

Water Management Solutions


Kingspan



Klargester

BioDisc[®] BD-BN Large Sewage Treatment Plant Range

Reliable wastewater treatment solutions
for a range of large applications



kingspan.co.uk/klargester


Kingspan

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.

Kingspan Klargester has 65 years' experience in the design and manufacture of water management solutions. The Kingspan Klargester BioDisc commercial treatment plant offers the following benefits:

65 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 Kingspan Klargester Accredited Installer and Service Partner. Online registration required.

Affordable lifetime running costs

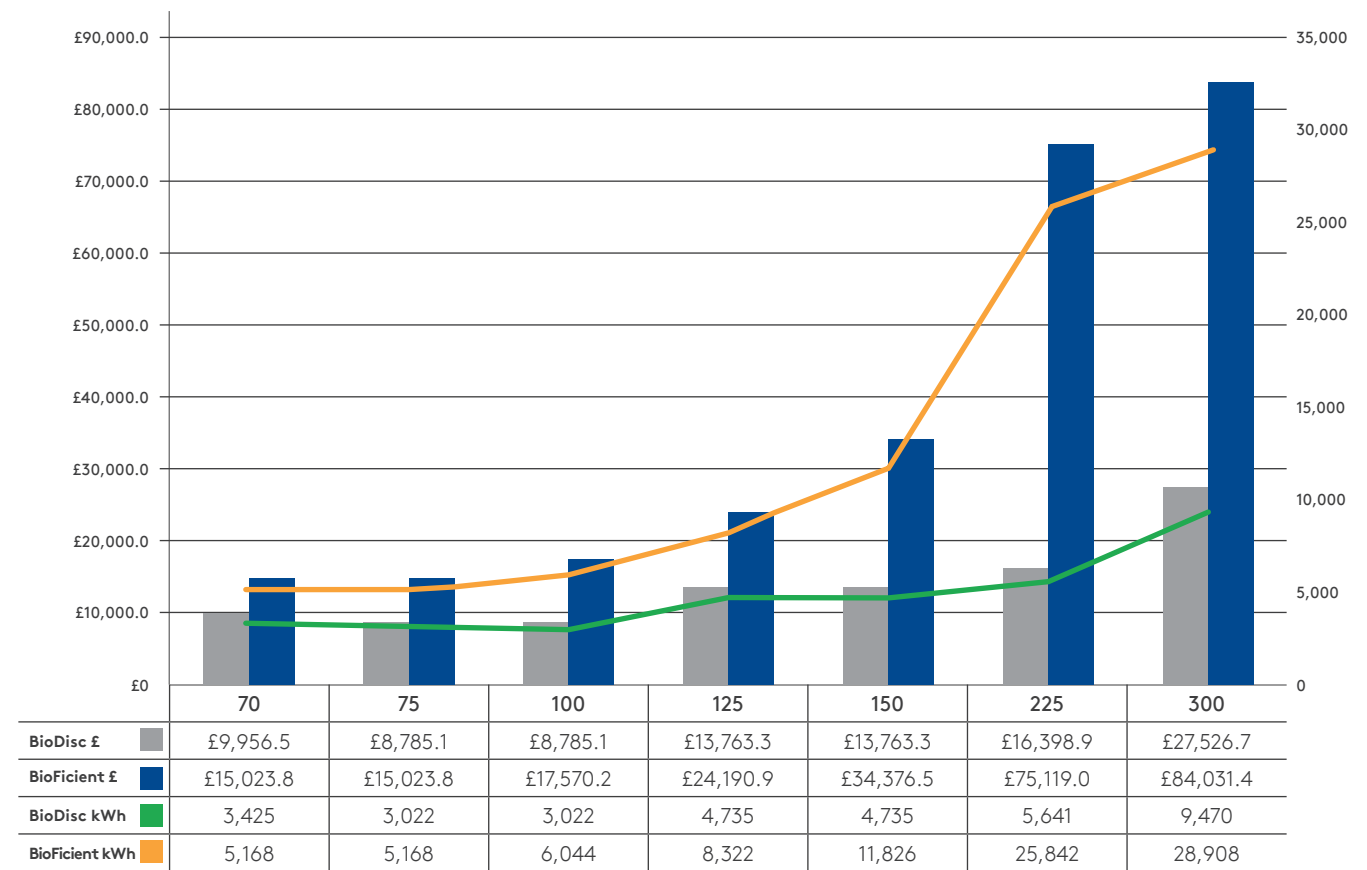
Delivered as a single, packaged system, the Kingspan Klargester BioDisc RBC range offers affordable running costs due to its unique design and operational efficiencies. A manual air blower system is not required to power the commercial BioDisc, as it instead relies on the rotating biological disc which 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.



