

Reliable Performance.
Sustainable Results.

PASSVANT® CENTRE-FLO™ BAND SCREEN



APPLICATION

Coarse and fine screening of municipal fresh water, sea water, wastewater and industrial wastewater; fully customizable and highly efficient machine to improve and protect downstream treatment processes.

SOLUTION

Aqseptence Group offers you a range of high-quality, Australian designed and manufactured band screens. The CentreFlo™ band screen includes integral bypass, fully contained enclosure for odour containment and control as well as a choice of slotted, perforated or honeycombed screen elements. Each machine is custom designed to suit the specific treatment needs, allowing the machine to handle all treatment processes, from conventional to membranes.

FUNCTION

The diverter plates direct the influent flow into the submerged section of the screen. The flow then undergoes a 90 degree change in direction to flow through the Centre-Flo™ screen panels. The screen panels retain the solids and allow the screened effluent to pass through to the subsequent treatment processes. Centre-Flo's are typically controlled based on upstream water level or differential level allowing the band screen to remain stationary allowing solids to build up on the screening elements. This build-up of solids helps the screen capture finer particles, further increasing capture efficiency.

While in this stationary mode, the head loss across the screening element increases, causing the upstream water level to rise. Once the upstream water level or differential level reaches a pre-set high, the screen will automatically enter a cleaning cycle.

BENEFITS

- Highest screenings capture rate technology on market due to efficient flow path and panel design.
- Best hydraulic performance on market with our full bore perforated panel or Patented Honeycomb Panel.
- Low maintenance with virtually no wearing parts and no requirement for channel access.
- Effective organics washing and recycling of the screened solids.
- Improvement of downstream processes provides operational and maintenance efficiencies.

DESIGN FEATURES

- Proven screen capture rates above 85% for 5mm aperture panels.
- Proven pre-MBR screening with 1 to 2mm screen panel apertures.
- Fully sealed guide link arrangement to ensure screenings cannot bypass the screen.
- Patented external drive system with all moving parts, including drive shaft and sprocket, on the clean side of the screen which eliminates risk of internal catchpoints.
- Patented Honeycomb Panel provides the industry's highest hydraulic performance with over 90% open area; provides for increases of 20 to 40% hydraulic capacity compared to full-bore perforated panels. This allows greenfield inlet works to proportionately reduce in size by 20% to 40% providing large civil cost savings.
- Flexible material design with various options including UHMWPE, Polypropylene and 316 stainless steel panels.

FUNCTION (CONT.)

During the cleaning cycle, the band screen will rotate, lifting the collected solids and dropping them into the discharge flume. The finer solids captured on the screen panels are flushed off the screen using the wash sparge system located on the opposite side of the screen. The cleaning cycle will typically run through a complete revolution of the band screen, effectively cleaning the entire screen. During the cleaning cycle the upstream water level will continue to drop until the screen is completely cleaned and normal operating levels are reached.

DESIGN SIZES & PERFORMANCE

The Centre-Flo™ can be customised for channel depths up to 10 m and suitable for flowrates in the order of 200 to 3,000 litres per second. The Centre-Flo™ can also be integrated with various solids transport options including integral screw wash press, sluicing trough or screw conveying arrangements.

MATERIALS

The Centre-Flo™ is an extremely robust unit with no submerged chains or sprockets; all materials are high-grade and suitable for aggressive wastewater environments resulting in virtually no wearing parts. The frame is constructed from 316 Stainless Steel with oil-impregnated UHMWPE drive links and various material options for the panel including Polypropylene, UHMWPE and 316 Stainless Steel.

APPLICATIONS & FIELDS OF USE

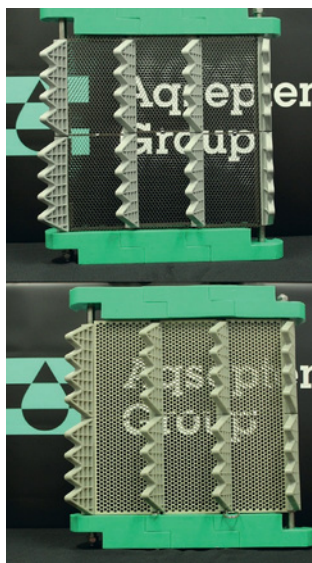
- Suitable for municipal fresh water, sea water, wastewater and industrial wastewater applications.
- Screening elements available in Honeycomb panels (2 to 10 mm apertures), perforated plate (1 to 6 mm apertures), laced hooks and links (2 to 6 mm slots)
- 1 to 2 mm apertures suitable for final pre-screening for Membrane Bioreactor (MBR) processes.
- 3 to 6 mm apertures and slots suitable for conventional wastewater treatment processes
- Excellent retrofitting capability to existing channels to improve plant hydraulics and screenings capture efficiency e.g. coarse screen or step screen replacement
- Can be designed to accommodate channel dimensions and hydraulic requirements; highly suitable for deep channel designs

DESIGN FEATURES (CONT.)

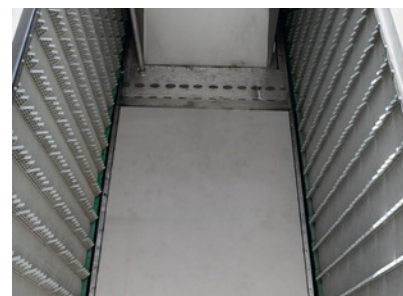
- Flexible panel media design with slotted, perforated and Honeycomb panel options.
- Patented Honeycomb Panel also provides improved screen capture rates over perforated plate as well as improved screen cleaning efficiency and reduced aerosol production with over 40% increase in open area compared to equivalently sized full-bore perforated panels.
- Unique screen panels with one single panel the entire width of the band screen belt for maximum screen open area and easy panel replacement for maintenance or future panel upgrades.
- Flexible safety options including limit switches or safety mesh on all inspection hatches.
- Standard dual wash sparge arrangement for effective screen element washing and screenings organics washing and recycling to improve treatment processes and reduce disposal costs.
- Able to handle influent with high grit and gravel loads.
- Modular design allows the Centre-Flo™ height and band screen width to be optimised to suit channel, capacity and head loss requirements.
- Ability to run continuous clean screen operation to maintain low and consistent head loss.
- Proven design and operation with reference sites in many countries.
- Optional integral manual or actuated by-pass gate to eliminate the need for a separate by-pass channels.



Option for direct discharge to our Noggerath® Noggwash™ Screw Wash Press.



Comparison of our new patented Honeycomb Panel versus full-bore Perforated Panel.



Perforated Plate Version with Lifters.