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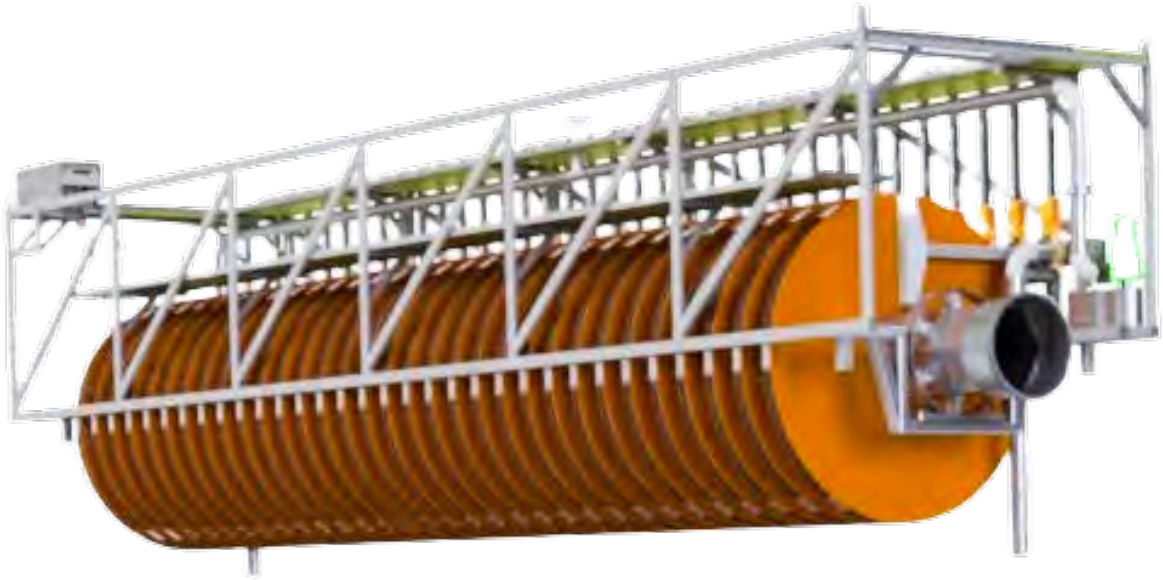
— process engineering —



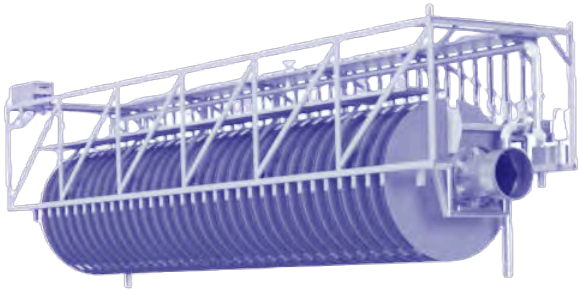
ENCLODISC®
PILE CLOTH FILTER

Total-Phosphorus < 0,1 ppm

Total Suspended Solids < 5 ppm

Robust
Filtration Architecture
Ensuring Consistent & High-Purity
Discharge Performance

COMPLIANT COMPLIANT



ENCLODISC® is a **modular rotary disc filter** designed for **efficient tertiary solids removal** in municipal and industrial wastewater.

With advanced **fiber and microfiber pile cloth media**, it ensures superior reduction of **TSS, phosphorus,** and various **micropollutants**.

Fully automatic in operation, ENCLODISC® delivers **continuous filtration** with **low energy use** and **minimal backwash water**, offering a compact, cost-effective, and eco-friendly solution.

ENCLODISC® PILE CLOTH FILTER

TECHNICAL SPECIFICATIONS

The **ENCLODISC® Rotary Disc Filter** is a **compact, energy-passive, self-cleaning microfiltration unit** designed for tertiary wastewater and industrial process water applications. Under standard operating conditions, it consumes no energy during filtration and activates rotation **only when the filter surface becomes partially clogged,** ensuring efficient and economical operation.

