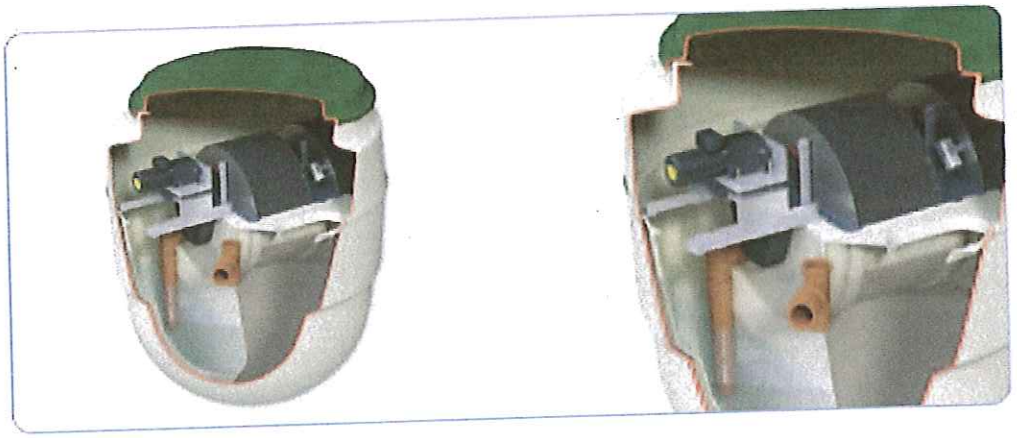
Details of Bio Disc

&

Reed beds

BioDisc® BA-BD

High Performance Package Sewage Treatment Plants for Residential Applications



For domestic dwellings without access to mains drainage, the Klargester BioDisc® 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.

Certified to European Standard EN 12566 - Part 3 - Annexe B - Performance Tests

In 2005, the Klargester BioDisc® underwent 40 weeks of stringent testing to assess its treatment efficiency as part of Klargester's commitment to meet the new European Standard for small treatment plants.

After delivering exceptionally high levels of pollution removal (95%) under varying loads and conditions, the Klargester BioDisc® was awarded its Performance Certificate. The test report also highlighted:

- The Klargester BioDisc® operates without noise or odour
- Maintenance requirements are low with good access
- No technical or mechanical faults
- Low power consumption at 1.3kw/d - approx 10-14 pence per day*
- Low sludge build up and large storage capacity

Unique Design

The Klargester BioDisc® is the only packaged sewage treatment plant utilising Rotating Biological Contactor technology for small domestic applications. This process offers inherent cost and performance benefits with a low carbon footprint.

Assured Performance

Klargester BioDisc® is a high performance package treatment plant which, in normal domestic situations, will produce effluent qualities of better than 8mg/l BOD, 13mg/l SS and 4mg/l ammonia.

Low Running Costs

Klargester BioDisc® has the lowest running and maintenance costs of any packaged treatment plant in its class. The single home unit requires an annual de-sludge only, the motor rating is 50 watts and routine mechanical maintenance is minimal.

Low Lifetime Costs

Lowest running costs combined with the quality and durability of the equipment - particularly the drive motor which has a considerably longer service life than the pumps and blowers fitted to competitive units - all add up to a significantly lower lifetime cost for the Klargester BioDisc®.

Process Stability

The Klargester BioDisc® is recognised for its process performance. This is further enhanced by Klargesterl's unique Managed Flow System, which ensures optimum performance by smoothing peak flows and buffering biological loads over the whole working day.

Low Profile Covers

Access for service and maintenance is provided via a durable, unobtrusive cover at ground level.

Dispersal

Subject to relevant authorities consent and site conditions, the plant discharge can be a watercourse or to a drainage field.

Standard Invert Options

Three standard drain invert level options are available from stock to match the site topography and where applicable, minimise the excavation depth. The Klargester BA, and BB BioDisc® are available with an integral pump to move effluent from point of treatment if site level demands.

