

Taylex Industries Pty. Ltd



HOME OWNERS MANUAL

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1. ABOUT TAYLEX

Taylex is an Australian owned company that supplies Home Sewage Treatment Plants to the domestic market. Taylex were the pioneers of HSTP's in Australia in 1969 and since then we have been continually developing our product to help care for our environment. Taylex systems are sold throughout Australia by a network of factory trained licensed Distributors. We manufacture and produce all of our own concrete products and components for our system. We have 2 head offices one located on the Gold Coast and one in Seymour (Victoria).

2. WHAT IS A HOME SEWAGE TREATMENT PLANT (HSTP)?

Also known as an Aerated Waste Water Treatment System (AWTS).

A HSTP is a purpose built system used for the treatment of sewage and liquid wastes from a single household or multiple dwellings.

A Home Sewage Treatment plant is your contribution to our environment. It is your means of ensuring that your waste does not become someone else's problem.

A HSTP is basically a miniature version of a city sewage treatment plant.

Taylex are leaders in the HSTP field because we use the same materials that city treatment plants use: concrete, stainless steel and brass – all the proven products that better withstand the ravages of raw sewage.

3. HOW DO THEY WORK

A HSTP is a living organism. There are trillions of living bacteria that make the system operate effectively. The HSTP imitates nature by using the naturally occurring bacteria that you and your household provide as part of your daily lifestyle. We provide them with oxygen and a happy home environment to breed and work properly.

4. WHAT DO THEY NEED

A FOOD SOURCE

Which is your natural household waste. That is everything you use in your house that goes into your drains, kitchen, laundry, toilet, shower etc. Too much food will kill the bacteria in the same manner that over fertilizing a plant will kill it. So garbage disposal, home brew kits etc are not good for them.

AIR

Your HSTP requires an air source. Air is injected into your HSTP to keep the bacteria populated, much in the same way an air pump works in a fish tank. If you were to have 10 fish in a small tank with an air pump operating in it, the system would have enough oxygen to support the tank life and keep it healthy. Turn off the air pump and there would not be enough oxygen in the water and the fish and plants would slowly die. Your HSTP works on the same principal. It requires air, food and a happy home environment to work at its maximum potential.

When working properly, your HSTP will work efficiently with no odours or problems. It needs a happy balance.

5. WHAT UPSETS THE BALANCE

The greatest cause of problems with your treatment plant are **cleaning products** and the **washing machine**.

CLEANING PRODUCTS

Unfortunately what we call cleaning products, your HSTP may class as poisons. Like humans some poisons kill us while others will just make us sick and the same will happen to the bacteria in your HSTP. You must use environmentally friendly products.

Your treatment system relies on bacteria for your system to work effectively. Any product used that kills bacteria is harmful to your system. If you wish to use some of the harsher cleaning products, it is suggested that you use a bucket and discard the contents in the garden. This also applies to disinfectant, surface sprays and wipes.

6. WASHING MACHINES

Try to evenly spread your washing over a period of a week. Avoid where possible to wash everything in one day. It puts too much water in the system and your HSTP will struggle to cope. Liquid soaps breakdown easier than granulate styles do. Try not to be heavy handed with the amount of soaps you use.

7. HOW DO YOU LOOK AFTER YOUR HSTP

THINGS TO ABSOLUTELY AVOID: Chlorine, disinfectant, bleaches, caustics and heavy chemical products, nappy san, antibacterial products, fat, oil, grease, milk, etc are some of the types of products that will cause the bacteria to die off in your HSTP.

BE KIND TO YOUR BACTERIA. Give them a good home environment and they will work harder for you.

DON'T: Do not allow foreign objects, (eg. Nappy liners, disposable nappies, tampons, pads, condoms etc) to enter the system.

Pouring large quantities (1/2 litre or more) of beer, wine, milk or fruit juice into the system should be avoided.

