

Geiger® and Passavant® Travelling Band Screens

For decades Geiger® and Passavant® Travelling Band Screens have been successfully operating as filtration/fine screening machines in water intake channels of power stations, petrochemical plants, sea water desalination plants, steel works and other industrial or municipal plants all over the world.



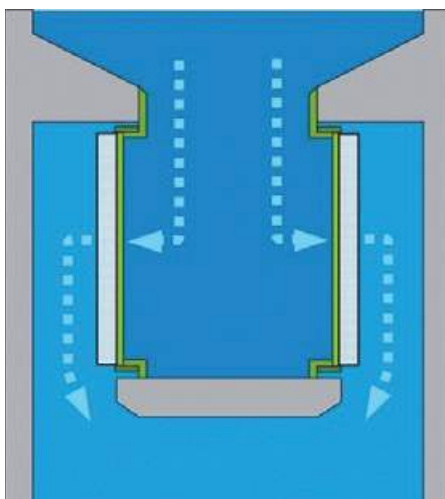
Among their outstanding features are their high throughput and robust design. As the last cleaning stage in the water intake process, finest mesh screening is recommended to protect equipment such as pumps and condensers from damage caused by debris and large sediments.

Geiger® and Passavant® In-To-Out (Centre-Flow) Travelling Band Screens are installed along the water's flow direction with the open machine side showing to the inlet. Dirty water flows through the mesh panels on both sides of the machine, leaving it in two streams.

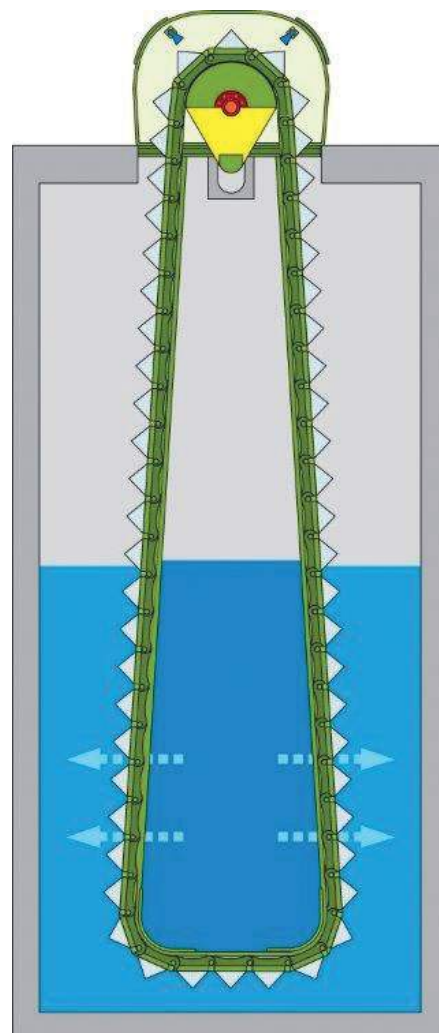
Advantages

- Compact overall machine size thanks to roof-shaped or semi-circular-shaped mesh panels
- Finest screening by mesh sizes of 200 µm - 10 mm
- Intense cleaning of the mesh panels
- Efficient removal even of coarse screenings
- No accumulation of debris below the machines on the channel bottom/no buoyancy (for centre-flow compared to dual flows)
- Screenings removable according to demand
- Highly efficient sealing between mesh panels and chain guiding
- Wear-resistant chain guiding on the clean water side
- Maintenance-free steel side bar chains
- Individually replaceable mesh panels
- Suitable for gentle fish transportation thanks to specially designed fish buckets (especially Geiger® Centre Flows)
- High efficiency spray wash system with lower water pressure (especially Geiger® Centre-Flows)
- Easily exchangeable polyamide sprocket teeth

Travelling Band Screen In-To-Out Flow Pattern (Centre Flow)



Centre Flow
Travelling Band
Screen with
Roof-Shaped Mesh
Panel Design



Function: Centre-Flow Travelling Band Screens

Screenings stuck to the inside of the ascending mesh panels are transported up to the collecting trough at operating floor level. Coarse screenings are thrown directly into the trough. The mesh panels are completely cleaned using a wash water system. Even the most stubborn screenings remain inside the Travelling Band Screen. After having passed by the

wash water device several times, the water jet finally removes them. Large sediments, rolling matter and floating substances also get inside the machine from where they are removed. Hence, deposits on the channel invert and the carry-over effect, which can often be observed in the case of machines with other flow patterns, do not occur.

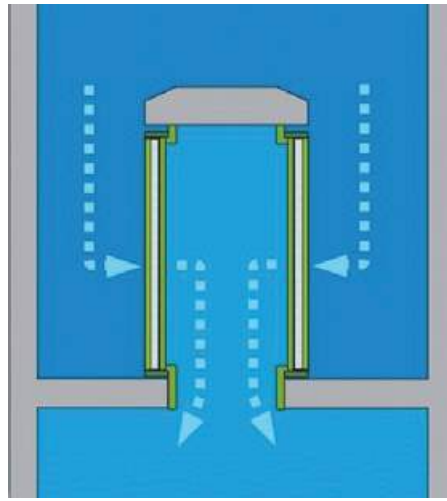
Material

- Mild steel with high-quality surface coating
- All types of stainless steel
- Geiger® Cathodic Corrosion Protection Systems also available
- Screening mesh made of polyamide, polyester or stainless steel