What sets ENCLODISC® apart is its **exceptional performance in removing Total Suspended Solids (TSS), Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), and particularly phosphorus.** Thanks to its precision-engineered structure, the system consistently achieves **total phosphorus discharge levels below 0.1 ppm.**

The unit's innovative disc configuration provides a **large effective filtration surface area** within a **minimal footprint,** enabling **high flow capacity with extremely low pressure loss.**

Moreover, the **filtration process remains uninterrupted even during the self-cleaning phase,** ensuring continuous operation and reliable effluent quality.

High Filtration Efficiency

- Dual-mode pile cloth media (depth + surface filtration) for TSS and phosphorus removal
- Final effluent TSS <5 ppm and Total-P <0.1 ppm consistently achieved
- High flow capacity due to 100% water-submerged discs

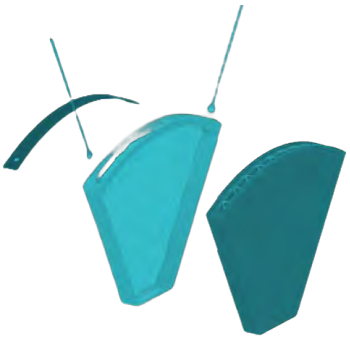
Materials & Construction

- AISI 304 or AISI 316L stainless steel body
- Segments made from special thermo-plastic frames
- Pile cloth filter bags made from fiber or micro-fiber media
- Dual vacuum manifold made from media-compatible thermoplastic
- Walkway platforms from GRP or stainless steel

All Enclodisc Pile Cloth Filter units are designed and manufactured to operate under heavy-duty working environments.

ENCLODISC® PILE CLOTH FILTER

KEY FEATURES & ADVANTAGES



Disc Structure and Filtration

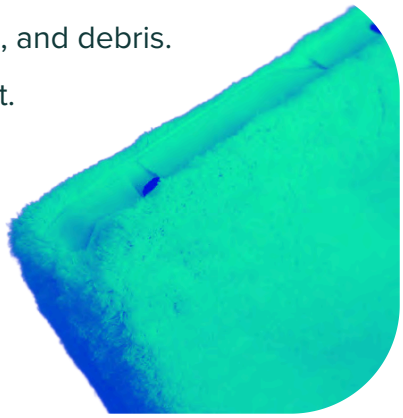
The **disc surfaces** of the ENCLODISC® unit are covered with **fiber or microfiber pile cloth media**, featuring micro-structured surfaces with **filtration openings between 5–10 µm.**

Each disc is made up of **six modular segments,** allowing for quick assembly, disassembly, and maintenance.

During operation, **untreated water enters the outer chamber** and fl**ows by gravity from the outside in**, passing through the filter media into the **central drum.**
Suspended solids (TSS) are effectively captured on the outer surface of the cloth, while the **filtered water** collects in the central shaft and is discharged from the system.

Distinct and Advanced Technical Features

- Effective removal of **TSS**, **COD**, **BOD**, **phosphorus**, **micropollutants**, and **microplastics**.
- Two media options for achieving **TSS < 10 ppm** or **< 5 ppm**.
- Superior backwash performance via dual vacuum manifold.
- Safer operation with manual/automatic valve selection in the suction line.
- Dual submersible backwash pumps (main + standby), auto-switched during high loads.
- No need for separate sedimentation pumps.
- Optional automated knife valves (electrical/pneumatic).
- Simple manual basket strainer at inlet for floating solids, scum, and debris.
- Optional online TSS measurement at inlet and Total-P at outlet.
- Excellent software control for varying operating conditions.
- **Minimal reject water (only 1–3%)**.
- Easy and fast installation in concrete or stainless tanks.
- Capacity diversity with **MINI** and **MAXI** models.



High Operational Reliability

- Fiber or micro-fiber pile cloth filter bags offer dependable and long-term filtration.
- Easy inspection and replacement of filter bags.
- Low maintenance and operation costs due to long media life.
- Very low head loss.
- Energy-efficient due to gravity-driven flow.
- Lower overall investment costs.

