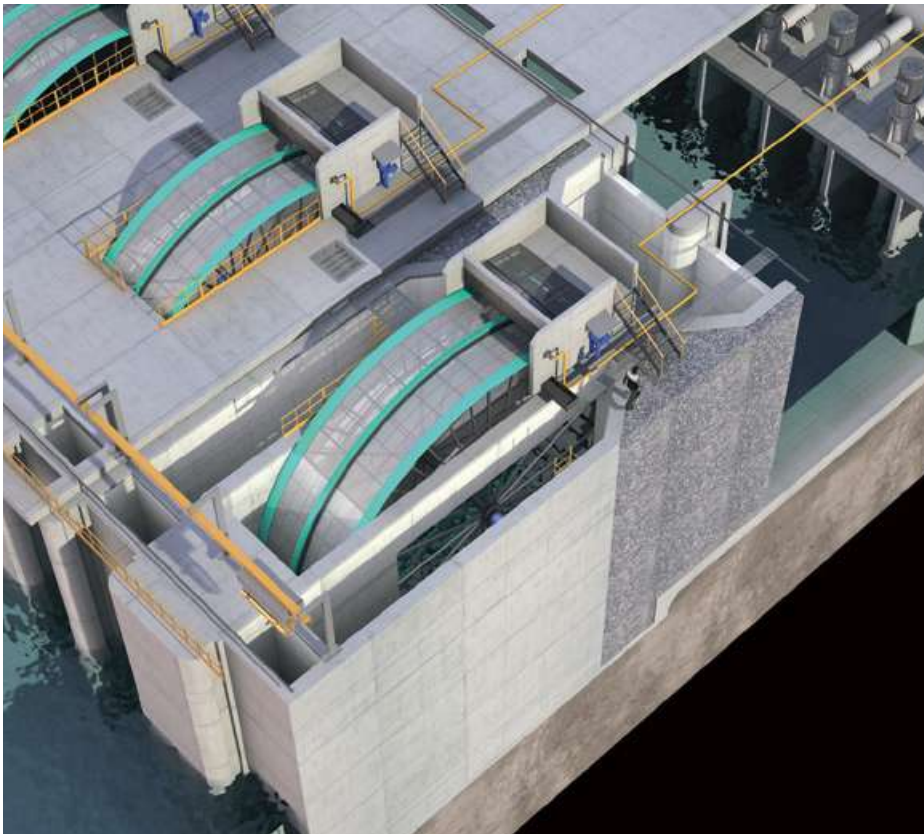


A brand of
Aqseptence Group

Geiger® High-Capacity Drum Screens (Framed and Shaftless)

Our rotating Drum Screens, designed and made in Germany to meet the highest level of specifications expected of one of the most reputed screen manufacturers in the world, are typically installed in cooling water intake systems where large quantities of screened water are required for cooling or downstream processes.



Drum Screens are often installed downstream from trash rakes / coarse bar screens in order to protect pumps and other downstream equipment from contamination.

Geiger® High Capacity Drum screening machines are designed to efficiently filter / screen raw water intakes or waste water systems and massively reduce and simplify maintenance procedures (reduced lifecycle costs).

The In-to-Out flow pattern ensures static and dynamic forces always act vertically (no buoyancy) and hydraulic loads are vertical and absorbed by the civil structure.

Due to their size (from approx. 6 m in diameter up to 22 m in diameter), Geiger® High-Capacity Drum Screens efficiently deal with large volumes of water, meaning that fewer units are required, hence minimizing the number of channels required.

Function

- A robust "drum" structure with the solid horizontal centre-shaft rotate slowly within robust bearings
- A geared motor unit situated at deck level rotates the screen at various speeds. The machines are triggered automatically by level sensors upstream and downstream of the machines
- The water flows in an in-to-out pattern through the mesh panels / double entry
- To ensure effective cleaning, the mesh panels are continuously backwashed at deck-level. This is assisted by gravity, minimizing energy costs

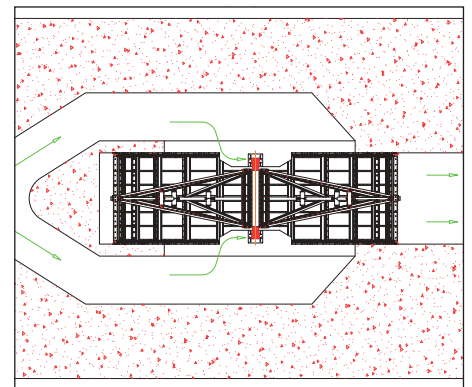
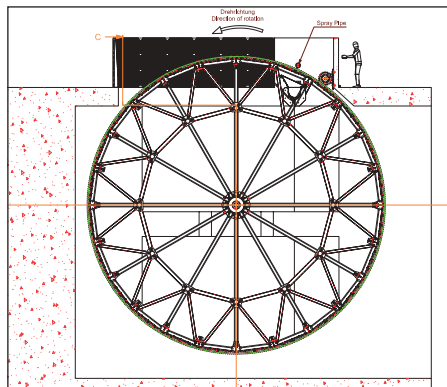
Advantages

