

## Instructions for Complete Waste Water Tank kits, 47 L (12.5 USG) or 72 L (19 USG), with 12V or 24V Macerator Pump or 12V Diaphragm Waste Water Pump

- 47 L (12.5 USG) or 72 L (19 USG) reinforced polyethylene rectangular waste water tanks, best suited material for holding tanks because of resistance to corrosion and odor permeation.
- Complete kits include high performance waste water macerator pump 12V or 24V or waste water diaphragm pump 12V, gas vent, active carbon filter, control panel and probe for level control.
- Two discharge outlets; one for connection to a deckmounted discharge fitting and one for connection to an overboard discharge pump

### General Installation

Your Albinus toilet, as a general rule, should be positioned as low in the hull as possible with all interconnecting hoses or pipes sloped to permit gravity drainage and prevent potential hose odor permeation. The holding tank must not be exposed to temperatures above 120°F (45°C). Do not place near heat sources such as engine manifolds, water heaters, generators, etc. Be certain to estimate holding tank weight when filled (typical effluent weighs about 9 lbs. per 1 gallon or 1.08 Kg per liter. In other words: approximately 51 kg (113 lb) for the 47 L tank and 78 kg (171 lb) for the 72 L tank). Make certain to allow for total filled weight when selecting materials for mounting the tank. Also consider impact of a full tank on vessel trim.

### Preparing a mounting surface

1. Mount tank to surface that supports the entire area of the tank.
2. If required, fabricate mounting surface and toe blocks from 13 mm or 19 mm (½" or ¾") plywood.
3. Do not mount tank on projections such as screw or bolt heads, which could puncture the tank.
4. Do not allow holding tank to block free flow of bilge water.

### Through-hull fittings

For overboard waste disposal from the waste water holding tank and/or the use of raw water for flushing, you will need through-hull fittings. Please follow local and international regulations regarding the disposal of waste in the waterways.

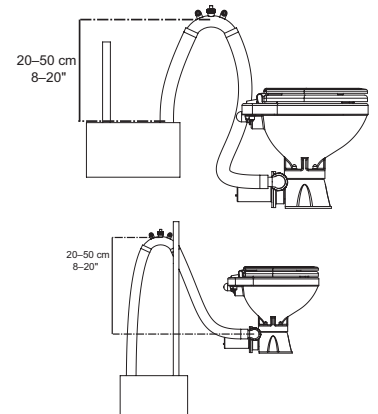
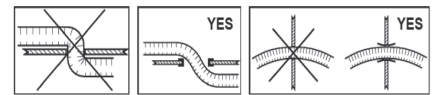
- 19 mm (¾") bore seacock for the flushing water inlet
- 25 mm (1") or 38 mm (1½") bore seacock for the waste outlet.
- 19 mm (¾") (Albinus part no. 07-66-027) and 25 mm (1") (Albinus part no. 07-66-028) or 38 mm (1½") (Albinus part no. 07-66-029) vented loops

### Follow the seacock manufacturer's instructions concerning materials and methods of installation.

Make sure that the inlet seacock is positioned where it will be below the waterline at all times when the boat is under way and also that any outlet seacock is both aft of, and higher than the inlet seacock.

### Pipework: general instructions

- Run spiral reinforced smooth bore flexible hoses of minimum 25 mm (1") or 38 mm (1½") internal diameter so that they slope into the holding tank. This facilitates self drainage into the tank. Hose failure due to degradation from sewage and odor permeation almost always occurs in hose runs which retain sewage when the system is not in use.
- Eliminate all unnecessary runs which retain trapped liquids, if possible.
- Where possible, use rigid PVC pipe in sections that cannot be arranged to drain.
- Simplify hose layout by removing unnecessary valves. [For specific installations, some regulations and standards may require the installation of a vented loop (anti-siphon valve), one-way valve or seacock in sewage discharge piping.]
- Avoid binding corners and sharp bends.
- Do not use wire ties to secure the hose or pipe.
- Support flexible hose every 30 cm (12") and support rigid pipe every 1.5 m (5 ft).
- When creating new holes, avoid reinforcement stringers and tabs.



### Vented loops on discharge lines:

- If there is **ANY** possibility that the discharge elbow of the toilet may be below the top of the tank at **ANY** time, a ventilated anti-siphon loop **must** be fitted in the outlet pipework to ensure that the contents of the tank do not siphon out through the bowl.
- Use appropriately sized Albinus vented loops; 25 mm (1") vented loop, part no. 07-66-028 or 38 mm (1½") vented loop, part no. 07-66-029
- Arrange the outlet hose to form a loop which is at least 20 cm (8") above the highest possible level that the tank may reach, and fit the Vented Loop at that highest point.
- In the event that the discharge elbow of the toilet is situated above the highest level of the tank, arrange the discharge hose at least 20 cm (8") above the level of the discharge elbow, and fit the Vented Loop at that highest point. This will retain water in the bowl.