8. SUITABLE PRODUCTS

All products should be used in moderation

DISWASHING LIQUIDS

Adds	Morning Fresh	Bushlands	rix
Palmolive	Sunlight	Greenapple	Kit
Finish for Dishwashers (limit quantity)			

SURFACE CLEANERS

Jiff Cream Cleaner	Spray & Wipe (limit quantity)
Nifty	Swipe
Shower Power	Windex

TOILET CLEANERS

Jiff Cream Cleaner or any cream cleaner – Toilet fresheners are not recommended.

FLOOR CLEANERS

Use hot water and detergent

LAUNDRY POWDERS AND LIQUIDS

Please look at the Independent Laundry Product Research which is on the next couple of pages.

Please Note:

The above list is not intended to promote or discredit the product of any Company. It is provided to assist in ensuring the satisfactory on-going operation of your system.

9. AVOIDABLE PRODUCTS

ANTIBACTERIAL SOLUTIONS

Antibiotics	Nappy Plus	Pineoclean	Blue Loo
Napisan	Preen Soaker	Bio-Ad	Nappy Soft
Tri-zyme	Bio Jo	Nappy Fresh	Toilet Duck
Milton Tablets	Nursil	Toilet Cleaners	

BLEACHES

Domestos	Lemon Bleach	White King	Budget Lemon
Zixo	Fiesta	Marvolinn	

OTHER CLEANERS

Ajax	ESP Herbal	Metho or Kero	Swipol
Aussa	Exit Mould	Flea, Tick Wash	
Handy Andy	Bubble Baths	Floor Cleaners	
Spirits/Alcohol	Draino	Caustic Oven Cleaners	
Green Choice	Down to Earth		

Please Note:

The above list is not intended to promote or discredit the product of any Company. It is provided to assist in ensuring the satisfactory on-going operation of your system.

10. SERVICING OF HOME SEWAGE TREATMENT PLANTS

Home sewage treatment plants are required by state law to be serviced on a quarterly basis. Your local Council also enforces these laws. Systems may only be serviced by registered licensed wastewater service personnel.

HSTP'S SHOULD BE SERVICED FOR MORE IMPORTANT REASONS THAN STATE LAW.

HSTP's are living organisms. There are trillions of living organisms that make up this complete ecology system. They need monitoring and periodic attention for the well being of your colony. Replacing a dead colony is not as simple as going to a pet store and buying a new gold fish. So your service person will tend and monitor your HSTP to give your system the best chances of supplying the environment with the cleanest and best quality water (effluent) that your system can produce.

Please ensure that you

1. Do not cover tanks with earth, cement, paver or any material
2. Do not prevent quick and easy access to any inspection openings.
3. Do not allow roof or surface water to enter any part of the system.

INDEPENDENT LAUNDRY PRODUCT RESEARCH

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Performance certified by Aust. Soil & Plant Analysis Council

LAUNDRY PRODUCTS RESEARCH

Laundry products were purchased by Lanfax Labs from supermarkets in Armidale, NSW and a number of boutique products were provided by manufacturers. A total of 41 liquids and 54 powders were tested by mixing each product at the manufacturer's recommended dose for either front loading or top loading automatic washing machines. The dose was calculated at the full cycle load, that is 75 L for front loaders and 150 L for top loaders. The full cycle accounts for the water used in the wash, spin, rinse, deep rinse and spin rinse cycle. The quantities of 75 L for front loaders and 150 L for top loaders were taken from averaged rates for those machines (Patterson, 2004).

Each sample was mixed with cold (20°C) deionised water (to replicate good quality rainwater). Where town water supplies are used, the values reported for sodium concentrations may increase because of sodium in the reticulated water—that will vary from location to location, usually higher in inland than coastal towns. Each sample was shaken for 30 minutes to replicate the washing action.

The concentrations of sodium and phosphorus (and other elements) were measured on the samples using Inductively Coupled Plasma (ICP) technology in accordance with current Good Laboratory Practices at Lanfax Labs.

