the world of sailboat toilets and make using an on-board holding tank easy and convenient.

**Say goodbye to old-fashioned, smelly and manual marine toilets!**

Dometic's SailVac™ technology eliminates these problems in an innovative new system design that allows sailors to sail longer and pump-out less. Not only is the SailVac compact and able to fit in the hull of the sailboat, but it combines a vacuum-flush toilet, allowing it to use less water per flush in the first instance, removing the need for a bigger holding tank.

So, why don't sailors have to endure manual, smelly and old-fashioned heads anymore? Because when paired with a VacuFlush® toilet, the SailVac offers:

1. A Size That Fits
2. Water and Energy Efficiency
3. Odor-Free Operation
4. Durability
5. Proven Success

### A Size That Fits



Standard holding tanks are bulky rectangular containers that consume precious space aboard a sailboat, whereas the SailVac's special technology combines a tall, slim tank that curves and narrows to fit the outboard space of a head that's typical of a sailboat hull. Figure 1 illustrates a SailVac system installation .

### Compact All-In-One System

The SailVac vacuum holding tank combines a vacuum pump, vacuum reservoir and waste-holding tank into one unit with Dometic's newly developed SailVac™ technology. By engineering all of these functions into a single, slim, hull-hugging unit, the SailVac meets the demands of sailboat toilet system applications: compact size, low water consumption, and low power use. The

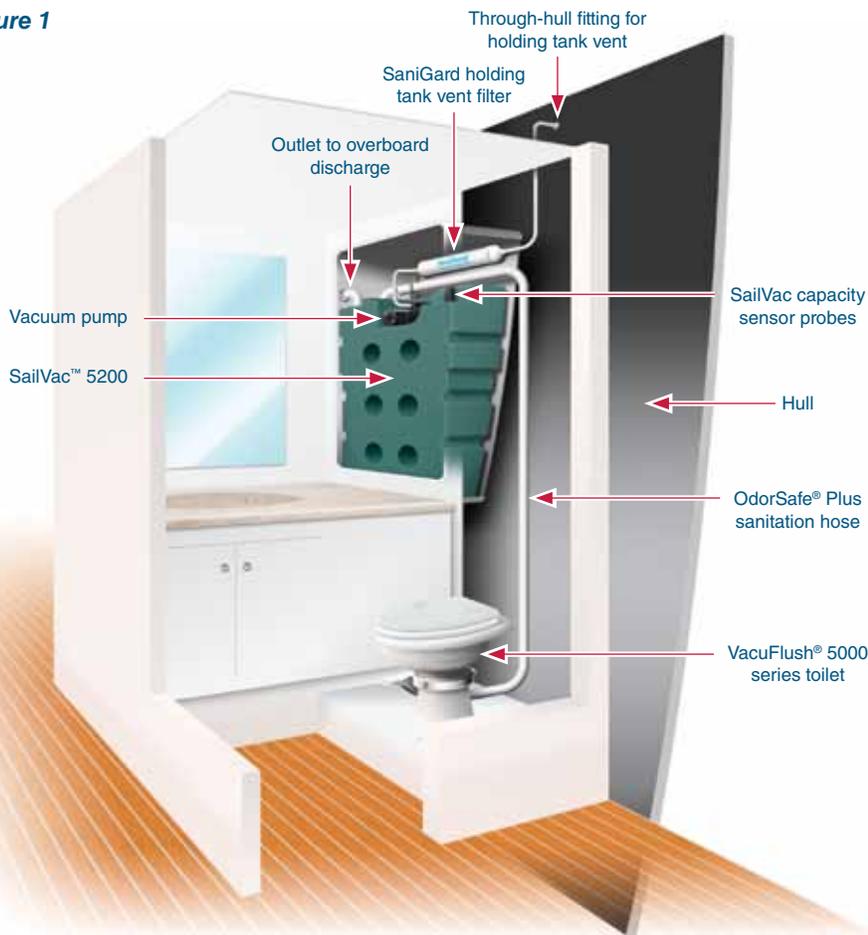
design is entirely unique to sailboats and no other manufacturer has ever been able to offer a system that offers the same benefits.

### Designed for Durability

An interior baffle system protects vacuum components from wastewater at high angles of heel, and reinforcing ribs prevent tank distortion while building or storing vacuum pressure or during pump-out. The combination of these material and design factors permits construction of tanks with sufficient capacity for several days of usage.

\* When used with a VacuFlush pedal-operated toilet

Figure 1



## Water and Energy Efficiency

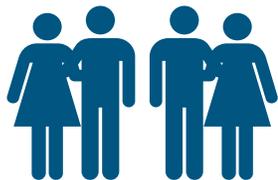
The SailVac unit has the lowest water and electrical consumption of any marine electric toilet system.