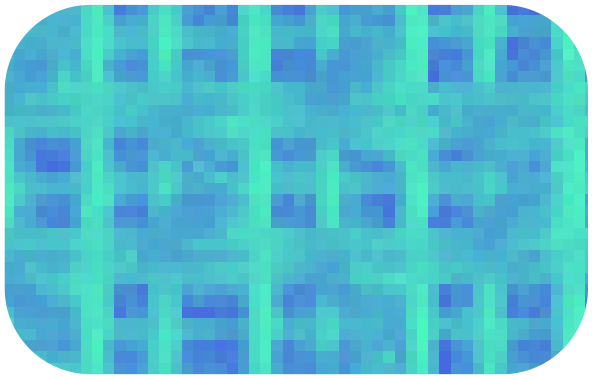
Drive & Automation

- The drum is driven by a motor–reducer and chain-gear system.
- All units are configurable with PLC-controlled automation, manual override, and remote telemetry integration (optional).

ENCLODISC® PILE CLOTH FILTER

CLOTH MEDIA TECHNOLOGY

ENCLODISC® uses industry-leading pile cloth filter media developed in collaboration with European specialists:



Staple Fibre Pile Cloth

Engineered for high solids retention and rapid cleanability. Offers robust performance under varying load conditions, maintaining flux rates and reducing backwash cycles.

Bioactive Microfiber Pile Cloth

An advanced microfiber textile with enhanced specific surface area, ideal for biologically active filtration zones and nutrient polishing. It prevents the development of biofilms for a prolonged time preiod while maintaining hydraulic performance.

Performance Benefits

- Low head-loss and energy-efficient filtration
- Fast recovery after backwash
- Extended cloth service life (over 8 years under normal operations)
- Chemical resistance to typical wastewater constituents

ENCLODISC® PILE CLOTH FILTER COMPARATIVE TECHNICAL SPECIFICATIONS

Parameter	10 µm Standard Filter Cloth	5 µm Bioactive Microfiber Filter Cloth
Micron Rating	10 µm nominal	5 µm nominal
Typical Filtration Rate	5–15 m/h	5–15 m/h
TSS Load Capacity	up to 80 mg/L influent	up to 40 mg/L influent
TSS Removal Efficiency	up to 95% for particles ≥10 µm	up to 98% for particles ≥5 µm
Phosphorus Reduction	—	Yes, with coagulation & activated carbon
Micropollutants Removal	—	Yes, in combination with PAC or similar agents
Weave Technology	Woven	Woven
Advantages over Knitted Media and further properties	High dimensional stability, mechanical strength precise pore control	High dimensional stability, mechanical strength Biofilm-resistant, precise pore control
Durability / Lifetime	> 4 years under typical operation	> 4 years under typical operation
Cleaning Intervals	Low frequency – depends on loading	Low frequency – depends on loading

VACUUM CLEANING SYSTEM

- Discs are fully submerged in water.
- As solids accumulate on disc surfaces and clogging occurs, the water level in the chamber rises—yet the discs remain stationary.
- Once a preset level is reached, disc rotation and automatic backwashing begin.
- Vacuum cleaning is performed by a specially designed vacuum manifold and automatically triggered submersible wastewater pumps.
- Filtration continues uninterrupted during the backwash cycle.
- No separate sedimentation pump is required.

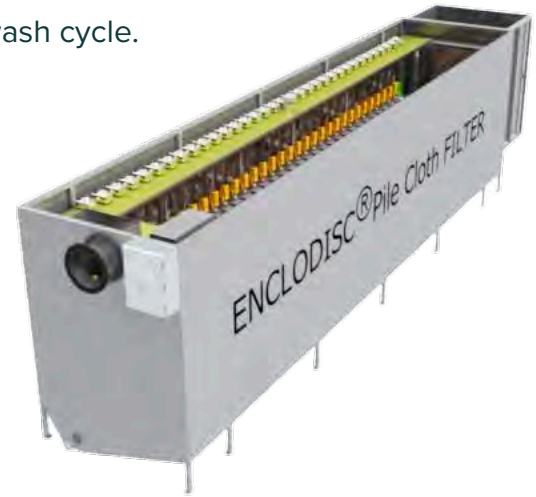
ENCLODISC® MAXI

5,2 m^2/disc

ENCLODISC® MINI

1,2 m^2/disc

- **Optimised cloth media configuration delivering high surface area within a compact system footprint.**

