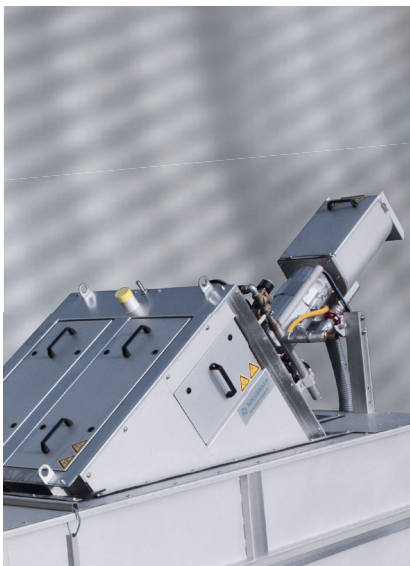




Noggerath® Rotary Drum Screen RSI

The fine screening of wastewater in channel or tank with a perforated or wedgewire screen or a mesh covering – including subsequent screenings conveyance, dewatering, compacting and discharge.



With the Noggerath® Rotary Drum Screen RSI, Aqseptence Group offers you a machine with a revolutionary drive concept. In contrast to conventional technology driving the drum screen via the discharge conveyor the drive energy of the Drum Screen RSI is induced directly on the drum. This reversed power flow offers distinct advantages for both operation and maintenance.

The solids in the waste water are blinding the inner surface of the drum cylinder installed at 35°. The resulting headloss is

detected by a differential level control sensor. The drum starts to rotate when the defined heights water level is reached. The captured solids are moved upwards with the drum. By gravity – and supported by a spray bar – they are dropping off into a conveyor trough located in the center of the drum. Then the screenings are caught by the spiral and transported upwards. Finally the pressing zone for dewatering and discharge is reached. Optional an additional screenings washing device is available.

Benefits

- Compact design – less space required
- Low total height above top edge of channel or respectively higher discharge possible with less ceiling height
- Ease of maintenance due to good accessibility to drive
- No center / drive shaft required in the discharge conveyor:
 - significantly larger particle sizes can be transported
 - the spiral is open axially in the conveying direction at the discharge, i.e. no blockages due to long-fibred screenings or screenings prone to clogging
 - ease of access to pressing zone
 - pressing zone with back-pressure flap, i.e. influence on DS-contents possible

