



## Biolytix® BioPod Wastewater Treatment System

# Owner's Manual

September 2011

### Important

Your Biolytix® BioPod must be maintained and repaired by a Biolytix-Accredited Technician.

If your BioPod alarm sounds, press the mute button on your alarm panel and contact your local Biolytix® Service Agent. Biolytix Customer Support will also be able to assist on **0800 700 818** (New Zealand).

For further information, please refer to the section Maintenance on page 6.



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## First Things First

Congratulations on choosing a Biolytix® BioPod wastewater treatment system. The BioPod uses patented biological filtration technology relying on a diverse ecosystem of micro- and macro-organisms such as earthworms to provide energy-efficient treatment of household wastewater to a high standard.

Please take your time to read this Manual carefully. It is your responsibility to operate your BioPod as set out in this Manual. Not doing so may void your warranty. If you have questions or would like further information, please contact our Customer Support on 0800 700 818 (New Zealand).

This Manual applies to the BF6 BioPod model. Its most recent version can be downloaded from [www.biolytix.com](http://www.biolytix.com). As Biolytix may sporadically update this Manual, for example when regulations change, we recommend you check **annually**, whether a new version is available and download it. If you prefer, you can order a hardcopy instead, when you next arrange annual servicing of your system.

**Important: If you are letting your home, you must ensure that your tenants receive and read a copy of this Manual. Biolytix recommend that you make this an explicit condition in the tenancy agreement.**

## Compliance

The Biolytix® BioPod has been tested and certified in Australia as being compliant with the Australia & New Zealand Standard AS/NZS 1546.3:2008. The BF6 has also partaken in the On-site Effluent Treatment (OSET) trial run by Environment Bay of Plenty at the Rotorua Wastewater Treatment Plant. In the trial the BF6 produced treated effluent of better than a secondary treatment level which is the standard required by most New Zealand Councils for on-site wastewater treatment and disposal. The BF6 is also approved by the Auckland Regional Council (now Auckland Council) for use as a secondary treatment system in the Auckland area.

To ensure continued compliance after commissioning, it is important that you operate and maintain your system as described in this Manual.

## Operation

Your BioPod is designed to treat household wastewater. To ensure ongoing compliance with regulations and to avoid costly repairs, a couple of simple rules need to be followed. This section explains how to use your BioPod and what may and may not go into it.

### Maximum Wastewater Volume

Your BioPod is connected to some form of soil dispersal system. Usually, this is a subsurface drip irrigation system, but other systems, such as soil absorption trenches, may also be used. The maximum volume of wastewater your BioPod can treat is limited by both the capacity of your dispersal system and the capacity of the Bio-Pod (1600 litres per day) whichever is the lesser. The capacity of your dispersal system is normally stated in your Geotechnical or Wastewater Engineer's report and in your Consent. If you cannot find this information, please contact the consultant who compiled this report of the Council who issued your Consent.

You must avoid overloading your treatment system at any time. As a rule of thumb, one person generates approximately 150 L of wastewater per day. So, if your dispersal system is designed for 6 people, you must not discharge more than 900 L per day. Peak wastewater volumes must not exceed 600 L per hour. If you operate your system close to its capacity limit, or there is a risk you may be exceeding this limit, we recommend the following measures:

- Installation of water-conservation fittings and dual-flush toilets.
- Taking showers instead of baths.

- Only washing clothes when there is a full load; and spreading out your washing over the week instead of doing all in one day.
- Only using the dishwasher when there is a full load.

It is important to avoid the following:

- *Frequent large gatherings and parties:* Large numbers of visitors can significantly increase the volume of wastewater. After your visitors have left, please give your BioPod a few days to recover. Ensure that you do not exceed the capacity of your dispersal system.
- *Taps left running:* One tap left running overnight can waste over 10,000 litres. Please ensure this does not occur. Consider installing water-saving taps. They only use about 20% of the water of conventional taps.
- *Leaking taps and toilet flush mechanisms:* These can waste thousands of litres of water every day and easily overload your BioPod. Please check for leaks frequently and arrange for repairs to be done promptly.
- *Frequent emptying of tubs and spa baths:* These can contain large volumes of water. Check the volumes of all tubs and spas installed in your house. If there are several, we strongly recommend that you do not use all of them at the same time. Large volumes of water should be drained in stages. For example, a large spa could be drained over three days, discharging a third of its volume each day. Give your BioPod a few days to recover after discharging large volumes of water into it.
- *Emptying or backwashing of swimming or spa pools:* Your BioPod is not designed to cope with the resulting large volumes of water. Also, the disinfectants contained in the water of pools can negatively affect the biological treatment process of the BioPod.
- *Illegal connections:* Do not connect downpipes, drainage pipes etc. to your BioPod. This is illegal and will result in overloading.
- *Stormwater ingress:* Avoid landscaping around your BioPod that results in stormwater runoff flowing over its lid or the system getting inundated. The periphery of your BioPod must always be well drained. Problems with your BioPod resulting from unsuitable landscaping and insufficient drainage are not covered by the Biolytix warranty.
- *Power turned off:* Ensure that power to your BioPod is always on. If power is turned off, wastewater will not get pumped out. This can result in environmental hazards and costly repairs.

