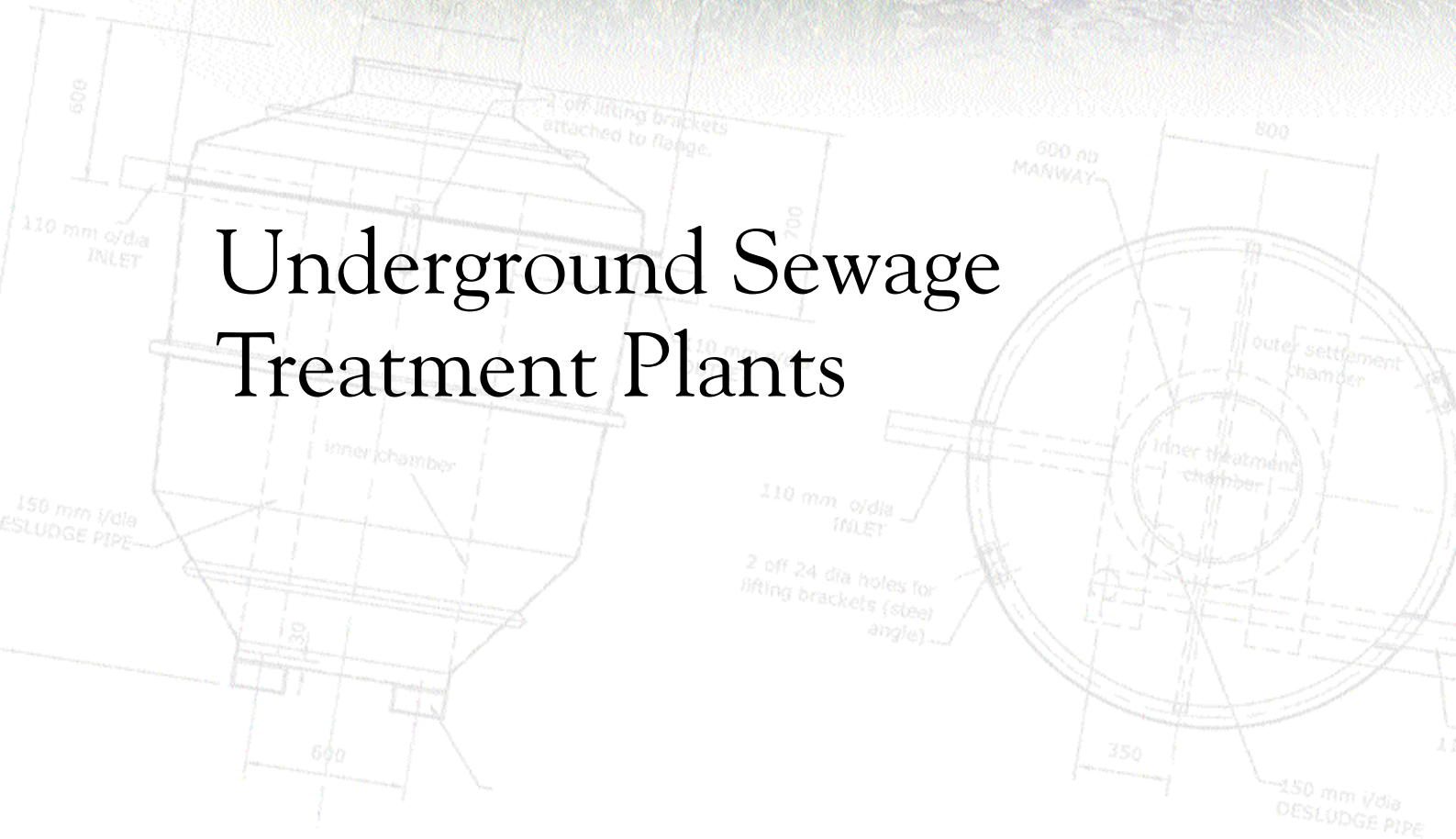




# Underground Sewage Treatment Plants



## **BURNHAM ENVIRONMENTAL SERVICES Ltd.**

designers and manufacturers of environmentally-friendly sewage treatment plants to modern standards, for all applications where no mains drainage is available.

