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JASH MAHR TRAVELLING BAND SCREEN:

APPLICATION:

Travelling band screen is a mechanically cleaned fine screening equipment used to prevent medium to fine sized floating wastes from travelling to the pumps located into the wet well/ pump chamber of a water and waste water pumping station or to prevent fine sized floating wastes from travelling further into the water and waste water treatment plants. These types of screens are ideal for deep channels and high water flow.

CONSTRUCTION:

Travelling band screen comprises of perforated plates or woven wire mesh connected to two matched strands of roller chain and forming a continuous band of panels. The screen element and screen frame are sealed at the sides to prevent solids from circumventing the filter. For mesh smaller than 3 mm (0.12") the horizontal space between the adjoining panels is positively sealed to prevent solids escaping through the gap as would be the case if this gap is not sealed. The design of filter element and its mounting enables quick and individual replacement for ease in maintenance.

WORKING:

The continuous band of panels traps the suspended waste while the filtered water passes through. The waste / debris laden panels travels out of the flow and reach to the discharge point at the top of the platform. The waste is then removed / cleaned from the panels by water spray bar located at the upper deflection point and this cleaning process can be optionally assisted by a rotating brush depending on the screening load. The waste removed from the panels is deposited on to a conveyor or in a trough for further disposal.

SALIENT FEATURES: For Center flow, Dual flow screens and Through flow Screen

- High reliability due to rugged construction- ensures continuity of operation even at higher than specified water depths.
- Different designs of the filter panels available for perforated type as well as mesh type.
- Filter elements and screen frame sealed at the sides to prevent solids from circumventing the filters.
- Filter elements can be individually and quickly replaced for ease in maintenance.
- Filter elements optimally cleaned by spray bars and optionally by a brush.
- Superior sprockets and chains - heavy duty sprockets and chains made of stainless steel and chain pins made of hardened Stainless Steel material of special grade.
- Screen is without sprocket wheels and bearings under the water level (in the channel)
- Designed to handle grit without malfunction.
- Easily adapted to suit changed operating condition.
- Factory assembled and pre-shipment tested- ensures effectivity of movement.
- Easy and faster erection – the screen to be just lowered in to ready made channel for installation.

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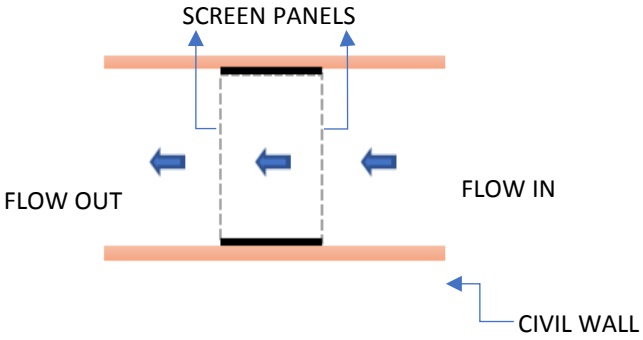
SPECIFICATION:

Filter element mesh size	0.5 mm to 3 mm (0.02" to 0.12"), other sizes on request
Filter element perforation size	1 mm to 12 mm (0.04" to 0.48"), other sizes on request
Filter element width	300 mm to 5,000 mm (12" to 200")
Shaft center distance (for Channel depth)	up to 15,000 mm (600"), larger depth on request
Design flow capacity	Up to 25,000 m3/hr, larger flow on request
Mounting angle	90 degree
Material of construction	Stainless steel 304 316, Duplex, Super Duplex, other materials on request

TYPES OF TRAVELLING BAND SCREENS:

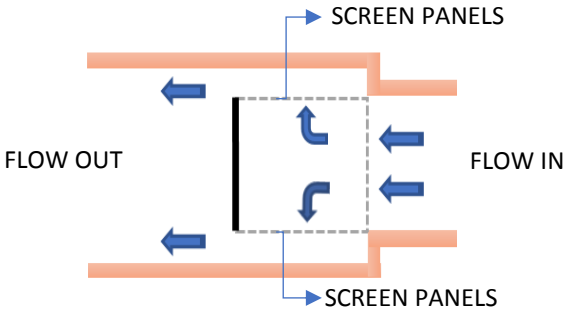
THROUGH FLOW SCREEN:

In case of through flow design the screen is installed vertically in the channel in a way that the unscreened water enters the screen perforated/mesh panel which is placed perpendicular to the flow direction. The difference from the other types is that screening is performed only on one side. The front side of the mesh is the section where the screening takes place. Water pass through the screen panels twice i.e. once through front panels and then again through same panels travelling at rear side.



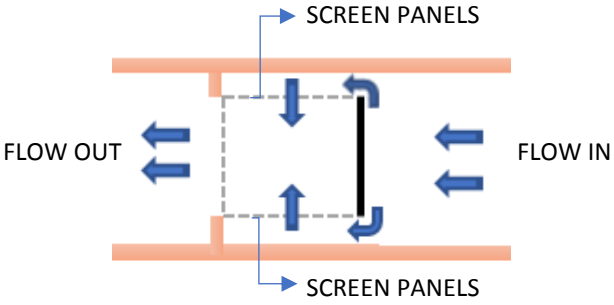
CENTER FLOW SCREEN:

In case of center flow design the screen is installed vertically in the channel in a way that the unscreened water enters the screen inlet located in the middle of the screen frame and is effectively screened as it flows from the inside to the outside through both sides of the screen filter elements. In center flow design the front opening in the middle of the screen frame is open and the rear opening is closed.



