ООО ХУБЕР Текнолоджи

Energy-Efficient Effluent Filtration

Effluent filtration serves for increased removal of suspended solids (SS), BOD, COD, phosphorus (P) and nitrogen (N). About 20 % of German effluent is filtered.

The following filters are in common use:

- Multi-layer and multi-chamber sand filters with periodic water and air backwashing consume around 2.0 kWh/(PE•a) power;
- Continuous moving bed sand filter (e.g. our CONTIFLOW® Sandfilter CFSF) consume about 1.5 kWh/(PE•a);
- Microstrainers with a mesh size of 10 – 100 micron (e.g. our RoDisc® Rotary Mesh Screen) consume ca. 1.0 kWh/(PE•a);
- Membrane Bio-Reactors perform not only biological treatment, but also excellent filtration.

Where precipitation or flocculation is required, sand filters should be provided. Multi-layer sand filters are used at large wastewater plants, while continuous sand filters are more economic at small to medium-size plants.

Microstrainers are less effective than sand filters, but they are significantly less expensive and consume less power.

The following table provides a comparison:

	CONTIFLOW® Sandfilter CFSF		**Microstrainer RoDisc® Rotary Mesh Screen**	
SS feed concentration	20 mg/l	60 mg/l	20 mg/l	60 mg/l
SS effluent conc.	< 3 mg/l	< 10 mg/l	< 5 mg/l	< 15 mg/l
Power consumption at peak flow	≈ 10 Wh/m³	≈ 12 Wh/m³	≈ 4 Wh/m³	≈ 6 Wh/m³

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