Hydro MicroScreen™
Rotating Belt Screen for Municipal Applications

Replace primary clarifiers while cutting energy costs and reducing footprint.

A low-energy, small-footprint rotating belt screen that delivers **exceptional solids removal** from wastewater, maintaining efficiency even at peak design flow rates. Enables municipal plants to increase efficiency and save money by decreasing energy and chemical use, **minimizing maintenance** costs, reducing power requirements for energy intensive downstream processes, reducing solids handling and disposal costs or recovering materials to be converted into energy.

**How it Works**

The Hydro MicroScreen utilizes a **patented continuous rotating screen** to separate solids from influent wastewater. After coarse screening and grit removal, flow enters the MicroScreen where the energy dissipation plate and flow diverter evenly distribute influent over the entire screen width. Solids settle and accumulate on the screen creating a mat which causes the water level in the influent chamber to rise. An ultrasonic level sensor in the influent chamber automatically controls screen rotation and speed.

As the mat builds, liquid level in the influent chamber rises - signaling the screen conveyor to rotate the screen which exposes clean screen area to the incoming flow. Rotation of the screen simultaneously conveys the captured solids upward out of the influent chamber toward the upper roller where they fall by gravity from the screen into a screw auger. The screen is then cleaned by a series of low volume, high pressure spray nozzles and a secondary scraper blade.

Discharged solids directly off screen are typically 2-4% TS, similar to conventional primary sludge, and can be used for digestion or other thermal conversion processes. Adding a compression zone and dewatering section to the screw auger can produce up to 50% TS **without the use of chemicals.**

**Benefits**

- **Reduces footprint** – 90% smaller than conventional primary clarifiers
- **Reduces loading and wear on downstream processes** – tailored capture of TSS, BOD, FOG and other particulates
- **Reduces energy cost** – cut the energy & footprint required for biological treatment
- **Reduces solids handling** – reduce the cost of waste handling and disposal

**Applications**

- Fine screening
- Primary clarification
- CSO / SSO screening

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Exceptional Performance for Half the Price of Primary Clarifiers

- Typically removes 60-70% TSS, 30-40% BOD & 30-40% FOG - in a significantly smaller footprint which frees up plant space
- Total phosphorus reduction up to 10%
- Discharged solids directly off screen are 2-4% TS, similar to conventional primary clarifiers
- Produces 30-50% TS, when equipped with dewatering section and compression zone, without the use of chemicals

Hydro MicroScreen Advantages

- Screen sizes available from 50 to 2,000 micron (µm)
- No carry over or backwash of solids into effluent chamber
- Easy access and minimal downtime for maintenance
- Shallow screen angle provides more submerged screen area and better solids conveyance

Customized For Your Site’s Needs

- Removal rates and solids dryness can be customized to meet application and site requirements
- Effluent and overflow connections and wash water system assembly can be located on either side of the unit to accommodate most site requirements

Capacity to Handle Your Flows

- Handles flows up to 2,200 gpm (136 L/s) in a single unit
- Strength and durability to screen, convey, and dewater as much as 25 tons (22.7 tonnes) per day of dewatered solids

<table>
<thead>
<tr>
<th>Model</th>
<th>Max Hydraulic Capacity* - gpm (L/s)</th>
<th>Dimensions LxWxH In. (LxWxH M)</th>
<th>HP</th>
<th>Power Use kWh/Day (Estimated)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-28</td>
<td>900 gpm (56.8 L/s)</td>
<td>96”x93”x62” (2.44x2.36x1.58)</td>
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<tr>
<td>MS-52</td>
<td>1,750 gpm (110.4 L/s)</td>
<td>96”x118”x62” (2.44x3.00x1.58)</td>
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<td>63</td>
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<tr>
<td>MS-80</td>
<td>2,200 gpm (138.8 L/s)</td>
<td>96”x143”x62” (2.44x3.63x1.58)</td>
<td>7</td>
<td>88</td>
</tr>
</tbody>
</table>

* Capacity (based on a 200µm screen) will vary based on screen opening & incoming solids loads (TSS)

** Estimated energy consumption based on 24-hour continuous operation at 70% duty cycle