Klargester Biotec™ 1-4

Package Sewage Treatment Plants



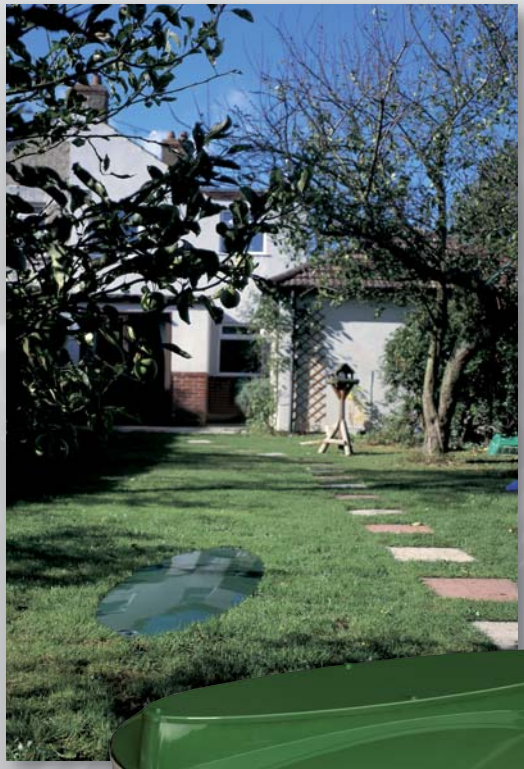
Sustainable, Reliable, Affordable

Kingspan®

Klargester Biotec™: Quality, reliability and peace of mind

For domestic dwellings without access to mains drainage, the Klargester Biotec™ provides a reliable, efficient and environmentally safe solution to your sewage disposal needs.

It is ideal for locations where discharge is to sub-surface irrigation, or to a suitable watercourse where approved by the Regulator, and where a septic tank will not meet the required standards.





Approvals & Accreditation

Klargester has long recognised the demand by customers for products endorsed with European certification and BS EN ISO 9002 quality assurance.

As a leading European manufacturer Klargester has been instrumental in forging new environmental standards both for the UK and Europe. In this regard Klargester is proud to have received the new BS14001 environmental standard.

At all times you can be assured that the specification of Klargester products will provide value for money, durability, quality and reliability - first time, all the time.

Nationwide Availability

Klargester products can be sourced from your local builders merchant or pollution control specialists.



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Klargester Biotec™ packaged sewage treatment systems are available in a range of sizes – from a 2 bedroomed house up to a population of 375.

This brochure covers the small **Biotec™** which is used for developments with up to 25 people.

- Individual houses
- Small developments
- Offices and commercial properties
- Upgrading existing septic tanks

For details of our larger capacity **Biotec™** please refer to our other brochures or visit www.klargester.com

Certificated to European Standard EN-12566

In 2005, the **Biotec™** underwent 40 weeks of stringent testing to assess its treatment efficiency to comply with the European Standard for small treatment plants.

After delivering consistently high levels of pollution removal under varying loads and conditions, **Biotec™** was awarded its Performance Certificate.

Only products that hold an EN-12566 certificate are approved for an exemption from a permit to discharge under the new EPP2 environmental legislation.

For more information on EPP2 and off-mains regulations, visit our website or contact us.

Features and Benefits

- No mechanical or electrical components within the plant - low running and maintenance costs.
- Low level visibility with a lockable child-proof pedestrian duty cover - safe for children and pets.
- Controlled ventilation - minimises risk of odour nuisance.
- Variety of package options - suits all requirements and needs.

Selecting the correct Biotec™ for your needs

There are two options to choose from within our range of small **Biotec**: the standard gravity version and the Integral Pump model (IPS). There are also a number of size options in each.

The following information will help you decide which model and size you need.

1. The size of treatment plant you require.

- Biotec™-1 - average house
- Biotec™-2 - large house/2 average houses
- Biotec™-3 - 3 houses
- Biotec™-4 - 4/5 houses

2. The depth of inlet you require *(known as the drainage invert).*

This is the distance between your sewage drain pipe and ground level (or how deep your drains are).

Measure the depth from ground level to your underground sewage drainpipe. The measurement will help you determine which of the two sizes you require*.