### Waste water holding tank ventilation

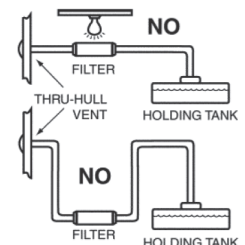
To facilitate the dispersal of gases built up in the tank and the ease of emptying, the tank must be ventilated.

The provided holding tank vent carbon filter will absorb heavier-than-air gases associated with organic waste and eliminate a source of malodor from the vent at the exterior of the boat.

- Holding tank vent lines must be free of low points which can trap liquid and prevent the free flow of gases from or air into the holding tanks.
- Use only reinforced hose for vent lines. Otherwise, over time, the hose will tend to kink and effectively block the vent.

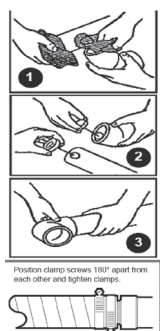
When installing vent filters that are not mounted directly on a holding tank units :

- Avoid areas near excessive heat sources such as engine manifolds or lights.
- Do not install the filter below top of holding tank.
- The filter can be mounted in any position. Installations near the through-hull vent reduce the chance of filter damage from overfilling of the holding tank.



### Solvent bonding for rigid pipe and fittings

1. Use PVC cleaner on both bonding surfaces.
2. Use PVC cement (must contain tetrahydrofuran [THF]) on both bonding surfaces.
3. Connect parts using a twist and hold motion until the cement is set.
4. Let the joint cure for at least four hours or according to instructions on PVC cement container. (Cold temperatures require longer cure times.)
5. Position clamp screws 180° apart from each other and tighten clamps.



## Y-valve

To simplify the selection of pumping waste to an onshore treatment facility or, where allowed, overboard, install an Albinus Y-valve (part no. 07-66-034) – not included, must be ordered separately.

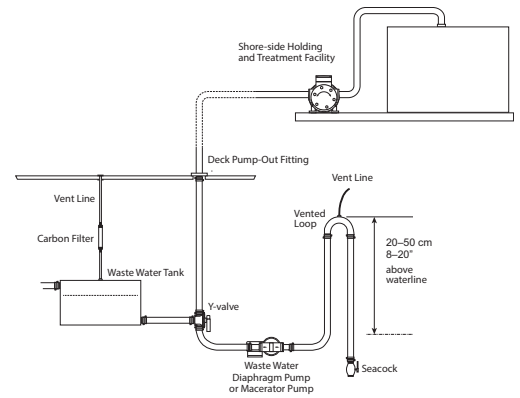
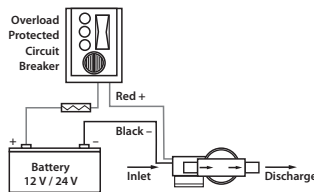
## Operating instructions, Waste Water Tank with Diaphragm pump 32 L (part no 03-02-007, 47 L tank / 03-02-008, 72 L tank)

1. Albinus Complete Waste Water Tanks come with the discharge pump already mounted on the tank. The discharge port on the included diaphragm pump is 38 mm (1½").
2. Your Albinus diaphragm pump can be run dry without damage to the pump, but, all the same, it is not rated for continuous duty.
3. Can handle a mixture of air and water without difficulty.

## Electrical connections, Diaphragm pump:

Connect black wire to negative (-) terminal of battery. The red wire should run to a properly sized overload protected switch or circuit breaker, with a wire from switch or breaker to positive (+) terminal of battery. Electrical circuit must be independent of all other accessories. Use proper wire size as determined by wire table below. Wiring must comply with applicable electrical standards.

Wire size (based on 10% voltage drop)	Max wire length (total distance from the battery to the pump and back to the battery)	
	12V	24V
1.5 mm <sup>2</sup> (16ga)	20 m (66')	60 m (197')
2.5 mm <sup>2</sup> (14ga)	30 m (98')	120 m (394')



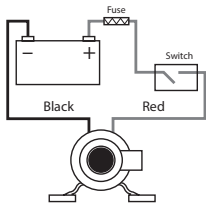
## Operating instructions, Waste Water Tank with Macerator pump (part no 03-02-009/027, 47L tank / 03-02-010/028, 72 L tank)

