OVIVO Worldwide Experts in Water Treatment

MUNICIPAL WASTEWATER
INLET SCREENS

REDUCE MAINTENANCE COSTS & DOWNTIME... INCREASE CAPTURE RATIO & EFFICIENCY

- Excellent pretreatment for MBR
- Zero carry over sealing independently proven to remove 90% of 2 dimensional screenings
- Large debris capacity
- Single motor design reduces running, ancillary and electrical costs
- Supplied as a free standing single unit for ease of installation
- Low pressure jet cleaning prevents blinding and need for brushing or manual cleaning

Patented ProPaPanel® technology for wastewater applications prevents hairpinning

BRACKETT GREEN®

CF100® BAND SCREENS

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ADVANTAGES

- Center flow band screens offer the greatest available screening protection
- Highest efficiency (rated No.1 by professional independent study)
- Patented design eliminates hair-pinning, reducing maintenance costs
- Patented seals offer industry leading "carry over" reduction
- Patented mesh panels offer industry leading screenings capture
- Simple retrofit replaces outdated step, rake and straight-through screens with the more efficient central flow screen
- Reduces downstream design loading
- Cost savings through reduced plant power consumption

BRACKETT GREEN® EXPERIENCE

HIGH CAPACITY • LOW MAINTENANCE

Ovivo's Brackett Green® screens are designed to meet the increasing demand for high capacity fine screening of raw or waste water coupled with a robust low maintenance operation.

Utilizing Brackett Green's decades of experience, Ovivo is the world leader in screening technology. Whether your requirement is for new treatment
works or to optimize an outdated screen, we can provide the right solution for you.

Brackett Green® screens have been tested at the National Screen Evaluation Facility in the UK, with excellent results. The Brackett Green CF200® and CF100® band screens proved capture rates of 80%, and in some cases 93%, with virtually no wear after an extensive testing period. Brackett Green screens are fully W.I.M.E.S compliant. All Brackett Green band screen products are manufactured to ISO9001 standards and are subjected to rigorous internal quality audits, ensuring that only the best quality screens are delivered to our clients.

The Brackett Green screens are just one of a line of successful proprietary products in Ovivo's range.

APPLICATIONS

- Sewage treatment plants
- Water reclamation facilities
- Wastewater treatment plants
- Combined storm water overflows
- Potable water treatment plants
- MBR pre-treatment

AVAILABLE IN 2 MODELS

TWO MODELS ARE AVAILABLE TO TREAT FLOWS BASED ON THE DESIGN CRITERIA PROVIDED. THE CF100/300 AND CF100/600.

CF100/300

The CF100/300 band screen was introduced in 2001 and is the smallest model CF screen available. It is capable of treating flows as low as 50 l/sec, up to a maximum of 500 l/sec, requiring minimum channel depths from 0.70m up to 2.70m, with a maximum immersion level of 1.50m. A minimum inlet channel width of 0.53m is essential to guarantee sufficient inlet flow velocities. The minimum screen chamber width required is 0.70m.

The CF100/300 band screens are available in 300mm, 450mm, 600mm and 750mm effective widths to assist with the reduction in the headloss and velocity through the screen.

CF100/600

The CF100/600 band screen was introduced in 2003. It is capable of treating maximum flows of 1,500 l/sec, which require channel depths ranging from 1.00m to 9.70m, with a maximum immersion level of 3.50m. A minimum inlet channel width of 0.94m is essential to guarantee sufficient inlet flow velocities. The minimum screen chamber width required is 1.20m.

The CF100/600 band screen is available in 300mm, 450mm, 600mm, 750mm, 900mm, 1,050mm and 1,200mm effective widths to assist with the reduction in the headloss and velocity through the screen.

FEATURES

- Rigid frame construction
- Enclosed head section with access panels
- Shaft-mounted drive
- Anti-friction bearings
- Patented panels eliminate the need for brush gear
- Panels are cleaned by low pressure jets
- Rubbish elevators on each panel for absolute unit efficiency
- Patented thick panel technology
- High efficiency two dimensional screening (perforation)
- Tapered perforations completely eliminate hair-pinning
- Flat panels are easily washed and maintained
- Patented sealing arrangement eliminates carry over
- Debris elevation or gross solids removal
- High strength, long life polymer panels

CF100® BAND SCREEN FEATURES AND BENEFITS

CENTER FLOW PATTERN

The Brackett Green® CF100® band screens utilize a center flow pattern. Research and testing have proven that the center flow pattern (where water enters the center of the screen, then flows outwards through the two sides of the moving band of patented screen panels that run parallel to the flow before discharging it to the outside of the screen and sending it downstream) is the most efficient engineering design today, effectively reducing, eliminating and controlling both carryover and bypassing of screenings at the inlet works of a sewage treatment plant.

AN ENDLESS BAND OF SCREENING PANELS

The Brackett Green® CF100® band screen has a standard design option of two front opening sizes along with screening panel widths in increments of 150mm. Debris is elevated by means of an endless band of screening panels contained within a vertical self-supporting frame. The water being screened will pass through an opening in the front of the screen to the inside, and then through the panels to the outside of the screen. As the band rotates, the debris collected on the inside is lifted above deck level.

