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**Klargester**

MEDIAN RANGE

**Let us help!**

Free professional  
site visit with friendly  
support and advice.

[helpingyou@klargester.com](mailto:helpingyou@klargester.com)

to make the right decision  
or call **01296 633033**



**Biotec**<sup>™</sup>

PACKAGE SEWAGE  
TREATMENT PLANT FOR  
DOMESTIC APPLICATIONS

Part of



**Kingspan**  
Environmental

# Biotec™

## PACKAGE SEWAGE TREATMENT PLANT FOR DOMESTIC APPLICATIONS

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.

Klargester packaged sewage treatment systems are available in a range of sizes – from a 2 bedroomed house up to a population of 350.

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

### 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.

### 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.

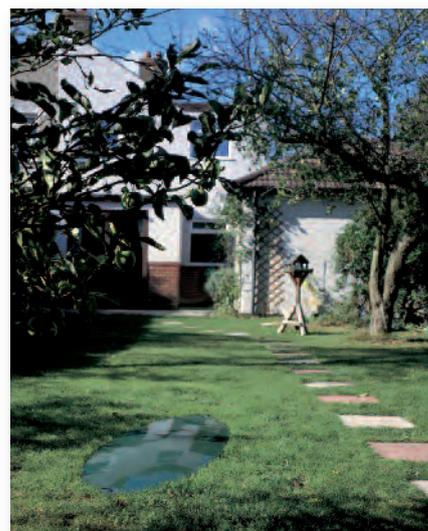
For more information on EPP2 and off-mains regulations, visit our website or contact us.

Get in touch for a **FREE** professional site visit and a representative will contact you within 5 working days to arrange a visit.

**helpingyou@klargester.com** to make the right decision or call **01296 633033**



[ask.klargester.com](http://ask.klargester.com)





## FEATURES & 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.

## NATIONWIDE AVAILABILITY

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

## 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 or 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\*.

	DAILY FLOW (m <sup>3</sup> /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)
<b>BIOTEC™-1</b>	1.2	0.36	195	1.9	2.2	1.0*	1.2	1.100	60
<b>BIOTEC™-1 IPS</b>	1.2	0.36	220	1.9	2.2	1.0*	1.2	0.605	60
<b>BIOTEC™-2</b>	2.4	0.72	217	1.9	2.7	1.0*	1.7	1.100	60
<b>BIOTEC™-2 IPS</b>	2.4	0.72	260	1.9	2.7	1.0*	1.7	0.605	60
<b>BIOTEC™-3</b>	3.6	1.10	445	2.7	2.6	1.0*	1.6	1.100	150
<b>BIOTEC™-3 IPS</b>	3.6	1.10	471	2.7	2.6	1.0*	1.6	0.605	150
<b>BIOTEC™-4</b>	5.0	1.50	470	2.7	2.6	1.0*	1.6	1.100	150
<b>BIOTEC™-4 IPS</b>	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.

# Biotec™

## PACKAGE SEWAGE TREATMENT PLANT FOR DOMESTIC APPLICATIONS

### 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.

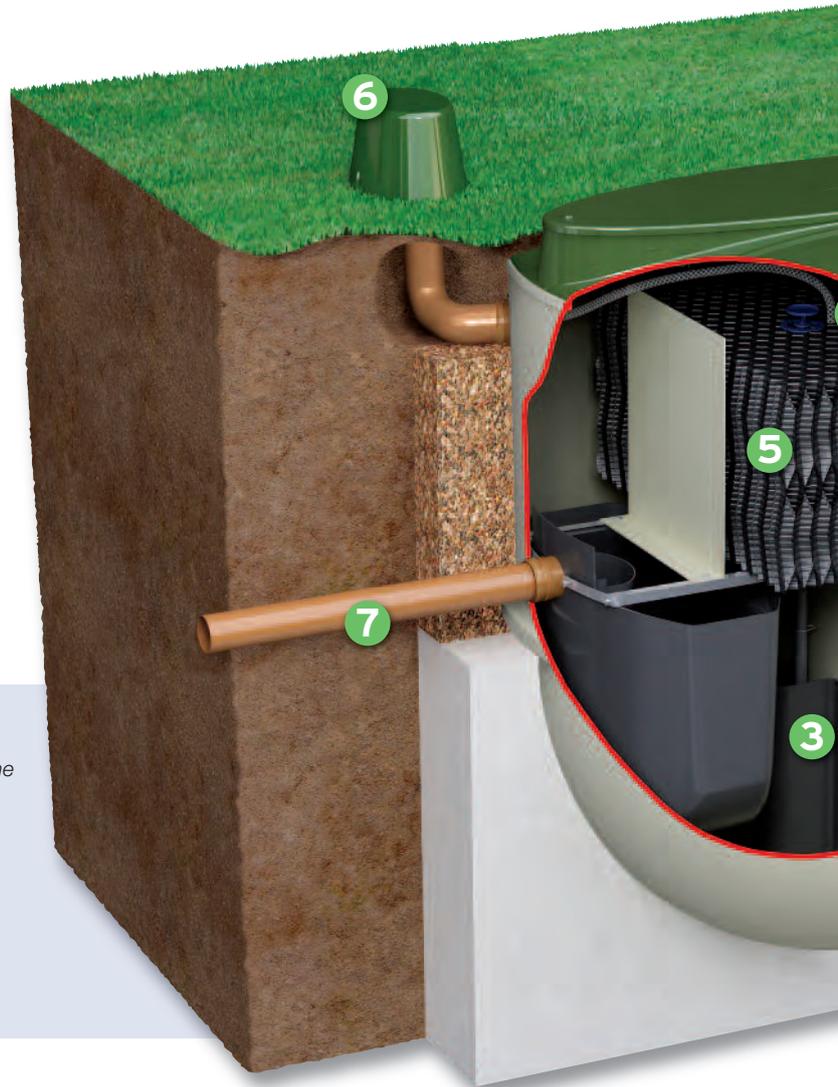
Klargester can give advice on how to obtain the relevant authorising consent.

