

# Hydro MicroScreen™

## Rotating Belt Screen for Industrial Applications



**Replaces multiple step pre-treatment systems, improves effluent quality and reduces footprint.**

**A low-energy, small-footprint rotating belt screen that delivers exceptional solids removal from industrial process water, maintaining efficiency at peak design flow rates.**

Enables industrial plants to increase efficiency and save money by decreasing energy and chemical use, minimising maintenance costs, reducing power requirements for energy intensive downstream processes, reducing solids handling and disposal costs or recovering materials to be converted into energy.

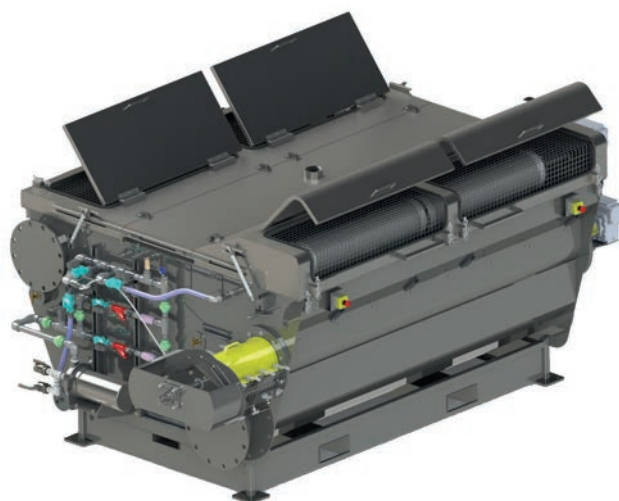
**Only Hydro MicroScreen™ reduces energy requirements by up to 50% and footprint by up to 90%.**

### Applications

- Food processing and production.
- Tanning, leather and hide processing.
- Pulp and papermaking.
- Brewing, distilling and wine making.
- Mining, metals and ore processing.
- Bottling and beverage production.

### Performance

- Produces 30-50% TS, when equipped with dewatering section and compression zone, without the use of chemicals.
- Better pre-treatment performance typically with less than a 1 year ROI.



### Benefits

#### Reduce Footprint

50% smaller than conventional clarification systems. Replaces multiple step pretreatment processes in a single unit.

#### Helps to meet discharge limits in less space

Capture more TSS, BOD, FOG and other particulates - typically removes 60-70% TSS, 30-40% BOD & 30-40% FOG

#### 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.

### Capacity

- Handles flows up to 110 l/s in a single unit (1,750 gpm (2.5 Mgal/d)).
- Strength and durability to screen, convey, and dewater as much as 22.7 tonnes (25 tons) per day of dewatered solids.

Model	Max Hydraulic Capacity* - l/s (gpm)	Dimensions LxWxH M (LxWxH In.)	kW	Power Use kWh/Day (Estimated)**
MS-28	32 l/s (500 gpm)	2.44x2.36x1.58 (96"x93"x62")	2.6	43
MS-52	57 l/s (900 gpm)	2.44x3.00x1.58 (96"x118"x62")	3.7	63
MS-80	110 l/s (1,750 gpm)	96"x143"x62" (2.44x3.63x1.58)	5.2	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

## Features

- No carry over or backwash of solids into effluent chamber.
- Robust design: 3-5 times heavier than other rotating belt screens with 50% stronger conveyor assembly.
- Shallow screen angle provides more submerged screen area and better solids conveyance.
- Supplied with screen lifting arm for ease of maintenance and screen replacement.

## Customisation Options

- Screens sizes available from 100 to 1,000 micron ( $\mu\text{m}$ ).
- Removal rates and solids dryness can be customised 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 requirement.

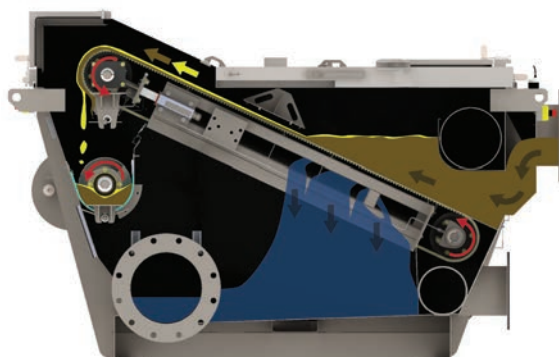
## How it Works

The Hydro MicroScreen™ utilises 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.

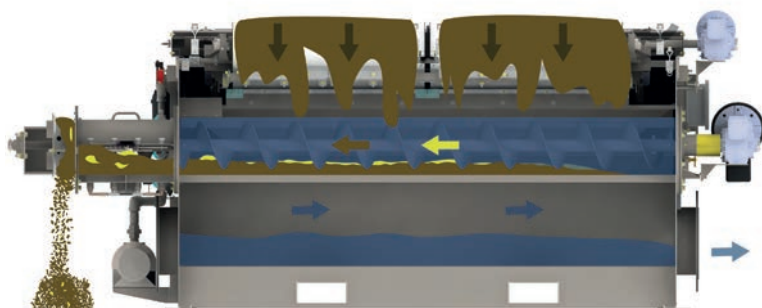
As the mat builds, liquid level in the influent chamber rises - signalling the screen conveyor to rotate the screen which exposes clean screen area to the incoming flow. Rotation of the screen simultaneously conveys the captured solids upward out of the influent chamber toward the upper roller where 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 process. Adding a compression zone and dewatering section to the screw auger can produce up to 50% TS without the use of chemicals.

■ Raw Influent    ■ Screened Effluent    ■ Floatables



Side View - Screening Operation



Back View - Dewatering Operation



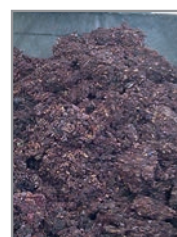
Carrot Screenings



Jalapeño Screenings



Tannery Screenings



Winery Screenings

## Learn more

To learn more about how Hydro MicroScreen™ can help you to make better water management decisions, visit [hydro-int.com](http://hydro-int.com), search **Hydro MicroScreen** online or contact us:

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