



ECONO-TANK

WASTE HOLDING DEVICE

INSTALLATION AND OWNERS MANUAL

**KEEP THIS MANUAL IN A SAFE
PLACE FOR FUTURE REFERENCE**

ECONO-TANK: PROTECTING THE USERS OF OUR WATERWAYS AND THE ENVIRONMENT

Your ECONO-TANK consists of a polyethylene holding tank, a high fluid level sensor, a discharge pump and a discharge pump controller.

The waste contained within the tank can be sanitised (disinfected) through the addition of a small amount of granulated chlorine that has been dissolved in clean water.

The operator of the tank should be aware that the amount of granulated chlorine required to provide disinfection to a standard equal to or less than <150mg/l of CFU's, is dependant upon the size of the holding tank and toilet usage patterns e.g. the volume of water per flush.

As a guide, a local laboratory has conducted tests on the disinfection rate in the standard 65 litre tank, and these tests indicated that around 50 grams of granulated chlorine (NOT liquid chlorine) would provide sufficient oxidisation of normal mixed toilet waste.

Proudly manufactured by:

Nautical Waste Solutions Pty Ltd

8 Thorne Street

Wynnum Queensland Australia 4178

Telephone: (07) 3893 1911

Email: sales@nwsa.com.au

Internet: www.nwsa.com.au

THANK YOU FOR BUYING AN ECONO-TANK

Your new ECONO-TANK has been engineered and manufactured for dependability, ease of operation and operator safety. Properly used, maintained and cared for, it will provide years of trouble free service.

SPECIFICATIONS

Holding tank capacity	Approx 65 litres or 120 litres
Tank	Polyethylene, approx 8mm thick
Discharge Pump	Johnson Macerator
Recommended oxidizing agent	Granulated chlorine
Product Weight (approx)	65 litre (tank only): 6.5 kgs 120 litre (tank only): 12 kgs
Tank Diameter/width Holding tank length Person Capacity	400mm 600mm/1200mm 65 litre system is suitable for up to 8 persons under normal use.

Thank you again for buying an ECONO-TANK.

ECONO-TANK

INSTRUCTIONS FOR SAFE OPERATION

The purpose of these safety instructions is to attract your attention to the various operating and maintenance requirements that must be met to ensure that you get the best result out of your **ECONO-TANK** and that you do not void the Manufacturer's warranties. These instructions and explanations require your careful attention and understanding.

WARNING: Failure to follow the operating and maintenance instructions may reduce the performance of your **ECONO-TANK** and may result in toilet waste being discharged in nil-discharge areas. Proper use and maintenance of the **ECONO-TANK** will ensure that you do not breach the Government regulations that this system was designed to meet.

WARNING: Do not attempt to operate this **ECONO-TANK** until you have read and understand the instructions, etc., contained in this manual. Please save this manual and review it frequently for continued safe operation and for instructing others who may operate this **ECONO-TANK**

1.	KNOW YOUR ECONO-TANK Read this Manual carefully. Learn the limitations of the ECONO-TANK as well as the maintenance requirements related to this system and that of the macerator pump that forms part of your toilet system.
2.	AVOID DANGEROUS ENVIRONMENTS. The ECONO-TANK Control Panel must not be installed in damp or wet locations, or exposed to direct heat. Please also ensure that the ECONO-TANK tank and discharge pump are installed in a dry area that is well lit, well ventilated, and can be accessed for regular maintenance.
3.	KEEP CHILDREN AND UNTRAINED OPERATORS AWAY. Do not let children or untrained operators operate the ECONO-TANK Control Panel. It is also important that you inform your guests that your toilet system is to be used for human waste and nothing else.
4.	USE THE RIGHT ECONO-TANK. Ensure that you buy the correct ECONO-TANK for your needs. A 65 litre ECONO-TANK system can hold the waste from up to 8 persons under normal circumstances (assuming that the waste is discharged every 24 hours). A 120 litre system is suitable for use by up to 15 persons.
6.	PROTECT THE QUALITY OF THE AIR ONBOARD. Ensure that the tank is properly vented to the outside of the vessel at all times and that there are no kinks, bends or blockages in the vent tubes that will prevent effective venting.
7.	SANITISE YOUR ECONO-TANK WHEN NOT IN USE. Ensure that the tank is fully flushed out when returning from a voyage. Flush the toilet with clean seawater for several minutes to partially re-fill the holding tank. If appropriate and assuming that no metal fittings are used, mix a small amount (one teaspoon) of granulated chlorine with water and also flush that mixture down the toilet. This process will minimise any odours from the tank.