Only sodium (g/wash) and phosphorus (mg/L) are reported in the graphs presented here. Additional information on this unique research may be obtained at: www.lanfaxlabs.com.au/laundry.htm

Other papers on laundry detergents can be found at: www.lanfaxlabs.com.au/publications.html

HOW TO READ THE GRAPHS

Each product is represented by two bars: the top bar (if present) shows the phosphorus concentration (mg/L); while the lower bar shows the sodium load (g/wash). The graph is arranged in ranked order of sodium load. Figure F1 is for 54 detergents at the front loader rate, Figure T1 is for 89 detergents at the top loader rate.

Sodium Load

For all on-site systems that apply the effluent by surface or subsurface application, the levels of sodium in the discharge are critical to long term absorption. Choose the product with the lowest sodium load (g/wash). Levels above 20 g/wash are likely to be detrimental to plants and the soil although plant tolerance and soil types will vary. The shorter the bar, the lower the load. When in doubt, choose the lower sodium load.

The detergents with long sodium bars (greater than 20 g/wash) should not be thrown onto your favourite garden as the sodium may be detrimental to the plants. High pH (see the website for pH data) is also detrimental to plants and soil. The pH of liquids (average pH 8) is generally lower than pH of powder detergents (average pH 10.5).

Phosphorus Concentration

The choice of a suitable level of phosphorus in the greywater (laundry water discharge) will depend upon the soil type and the use of the effluent. In some soils, phosphorus is not a real concern because of the natural ability of the soil to immobilize the phosphorus and limit its leaching from the disposal site. In other soils, phosphorus is likely to build up to high levels and leach from the soil. It is preferable to choose the lower phosphorus values as well as the low sodium values. The load of phosphorus for each product is available in the website data.

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This material may only be reproduced in full (three pages) for educational purposes. None of the graphs should be construed as an endorsement of one product over another, or that one product is superior or inferior to another. The data are presented as measurements of fact, ranked in order of sodium.

This research was funded by Lanfax Labs and was independent of any manufacturer or other organisation.

Soil survey and analytical assessments, landscape analysis and plant nutrient relationships
Independent research and commercial analytical laboratories. Environmental management consultants

