



**AUTHORISED
SYSTEM
PARTNER**

FILTRATION FOR 4TH PURIFICATION STAGE AND WASTEWATER REUSE

FIBRE DISC FILTER

COMPACT AND EFFICIENT CLOTH FILTRATION

Fiber disc filters are proven filtration systems that have demonstrated stability and performance across various water treatment applications. Based on over 40 years of expertise in the water treatment industry, Yucheon Enviro manufactures Fiber disc filters that deliver excellent solids removal performance in municipal wastewater and process water treatment. The filters consist of rotating discs covered with a fine-pored microfibre cloth. The wastewater flows freely through the discs from the outside to the inside, whereby suspended solids are reliably retained on the filter cloth. The purely mechanical filtration makes operation environmentally friendly and economical. The robust filter medium rarely needs to be changed.

A major advantage is the large filter surface area in a small space. This achieves very low discharge values (> 80 % AFS removal) with a small footprint. As the load increases, the pressure loss across the cloth increases, which triggers automatic cleaning. The cloth is backwashed in sections with filtered water or cleaned using suction nozzles – without interrupting operation.

TYPICAL AREAS OF APPLICATION

- ❑ Secondary clarification of municipal and industrial wastewater treatment plants
- ❑ Compliance with strict discharge values for solids and phosphorus (in combination with precipitation)
- ❑ Retrofitting of existing plants due to modular design

**FIBER
DISCFILTER**
advanced technology of
Filtration

COMPONENTS

FILTER MEDIUM

- ❑ Micropores for gravity depth filtration
- ❑ Removal of suspended solids (AFS), turbidity, BOD and phosphorus

CLEANING SYSTEM

- ❑ Spray cleaning of the upper disc section (non-immersed part)
- ❑ Suction cleaning of the submerged part of the disc segment
- ❑ Both systems lead to an ideal cleaning of the contaminated filter fabric

CENTRAL PIPE / CLEAR WATER OUTLET

- ❑ Drainage of the cleaned water in free fall through the central pipe of the filter

ENGINE

- ❑ Turns the filter during the backwash process / Stops during filtration

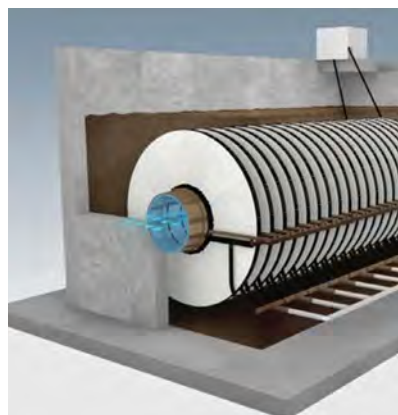
SLUDGE DISCHARGE

- ❑ Removal of the filtered suspended solids
- ❑ Prevention of recontamination of the purified water



TYPES

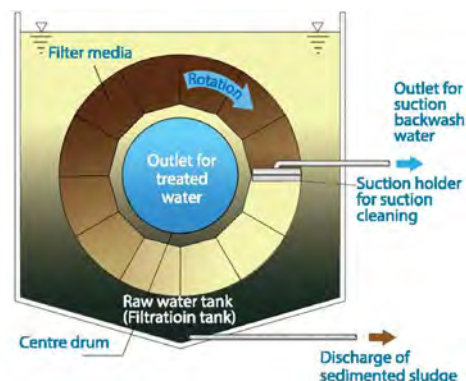
YDFS SERIES FULLY IMMERSED



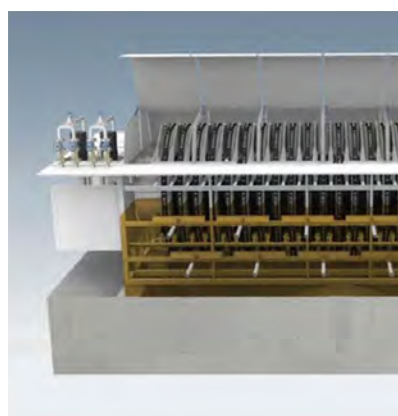
Disc diameter
0.7, 1.0, 2.1, 2.3 and 3.0 m

Chemical precipitation
If required

Cleaning / backwashing
Backwashing with special suction lances. Backwash is level or time-controlled.



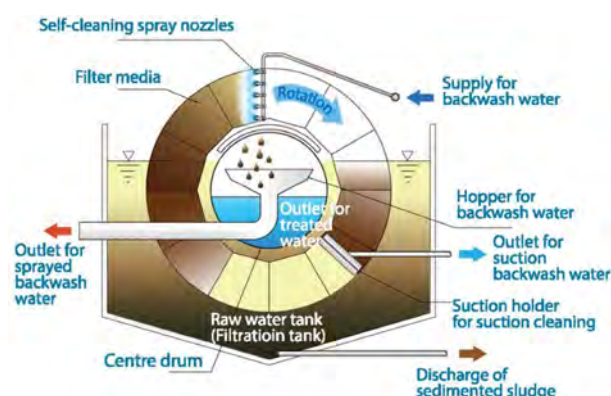
YDF SERIES 55 % IMMERSSED



Disc diameter
2.3 m

Chemical precipitation
Possible additives are PAC, aluminium or polymer

Cleaning / backwashing
Backwashing with special suction lances and spray nozzles. Backwash is level or time-controlled.



Installation in concrete tanks or also available in prefabricated systems with stainless steel tank.

PROZESS ADVANTAGES

- ❑ **Reliable removal of BOD, AFS and phosphorus** through depth filtration and small **pore** size
- ❑ **Flexible and modular design** adapted to customer-specific conditions
- ❑ **Low maintenance costs** for testing and replacing the filter material
- ❑ **Compact design**, low space requirement
- ❑ **Low backwash**, approx. 1–3 %
- ❑ **Low pressure loss**, approx. 50 – 250 mmH
- ❑ **Continuous operation** – due to automatic CIP (Cleaning-in-Place), no run-in time required
- ❑ **Durable system components**, low-cost replacement
- ❑ **More cost-efficient** than comparable systems

APPLICATIONS

- ❑ Post-filtration of municipal and industrial wastewater treatment plants for AFS, microplastics and phosphorus removal
- ❑ Pre-filtration for improved oxidation (ozone) and adsorption stage (activated carbon) for 4th purification stage in wastewater treatment plants
- ❑ Prefiltration for NF, reverse osmosis or other advanced treatment stages
- ❑ Drinking water treatment (removal of suspended solids)
- ❑ Process water treatment (e.g. cooling water)
- ❑ **> 1,000 fibre disc filters installed worldwide**