8.	<p>STAY ALERT AND EXERCISE CONTROL OVER WASTE DISCHARGE. Be aware of your system’s capacity. Use common sense when discharging effluent to ensure that you comply with any Government regulations that may be in place. Be mindful of other persons using our waterways. Do not continue to operate the toilet if the ECONO-TANK is full.</p>
9.	<p>CHECK FOR DAMAGED PARTS. Before using your ECONO-TANK, carefully check the system to determine that it is operating properly and performing its intended function. At regular intervals, please check the operating and warning lights, check for any leaking or blocked pipes, and ensure that the tank mounts are secure. Any part that is damaged or not working should be promptly and properly repaired or replaced by a Marine Engineer or Shipwright before the system is used again. Replacement parts should only be obtained from authorised stockist of ECONO-TANK parts.</p>

Please note that due to our on-going product refinement policy, product features and specifications may change without notice. Please check the current features and specifications at our website.

PLEASE RETAIN THESE INSTRUCTIONS

ECONO-TANK

OPERATING & MAINTENANCE MANUAL

<p><u>INSTALLATION</u></p>	<p>The ECONO-TANK system must be used in conjunction with a macerating toilet.</p> <p>The tank should be located in a level position as close as possible to the toilet outlet. The lower tank outlet should be towards the rear of the vessel, particularly for semi-displacement</p> <p>The ECONO-TANK electrical system normally operates on 12 volts. For 24 volt systems, a 24 volt pump and electrical relay will have been supplied instead of 12 volt components.</p> <p>All systems have easy-to-read Light Emitting Diode (LED) control panel display for pump operation and tank monitoring purposes.</p> <p>Please ensure that the tank has been well secured in an area where minimal moisture and/or heat is present and that the tank is vented to the atmosphere for the dispersal of gases.</p>
<p><u>OPERATING PRINCIPLES</u></p>	<p>The ECONO-TANK is primarily a Holding Tank, but the waste contained within the tank may be treated with granulated chlorine (NOTE: not liquid chlorine) to produce treated waste.</p> <p>When a toilet is activated, the macerated waste is pumped into the holding tank. If granulated chlorine has previously been added to the tank, the incoming waste reacts with the Hypochlorite Solution produced by the granulated chlorine in the tank, when it mixes with the treated and untreated effluent.</p> <p>When the Holding Tank is approximately 90% full, a light comes on and a buzzer sounds to warn the operator that the system is reaching capacity and needs to be discharged.</p>
<p><u>HOW TO USE YOUR ECONO-TANK</u></p>	<p>A buzzer and a switch are used to monitor and operate the system when in use.</p> <p><u>Discharge Pump Switch:</u></p> <p>For use in restricted areas: <i>Before entering a restricted area,</i> place the pump switch in the “ON” position. This will activate the discharge pump and discharge the existing treated contents from the tank. While the pump is activated, a red light on the switch panel will be lit. Turn the pump switch to “OFF” when the tank becomes empty. Leave the pump switched “OFF”.</p> <p>The capacity of your ECONO-TANK will determine the number of toilet flushes that will re-fill the holding tank. A red high-level light will glow on the switch panel when the holding tank has</p>

