



# **FILTERPod**

**WASTEWATER TREATMENT SYSTEM**



Electricity Required	<b>NO</b>
Primary Tank	<b>YES</b>
Average Desludge Interval	<b>12 Months</b>
Average Service Interval	<b>12 Months</b>
Tank Warranty	<b>10 Years</b>

Your Local Distributor is:

# ADVANTAGES

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- Zero electricity treatment process
- Sustainable wastewater treatment system
- No machinery required for the treatment process
- Lowest running costs of any wastewater treatment system
- Long emptying interval
- Lowest carbon footprint of any system
- Excellent effluent quality
- Passive process with extremely low failure rate
- Able to handle absence periods (holidays)
- Fast start-up period
- Ability to handle intermittent loadings (peak and low flows) i.e. holiday homes.
- Compact and underground installation Suitable for high water table sites
- Low visual footprint
- Easy to install
- Low maintenance
- Noise free

## INTRODUCTION

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**FilterPod is a non-electric sewage treatment plant.**

It is capable of receiving wastewater from properties not connected to mains drainage and processing it so that only a clear effluent is discharged into the environment.

It is a two tank system.  
The first tank is the Primary Tank which separates solid and liquid waste. In many cases an

existing septic tank can be utilised as the Primary Tank.

FilterPod is the second tank and converts the liquid waste into clean and clear effluent.

The FilterPod has been tested and is certified to **EN 12566-3**.

## OUR FILTER TECHNOLOGY

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The most plentiful supply of oxygen is in the air itself. At 10°C, air contains around 289 mg/L oxygen, whereas the greatest amount of dissolved oxygen possible in water at 10°C is 11 mg/L. At 10°C there is 2,566% more oxygen in air than is dissolved in water.

This is the key to why our non-electric sewage treatment plants are so efficient – they treat wastewater in air where there is more available oxygen for the pollutant digesting microbes.

There can only ever be a limited amount of oxygen in water. Conventional

sewage treatment plants are full of water and therefore require a large amount of electricity to force oxygen into the water. This is usually done via the use of air blowers.

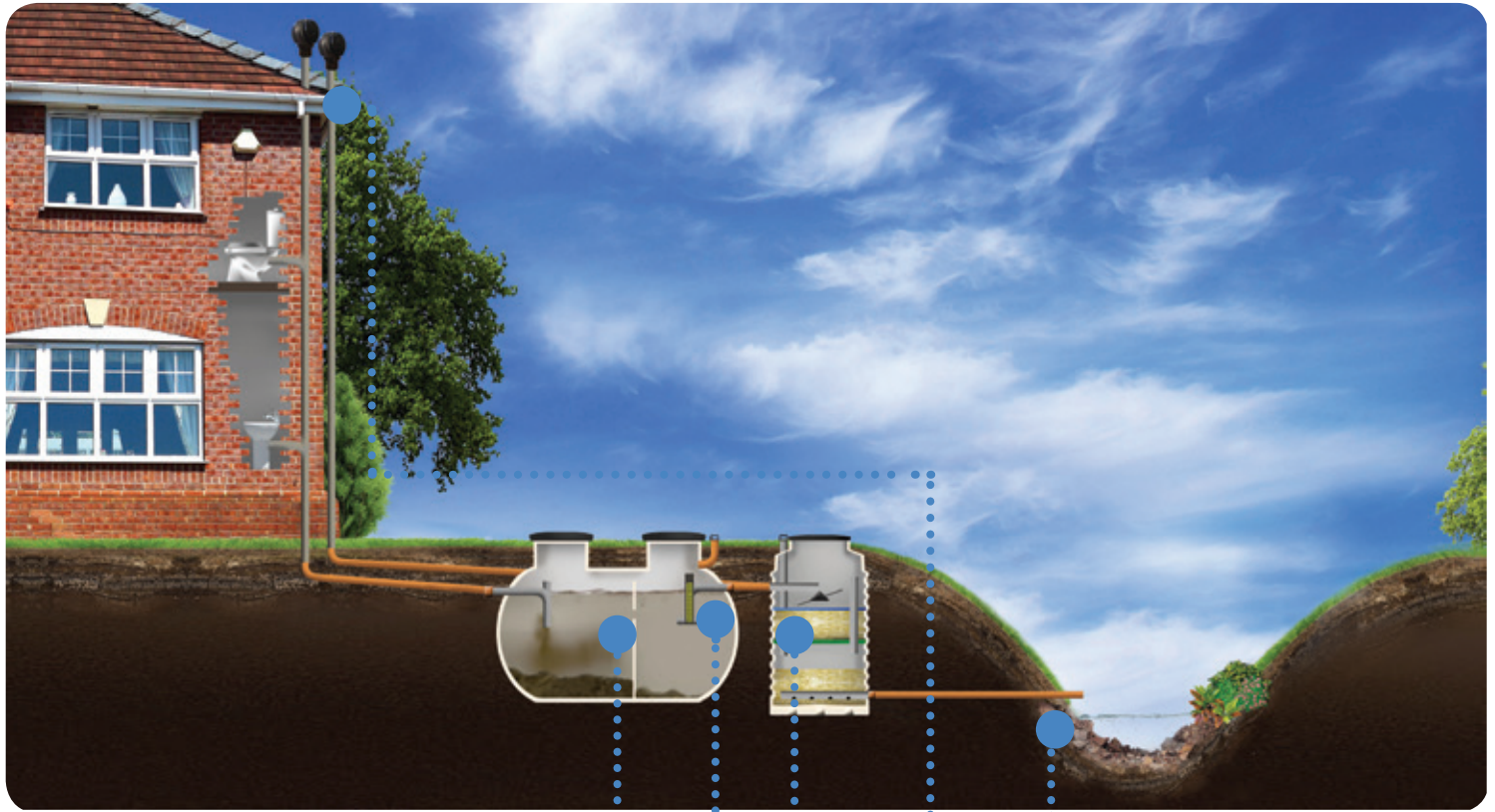
In nature, waste is broken down in the soil not in water. This is because air is able to permeate into the soil bringing with it the essential oxygen. Soil is aerobic, moist and has a large surface area (to act as a home for bacteria) making it an excellent environment for the breakdown of waste. FilterPod treats waste in the same way as nature. The unique RDX filter media has a huge surface area and is highly

