

Water Management Solutions

Wastewater Management Modular BioDisc® Product Guide



Kingspan.me/water



Trust the Water Experts

About Kingspan

The Kingspan group is a dynamic, diverse business with global reach. Our well proven, trusted portfolio of Water Management Solutions is designed to meet all types of domestic, commercial and industrial off-mains applications.

Operating in over 80 countries, Kingspan deliver pioneering technology, design and manufacturing – backed by an experienced distribution network and local, experienced sales, technical and customer service teams.

We have over 60 years’ experience in Water Management Solutions, so we can bring you the confidence of quality and support over the lifetime of your solution and beyond.



| Expertise | Reliability | Trust |
|-----------|-------------|-------|
| | | |

Innovative Expert Solutions

Kingspan creates the Water Management Solutions of the future, today. We innovate so you never have to compromise on quality, efficiency, sustainability or strength.

Introducing the new Modular BioDisc range

About the new Modular BioDisc range

Kingspan’s new Modular and containerised commercial sewage treatment plant range is available for populations between 300PE and 2500PE. Choose from above or below ground options for a flexible engineered solution.

BioDisc Rotating Biological Contactor (RBC) models are designed to ensure 100% compliance with industry requirements and discharge qualities across commercial sectors, including BS EN 12255 (over 50PE).

Modular BioDisc is suitable for a wide range of large scale applications such as:

| | | |
|-------------------|-----------------|--------------------------------|
| Residential | Transport | Multi-housing Developments |
| Leisure | Campsites | Offices |
| Public Sector | Hospitality | |



The Modular BioDisc large treatment plant solution is ideal for off-mains sites with seasonal loads due to its unique flow management activity.



Modular BioDisc Benefits

A unique, plug and play Modular RBC solution from Kingspan.

The Kingspan Modular BioDisc offers a totally engineered and scalable solution for commercial sewage treatment applications. Constructed from robust GRP, each 250 PE containerised module is designed for easy installation, utilising plug and play functionality.

Kingspan offer full technical support when it comes to the design and sizing of your system, allowing complete flexibility on your chosen layout.

To find out more about our Modular BioDisc®, email: Water-ME@kingspan.com today.

UP TO
100%
OF USED ENERGY
ON SITE

3
YEARS
PAYBACK

REMOTE
MONITORING
AVAILABLE

PE
300 - 2500

More Savings

Kingspan's unique to market solar back up option is the ideal solution for customers in remote locations. Our solar panels can cater for up to 100% of the used energy on any site, offering a potential payback of three years on a typical BioDisc commercial system.

This recommended solution is suitable for all commercial applications and is particularly useful for off-grid locations, where absence of a back up system often presents challenges.

It offers a highly efficient and cost effective solution, and is available for use on all models within the BioDisc commercial range, both single piece and Modular.



More Efficiency

Our unique flow management system delivers an improved biological process and overall treatment efficiency, by catering for seasonal changes to flows and loads. Adaptive forward feed management allows for total flexibility for seasonally fluctuating sites.



More Scalability

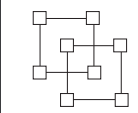
The commercial BioDisc range offers a totally scalable solution. For applications larger than 300PE, we offer a brand new containerised Modular solution, with flexibility to suit sites with populations up to 2500PE.



More Control

We offer both local alarms and remote monitoring solutions to allow total control over your treatment plant. Kingspan's intelligent SmartServ remote monitoring solution helps overcome the challenges associated with performance monitoring on remote systems. Our fully integrated connectivity package allows for greater control over your assets, saving you time and money when it comes to servicing your treatment plant.

Containerised
Solution



Benefits

Kingspan's Modular BioDisc range also offers the following benefits as standard:



Containerised
Design



Low Running
Costs



Odour Free



Noise Free

Modular BioDisc

Technical Specifications

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

Technical Specifications

| Product | PE | BOD | TSS | NH4 |
|---------|-----|-----|-----|-----|
| MBS 1 | 320 | 20 | 30 | 20 |
| MBS1 N | 250 | 10 | 15 | 5 |
| MBS 2 | 640 | 20 | 30 | 20 |
| MBS2 N | 500 | 10 | 15 | 5 |

| Unit | Daily Flow (l/day) | Daily Load (kg/BOD/day) | Length (mm) | Width (mm) | Height (mm) | Weight (kg) | Motor Power |
|------------------------|--------------------|-------------------------|-------------|------------|-------------|-------------|-------------|
| Modular BioDisc 250 PE | 50,000 | 15 | 6,700 | 2,210 | 2,400 | 5,000 | 1.1 Kw/400v |

| Population Equivalent | Primary Settlement Tank (days) | Final Settlement Tank |
|-----------------------|--------------------------------|-----------------------|
| 250 | 40m³ (90) | 15m³ |
| 500 | 76m³ (90) | 27m³ |
| 750 | 80m³ (45) | 38m³ |
| 1000 | 91m³ (30) | 48m³ |
| 1500 | 130m³ (30) | 68m³ |
| 2000 | 169m³ (30) | 87m³ |



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.



Flow Management Process

The unique BioDisc® flow management process allows for complete flexibility of forward feed rate. Rotating buckets transfer untreated water through each of the BioZones, allowing for total forward feed control. These are independently driven and allow the buckets to run at a different speed to the rotor.

Sectional Media Modules

The Biozone media within the BioDisc® Modular system is built up in 'wedge' sections to make a two metre diameter rotor assembly. A complete wedge can be removed from the rotor for maintenance or inspection without compromising the overall rotor structure. This ensures the rotor assembly can stay in place, without the need for removal.

Rotor Support Bearings

The rotor assembly within BioDisc® is supported by a pillow block bearing at each end of the rotor shaft. These are equipped with self-lubricating grease cartridges to provide continual lubrication. Both of the bearings can be accessed by removing the individual covers for maintenance. It is not necessary to remove the larger main covers, allowing for easier maintenance.

Strapping Points

The treatment plant can be lifted from the side by forklift truck. Forklift tubes are built into the steel construction frame. The unit can also be lifted at either end with the aid of extension forks. Alternatively, the unit can be lifted with slings. Four lifting brackets are attached to the frame and lifting shackles are provided with each unit.

* Max daily flow based on 200 L/Person/Day, system PE will vary by site flow rate per person.

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