

Water Management Solutions

**Klargester**

# BioDisc® BD-BN Sewage Treatment Plant

Reliable wastewater treatment solutions  
for a range of large applications



[klargester.co.uk](http://klargester.co.uk)

# Why choose a Large BioDisc®?

With strict Environment Agency standards, it's more important than ever to choose a sewage treatment plant that delivers peace of mind with reliable treatment of wastewater.

Klargester has 70 years' experience in the design and manufacture of water management solutions. The Klargester BioDisc Large treatment plant offers the following benefits:

70 YEARS' EXPERIENCE

Product Benefits

- Low noise
- Odour free
- Affordable lifetime running costs
- A full solution – sizing, commissioning, & maintenance (as optional extras)
- Tried and tested performance

Designed to EN 12255 standards

3 year warranty period\*

\*Subject to regular maintenance by either Kingspan Service or a Klargester Accredited Installer and Service Partner. Online registration required.

# Affordable lifetime running costs

Delivered as a single, packaged system, the Klargester BioDisc RBC range offers affordable running costs due to its unique design and operational efficiencies. A manual air blower system is not required to power the Large BioDisc, as it instead relies on the rotating biological disc which drives the wastewater treatment process in a highly efficient way.

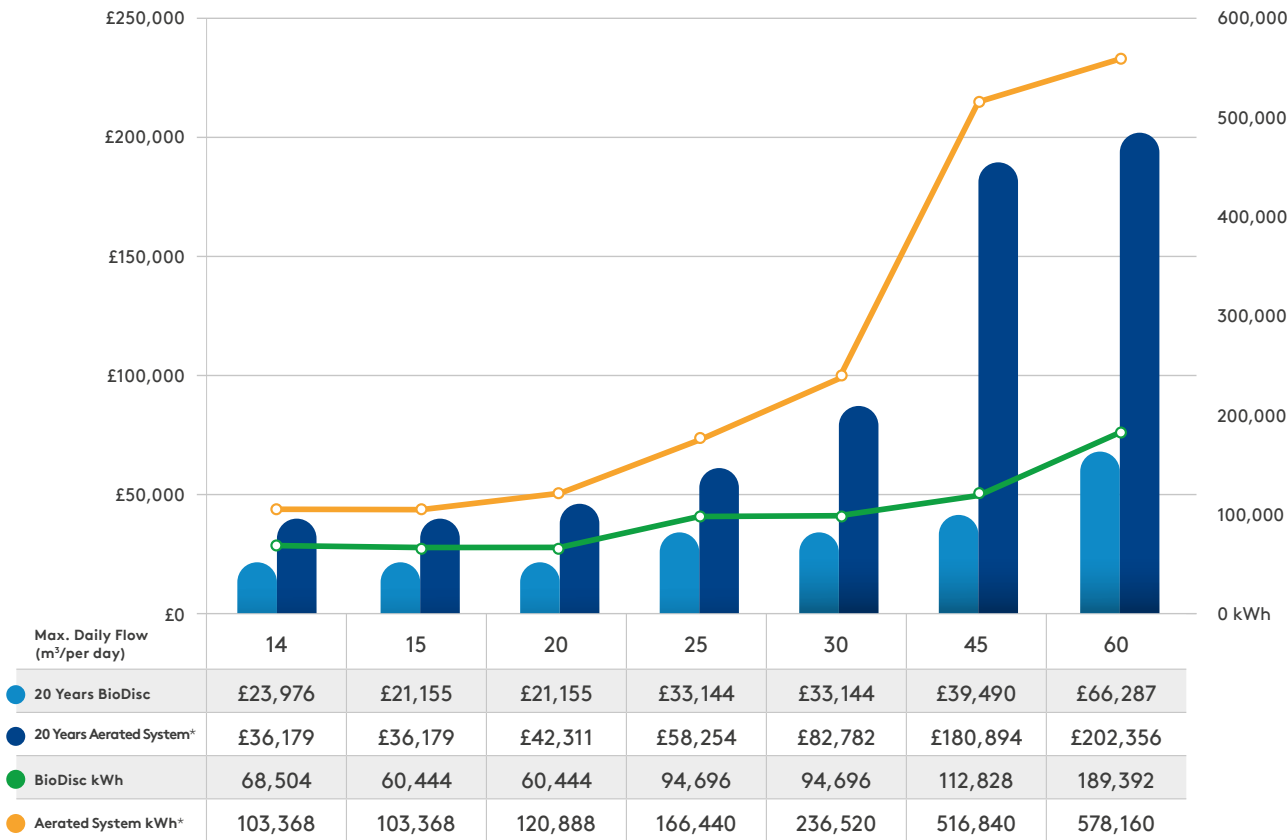
Our range of Large treatment plants is designed to run from either a single phase or three phase power source, and require 60 to 550 watt motors, offering low running costs.

