Drainis™ Turbo

biological sludge thickening system including a preliminary concentration stage

biosolids

boost your sludge yield with built-in pre-thickening

savings

minimizes and optimizes the investments and downstream mechanical thickening equipment necessary for complete treatment

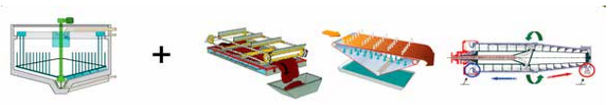
ease of operation

proved and reliable solution for consistent sludge concentrations

innovation

an integrated fast-gravity decantation pre-thickener that increases the sludge concentration by 2-3x for your conventional mechanical sludge thickening equipment

Coupled either to a thickening table, drum or a centrifuge, the Drainis™ Turbo pre-thickener enables the possibility of combining pre-thickening and thickening in a single process. Utilizing fast gravity decantation, it also enables the stable concentration necessary for an optimized feed into your mechanical thickening equipment.



pre-thickener + mechanical thickening (gravity belt thickener, drum thickener, thickening centrifuge)

key figure

reduce downstream mechanical thickening equipment by a factor of **5**

suez

Drainis™ Turbo technology . . .

Positioned ahead of a digestion or dewatering system, the Drainis™ Turbo is fully adapted for thickening biological sludge from urban and industrial wastewater. It is designed as an integrated fast gravity decantation pre-thickening system upstream of conventional mechanical thickening equipment (thickening table, drum or centrifuge).

During treatment in the Drainis™ Turbo, the sludge first transits a scraper-type circular pre-thickener. On reaching this pre-thickener, the sludge is first deployed using a distribution skirt. Because of its density, it will be deposited at the base of the cylinder where it is scraped towards the centre to be carried, by pump, to the mechanical thickening equipment. At the same time, the runoff water will exit the surface by overflow.

Reinforced stability of concentrations from 10 to 15 g/L of suspended solids: accepting high surface loads and thus capable of treating large volumes of sludge, the Drainis™ Turbo pre-thickener helps reduce the hydraulic load of your sludge significantly, so that you only have to use material output as the dimensional criterion for your mechanical thickening equipment.

On exiting the Drainis™ Turbo pre-thickener, the sludge provides remarkably stable concentrations of 10 to 15 g/L of suspended solids versus 3 to 8 g/L for sludge usually feeding mechanical thickeners with no pre-thickening.

After being processed by the Drainis™ Turbo complete thickening treatment unit, the sludge will normally have a dryness level of 4 to 6% with 5 times less required mechanical thickening equipment.

. . . what it can do for you

savings

- reduces the number and size of downstream thickening equipment required as part of a WWTP construction by a factor of 3 to 5
- reduces the treatment capacity requirements of downstream mechanical thickening equipment of a WWTP refurbishment by a factor of 3 to 5
- reduced polymer consumption due to the stability of the sludge concentrations
- energy consumption reduced by 50% compared with direct centrifugation processes

ease of operation

- sludge up to 2 times as concentrated on leaving pretreatment
- optimal constancy of sludge concentration for optimized downstream processes
- a fully automatic process for just-in-time treatment without storage or labor intervention

environment

- no olfactory pollution because of the short sludge retention time in the structure (no denitrification or fermentation)
- limits greenhouse gas emissions through reduced consumption of primary energy

among our references

Panama, Republic of Panama
capacity: 140 m^3/h

Prague, Czech Republic
capacity: 300 m^3/h

Valenton, France
capacity: 560 m^3/h

Baraki, Algeria
capacity: 728 m^3/h

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Conception & Realisation: O. Barbier (SUEZ) - Photos credits: SUEZ