
VACUFLUSH® SANITATION SYSTEM OWNER'S MANUAL

500 Plus Series, 1000 Series, Model 706 Toilets



IMPORTANT NOTICE

VacuFlush® sanitation systems must be installed according to SeaLand's recommended procedures. Do not attempt installation without first contacting a SeaLand certified dealer, your nearest Parts Distributor (see page 23), or SeaLand Technology, Inc.



THE
TAYLOR MADE
GROUP

13128 State Rt 226, P.O. Box 38
Big Prairie, Ohio 44611-0038 USA
SeaLand Hotline 1-800-321-9886
(8:00 a.m. - 5:00 p.m. ET)

PRODUCT FEATURES

SeaLand Technology, Inc. brings the technology, comfort and efficiency of VacuFlush Sanitation Systems in an easy-to-use and easy-to-maintain package.

- **Freshwater Flush**

- Eliminates the unpleasant sulfide odors which plague saltwater systems.
- Eliminates the need to draw flush water through the through-hull, seacock and vented loop.
- Significantly extends life of system components by eliminating saltwater and impurities from accumulating in the system over time.

- **Efficient Design**

- Consumes a little over a pint of water per flush and allows boat owners to use a small waste tank. The VacuFlush system fills a ten-gallon (28.4 liter) tank in the same time that an electric toilet fills a 40-gallon (113.6 liter) tank.
- Uses only 4-6 amps per flush on 12 VDC.

- **Delightful Operation**

- Simple one-lever flush control. No complex instructions needed.
- Comfortable adult-sized seat.
- Large water surface maintains clean bowl.
- Vitreous china bowl.

- **Reliability is Built-In**

- USCG Certified Type III Marine Sanitation Device.
- No impellers or macerators – vacuum pump motor can run dry without burning up. No dynamic seals.
- Vacuum tank and vacuum generator design eliminates clogging problems associated with other systems.

- **Dispose of Sewage Conveniently and Safely**

- Toilet can be used without discharging sewage into sensitive waters.
- Holding tank discharge is at a dockside pump or at sea with optional overboard discharge.
- No portable toilet tanks to haul or dump.

- **Backed by the Best in Service and Quality**

- The VacuFlush system is from the leader in marine sanitation.
- Worldwide parts availability and technical backup.

SeaLand Technology, Inc. reserves the right to change specifications without notice.
--

TABLE OF CONTENTS

	<u>Page</u>		<u>Page</u>
Product Features	2	Pedestal and Pedal Cover Installation	7
Marine Sanitation Regulations	3	Deodorants and Special Tissue	8
Important Information Before Operation	3	Accessories	9
Key System Components	4-5	Vacuum Tester	9
System Start Up	5	Service Tip	9
Cleaning	5	Troubleshooting Guide	10-12
Winterizing	5-6	Parts Lists	13-20
Maintenance	6	Dimensional Specifications	21
Spare Parts	6	Wiring Diagrams	22
VacuFlush Maintenance Kit	7	Parts Distributors	23
Ordering Parts	7	Manufacturer's One-Year Limited Warranty	24
Toilet Model Identification	7		

MARINE SANITATION REGULATIONS

All boats with fixed toilets in U.S. waters and in the waters of some other countries are required to be equipped with an operable marine sanitation device (MSD). The VacuFlush system is a holding tank or Type III system as defined by the U.S. Coast Guard.

Type III systems are designed to permit operation of the toilet without the direct discharge of untreated waste after every flush. This means onboard toilet facilities can be used when the boat is near swimmers, beaches or shellfish beds.

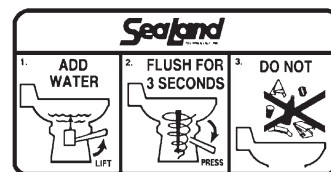
Type III systems can be discharged at marina dockside pump-out stations or, if in coastal waters, a minimum of three miles offshore. **Overboard discharge capability must remain secured while within the three-mile limit.** The overboard discharge pump is activated by a keyed switch located in the toilet compartment. **This key should be removed at all times except when discharge pump is operating.**

Recent Federal legislation has provided grants to private marinas to install dockside pumps especially in coastal water. It is estimated that over 3500 pump-out stations, in total, will be added due to this legislation.




Sewage from any source should not be discharged directly into our waters. If you are interested in learning more about this issue, please contact SeaLand Technology at the phone number or address listed on the back page of this manual. Request Clean Water Notebook, Volumes 1 and 2.

IMPORTANT INFORMATION BEFORE OPERATION

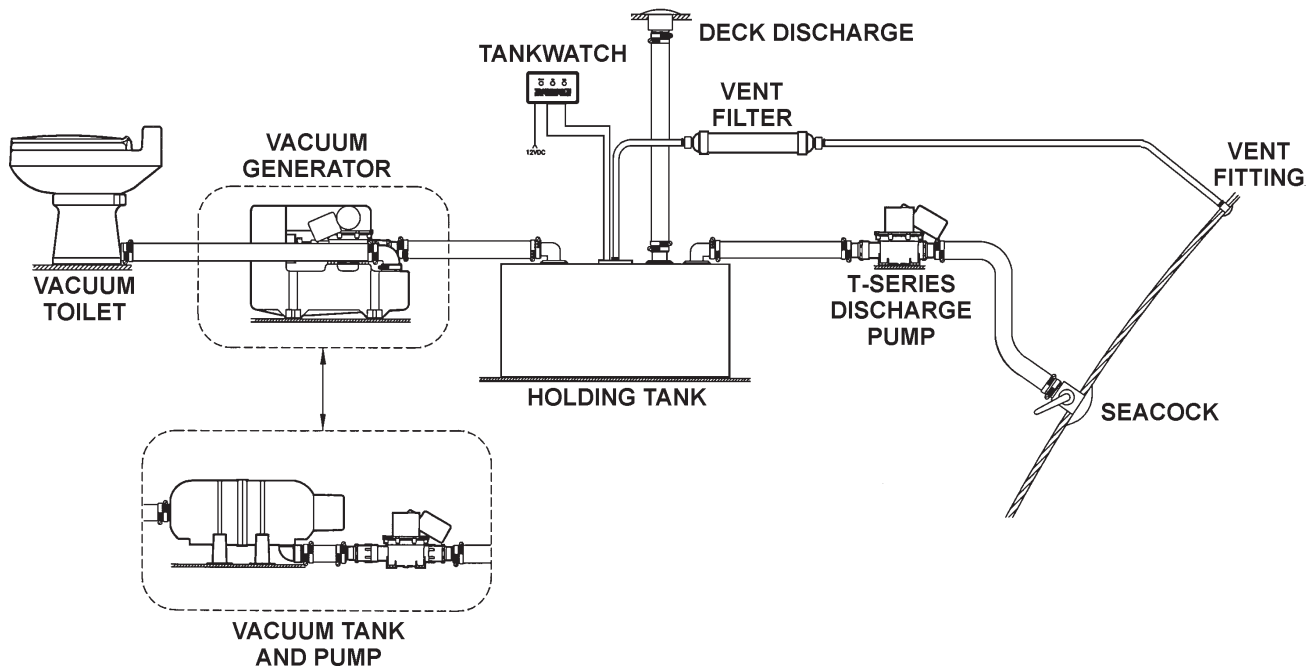
1. Fill freshwater tank and add deodorant to holding tank through toilet bowl. (See System Start Up Section)
2. Make sure all guests understand the operation of the VacuFlush system and the instruction label is in plain sight and easy for guests to read. **If this label is not included in this manual, please contact SeaLand's Customer Service Department immediately.**
3. Remember the vacuum pump starts automatically. Shut off the system before servicing and do not leave the boat with toilet system breaker on.
4. **Never use drain openers, alcohol, solvents, etc. in the system.**
5. If the system does not function properly, refer to the Troubleshooting Section of this manual and repair as necessary. If problem persists, contact your local SeaLand Technology dealer or see the Parts Distributor section of this manual.



NORMAL OPERATION

<p>1. To add water to the toilet before using, raise flush lever until desired water level is reached. Generally, more water is required only when flushing solids.</p> 	<p>2. To flush toilet, press flush lever sharply down to the floor until contents clear bowl. A sharp popping noise is normal when the vacuum seal is broken and flushing action begins. Be sure to hold lever down for three (3) seconds. If flush lever is accidentally released before waste clears bowl, do not attempt to flush toilet again until vacuum pump stops running. A small amount of water should remain in the bowl after flushing.</p> 	<p>3. Do not dispose of sanitary napkins or other non-dissolving items in toilet, such as facial tissue or paper towels. These items can cause plugging of the system. Refer to the Deodorants and Special Tissue section in this manual for more information.</p> 
---	---	--

KEY SYSTEM COMPONENTS



Vacuum Toilet: The VacuFlush toilet operates in a way different from other marine toilets. VacuFlush systems use a small amount of water (a little more than a pint or .5 liter) per flush in addition to a simple vacuum. The toilet is connected to a pressurized freshwater system. Fresh water is the key to an **odor-free bathroom compartment**. VacuFlush toilets are equipped with an integral vacuum breaker which prevents the possible contamination of the potable water supply.

Vacuum Tank: The vacuum tank stores vacuum energy. System vacuum level is monitored by a vacuum switch located on the vacuum tank. When this switch senses a drop in vacuum in the system, it automatically signals the pump to energize and bring the vacuum to operating level. This process is normally completed in less than one minute. In a properly operating system, the stored vacuum will slowly dissipate between flushes, permitting the vacuum pump to quickly renew the vacuum.

Vacuum Pump: The vacuum pump is an electric, straight-through bellows type. It is manufactured of long-lasting polypropylene and draws only 4 to 6 amps of current at 12 VDC. This unique pump design is both an efficient air and liquid pump that handles solids without a problem. It has two duckbill valves on each side of the pump chamber to prevent backflow of waste and vacuum.

Vacuum Generator: The vacuum generator combines the vacuum tank and vacuum pump in one unit. It greatly reduces installation time and eliminates the hose run between the tank and pump. Its compact size makes it especially well-suited to smaller crafts.

Holding Tanks: Holding tanks from SeaLand are made of super-strong, 3/8" (9.5mm) thick polyethylene — 50% thicker than most other holding tanks. Each unit has a solid, one-piece construction with no seams for unmatched durability. Tanks come in several capacities and shapes. Contact SeaLand for details. A deodorant additive is required to keep the holding tank odor-free. See Deodorants and Special Tissue section for further information.

TankWatch® Level Indicator: The TankWatch unit utilizes micro-float switches which activate an indicator panel. The inspection cap in the holding tank contains the micro-float switch units. The adjustable probe assemblies are flexible polybutylene tubing and are designed to flex when tank contents move.

In-Line Vent Filter: SeaLand's vent filter has special odor-removing filter materials to help keep your boat smelling clean and pleasant. Heavier-than-air malodors accumulate in the holding tank. The SeaLand vent filter has a special type of activated filter media to remove these odors before they offend. Each cartridge is good for an entire season, and is easily replaced for a fresh start. Replacement cartridges are available from your local marine dealer.

Dockside Discharge Deck Fitting: The holding tank is connected to a deck discharge fitting. This fitting, in turn, can be connected to a dockside pump which may have a rubber, cone-shaped nozzle or a cam lock fitting. Refer to Accessories section for further information on the SeaLand NozAll™ fitting which makes using a dockside pump easy and convenient.

