

ENEX EcoLoo

The ENEX EcoLoo is a self contained toilet and biological treatment module designed to be simple to operate and maintain in both underground and above ground environments.

Using a biodegradable, non-toxic enzyme based solution, aeration & oxygenation through an internal compressed air bubbler system quickly breaks down the waste material solids into liquid where the dehydrating actions within the system results in evaporation and discharge through external air vents.

Effluent odour is reduced to a minimum and scheduled emptying of the treatment tank can be extended depending on usage.

External compressed air and mains pressure water supply (8 bar max) is required to operate the toilet and waste treatment. 240 volts is required for lighting only, although additional electrical components can be added if required.

ENZYME DOSING

Within the toilet cubicle bench unit, a positive displacement fluid driven pump unit accurately doses liquid enzyme proportional to the amount of flushing water used at each flush.

The factory setting for the pump is set to 2% dosing or with a standard flush, approx. 20mls of liquid enzyme per litre. This should not be adjusted without first consulting ENEX Group Ltd.

The pump does not require any maintenance and only requires standard water pressure between 1-7 bar (15 -100 psi) to operate.

The pump draws liquid enzyme from a replaceable 5 litre container within the bench unit and enzyme levels should be checked on a weekly basis and either topped up or replaced as required.

The liquid enzyme is an organic enzyme based deodorant and degreaser and is generally environmentally safe non-hazardous and user friendly. It can cause irritation if spilt on skin or comes in contact with your eyes. Normal work and hygiene practices should be undertaken when handling the liquid enzyme and if it comes in contact with skin or eyes, rinse with plenty of water. See Material Safety Data Sheet for more details.

TOILET OPERATION

The ceramic toilet is simple to use with a foot operated pedal flush and is designed to be used with the minimum amount of water.

To properly use the toilet – please follow these simple instructions –

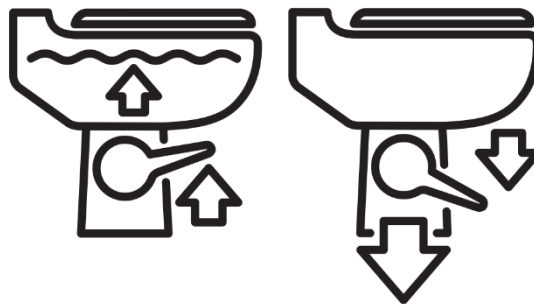
- **To flush the toilet**, push the pedal all the way down until the contents leave the toilet bowl. Water flow pressures vary at different locations, therefore holding the flush pedal down for 4-8 seconds may be required for a proper rim and bowl wash. Releasing the flush pedal allows the flush ball to snap back and seal.



A small amount of water should remain in the bowl.

NOTE – holding the flush pedal down longer than necessary will result in excessive water use and may cause waste treatment tank overflow or reduce the actions of the enzyme for waste treatment breakdown.

- **To add water to the toilet**, lift or raise the flush pedal until the desired water level is reached. Generally, more water is required only when flushing solids.



NOTE – Only human waste and toilet paper should be flushed down the toilet – do not put any foreign object – Paper towels, cigarette butts, feminine & sanitary products, wipes, tissues, rags, etc. into the toilet.

HAND WASHING

The EcoLoo has a sink unit designed specifically for hand washing and utilises a water saving tap to prevent excessive water from entering and diluting the waste treatment tank.

Washing hands should only be done using ENEX approved soaps as many commercially available soaps have mild caustic or antibacterial properties which can have a detrimental effect on the enzymes and good bacteria within the waste treatment tank.

The ENEX approved soaps will effectively and hygienically clean hands and are dermatologically safe to use.

Do not use any props, tape or equipment to keep the tap open & flowing.

GENERAL TOILET CLEANING

For general cleaning of the bench, sink, cubicle walls and floor as well as toilet bowl, use only ENEX approved cleaning liquid.