Specification

	Daily flow (m^3/day)	BOD load (kg/day)	Wt empty approx. (kg)	Outside dia. (m)	Depth (m)	Inlet invert (m)	Inlet invert to base (m)	Outlet invert (m)	Motor rating (watts)
Biotec™-1	1.2	0.36	195	1.9	2.2	1.0*	1.2	1.100	60
Biotec™-1 IPS	1.2	0.36	220	1.9	2.2	1.0*	1.2	0.605	60
Biotec™-2	2.4	0.72	217	1.9	2.7	1.0*	1.7	1.100	60
Biotec™-2 IPS	2.4	0.72	260	1.9	2.7	1.0*	1.7	0.605	60
Biotec™-3	3.6	1.10	445	2.7	2.6	1.0*	1.6	1.100	150
Biotec™-3 IPS	3.6	1.10	471	2.7	2.6	1.0*	1.6	0.605	150
Biotec™-4	5.0	1.50	470	2.7	2.6	1.0*	1.6	1.100	150
Biotec™-4 IPS	5.0	1.50	495	2.7	2.6	1.0*	1.6	0.655	150

** There are two depths of inlet in the range 1.0m and 1.5m.*

*For further assistance and advice on selecting the appropriate **Biotec™** system please contact Klargester Technical Sales on **01296 633000** who will be pleased to help.*

We can arrange for one of our local Area Managers to visit your site to advise on model selection and legislation. We can also recommend specialist installers if requested. This advice service is supplied free of charge.

Klargester Biotec™ 1-4

3. How should you dispose of the wastewater?

When your sewage has been treated the resulting water needs to be released to a soakaway area or is clean enough to go into a watercourse.

Klargester can give advice on how to obtain the relevant authorising consent.

4. Do you need a 'Gravity' or 'IPS' unit?

You may find that your soakaway area/watercourse area is some distance away from the outlet pipe where the **Biotec™** releases the treated water. If this is the case, you may need to use a model which has the ability to pump treated water. These are our Integral Pump models (IPS).

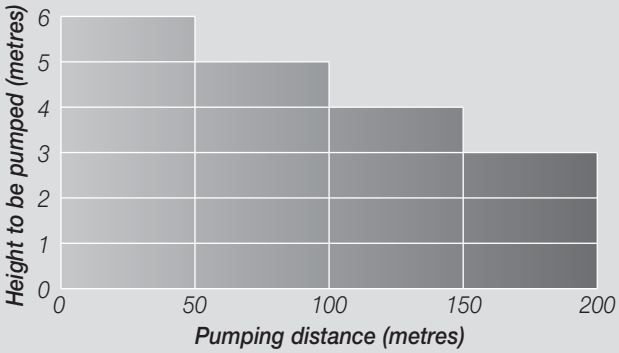




Integral Pump System

How far can the treated water be pumped if using an IPS Biotec™?

Single Pump System
(50mm OD MDPE Pipe)



How Biotec™ works

The **Biotec™** sewage treatment plant uses the well-proven aerobic biological process. Treatment is a three-stage process.

- Coarse solids are filtered and retained for gradual breakdown.
- The resulting liquid is continuously distributed over a plastic suspended filter by an integral lift, powered by a remotely sited blower.
- The solids are allowed to settle and under normal domestic conditions, treated water of 20mg/l BOD, 30mg/l S.S., 20mg/l Ammonia can be achieved.