### Miserly Water Consumption

With as little as one pint (less than 0.5 liter) per flush, water consumed is less than one gallon (3.8 liters) per person, per day, conserving boat owners' freshwater flushing supply (see Figure 2 below). Because of reduced water consumption, a modest

### Figure 2: Cruise Longer In No-Discharge Waters With SailVac

With a SailVac Toilet System, four people can sail for a long weekend without returning to the dock for holding tank pump-outs.



4 people average a total of 20 flushes per day



VacuFlush uses only 1 pint of water per flush



Holding tank not full after 3 days and 60 flushes

## CLEAN WATER — A JOINT COMMITMENT

Dometic is dedicated to a healthy marine environment. We promote the growing use of holding tanks and pump-out stations to keep marinas clean and compliant with clean-water regulations.

Our role in this commitment is to provide on-board SeaLand sanitation equipment that is trouble-free, efficient, and reliable.

### Clean Water Around the World

 Since the 1980s, all boats in U.S. waters with a permanent toilet must be equipped with a marine sanitation device (MSD). Waters of special concern (drinking water, shellfish beds, and others) can be designated a No Discharge Zone, where treatment devices of any type cannot be used.

 In the Netherlands, black water discharge from any type of recreational water craft has been prohibited since 1 January, 2009.

 In the United Kingdom, direct discharge of sewage inland waters is prohibited. Codes of Best Practice are strongly encouraged.

 In France, since 1 January 2008, all recreational boats with a toilet which enter maritime or inland ports must be equipped with a holding tank or the ability to treat toilet water.

 In Spain, all vessels built since May 2004 must have a holding tank installed.

The Helsinki Convention for the protection of the Baltic Sea (HELCOM) recommends the installation of retention systems on all ships. The recommendation must be taken up by national authorities.

### Make a Clean Water Commitment – Pump Out!



### SEALAND SANIGARD™ HOLDING TANK VENT FILTERS



SaniGard vent filters are proven to be the most effective vent filter available for stopping SailVac tank vent odors.

As a result, many boat manufacturers and boat owners install SaniGard vent filters as a standard odor-prevention measure to assure that everyone can breathe easy on board all the time.

- Stops vent odors for an entire boating season.
- Easy installation.
- Complete kits (with fittings, bracket, and hardware) or replacement cartridges are available.

**TIP**

Change your vent filter every season for optimum odor control.

### SEALAND CLEAN 'N GREEN™ HOLDING TANK DEODORANT



Neutralize holding tank odors naturally with Sealand's safe, non-caustic Clean 'n Green formulas. Earth friendly, odor-controlling ingredients in each dose break down waste and keep tanks clean – without harming sanitation components or the environment.

- Natural, safe, and effective.
- Will not harm sanitation components or the environment.
- Highest concentrated formula among many other products.

holding tank supplies more days of usage between pump-outs (five days for two people using just an 80-liter tank). This is more days of usage between discharges than any other holding tank currently available to the Sailboat market. The SailVac lets you cruise longer and pump-out less!

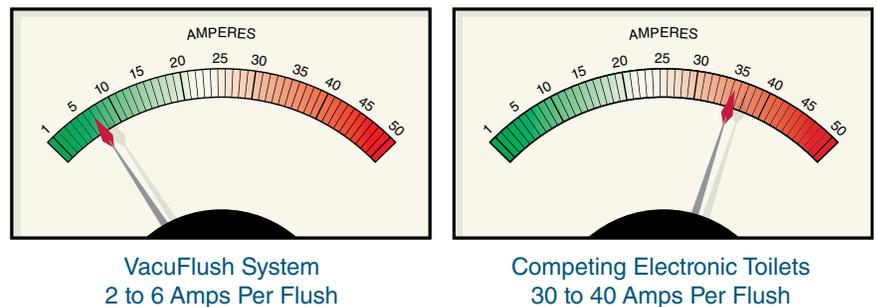
#### Miniscule Amps

By using a powerful vacuum force, waste and flush water are instantly vacuumed from the bowl and upward into the holding tank. Power draw is no more than 3 amps (12 volts DC) to regenerate and maintain vacuum level for the next flush.

Other electric toilet systems consume 15 to 40 amps per flush. Take macerating systems, for example: Due to the power required to operate the blades that grind the waste, power draw is significantly more than that of vacuum-pump toilets.

In addition, the water consumption of other toilet systems can be up to 4 liters per flush, making it more difficult to use fresh water for flushing, and filling up the holding tank considerably faster.

**Figure 3: SailVac Uses 75% Less Amps**



#### Odor-Free Operation

How would you like to enter the head without first holding your breath? The SailVac system eliminates odors in three critical areas: the bowl, the evacuation hose and the air vent.

