INTENSIFIED

DISC FILTER

IN-EKO® TEAM

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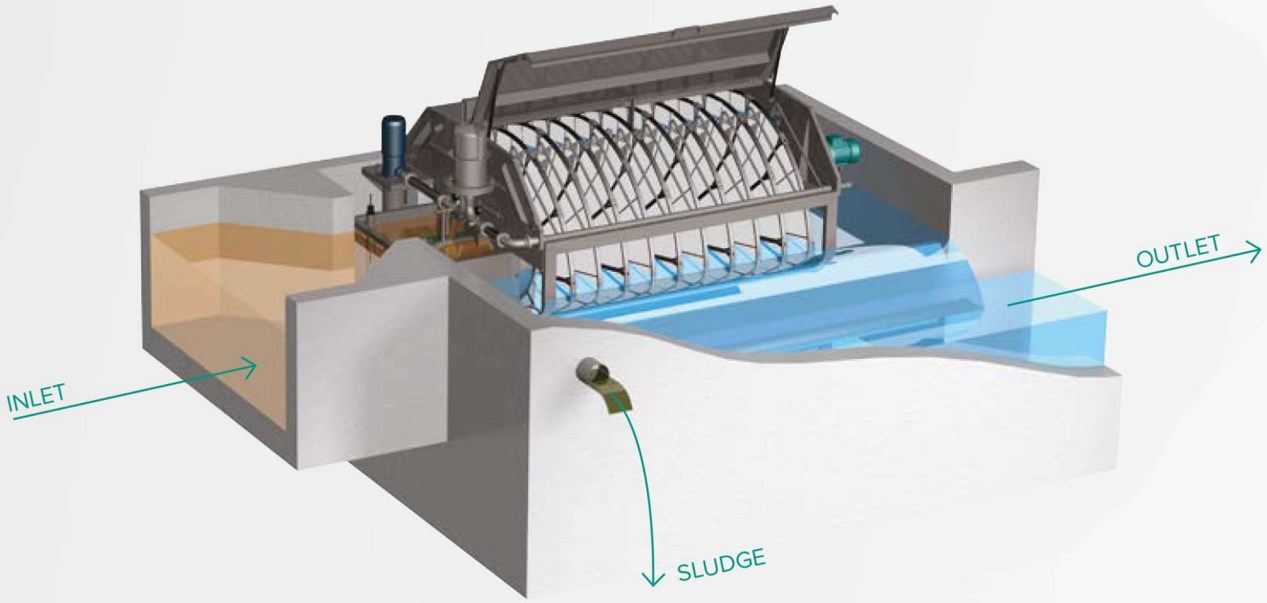
Intensified Disc filter – innovation in tertiary water treatment



Design and properties of the Intensified 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 – thus there is no risk of water contamination.
- Uniquely re-designed backwash system with ceramic nozzles providing superior cleaning.

IN ➔ OUT system

This time-tested system ensures maximum possible efficiency of filtration.
Water flows into the influent pipe of the unit where it then enters individual filter cartridges.
Impurities are caught inside the cartridge and clean water flows out.
Defined size of filtration cloth openings guarantees perfect effluent results.

Optional accessories

- Automatic opening / closing of the cover
- CIP
- Insulation and heating

How does it work?

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

FDi_O and FDGi_O

CONCRETE CHANNEL

FDi_B and FDGi_B

Technical advantages

- Very compact design reducing space requirements
- Innovative backwashing system increasing its efficiency through saving the backwash water consumption by 60% and also the power consumption by 40% compared to the systems available on the market
- Enhanced particles extraction by innovative filtration segments
- Easy change or cleaning of the ceramic nozzles
- Optional unique Advanced backwashing logic

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, two size series of disc filters have been developed.

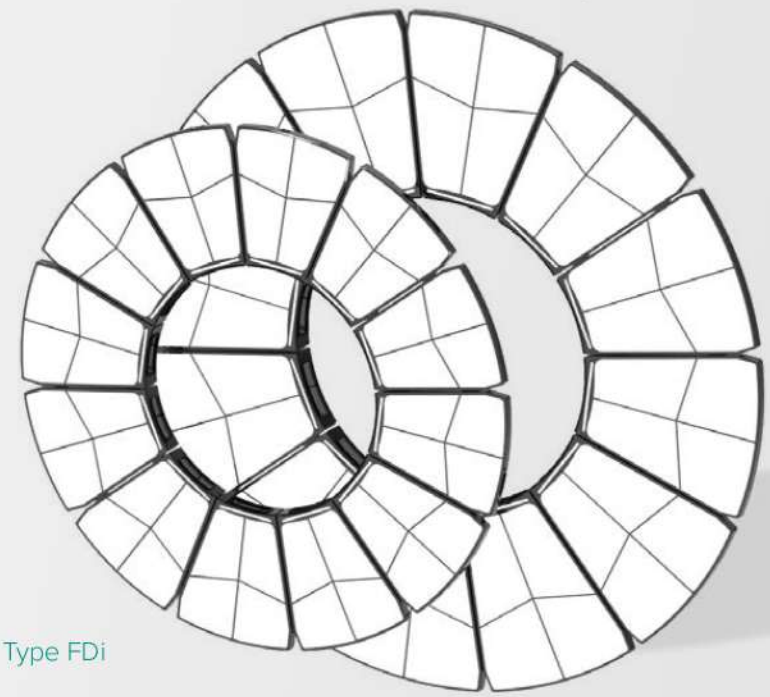
After long-term testing, we offer smaller, more compact device with a diameter of 1.7 m and larger device with a diameter of 2.2 m with a larger filtration area and higher capacity.

Type FDi

- **Disc diameter 1.7 m**
- Max. capacity 300 l/s
- Filtration area max. 59 m^2
- Max. No. of discs 20 pcs

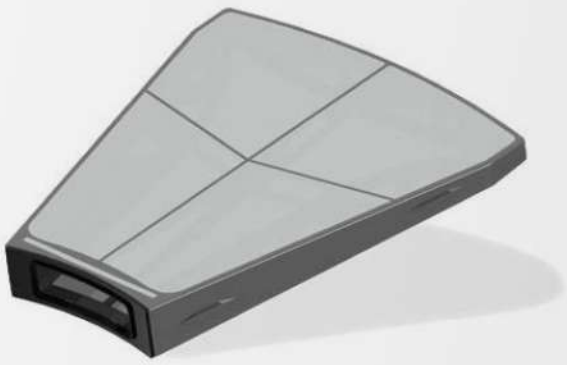
Type FDGi

- **Disc diameter 2.2 m**
- Max. capacity 1 300 l/s
- Filtration area max. 232 m^2
- Max. No. of discs 44 pcs
- Possibility of integrated level balance tank



Type FDGi

Type FDi



The innovative 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

References

WWTP, Italy, 6FDi_O

Industry, Sweden 10FDi_O

WWTP, Saudi Arabia, 2 units of 14FDGi_O

WWTP, Egypt, 10 units of 28 FDGi_B

WWTP, Italy, 2 units of 16 FDGi_B

WWTP, Czech Republic, 16 FDi_B

✓ 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 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

- Higher quality of effluent water
- A great solution for industrial applications
- Gravity flow saves energy costs
- **Exceptionally fast and easy replacement of filter cassettes**
- The filter cover opens in both directions
- Transportable with ease by truck or in a 40' HC container
- Filters can be adjusted to suit customer's needs/project
- Recovery of valuable materials back to the process helps to save initial investment costs
- Low maintenance costs
- The unit can be put into operation immediately after its installation
- Extremely low backwash water and power consumptions

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