[www.biodigester.com](http://www.biodigester.com) Tel: 01278 786104

# How **BIODIGESTER** works

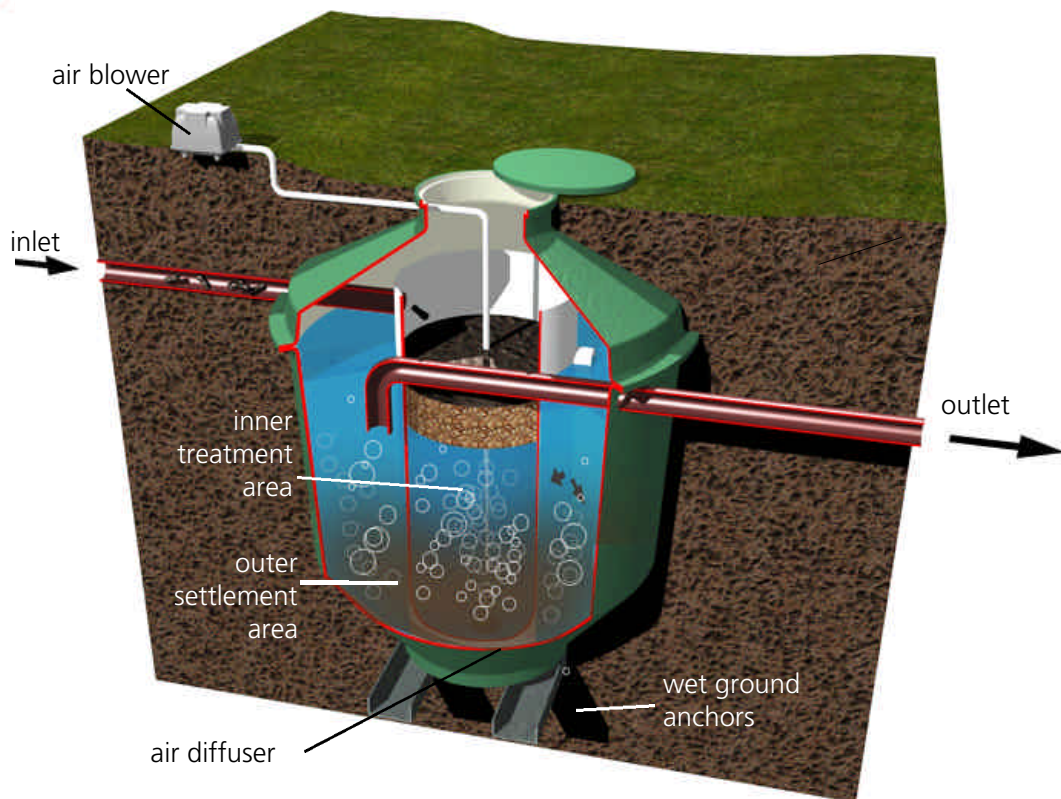


Air is blown into the BIODIGESTER by an electrically powered compressor mounted normally within 10 metres of the sewage treatment plant. The air is diffused from the bottom of the central chamber.

This increased oxygen supply accelerates the activity of the naturally occurring micro-organisms which degrade the solids to a clear effluent and a non toxic sludge. The plastic media is used to provide a high surface area for the micro-organisms to adhere to and also, as it is mobile, to facilitate rapid degradation of solid matter.

The diffused air also operates as an 'Air Lift' which recirculates solids from the outer 'Settlement Chamber' to the inner 'Treatment Chamber'. This recirculation also ensures that both chambers remain aerobic. The process runs continuously 24 hours a day.

The plant is designed to conform to the requirements of **BS6297.1983**



## Performance

The plant is designed to produce an effluent quality of:-

- BOD 5 20mg/l
- Suspended Solids 30mg/l
- Ammoniacal Nitrogen (as N) 20mg/l

*By comparison a septic tank produces a BOD of 400mg/l.*

More stringent effluent qualities may also be catered for.

The effluent can be discharged to a watercourse or via a soakaway, subject to approval.

*BOD = Biochemical Oxygen Demand measured over 5 days*

**BIODIGESTER effluent quality is similar to that required from a major sewage treatment works.**

## Regulations

### Environmental:

Our product will conform to all the normal 'Consent to Discharge' requirements of the relevant authorities in the United Kingdom.

### Building:

Building Regulations Part H April 2002. Visit our website for more details.



### T6 BIODIGESTER - 6 persons

Suitable for a small-medium house up to 6 persons.