DUAL FLOW SCREEN:

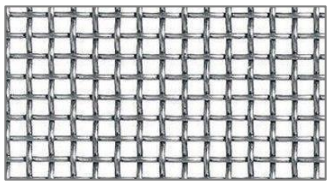
In case of dual flow design the screen is installed vertically in the channel in a way that the unscreened water enters the screen through the filter elements located on the two sides and flows out from the opening provided at the center of the screen frame. In dual flow design the front opening in the middle of the screen frame is closed and the rear opening is open.

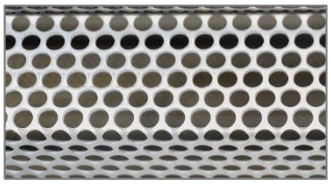


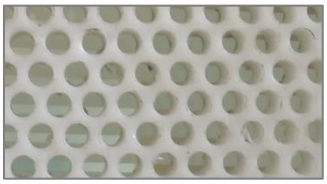
TYPES OF PANELS:

Panels are made of wedge wire bars, woven wire mesh & plates having perforated holes. Depending upon client requirement panels can be offered in different materials like Carbon Steel, Stainless Steel 314/316, Duplex or Super Duplex and UHMWPE.


Wedge Wire

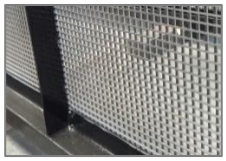

Woven Wire Mesh

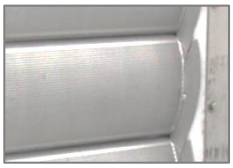

Perforated holes (Metal)


Perforated holes (UHMWPE)

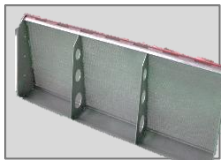
PROFILE OF PANELS:

The profile of panel is dependent on application, flow, spacing between bars / mesh / perforation size and material of construction panels can be offered in flat profile, curved profile, step profile, bucket profile or M-profile.


Flat Profile


Curved Profile


Step Profile

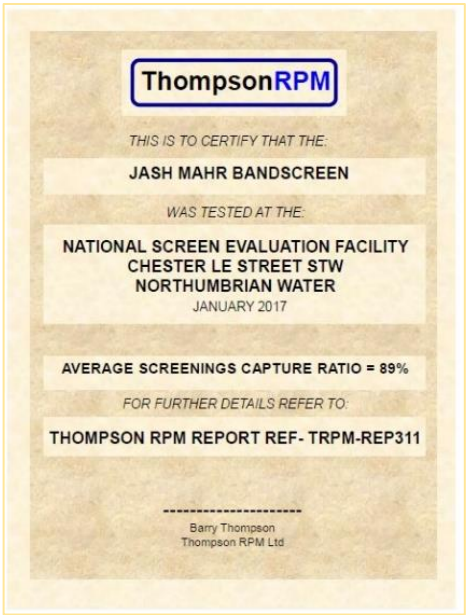

Bucket Profile


M-Profile

PROVEN PERFORMANCE:

Jash-Mahr Band Screen having aperture size 4 mm was evaluated for screening capture at the National Screen Evaluation Facility (NSEF), Chester – Le – Street STW, Co Durham, UK in January 2017. A total of 12 SCR (Screening capture Ratio) tests were conducted. The average SCR for the screen was found to be 89%.


Jash-Mahr Band Screen during testing at NSEF, UK


ThompsonRPM

THIS IS TO CERTIFY THAT THE:

JASH MAHR BANDSCREEN

WAS TESTED AT THE:

NATIONAL SCREEN EVALUATION FACILITY
CHESTER LE STREET STW
NORTHUMBRIAN WATER
JANUARY 2017

AVERAGE SCREENINGS CAPTURE RATIO = 89%

FOR FURTHER DETAILS REFER TO:

THOMPSON RPM REPORT REF- TRPM-REP311

Barry Thompson
Thompson RPM Ltd

NSEF Certificate showing capture ratio 89%

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PHOTOGRAPHS OF SCREENS DURING SHOP TESTING:

Screen after assembly at Jash

Complete Screen of over 31.54 m length in operational testing at Jash for Vizag Steel Plant, Visakhapatnam, India

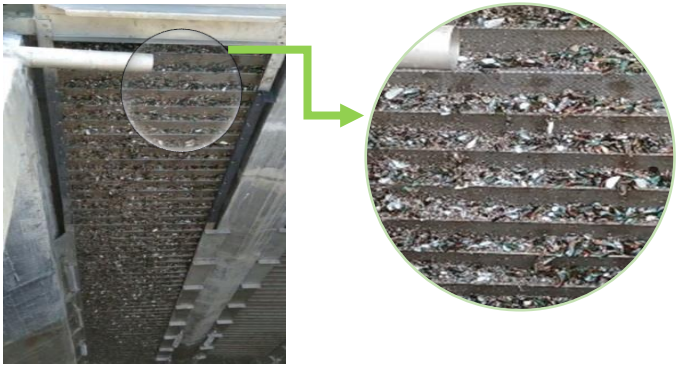
Screens & conveyors with washer compactor for Las Pinas Project, Philippines

Complete Screen of over 31 m length in operational testing at Jash for RSPL Sea Water Intake, Dwarka, Gujrat, India.

PHOTOGRAPHS OF INSTALATIONS:

Screens at RSPL Sea Water Intake, Dwarka, Gujarat, India.

Screen after installation at Nemmeli Desalination plant, Chennai, India.



Amount of waste being lifted by screen during operation.

Screen having 18 m length during installation at Nemmeli Desalination plant, Chennai, India.