<p><b>Important: Please ensure that all members of your household adhere to these points.</b></p>
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## Intermittent Use

This section only applies if nobody is living in your house for several months each year – for example, if your BioPod is installed at a holiday home. Your BioPod can typically tolerate dry periods of more than 12 months without worm re-inoculation and without performance deterioration. However we recommend that if your BioPod is not used for more than 6 months you organise for a maintenance inspection with your local Biolytix technician during which the level of worm activity can be assessed and re-inoculation with earthworms organised if required. If you return to your home at the same time each year, you may be able to combine this with the annual service (see below for more information on servicing). Please contact Biolytix Customer Support for further advice.

## Wastewater Constituents

Your BioPod uses a highly effective biological process to treat normal household wastewater, which includes wastewater from toilets, bathrooms, the laundry, kitchens, and dishwashing machines. The organisms living in it are resilient and can cope with conventional detergents and other household chemicals, if they are used reasonably and according to manufacturer instructions.

Pharmaceuticals do not pose a problem, as long as they are not disposed of directly into the system (e.g. do not flush unused drugs down the toilet, or pour them down the sink etc.). To ensure a long life of your system, we recommend the following simple rules:

- Use standard domestic cleaning products as sold by major retailers. Eco-friendly products are preferable.

- Choose detergents low in phosphorus and sodium. The Lanfax Laboratories investigated the phosphorus and sodium content of a wide range of laundry detergents. Their findings are published at <http://www.lanfaxlabs.com.au>
- Use biodegradable soaps.
- Wipe and bin your fats and frying oils rather than rinsing them down the drain.

Harsh chemicals and non-biodegradable materials can negatively affect your BioPod and result in expensive repairs. Specifically, you must ensure that none of the following pollutants enter your BioPod:

#### Chemicals:

- Bleach (small quantities for laundering and products similar to Napisan are acceptable)
- Chlorine and other harsh disinfectants
- Caustic soda (NaOH) and other highly alkaline (pH > 9.5) or acidic (pH < 4) chemicals
- Drano and other drain cleaners
- Commercial cleaning products
- Paints and solvents
- Chemicals that are not typically used in a household
- Pesticides and herbicides
- Other toxic substances
- Fats, oils and grease (except from normal kitchen use)

#### Non-biodegradable materials:

- Disposable nappies and nappy liners
- Baby wipes and other wipes
- Condoms
- Rags
- Other sanitary products that are not biodegradable
- Large amounts of animal hair (this could, for example, be a problem, if you are breeding pets)

Also, you must not dump any waste, including food scraps and grass clippings, directly into your BioPod via its access hatch.

**Important: Please ensure that all members of your household are aware of what may and may not be disposed of into your BioPod.**

## Kitchen Waste

Your BioPod can treat food waste (kitchen scraps) processed through an in-sink garbage grinder such as an In-Sink-Erator. The daily limit is 250 g per person per day, which must not include more than 50g of meat and bones per day (see section Operation above for information on the maximum number of persons your system can handle). Note that some Councils do not allow the use of in-sink garbage grinders where on-site wastewater treatment is proposed.

## Maintenance

A malfunctioning treatment system can lead to serious problems with the dispersal system and vice versa. Therefore, to ensure compliant and reliable performance, both your BioPod and your dispersal system must be maintained correctly.

## Servicing

Biolytix requires you to have your BioPod serviced annually by a Biolytix-accredited technician. This is very important to ensure its ongoing good performance and compliance with regulations. Insufficient maintenance can result in severe damage to the BioPod and to the dispersal system, which may require expensive repairs. Of course, a complete service record will also increase the re-sale value of your home.

Note that in a few jurisdictions service intervals shorter than 12 months and other special conditions apply. These are stipulated in the approval or consent documentation issued by your regulators. It is very important that you are aware of and observe all regulatory requirements.

Using a Biolytix-accredited technician ensures that your BioPod is maintained correctly and in accordance with our Service Manual. This includes checking and flushing your dispersal system. Note that repairs of your dispersal system and additional maintenance costs are not included in the service fee and will be charged extra, if required.

