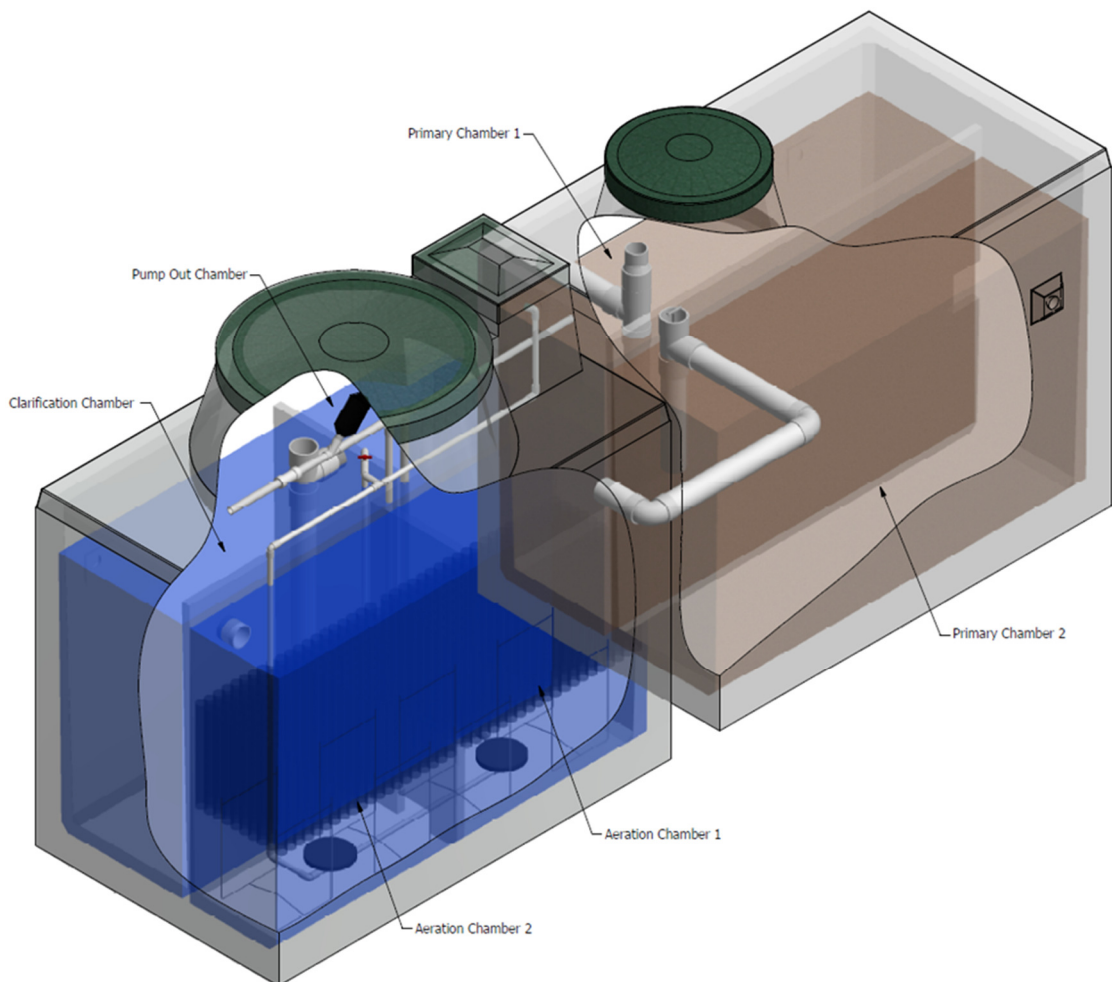


FINDLATER

CONSTRUCTION

Findlater

A2000 Aerated Wastewater System



Home Owner's Manual

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1 Introducing Findlater Construction

Findlater Construction are a New Zealand construction company based in Blenheim which have been in business since the late 1990's.

The company are actively involved in many facets of the construction industry e.g. civil and drainage works, buildings, plant hire, manufacture of precast concrete products, crushing and screening of aggregates etc.