The Lower The Sodium & Phosphorus The Better for the Environment

Figure F1 - FRONT LOADING MACHINE CYCLE

Full wash cycle: Front loader = 75 L

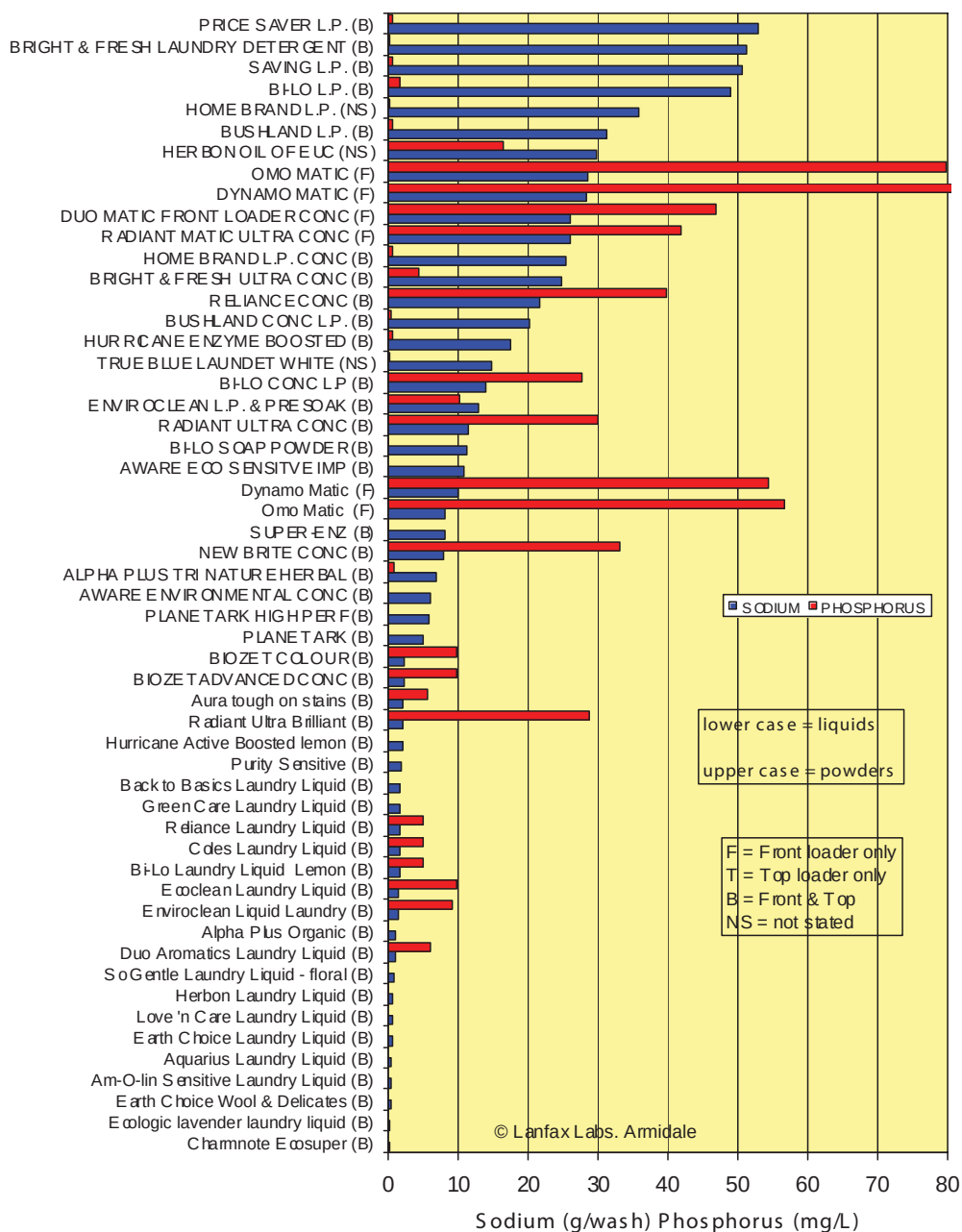
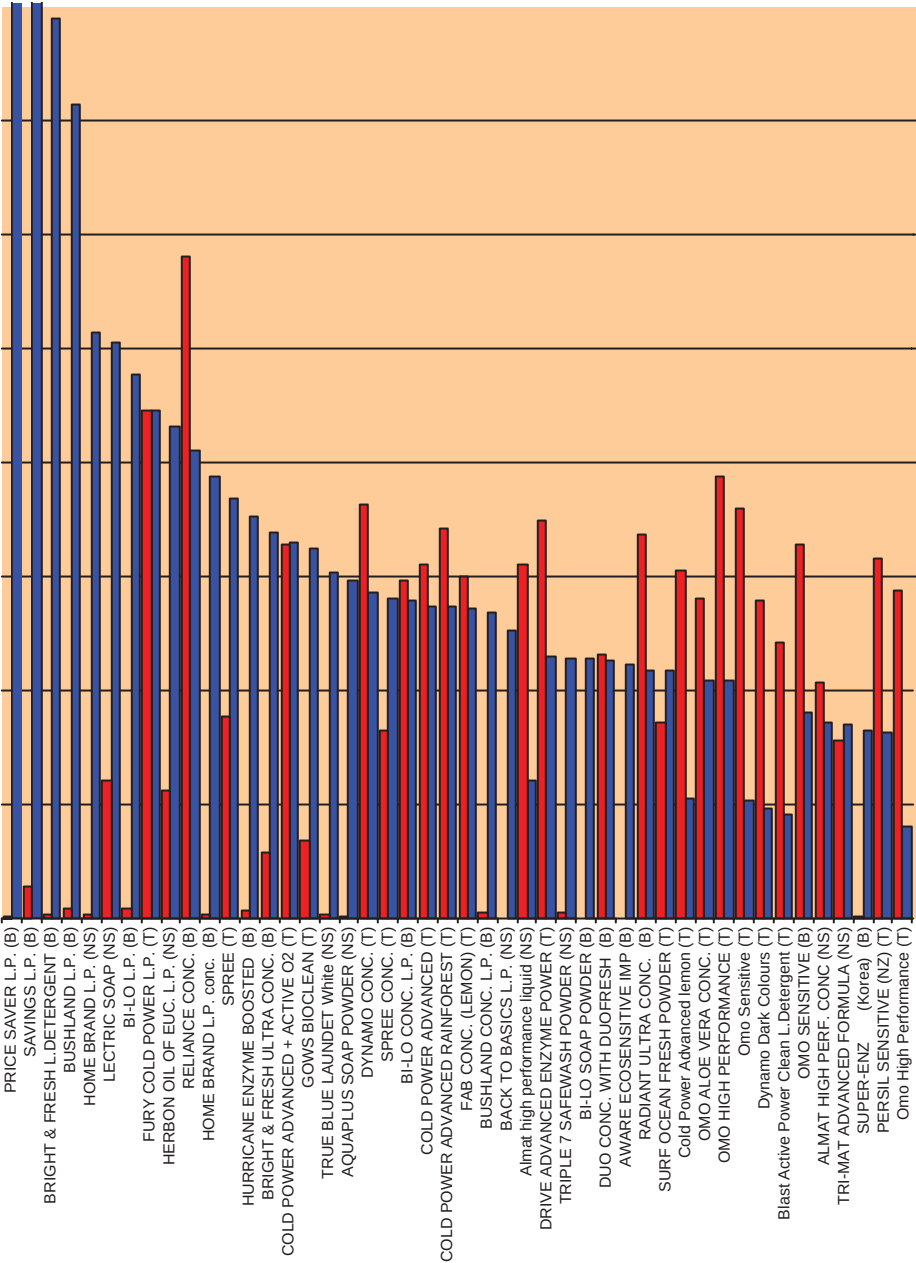
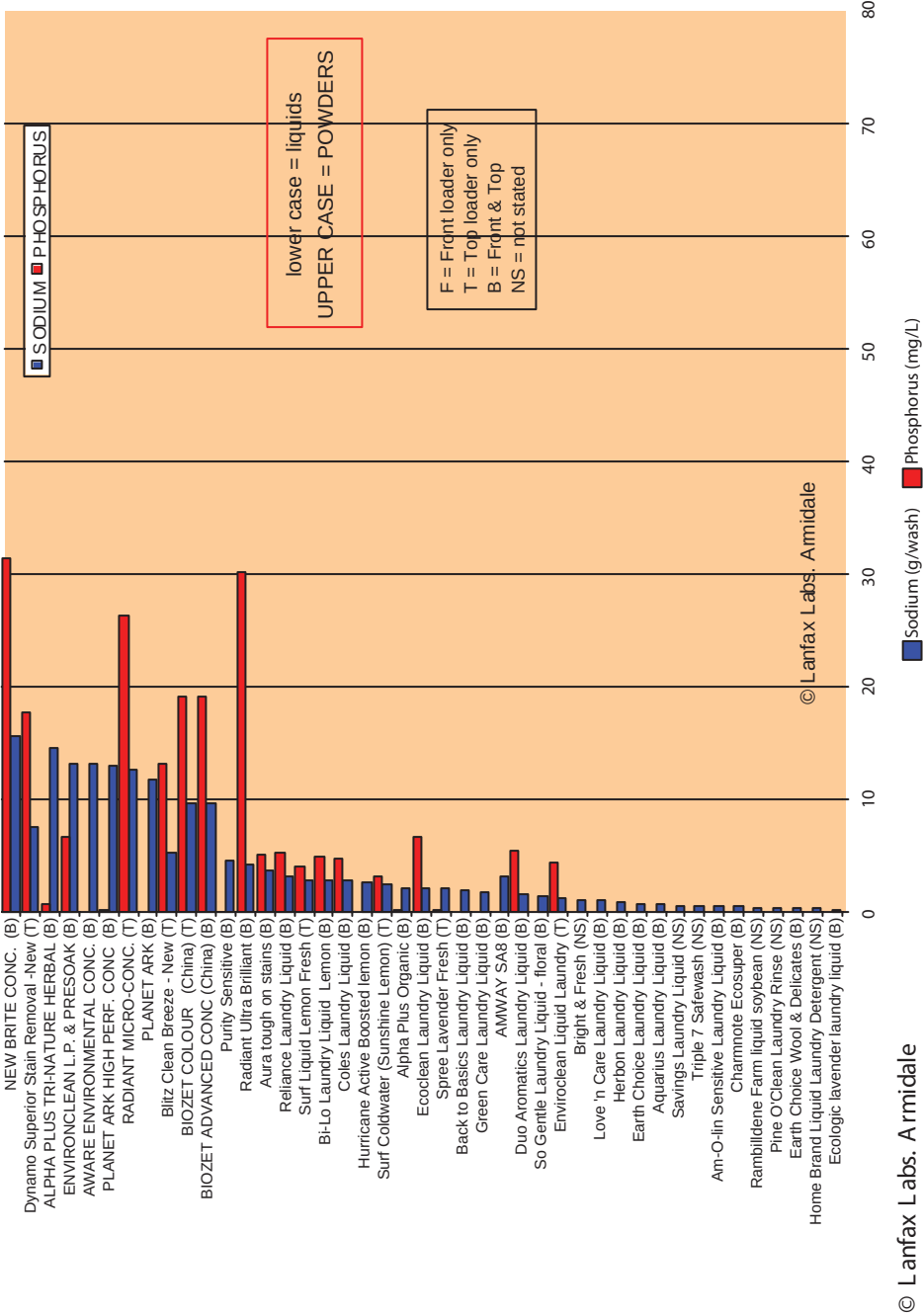