While Biolytix encourages best practice and carefully selects its service agents, mistakes and omissions can happen. We therefore recommend that, after your system has been serviced, you check the following:

- Is the power to your BioPod turned on? You can check this by simply placing your hand on the lid of your BioPod near the control box. When you do so, you should be able to distinctly feel the vibration of the air pump.
- Has the service technician replaced the tank access and control box lids and fastened all screws?
- Are there any other indications of unsatisfactory workmanship?

You must never attempt to maintain or repair your BioPod or its dispersal system yourself or otherwise tamper with them. Not only would this void its warranty, tampering with your system could also result in serious environmental and health hazards.

## Daily Up-keep

The following recommendations will ensure that your BioPod stays in good condition and provides safe treatment of your wastewater:

- Protect both the BioPod and the dispersal system from vehicle traffic, including livestock. Do not drive over your BioPod with ride-on mowers.
- Avoid digging where your dispersal system is located. Doing so may damage its pipes.
- The dispersal area is not a suitable play area for children and access should be restricted. It should be designed to deter frequent pedestrian traffic.
- Deep-rooting trees or shrubs must not be grown in or near your BioPod and dispersal area. Contact your local council for advice on suitable plants.
- Where installed, surface water diversion drains and mounds upslope of and around the BioPod and the dispersal system must be kept clean. They protect your system from stormwater runoff and must not be altered or removed.
- Landscaping must not result in stormwater pooling on or around the BioPod or the dispersal system.
- A thin layer of coarse mulch spread over the tank lid helps your BioPod blend into your landscaping and keeps it cool in hot weather. However, you must not cover the access hatch in the tank lid, and the mulch must not be deeper than 100 mm around the edge of the lid. Also, it must not impair drainage of stormwater runoff away from the tank.

- Dispersal areas should be mowed and plants maintained regularly
- Landscaping near or around the BioPod must not impair access.

You are responsible for keeping your BioPod in good working order. If you encounter any of the following scenarios, please call Biolytix Customer Support as soon as possible:

- The dispersal area is wet or soggy with wastewater ponding on the surface.
- You notice a strong smell of faeces, rotten eggs, or other unusual odours coming directly from the BioPod.
- Your toilets drain slowly.
- There are loud and unusual noises from the BioPod.
- If you have any other reason to believe your system is malfunctioning.

**Important: It is your responsibility to make a reasonable effort to contact Biolytix promptly, when there is a problem. If a system that requires repairs and it is not attended to promptly, it will usually deteriorate further rapidly. If this happens and you are responsible for the delays, you could be charged for the resulting extra costs, even if your BioPod is still under warranty.**

## Alarms

Your system is equipped with an audio/visual alarm usually installed on a wall inside your house. If an audio/visual alarm occurs, stop it by pressing the 'Mute' button on the alarm panel then call your local service agent. The local service agent will decide, whether a maintenance visit is required.

**Important: Audio/visual alarm systems do not have battery backup. During a power failure or if the power to your BioPod is turned off, these alarms will not work. It is therefore important that you periodically check that power to your system is turned on. You can do this by simply placing your hand on the lid of your BioPod near the control box. When you do so, you should be able to distinctly feel the vibration of the air pump. You should do this check after power outages and on completion of electrical work in your home.**

# Warranties

## Manufacturer's Warranty

Your BioPod is covered by the Biolytix Manufacturer's Warranty. The terms and conditions of this warranty have been provided to you together with this Manual. They can also be downloaded from [www.biolytix.com](http://www.biolytix.com).

## BioPod Installation

Your BioPod installation is not covered by the Biolytix Manufacturer's Warranty. However, the installer will normally guarantee their workmanship. Your contract with your installer should contain details of warranties provided.

Repairs to your BioPod that are the consequence of an installation that was not carried out to our specifications or that was not carried out by an installer accredited by us are not covered by the Biolytix Manufacturer's Warranty. We require all BioPod's to be installed by an Biolytix accredited installer.

## Soil Dispersal Systems

If your BioPod is connected to an irrigation system, soil absorption trenches, or any other form of soil dispersal system, the following conditions apply:

- Your dispersal system is not covered by the Biolytix Manufacturer's Warranty.
- However, the installer of your dispersal system will normally guarantee their workmanship. Your contract with your installer should contain details of warranties provided.
- Repairs to your BioPod that are the consequence of a dispersal system that was not designed and installed correctly are not covered by the Biolytix Manufacturer's Warranty.
- Do not tamper with or change the configuration of your dispersal system. Doing so will void your Biolytix Manufacturer's Warranty.
- If you purchased irrigation equipment from Biolytix, this equipment is warranted by its manufacturers according to their terms and conditions. Their warranty does not cover installation.

# Contacts

## New Zealand

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