Since the late 1990's Findlater Construction have been servicing and installing both domestic and commercial wastewater systems.

2 How Septic Tank Systems Work

Traditionally treating household wastewater, that is the kitchen, laundry and bathroom greywater, plus black water from toilets has been treated by a septic tank.

The septic tank, usually a one chamber tank, treats the wastewater by a process of settlement and digestion. Where in quiescent conditions the heavier matter sinks to the bottom forming sludge and the lighter matter floats to the surface to form a scum layer. Over time the sludge layer decomposes and some lighter decomposed matter floats to the surface to meld with the scum layer.

This partially treated wastewater flows from the septic tank through an outlet filter. Then piped to some form of effluent trench or bed, where it finally leaches into the surrounding ground and dissipates.

3 History of Findlater A2000 System

In 2010 Findlater Construction decided to manufacture its own residential wastewater system. With our experience servicing and installing all types of wastewater systems we had a number of criteria we were determined to incorporate into our new wastewater system.

We employed experienced wastewater process engineers, researched the latest developments and drew on our practical experience in designing the A2000 system, at this early stage the system was called the PA5x5.

After building prototypes and testing were completed we sent the A2000 system away for independent testing at OSET Trial 8, during 2012-3. The testing programme ran for a period of 9 months and the A2000 returned excellent results. At the completion of OSET Trial 8 we released the A2000 system to the market where it has performed above expectations.

These systems, including the tanks are manufactured in our Blenheim factory. Without compromise we have strived to build a robust, quality, large working volume residential wastewater system that will work well and stand the test of time.

We are committed to on-going development and in early 2016 released the A2000 – 2. This updated model has a number of small but important changes to improve the systems performance and improve its appearance aesthetically.

4 How the Findlater A2000 Wastewater System Works

The A2000 system is a secondary system consisting of 2 tanks, a primary and secondary tanks.

4.1 Primary Tank

The primary tank is divided into 2 chambers where anaerobic digestion occurs similarly to a septic tank. There is a filter on the outlet of this tank.

4.2 Secondary Tank

The secondary tank is divided into 7 chambers to provide 4 aeration, 2 clarification and 1 pump-out chamber.

Treated wastewater from the primary tank enters the secondary tank aeration chambers. Within the aeration chambers media is suspended and fine air diffusers are located under the media. The fine air mixes oxygen with the wastewater and an aerobic biological oxidation process occurs, resulting in naturally occurring microorganisms attached to the media consuming the oxygen and wastewater pollutants, which reduces the BOD₅, TSS and NH₃.

From the aeration chambers the wastewater flows into the clarification chambers where in quiescent conditions final polishing of the wastewater occurs with any solids settling to the bottom and lighter matter floating to the surface.

Treated wastewater then flows into the irrigation chamber where when it reaches a working level is pumped out through a 130 micron disc filter to be dispersed onto the surrounding land, usually through dripper line.

5 Maintaining a Healthy Wastewater System

Your Findlater A2000 wastewater system, like all wastewater systems and relies on microorganisms living within it to process the wastewater. These microorganisms can be killed if poisons or other harmful substances enter the system.

Attaching a kitchen waste disposal unit to **any** wastewater system, increases the amount of undissolved solids within the system by up to 50%. Some of which cannot be digested by the wastewater system.

The simple fact is, if you fit a waste disposal unit to your wastewater system it will require to be pumped out frequently.

To avoid this situation **care** and **common-sense** need to prevail.

There is a near-endless list of substances that should be kept out of wastewater systems, but in short anything that doesn't come out of your body (other than toilet paper) shouldn't go into your wastewater system, it is not a garbage container.

Please check the information printed on products you use to ensure they are biodegradable before emptying them down a sink.

Below is a list of some, but not all substances which may be harmful to your wastewater system.