Discharge Pump: The T-series discharge pump can run dry without harm and draws just 6 amps at 12 VDC. The T-pump has a flow rate of just over 3.0 gallons per minute (11.4 liters per minute). Emptying an onboard tank usually takes four to six minutes. The T-pump is connected to a through-hull fitting. Check the section on Marine Sanitation Regulations for information on areas where discharge is allowed.

SYSTEM START UP

1. Turn on inlet water supply.
2. Turn on electrical power to system.
3. Flush water into system by depressing flush lever until water starts flowing to the vacuum pump, approximately 15 seconds. The vacuum pump will run for approximately 60 to 90 seconds until system reaches operating vacuum level and then will shut off.

CLEANING

Toilet Bowl: Everyday cleaning of a VacuFlush toilet bowl may be accomplished by using liquid dishwashing soap and water. Do not use chlorine-based cleaners, caustic cleaners or chemicals, such as drain-opening products, as they may damage the system's seals.

For stubborn stains, use Brilliance™ liquid toilet bowl cleaner manufactured by SeaLand especially for use with VacuFlush systems. This product is available at your marine dealer.

In certain areas where water is hard, a build-up of lime may dull the toilet bowl finish. Restore the shine with a cleansing of Brilliance cleaner. If Brilliance cleaner is not available, use Barkeepers Friend® Cleanser for best results. Note that it is not necessary to vigorously scrub with either product. Follow the label instructions.

Holding Tank: A small amount of water remains in all marine holding tanks. It is good practice to rinse the tank after the contents have been discharged. This can be accomplished by lifting up on the toilet foot pedal and letting water flow into the toilet bowl. Add 8 ounces (236.6 ml) of Secure® Holding Tank Deodorant and Cleaner to the bowl. Release the foot pedal when the bowl is near full. Flush the entire contents into the holding tank and continue flushing until the discharge from the holding tank is clear.

WINTERIZING

At the end of each boating season, the VacuFlush system must be winterized for storage. The following procedure should be used:

1. Pump out holding tank.
2. Thoroughly flush system with fresh water.
3. Shut off water supply to toilet; remove water line.
4. Press flush lever until all water is drained from toilet.
5. Turn off electrical power.

To use antifreeze, repeat Steps 1 and 2 above and continue as follows:
--

CAUTION: The use of freshwater antifreeze that contains alcohol will result in damage to your sanitation system. Only use propylene glycol freshwater antifreeze that **does not contain alcohol**.

6. Drain potable water tank.
7. Add freshwater antifreeze to potable water tank.
8. Flush potable water antifreeze and water mixture through toilet and into the waste holding tank. Each installation is different so amounts may vary. User discretion is required to assure adequate protection.
9. Turn off electrical power.

MAINTENANCE

Maintenance intervals and normal parts replacement vary widely depending on numerous factors such as: type of vessel, frequency of system use, quality of flushing water, etc. The chart below is intended strictly as a general guideline. Owner discretion and consideration of actual usage must be the first basis for determining proper maintenance levels.

Maintenance Procedure	Part Number	Approximate Maintenance Level
Follow cleaning procedures above.	—	Monthly
Tighten all clamps, including base clamp ring.*	—	Annually
Check all wire connections.	—	Annually
Check & tighten water valve mounting screws.	—	Annually
Clean filter screen in water valve.	—	Annually
Check pump and in-line valves.	347802	2-3 years or as needed
Check toilet seals.	316140	3-5 years or as needed
Check vacuum breaker.	316906	3-5 years or as needed
Check water valve.	314349	3-5 years or as needed

*See Base Assembly - Page 10.

SPARE PARTS

To calculate total spare parts required, determine number and type of toilets and pumps.

On Board Spare Parts Calculation Chart: (Per System)													
Type of System				Toilet Seal Kit	Toilet Water Valve Kit	S Pump Duckbill Valve Kit	M Pump Duckbill Valve Kit	Toilet Vacuum Breaker	Vacuum Tank Vacuum Switch	Toilet Ring/ Clamp Kit	Toilet Ball/Shaft Cartridge Kit	Vacuum Generator Switch Kit	Low-Profile Vacuum Generator Switch Kit
Toilet Series & Quantity		Pump Series & Quantity											
500+	1000	S	M*										
1		1		1 each	1 each	2 each							
2		2		1 each	1 each	2 each		1 each			1 each		
	1	1		1 each	1 each	2 each							
	2	2		1 each	1 each	2 each		1 each			1 each		
1			1	1 each	1 each		4 each						
2			1	1 each	1 each		4 each	1 each			1 each		
3			1	1 each	1 each		4 each	1 each	1 each	1 each	1 each	1 each	1 each
4			1	2 each	2 each		4 each	2 each	1 each	1 each	1 each	1 each	1 each
5			1	2 each	2 each		4 each	2 each	1 each	1 each	1 each	1 each	1 each
6			1	2 each	2 each		4 each	2 each	2 each	2 each	2 each	2 each	2 each
	1		1	1 each	1 each		4 each						
	2		1	1 each	1 each		4 each	1 each			1 each		
	3		1	1 each	1 each		4 each	1 each	1 each	1 each	1 each	1 each	1 each
	4		1	2 each	2 each		4 each	2 each	1 each	1 each	1 each	1 each	1 each
	5		1	2 each	2 each		4 each	2 each	1 each	1 each	1 each	1 each	1 each
	6		1	2 each	2 each		4 each	2 each	2 each	2 each	2 each	2 each	2 each
Per Vessel: Vacuum Tester – 530002 (1 each) & Owner's Manual – (1 each)													

* M series pump parts information is contained in a separate M-Pump Owner's Manual.

VACUFLUSH MAINTENANCE KIT

The VacuFlush Maintenance Kit contains replacement parts used in routine maintenance of VacuFlush toilets. A “must” for those who cruise to remote locations. The kit includes vacuum tester, water valve, seal kit, duckbill valves (4) and an owner’s manual in a convenient storage container.

VacuFlush
Maintenance Kit
(item number 310228)



ORDERING PARTS

SeaLand Technology is ready to assist you in the event service is required. Before calling, please have the following information available. Your cooperation in having this information ready is appreciated and allows us to better meet your needs. Please refer to the Parts Distributor list on Page 23.

1. Toilet Model Number (See following section.)
2. Serial Number
3. Part Number, Description and Quantity (See Parts information.)

TOILET MODEL IDENTIFICATION

SEALAND TECHNOLOGY, INC.

P.O. BOX 38, 13128 STATE RT 226 (800) 321-9886
BIG PRAIRIE, OH 44611 USA

MODEL NO. **000**

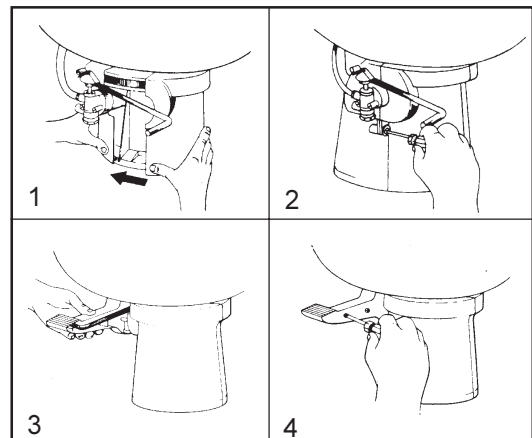
SERIAL NUMBER

000000

The above label is located on the toilet base and will show the model number and serial number. If label is not available, please refer to the Dimensional Specifications section for toilet model identification.

PEDESTAL AND PEDAL COVER INSTALLATION

1. With the pedestal cover open, place the back half against the side of the base opposite the flush lever. Rotate the pedestal cover counterclockwise around the back of the base, then move the front half into place.
2. **Tall base unit only**, secure with mounting screw. For **short base units**, simply snap cover closed.
3. Slide pedal cover onto foot pedal rod.
4. Attach pedal cover side plate and secure with two (2) mounting screws. For **short base units**, secure front screw, then press foot pedal down completely to secure second screw.



DEODORANTS AND SPECIAL TISSUE

Your VacuFlush sanitation system requires the regular addition of a deodorant product to reduce malodors and to help break down holding tank contents. Several factors should be considered in selecting a deodorant product.

Liquid or Dry: Liquid products obviously work more quickly by readily going into solution. Dry powder formulations, on the other hand, have the advantage of requiring less storage space and are less likely to leak if the package is inadvertently damaged.



Formaldehyde versus Non-Formaldehyde: SeaLand manufactures both types of deodorants. Generally speaking, formaldehyde formulas (such as SeaLand® brand) control odor very effectively at all temperatures and with all degrees of water hardness. Secure® brand, which is formaldehyde-free and also manufactured by SeaLand, is similarly effective, but may cost a bit more.

Environmental Hazards: If you would like further information on the impact of holding tank deodorants, call or write SeaLand Technology at the number and address listed on the back page of this manual. Request a copy of Clean Water Notebook, Volume 5, which provides complete information in this regard.

How Much Deodorant and How to Add It: The deodorant is added directly into the toilet bowl, then flushed over into the holding tank. Follow bottle or package instructions. Conditions of extremely warm weather, longer waste holding time and larger tank capacities may require more deodorant treatment. Also, to maintain optimum efficiency in odor control, the waste holding tank should be cleaned thoroughly at least once or more each season, depending on use.

Why Not Use Household Toilet Paper in Your VacuFlush Toilet? You can, providing the household tissue you select readily breaks up in water. Household tissues often contain adhesives which bond together the paper fibers from which the tissue is made. The adhesives prevent the tissue from breaking apart, and their use in “ultra-low flow” systems can cause system clogging. SeaLand tissue is especially designed for use in marine toilet systems. Its rapid dissolving properties minimize the amount of residual paper in the holding tank and allow deodorizers to work more efficiently.

SeaLand versus Other Brands: SeaLand Technology is the leading supplier of marine toilet systems, tissue and deodorant products. We constantly strive to provide our system owners with effective products that have minimal environmental impact and good value. Many deodorant products do not measure up to our standards of performance and value. Your marine dealer has our deodorants, tissue and other accessories on hand.

SeaLand® Dry Deodorant	SeaLand® Liquid Deodorant	Brilliance™ Cleaner	Secure® Liquid Deodorant	SeaLand® Tissue
				
Part No. 000606	Part No. 000208	Part No. 000016	Part No. 000832	Part No. 000404

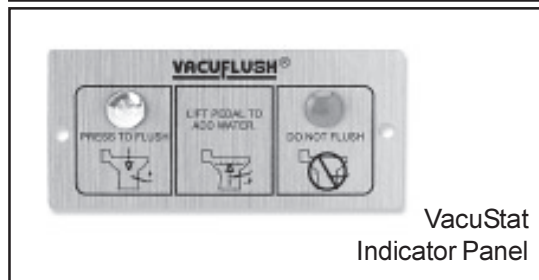
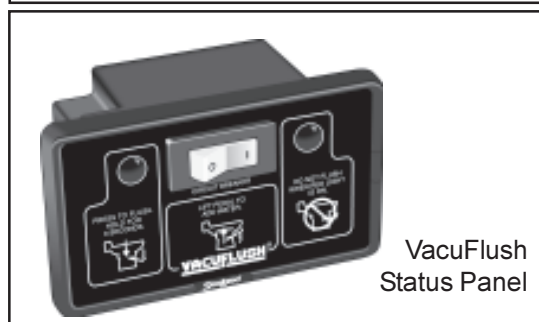
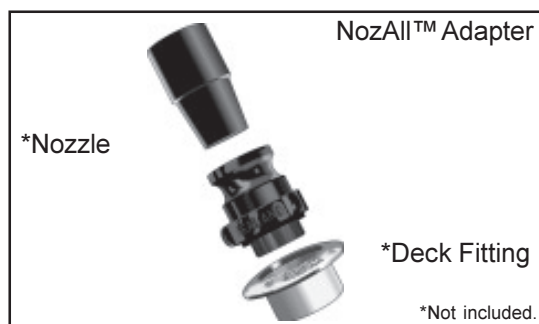
ACCESSORIES

NozAll™ Pumpout Adapter: The NozAll pumpout adapter provides an airtight seal between your boat's deck waste fitting and the pumpout station nozzle. Just screw your personal NozAll adapter into your deck fitting, and be assured of an airtight connection for pumping out holding tank contents. Each item contains a glass-filled nylon NozAll adapter, gasket and vinyl cap. Item number 343502 (1-1/2"-11.5 tpi), 343503 (1-1/4"-11.5tpi), or 343504 (1-1/4"-16tpi).