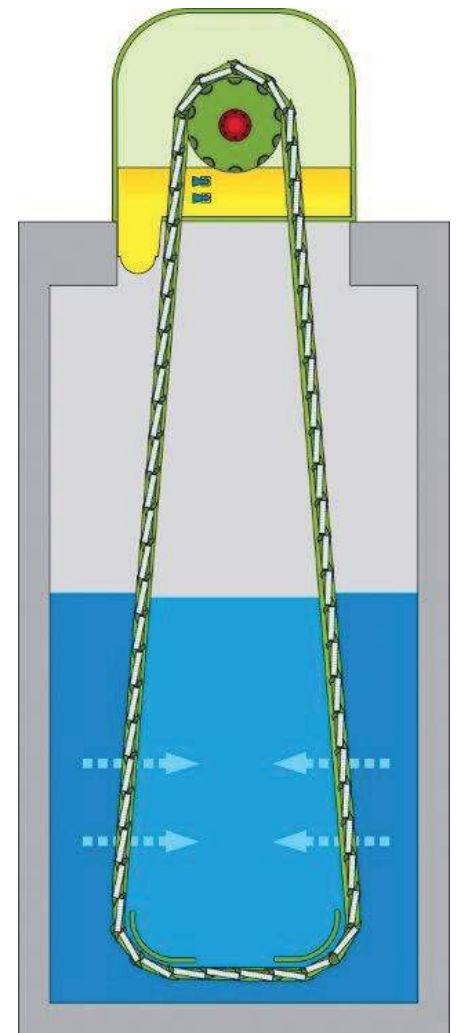
Sizes

- Length of machine (in flow direction): 1.0-4.5 m
- Chamber width (across flow direction): 2.5-7.0 m
- Chamber depth: ≤ 20 m
- Height above floor level: 1.6-2.2 m
- Mesh size: 0.2-10 mm
- Throughput: up to 100,000 m³/h (per channel)

Travelling Band Screen Out-To-In Pattern (Dual Flow)



Travelling Band
Screen Dual Flow
Pattern



Design Features

Geiger® and Passavant® Travelling Band Screens with in-to-out flow pattern are the well proven design variant of the Travelling Band Screen. Depending on site requirements, the mesh panels are either flat or roof/halfround-shaped. With roof or halfround-shaped mesh panels a considerable reduction of the machine size can be achieved.

Special features are the maintenance-free side bar chains to

guide the mesh panels, a highly efficient, scale-like sealing between the screening elements, chain and curved guidings as well as the chain track on the clean water side. The adjustable band speed allows optimum adaptation of the flow rate and screen washing. Excellent cleaning of the mesh panels is achieved by means of an intense washing; the wash water system is adjustable and controllable via local/remote control.

Control

Double automatic system with differential pressure control and

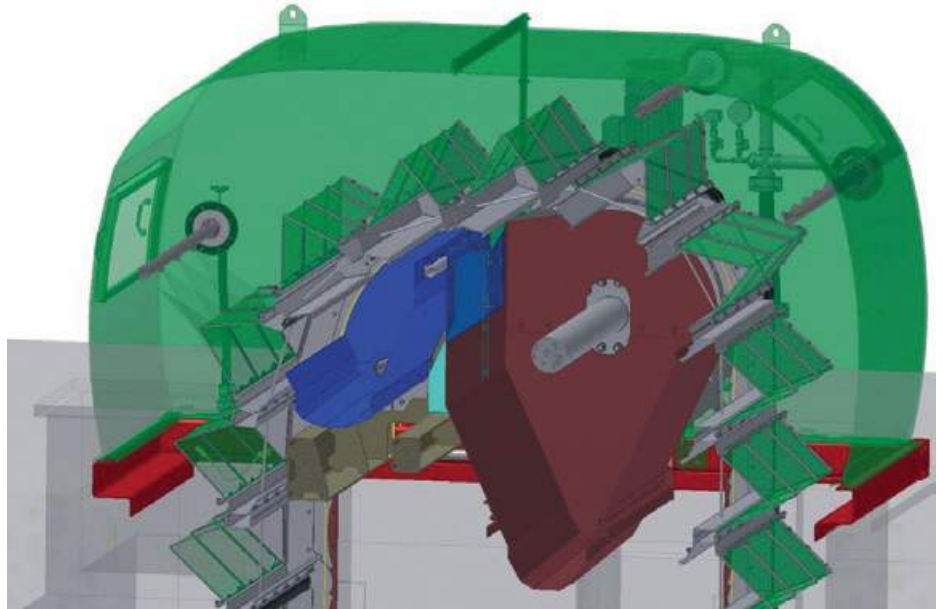
operating timer, and, optionally, PLC control.

Options

- Geiger® Cathodic Corrosion Protection Systems for chains and chain guidings
- Cleaning device for the nozzles
- Self supporting frame
- Geiger® fish transportation and return using specially shaped fish buckets (especially for Centre-Flow Travelling Band Screens)
- Installation and maintenance contracts

Travelling Band Screen: Special Fish-Friendly Design

Geiger® Centre-Flow Special Fish-Friendly Design Working Principle – with Fish Buckets Detail



Installation of a Geiger® Travelling Band Screen Driving Shaft



Fish Protection (optional)

A fish-friendly version of the Geiger® Travelling Band Screen with mesh of between 1 - 10 mm in diameter is available on request.

Specially shaped screen panels and integrated fish buckets help to prevent damage to fish stock; a specially designed fish bucket on every screen panel protects fish during screening and avoids turbulences. The buckets may then be emptied into an additional collective fish trough. For the

same reason, the screen panels are only cleaned intensively with spray water once the fish buckets have been emptied. The Travelling Band Screen has no moving parts that may cause injury to fish.

The further options of using a wedge-wire profile for the gentle treatment of fish and fish larvae and of separating the screenings from the fish buckets are also available.

Aqseptence Group GmbH Water Intake Systems

Hardeckstrasse 3
76185 Karlsruhe
Germany
Phone +49 721 5001-0
info.geiger@aqseptence.com

www.aqseptence.com

Version 1.0

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