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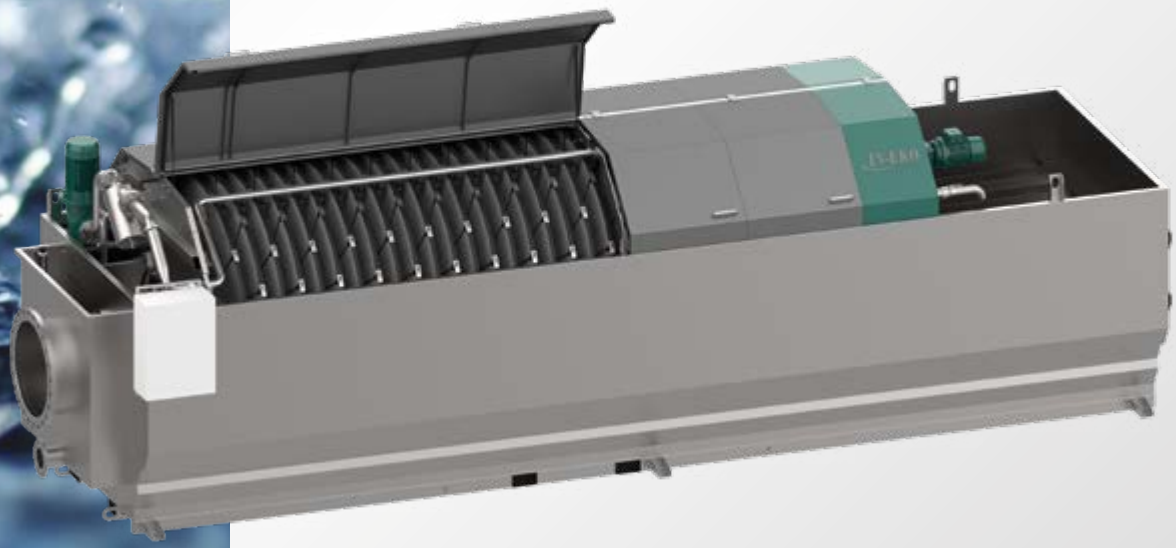
“CLEVER” DISC FILTER

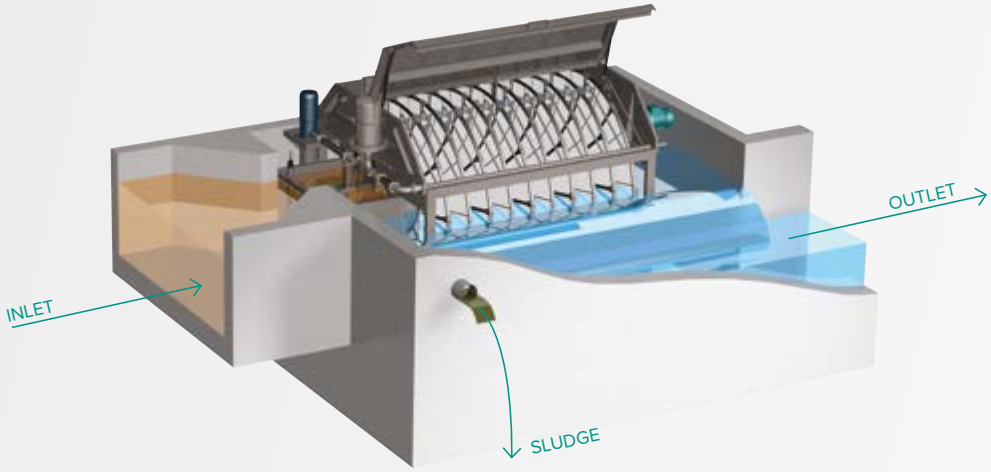
THE BEST SOLUTION, IF YOU THINK ABOUT CLEAN WATER



IN-EKO

“CLEVER” Disc Filter – advanced progress in tertiary water treatment

IN-EKO TEAM s.r.o. has been your partner in filtration and wastewater treatment since 1995. With decades of expierience in the field, we have developed the CLEVER Disc Filter, an enhanced version of our Intensified Disc Filter. With more than 15 design improvements, the CLEVER Disc Filter brings the ideal solution for retrofitting existing systems and applications that require high efficiency even in space-constrianed environmnets. Achieve a new filtration level and water purity with us.



