

## Noggerath® Centre-Flo™ Band Screen

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



Aqseptence Group offers you an efficient and space saving screening solution with a revolutionary drive concept. Con-

rary to the conventional technology, the Center-Flo has a chainless drive with shaft and pinion on the clean outside of

the screen belt. The screen belt geometry enables the best capture rate of screenings. Clean side and dirty side strictly separated, and so a "taking over" effect of solids on the clean water side is excluded.

Innovative screening elements, such as the perforated screening element, which is multi head drilled, or the nature-inspired honeycomb screening element generate extremely high open area (up to 90%) and thus reduce the operating headloss and enable significantly higher throughput.

### Benefits

- Highest screenings capture rate technology on market due to efficient flow path and panel media. (up to 85%)
- Best hydraulic performance on market with our full bore perforated panel or patented honeycomb panel.
- Able to handle influent with high grit and gravel loads
- 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.
- 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 sizes & performance

Flowrate	200 – 3000 l/s
Machine width	700 – 2400 mm
Channel depth	Up to 10.000 mm
Full bore perforation	1 – 6 mm
Honeycomb perforation	2 – 10 mm
Laced hooks D lines	2 – 6 mm
Discharge rate	Up to 85 %

### Materials

Frame	Stainless steel AISI 304 or AISI 316 others on request
Drive guide links	UHMWPE, oil-impregnated
Panels	Polypropylene, alternatively UHMWPE or stainless steel AISI 316

### Applications & fields of operation

- Sea water and municipal fresh water
- Conventional wastewater treatment processes
- Final pre-screening for Membrane Bioreactor (MBR) processes
- Industrial wastewater applications



Centre-Flo directly discharging to Noggerath® Screening Wash Press NWP

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## Function

The diverter plates direct the influent flow into the submerged section of the screen. The flow then undergoes a 90° 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 helps the screen to capture finer particles, further increasing capture efficiency.

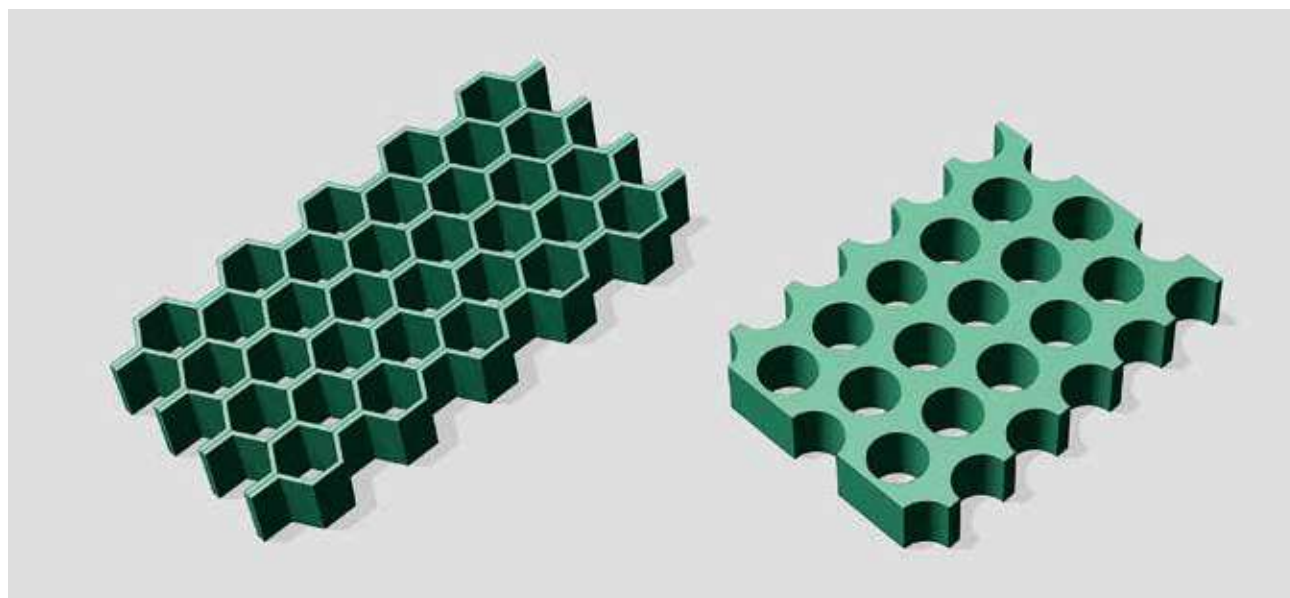
While in this stationary mode, the head loss across the screening element increases, causing the upstream water

level to rise. Once the upstream water level or differential level reaches a pre-set high, the screen will automatically enter a cleaning cycle.

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.



Illustrated band elements: panels and guide links



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

## Design features

- Modular design allows the Centre-Flo™ height and band screen width to be optimised to suit channel, capacity and head loss requirements.
- Patented Honeycomb Perforated 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.
- Unique screen panels with one single panel the entire width of the band screen open area and easy panel replacement for maintenance or future panel upgrades.
- 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.
- 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 catch-points.
- Standard dual wash sparge arrangement for effective screen element washing, screenings organics washing and recycling to improve treatment processes and reduce disposal costs.
- Flexible safety options including limit switches or safety mesh on all inspection hatches.
- The Centre-Flo™ can be integrated with various solids transport options including integral screening wash press, sluicing trough or spiral conveying arrangements.
- Optional integral manual or actuated by-pass gate to eliminate the need for a separate by-pass channel.



Sieve Belt from outside: honeycomb panel, hooks, guide links



Fixing Filter Panel