- Exceptionally reliable: lower OPEX, less plant maintenance, lifecycle costs and downtime: designed to last 40 years
- Cost effective despite high quality: spare parts manufactured in Germany by one of the most reputable screen manufacturers in the world
- Highly-qualified staff: large team of experts in design, project-handling and maintenance
- Geiger® Cathodic Corrosion Protection Systems with impressed current (Geiger® ICCP) can easily be combined with Drum Screening Systems, whether built in carbon steel, 316L or other stainless or Duplex stainless steels, to prevent galvanic corrosion and to minimize MIC (microbial corrosion) risks
- Easy accessible motor and gearbox (mounted at deck level)
- Custom-built for each individual intake
- Easier installation on site due to segmented design
- Reduced footprint of clean water pump house balances costs
- Static and dynamic forces are transmitted vertically into the civil structure (no buoyancy)
- No accumulation of debris below the machines

Design Features

Picture on the left:
Geiger® Framed
Drum Screen:
Side View

Picture on the right:
Geiger® Framed
Drum Screen:
Top View



- High capacity screening (up to 140,000 m³/hr with Framed Drum Screens and up to 90,000 m³/hr for Geiger® Shaftless Drum Screens) per channel plus low maintenance costs
- Easy to maintain: all moving parts are accessible from deck level (e.g. motor, gearbox, wash-water nozzles, etc.), no need to stop the screen for maintenance, ensuring that the supply of cooling/process water remains uninterrupted
- Designed to support high differential loading
- Lighter but rigid structure due to the A-frame structure of the Framed Drum Screen
- Robust: highly efficient drum structure
- The In-to-Out flow pattern ensures the smooth, lateral flow of water to the pump
- Protects condensers and other downstream equipment from unscreened water and debris: zero carry-over of debris to the clean water side
- Strong and solid design "Made in Germany", including seismic qualification of the structure when requested
- Highest possible backwash efficiency as debris is removed by wash water jets aided by gravity (no brushes)
- Environmentally / fish-friendly: fish are gently removed from the mesh by low pressure jets / gravity

Geiger® Shaftless Drum Screens



The flow pattern of the Geiger® Shaftless Drum Screen is exactly as the Geiger® Framed Drum Screen with water flowing from the inside to the outside ensuring that debris and / or fish can be removed from the screen with a low pressure washing system assisted with the aid of gravity. Buoyancy or accumulation of debris under the machines is avoided. The typical application of Shaftless Drum Screens is in open channel intakes with capacities up to 90,000 m³/hr per channel. Flows in excess of 90,000 m³/hr might consider the Geiger® Framed Drum Screen or a greater number of channels.

Geiger® Shaftless Drum Screens (sometimes referred to as Frameless or Spokeless Drum Screens) are designed without radial arms / spokes or a central shaft thus allowing for a clear entry. The clever design minimizes the amount of supporting structure necessary. The lighter nature of the Geiger® Shaftless Drum Screens

exerts the minimum load on the civil work, avoiding the need to accommodate a shaft-supporting civil structure, as required for Framed Drum Screen installations.

Additional advantages are the clean inlet (hydraulic passage) into the screen and a greatly simplified civil work. Shaftless Drum Screens have a series of screening panels moving on circular tracks attached to the screening chamber walls. No permanently submerged parts are involved and the mesh panels, rollers or pins can be inspected, maintained and if necessary replaced at deck level without the need to dewater the screening chamber.

Geiger® Shaftless Drum Screens require a simple civil work structure and the design of the tracks attached to the chamber walls allows for ample adjustment to accommodate minor variations in the flatness of the chamber walls.

Technical Data

Diameter	6 m to 22 m
Mesh sizes	1 mm to 10 mm
Effective widths	1.5 m to 6 m
Capacity	Shaftless up to 90,000 m ³ /hr; Framed up to 140,000 m ³ /hr

Material

- Carbon steel (suitably coated)
- All types of stainless steel including Duplex or Super Duplex
- We recommend using our Geiger® Impressed Current Cathodic Corrosion Protection System in combination with 316L stainless steel for brackish and seawater applications

Additional Options



- Extended surface panels for minimized through-mesh velocity and reduced widths are possible
- Additional grabs to transport larger-volume screenings (e.g. sea grass, jelly fish) are possible
- Geiger® Cathodic Corrosion Protection Systems are also available, for usage in combination with stainless steel for brackish and seawater applications.

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