### 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).



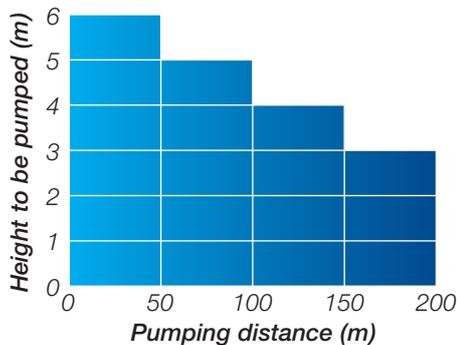
Integral Pump System



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

### HOW FAR CAN THE TREATED WATER BE PUMPED IF USING AN IPS BIOTEC™?

Single Pump System  
(50mm OD MDPE Pipe)



### HOW BIOTEC™ WORKS

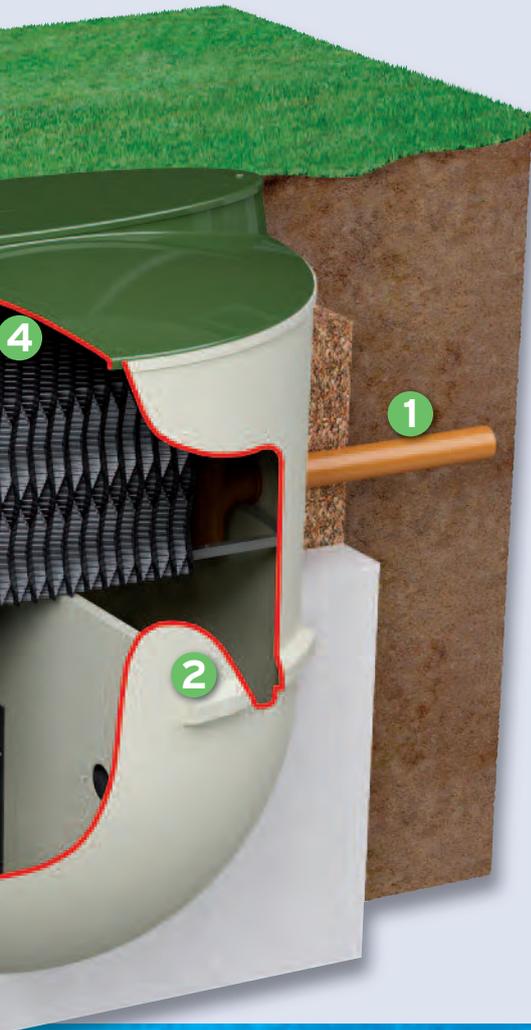
The Biotec™ sewage treatment plant uses the well-proven aerobic biological process. Treatment is a three-stage process.

- 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.



### 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 communicates the nature of any fault, including loss of pressure\* from the air blower, pump failure\*, or power failure. The display informs 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.

\* Optional sensor fitments.



CONTROL PANEL AND EXTERNAL BEACON

### 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.



SAMPLE CHAMBERS

Like any mechanical device, Biotec™ requires a level of care and maintenance to deliver optimum performance and a lifetime of service. But once your system is installed and operating, its continual operation is something you probably won't want to think about.