LOW ENERGY

Save up to 67% on energy and cost savings

## Large BioDisc (RBC) versus an aerated system

Based on total energy costs over 20 year minimum expected product lifetime.\*\*



\*Based on Klargester BioFicient Aerated System

To find out more about the cost benefits of choosing the Klargester BioDisc, contact our in-house technical team who are happy to provide guidance on the size and cost of model for your wastewater project.

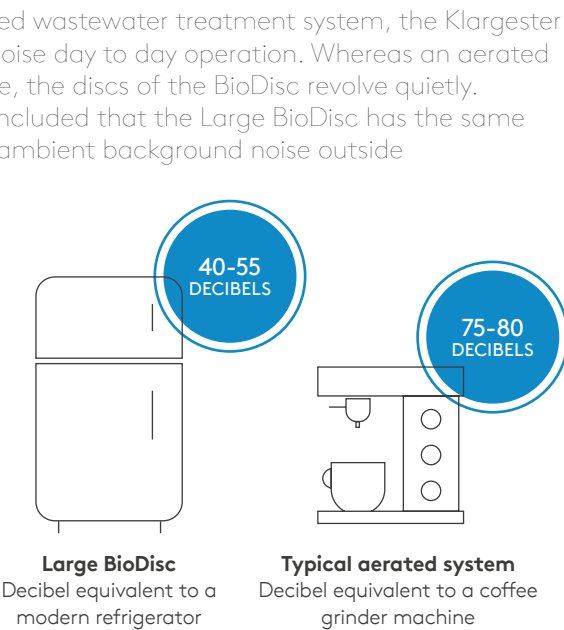
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\* Based on 20 years running costs of BioDisc BN model versus an aerated treatment plant.  
\*\*Cost calculations based on £0.269p per kw/H.



# Low Noise

In contrast with a noisy aerated wastewater treatment system, the Klargester Large BioDisc delivers a low noise day to day operation. Whereas an aerated system creates constant noise, the discs of the BioDisc revolve quietly. At a recent site, our team concluded that the Large BioDisc has the same level of noise as the average ambient background noise outside – between 40-55 decibels.



# Odourless operation

Klargester's Large BioDisc uses the tried and tested Rotating Biological Contactor technology. This means that it utilises moving discs containing living biomass and a flow management system to treat the wastewater, as opposed to an air pump which is used in a traditional aerated system.

BioDisc is one of the few sewage treatment systems available in the UK that does not make use of an air pump. This means minimal odour being omitted as effluent is not aerated or 'blown around' within a system. This is verified by an independent odour sampling report undertaken at one of our sites in Cumbria, in partnership with H+M Environmental Ltd (April 2017) and in accordance with EN13725 test standards.

The key findings of the report stated:

'No odour was subjectively discernible at the site boundary fence, or within the BioDisc compound'.

- The odour emission rate was calculated by sampling the odour concentration from joins in the unit covers. This was then multiplied by a volumetric air flow.
- Weather conditions were dry and sunny during the sampling.
- Temperatures on the day of sample (18th April) ranged from 8-12°C during the test period.
- The BioDisc operated normally during the sampling with no particular reported operational issues.



### Calculated Odour Emissions Rates

Source	Measured Odour Concentration	Measured Air Flow	Calculated Odour Emission
	ou <sub>e</sub> /m <sup>3</sup>	m <sup>3</sup> /s	ou <sub>e</sub> /s
Air vented from BioDisc 9am	330	0.008	2.7
Air vented from BioDisc 11am	339	0.008	2.7

(Above: extract showing actual calculated Odour Emission Rates from sample report –April 2017. Full report available on request from Kingspan Klargester).