	<p>reached its capacity and a buzzer will also sound.</p> <p>Do not use the toilet until the holding tank contents have been discharged in an area where discharge is permitted.</p> <p>Activate the pump switch only when discharge is permitted.</p> <p><u>LED Display:</u></p> <p>The LED display keeps the operator informed of the system's operation. The operator needs to be familiar with the LED lights and colour codes, as well as the warning buzzer.</p> <p>The LED lights consist of:</p> <p style="padding-left: 40px;">High Level Warning - Red Light Pump Light - Yellow Light</p> <p><u>High Level Warning Light:</u></p> <p>All ECONO-TANK systems are equipped with manual discharge controls. The discharge of waste by the system is prohibited in some waterways. In these areas, the discharge pump must remain turned off until such time as the vessel is moved outside of that area and the waste can be discharged.</p> <p>A high level light (red) followed by an alarm will warn the user that the Holding Tank is nearing its maximum capacity. Discontinue use of the system until the contents of this tank can be discharged.</p> <p>The contents will be discharged when the pump is switched 'on'. The vessel must be in a discharge-permitted area, and should preferably be underway or in an area of high tidal flow at this time.</p> <p><u>Pump Light</u></p> <p>The pump light (yellow) will glow if the pump is pumping. .</p> <p>The manual switch, when activated, will engage the pump. Listen to the pump and turn the pump off when the pump empties the tank and starts to run starts to run dry.</p> <p>NOTE: Do not run the pump dry for an extended period. Do not leave the pump running unattended.</p>
<p><u>LEGISLATIVE REQUIREMENTS</u></p>	<p>Current legislation requires approved toilet waste treatment systems to treat waste and reduce Colony Forming Units (CFUs) to below 150 parts per 100ml.</p> <p>Tests undertaken at a NATA approved laboratory have indicated that approx 40 grams of granular chlorine added to 55 litres of toilet waste fluid, will kill approximately 99.8% of bacteria within 30 minutes of introducing the chlorine to the waste.</p>

<p><u>NON-DISCHARGE AREAS</u></p>	<p>Areas where discharge of any form of treated or untreated toilet waste is not allowed include certain popular anchorages, all marinas, boat harbours and canals, and any area within 926 metres of people in the water e.g. swimmers, some nominated reef areas and aquaculture sites e.g. oyster leases.</p> <p>Effectively, all pleasure and commercial craft with discharge-based toilet systems must have a waste holding tank fitted, regardless of whether the waste holding system has the capacity to treat the waste or not.</p>
<p><u>HOW TO FULLY FLUSH THE SYSTEM</u></p>	<p>If your vessel is not used on a regular basis, the contents of the system should be completely discharged and flushed thoroughly each time it is used, allowing sufficient time to fully re-sanitise the system before docking.</p> <ol style="list-style-type: none"> 1. Flush the toilet several times to clear the pipe from the toilet and toilet macerator pump to the tank. 2. Switch the discharge pump switch to “ON” (yellow light on) to discharge the contents of holding tank. Turn the pump switch “OFF” when the tank becomes empty. 3. Flush the toilet several times with clean saltwater to refill the holding tank and pipes with clean treated water. 4. If fitted, activate the pressure pump or solenoid that operates the cleansing rotor to clean the tank and fill the tank until the high level alarm sounds. Turn off the pump/solenoid and empty the tank. Repeat this process. 5. Mix 20grams of granular chlorine with clean saltwater and flush down the toilet to mix with the water in the holding tank. 6. After 30 minutes, empty the holding tank.

WARRANTY CLAIMS

Refer to your maintenance instructions before returning any goods under the product warranty program.

In many cases, a quick review of the system's instructions - in particular, cleaning the system - will get your system up and running with a minimum of fuss and inconvenience, as there is only one moving part in the system (which is the pump).

If this fails, please contact the installer who installed your system or call Nautical Waste Solutions on 0417 373 122 (Lance) or 0411 598 306 (Barry) during normal business hours.