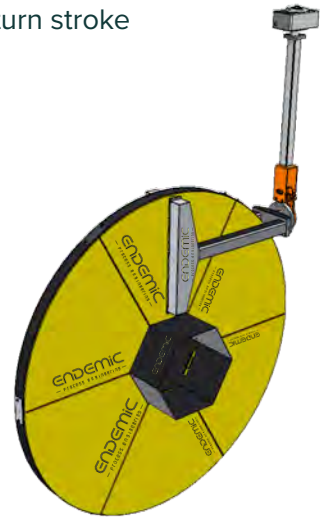


- **The base of the unit is specially formed to ensure efficient sludge removal.**

DUAL VACUUM BACKWASH MANIFOLD

- Enclodisc's patented dual-row vacuum manifold consists of two parallel suction ports.
- In the first suction port, the pile fibers are agitated to loosen and detach particles.
- In the second port, particles are vacuumed off and the fibers are straightened.
- This two-step suction mechanism increases backwash effectiveness and system efficiency.
- Additionally, large particles are scraped from the surface during the return stroke prior to suction.

Proprietary Twin-Vacuum Cleaning Technology Ensuring Maximum Cloth Regeneration & Minimal Downtime



ENCLODISC®
PILE CLOTH FILTER

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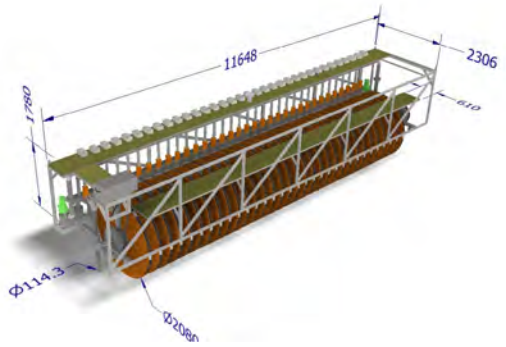
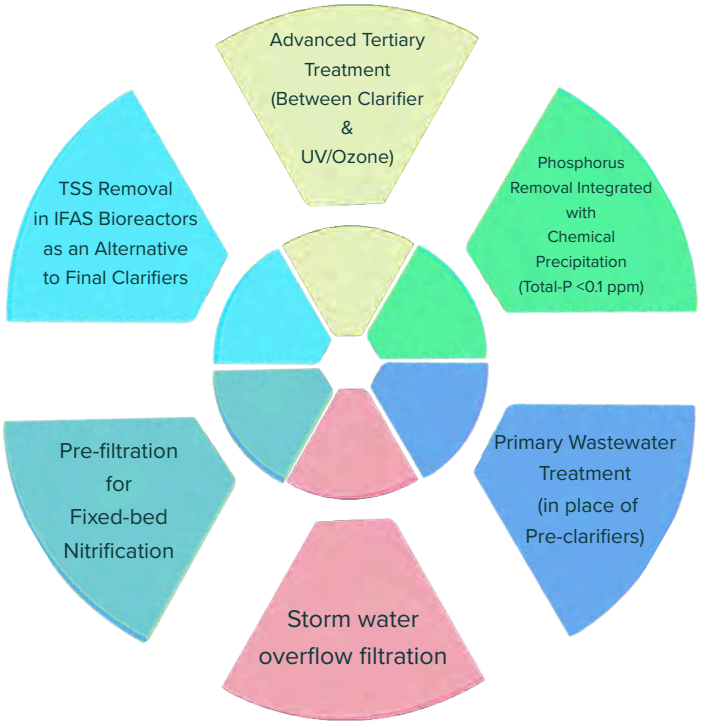
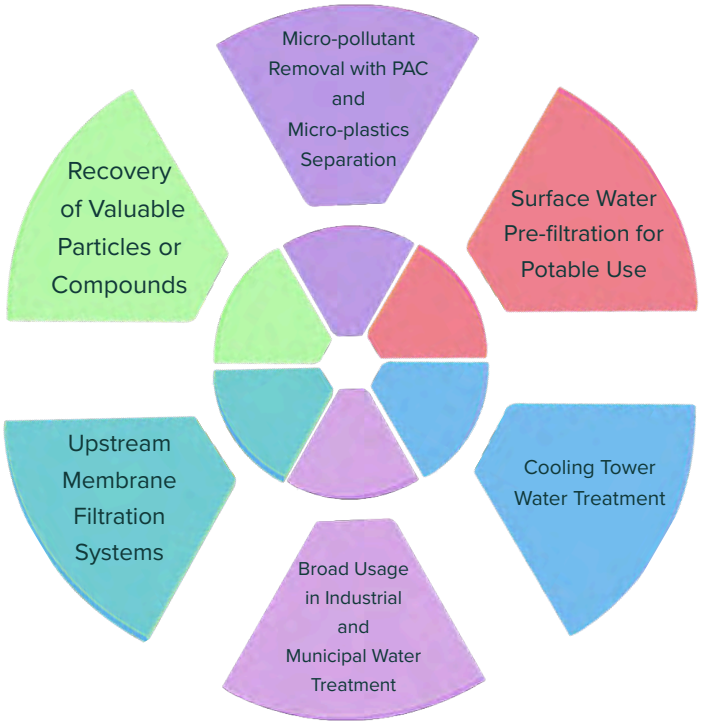
TYPICAL APPLICATIONS

