

Hydro-Sludge® Screen

Pressurized In-Line Sludge Screen

Product Summary

Reduce solids handling costs and improve downstream treatment efficiency.

The Hydro-Sludge® Screen is an in-line pressurized device that screens tramp material from sludge and dewateres the material in one operation. The enclosed system reduces odor problems and has no washwater requirements.

How it Works

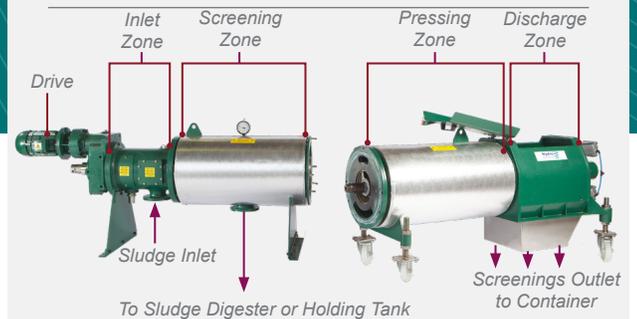
The components of the Hydro-Sludge® Screen are the inlet, screening zone, pressing zone and the screenings discharge area. The unscreened sludge is pumped to the inlet and directed into the screening zone. Sludge flows through the perforated screen and exits via a flanged connection. Non-compressible solids larger than the 0.2 in. (5mm) perforations are retained within the screen basket and transported to the dewatering zone by the rotating screw.

The separated solids are further concentrated in the pressing zone, transported by the pressing screw, and compacted into a plug under gradually increasing compression. This is achieved by the regulation of the backpressure cone against the compacted screenings. Liquid from the pressing zone is drained through the fine perforations, and fed back with the drained sludge from the inlet screens.

As the screenings plug is formed, the drive load increases pushing the screenings against the backpressure cone. The drive load is monitored and converted to a pneumatic pressure, which adjusts the backpressure on the cone to release solids. The dewatered solids fall through the screenings outlet and are collected in a solids receptacle for final disposal. Unit operations are controlled by a PLC control panel with an HMI screen. Adjustments to operating parameters are easily made at the unit.



Hydro-Sludge® Screen



Applications

- » Screening primary, secondary, and combined sludges
- » Septage receiving
- » Industrial screening from direct tanker, pumped feed, or combined sludges
- » Maritime ship-board preliminary treatment

Benefits

- » Screening removal and dewatering in one operation
- » Fully automatic for continuous or intermittent screening of sludges with varying dry solids content
- » Enclosed system minimizes odors
- » No wash water requirements
- » Standard rugged cast iron feed and discharge ends withstand high torque loads, optionally available in stainless steel
- » Durable stellite tipped screw provides better screen cleaning
- » Reinforced dewatering zone screen
- » PLC based controls and HMI are easy to use and operator friendly
- » Maintenance friendly reverse function, inlet access hatch, extended discharge area



Design Notes

- » Cast iron or stainless steel options
- » Robust spheroidal cast iron housings at inlet and outlet ends
- » Fully automatic for either continuous or intermittent screening of sludge with varying dry solids content
- » 3-10 mm diameter screen perforations
- » Comprehensive factory assessment of machine and control panel prior to delivery
- » Reverse function in manual mode to allow the retention cone to be backed off without disconnecting the air supply
- » PLC based control & HMI are easy to use and operator friendly



📍 Hydro International
 2925 NE Alcock Suite 140 | Hillsboro, OR 97124
 ☎ Tel: (866) 615-8130
 ✉ Email: questions@hydro-int.com
 🌐 Web: www.hydro-int.com

Maintenance Friendly Features

With a range of screen sizes, the Hydro-Sludge® screen reduces loading on downstream processes and improves overall treatment effectiveness. The system removes solids early on in the process that would otherwise reduce downstream sludge treatment efficiency and minimizes the potential for clogging.

The reverse function, access hatch, and extended discharge area makes routine inspection, cleaning, and maintenance activities quick, simple, and safe.

The self-lubricating sleeve on the retention cone eliminates the need for greasing and keeps the motor load consistent. Increased retention cone travel allows easy access to clean out the screenings plug during infrequent screen replacement.

A bolted end plate on the discharge end allows easy access and replacement of the retention cone without the need to drain or split the machine.

Hydro-Sludge® Screen Throughput

| % Dry Solids Content | Throughput - gpm (L/s) |
|--|------------------------|
| 0 - 1 | 660 (42) |
| 2 | 485 (31) |
| 3 | 420 (26) |
| 4 | 350 (22) |
| 5 | 330 (21) |
| 6 | 310 (19) |
| 7 | 265 (17) |
| 8 | 240 (15) |
| 9 | 220 (14) |
| <i>Dimensions In. (M) 26" x 37" x 160" (0.6 x 0.9 x 4.1)</i> | |

The figures in the table above are based on flows through a two directional 5 mm (0.20") perforated screen and should be used as a guide only. Other site specific factors such as the content of the coarse material, etc. will influence performance.



Learn more

Visit our website to learn how the Hydro-Sludge® Screen will protect your plant, reduce your operational costs, and improve the performance of your entire plant.

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