1. Albinus Complete Waste Water Tanks come with the discharge pump already mounted on the tank. The discharge port on the Macerator is 25 mm (1").
2. Your Albinus Macerator 43 L Pump utilizes a rotary cutter to shred toilet waste so that it can easily be pumped through a 25 mm (1") inner diameter discharge hose and an impeller pump to pump the waste from the waste water holding tank into an onshore treatment facility or overboard – please adhere to local and national regulations regarding the dumping of toilet waste into the waterways.
3. As is common for all impeller pumps, the impeller is lubricated by the liquid being pumped. If the impeller is run dry, frictional heat will build up quickly and damage the impeller and possibly the pump itself.
4. Never allow the pump to run dry for more than 30 seconds.
5. Install a momentary switch near the macerator pump so that the operator can hear the pump and immediately switch off the pump when the tank is empty (the operating sound of the pump will become louder and at a higher frequency).
6. The pump is not rated for continuous duty. Do not run the pump for longer than 15 minutes. Approximately 1 to 2.5 minutes operation will empty holding tanks from 30 L (8 gal) to 100 L (26 gal) tank.
7. Make sure the battery is fully charged.
8. The macerator pump unit has been designed to handle waste and toilet tissue. It will also handle solid objects such as cigarettes, cigars, and small chunks of soft fruits or vegetables.
9. The holding tank and the pump should be flushed with much water after each pumpout.
10. After long periods of non-use, the flexible impeller may stick to the pump body preventing the macerator pump from turning freely. If this occurs, it should be disassembled, cleaned and assembled again.

## Electrical connections, Macerator pump

The circuit for the macerator pump power supply must be independent and cannot be used for any other appliance. Connect the battery positive terminal to a fuse of adequate capacity load.

1. Connect the red wire from the pump to the appropriate connection on your controller switch. See the Switch manufacturer's wiring instructions
2. Connect the switch to the battery positive (+) terminal via a fuse
3. Connect the black wire from the pump to the battery negative (-) terminal



12V • 12 A • fuse 20 A

24V • 7 A • fuse 12 A

Replacement Impeller Albinus part number 06-01-009

## Cleaning

- 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 adding water, Holding Tank Deodorant and Cleaner to the toiletbowl.
- Flush the entire contents into the holding tank and continue flushing until the discharge from the holding tank is clear.
- Do not use chlorine-based cleaners, caustic cleaners or chemicals, such as drain opening products, as they may damage the system seals and hoses.

		Wire size per feet and meter of run (3% voltage drop)					
Voltage	Fuse size	0 m – 2.5 m (0'-10')	2.5 m – 4.2 m (10'-15')	4.2 m – 6.8 m (15'-25')	6.8 m – 10.1 m (25'-40')	10.1 m – 16.9 m (40'-60')	16.9 m – 27 m (40'-60')
12V	20A	1.5 mm <sup>2</sup> (#16)	2.5 mm <sup>2</sup> (#14)	4 mm <sup>2</sup> (#12)	6 mm <sup>2</sup> (#10)	10 mm <sup>2</sup> (#8)	16 mm <sup>2</sup> (#4)
		0 m – 11 m (0'-10')	11 m – 18.3 m (0'-10')	18.3 m – 29.3 m (0'-10')			
		1.5 mm <sup>2</sup> (#16)	2.5 mm <sup>2</sup> (#14)	4 mm <sup>2</sup> (#12)			
24V	12A	1.5 mm <sup>2</sup> (#16)	2.5 mm <sup>2</sup> (#14)	4 mm <sup>2</sup> (#12)			

### Level indicator with probes

1. Install the probes by cutting a hole in the holding tank with a 40 mm (1.6") hole saw.
2. Connect the probes to the supplied gasket
3. Secure the gasket, with the probes, onto the waste water holding tank with 5 x 4.8 mm self-tapping screws
4. Connect the probes to the control panel according to the wiring scheme below
5. A 30x50 mm (1.2x2") cut out must be made in the mounting surface for the control panel to make room for the electronics. Drill four 2.5 mm (0.1") holes for fastening the panel to the mounting surface.

### Wiring scheme for Level indicator probes and panel

Combination printed circuit colored wires	Combination colored wires/ probes	
White	long probe (1)	= common
Blue/Green	long probe (2)	= half tank
Yellow	short probe (3)	= full tank
Black	- battery	
Red	+ battery	

### Control panel LEDs

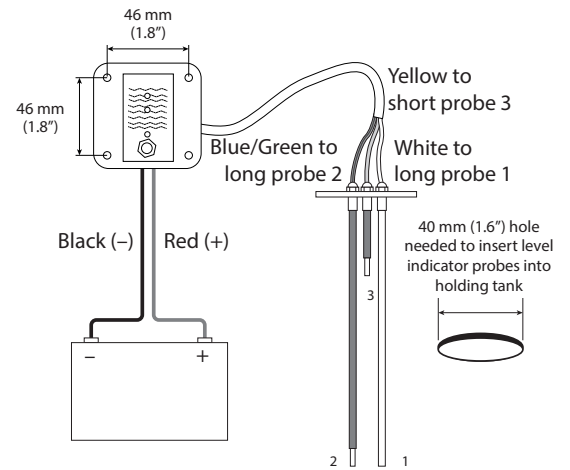
Red LED	= full tank
Yellow LED	= half tank
Green LED	= ON

The color indications above refer to the complete kit (control panel, wires and terminals).