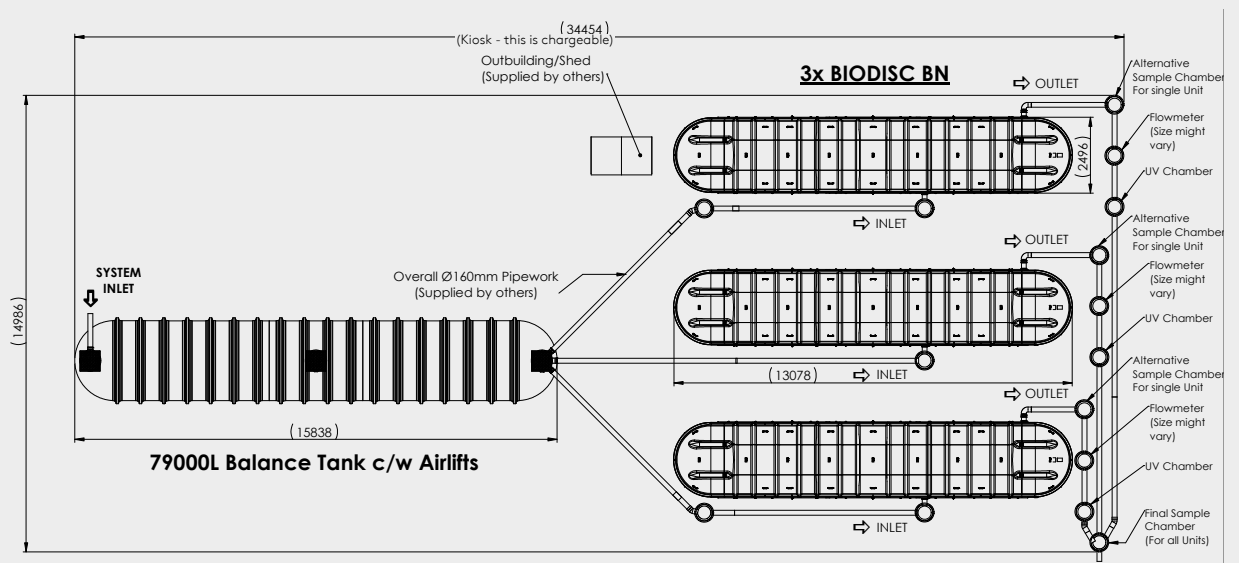
# A professional partnership

Klargester provides relevant advice and support throughout the wastewater treatment purchasing process based on our in-depth local knowledge and expertise. How? By offering comprehensive free site visits, professional installation options and aftersales care through our in-house Service team and our national network of Klargester accredited installers and service partners.

### Our team provides:

- Free on-site consultations, including sizing advice and full engineering expertise
- A smart commissioning solution which includes our SmartServ Pro remote monitoring software, for total peace of mind (optional extra)
- Professional installation
- Preventative maintenance plans to ensure optimal ongoing performance
- Day to day technical support
- Consultancy and advice, direct from the manufacturer
- A 3 year warranty period (when you register your warranty online). Terms and conditions apply - view online at <https://www.kingspan.com/gb/en-gb/products/wastewater-management/warranty-terms>

As part of our free site visit service, we can offer advice on larger bespoke schemes.



Talk to us about larger bespoke schemes, at [klargest@kingspan.com](mailto:klargest@kingspan.com)

# Technical specifications

## How it works

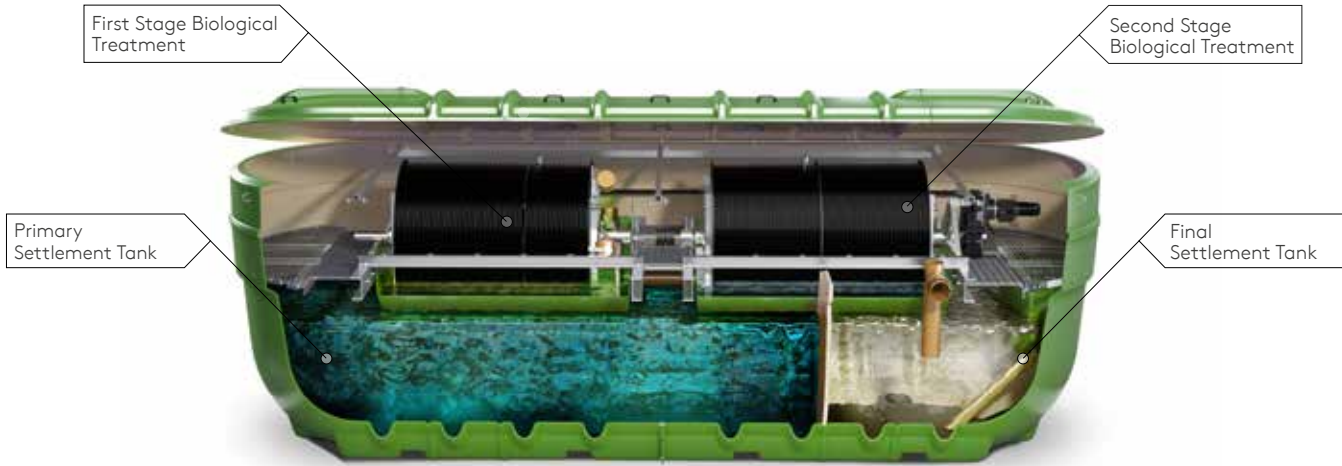
Our flow management systems ensure optimum treatment performance in the treatment zones. BioDisc features two chambers to ensure a totally efficient operation with a unique flow balancing facility.

