

## Features and Benefits of the SF6 Sewage Treatment System

- Irish Agrément Certified Product
- Low Energy Consumption
- Low Maintenance Requirements
- Lockable Inspection Cover
- Ease of Installation
- Silent Operation
- Environmentally Friendly
- Quality After Sales Service
- Excellent Durability
- Unobtrusive Under Ground level

### Design

The Biotech SF6 Wastewater Treatment System has been designed for use in the treatment of domestic wastewater when installed in accordance with the recommendations of BS 6297: 1983 and the EPA wastewater treatment manual. The Quality of effluent from the Biotech SF6 wastewater Treatment system exceeds that of the effluent from a septic tank and can meet the Building Regulation requirements. The Biotech SF6 wastewater treatment system utilises a Biological Aeration Filter process to treat domestic wastewater from dwellings with a population equivalent of up to six persons. The tank is formed in 2 halves from glass reinforced plastic.

### Primary

Within the unit are three chambers that process the raw sewage. The first of these chambers is the primary settlement tank. This provides initial settlement and separation of the solids. The solids form sludge at the bottom of the tank and the lighter debris forms a crust on the surface of the liquid. The sludge and crust should be removed periodically in accordance with the maintenance schedule. The liquid that is contained between the sludge and the surface crust passes forward for treatment to the submerged aerated filter.

### Secondary

This part of the unit is the treatment zone. It contains a set of inactive modular media blocks that provide a large surface area on which naturally occurring bacteria can develop. The bacteria require oxygen, which is supplied by a linear low-pressure compressor via diffusers beneath the media bed.

### Final

As the bacteria in the submerged aerated filter die off, they fall away from the media and pass forward to the final settlement tank, further reducing the level of suspended solids in the final effluent. The curved bottom of the tank ensures a concentrated settlement of the dead bacteria. The unit incorporates a returning sludge recycle system that transfers any remaining sludge through to the primary settlement tank. It is this innovative design feature that enables the unit to meet the strictest requirements and operate at maximum efficiency.

## Installation

Since the SF6 is an integral unit, installation is a straight forward operation. Each unit supplied by Biotech comes complete with full installation instructions. Percolation test results are needed to design the irrigation area for the system to operate at optimum performance and keep the emissions within the accepted guidelines.

Parameter	Value
Treatment Capacity	2480 litres
Primary treatment zone	1390 litres
Secondary treatment zone	460 litres
Final settlement zone	630 litres
Design population	6 PE
Overall width	1535 mm
Overall length	2160 mm
Total Height	1750 mm
Weight (including parts)	290 Kg
Design flow rate	1200 litres/day
BOD load	0.36 Kg/day
Inlet invert to base	1280 mm
Outlet invert to base	1180 mm
Ground level to inlet invert level	450 mm
Ground level to outlet invert level	550 mm
Air blower motor rating	47 watts (minimum)
De-sludge period	1 year minimum
Thickness	5.0 mm minimum
Retention time (design case)	49 hours

	Unit	Irrigation Area
Dwelling served	7'	10'
Adjacent dwelling	7'	10'
Wall	3'	3'
Road	4'	4'
Site boundary	3'	3'
Potable Water source	10'	30-100'
Water course	10'	10'
Lake	50'	50'

## Typical layout for irrigation trenches

Effluent from the SF6 treatment system should be discharged to a percolation area subject to satisfactory results from site suitability assessment and in accordance with local authority conditions.

For effective irrigation, 110mm diameter perforated smooth wall pipe should only be used for the effluent dispersal. The maximum length permitted for each run of pipe in the system should not exceed 20 metres.

To ensure even effluent distribution these pipes should be laid in trenches parallel to each other, with a minimum spacing of two metres of undisturbed soil between each trench; or 2.45m between trench centres. It is advised that the trenches should also have a minimum fall of 1:200 away from the outlet of the system.

The pipes should be at least 1.2m/600mm above the highest water table/fissured rock strata.