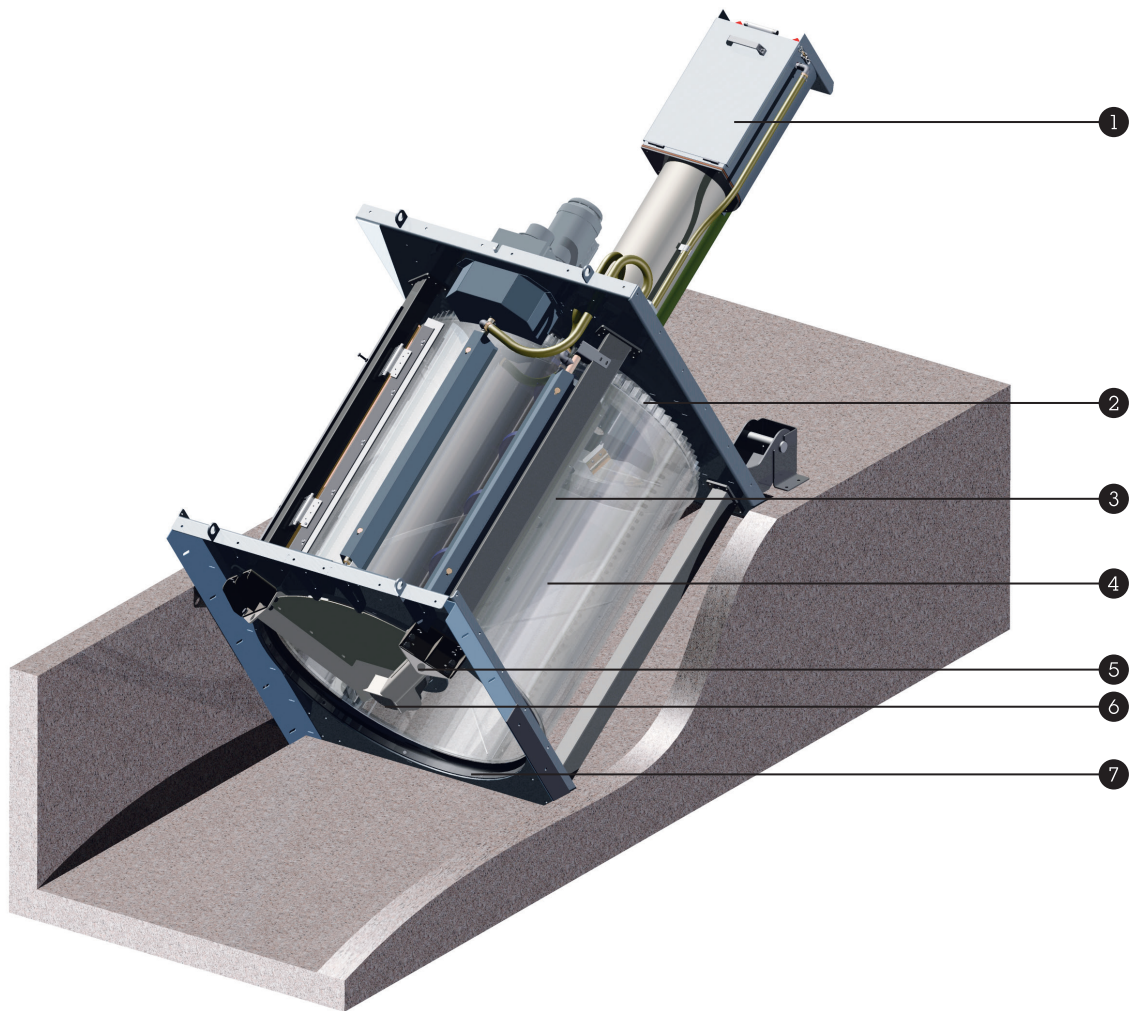
Application & field of operation

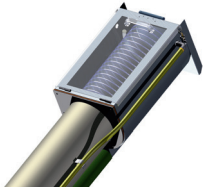
- Fine screening in municipal wastewater treatment
- Pre-screening in water treatment plants
- Pre-screening upstream MBR system
- Treatment of industrial wastewater



Rotary Drum
Screen installed in
channel

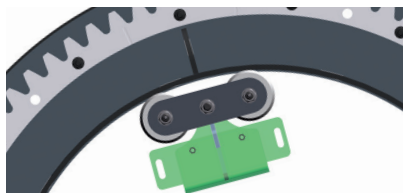
Unique features





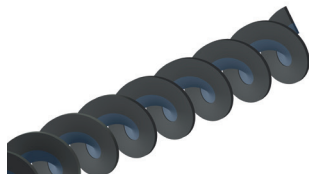
1 Wedgewire screen cylinder with back-pressure flap

The classic wedgewire cylinder, adopted from our tried and tested spiral press, has also been provided with a back-pressure flap here, which – in addition to influencing the pressing result – assists the formation of a plug in case of a new start-up. As a result of the low discharge height and the pushing design of the spiral, with the drive at the opposite end to the discharge, the pressing zone is easily accessible at all times. It can be inspected from the outside via a hinged cover above the wedgewire screen cylinder. An automatic flushing of the pressing zone with a washing water drainage pipe ensures the cleaning of the screen basket surface at preset intervals.



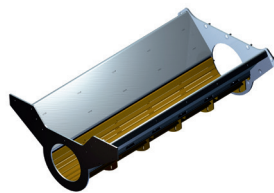
2 Self-aligning double trunnion wheels on upper bearing

The upper drum mounting is effected by means of self-aligning double trunnion wheels. This ensures smooth concentric running, continual optimal load distribution on all rollers and thus maximum service life.



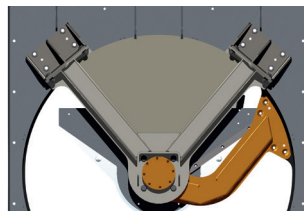
3 Shaftless spiral

The tried and tested torsionally rigid, shaftless spiral in pushing mode ensures blockage-free discharge and enables the conveyance of solid particles up to a size equivalent to the spiral diameter.



