



Moving bed filtration

Hydro International's
UK tertiary wastewater treatment services

MOVING BED FILTRATION:

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Our moving bed filtration expertise

We have a well-established UK track record in the maintenance, refurbishment and optimisation of continuous moving bed sand filters for tertiary wastewater treatment.

Now, through our UK partnership with Brightwork BV, we also supply new-build moving bed filtration systems, including integrated remote smart monitoring to optimise performance, support tighter discharge consents and improve operational resilience.



PRODUCTS

Brightwork MBF (Moving Bed Filter)

The Brightwork MBF is an advanced continuous moving bed media filtration system designed to remove suspended solids, nutrients, biochemical oxygen demand (BOD) and heavy metals.

Captured pollutants are discharged as a concentrated waste flow, while the sand is continuously cleaned, guaranteeing uninterrupted process availability.

Brightwork MBFs are modular systems suitable for a wide range of capacities, from as low as 4 m³/h up to as high as 4,000 m³/h.

Single stand-alone units are typically constructed in stainless steel.

For larger filter plant capacities, typically from 1,000 m³/h upwards, rectangular or circular concrete units are used.

Benefits:

- **Reduce** installation time and cost due to the modular design, with off-site manufacturing of components and 'plug-and-play' capability.
- **Deliver** stable treatment performance and consistent effluent quality under variable hydraulic and solids loads.
- **Enable** combined treatment including solids removal and biological treatment, including for nitrogen and phosphorus removal, within a single adaptable system.
- **Maintain** continuous operation with no downtime for backwashing due to fully integrated hydraulic media washing.



Sand-Cycle®



Sand-Cycle® is an intelligent remote monitoring and control system that enhances the performance of continuous moving bed filters.

It uses RFID tags mixed into the filter media to act as a reliable proxy for sand circulation. Sand-Cycle® provides live and historical trending of key continuous filter parameters, delivering:

- Real-time process data visibility
- Improved filtration
- Predictive maintenance

Using advanced algorithms, this data is processed and presented via a secure online dashboard, giving operators clear, actionable insight into what is happening on site – without the need for site attendance.

The technology can be applied to both existing installations and new continuous sand filters, regardless of make or manufacturer.

Benefits:

- **Improve** compliance confidence with real-time, remote performance insight via an online dashboard, as well as automated alarms to signal when operator intervention is required.
- **Identify** developing issues such as partial blockages and intervene quickly to restore normal operation and remain compliant.
- **Monitor** asset condition including wear and tear status of filter components without having to visit the site.
- **Retrofit** into any continuous moving bed sand filter to optimise filtration efficiency and overall asset condition.
- **Reduce** operational costs through increased uptime, optimised sand circulation efficiency, predictive maintenance and extended lifetime of wear components, as well as lower energy and manpower requirements.



Asset maintenance and optimisation services

We have been offering continuous moving bed filter maintenance, repair and refurbishment services for over 20 years.

From routine inspections to urgent repairs, our skilled engineers have the expertise to assess and service your equipment to ensure continued compliance with operational and regulatory requirements.

Our moving bed refurbishment services include:

- Removal of existing sand and disposal via suction excavator
- Replacement of centre column and aeration ring
- Supply and filling of new sand
- Supply of all craneage for above works and skip hire for general waste
- Hire of telehandler
- Commissioning
- Removal of redundant equipment for customer disposal
- Design and manufacture of new centre columns
- Delivery of parts from Holland
- All labour and accommodation costs associated with the above tasks
- Retrofit of Sand-Cycle® intelligent monitoring system

Benefits:

- **Reduce** whole-life costs by extending asset lifetime with timely maintenance and inspection from our expert team.
- **Minimise** downtime through proactive maintenance rather than reactive repairs.
- **Avoid** unnecessary costly asset replacement by repairing and refurbishing existing equipment.
- **Improve** operating efficiency with insights from our skilled engineers.

Get in touch

To find out more about the Brightwork MBF and Sand-Cycle®, please visit hydro-int.com/hydro-tertiary-mbf

For more information on our moving bed filter maintenance, repair and refurbishment services, please call 01275 878371 or email wastewaterfiltration@hydro-int.com