## Delivery

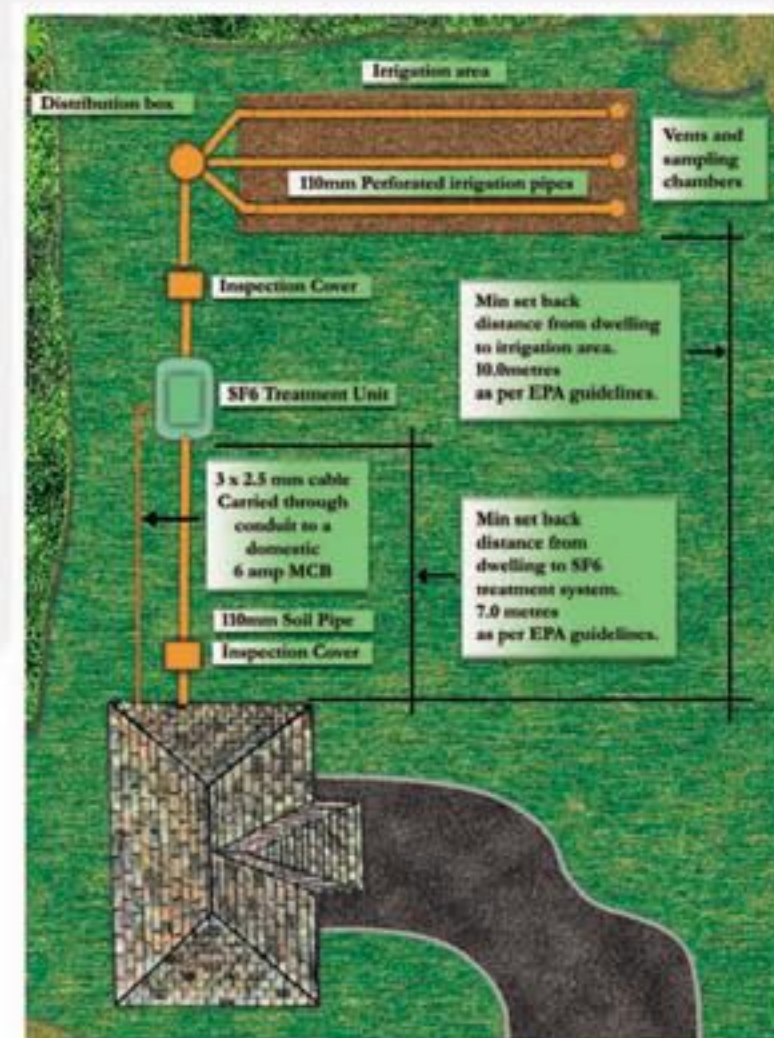
The unit is delivered to the site fully assembled. It shall be lifted with certified slings in accordance with Biotech instructions.

## Commissioning

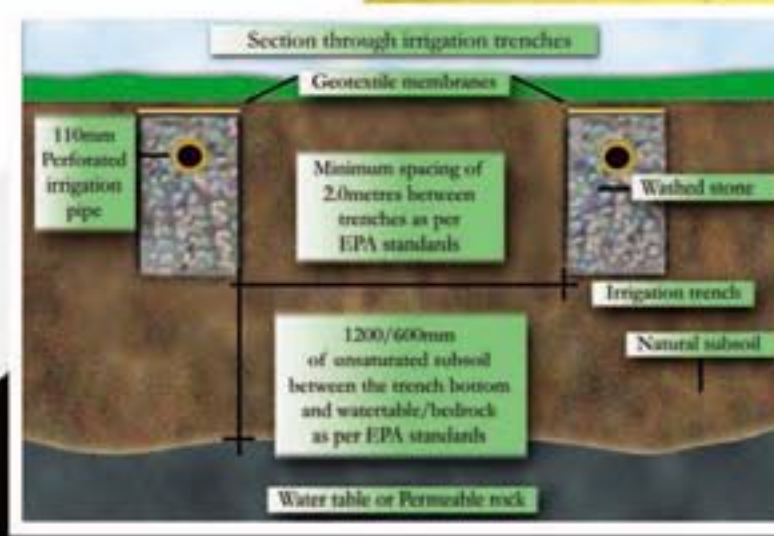
Biotech Treatment Systems Ltd service technicians shall carry out commissioning after installation is complete and all services are connected.