Nationwide Availability

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

How the Klargester BioDisc® Works

Central to the operation of each Klargester BioDisc® is the Rotating Biological Contactor (RBC), which supports a biologically active film or biomass on to which aerobic micro-organisms, naturally found in sewage, become established. Natural breakdown of sewage can then occur as described below.

The Breakdown Process

Wastewater and sewage flows into the primary settlement zone(**1**) where solids are settled out and retained. This accumulated sludge should be drawn out periodically.

Partially clarified liquor containing fine suspended solids flows upwards into the first stage Biozone (**2**) for breaking down by micro-organisms on the RBC. Suspended solids return to the primary settlement zone and the liquor is transferred to the second stage Biozone (**3**) for further treatment.

Any solids remaining are settled out in the final settlement tank (**4**). The very high effluent quality is discharged to a watercourse.

The RBC comprises banks of vacuum formed polypropylene media supported by a steel shaft. This is slowly rotated by a low energy consumption electric motor and drive assembly.

Note: *The Klargester BioDisc® is designed to deal with normal domestic sewage. If the sewage is likely to contain unusual substances, please consult Klargester.*

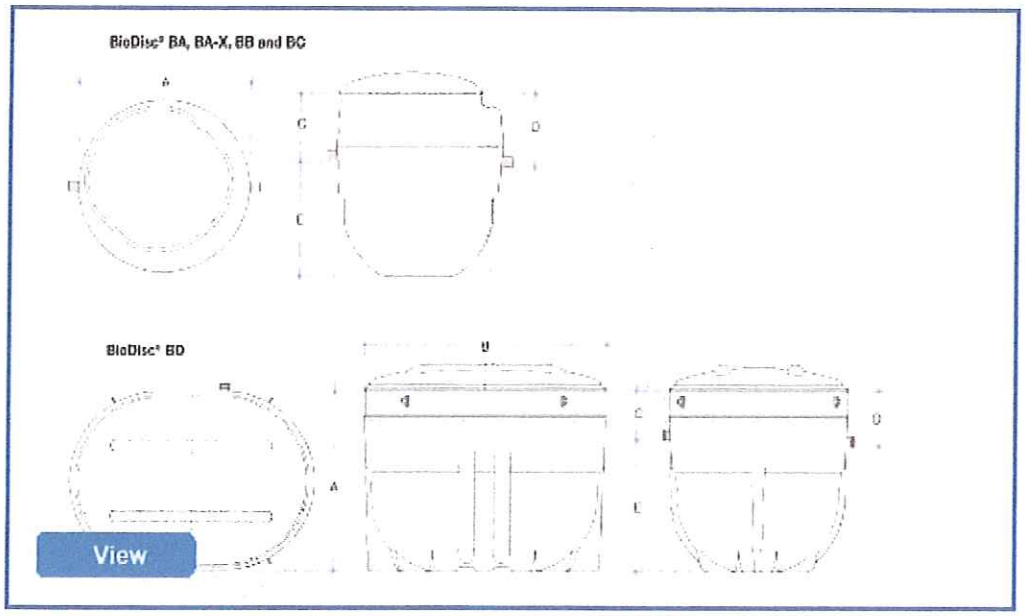
Specification

Unit Size	**Single House**	
	BA	**BA-X**
Population Equivalent	1 house, up to 4 bedrooms	1 house up to 7 bedrooms
Overall Diameter / Width (A) mm	1995	1995
Overall Length (B) mm	-	-
Standard Drain Invert Inlet (C) mm	750*	750*
Standard Outlet (D) mm	835	835
Depth from Invert to Base (E) mm	1400	1400
Pipework Diameter (mm)	110	110
Sludge Storage Period (approx)	12 months	9 months
Standard Power Supply	Single phase	Single phase
Motor Rating	50W	50W
Weight (tonnes) standard units	0.388	0.418