Size **1860mm wide, 2370mm deep**  
**standard inlet drain depth** 600mm  
 also available: 900mm, 1200mm, 1500mm



### T12 BIODIGESTER - 12 persons

Suitable for a large house or two houses

Size **1860mm wide, 2370mm deep, 2610mm long**  
**standard inlet drain depth** 600mm  
 also available: 900mm, 1200mm, 1500mm



### T18 BIODIGESTER - 18 persons

Suitable for two to four houses

Small hotel /pub

Size **1860mm wide, 2370mm deep, 3360mm long**  
**standard inlet drain depth** 600mm  
 also available: 900mm, 1200mm, 1500mm



### T24 BIODIGESTER - 24 persons

Suitable for three to six houses

Small campsite, small to medium hotel/pub

Size **2700mm wide, 2370mm deep, 3360mm long**  
**standard inlet drain depth** 600mm  
 also available: 900mm, 1200mm



### T30 BIODIGESTER - 30 persons

Suitable for four to seven houses

Campsite, hotel/pub/restaurant

Size **2700mm wide, 2370mm deep, 4110mm long**  
**standard inlet drain depth** 600mm  
 also available: 900mm, 1200mm



### T36 BIODIGESTER - 36 persons

Suitable for six to nine houses

Campsite, hotel/pub/restaurant

Size **2700mm wide, 2370mm deep, 4860mm long**  
**standard inlet drain depth** 600mm  
 also available: 900mm, 1200mm

## Simple process

### ◆ Odour free operation

### ◆ Industry proven air blower:

- Low power consumption
- Long life
- Quiet operation

## Simple installation

### ◆ Robust construction

- No concrete back fill required
- Substantial cost savings on installation
- Can be installed by the Self Builder

### ◆ Simple Wet Ground\* installation

### ◆ Solid stable base allowing easy alignment

## Simple maintenance

### ◆ Extended emptying interval - 2-5 years

### ◆ No moving parts underground.

### ◆ Simple inexpensive annual maintenance.

\*high water table

## What size do I need?

sizing formula (normal residential use):

**England and Wales** 1 person per bedroom + 1/2 person per house

(so a 4-bedroomed house would be considered as 4.5 people)

**Scotland** 1 person per bedspace

## Other points to consider

- Do you require Planning Permission?
- Do you require a 'Consent to Discharge'?
- If the system is to be shared by several houses, you will have to create a management company for the ownership and operation of the plant
- The building regulations state that the discharge from the plant must be in excess of 10m from any house. They also state that a septic tank must be sited more than 7m from a dwelling. The siting of a sewage treatment plant is open to some interpretation – consult with your local Building Control Officer
- What will be the depth of the drain to the BIODIGESTER at its proposed site? The fall required is 1m in 60m.
- You will need to decide where the treated effluent will go. Will it go a watercourse or stream (easiest option) or a soakaway? (Soakaway design, percolation tests and other details are available on our website, or contact us.)
- You will have to carry out a percolation test if you are using a soakaway.
- Do you have enough space for a soakaway?
- Will the treated effluent flow away by gravity or will it have to be pumped away? On our smaller units integral pumps can be fitted. On our larger units external pumping stations can be fitted. Contact us for details of the range of solutions that we manufacture.
- Can you provide electricity within 10 m of the site?

**In most cases the relevant authority will decide.**

Note: an application can take up to 4 months.

**Visit [www.biodigester.com](http://www.biodigester.com) or contact us direct.**

## Installation

### Summary method:

1. Excavate a hole 300mm wider and 200mm deeper than the relevant unit.
2. Check the water table. If there is any chance of the water rising above the base of the unit then the Wet Ground method must be used.
3. Install 200mm base of sand, gravel, scalplings or concrete.
4. Place BIODIGESTER onto base, work ribs into base and check levels carefully.
5. Fill the BIODIGESTER with water.
6. If you have a high water table the Wet Ground anchors must be covered with at least 250mm of concrete to the minimum quantity specified by the data sheet.
7. Backfill with gravel or concrete as preferred.

For more detailed installation information and specifications, and other information, **visit [www.biodigester.com](http://www.biodigester.com) or contact us direct.**

**Burnham Environmental Svcs. Ltd.**

27 Brightstowe Road

Burnham on Sea,

Somerset TA8 2HW United Kingdom

**Fax: 01278 793380**

**Email: [sales@biodigester.com](mailto:sales@biodigester.com)**

**Tel: 01278 786104**



**[www.biodigester.com](http://www.biodigester.com)**