HYDRIA™ WATER



STEP SCREEN DELTA, SSD

Efficiently remove contaminants from water with Step Screen Delta, an advanced mechanically cleaned step screen equipped with camera monitoring, vibration sensors and remote monitoring capabilities to anticipate potential issues and minimize the need for on-site inspections. Achieves a capture rate of over 90% in capture rate testing.

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The screen is ready to be equipped with camera monitoring (even IR), vibration sensors and remote monitoring. This means that with Step Screen Delta you can detect deviations even before the problem arises and also reduce the need for supervision and unnecessary trips by operators to unmanned plants.

The accessibility of individual components in the machine has been improved to facilitate service and maintenance. In addition, there are defined service modes, an option for self-diagnosis via plc/control system and facilitated access for gearbox oil, bearings and more.

Our patented bottom step has also received a further design improvement.

FUNCTIONS

- The well-thought-out geometry, along with the reduced welding, where bolted connections have replaced joints, ensure the machine's linearity, rigidity and stability.
- The machine is based on technology that achieves an capture rate of 80% or higher when used with controlled pressure losses across the machine.
- All particles up to Ø70 mm can be transported to the next process step without risk of the screenings mat breaking or weakening.
- Step Screen Delta is the only type of machine on the market that is self-cleaning and therefore it does not require energy-demanding support functions such as brushes, flushing water or the like.
- The adaptive support legs enable easier adaptations to existing systems such as wash presses, spiral conveyors, ram presses and more.

SPECIFICATIONS

Discharge height	0,8 - 6 m
Machine width	300 - 1800 mm
Opening / Bar spacing	1 - 6 mm
Capacity	7000 l/s
Drive unit	SEW
Material	EN 1.4301, EN 1.4404

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CONSTRUCTION AND APPLICATION

- Unique, patented, tightly sealed low-friction bottom step without plastic spacers ensures a consistent bar spacing and the highest capture rate of any step screen on the market. This makes it possible to replace perforated fine screens.
- Suitable for screening water and wastewater, septage receiving stations and digested sludge screening applications. Protects pumps, digesters and other equipment from hair, cotton swabs and other debris. An excellent solution for removing wet wipes and handling high grease and high dry solids content, including the separation of non-suspended grease.
- Bar spacing: 1–6 mm (0.04”–1/4”); discharge height up to 5.5 metres (18 ft). Achieves separation performance equivalent to much finer screens through the formation of an accumulated screenings mat on the bar assembly.
- Our uniquely designed bars, combined with a robust construction and large steps, ensure high screenings conveying capacity while providing stability and operational safety.
- Modular, bolted, all-stainless-steel construction.
- Increase the capacity of existing channels by installing the screen alongside existing equipment, without requiring any channel modifications.
- Suitable for municipal wastewater and water supply systems, industrial wastewater, pulp and paper, pharmaceuticals, food processing and a wide range of other industrial applications, including waste material recovery.
- Segmented bars simplify maintenance and repairs.
- Minimized welding ensures consistent linear geometry and reliable performance over time.
- The robust construction allows the screen to withstand greater differential water levels than perforated screens.

INSTALLATION

- For installation in a channel or a separate stainless steel tank – suitable for retrofitting, replacement installations and new applications.
- Adjustable support legs with a pivoting function simplify installation and servicing.
- Linkage-driven mechanism eliminates limitations related to minimum or maximum water depth.
- Very low equipment profile – ideal for applications with limited headroom.

OPERATION

- Low head loss, high flow capacity and no risk of screenings carry-over.
- Fully enclosed, odour-controlled operation for maximum hygiene.
- Unique step design ensures efficient screenings conveyance without the risk of a snowball effect caused by screenings accumulating in front of the screen.
- Proven load-relieving design without plastic end spacers ensures durability and reliable material transfer without the risk of material twisting or entanglement.
- Patented bottom step ensures consistent bar spacing throughout the entire operating cycle and eliminates the need for plastic end shoes or spacers.

MAINTENANCE

- Fully enclosed, safe and hygienic machine with easy-to-open inspection hatches.
- Durable, self-lubricating linkage drive system with no lubrication points, maintenance-intensive chain drives, sprockets, tensioners or belts. No bottom bearings exposed to unscreened flow or the accumulation of grit and sand.

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- Exceptionally low maintenance and spare parts requirements.
- Particularly long equipment service life due to minimal wear and few moving parts. The screen operates only when required, rather than continuously, typically for approximately 10–30 minutes per 24-hour cycle, using a control system that triggers operation at predefined water levels.
- Self-cleaning screen with no need for wash water.
- Self-cleaning, low-friction, anti-distortion design.
- The screen can easily be pivoted out of the tank within minutes for inspection and maintenance at a convenient working height, without entering the tank or requiring any disassembly.