How Biotec™ is installed

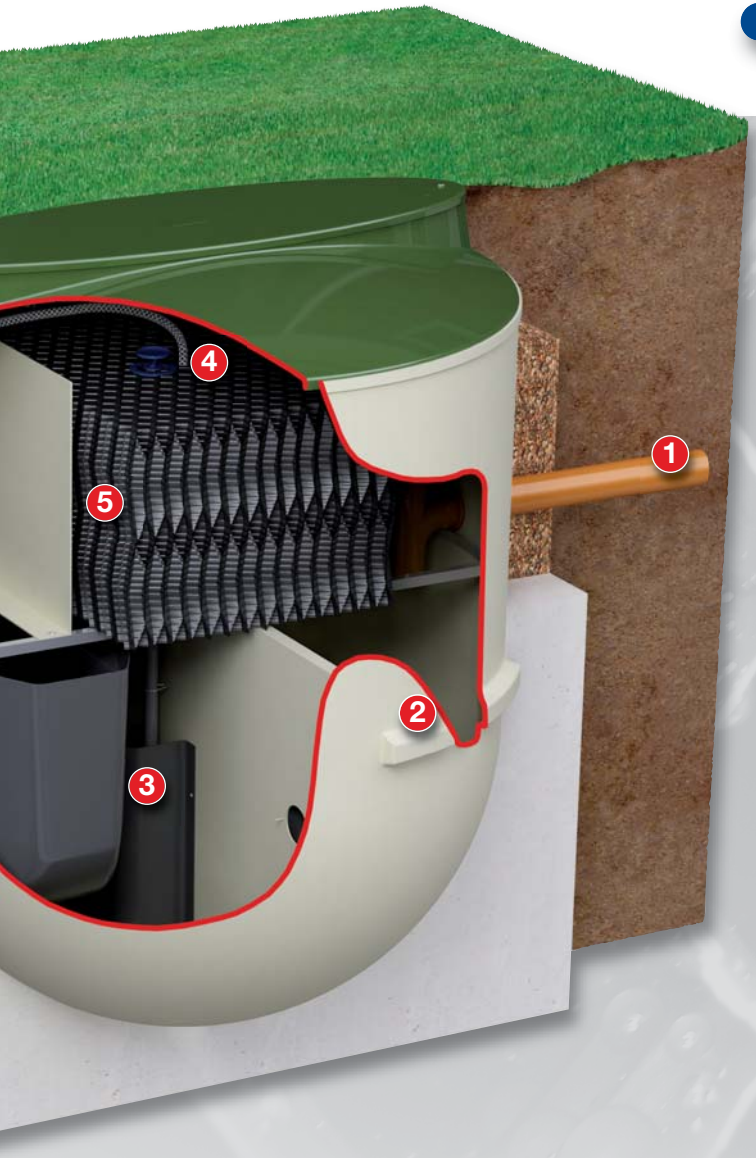
The unit is normally installed in the ground with the cover flush to the surface. It can protrude above ground level if required by site levels.

- A **Biotec™** should preferably be sited no closer than 7m from the nearest house.
- The plant should be surrounded by concrete and seated on a concrete base.
- The blower housing can be located anywhere within a 13m radius of the system for easy and convenient access.

Easy maintenance

Biotec™ is designed for low-cost and easy maintenance.

- Under normal usage your **Biotec™** will require periodic emptying.
- Klargester offers a full post installation inspection and after sales service.



1. *Inlet*
2. *Primary zone*
3. *Air lift*
4. *Distributor*
5. *Media*
6. *Blower*
7. *Outlet*

Sample Chambers

When a treatment plant discharges into a watercourse, it is a regulatory requirement to have a sampling point so that the effluent quality can be periodically checked by regulatory bodies.

Available to suit all outlet depths of our standard ranges, a Klargester sample chamber provides the solution, enabling both quick installation and easy access for accurate and convenient effluent testing.



Dispersal

Subject to the relevant authorities consent, the plant discharge can be to a watercourse or, provided the soil percolation test is satisfactory, to a ground soakaway.

Advice

The information in this sales literature is by necessity, brief. For further technical literature or assistance on sizing please contact Klargester.

Complete Monitoring and Control

Klargester's high-tech control panel features a new alarm and digital read-out display, providing the homeowner with an immediate alert should any problem occur.

Supplied as standard throughout the Klargester range, the control panel is able to communicate the nature of any fault, including loss of pressure* from the air blower, pump failure*, or power failure. The display will inform the householder, or maintenance representative on site via a digital display and fault code. The system also features a highly visible external beacon (optional) as a primary warning.

The alarm can also communicate directly to the company's service centre, enabling the service engineer to prioritise the fault and determine what parts to bring.

** Optional sensor fitments*



Klargester

Klargester Reed Beds

What is a Reed Bed?

A reed bed is a filtration process used in conjunction with a **Biotec**™ sewage treatment plant to further enhance the quality of the effluent migrating into a drainage field or surrounding watercourse.

Benefits

- Tertiary treatment for new applications with tight discharge consents
- Satisfies new building regulations
- Improved effluent quality for existing works
- Very low maintenance
- Aesthetically pleasing and environmentally friendly
- Easy to install and maintain
- Significantly improves discharge after a treatment plant

