

Hydro MicroScreen™

Rotating Belt Screen for Industrial Applications

Hydro
International

Oldcastle
Infrastructure™
A CRH COMPANY

Replaces multiple step pretreatment, improves effluent quality, and reduces footprint.

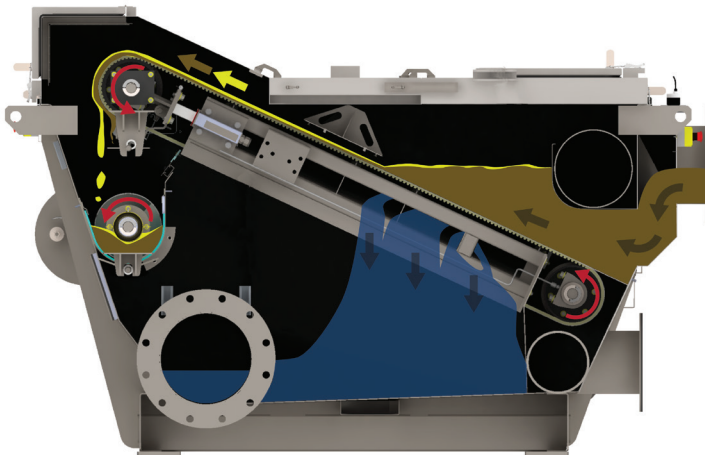
A low-energy, small-footprint rotating belt screen that delivers **exceptional solids removal** from wastewater, maintaining efficiency even at peak design flow rates. Enables plants to remove significantly more solids than conventional screens, increase energy efficiency and save money by decreasing energy and chemical use in multi-stage pretreatment systems, minimizing maintenance costs, reducing power requirements for energy intensive biological processes, reducing solids handling and disposal costs and may provide alternate disposal options for solids rather than landfill.

Benefits

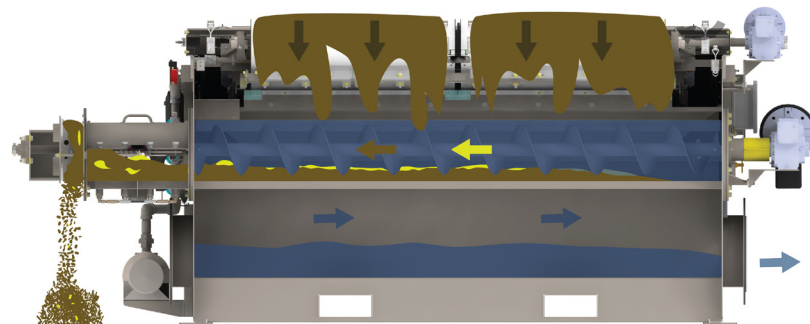
- **Reduce footprint** – 50% smaller than conventional clarification systems
- **Helps to meet discharge limits in less space** – capture more TSS, BOD, FOG and other particulates
- **Reduces solids handling** – reduce the cost of solids handling and disposal without chemicals
- **Reduces maintenance costs and downtime** – cut the time and cost required to maintain treatment equipment

Applications

- Ultra-fine Screening
- Primary clarification
- Pretreatment systems



Side View - Screening Operation



Back View - Dewatering Operation

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 Hydro 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 the screen are typically 2-4% TS, similar to other screens or primary sludge. Adding a compression zone and dewatering section to the screw auger can product up to 50% TS **without the use of chemicals** and may provide for alternate disposal options.

Hydro MicroScreen reduces energy requirements by up to 50% and footprint by up to 90% often with less than one year ROI.



Exceptional Performance for Half the Price of Conventional Treatment Systems

- Typically **removes 60-70% TSS, 30-40% BOD & 30-40% FOG** - in a significantly **smaller footprint** which frees up plant space
- Produces **30-50% TS**, when equipped with dewatering section and compression zone, without the use of chemicals
- Replaces multiple step pretreatment processes in a single unit
- Better pretreatment performance typically with less than a 1 year ROI

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



Tomato Screenings



Paper Pulp



Particle Board Screening



Jalapeño Screenings



Carrot Screenings



Tannery Screenings



Winery Screenings

Customized For Your Plant'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 1,750 gpm ((2.5 Mgal/d)(110 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

Model	Max Hydraulic Capacity* - gpm (L/s)	Dimensions LxWxH In. (LxWxH M)	HP	Power Use kWh/Day (Estimated)**
MS-28	500 gpm (31.6 L/s)	96"x93"x62" (2.44x2.36x1.58)	3.5	43
MS-52	900 gpm (56.8 L/s)	96"x118"x62" (2.44x3.00x1.58)	5	63
MS-80	1,750 (110.4 L/s)	96"x143"x62" (2.44x3.63x1.58)	7	88

* 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



Gets 30-50% TS and Uses 80% Less Energy than Primary Clarifiers

Learn more

To learn more about how the **Hydro MicroScreen™** can improve your industrial operation, visit hydro-int.com/industrial, or contact us:

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