Figure T1 - TOP LOADING
Full wash cycle: Top

The Lower The Sodium & Phosphorus The Better for the Environment



MACHINE CYCLE
loader = 150 L



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11. WHO TO CONTACT FOR HELP

Basic things to check prior to phoning for help: (call out fees can be avoided by checking)

1. Do you have power at the system? Are there lights on in the control panel?
2. If your system has an above ground sprinkler line, make sure that the hose is not kinked.
If you have removable turf keys, make sure they are engaged properly.
PUSH DOWN HARD
3. Reset your system by turning the "off button off". This is located in the blue box on the top of the tank. "The control Panel". Turn the button back on. If your system still goes into alarm, ring your local service agent. If you don't know who this is ring our Head Office located on the Gold Coast on 07 5571 5122 for assistance. We have a 24hr assistance mobile no. 0408 989 662 if there is no answer leave a message LEAVE YOUR NUMBER and someone will call you back.

Never turn off the power to your HSTP. Even if you're going on holidays. The system could flood and Void your Warranty.

Limit your water usage if your system has failed. If possible remove your aerator to avoid flooding. Contact your local agent or service provider for assistance.

12. WARRANTY

Your **TAYLEX CLEARWATER™ 90** has been carefully inspected and tested prior to despatch and the mechanical and electrical components are guaranteed against defects in workmanship and materials for a period of 24 months.

The concrete components are guaranteed for a period of 15 years, both periods commencing from the date of commissioning by an authorised TAYLEX™ distributor. During this period any such defect will be rectified free of charge either by repair or replacement at the COMPANY'S option.

This guarantee does not cover damage caused by misuse, neglect, failure to keep the unit clean and functional, accident, use of incorrect power supply, or repair or attempts to repair by unauthorised personnel.

The benefits conferred by this warranty are in addition to all other rights and remedies in respect of the product while the consumer has under the Trade Practices Act and other legislations.

TO ENSURE YOUR WARRANTY IS VALID, THE FOLLOWING SHOULD BE OBSERVED:

- **DO NOT** use system or allow waste water to enter tanks before power services are available to the System and COMPANY has been notified of the date of occupancy of the property.
- **DO NOT** cover lids with soil
- **DO NOT** position concrete paths or driveways over System
- **DO NOT** allow surface water to enter System by incorrect falls and landscaping around System.
- Never turn the power off.