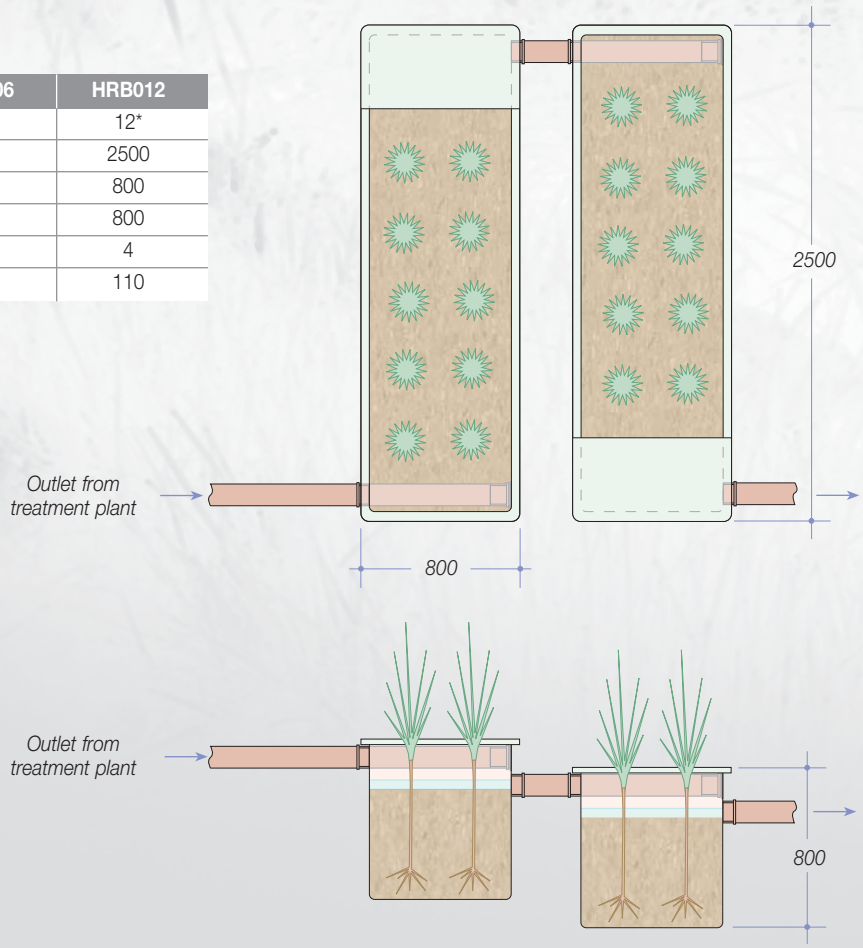
Design

- Advanced Patented design delivers superior performance
- Pre-fabricated to ensure correct sizing
- Modules designed with a hydraulic gradient across the length of the units
- Performance tested in Germany to EN12566-3 in combination with a Part 3 plant
- Adjustable outlet weir allows water level control
- Modular system comprising of:
  2 individual reed beds = Single house application
  4 individual reed beds = Two house application
- One piece GRP moulding installed flush to the ground
- Reeds and GRP beds supplied. Washed pea gravel, 'growing' media by others (not included)
- Effluent discharge is typically improved by at least 50%, providing reduced BOD and suspended solids
- Provides rooting zone depth of 600mm (required by Phragmites Australis)