**That's where we can help too.**

The Biotec™ Bond is an extended warranty package designed to give you total peace of mind. For a fixed monthly fee our in-house service division will monitor and maintain your unit through regular maintenance inspections.

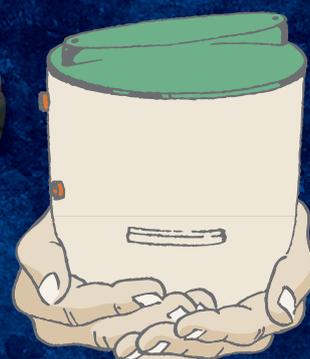
We take care of it all: scheduled servicing, annual inspection, alarm call-outs... and in the unlikely situation that parts need replacing, then we cover that too – all at no additional cost.

For full details simply give us a call, or discover more online at:

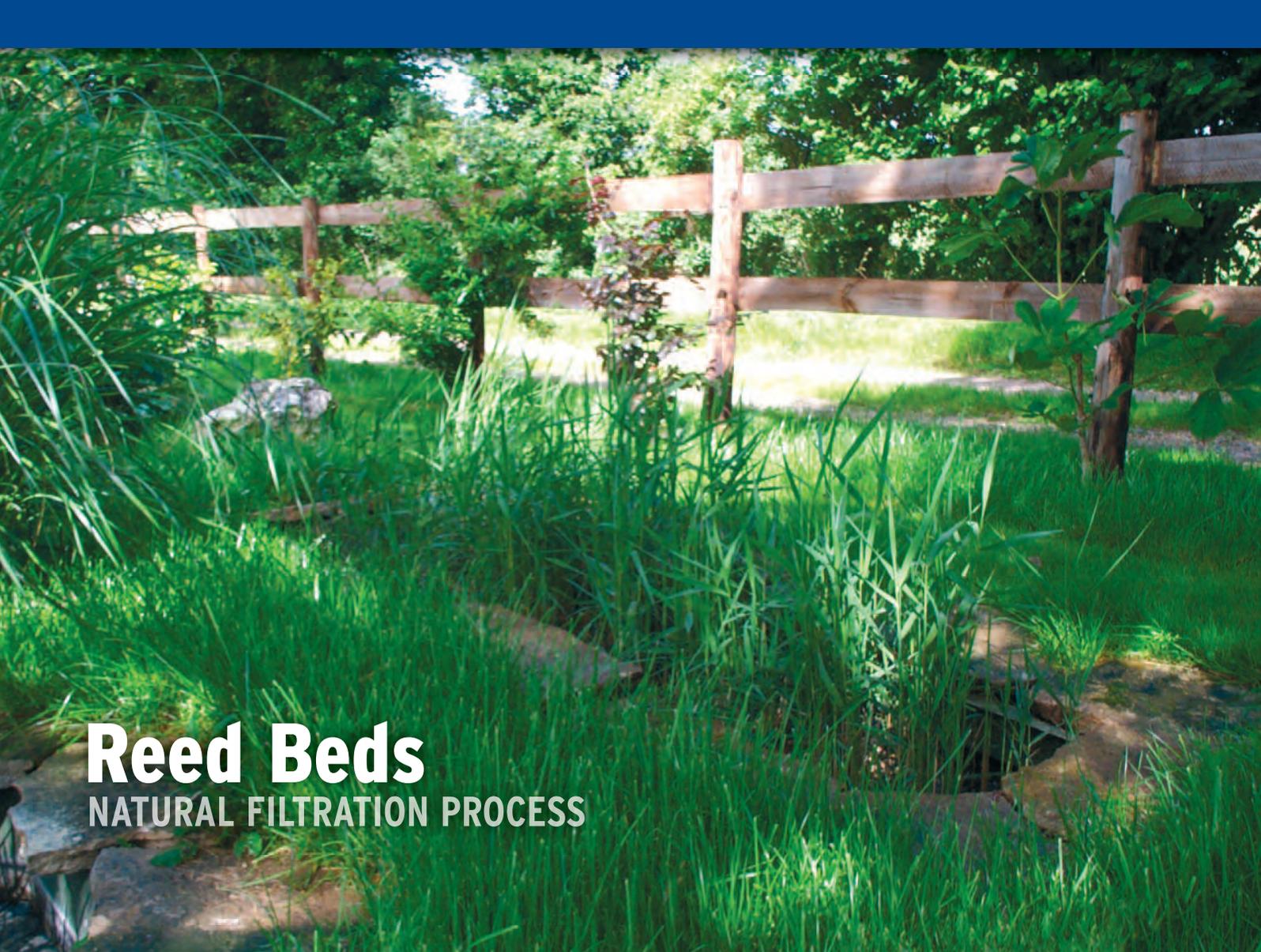
[www.klargester.com/bond](http://www.klargester.com/bond)



ENJOY TOTAL CARE WITH THE BIOTEC™ BOND



BIOTEC™  
5 YEAR WARRANTY



# Reed Beds

## NATURAL FILTRATION PROCESS

“What is a reed bed?”, you may ask.