Design and properties of the “CLEVER” Disc Filter

- To ensure the highest standards in waste water treatment technology we use only **quality materials**.
- Filter cloth is available with mesh opening sizes ranging **from 5 µm**.
- Maintaining water levels head loss of 100–150 mm enhances the **filter capacity**.
- TSS removal, **phosphorus reduction down to 0.1 mg/l**, BOD and COD partial reduction, removal of parasites eggs, algae and micropollutants.
- The drum sealing is resistant to abrasion.
- No bearings are under water, eliminating the risk of water contamination.
- Uniquely designed backwash system with ceramic nozzles providing superior cleaning.
- Laminate segment covers.
- Universal adaptability – left and right configurations.
- Access to the filter from both sides.
- Quick and easy replacement of filter segments.
- Improvement of the drive system.

Optional accessories

- Automatic cover opening/ closing
- CIP
- Insulation and heating
- Full covering of the filter
- Backwashing mist protection

How does it work?

The CLEVER Disc Filter operates on the principle of the standard IN-OUT system as follow. Treated water flows by gravity to filter cassettes from the central influent pipe. The filter assembly is idle at the beginning of the filter cycle – it does not rotate. Impurities larger than the mesh opening size are caught on the inner side of the filter media cassettes.
As the impurities get caught on the filter cloth, the flow decreases and the water level in the drum rises gradually.
When the water level probe is activated, the filter discs starts to rotate and initiates backwash. High-pressure backwash nozzles direct the trapped impurities to the sludge trough.
As the water level decreases to the pre-set minimum water level and the backwash cycle ends, the unit stops rotating and filtration. Filtration returns to its maximum capacity at minimum level. The filtration cycle repeats. **Filtration goes on continually without interruption.**

SELF CONTAINED
FDc_O and FDGc_O

CONCRETE CHANNEL
FDc_B and FDGc_B

Technical advantages

- Compact and efficient design minimizing space requirements
- Advanced filtration technology for higher efficiency
- Extremely low backwash water and power consumption
- Low maintenance costs resulting from a robust and well-thought-out design
- More efficient backwash system with the addition of ceramic nozzles
- Access to the filter from both sides for easy operation and servicing
- Automatic cover opening enhances user comfort and operational efficiency (optional)
- Easy change or cleaning of the ceramic nozzles
- Gravity flow saves energy costs
- The unit is ready for operation immediately after installation

Applications

- Treatment of effluent water
- Pre-treatment before UV
- Pre-treatment of potable water
- Aquaculture
- Pulp and Paper industry
- Cooling water in various industries
- Inlet process water
- Food processing
- Recovery of valuable materials in different types of industry

Size series

For greater variability and adaptation to the spatial and capacity needs of each customer, IN-EKO TEAM has developed **two size series of disc filters.**

After long-term testing, we offer smaller, more compact device with a diameter of 1.7 m and larger device with a diameter of 2.2 m with a larger filtration area and higher capacity.