VacuFlush Status Panel: An ideal add-on to any VacuFlush system. The Status Panel is mounted in the bathroom compartment. A green light indicates sufficient vacuum is available for the next flush. A red light indicates the vacuum level is building and the pump is running. Each panel has an integral circuit breaker which allows the system to be shut down at night. Order part number 500012 (12VDC) or 500024 (24/32VDC).

VacuStat™ Indicator Panel: A desirable accessory for VacuFlush sanitation systems, this panel continuously monitors the status of vacuum for proper toilet operation. Brushed metallic finish complements bathroom decor. Order part number 700012 (12 VDC) or 700024 (24 VDC).

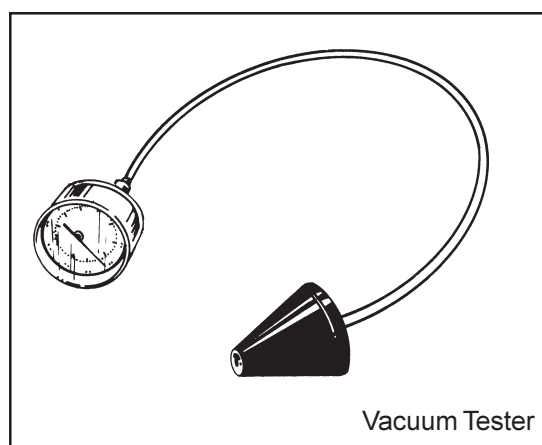
Optional Vacuum Generator Shut-down Relay: This relay can be added to automatically shut down power to the VacuFlush toilet system to prevent overfilling of the onboard holding tank. Order part number 310289 (12 VDC) or 310290 (24 VDC).



VACUUM TESTER

SeaLand has developed a simple tool to assist in identifying the location of vacuum leaks. The vacuum tester consists of a vacuum gauge and a cone-shaped plug. Inserting the plug in the inlet of the vacuum tank or generator isolates the toilet from the system. In this way a troublesome leak can easily be located in either system.

Order only the Vacuum Tester (Part Number 530002) or as part of the complete system maintenance kit (Part Number 310228).

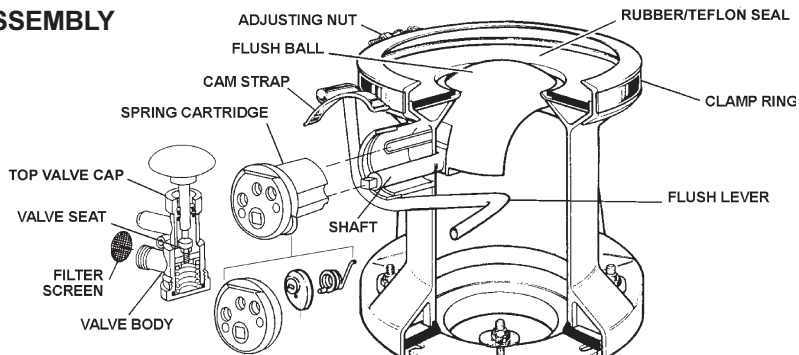


SERVICE TIP

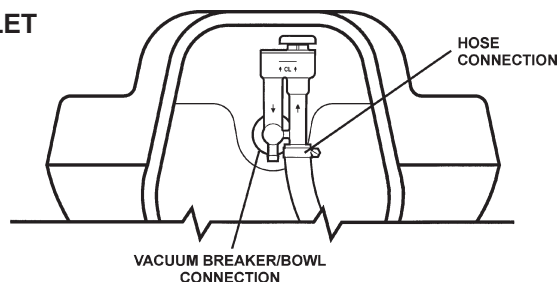
Checking for water leaks behind or under toilets or other appliances can make it difficult to locate the source. Dripping water at room temperature makes it difficult to feel wetness. Taking four or five sheets of toilet tissue and wiping all seams and waterline connections offers a simple means of locating the general area of the leakage. Start at the top of the unit since gravity will cause a leak to run downward. When the tissue comes in contact with the leaking water, it will immediately change texture.

TROUBLESHOOTING GUIDE

BASE ASSEMBLY



REAR VIEW, VACUUM TOILET



Problem	Possible Cause	Service Instructions
1. Water will not stay in bowl.	<ul style="list-style-type: none"> a. Loose clamp ring. b. Improper seal around flush ball due to dirt or debris on underside of Teflon & rubber seal. c. Worn or damaged seal. d. Worn or damaged flush ball. 	<ul style="list-style-type: none"> a. Tighten clamp ring adjusting nut. b. Inspect flush ball and underside of Teflon & rubber seal for foreign objects. c. Replace seal. d. Replace flush ball.
2. Plastic flush ball will not close completely.	<ul style="list-style-type: none"> a. Clamp ring is overtightened, causing too much tension on seal and flush ball. b. Weak or defective spring cartridge. 	<ul style="list-style-type: none"> a. Loosen clamp ring. b. Check spring tension by letting up on flush lever suddenly. If lever does not snap back, replace spring cartridge.
3. Water does not shut off in toilet (toilet overflows).	<ul style="list-style-type: none"> a. Dirt lodged in water valve seal. b. Cam strap is bent down, holding water valve open. c. Worn or defective water valve. d. Worn or defective spring cartridge. 	<ul style="list-style-type: none"> a. Disassemble and clean water valve. b. Bend front of cam strap up about 1/16" (1.6mm). c. Replace water valve assembly. d. Replace spring cartridge.
4. Water does not enter toilet bowl properly.	<ul style="list-style-type: none"> a. Low water pressure. b. Water valve clogged. 	<ul style="list-style-type: none"> a. Check incoming water pressure. b. Remove and clean filter screen located on inlet of water valve.
5. Water leaking from water valve. (See Service Tip on page 9.)	<ul style="list-style-type: none"> a. Loose connection. b. Worn or defective water valve. c. Water line connection not seated properly. d. Stripped threads on water valve. e. Water valve seal is worn or missing. f. Water valve body cracked. 	<ul style="list-style-type: none"> a. Tighten bottom cap, inlet fitting and outlet hose clamp. b. Replace water valve. c. Remove water line and assemble correctly. d. Replace water valve. e. Replace water valve. f. Replace water valve.

TROUBLESHOOTING GUIDE

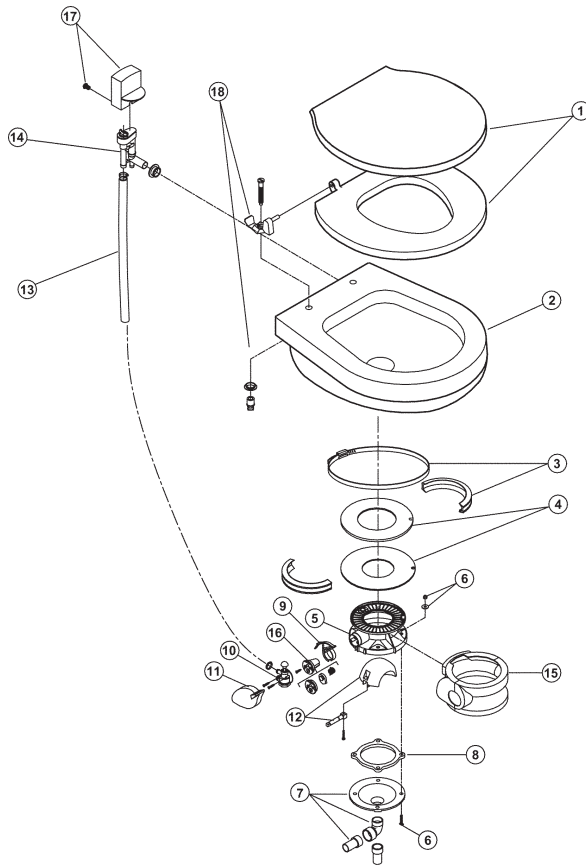
Problem	Possible Cause	Service Instructions
6. Water leaking from rear of toilet bowl. (See Service Tip on page 9.)	<ul style="list-style-type: none"> a. Loose hose connection. b. Loose vacuum breaker. c. Worn or defective vacuum breaker. d. Cracked or defective toilet bowl. 	<ul style="list-style-type: none"> a. Tighten hose connections. b. Tighten vacuum breaker to bowl connection. c. Replace vacuum breaker assembly. d. Replace toilet bowl.
7. Pump running too much between flushes. (See Vacuum Tester Information on page 9.)	<ul style="list-style-type: none"> a. Flush ball leaks. b. Vacuum line leak. c. Duckbill valves in pump not sealing. (This problem normally occurs gradually. The pump takes longer periods of time to shut off between flushes.) d. Pump bellows worn or damaged. 	<ul style="list-style-type: none"> a. Leave small amount of water in toilet. If water is sucked from bowl, see problems 1 and 2. b. Tighten all hose connections at pump, vacuum tank, toilet and check valve (when used). c. Disassemble inlet and outlet fittings on pump and inspect all four duckbill valves. If valves are not sealing, replace them. d. Inspect bellows in pump for small hole or rip. Replace if necessary.
8. Toilet will not flush. (No vacuum.)	<ul style="list-style-type: none"> a. Pump will not run. b. Plugged vacuum line. c. Duckbill valves or pump installed backwards. d. Vacuum pump discharge or intake lines plugged. e. Plugged vacuum tank. 	<ul style="list-style-type: none"> a. See problem 9. b. You may have to disconnect line and clear. c. Make certain pump and duckbill valves are not installed backwards, or replace if stuck open. d. Disassemble lines and clean. e. Unplug vacuum tank.
9. Pump will not run.	<ul style="list-style-type: none"> a. No power. b. Loose or broken electrical wiring. c. Improper electrical connections. d. Faulty vacuum switch. e. Faulty motor. 	<ul style="list-style-type: none"> a. Check input power, circuit breaker and fuse. b. Tighten or reconnect wires at pump and vacuum tank. c. Make certain wires at vacuum switch are connected to the "B" terminals. d. To check vacuum switch, short across "B" terminals. e. Replace motor.
10. Pump will not shut off.	<ul style="list-style-type: none"> a. Excessive vacuum leak. b. Faulty vacuum switch. c. Improper wiring. 	<ul style="list-style-type: none"> a. See problem 7. b. To check switch, remove one of the "B" terminal wires. c. Check wiring, refer to wiring diagram.
11. Pump running too slow, overheating, blowing fuses or circuit breaker.	<ul style="list-style-type: none"> a. Improper voltage. b. Loose or broken electrical wiring. c. Improper wire size. 	<ul style="list-style-type: none"> a. Check input power for low voltage. b. Tighten or reconnect wires. c. Wire size too small – check electrical diagram for proper wire size for voltage of pump used.