4 Exchangeable slotted bottom (drainage)

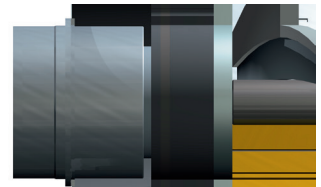
The exchangeable drainage zone is made adjustable for adaption to the spiral respectively for compensation of its wear. The design of slotted drainage (alternating arrangement of horizontal and vertical flat bars) creates an increased drainage capacity and a self-cleaning effect. Neither brushes nor wear rails are required.



5 Curved rotating arm to increase the shear force

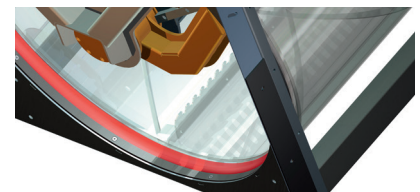
The rotating arm is curved in order to increase the shear

force on large long solids such as e.g. tree branches, which may be present. Such solids are thus directed further into the centre of the drum, where the leverage is more favourable. This leads to cracking into transportable sized pieces and avoids blockages of the drum.



6 Centre bearing on lower drum mounting

A bronze sliding bearing with lifetime lubrication is fitted as the centre bearing of the lower drum mounting. This has proved to have particularly low maintenance needs i.e. it can be replaced easily and quickly.



7 Double elastomer drum seal

Due to the double elastomer drum seal in back-to-back arrangement, solids (even the smallest solid particles) are held back. Design criteria in this case are, in addition to a high level of reliability, good accessibility and ease of maintenance.

Options

- Hygienic bagging of screenings
- Screenings washing system
- Hygienic encapsulation
- High pressure travelling nozzle to clean outside of drum with high-pressure water jet

Performance

Flowrate	up to 9,000 m ³ /h
Machine width	800 – 2,800 mm
Channel width	900 – 3,000 mm
Instillation angle	35° (25° optional)
Perforation	1 – 10 mm
Wedge-wire	0.25 – 6 mm
Mesh	200 – 1,000 µm
Dry matter content of discharged screenings	up to 35 %

Materials

Casing, supports, wear rails, drum	stainless steel AISI 304 or AISI 316 further on request
Spirals	special Micro Alloy Steel St.52 in accordance with Aqseptence Group standard, or stainless steel AISI 316
Drive gear wheel and gear rim	PA 6 G
Drum seal	elastomer against PE
Lower drum bearing	bronze

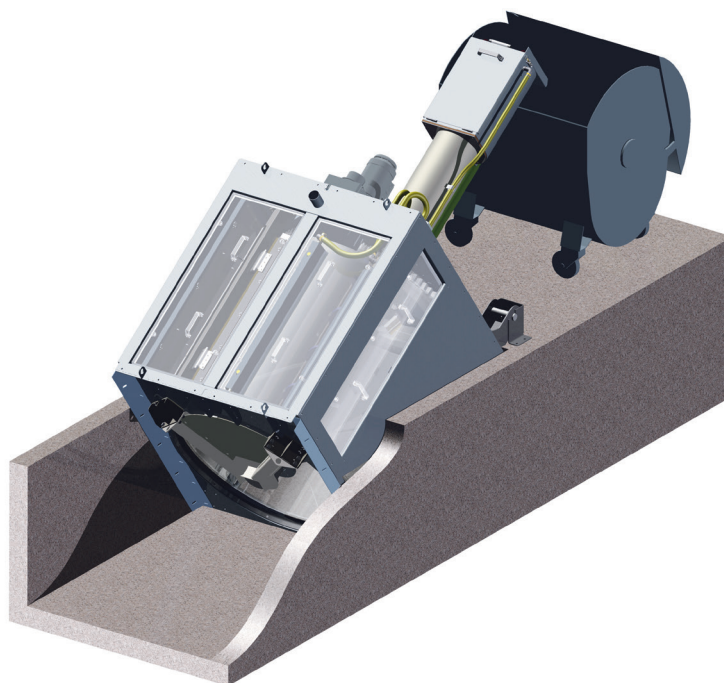


Illustration: Rotary Drum Screen RSI as channel version

Aqseptence Group GmbH Water Treatment Systems

Ziegeleiweg 2
31675 Bueckeburg · Germany
Phone +49 5722 882 0
Fax +49 5722 882 282
noggerath@aqseptence.com

www.aqseptence.com



Version 1.1

The technical data stated in this brochure are indicative only and have to be determined for each individual case. Reserve technical changes.