Large BioDisc (RBC) versus an aerated system*

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



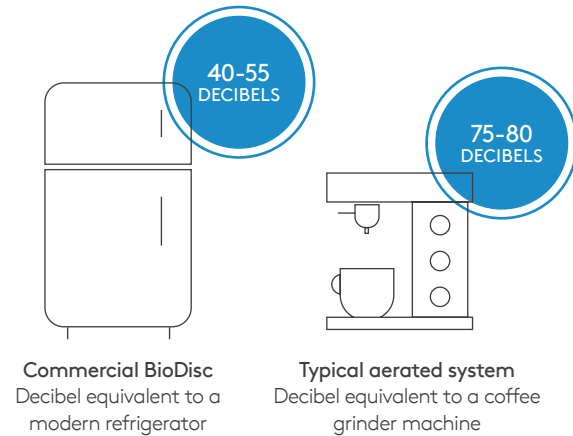
*Based on the Kingspan Klargester BioFicient aerated treatment plant range. **Cost calculations based on £0.145p per kw/H.

To find out more about the cost benefits of choosing the Kingspan 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.

Email: klargester@kingspan.com
 Tel: (0) 1296 633 000
 Web: www.kingspan.co.uk/klargester

Low Noise

In contrast with a noisy aerated wastewater treatment system, the Kingspan 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 expert team concluded that commercial BioDisc has the same level of noise as the average ambient background noise outside – between 40-55 decibels.



Odourless operation

Kingspan 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 _e /m ³	m ³ /s	ou _e /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).

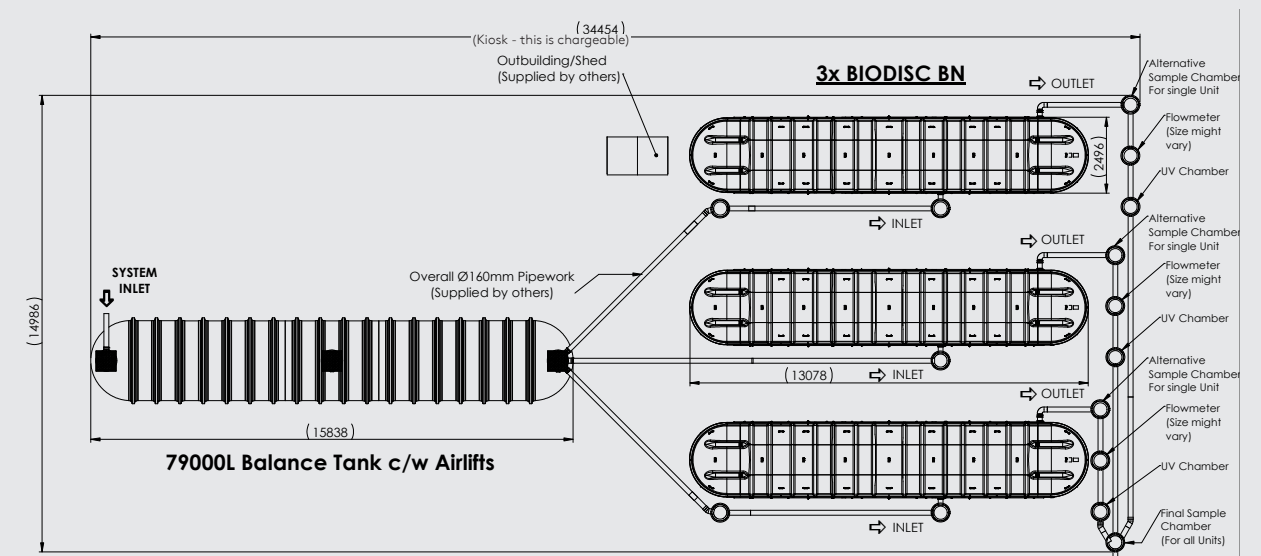
A professional partnership

Kingspan 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 expert aftersales care through our in-house Service team and our national network of Kingspan Klargester accredited installers and service partners.