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Service Instructions
11. Continued	<ul style="list-style-type: none"> d. Discharge line blocked causing back pressure. e. Plugged or defective duckbill valve. f. Plugged vent in holding tank. g. Gear motor worn or defective. h. Pump bellows clogged with tissue. 	<ul style="list-style-type: none"> d. Check to be certain seacocks and in-line valves are in proper position. Disassemble and clean discharge line. e. Disassemble and clean duckbill valve. Replace parts or valve if necessary. f. Disassemble and clean. g. Check motor and replace if necessary. h. Remove and clean bellows assembly. (When flushing toilet, use of additional water may alleviate this problem.)
12. Pump emits odor.	<ul style="list-style-type: none"> a. Loose or defective hose connection on pump. b. Loose intake or discharge fittings on pump. c. Worn, torn or punctured pump bellows. 	<ul style="list-style-type: none"> a. Tighten connections or replace hose and make new connections. b. Tighten intake or discharge fittings on pump. Replace nipples or adapters if necessary. c. Replace pump bellows.
13. Blockage between toilet and vacuum tank.	<ul style="list-style-type: none"> a. Collapsed vacuum line. b. Sharp bends or kinks in vacuum line. c. Improper operation of toilet. d. Flushing foreign objects down toilet. 	<ul style="list-style-type: none"> a. Inspect vacuum line for collapsed condition and replace line. b. Inspect vacuum line for kinks or bends with less than 5" (12.7mm) radius on all bends. c. Make sure toilet is being operated correctly and each person using toilet knows correct operating procedure. d. DO NOT flush any non-dissolving items (i.e. sanitary napkins, facial tissue, wet strength tissue, paper towels, etc.) or excessive toilet tissue down toilet. Biodegradable SeaLand brand toilet tissue is best.

PARTS LIST

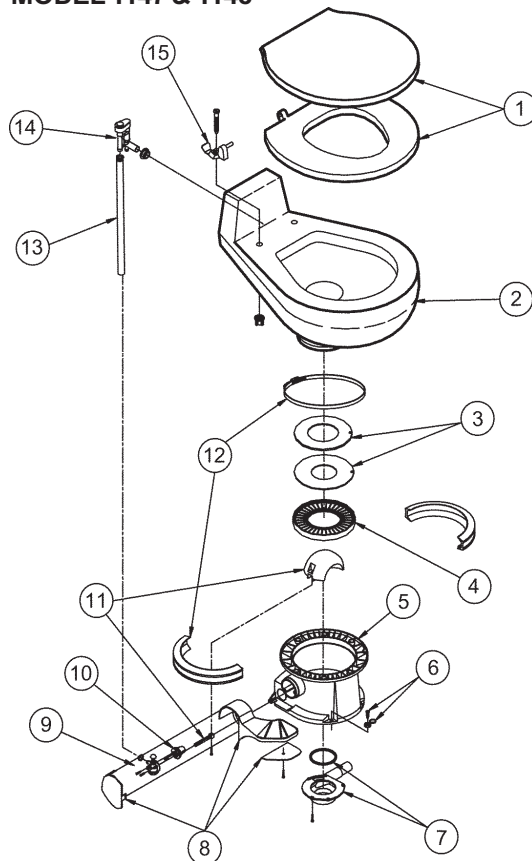
MODEL 706



Item	Part No.	Description
1	340590 340591	Seat and Cover, White (includes item 18) Seat and Cover, Bone (includes item 18)
2	310676 310736	China Bowl, White China Bowl, Bone
3	310048	Ring and Half Clamp Kit
4	316140	Teflon® and Rubber Seal Kit
*5	310132 310133	Base Kit, White Base Kit, Bone
6	310064	Mounting Kit
7	318864	Funnel Kit
8	341549	Floor Flange Seal
9	310744	Flush Lever Kit (includes item 16)
10	314349	Water Valve Kit
11	310117 310118	Pedal Cover Kit, White Pedal Cover Kit, Bone
12	318162	Ball, Shaft & Cartridge Kit (includes item 16)
13	340177	Supply Hose
14	316906	Vacuum Breaker Kit
15	310108 310109	Pedestal Cover Kit, White Pedestal Cover Kit, Bone
16	236096	Spring Cartridge Assembly
17	310696 310737	Vacuum Breaker Cover, White Vacuum Breaker Cover, Bone
18	342130 342131	Seat Hinges, White (1 Pair) Seat Hinges, Bone (1 Pair)

* Includes items 3 through 12, 15 and 16.

MODEL 1147 & 1148

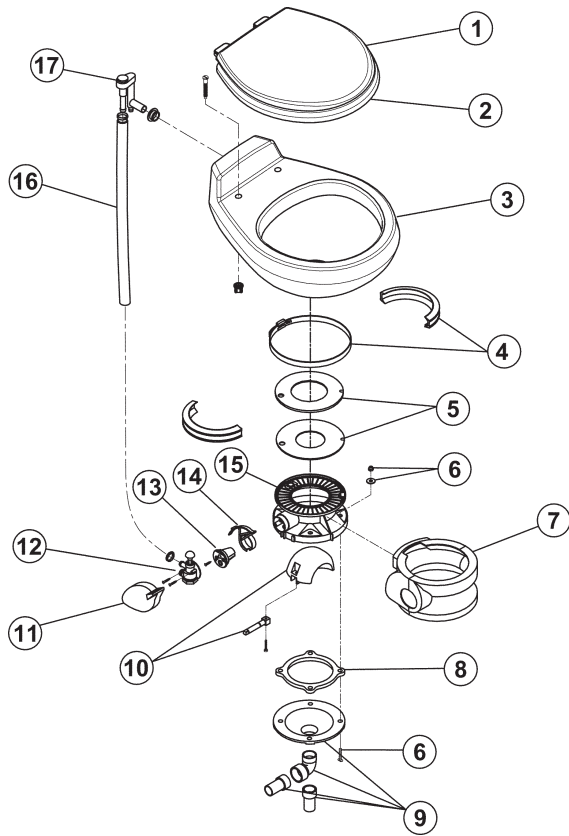


Item	Part No.		Description
	1147	1148	
1	340590 340591	340590 340591	Seat Assembly, White Seat Assembly, Bone
2	310615 310616	310615 310616	China Bowl, White China Bowl, Bone
3	310677	310677	Teflon® & Rubber Seal Kit
4	343534	343534	Base Ring
*5	310685 310783	310686 310784	Base Kit, Right-hand Discharge - White Base Kit, Right-hand Discharge - Bone Base Kit, Rear Discharge - White Base Kit, Rear Discharge - Bone
6	310679 310785	310679 310785	Mounting Kit, White Mounting Kit, Bone
7	310680	310680	Discharge Kit
8	310682 310786	310682 310786	Flush Pedal Kit - White (includes item 10) Flush Pedal Kit - Bone (includes item 10)
9	314349	314349	Water Valve Kit
10	310683	310683	Spring Cartridge Kit
11	310681	310681	Ball, Shaft & Cartridge Kit (includes item 10)
12	310025 310048	310025 310048	Ring & Half Clamp Kit, White Ring & Half Clamp Kit, Bone
13	340177	340177	Supply Hose
14	316906	316906	Vacuum Breaker Kit
15	342130 342131	342130 342131	Seat Hinges, White (1 pair) Seat Hinges, Bone (1 pair)

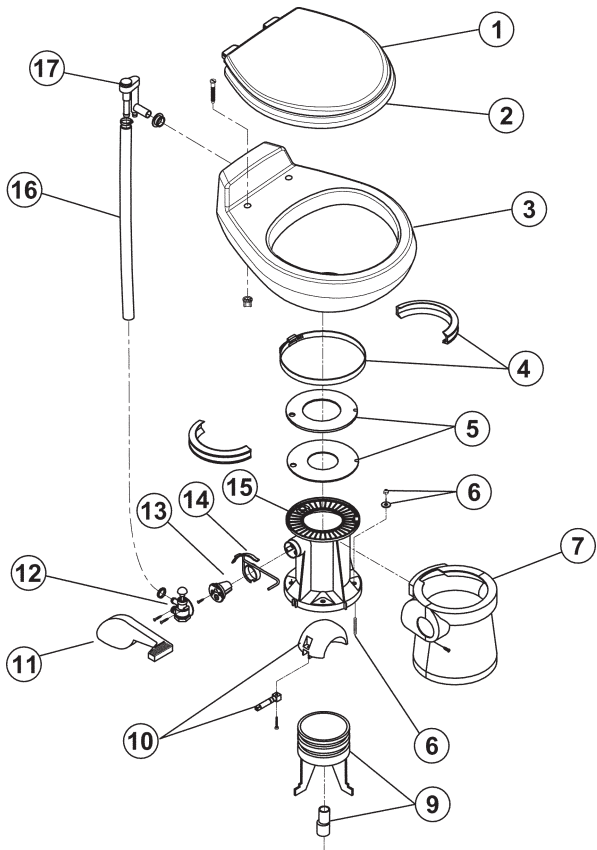
* Includes items 3 through 12.