A useful website for further information is www.lanfaxlabs.com.au

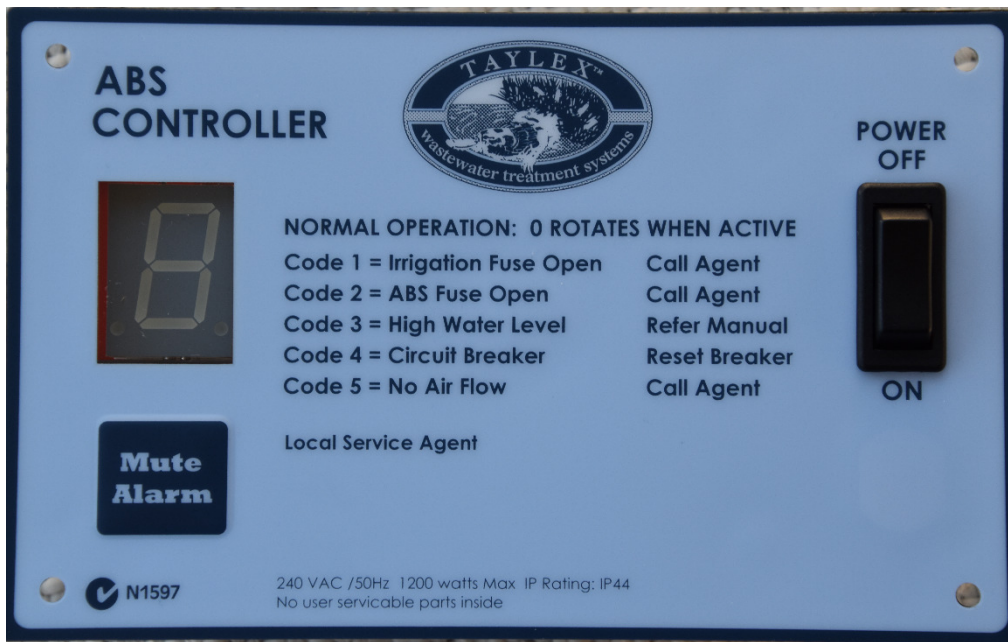
Harmful Substances

- Antibiotics, Napisan, Toilet Cleaners, Bleaches
- Cooking Oils, Greases, Fats, Excess Food Scraps, Soul Milk, Yogurt
- Bleaches, Whiteners, Nappy Liners, Condoms, Flushable Wipes
- Petrol, Oils, Petroleum Based Products, Paint thinners, Paints, Anti-Freeze, Brake Fluid
- Pesticides, Herbicides and Other Toxins
- Home Brew Kit Residues

6 Controller Operating Instructions

6.1 Introduction

The Taylex ABS Control Panel has a number of features that are explained in this section. The Control panel provides visual and audible indicators of both normal and fault conditions.



- A. POWER OFF/ON.** Once your Findlater A2000 system has been commissioned, this Switch must remain ON at all times (If it is turned OFF no treatment will take place and no alarms will function).
- B. DISPLAY.** This is a 9 digit display that describes normal and abnormal conditions by using a numerical code 1 – 9. See later in this document to understand their meaning.
- C. MUTE ALARM.** This is “soft touch” key that when pressed, silences that audible alarm for a period of 24 hours.
- D. STROBE LIGHT.** This is a high intensity red light, mounted on the top of the Control Panel, which flashes in unison with the audible alarm to make you aware of a fault condition

6.2 Normal Operation at Start-Up

Every time that the power is switched on to the Control Panel, the display (B) will count down from 9 to 1. The audible alarm will sound in unison with the numeric progression. This is a TEST MODE, at the completion of which, the display will show a **0** rotating to indicate that the system has tested out correctly. Unless a visual or audible alarm occurs, this is the normal operation display.

6.3 Low Occupancy Mode

This function should NOT be accessed by the Home Owner. If it is required, it will be activated by the Service Agent. Incorrect use of this mode may result in the system not operating correctly.

6.4 Visual Alarms – Strobe Light (E) and Display (B)

All faults are indicated by the number appearing on the display (B) and by the corresponding number of flashes of the strobe light (E). If two faults occur simultaneously, then two numbers will be displayed in sequence, the strobe will mimic these numbers and after a short interval, the display and alarm will repeat the sequence.