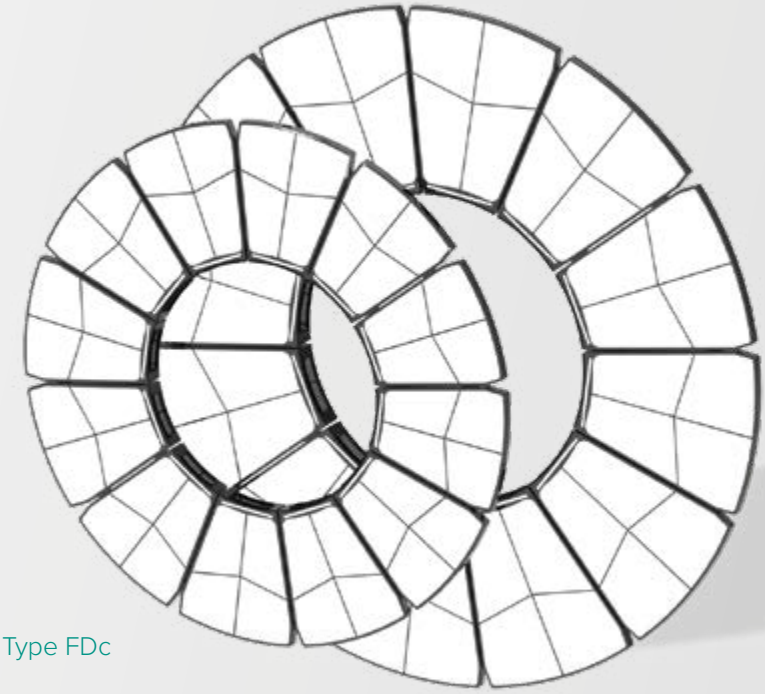
Type FDc

- **Disc diameter 1.7 m**
- Capacity up to 300 l/s
- Filtration area max. 58 m^2
- No. of discs up to 20

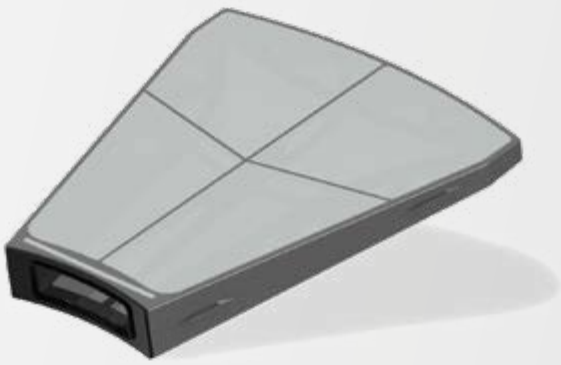
Type FDGc

- **Disc diameter 2.2 m**
- Capacity up to 1,300 l/s
- Filtration area max. 228 m^2
- No. of discs up to 44
- Possibility of integrated level balance tank

Type FDGc



Type FDc



The segment design brings better hydraulic properties inside the segment and improves particle extraction. Additionaly, it increases the strength and mechanical life of the cloth while reducing weight.

All filter segments are made of durable and fully recyclable ABS plastic, and proved and efficient vowen filtration cloth, involving design enhancing the particles removal.

The use certified and high quality materials guarantee long and reliable lifespan

Removal of TSS, algae and parazites

Options of stainless steel quality: AISI304, AISI316L, AISI316Ti, Duplex alloys

Clever improvements

Laminate cover

– Lighter cover
– Lower noise pollution

Automatic opening (optional)

Overflow edge

– Folded overflow edge
– Placement at the effluent part of the equipment
– Narrowing of the equipment for easier transport

Easy handling

– New positioning of attachement points
– Integrated forklift openings

Advanced Backwash system

– New design of the backwash system, ideal for higher TSS and industrial applications
– Ceramic nozzles for each disc (8 pcs for FDc type and 10 pcs for FDGc type)

✓ The right choice

For the right filter size, it is necessary to take into consideration the maximum influent hydraulic flow (Qmax), the expected loading and particle size of suspended solids (SS), and then mesh size to achieve the best effluent water quality.

Optimal operation of multiple filters can be managed in parallel by a PLC or other computerized system.

The “CLEVER” Disc Filter can be supplied in a concrete channel version or stainless-steel tank version.

We also offer an insulated model for outdoor installation which can be heated upon request.

+ Benefits for customers

- Superior effluent water quality
- Perfect solution for industrial applications
- Exceptional efficiency
- Low operating and maintenance costs
- Fast installation and immediate operation
- Fast, easy and hassle-free maintenance
- Convenient acess and easy handling
- Long-term reliability
- Cost-effective transport (40‘HC container)
- Customizable solutions
- Automatic cover opening option
- Material recovery (a sustainable solution increasing process efficiency and reducing initial investments costs)

More information about our “CLEVER” Disc Filters, “ORSO“ Pile Cloth Filters, Microscreen Drum Filters and other units from our complete product line of pre-treatment and microfiltration of waste water can be found at www.in-eko.com.

You can contact us by phone, email or in person.

Since 1995, IN-EKO TEAM has been your partner in filtration and wastewater treatment technologies.

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