13. HOW DOES YOUR TAYLEX SYSTEM ACTUALLY WORK?

There are four stages to a Taylex treatment system.

- 1 Primary anaerobic digestion and sedimentation
- 2 Aerobic biological oxidation of primary effluent
- 3 Chlorination to destroy pathogens (bacteria-viruses)
- 4 Nutrient removals by way of transpiration and evaporation

In the first stage the breakdown of solids is performed by a bacteria known as anaerobic bacteria which thrives without oxygen and light within the primary treatment chamber (septic tank section). In time most of the solids will decompose or break up, others will not and these collect at the bottom of the tank as sludge.



In the second stage, effluent from the primary stage still contains dangerous substances which are attached to by aerobic bacteria. Aerobic bacteria requires oxygen for there continued existence. The bacteria grow on filter media which is aerated. Bacteria in this chamber attack the dangerous substances in the liquid uniting it with the oxygen to form harmless nitrates.

In stage three the effluent passes through over solid chlorine tables into an effluent storage chamber where any last bacteria and/or viruses are destroyed.

Stage four is accomplished by an automatic pump that distributes the effluent to the irrigated area. Irrigation areas vary from state to state and shire to shire.

Taylex Industries Pty. Ltd



HOME OWNERS INSTRUCTION

**Compact Series Controller
Model TI-CP-200**

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- 2. Operation**
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- 4. System Lights
and Indicators**
- 5. Controller Functions
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1. Introduction

Your new Taylex controller has a number of features that you need to understand in order to obtain the optimum efficiency from the water treatment system. The basic purpose of the controller is to control the functioning of the treatment system's AERATOR, and to activate an alarm when a fault condition occurs in the system.

2. Operation

IMPORTANT, PLEASE NOTE!

An ON/OFF rocker switch, located on the right hand side of the controller panel, turns the power on to the controller. It also provides power to the irrigation pump. If this switch is left off, the irrigation pump will remain inoperative and as a consequence the system could flood. Flooding will submerge the aerator motor and may cause damage. This is not covered under warranty. Therefore the switch must never be left off unless so advised by your distributor. It may, however, be turned off briefly when performing certain setup functions but must be switched back on at the conclusion of those functions.

Power On Test

When power is applied via the ON/OFF rocker switch the controller performs a self-diagnostic test and an alarm function test. During this testing the audible alarm will indicate the period of time that the controller is set to run each hour. Each beep equals 5 minutes. 12 beeps (60 minutes) should normally be heard. If 4 beeps are heard it means that the controller is set to run the aerator for 20 minutes in every hour, ie Holiday Mode. After automatic testing is completed, the operating cycle commences.

Operating Cycle

Your Taylex controller is designed to run automatically. The controller turns the aerator on and off each hour, for a time determined by the operating mode. Operating modes can be select by the user. See Section 5. All parts of the system are monitored by the controller. If an alarm condition occurs the system can be shut down for safety reasons. Normal operation is indicated on the front panel by GREEN lights.

Alarm Conditions

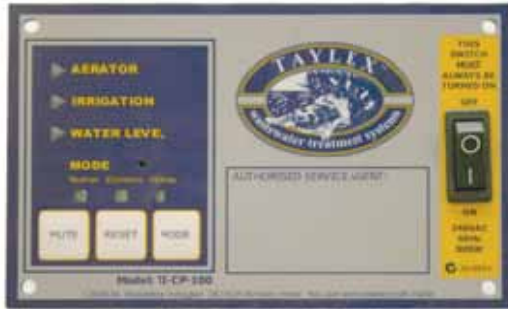
Alarm conditions are indicated by RED lights on the front panel. They are usually accompanied by an audible alarm, and a flashing external strobe light (if fitted). An alarm condition may occur during normal operation of the system or if the system develops a fault.

A typical example of an alarm condition in normal operation is when a sudden storm causes excess water to flow into the system. This results in the water level being too high. The controller will then shut down the aerator, and make the High Level Light RED. If an alarm condition occurs please contact your distributor for instructions.

