

TRAVELLING BAND SCREEN

CENTRAL FLOW FROM INSIDE TO OUTSIDE



BENEFITS

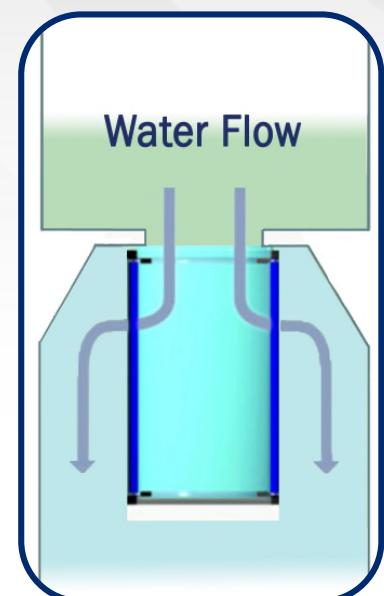
- ◆ High screening capacity
- ◆ Large screening area in a compact design
- ◆ Capable of high speed rotation (up to 20m/min)
- ◆ No carry-over problem (compared to the Thru-flow band screen)
- ◆ Premium quality construction and robust design

PURPOSE

- ◆ BEAUDREY Band Screens are typically installed in an intake screening system. They are used in thermal and nuclear power plants, LNG terminals, desalination or fertilizer plants, drinking water and irrigation plants.
- ◆ They are positioned downstream from the trash rakes or coarse bar screens and upstream of the circulating water pumps.
- ◆ Travelling screens are used to arrest the small debris contained in the water so that the downstream users remain unobstructed and clean (condensers, exchangers, spray-water circuits, membranes etc). Debris can be of all types including fish, shrimps, jelly-fish, grass, man-made refuse, plastics, seaweed, etc.
- ◆ BEAUDREY travelling band screens are able to operate in a variety of water types including salt water, fresh water and brackish water. The band screens are self-cleaning and have operation modes that range from fully automatic to strictly manual.

LAYOUT

- ◆ The water enters through the central wall opening.
- ◆ The water flows through the two sides of the band screen where the debris are arrested by the mesh. The water is then divided in two and flows out through the two side channels.



DESCRIPTION AND OPERATION

- ◆ Installed in a channel in which flows the water to be cleaned, the screen consists of a set of rectangular screening mesh panels carried by two endless chains. The panels travel up and down again between an upstream wall plate and a downstream partition with a central, outlet aperture set across the channel
- ◆ The debris-laden panels travel up above deck level, around the top and down again. One or two spray pipes with fantail jet nozzles set on the down stream side of the panels within the screen's head structure, back-wash the panels, remove the debris which are projected into a collection trough. They travel in a deck flume to the debris disposal system (basket, separator, etc.)
- ◆ The screens are normally stopped and are washed periodically when clogged by debris. Permanent rotation can be provided

CONSTRUCTION

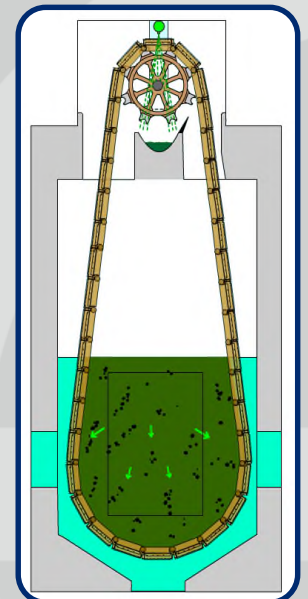


SCREENING PANELS AND MESH

- ◆ BEAUDREY travelling band screen panels are easily dismantlable. Available mesh is the following
 - ◇ Stainless steel woven mesh (304L, 316L, Duplex or Super Duplex) – from 1x1mm to 10x10mm aperture

HEAD FRAME

- ◆ Beaudrey recommends using direct coupling for gear-reducer which is a maintenance cost saving compared to indirect transmission using chain and pinion
- ◆ Motor is driven by a VFD for different rotation speeds (2 or 3 speeds)
- ◆ The main shaft is running on special bushes. A grease recovering device and self-lubricated bearings are fitted to prevent oil or grease leakage in the environment
- ◆ Sprocket teeth are removable. The height of the bearings and the shaft can be adjusted using jack screws and capstan nuts that are supported by the head frame
- ◆ Inside the cover, one or two spray pipes are installed to backwash the travelling band screen mesh panels. A trash collector is placed below the main shaft to ensure an optimized trash collection



CHAINS AND STRUCTURE

- ◆ Chain design reflects the best state of the art. It consist in heavy duty links, bushes, pins and rollers. Strong materials such as special steel (for fresh water), Duplex or Super-Duplex SS (for seawater application)
- ◆ Chain guides are part of travelling band screen structure
- ◆ Travelling band screen are available with full carrying structures or with rails and guides fixed to the civil works
- ◆ A full carrying structure reduces civil works and makes traveling band screen independent of civil works potential defects

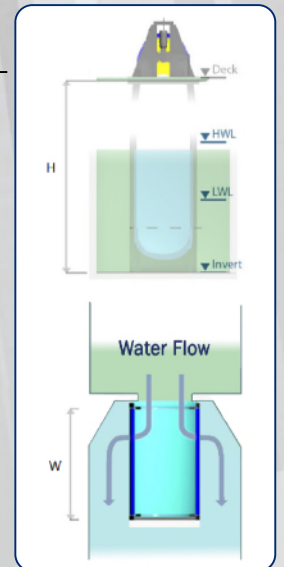
MATERIAL SIZES & DATA

MATERIALS

- ◆ Structure, mesh panels: Epoxy painted carbon steel, Stainless steel (304L, 316L), Duplex or Super Duplex
- ◆ Screening mesh: Stainless steel (304L, 316L), Duplex or Super Duplex
- ◆ Main shaft: Epoxy painted carbon steel, Stainless steel (304L, 316L), Duplex or Super Duplex
- ◆ Chain links: Duplex or Super Duplex
- ◆ Nuts and bolts: A4, Stainless Steel, Duplex or Super Duplex

SIZES AND DATA

- ◆ Mesh aperture from 1x1mm to 10x10mm
- ◆ Channel height and tidal variation: H= No practical limit
- ◆ Screening panel useful width from W= 0.6m to 4m
- ◆ Flow rate: up to 70,000 m³/h (300,000 GPM)



ACCESSORIES

NECESSARY ANCILLARIES

- ◆ Spray-water supply circuit
- ◆ Head-loss monitoring system
- ◆ Electrical and control cabinet
- ◆ Upstream bar rack (20 to 75 mm bar spacing (1 to 3"))
- ◆ Pit dewatering stoplogs
- ◆ Trash collecting system (basket, etc)

OPTIONAL FEATURES

- ◆ Two or three-speed operation (up to 20m/min)
- ◆ Seismic qualification
- ◆ Jellyfish lifting trays
- ◆ Screening medium resistant to fiber build-up
- ◆ Screening medium preventing jellyfish adherence
- ◆ Cathodic protection (Anodes or impressed current)
- ◆ Low pressure water-life protection system (316B)
- ◆ "Scoop-a-fish™" total fish survival system





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