PARTS LIST

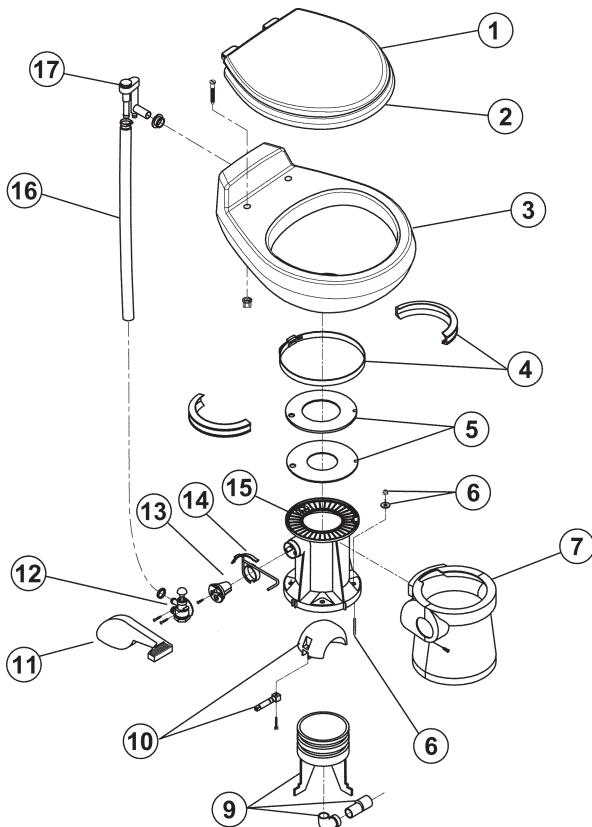
MODEL 506+



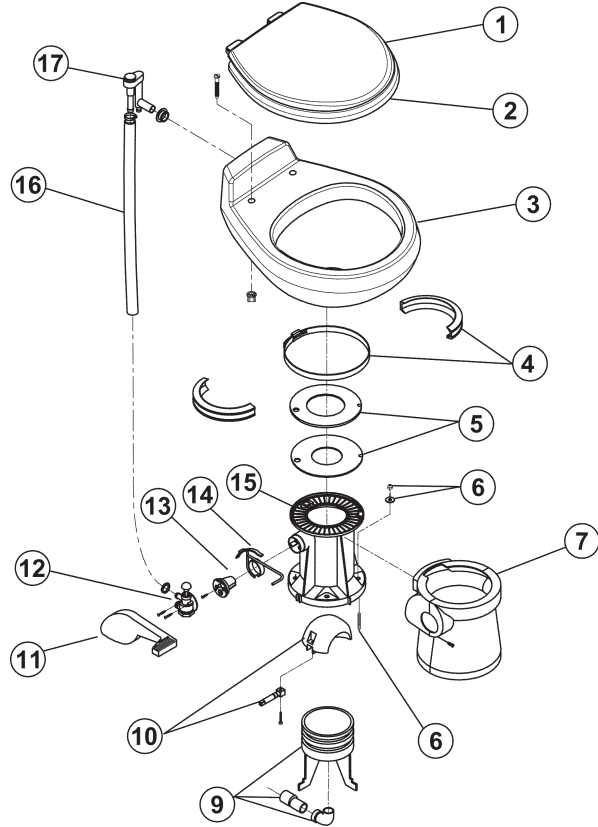
MODEL 508+



MODEL 547+



MODEL 548+



PARTS LIST

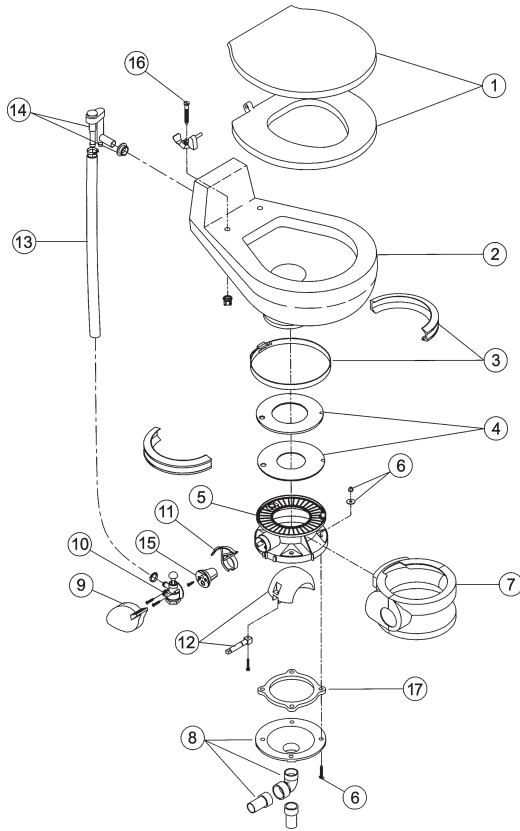
Item	506+	508+	547+	548+	Description
1	343830	343830	343830	343830	HushFlush Seat Assembly, White
	343832	343832	343832	343832	HushFlush Seat Assembly, Bone
	343898	343898	343898	343898	HushFlush Seat Assembly, Platinum
	343902	343902	343902	343902	HushFlush Seat Assembly, Ebony
	343900	343900	343900	343900	HushFlush Seat Assembly, Teal
2	310751	310751	310751	310751	HushFlush Seal Kit, Natural
	310752	310752	310752	310752	HushFlush Seal Kit, Ebony
	310753	310753	310753	310753	HushFlush Seal Kit, Teal
3	310739	310739	310739	310739	China Bowl Kit, White
	310740	310740	310740	310740	China Bowl Kit, Bone
	310741	310741	310741	310741	China Bowl Kit, Platinum
	310742	310742	310742	310742	China Bowl Kit, Ebony
	310743	310743	310743	310743	China Bowl Kit, Teal
4	310048	310048	310048	310048	Ring & Half Clamp Kit
5	316140	316140	316140	316140	Teflon® & Rubber Seal Kit
6	310064	316323	316323	316323	Mounting Kit
7	310108	310111	310674	310136	Pedestal Cover Kit, White
	310109	310112	310613	310137	Pedestal Cover Kit, Bone
	310110	310113	310745	310138	Pedestal Cover Kit, Platinum
	310600	310173	310746	310174	Pedestal Cover Kit, Ebony
	310603	310203	310747	310223	Pedestal Cover Kit, Teal
8	341549	NA	NA	NA	Floor Flange Seal
9	318864	318741	318741	318741	Funnel Kit
* 10	318162	318162	318162	318162	Ball/Shaft/Cartridge Kit, White/Bone/Plat.
	310177	310177	310177	310177	Ball/Shaft/Cartridge Kit, Ebony
	310188	310188	310188	310188	Ball/Shaft/Cartridge Kit, Teal
11	310117	310114	310114	310114	Pedal Cover Kit, White
	310118	310115	310115	310115	Pedal Cover Kit, Bone
	310119	310116	310116	310116	Pedal Cover Kit, Platinum
	310593	310175	310175	310175	Pedal Cover Kit, Ebony
	310596	310193	310193	310193	Pedal Cover Kit, Teal
12	314349	314349	314349	314349	Water Valve Kit
13	236096	236096	236096	236096	Spring Cartridge Assembly
14	310744	310578	310578	310578	Flush Lever Kit (includes item 13)
†15	310132	310126	310665	310129	Base Kit, White
	310133	310127	310614	310130	Base Kit, Bone
	310134	310128	310748	310131	Base Kit, Platinum
	310607	310171	310749	310172	Base Kit, Ebony
	310610	310213	310750	310218	Base Kit, Teal
16	340177	340177	340177	340177	Supply Hose
17	316906	316906	316906	316906	Vacuum Breaker Kit

* Includes item 13.

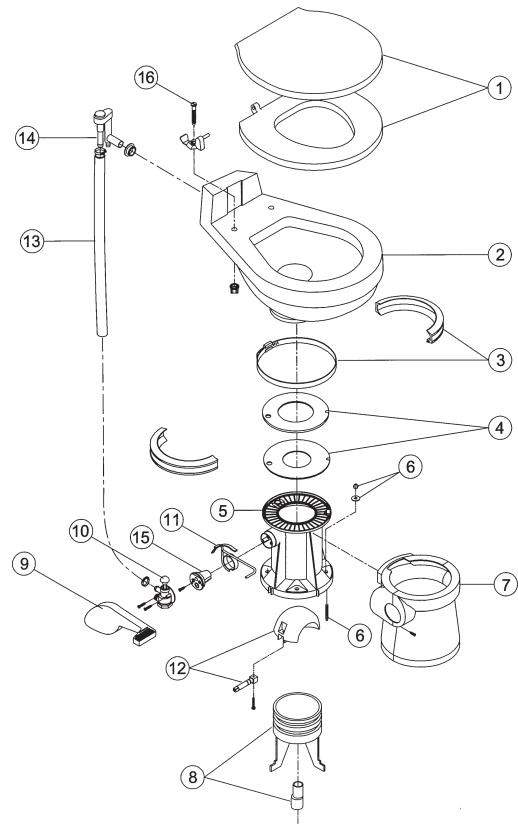
† Includes items 4 through 15.