## Servicing and maintenance

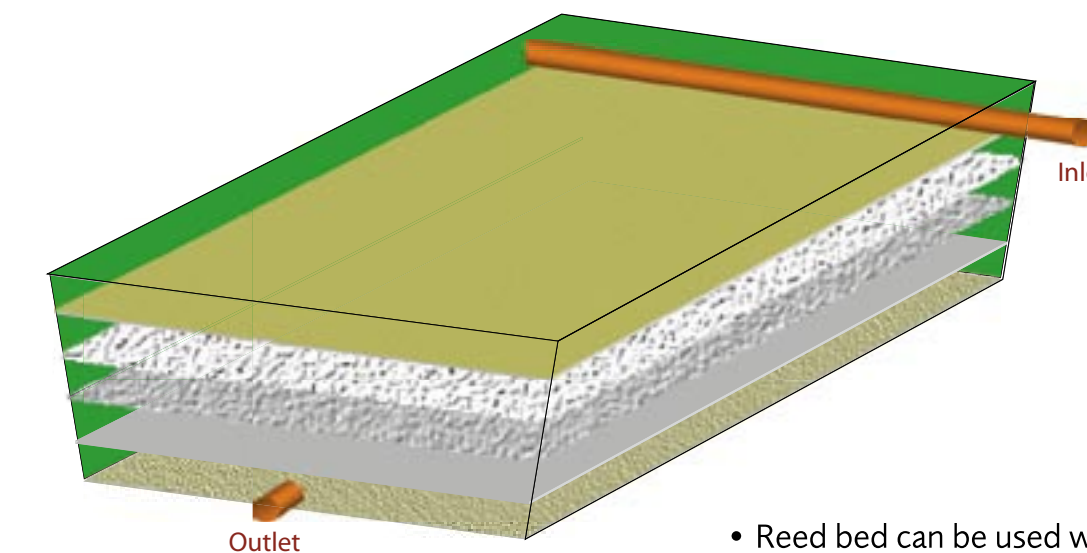
Biotech Treatment Systems Ltd offer service and maintenance contracts and can also carry out repair work.



## ...the perfect solution



Sand and reed modules can be used as a tertiary polishing of waste water



2 beds required for a single home

Module dimensions

Length - 2130 mm

Width - 1220 mm

Depth - 760 mm

Outlet - 110 mm

Advantages

- Reed bed can be used when a better discharge of effluent quality is needed (usually improved by 50%)

- The Sand and Reed Polishing Module is compact

- The bed can be soil covered and sown with grass

- When the modules are installed they are flush with the ground

- Easy to install and maintain

- Low capital and operational costs

- No operational noise

- With the addition of a U.V. light, water can be reused for general outdoor purposes after the reed bath

- Small Footprint required

HEAD OFFICE:

Biotech Treatment Systems Ltd.,

Boherbue,

Co. Cork

Tel. 029 76983 :: Fax 029 76918

Email: info@biotechireland.net :: www.biotechireland.net

Other Depots: Foxford, Co. Mayo Tel: 094 - 9257500 :: Banagher, Co. Offaly Tel: 0509 51800 :: Lámagh, Longford Town, Longford Tel: 0906432100



# Sand & Reed Polishing Modules



www.biotechireland.net

helping nature the natural way

## Why Biotech?

Biotech Treatment Systems is a small to medium sized company based in north Cork. The main business activity of the company is the manufacture, supply and commission of package sewage treatment systems.

Biotech has been involved in the industry since the year 2000 and has steadily grown to its present size.

By utilising both its expertise and skilled workforce, Biotech is continually striving to improve its product range, services and reputation within the building and construction industries.

Unlike some other companies, Biotech Treatment Systems Ltd can provide the end user with a complete service. From advising the client which type of system is required, to a full installation service.

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# Bio tech

sewage treatment systems

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