Efficient tertiary filtration for municipal and industrial wastewater, advanced phosphorus and TSS removal, water reuse, and environmental compliance.







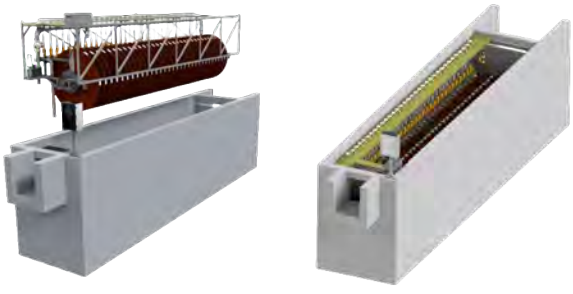
DEPLOYMENT OPTIONS

ENCLODISC® can be easily installed inside steel or reinforced concrete tanks.

ENCLODISC® MINI units are typically delivered pre-assembled in compact stainless steel tanks, offering a plug-and-play solution ideal for pilot installations, containerized systems, or space-limited facilities.

ENCLODISC® STEEL TANK

ENCLODISC® MAXI systems are designed for installation within concrete basins, enabling cost-effective scalability for large municipal or industrial wastewater treatment applications.



ENCLODISC® CONCRETE BASIN

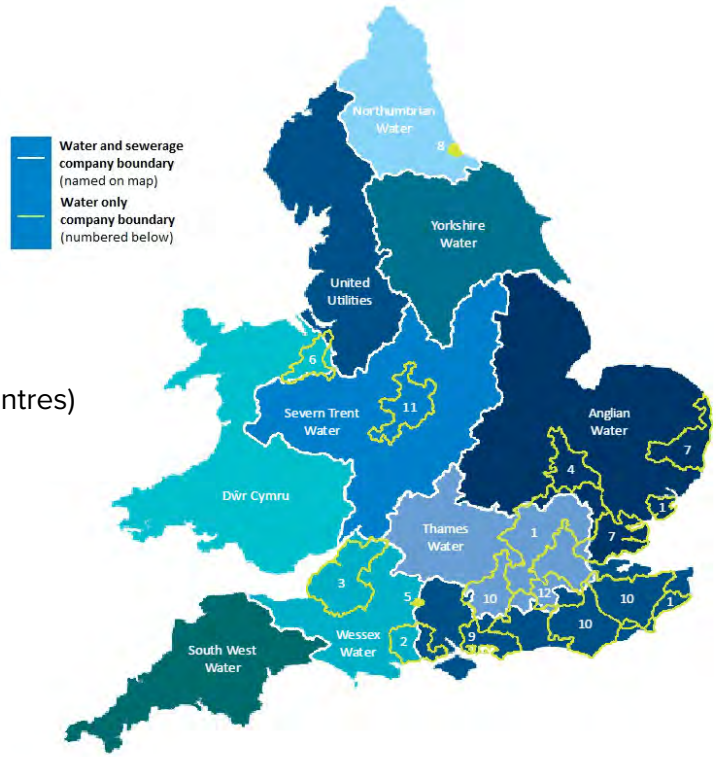
- All units are compliant with EU and BS transport standards.
- Additional components such as deck ladders and railings are fabricated from GRP or stainless steel.