Unit Size	**Multiple Houses**		
	BB	**BC**	**BD**
Population Equivalent	2 houses up to 8 bedrooms	3 houses up to 12 bedrooms	4 houses 15-16 bedrooms
Overall Diameter / Width (A) mm	1995	2450	2450
Overall Length (B) mm	-	-	3340
Standard Drain Invert Inlet (C) mm	750*	600**	600**
Standard Outlet (D) mm	835	685	685
Depth from Invert to Base (E) mm	1400	1820	1820
Pipework Diameter (mm)	110	110	110
Sludge Storage Period (approx)	6 months	7 months	6 months
Standard Power Supply	Single phase	Single phase	Single phase
Motor Rating	50W	75W	75W
Weight (tonnes) standard units	0.418	0.650	1.100

Applications which include waste disposal units will require special sizing. Please consult Klargester.

** Optional invert depths of 450mm and 1250mm are available.*
*** Optional invert depth of 1100mm is available.*



Sizing Your Treatment Plant

The above table is a general guide to selecting the correct Klargester BioDisc® for your property but, with many variables to consider, it is essential to obtain an accurate assessment.

We are pleased to offer professional advice by adhering to British Water's sizing criteria published in their guidance booklet 'Flows and Loads'. By following this best-practice, Klargester will ensure you are installing the most suitable Klargester BioDisc® model to serve your needs.

Quick and Easy to Install

Supplied as a complete palletised unit with lifting and lowering fixings, the Klargester BioDisc® is ready for installation on a suitably prepared site. The unit should be stabilised in concrete and the back fill completed with concrete.

We can provide an installation service through our network of Approved Installers and full details are provided in our comprehensive installation instructions covering all site conditions. Additional technical information sheets are available on the Klargester BioDisc® process, siting, installation, effluent disposal and other specific topics. Please contact Klargester for further information.

Complete Monitoring and Control

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

The control panel **(1)** is able to communicate the nature of any fault, including loss of disc rotation*, 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 **(2)** (optional) as a primary warning.

The control panel has a facility for telemetry to be fitted (supplied by others) to enable remote fault diagnosis by service engineer.

Alarms are now required for sewage treatment plants in the event of a power failure.

EN 12566-3 Section 6.0 para 6.1.1 states:

"Plants shall be provided with an alarm to indicate operational failure (for example electrical, mechanical or hydraulic failure). The manufacturer shall indicate which kind of failure is detected with the alarm."

- Digital display with fault code to speed up fault diagnosis
- Rapid wiring installation
- Facility for optional telemetry to be fitted
- Flasher beacon available if required (optional).

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.

Klargester Reed Beds

What is a Reed Bed?

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

View




Case study

A treatment plant serving a 3-bedroom farmhouse

The client approached Klargester to discuss the options for replacing a failing brick Septic Tank. Key criteria were to reduce frequency of tank-emptying visits and to use existing soakaway without the risk of blockage. Major concern was also to reduce pollution of surrounding streams and watercourses.

View

Contact us

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A reed bed is a natural filtration process used in conjunction with a BioDisc or Biosafe Treatment Plant to further enhance the quality of effluent migrating into surrounding watercourse.

A reed bed is only required when local water authorities request a better quality of effluent than that discharged from the standard unit.

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
- Takes advantage of the heightened 'environmental awareness'
- Significantly improves discharge from a treatment plant.
- Additional running costs only when a pump is required.

Design

- Pre-fabricated to take out the guess work
- Modular system comprising of individual beds:
    - 6 Population = 2 beds
    - 12 Population = 4 beds
- One piece GRP moulding installed flush to the ground
- Reeds and GRP beds supplied. Washed pea gravel, 'growing' media by others (not included).
- Provides rooting zone depth of 600mm (required by Phragmites Australis).
- Modules designed with a hydraulic gradient across the length of the units.
- Adjustable outlet weir allows water level control

	HRB006	HRB012
Reed Beds		
Length	2500mm	2500mm
Width	800mm	800mm
Depth	800mm	800mm
No. Required	2	4
Outlet Size	110mm	110mm