The standard length of the wires is 3.5 m (11.5 feet)

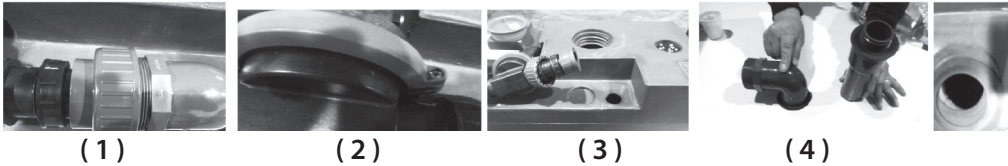
**Warning!** Do NOT short-circuit the side probes with the central one.

A 30 x 50 mm (1.2 x 2") cut out must be made in the mounting surface for the control panel to make room for the electronics of the panel



### Replacing the internal hose or disconnecting the pump

1. Unscrew the gray collar
2. Unscrew the 2 screws of the diaphragm pump
3. Raise up the pump body
4. If needed, use 1 additional gasket on the 90° elbow between the tank and the diptube male thread
5. Tanks equipped with the macerator pump are sealed between the grey connection and the threaded hose part of the macerator with loctite 542, in case you need to replace macerator use this glue or similar.



part #	Description
03-02-007	47L Waste Water Tank CPL Diaphragm 12V
03-02-008	72L Waste Water Tank CPL Diaphragm 12V
03-02-009	47L Waste Water Tank CPL Macerator 12V
03-02-010	72L Waste Water Tank CPL Macerator 12V
03-02-027	47L Waste Water Tank CPL Macerator 24V
03-02-028	72L Waste Water Tank CPL Macerator 24V

### Spare parts

part #	Description
03-01-003	Waste Water Diaphragm Pump 32L 12V
03-01-005	Macerator Pump 43L 12V
03-01-005	Macerator Pump 43L 24V
03-66-011	Active Carbon Filter
03-66-012	Tank Level Indicator Kit 12/24V
03-99-014	Level Indicator Probes
03-03-023	47L Waste Water Tank
03-03-024	72L Waste Water Tank
06-01-009	Replacement impeller Macerator pump



EN 55014-1  
ISO 8846

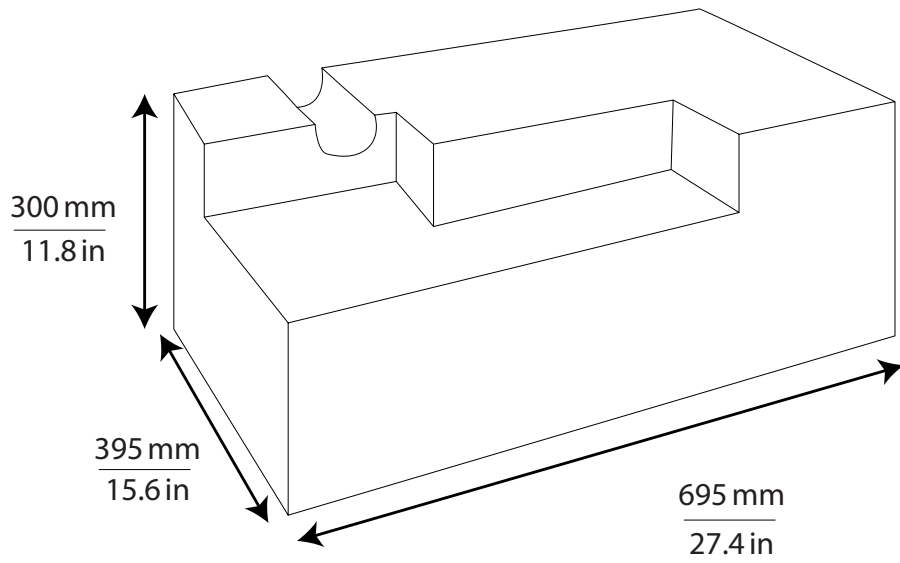
### Waste handling & material recycling

At the product's end of life, please dispose of the product according to applicable law. Where applicable, please disassemble the product and recycle the parts according to material.

### Warranty

One year limited warranty.

72 L



47 L