Compliance & Certifications

- **Global:** ISO 9001, ISO 14001, ASME B31.3/BPE adaptable; WHO and NSF/ANSI 61 (on request)
- **European Union:** CE marking, EN 12255-16, PED 2014/68/EU, EMC 2014/30/EU, RoHS, REACH
- **United Kingdom:** WIMES 8.15, 3.03, 3.08, 4.01, 8.08–8.10, 9.02; UKCA mark; ISO 9001, 14001

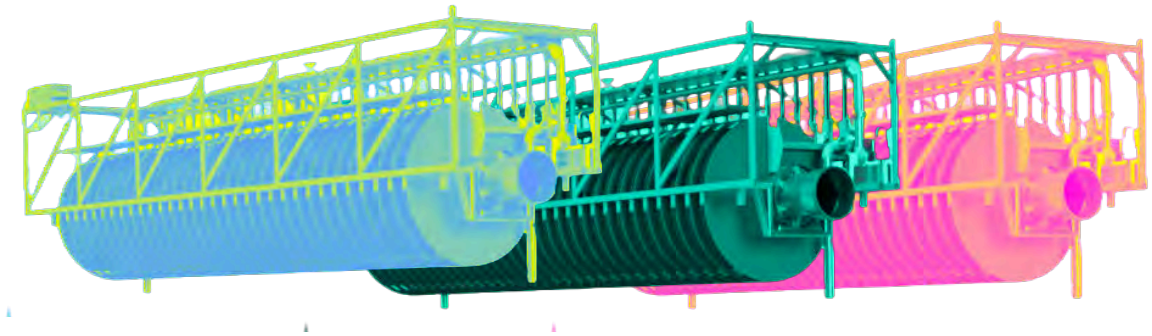
UK Water & Sewage

- Anglian Water (East England)
- Northumbrian Water (North East & parts of Yorkshire)
- United Utilities (North West England)
- Yorkshire Water (Yorkshire)
- Thames Water (Greater London & Thames Valley)
- Severn Trent Water (Central England)
- South West Water (South West England)
- Wessex Water (South West, excluding major urban centres)
- Southern Water (South East England)
- South East Water (Kent/Surrey)
- South Staffs Water (West Midlands/Staffordshire)



UK Water only

- Portsmouth Water
- SES Water (Surrey & South East London)
- Essex & Suffolk Water



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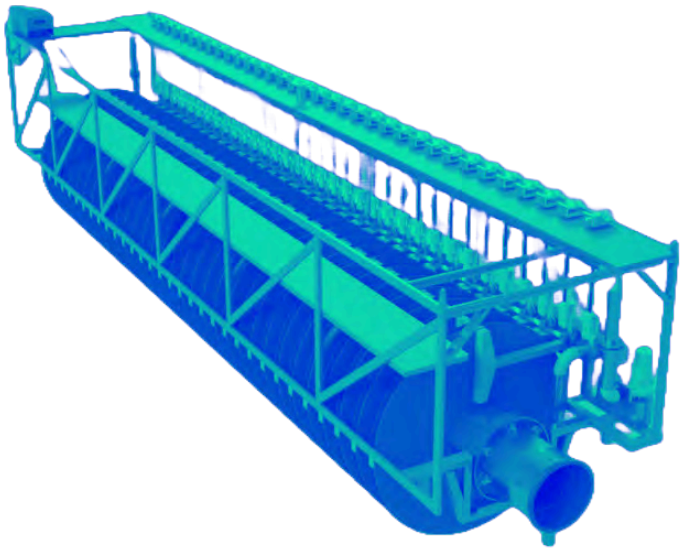

ENCLODISC®
PILE CLOTH FILTER

Legal Notice – Intellectual Property Declaration

endemic
Endemic Fito Farma Biyoteknoloji Sanayi ve Ticaret A.Ş

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