This managed flow system ensures peak performance by smoothing variable loads. Wastewater is moved at a controlled rate through the sections with the entire media area available, ensuring maximum treatment efficiency.

**Performance & Compliance**

- Odour free - independently tested in accordance with EN13725.
- Designed for applications selected in compliance with British Water Code of Practice Flows and Loads.

### The Large BioDisc Wastewater Management Process



**01**  
Primary Settlement Tank  
This is the initial stage of treatment and simply involves the retention of coarse solids present in raw sewage and wastewater for subsequent gradual breakdown.



**02**  
First Stage Biological Treatment  
The liquor and fine solids then flow into the first stage of Biological Treatment. A unique managed flow system ensures peak performance by smoothing variable loads.



**03**  
Second Stage Biological Treatment  
The liquor is then fed forward at a controlled rate into Biological Treatment stage 2 for further treatment. This process ensures the whole media area available is utilised ensuring maximum efficiency.



**04**  
Final Settlement Tank  
The surplus micro-organisms continuously slough off the discs and are carried forward to the final settlement where they settle out as a humus sludge, leaving a clear treated effluent to be discharged to ground or water course.

### Technical Specifications

Model Reference	BD	BE	BF	BG	BJ	BK	BL	BM	BN
PE	25	35	50						
Maximum Daily BOD (kg)				4.2	6	7.5	9	13.5	18
Maximum Daily Flow (m3)				14	20	25	30	45	60
Ø/Width (mm)	2450	2450	2450	2450	2450	2450	2450	2450	2450
Length (mm)	3340	3340	4345	5235	7755	7755	7755	10420	13100
Inlet Invert depth (mm)	600/1100	600/1100	600/1100	600/1100	600/1000	600/1000	600/1000	600/1000	600/1000
Depth Below Inlet Invert (mm)	1820	1820	1820	1820	1790	1790	1790	1790	1790
Outlet Invert Depth (mm)	1735	1735	1720	700/1200	750/1150	750/1150	750/1150	750/1150	750/1150
Overall Height (mm)	2825/3325	2825/3325	2825/3325	2825/3325	2830/3230	2830/3230	2830/3230	2830/3230	2830/3230
Height to Rim of Cover (mm)	2485/2985	2485/2985	2485/2985	2485/2985	2490/2890	2490/2890	2490/2890	2490/2890	2490/2890
Empty Weight (kg)	1100/1200	1200/1300	1315/1465	1660/1810	3100/3120	3200/3220	3300/3320	4200/4250	5500/5650
Standard Power Supply	1 Phase	1 Phase	1 Phase	1 phase	1 phase	1 phase	1 phase	1 phase	1 phase
Motor Rating – 1 Phase (Watts)	253	253	299	180	250	370	370	550	2 x 370
Full Load Current 1 Phase (amps)	1.1	1.1	1.3	1.6	1.5	2.35	2.35	2.8	2 x 2.35
Optional Power Supply	3 Phase	3 Phase	3 Phase	3 phase	3 phase	3 phase	3 phase	3 phase	3 phase
Motor Rating – 3 Phase (Watts)	90	90	250	180	250	370	370	550	2 x 370
Full Load Current 3 Phase (amps)	0.38	0.38	0.42	0.63	0.88	1.35	1.35	2.8	2 x 1.35
Sludge Return Pump Rating (Watts)	250	250	250	250	250	250	250	250	250

## Protect your investment with our Smart Commissioning Package

This comprehensive package\* includes commissioning, to ensure your Large BioDisc runs optimally right from the start, as well as our remote monitoring solution – SmartServ Pro. Together, both provide total peace of mind when it comes to the ongoing performance of your wastewater treatment solution. Remember that installation of a suitable alarm system is required under EN 12566-3 (BioDisc BE-BF units only).

For information on our Smart Commissioning Package or wider service solutions, contact our team on [helpingyou@kingspan.com](mailto:helpingyou@kingspan.com) or visit our website at [kingspanservice.com](http://kingspanservice.com)

Register your warranty online by scanning the QR code below to enjoy an extended 3 year warranty period\*\*



\*\*Terms and conditions apply. Visit: <https://www.kingspan.com/gb/en-gb/products/wastewater-management/warranty-terms>



\* Available as an optional extra.

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# Contact Details

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