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.

**innovation**

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

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**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

**key figure**

reduce downstream mechanical thickening equipment by a factor of 5
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.

. . . 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

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.

among our references

<table>
<thead>
<tr>
<th>Location</th>
<th>Capacity</th>
</tr>
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<tbody>
<tr>
<td>Panama, Republic of Panama</td>
<td>140 m³/h</td>
</tr>
<tr>
<td>Prague, Czech Republic</td>
<td>300 m³/h</td>
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<tr>
<td>Valenton, France</td>
<td>560 m³/h</td>
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<tr>
<td>Baraki, Algeria</td>
<td>728 m³/h</td>
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</tbody>
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