Operating Tips

1. If a storm with heavy rain has caused the system to go into alarm, press MUTE , to silence the audible alarm, and wait until the sprinklers have stopped. Then try to RESET the panel.
2. After Mowing, ensure there are no kinks in hoses and the turf key is locked in (not just pushed in).

3. System Buttons



ON/OFF Rocker Switch

The ON/OFF switch is located on the right hand side of the control panel. It should be left ON at all times. This switch provides power to both the controller and the irrigation pump. This switch should remain ON at all times. **If this switch is left OFF, the system may flood and cause serious damage.**

Mute Button

The Mute button silences the audible alarm, if an alarm condition exists

Reset Button

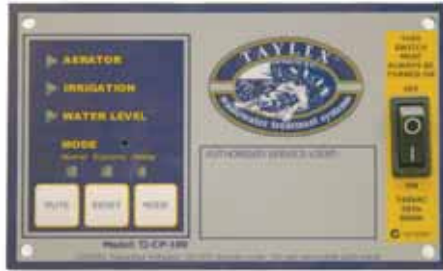
If an alarm condition exists, the Reset Button clears the alarm condition and restarts the system.

If no alarm condition exists, the Reset Button turns Standby mode ON/OFF (Turns the Aerator ON/OFF)

Mode Button

The Mode Button selects the system's operating mode (Normal or Holiday)

4. System Lights and Indicators



Aerator

- GREEN – The aerator is on
- RED – Undercurrent alarm. The aerator is either a) not connected, b) has a fault, or c) the system fuse is blown. Contact your distributor if this occurs
- OFF – The aerator is off.

Irrigation

- GREEN – The irrigation fuse is OK.
- RED – The irrigation fuse is blown. Contact your distributor if this occurs.

Water Level

- GREEN – Water level is OK.
- RED – The water level has reached a high level. Contact your distributor if this occurs. Note that this light will remain on until the system is restarted (by pressing the RESET button). **If you suspect water has entered the aerator, DO NOT reset the system. Doing so may cause serious damage to the aerator and may cause damage to the controller.**

Mode – Normal

- ON – Normal operating mode.
- FLASHING – Aerator in Standby Mode.

Mode – Holiday

- ON – Holiday mode.
- FLASHING – Aerator in Standby Mode.

Optional Strobe Lamp

5. Controller Functions and Troubleshooting

How to Silence an Alarm

Press the MUTE button to turn off the alarm sounder. Please note, this DOES NOT reset the controller. It simply silences the audible alarm. Visual alarms will still operate.

Resetting the Alarm

Press the RESET button to reset the alarm. Only 3 resets are allowed before an Automatic Lockout prevents further resets. If this occurs, contact your distributor. **If you suspect water has entered the aerator, DO NOT reset the system. Doing so may cause serious damage to the aerator and may cause damage to the controller.**

How to Reset the Automatic Lockout

To reset the automatic lockout, turn the Master ON/OFF rocker switch to OFF, wait two minutes, and turn it back to the ON position again. DO THIS ONLY when advised by your distributor.

Setting Holiday Mode

Holiday mode is easily set. First make sure that the system is running and no alarm conditions exist. Press the MODE button until the 'Holiday Mode' Light is ON. The system is now in Holiday Mode. The system can be changed back to Normal Operation Mode using the same procedure.

PLEASE NOTE: Unless authorised by Taylex, Holiday Mode should NEVER be used for normal operation. This will result in insufficiently treated water being discharged throughout the sprinkler system.

How to Stop or Restart the System (Standby Mode)

To stop the system (put into Standby Mode), first make sure that the system is running and no alarm conditions exist. Press the RESET button. A long beep should be heard, the Aerator light will turn off and either the Normal or Holiday mode lights should be flashing. This indicates that the system is in Standby Mode.

To restart the controller, press the RESET button a second time. The Normal or Holiday mode lights should be ON (not flashing).

Home Owners Manual - December 2005
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