PARTS LIST

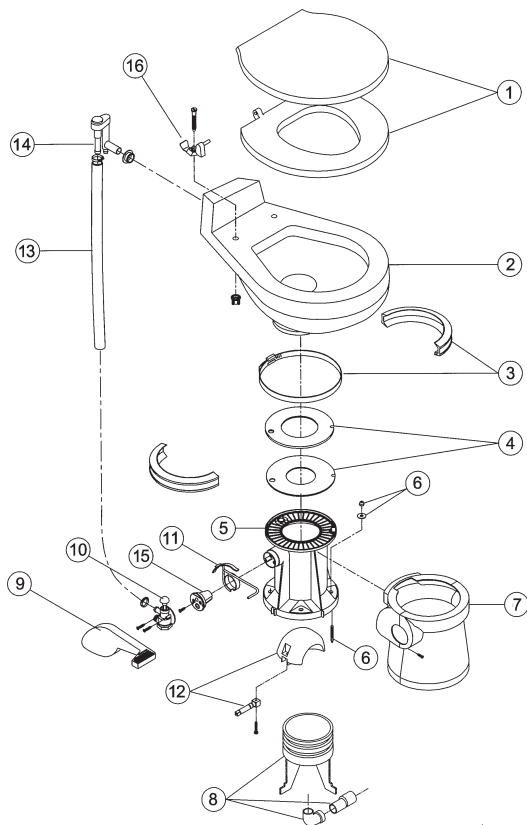
MODEL 1006



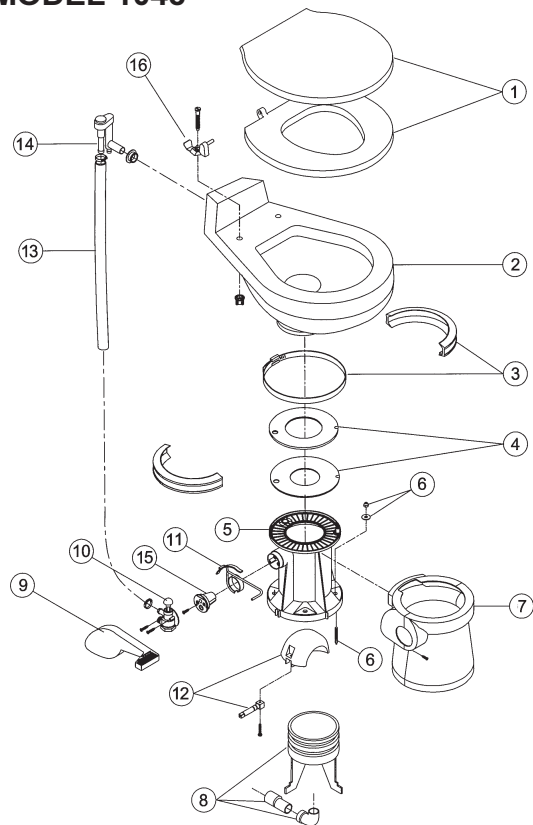
MODEL 1008



MODEL 1047



MODEL 1048



PARTS LIST

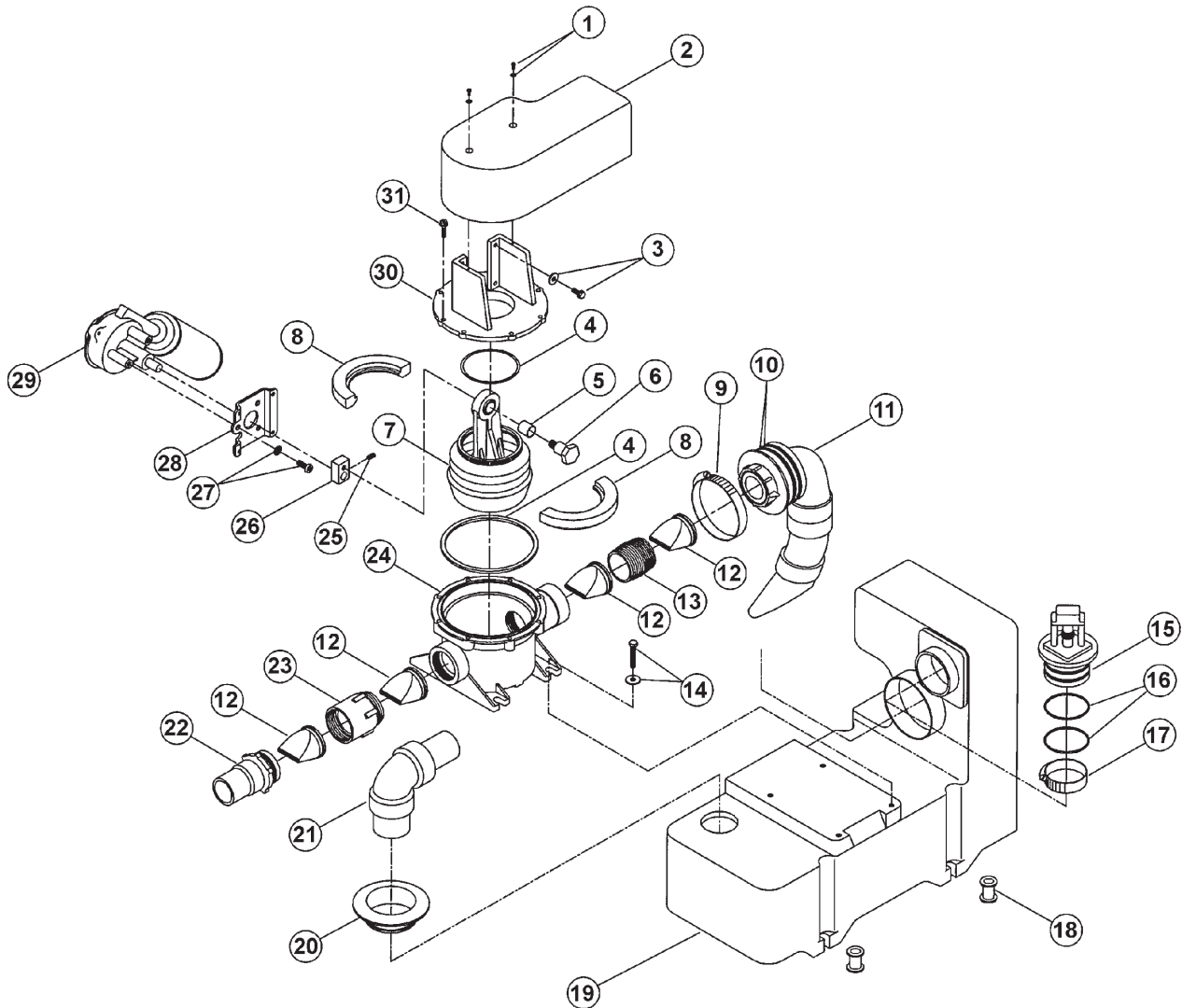
Item	1006	1008	1047	1048	Description
1	340590	340590	340590	340590	Seat Assembly, White
	340591	340591	340591	340591	Seat Assembly, Bone
	342867	342867		342867	Seat Assembly, Ebony
2	310615	310615	310615	310615	China Bowl Kit, White
	310616	310616	310616	310616	China Bowl Kit, Bone
	310585	310585		310585	China Bowl Kit, Ebony
3	310048	310048	310048	310048	Ring & Half Clamp Kit
4	316140	316140	316140	316140	Teflon® & Rubber Seal Kit
*5	310132	310126	310665	310129	Base Kit, White
	310133	310127	310614	310130	Base Kit, Bone
	310607	310171		310172	Base Kit, Ebony
6	310064	316323	316323	316323	Mounting Kit
7	310108	310111	310674	310136	Pedestal Cover Kit, White
	310109	310112	310613	310137	Pedestal Cover Kit, Bone
	310600	310173		310174	Pedestal Cover Kit, Ebony
8	318864	318741	318741	318741	Funnel Kit
9	310117	310114	310114	310114	Pedal Cover Kit, White
	310118	310115	310115	310115	Pedal Cover Kit, Bone
	310593	310175		310175	Pedal Cover Kit, Ebony
10	314349	314349	314349	314349	Water Valve Kit
11	310579	310578	310578	310578	Flush Lever Kit (includes item 15)
12	318162	318162	318162	318162	Ball/Shaft/Cartridge Kit, White/Bone
	310177	310177		310177	Ball/Shaft/Cartridge Kit, Ebony
13	340177	340177	340177	340177	Supply Hose, Bone
14	316906	316906	316906	316906	Vacuum Breaker Kit
15	236096	236096	236096	236096	Spring Cartridge Assembly
16	342130	342130	342130	342130	Seat Hinge Hardware, White
	342131	342131	342131	342131	Seat Hinge Hardware, Bone
	343033	343033		343033	Seat Hinge Hardware, Ebony
17	341549				Floor Flange Seal

* Includes items 3 through 12 & 15.

PARTS LIST

VACUUM GENERATOR

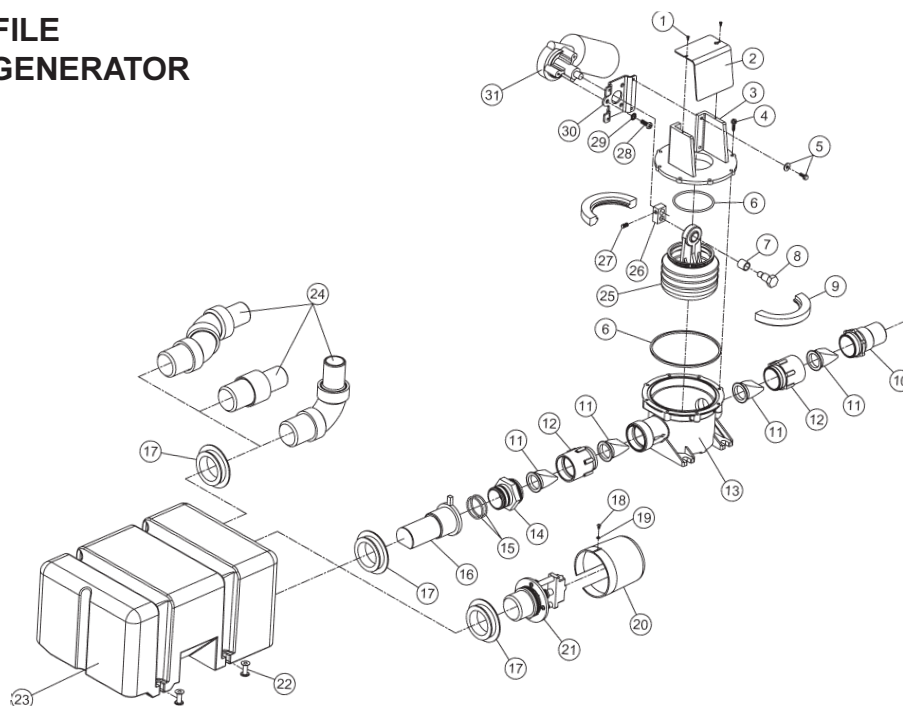
Item	Part No.	Description	Item	Part No.	Description
1	340237	Pan Phillips Head Screw, #4 x 3/8", SS	16	342778	O-Ring, 2" ID x 2-1/4" OD
	343027	Flat Washer, .312" OD x .030 Thick, SS	17	342782	2 1/2" Diameter Worm Gear Clamp
2	342804	Motor/Switch Cover	18	342798	Mounting Spindle
3	342332	Hex Washer Head Screw, #10-32 x 1/2", SS	19	310542	Vacuum Generator Tank
	344087	Flat Washer, #10 x 5/8" OD, SS	20	342932	1 1/2" Uniseal®
4	310151	O-Ring Kit	21	310635	Inlet Elbow Kit (Includes Item 20)
5	340664	Bushing	22	347800	Valve Nipple
6	343006	Shoulder Screw, 1/2 x .687 x 3/8-16	23	347801	Valve Adapter
7	230980	Bellows Assembly	24	341504	Pump Body
8	347807	Bellows Clamp	25	347788	1/4-28 x 5/16" Set Screw, 1/2 Dog Point
9	342783	3-3/4" Diameter Worm Gear Clamp	26	343005	Pump Eccentric
10	342779	O-Ring, 3" ID x 3 1/4" OD	27	340017	1/4-28 x 1/2" Round Phillips Head Screw, SS
11	310539	Diptube Assembly Kit (Includes Item 10)		346615	Lock Washer, External Tooth, 1/4"
12	310076	Duckbill Valve Kit (2)	28	340008	Motor Mounting Bracket
13	342789	1 1/2" NPT Close Nipple	29	310245	12 VDC Motor
14	342467	1/4-20 x 3/4" Hex Head Screw, SS		310246	24 VDC Motor
	346795	Flat Washer, .625" OD x .281" ID x .050	30	341506	Pump Top Closure
15	310540	Vacuum Switch Kit (includes items 16 & 17)	31	341503	#10-12 x 7/8" Hex Washer Head Screw, SS



NOTE: When reassembling pump, tighten screw (Item No. 31) , to 20 ±2 lbs., or until snug. Overtightening will cause holes to strip.

PARTS LIST

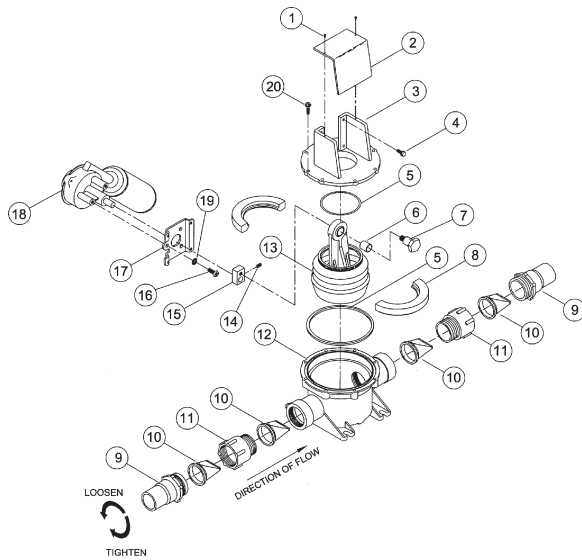
LOW-PROFILE VACUUM GENERATOR



Item	Part No.	Description
1	340237	Pan Phillips Head Screw, #4 x 3/8", SS
2	640239	Pump Cover
3	341506	Top Closure
4	341503	Hex Washer Head Screw, #10-12 x 7/8", SS
5	342332	Hex Washer Head Screw, #10-32 x 1/2", SS
6	310151	O-Ring Replacement Kit
7	340664	Bushing
8	343006	Shoulder Screw, 1/2" x .687 x 3/8-16
9	347807	Bellows Clamp
10	347800	Valve Nipple
11	310076	Duckbill Valve Kit (2)
12	347801	Valve Adapter
13	341504	Pump Body
14	343820	Pump Fitting
15	343936	O-Ring
16	310754	Diptube Kit – Low-Profile VG
17	342932	Uniseal® 1 1/2"
18	343621	Pan Phillips Head Screw, #4 x 1/4"
19	343027	Washer, #6 x 3/8"
20	343913	Vacuum Switch Cover
21	310626	Vacuum Switch Kit
22	342798	Mounting Spindles
23	310755	Low-Profile Vacuum Tank
24	310635	Inlet Elbow Assembly
	310690	Straight Inlet (Optional)
	310787	45° Inlet (Optional)
25	230980	Bellows Assembly
26	343005	Pump Eccentric
27	347788	Set Screw, 1/4-28 x 5/16", 1/2 Dog Point
28	340017	Phillips Head Screw, 1/4-28 x 1/2", SS
29	346615	Lock Washer, External Tooth, 1/4"
30	340008	Motor Mounting Bracket
31	310756	12 VDC Motor w/ Deutsch Connection
	310757	24 VDC Motor w/ Deutsch Connection

PARTS LIST

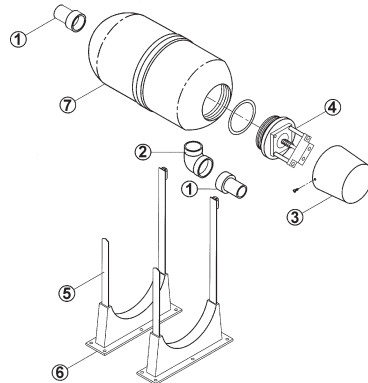
VACUUM PUMP, S-SERIES



NOTE: S-Series pump valve adapter and nipple (items 9 and 11) have right-hand threads (clockwise to tighten, counterclockwise to loosen).