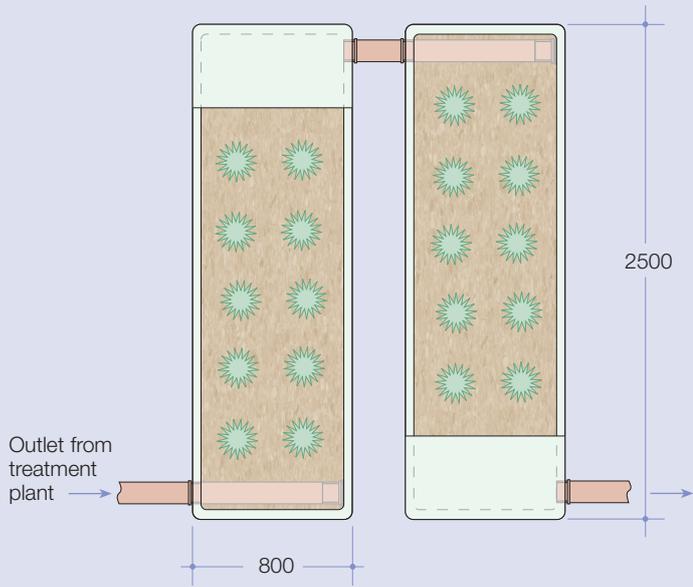
A reed bed is a filtration process used in conjunction with a Klargestar Biotec™ treatment plant to further enhance the quality of the effluent migrating into a drainage field or surrounding watercourse.

### 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
- Modular system comprising of:
  - 2 individual reed beds = Single house application
  - 4 individual reed beds = Two house application
- Adjustable outlet weir allows water level control
- 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)

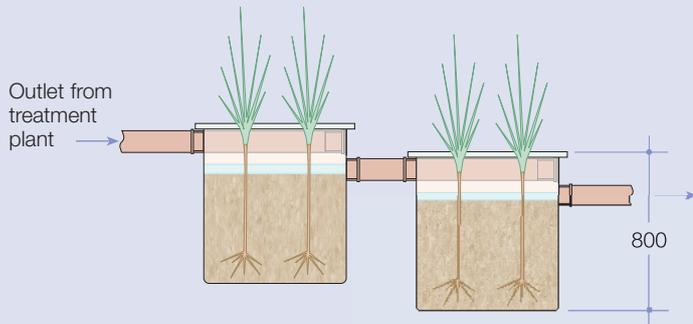
### BENEFITS

- 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



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



Performance ✓  
 Tested in Germany  
 to EN12566-3

## PROFESSIONAL INSTALLERS

### Klargester Accredited Installers

Experience shows that correct installation is a prerequisite for the long-lasting and successful operation of any wastewater treatment product.

This is why using an installer with the experience and expertise to install your product is highly recommended.

Services include :

- Site survey to establish ground conditions and soil types
- Advice on system design and product selection
- Assistance on gaining environmental consents and building approvals
- Tank and drainage system installation
- Connection to discharge point and electrical networks
- Waste emptying and disposal



Discover more about the Accredited Installers and locate your local expert online.

[www.klargester.com/installers](http://www.klargester.com/installers)

## CARE & MAINTENANCE

### 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 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, call us on:

**0844 846 0500**

or visit us online:

[www.kingspanenvservice.com](http://www.kingspanenvservice.com)



## DOMESTIC SEWAGE SOLUTIONS



**BIODISC®**  
DOMESTIC SEWAGE  
TREATMENT PLANTS



**HILLMASTER**  
PACKAGED PUMP  
STATIONS



REED BEDS



**BETA+ & ALPHA**  
SEPTIC TANKS



BELOW GROUND  
STORAGE TANKS



INTEGRATED RAINWATER  
HARVESTING SYSTEMS



GARDEN WATERING  
SYSTEMS



## RAINWATER HARVESTING SOLUTIONS

### Klargester

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Certificate No. FM 563603



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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.

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