LIMITED WARRANTY - ECONO-TANK

1. **NAUTICAL WASTE SOLUTIONS PTY LTD ('N.W.S.')** warrants to the original purchaser that this Product is free of defects in materials or workmanship for a period of twelve (12) months from the product's date of purchase. Should this product, or any part of this product, prove defective by reason of improper workmanship and/or materials within the warranty period, N.W.S. shall, at its sole option, repair or replace the product. Please note that the macerator pump supplied with the system is separately warranted by its manufacturer; any warranty claims should be directed to that manufacturer.
2. **TO OBTAIN WARRANTY SERVICE**, the purchaser must deliver the product (or component) prepaid, together with a detailed description of the problem, to Nautical Waste Solutions Pty Ltd at 8 Thorne Street, Wynnum, Queensland, Australia, 4178. When requesting warranty service, the purchaser must present a sales slip or other document that establishes proof and date of purchase.
3. **THIS WARRANTY DOES NOT COVER** defects caused by modifications, alterations, repairs or service of this product by anyone other than N.W.S. authorised personnel; defects in materials or workmanship supplied by others in the process of installation of this product; defects caused by installation of this product other than in accordance with N.W.S.'s recommended installation instructions or standard industry procedures; physical abuse to, or misuse of, this product. This warranty also does not cover damages to equipment caused by fire, flood, external water, excessive corrosion or Act of God.
4. **THIS WARRANTY IS VALID PROVIDED THAT THE PRODUCT HAS BEEN INSTALLED** by a qualified Marine Engineer, Electrician and/or Shipwright. The Warranty Form attached to this manual should be completed and forwarded to N.W.S. within 30 days of installation, certifying that the Product has been tested and installed in accordance with the manufacturer's recommendations. This warranty only applies provided that no repairs, alterations or modifications have been attempted or undertaken other than those repairs, alterations or modifications authorised in writing by N.W.S. to a qualified Marine Engineer, Electrician and/or Shipwright.
5. **NO ADDITIONAL LIABILITY** will be accepted pursuant to this warranty for the costs of removal, re-installation, travel, insurance or transportation of the Product or parts to and from N.W.S.'s Service Centre - which costs are not included in this warranty.
6. **UNDER NO CIRCUMSTANCES** shall N.W.S. be liable to the purchaser or any other persons for any special or consequential damages, whether arising out of breach of warranty, breach of contract, or otherwise, to the extent allowed by the laws of Queensland and Australia.
7. **NO OTHER PERSON OR ENTITY** is authorized to make any express warranty, promise or affirmation of fact or to assume any other liability on behalf of N.W.S. in connection with its products except as specifically set forth in this warranty.
8. **THIS WARRANTY GIVES THE PURCHASER SPECIFIC LEGAL RIGHTS**, and the purchaser may also have other rights that vary from State to State. Certain legislation, including the Trade Practices Act, 1974 (as amended) and other state and territorial laws give rights to the buyer and impose liability on the seller in certain circumstances. Nothing herein shall have the effect of excluding, restricting or modifying any condition, warranty, right or liability imposed, to the extent only that such exclusion, restriction or modification would render any term herein void.

ECONO-TANK M.S.D WARRANTY FORM

THIS WARRANTY FORM SHOULD BE RETURNED BY THE CUSTOMER TO NAUTICAL WASTE SOLUTIONS PTY LTD WITHIN 30 DAYS OF INSTALLATION TO ENABLE ANY FUTURE WARRANTY CLAIMS TO BE PROCESSED.

Note: Please forward a copy of your purchase docket or other proof of purchase to Nautical Waste Solutions when requesting a warranty claim.

AGENT'S DETAILS:

Purchased From:

Address Of Dealer:

Date Purchased:/...../..... **Model No.:**..... **Serial No.:**

(see tank for serial number)

OWNER'S DETAILS:

Owner's Name:

Owner's Address:

Telephone: **Email:**

VESSEL DETAILS:

Boat Name: **Make:** **Const:**

Age: **Vessel Reg'n No:** **Moored At:**

INSTALLERS DETAILS:

NAME of Qualified Engineer or Shipwright:

(Strike out whichever is not applicable) **Marine Engineer / Marine Electrician / Shipwright**

Address:

Telephone: **Email address:**

Date system was installed to Manufacturer's requirements:

Date system was tested to Manufacturer's requirements:

Date of Certification:

Signed

PLEASE RETURN THIS FORM FULLY COMPLETED

TO

NAUTICAL WASTE SOLUTIONS PTY LTD

8 Thorne Street, Wynnum, Queensland, Australia 4178