Our expert 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

Technical specifications

How it works

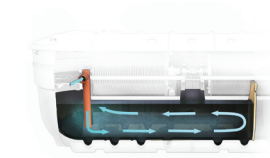
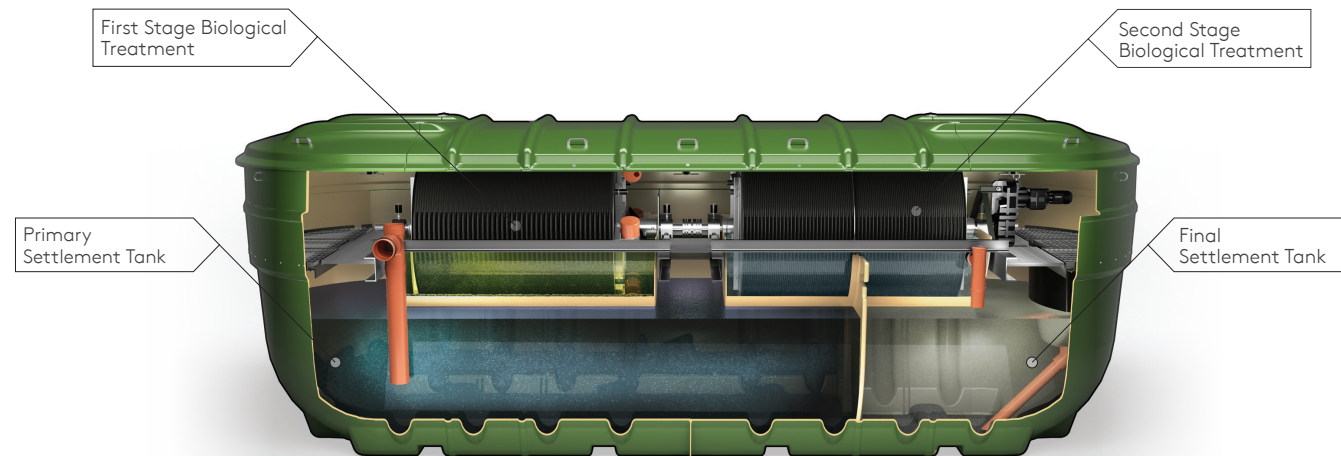
Our flow management systems ensure optimum treatment performance in the treatment zones. BioDisc features two chambers to ensure a totally efficient operation with a unique flow balancing facility.

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.

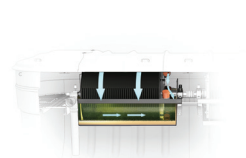
The Large BioDisc Wastewater Management Process



01

Primary Settlement Tank

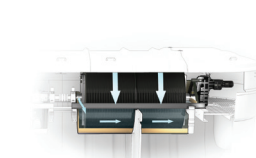
This is the initial stage of treatment and simply involves the retention of coarse solids present in raw sewage and wastewater for subsequent gradual breakdown.



02

First Stage Biological Treatment

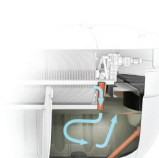
The liquor and fine solids then flow into the first stage of Biological Treatment. A unique managed flow system ensures peak performance by smoothing variable loads.



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	BH	BJ	BK	BL	BM	BN
Maximum Daily BOD (kg)	1.5	2.1	3	4.2	4.5	6	7.5	9	13.5	18
Maximum Daily Flow (m3)	5	7	10	14	15	20	25	30	45	60
Ø/Width (mm)	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
Length (mm)	3340	3340	4345	5235	7755	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	600/1000
Depth Below Inlet Invert (mm)	1820	1820	1820	1820	1790	1790	1790	1790	1790	1790
Outlet Invert Depth (mm)	685/1185	685/1185	700/1200	700/1200	750/1150	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	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	2490/2890
Empty Weight (kg)	1100/1200	1200/1300	1315/1465	1660/1810	3000/3020	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	1 phase
Motor Rating – 1 Phase (Watts)	75	75	120	180	250	250	370	370	550	2 x 370
Full Load Current 1 Phase (amps)	1.1	1.1	1.3	1.6	1.5	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	3 phase
Motor Rating – 3 Phase (Watts)	90	90	120	180	250	250	370	370	550	2 x 370
Full Load Current 3 Phase (amps)	0.38	0.38	0.42	0.63	0.88	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	250

Protect your investment with our Smart Commissioning Package

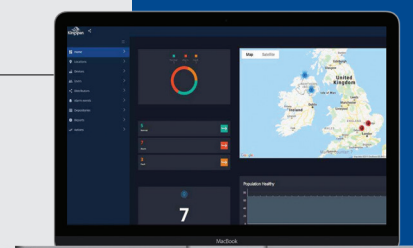
This comprehensive package* includes commissioning, to ensure your commercial BioDisc runs optimally right from the start, as well as our remote monitoring solution – SmartServ Pro. Together, both provide total peace of mind when it comes to the ongoing performance of your wastewater treatment solution. 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 or visit our website at 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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