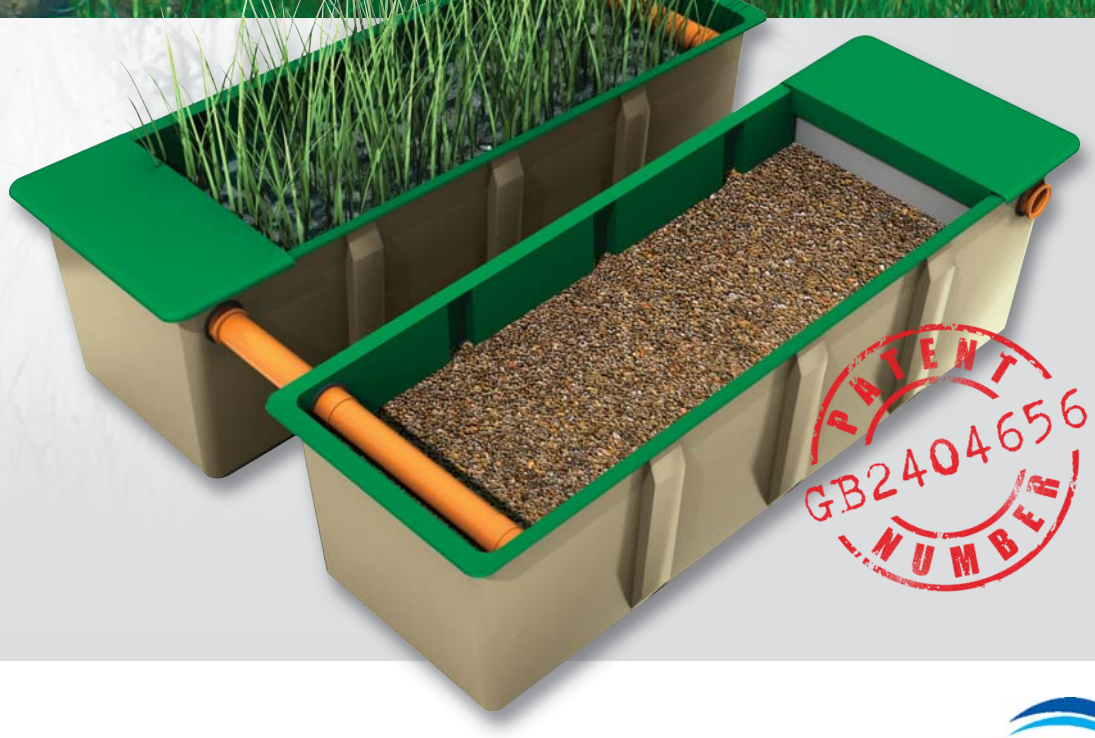
Specification

Reed Bed	HRB006	HRB012
Population Equivalent	6	12*
Length (mm)	2500	2500
Width (mm)	800	800
Depth (mm)	800	800
No. Required	2	4
Outlet Size (mm)	110	110

** 12 population equivalent maximum*

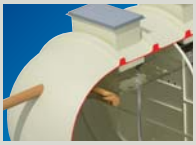




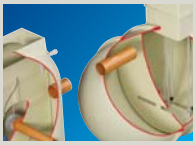


Klargester

The Market Leading Range of Klargester Sewage Treatment, Pumping and Drainage Solutions from Kingspan Environmental


Commercial Sewage Treatment Plants

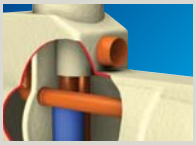

Large Capacity Pumping Stations


Stormwater Attenuation Systems


Domestic Sewage Treatment Plants


Packaged Pump Systems


Reed Beds


Oil/Water Separators


Septic Tanks


Below Ground Storage Tanks

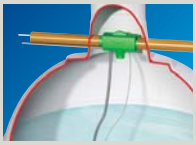

Grease & Silt Traps


Packaged Drainage Systems

KingspanWater Rainwater Harvesting Solutions


Residential & Commercial Rainwater Harvesting


Domestic Rainwater Harvesting


Garden Watering Systems

Klargester Accredited Installers

Strategically located throughout the UK and Ireland, Klargester Accredited Installers are appointed following a selection process which assesses their installation expertise, reputation and financial status.

These performance criteria, together with their design skills and knowledge of Klargester products are also reviewed to ensure that the highest levels of professionalism are maintained.

Kingspan Environmental Service

Who better to look after your treatment plant than the people who designed and built it?

Kingspan Environmental have a dedicated service division providing maintenance for wastewater treatment products.

Factory trained engineers are available for site visits as part of a planned maintenance contract or on a one-off call out basis.

To find out more about protecting your investment and ensuring peace of mind, contact us on **0845 355 0555** or visit us online at **www.kingspanenvservice.com**



Larger Applications

Klargester also manufactures BioDisc® plant to cater for larger applications such as residential developments, caravan sites and hotels.

As specialists in wastewater treatment we are able to provide solutions for many different applications. Please contact us for further information.

Certificate No. FM 563603

Certificate No. OHS 563604

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Klargester

UK: College Road North, Aston Clinton, Aylesbury, Buckinghamshire HP22 5EW
Tel: +44 (0) 1296 633000 Fax: +44 (0) 1296 633001
Scottish Office: Tel: +44 (0) 1355 248484
email: info@klargester.com

Ireland: Unit 1a, Derryboy Road, Carnbane Business Park, Newry, Co. Down BT35 6QH
NI Tel : +44 (0) 28 302 66799 Fax: +44 (0) 28 302 60046 **ROI** Tel: 048 302 66799 Fax: 048 302 60046
email: info@klargester.ie

Visit our website **www.klargester.com**, or our company website **www.kingspanenv.com**

In keeping with Company policy of continuing research and development and in order to offer our clients the most advanced products, Kingspan Environmental reserves the right to alter specifications and drawings without prior notice.

Mixed Sources
Product group from well-managed forests and recycled wood or fiber
www.fsc.org Cert no. XX-XXX-000000-XX
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FSC