# OUR FILTER TECHNOLOGY (continued)

absorbent to both air and water – just like soil. This creates an excellent environment for the bacteria which then feed off the pollutants in the wastewater. As the bacteria remove the pollutants the wastewater is cleaned.

To ensure a constant supply of oxygen in the RDX media FilterPod uses naturally created air drafts to continually draw air through the system.

## Description of How the System Works



Tank cross sections for graphical representation only

1. Wastewater from the building enters the Primary Tank. Here solids and liquids are separated. The solids are retained and the liquid effluent flows into the FilterPod.

2. A filter in the outlet of the Primary Tank screens the wastewater preventing solids entering the FilterPod.

3. Dirty liquid effluent is distributed over the RDX media in the FilterPod.

4. The tall air outlet vent, aided by the wind fan, creates a natural draught that continuously pulls air through the tank.

5. Aerobic bacteria colonise the RDX media and digest the pollutants in the effluent. Once the effluent reaches the bottom of the tank it is clear and odourless and is discharged into the environment.

### Fan Box

On a small minority of sites it may be impossible to install the required air outlet vent and in these circumstances a Fan Box may be fitted.

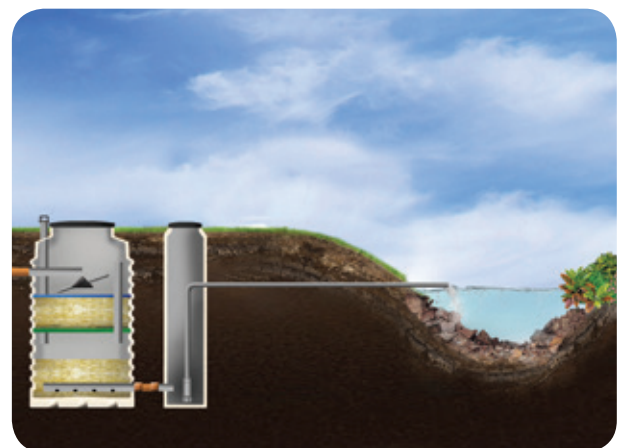
The Fan Box uses a very low wattage fan to pull air through the FilterPod.

### Effluent Discharge

The standard system discharges under gravity to either a drainage field or watercourse.

If required a pump station can be installed after the filter to raise the level of the discharge.

The pump can be solar powered on many sites.





# PERFORMANCE

FilterPod has been designed to meet the UK Royal Commission Standard for effluent of:

BOD <sub>5</sub>	20 mg / L
Suspended Solids	30 mg / L
Ammonia	20 mg / L

During independent testing FilterPod achieved an **average** effluent quality that was almost twice as clean as the Royal Commission Standard:

BOD <sub>5</sub>	10 mg / L
Suspended Solids	12 mg / L
Ammonia	11 mg / L

## TECHNICAL DETAILS

### FilterPod Tank

Model	PE	Diameter (m)	Height (m)	In Ground Depth (m)	Inlet Invert (m)	Outlet Invert (m)
FilterPod_6	6	1.150	2.050	2.000	0.600	1.800

### Primary Tank

Model	PE	Diameter (m)	Length (m)	Height (m)	Inlet Invert (m)	Outlet Invert (m)
PT_2.2	6	1.370	2.125	1.750	0.500	0.550

## INSTALLATION

FilterPod is easy to install and is suitable for high water table sites.

When installed on dry sites there is no requirement for a concrete backfill.

When installing the FilterPod on wet sites a partial concrete backfill is required and a Bracing Kit can be supplied.

WTE recommend that for peace of mind the FilterPod is installed by trained contractors. Please contact our office for details on your nearest trained installer.

## MAINTENANCE

The FilterPod sewage treatment plant requires servicing every twelve months.

The servicing is done by trained service engineers to ensure that the system functions correctly giving the owner piece of mind.

Please contact our service partner **Sapphire Environmental** (+44 (0) 1757 289 681) for details on servicing.

## ADDITIONAL ITEMS

**Sample Chamber** - All sewage treatment plants require a sample chamber to be installed after the system.

**Pump Station** - For sites that cannot discharge under gravity a pump station will be required. It can also act as a sample chamber.

**High Level Alarm** - This will alert the owner to a pump failure. This is only required for systems with a pump station.