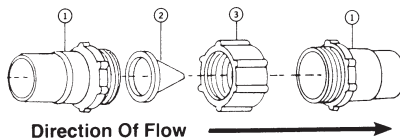
Item	Part No.	Description
1	340237	Cover Screw, #4 x 3/8" Pan Hd SS
2	640239	Pump Cover
3	341506	Top Closure
4	342332	Hex Head Screw, #10-32 x 1/2" SS
5	310151	O-Ring Replacement Kit
6	340664	Bushing, Bellows
7	343006	Hex Head Shoulder Screw, 1/2" x .687 x 3/8"-16
8	347807	Bellows Clamp
9	347800	Valve Nipple
10	310076	Duckbill Valve Kit (2)
11	347801	Valve Adapter
12	341504	Pump Body
13	230980	Bellows Assembly
14	347788	Set Screw, 1/4 -28 x 5/16", 1/2" Dog Point
15	343005	Eccentric
16	340017	Phillips Head Screw, 1/4 - 28 x 1/2" SS
17	340008	Motor Mounting Bracket
18	310245 310246	Motor, 12VDC Motor, 24VDC
19	346615	Lockwasher, External Tooth, 1/4" SS
20	341503	Hex Washer Head Screw #10-12 x 7/8", SS
		Not Shown
	310249	Pump Assembly Less Motor (Includes items 3, 5, 8 through 15)
	310512	Motor Replacement Shaft

VACUUM TANK

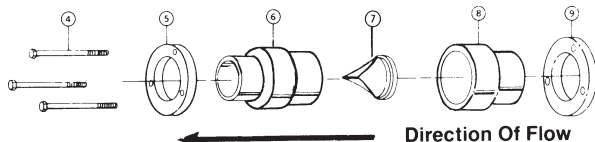


Item	Part No.	Description
1	341513	Insert Adapter
2	341161	Street Elbow
3	348037	Vacuum Switch Cover
4	318032	Vacuum Switch Assembly
5	346835	Snap Lock Clamp
6	348361	Mounting Bracket
7	310017	Vacuum Tank Kit (Includes 2 each Item 1 and 1 each Item 2)

SMALL IN-LINE CHECK VALVE

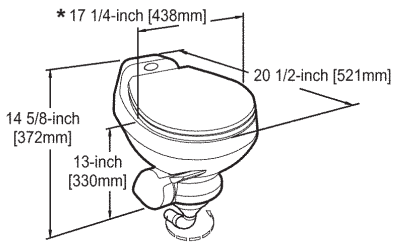


LARGE IN-LINE CHECK VALVE

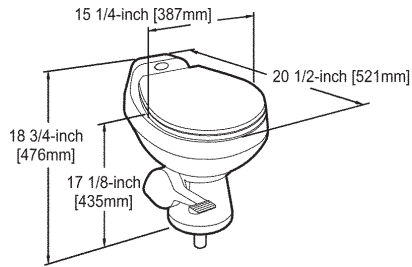


Item	Part No.	Description
1	347800	Valve Nipple
2	347802	1 1/2" Duckbill Valve
3	347839	Valve Adapter
4	341015	Hex Head Screw
5	640116	Pilot Collar
6	230082	Male Valve Housing Assembly
7	348702	2" Duckbill Valve
8	640113	Female Valve Housing
9	640115	Threaded Collar
	238696	Small In-line Check Valve (includes items 1 through 3)
	300011	Large In-line Check Valve (includes items 4 through 9)

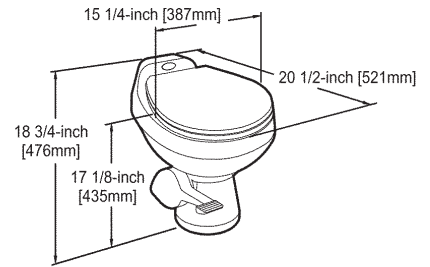
DIMENSIONAL SPECIFICATIONS



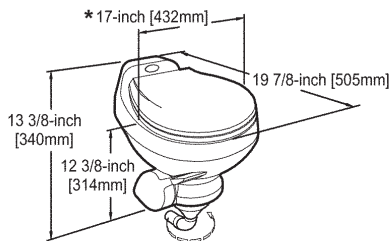
Model 506+



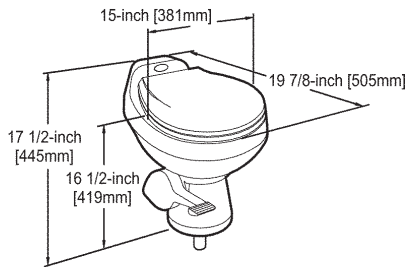
Model 508+



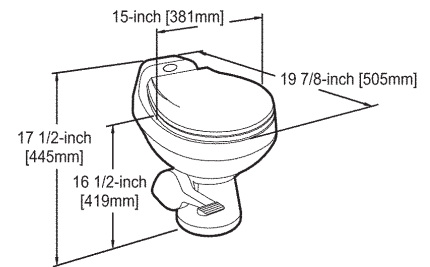
Model 547/548+



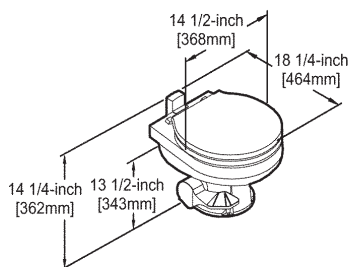
Model 1006



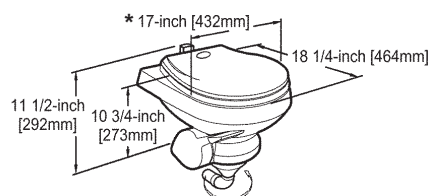
Model 1008



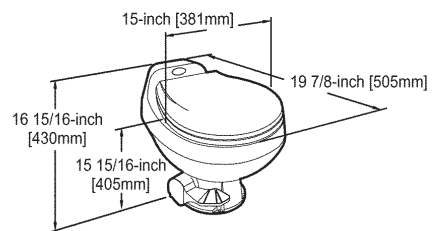
Model 1047/1048



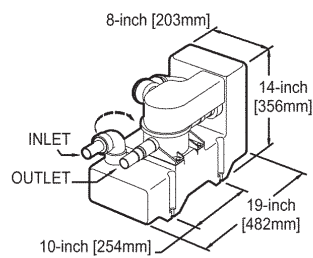
Model 147/148



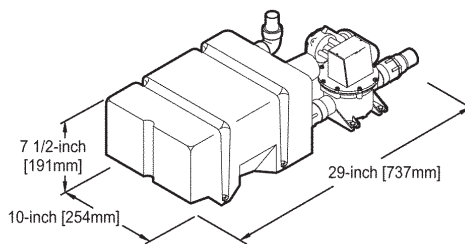
Model 706



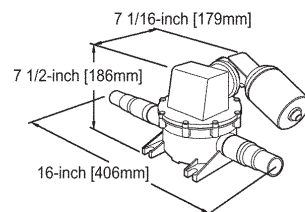
Model 1147/1148



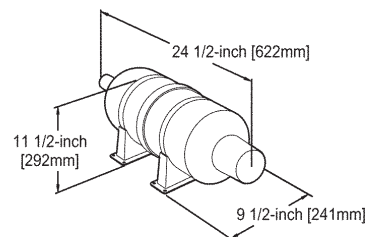
Vacuum Generator



Low-Profile Vacuum Generator



Vacuum Pump



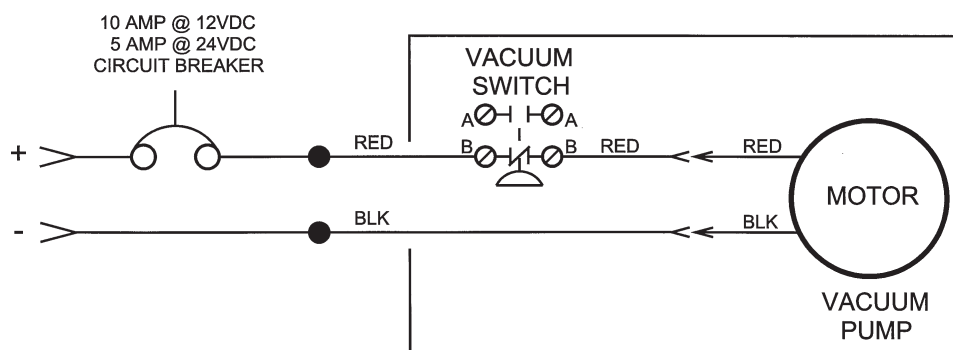
Vacuum Tank

* Width measurement includes flush pedal.

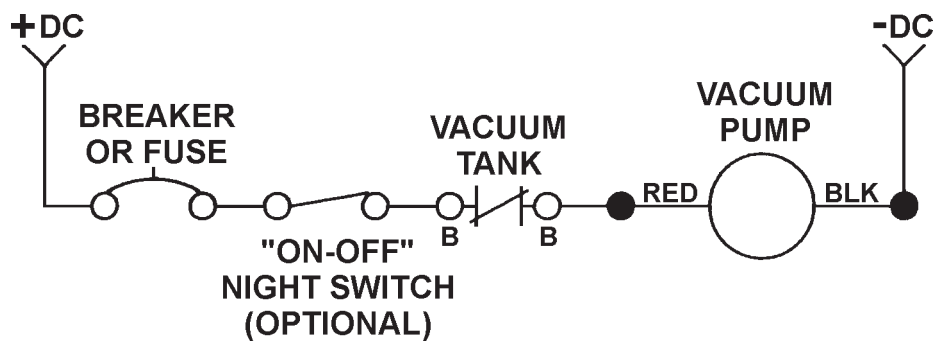
Toilet dimensions may vary $\pm 3/8$ -inch (10mm).

WIRING DIAGRAMS

VACUUM GENERATOR



VACUUM PUMP



PARTS DISTRIBUTORS

There is a strong, worldwide network to assist in servicing and maintaining your VacuFlush system. For the Authorized Service Center near you, please call from 8:00 a.m. to 5:00 p.m. (ET) Monday through Friday. You may also write us at SeaLand Technology, Inc., P.O. Box 38, Big Prairie Ohio 44611.

Telephone: 1 800-321-9886 U.S.A. and Canada
330-496-3211 International

You may also contact or have your local dealer contact the Parts Distributor nearest you for quick response to your replacement parts needs. They carry a complete inventory for the SeaLand product line.