The approved cleaning liquid again contains beneficial enzymes to sanitise, disinfect and remove odours. It can be safely used at full strength or diluted 1:10 (100ml cleaner with 1 litre water) and used as a spray to wipe down all surfaces.

Good hygiene practices should be used when cleaning surfaces, using new clean cloths starting at the bench taps, bench and sink, internal door handle and lock, spraying enzyme cleaner and wiping down.

Secondly, toilet surfaces and internal bowl. Lastly, toilet walls and floor should be sprayed with enzyme cleaner and wiped down using new clean cloths.

Used cloths and cleaning equipment should be bagged and removed for disposal. Do not flush any cleaning equipment down the toilet.

Do not use any chlorine or caustic based chemicals such as laundry bleach or drain clearing products or any non approved soaps or sprays in either the toilet or bench sink.

Any of these products will neutralise and destroy the actions of the enzymes in the treatment tank and cause failure of the biological treatment system. Should this occur, the treatment tank will require pumping and flushing to remove all contaminants.

DOSING PUMP OPERATION

The dosing pump is powered by water flow, with minimal loss of pressure within the system. The water engine powers the proportioning unit and no external power is required.

The proportioning unit injects liquid enzymes directly into the water system to the toilet in proportion to the amount of water flowing when the toilet is flushed.



The pump has an adjustable proportioning rate of dosing from 0.4% to 4% (4mls to 40mls per litre water flow). The factory setting is 2% and can give up to 500 standard flushes from the 5 litre liquid enzyme container.

Do not adjust the proportioning rate without approval from ENEX Group Ltd.



On top of the dosing pump is an ON/OFF knob for the dosing. In both ON & OFF modes, water will flow through the pump and will only dose liquid enzyme in the ON mode (diagram 2). If there appears to be no liquid enzyme being pumped to the toilet bowl when flushing, check the correct position of the knob.

A full manual is attached to this document – the pump model is 573-CW.

WASTE TREATMENT TANK

The waste treatment tank holds approximately 610 litres and requires an initial 100 litres of water to be added to the tank when situated in its final position. A minimum of 2.5 litres of liquid enzyme is also required to be added to the tank before use.

On the front face of the waste treatment tank there is a sight glass with indicator lines marked “Minimum Level” and “Maximum Level”.

Initial water levels prior to use should be at the minimum level mark (approx. 100 litres) and with 2.5 litres of liquid enzyme.

When the tank is filled with water and liquid enzyme up to the minimum level mark, the air bubbler can be turned on via the 3 valves situated on the floor inside the bench cabinet. The bubblers can be controlled with these valves as well as the infeed pressure regulator to give satisfactory bubbling within the tank. Initially the bubbler should be set on a low to medium rolling bubble and as the build-up within the waste tank increases & thickens, the bubbler may require more air to actively move the tank contents.

When the level of the tank approaches the “Maximum Level” mark, procedures for reducing the tank level will need to be carried out to prevent overflowing of the waste tank.

At the front of the waste tank, behind the removable step (lift up and away from the tank), there is a 2” ball valve and male camlock fitting for attaching a drain hose for emptying.

There are a couple of options for emptying the waste tank –

The complete toilet unit will require disconnecting from the electrical power, air and water inlets and moved to a point where the tank can be discharged to an approved sewer dump station/disposal site using a suitable sized hose and gravity to reduce the level of the tank.

For reducing the level of the waste tank in situ, connect a suitable hose to the camlock fitting at the front of the waste treatment tank. Fit a diaphragm pump between the tank (suction side to tank) and hose between pump discharge to the top fitting of the ENEX Waste Cassette. Open waste treatment tank and cassette valve and start pump.

With both options, do not completely empty the waste treatment tank – only reduce the fluid level to the “Minimum Level” mark.

Before opening toilet for re-use, shock dose the waste treatment tank with an additional 1 litre of liquid enzyme.

Drain ENEX Waste Cassette at an approved sewer dump station/disposal site and flush cassette with water.

