

Brackett Green® Traveling Band Screens

Fine Screening for Water Intakes

Key features & benefits

- No debris carry over
- Provides a large screening area in a compact footprint
- Heavy duty, durable design
- A globally proven and tested product
- Framed design
- Option of a proven Fish Recovery & Return System
- Replaceable roller tracks and wear strips prolongs operational life

How we create value

- Provides one of the most effective screening solutions on the market
- Individually engineered to minimize the capital cost of the intake
- Simplified maintenance minimizes shutdown time
- Framed design reduces civilwork and installation costs
- Dual flow permits close coupling to CW pumps thereby reducing intake footprint



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Screen Operation

Brackett Green® traveling band screens are designed for installation on raw water intakes, where continuous and efficient methods of removing floating and suspended solids are required to protect pumps, heat exchangers and other critical equipment. Fitted with mesh aperture sizes from 1.5mm to 10mm (1/16" to 3/8"), these screens can be installed as a single system or as part of a two- or three-stage system.

Endless band

Water passes through the traveling band screen's endless band of screening panels. Any debris collected on the mesh panels is raised to deck level and removed by backwashing.

Main chains (supported by two sprockets above the deck) carry the screening band, and the drive is provided by an electric motor through a shaft-mounted reduction gear unit. While underwater the main chains run in guide sections fitted with wearing strips, located in a self-supporting fabricated frame.

Custom Engineered

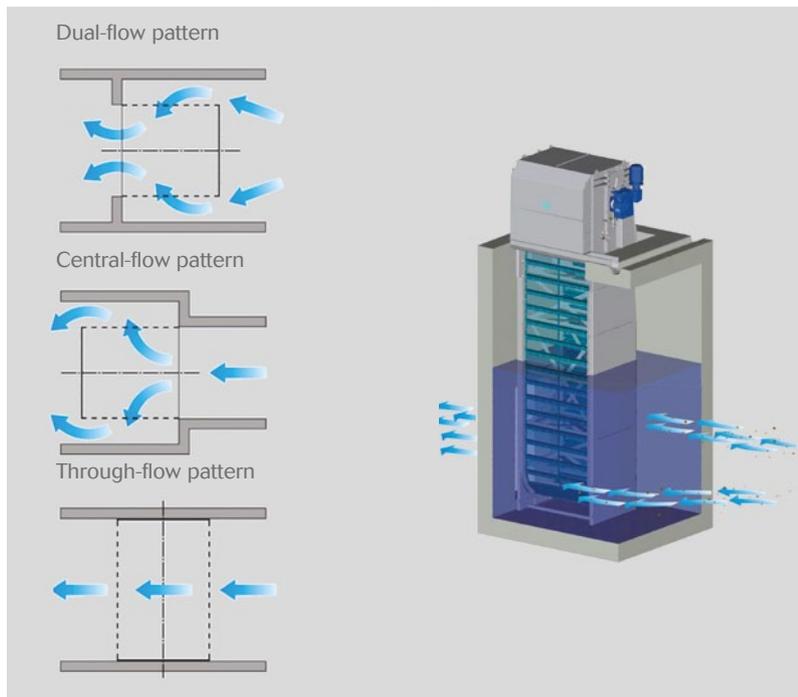
Brackett Green traveling band screens are purpose designed for each application, and can incorporate specific features to suit individual operating and site conditions.

Flow Patterns

Dual flow: Ovivo's experience designing band screens for water intakes confirms that the dual flow (DF), or out to in flow pattern, is the most suitable flow pattern for the majority of water intakes. With this pattern the water exits through the back opening after flowing through the mesh panels to the inside of the screen. Debris cannot be carried over to the clean water area and it produces a converging flow which is preferable when the pump is close coupled to the screen.

Central flow: For some applications a central flow (CF) pattern, or in to out flow pattern is sometimes preferred. With this flow pattern the water passes into the center of the screen frame and then out through the mesh panels to the clean side of the screen. This flow pattern also prevents debris carry over and is more commonly supplied as a "frameless" design.

Through flow: The through flow (TF) pattern has the advantage of a simplified civil structure compared with DF and CF Band Screens, but unlike DF and CF, it does not eliminate debris carryover. Ovivo can design and supply screens to this flow pattern. For existing through flow installations Ovivo can also offer a through flow to dual flow conversion allowing the benefits of a DF screen to be realized without modification to the existing civil structure.



Band Screen Flow Patterns

3D Cad model of the Dual flow Band Screen

Applications include:

- Screening fresh and sea water
- Intake for nuclear, thermal and CCGT power stations
- Pump protection at water treatment and desalination plants
- Refineries
- Petrochemical plants
- Common cooling water intakes
- Aluminum plants
- Steel works
- other industries requiring screened process water

Frame construction

The main chain guides and head frame assembly (complete with drive gear) are carried in a fabricated steel frame. This is built up in sections and is free-standing in the screen chamber. This design solution reduces civil work and eliminates the need for accurate alignment of chain guides as built-in components.

Additionally, this style of frame construction allows the complete screen to be removed in sections for periodic maintenance, reducing headroom space requirements.

Contact Seal

A contact seal can be incorporated when using the fine mesh or where particular types of debris may bypass the screen. This consists of a flexible neoprene seal attached to the main structure and running in contact with the main chain sealing fins.

Protection of the Aquatic Life

Ovivo takes its responsibility for the preservation of the environment very seriously and can supply screening systems that comply with current best practice for large cooling water intakes which recommends a combination of a “behavioral screen” in the form of an Acoustic Fish Deterrent (AFD) followed by a travelling screen with a proven Fish Recovery and Return (FRR) facility.

Ovivo can offer a unique “behavioral screen” based on a combined sound projector and high intensity light array system for the deterrent of sensitive pelagic species and the band screen can incorporate special fish elevators and a two stage washing system that is designed to recover and carefully return the more robust species that do not respond to the stimulus of the behavioral screen. The fish elevator profile was developed using full scale models in test flumes to provide a stable area for the fish to shelter while under the surface and to provide a protective pool of water when lifted out of the flow. The band screen head section is modified to provide two washing stages. The first stage using low pressure wash water to wash the fish into a flooded launder trough from where they return to the sea followed by a second high pressure wash to remove the more persistent debris.

Ancillary Equipment

Ovivo can supply all plant required equipment for a complete screening station, including:

- Coarse bar screens
- Automatic raking machines
- Isolating stopgates
- Local or centralized control systems
- Washwater pumps and pipework
- Manual or automatic fine strainers
- Debris disposal systems
- Cathodic protection



The robust design of the Brackett Green® Traveling Band Screen is highlighted by the robust headshaft construction of these screens awaiting dispatch.

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