6.5 Audible Alarm and how to Silence it

The audible alarm mimics the number of flashes of the Strobe light and the visual display. To silence the audible alarm, press the SOFT TOUCH MUTE key (C) briefly once. This will silence the alarm for 24 hours, the DISPLAY (B) will now flash showing the fault code and indicating that the alarm has been muted. Should another fault occur while the alarm is muted, a new alarm will sound. If faults are not rectified, the alarm will sound again at the expiration of 24 hours as a reminder that the system is not operating correctly. The visual alarms cannot be turned off until all faults are rectified.

6.6 Alarm Codes

ALARM	MEANING	ACTION
Code 1	The irrigation fuse has opened	Call your Service Agent
Code 2	The ABS fuse has opened	Call your Service Agent
Code 3	The water level is high	See item 6.7
Code 4	The circuit breaker has tripped	Re-set circuit breaker
Code 5	No air flow	Call your Service Agent

6.7 High Water Level

A high water level may be self-correcting. It can be caused by the washing machine, bath and dish washer all discharging at the same time. If you think this may have occurred, then wait 15 minutes until the surge flow has passed and see if the alarm stops. If it does not stop then check the following:

- Is the 130 micron filter blocked on the outlet from the irrigation chamber?
- Is the irrigation line blocked or broken?
- Has the irrigation pump failed?

If you can rectify any of these problems yourself, then you will save the call out cost of your Service Provider. However, they are experts in this field and will assist you whenever you need their help. Call them whenever you need their assistance or you are in doubt about what you need to do. They will happily assist you over the phone.

7 Maintenance

The Findlater A2000 wastewater system like all secondary type systems requires regular servicing to ensure it runs reliably and efficiently.

Some local regulatory authorities/councils require the owner of a secondary type wastewater system to have a service contract with a recognised service provider.

When one of our factory trained servicemen services a wastewater system they work through a detailed check sheet requiring them to clean, adjust and check parts of the system.

A copy of the check sheet along with the invoice for the service is sent to the property owner, another is sent to the local council and we retain one for our records.

We recommend six monthly servicing under normal usage and a maximum of twelve monthly servicing for very lightly loaded systems.

All wastewater systems require de-sludging/emptying of tanks as they sludge depth increases within the tanks. This will vary depending on usage.

8 Installation and Commissioning

Persons installing Findlater A2000 system tanks should read our installation manual to ensure they are installed correctly.

When we install a system we commission it by carrying out a number of checks and issue a commissioning certificate to verify this.

9 Warranty

Every Findlater A2000 wastewater system is covered by a full manufacturer's warranty.

This is:

15 years warranty on the precast concrete tank

12 months warranty on electrical and mechanical parts

The A2000 system has been designed to years of reliable trouble free service. Please observe the following points to ensure the warranty is valid.

- Ensure the system is serviced by a Findlater Construction approved Service Agent.
- Do not operate the system until it has power on and has been commissioned.
- Do not cover the lid/access points with soil.
- Do not let the area above the tanks become over grown with foliage.
- The ground must be shaped around the tanks so surface water cannot enter the tank access points.

Please contact us to answer any questions you have relating to the warranty.

10 Who to Contact For Help

To avoid unnecessary call out fees, check these items before you call for assistance:

- a) Is the power turned ON at the system?
- b) Are there lights ON in the panel face?
- c) Has the Safety Switch, not related to the system, tripped in your switchboard?
- d) Is the 130 micron irrigation chamber filter blocked?

If you have an issue, you can try to reset your system with the following sequence:

- a) Turn the system OFF using the control panel ON/OFF switch on the front the panel. This will reset the program.
- b) Turn the system ON using the ON/OFF switch.
- c) If the system starts and operates correctly, observe it over the next few days for another ALARM event and discuss it with your Service Agent.
- d) If the system goes back into the ALARM mode, call your Service Agent and limit your water usage until the fault is rectified.

You can find your closet Service Agent on our website or call us

office@findlaterconstruction.co.nz

Or

Findlater Construction

03 579 2284