Fax: 330-496-3097 U.S.A. and Canada
330-496-3220 International

U.S.A. MASTER SANITATION DISTRIBUTORS

U.S.A. - North Central (IL, IN, KY, MI, OH)

Midwest Marine Supply
24300 Jefferson Ave.
St. Clair Shores, MI 48080
Tel: 810-778-8950
800-860-1540
Fax: 810-778-6108
Contact: Bob Kennedy

U.S.A. - Northeast (CT, DE, DC, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV)

Northeast Marine Sanitation
69 Florida Street
Farmingdale, NY 11735
Tel: 631-752-7606
800-352-4323
Fax: 631-752-7615
888-283-7606

E-mail: northeast@
northeastmarine.com
Contact: Mike Starito

U.S.A. - Northwest (AK, ID, MT, NE, OR, WA)

Marine Sanitation, Inc.
1900 N. Northlake Way, Suite 121
Seattle, WA 98103
Tel: 206-633-1110
800-624-9111
Fax: 206-633-0317
E-mail: marinesan@
minespring.com
Contact: Ric Kolb

U.S.A. - South Central (AR, KS, LA, MO, MS, NM, OK, TX)

AER Supply
P.O. Box 349
2301 Nasa Road #1
Seabrook, TX 77586
Tel: 281-474-3276
800-767-7606
Fax: 281-474-2714
E-mail: rsmiller@aersupply.com
Contact: Richard Miller

U.S.A. - Southeast (AL, FL, GA, NC, PR, SC, TN, VI)

Environmental Marine
111 S.W. 23rd Street, Suite A
Fort Lauderdale, FL 33315
Tel: 954-522-2626
800-522-2656
Fax: 954-522-5152
E-mail: hopto91@aol.com
Contact: John or Jill Hopkins

U.S.A. - Southwest (AZ, CO, NV, UT, CA-south)

Ardemco Marine Specialties
778 West 17th Street
Costa Mesa, CA 92627
Tel: 949-722-7672
800-253-0115
Fax: 949-642-9582
E-mail: ardemco@earthlink.net
Contact: Rick Glasser

U.S.A. - Upper Midwest (IA, KS, MN, MO, ND, WI, WY, SD)

PowerHouse Marine
518 Logan
La Crosse, WI 54603
Tel: 608-784-9580
888-752-4539
Fax: 608-784-8422
E-mail: tuckski@rconnect.com
Contact: Dave Tucker

U.S.A. - Northern California

Fox Marine
2250 Zanker Road, Unit D
San Jose, CA 95131
Tel: 408-451-9055
800-826-2873
Contact: Charlie Barker

INTERNATIONAL DISTRIBUTORS

Argentina

Trimer S.A.
Del Arca 55, B1646 AA
San Fernando
PCIA, De Buenos Aires
Tel: 5411 4580 0444
Fax: 5411 4580 0440
E-mail: trimer@trimer.com.ar
Contact: Carlos Friedlander
or Pablo Villar

Australia

The Camec Group
47-63 Remington Drive
Dandenong South, Victoria 3175
Tel: 61 (03) 9799 6455
Fax: 61 (03) 9799 6466
E-mail: camec@camec.com.au
Contact: James O'Brien

Austria

Ocean Marine
See **Germany**

Belgium

Auerhaan B.V.
See **The Netherlands**

Canada - East

Eastern Marine Systems, Inc.
12-A Leslie Street
Toronto, Ontario M4M 3H7
Tel: 416-465-1668
888-764-1111
Fax: 416-465-2098
E-mail: info@eastmar.com
Contact: Paul Gales

Canada - West

Western Marine Company
1494 Powell Street
Vancouver, BC V5L 5B5
Tel: 604-253-7721
800-663-0600
Fax: 604-253-2656
800-663-6790
E-mail: sales@
westernmarine.com
Contact: Bill Falk

Caribbean

Budget Marine
P.O. Box 434
25B Waterfront Road
Cole Bay, Philipsburg
St. Maarten
Netherlands Antilles
Tel: 599 5 43134
Fax: 599 5 44409
Contact: Jackie Leech

Croatia

Seaway
See **Slovenia**

Denmark

Olympic A/S
DK-6640 Lunderskov
Tel: 45 (0) 75 58 57 00
Fax: 45 (0) 75 58 63 07
E-mail: eb@olympic-as.dk
Contact: Ernst Bechmann

Finland

Nautikulma Oy
Lantinen Pitkatkatu 33
20100 Turku
Tel: 358 2 250 3444
Fax: 358 2 251 8470
E-mail: nautikulma@kolumbus.fi
Contact: Teppo Siltala

France

Kent Marine Equipment
3 rue de la Dutee - BP 207
44815 Saint-Herblain
Tel: 33 2 40 92 15 84
Fax: 33 2 40 92 13 16
Contact: Luc Tavolini

Germany

Ocean Marine
Wendenstrasse 429
20537 Hamburg
Tel: 49 (0) 40 219 1042
Fax: 49 (0) 40 219 1114
E-mail: info@ocean-marine.de
Contact: Thorsten Lentz

Triton-Format GmbH
Postfach 1263, D-25476 Ellerau
Werner-von-Seimens-Str. 2
D-25479 Ellerau
Tel: 49 (0) 4106 7710-0
Fax: 49 (0) 4106 7710-60
E-mail: technik@triton-format.de
Contact: Ingo Froese

Greece

Amaltheia
24, Al. Papagou Str.
135-61 Athens
Tel: 30 (01) 263 2515
Fax: 30 (01) 263 2255
E-mail: amalmar@otenet.gr
Contact: Dimitris Kyriazis

Hong Kong

Funcler Ltd.
G/F, 81D, Pak Shek Terrace
Clearwater Bay Road
Sai Kung
Tel: 852 2335 0482
Fax: 852 2335 0580
Contact: Alan Reid

Italy

SVAMA Nautica S.r.l.
Via Beneficio Il Tronco, 57/B
48015 Montaleto Di Cervia
(RA)
Tel: 390 544 965689
Fax: 390 544 965734
E-mail: svama-nautica@
svama-nautica.com
Contact: Massimo Bugli

Japan

Tominaga & Co., Ltd.
2-6-8 Nishitenma
Kita-ku, Osaka 530
Tel: 81 (06) 365 5010
Fax: 81 (06) 365 6294
E-mail: nishi@mail.tomco.jp
Contact: A. Tatsumi

Luxembourg

Auerhaan B.V.
See **The Netherlands**

The Netherlands

Auerhaan B.V.
P.O. Box 22, 8200 AA Lelystad
Platinastraat 15
8211 AR, Lelystad
Tel: 31 (0) 3202 45544
Fax: 31 (0) 3202 21555
E-mail: auerhaan@tref.nl
Contact: Bert van Loenen

Netherlands Antilles

Budget Marine
P.O. Box 434
25B Waterfront Road
Cole Bay, Philipsburg
St. Maarten
Tel: 599 5 43134
Fax: 599 5 44409
Contact: Jackie Leech

New Zealand

Lusty & Blundell Ltd.
38 Tawa Drive
Albany, Auckland
Tel: 64 (09) 415 8303
Fax: 64 (09) 415 8304
Contact: Mike Harris

Norway

Leif H. Strom A.S.
Hasleveien 15 E
0571 Oslo
Tel: 47 23 23 3970
Fax: 47 23 23 3971
E-mail: lhs@lhsas.no
Contact: Caesar Christen
Strom, Jr.

Philippines

Solid Sales Philippines
31 Horseshoe Drive
Banawa Hills, Cebu City 6000
Tel: 63 32 255 3002
Fax: 63 32 255 3001
E-mail: csphills@
cebu.pw.net.ph
Contact: Andy Y. Lim

Sardinia and Sicily

SVAMA Nautica
See **Italy**

Singapore

Marina Yacht Services Pte.Ltd.
No. 10 Tuas West Drive
#01-01 to 04 Raffles Marina
Singapore 638404
Tel: 65 862 4320
Fax: 65 862 4431
Contact: Johnny Lim

Slovenia

Seaway
Pot na Lisice 2
4260 Bled
Tel: 386 64 741 225
Fax: 386 64 741 425
E-mail: komarc@seaway.si
Contact: Japac Jakopin

Spain, Balearic & Canary Islands

Dahlberg Sociedad Anonima
Nicolau de Pags, 32
07006 Palma de Mallorca
Tel: 34 971 774751
Fax: 34 971 771458
E-mail: sealand@
dahlberg-sa.com
Contact: Rosa Dahlberg

Sweden

Plastimo Nordic
P.O. Box 28, S-440 90 Henan
Lundenvagen, 473 21 Henan
Tel: 46 304 360 60
Fax: 46 304 307 43
E-mail: magnus.andersson@
plastimo.se
Contact: Magnus Andersson

Switzerland

Ocean Marine
See **Germany**

Taiwan

Mercury Marine Supply Ltd.
5F, 4, No. 22 Tsu Wei 4th Rd.
Lin Ya 80212
Kaohsiung
Tel: 886 (07) 331 7293
Fax: 886 (07) 332 4232
Contact: Mercury Liu

Turkey

Marina Deniz Aracлари
Fener Kalamis CAD. No:75
Fenerbahce 81030
Istanbul
Tel: 90 (0) 216 338 14 41
Fax: 90 (0) 216 337 44 92
E-mail: aylan@superonline.com
Contact: Isik Aylan

United Kingdom

Lee Sanitation
Fenny Compton
Wharf Road, Warwickshire
CV47 2FE
Tel: 44 (0) 1295 770000
Fax: 44 (0) 1295 770022
E-mail: sales@leesan.com
Contact: Chris Coburn

MANUFACTURER'S ONE-YEAR LIMITED WARRANTY

SeaLand Technology warrants, to the original purchaser only, that this product, if used for personal, family or household-like purposes, and if installed according to SeaLand's recommended procedures, is free from defects in material and workmanship for a period of one year from the date of purchase.

If this SeaLand Technology product is placed in commercial or business use, it will be warranted, to the original purchaser only, to be free of defects in material and workmanship for a period of ninety (90) days from the date of purchase.

SeaLand reserves the right to replace or repair any part of this product that proves, upon inspection by SeaLand Technology, to be defective in material or workmanship. All labor and transportation costs or charges incidental to warranty service are to be borne by the purchaser-user.

EXCLUSIONS

IN NO EVENT SHALL **SEALAND TECHNOLOGY** BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, FOR DAMAGES RESULTING FROM IMPROPER INSTALLATION, OR FOR DAMAGES CAUSED BY NEGLIGENCE, ABUSE, ALTERATION, USE OF UNAUTHORIZED COMPONENTS, OR IMPROPER WINTERIZATION. ALL IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, ARE LIMITED TO A PERIOD OF ONE YEAR FROM DATE OF PURCHASE.

IMPLIED WARRANTIES

No person is authorized to change, add to, or create any warranty or obligation other than that set forth herein.

Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to one (1) year from the date of purchase for products used for personal, family or household purposes, and ninety (90) days from the date of purchase for products placed in commercial or business use.

OTHER RIGHTS

Some states do not allow limitations on the duration of an implied warranty and some states do not allow exclusions or limitations regarding incidental or consequential damages; so, the above limitations may not apply to you. This warranty gives you specific legal rights, and you may have other rights which may vary from state to state.

To obtain warranty service, first contact your local dealer from whom you purchased this product.



The first choice in marine and RV sanitation.

13128 State Rt 226, P.O. Box 38, Big Prairie, OH 44611-0038 USA

SeaLand Customer Service

1-800-321-9886

330-496-3211 (8:00 a.m.-5:00 p.m. ET)

Fax: 330-496-3097

www.sealandtechnology.com

® Registered; ™ Trademark of SeaLand Technology, Inc.

® Barkeepers Friend is a registered trademark of Servaas Laboratories.

® Teflon is a registered trademark of Du Pont Co.

® Uniseal is a registered trademark of Injection Plastics, Inc.

® Taylor★Made is a registered trademark of Nelson A. Taylor Co., Inc.
The Taylor Made Group Logo is a trademark of Taylor Made Group, Inc.

© 2000 SeaLand Technology, Inc.