##### Bowl Stays Fresh

With very low water requirements, odor-free fresh water can be used in place of microbe-laden seawater for flushing. When seawater sits in a toilet bowl, those microbes die, which give off a hard-to-miss sulphurous malodor. The SailVac system avoids this by using fresh water as flush water. Requiring only 1 pint (50 ml) of water per flush, on-board water supplies can be used conservatively while providing odor-free operation.

##### Hose Remains Clean

Did you know that bad odors can permeate the flexible hose that runs from toilet to holding tank if waste lingers there? But not with the SailVac system. Because every flush is vacuumed directly and completely into the holding tank, no wastewater is left standing in the hose, meaning it won't become a source of odor often associated with marine heads. In other marine toilets, effluent and wastewater often resides in the hose, which can cause a stink to build up, causing malodor permeation of the hose and a stinky head.

### **Vented Air is Filtered**

The final source of odors in a toilet system comes from the air vent when the incoming effluent pushes air out of the holding tank. This can be an unpleasant surprise to someone lounging on deck near the vent when the toilet is flushed. Not so with the SailVac system. The air vacated from the SailVac during a flush is purged of malodors by an activated carbon filter on the vent side of the vacuum pump, resulting in an innocuous puff of air.

### **Durability**

Leaks of any kind are never welcome aboard a boat, but a leaky holding tank is an especially offensive situation. The SailVac tank eliminates that worry.

#### **Lifetime Durability With Minimal Maintenance**

Made of a specially formulated polyethylene resin that will outlast the life of a typical hull, the SailVac tank is roto-molded to eliminate seams (weak points). The top of the holding tank incorporates very few rubber parts, and these are easily accessible and replaceable after several seasons of usage, if necessary. A newly designed vacuum switch delivers over one-million-cycle reliability.

The SailVac tank will last as long as the boat, so it's well worth the initial investment.

### **Environmental Benefits:**

An added advantage of having a SailVac is the environmental benefit. Using a holding tank makes swimming overboard pleasant and healthy and it protects the marine environment from the harmful impact of sewage micro-organisms and nutrients, enhancing the natural lifestyle of cruising pristine waters.

The SailVac system also meets all ISO requirements for marine sanitation equipment.



## **PROVEN SUCCESS**

In its first year on the market, the SailVac system received rave reviews from the marine media and boat builders.

### **SailVac Wins Awards and Honors**

In 2010, SailVac was nominated for a METS DAME Award and in 2011 it won a prestigious SAIL Magazine Pittman Innovation Award in the 'Systems' category. In the same year it won an Editor's Choice Award from Practical



Sailor Magazine. It also received a 5 Star review from Yachting Monthly.

### **Upgrade Option on Beneteau Sailboats**

Following its development, Beneteau USA listed the SailVac as an upgrade on new builds. Speaking on the innovative new system during the Miami International Boat Show in 2011, Wayne Burdick, President of Beneteau USA said:

"Today people are generally more environmentally conscious, wanting to ensure they live in a green and good way and sailors in particular are ahead of anyone else on that. The integration of Dometic's SailVac Vacuum Holding Tank aboard our boats adds a significant extension to cruising time for sailors, so that they don't have to worry about getting to pump-out facilities as often, enabling them to enjoy the ocean for much longer."



***These major boat manufacturers have installed VacuFlush® Systems as original equipment:***

Absolute	Ebbtide	Mako	Riviera
Albemarle	Edgewater	Mastercraft	Savannah
Albin	Egg Harbor	Mirage	Sculley
Atlantis	Fountain	Monterey	Sea Hunt
Azure Marine	Four Winns	Morris	Sea Ray
Beneteau	Freedom	Mustang	Seafox
Bennington	Glastron	Navigator	Silverton
Boston Boat	Godfrey	Nico Craft	Skipperliner
Boston Whaler	Grady White	Nordhavn	Southport
Bryant	Grand Banks	Ocean Alexander	Stamas
Cabo	Grand River	Ocean	Sunseeker
Carolina Boatworks	Hinckley	Pacific Seacraft	Thunderbird
Carolina Classic	Holton Custom	Parker	Tiara
Carver	Hunt	Pearson	Traditional Watercraft
Century	Hunter	Premier	Triton
Chaparral	Hydra-Sports	Princess	Triumph
Cobalt	Impulse	Pro Sport	Vectorworks
Cranchi	Jarrett Bay	Pro-Line	Viking
Crownline	Jefferson	Pursuit	Wellcraft
Cruisers	Jupiter	Regal	Whitley USA
Donzi	Key West	Regulator	
Dynasty	Larson	Rinker	
Eastern	Luhrs	Riva	

To locate a VacuFlush dealer near you please go to: [www.Dometic.com/MarineDealers](http://www.Dometic.com/MarineDealers)

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