

At a Glance

## Electric-Flush Toilets vs. Vacuum-Flush Toilets

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	ELECTRIC	VS.	VACUUM
<b>Operating ease of use</b>	Some models require changing a lever position for “dry” or “wet” flushing. Waste is pumped from the toilet to the tank and can end up resting in the line between the two.		Foot-lever control for adding water or flushing, or electronic control board with two well-marked buttons. Waste is drawn by vacuum to the unit tank and then pushed to the main holding tank.
<b>Water use</b>	Most models will pump water as long as the button is held down, filling the holding tank faster and requiring more frequent pumpouts. Clogs can form in the lines if enough water isn't used.		With as little as 1 pint used per flush, trips to the pumpout station should decrease. Lines remain clearer as the vacuum pump moves all material to the holding tank.
<b>Noise</b>	The electric pump or macerator is mounted on the toilet bowl in the head. Operation can be noisy, especially in the head compartment. More expensive models are often quieter.		The vacuum motor and tank are mounted away from the boat's living spaces, so the system tends to be quieter, with no grinding noise.
<b>Complexity</b>	All components are attached to the toilet. Installation is usually four bolts and then connect the intake/outlet lines.		Installation requires toilet install, freshwater connection with vented loop, check valve, vacuum motor and the tank install.
<b>Odor</b>	Microorganisms in salt water die in the plumbing lines and holding tank, giving off the smell of decay.		Use of fresh water eliminates odors from decaying organisms.
<b>Cost to install</b>	Simple electric heads can be a few hundred dollars; more advanced styles with a household appearance can run to just under \$2,000. Installation will be relatively straightforward, especially for replacement/upgrade projects.		Basic systems start around \$1,500 and are available only through authorized dealers. Installation can take half a day or more depending on the complexity of the system and access. Can be installed by owners for some savings, but it's worth having dealers' expertise in planning and installation.
<b>Maintenance</b>	Lubricate manual pumps annually. Vinegar or other products designed to break down urea-scale buildup in the plumbing should be applied annually.		Replacement of duck-bill valve and bowl seal required every three to five years.