LOW PRESSURE JET CLEANING

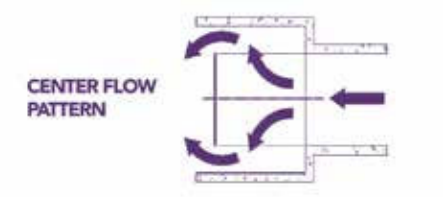
The screen panels will be washed by a series of jets mounted on a jet pipe inside the screen head. The jets will be attached to the jet pipe by quick release connections for ease of cleaning. The jet pipe will be fitted with a pressure gauge and a pressure switch to detect low washwater pressure. A removable end cap is provided on the jet pipe for flushing purposes. The washwater and debris is discharged from the screen via a launder channel. Located in the hopper is a flushing pipe assembly, which aids in screenings removal. The flushing pipe is used in conjunction with the screen jet pipe and is operated manually with a diaphragm valve. The head section has removable access panels and a splashguard designed to keep aerosol from the spray jets at a minimum.

SINGLE MOTOR DESIGN

Ladder bars and mesh panels, supported by two sprockets above the deck, carry the screening band. A shaft-mounted gear unit is directly keyed to the head shaft, and coupled with a flange-mounted electric motor that drives the screen. The motor comes with an anti-condensation heater. The chain assembly runs in replaceable plastic guide sections, located in a self-supporting fabricated frame. To prevent solids bypassing the CF100 band screen, a neoprene contact seal is utilized on all machines. The screen is shipped fully assembled, ready for immediate installation. All routine maintenance is at deck level, and there are no permanently submerged bearings.

OPERATION

CF100 screens adopt a central flow pattern, i.e. water enters the center of the screen first. Ovivo's research has proved that the central flow pattern is the most efficient means of removing suspended solids for wastewater applications. This pattern also eliminates the problem of "carry over" found in more traditional straight-though and step type screens.

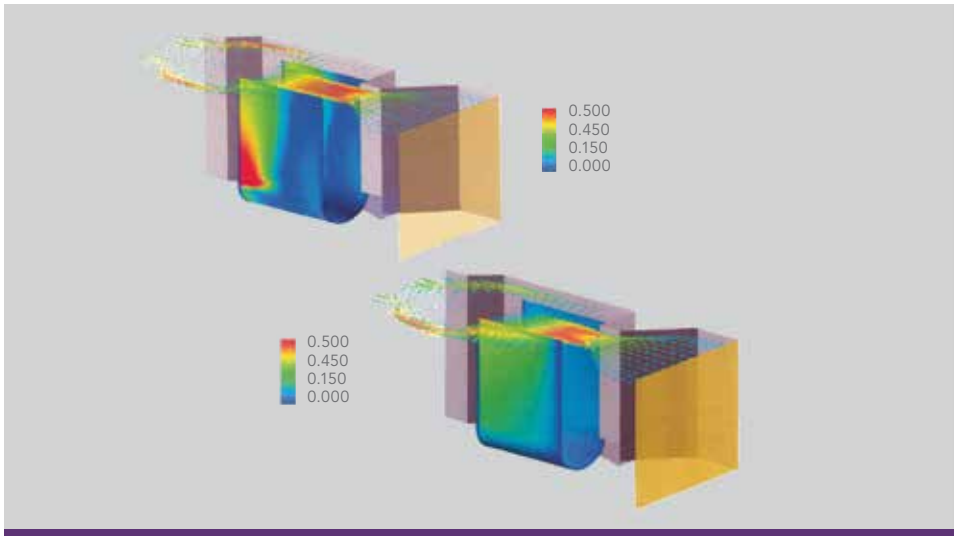


Wastewater enters through the center of the fine screen and flows outwards through a moving band of polymer mesh panels to the outside of the screen chamber. Screenings are retained on the inside of the screen panels, and are discharged by low pressure water jets at deck level during the cleaning cycle.

Water jets are mounted onto a jet pipe inside the screen head section. During the cleaning cycle these jets continuously clean the panels as they pass the discharge point above the debris hopper. A removable end cap is fitted to the jet pipe for flushing. If wash water is unavailable, a pressure switch prevents screen operation. On many sites the Brackett Brieden™ automatic strainer increases the screen's efficiency by reusing screened effluent as the screen wash water supply.

Brackett Green CF100 band screens are fitted with patented tapered hole thick polymer mesh panels. Unlike steel or other metallic mesh and plates, the panels actively discourage hair-pinning. These highly effective screens do not require brush cleaners, removing a source of constant problems found on alternative machines.

For some special applications the flow can be reversed, with water flowing from the outside to the center. This flow pattern, like the central flow pattern, totally eliminates "carry over" and ensures effective and efficient screening.



Computer generated flow velocity patterns

Low pressure water jets for effective cleaning

Patented mesh panels eliminate the problem of hairpining and blinding

CONSTRUCTION AND INSTALLATION

REDUCING CIVIL WORKS REQUIREMENTS TO A MINIMUM

CONSTRUCTION

Brackett Green CF100 band screens are housed within a durable, freestanding stainless steel framework. This design reduces civil works and eliminates the need for built-in chain guides to be accurately aligned in the civil work.

The screening band is carried on UHWMPe tracks that are supported by above-deck sprockets. The frames are fitted with replaceable roller tracks and locating strips, which protect the integrity of the frame. The shaft-mounted combined motor and reduction gear unit drives the screen band.

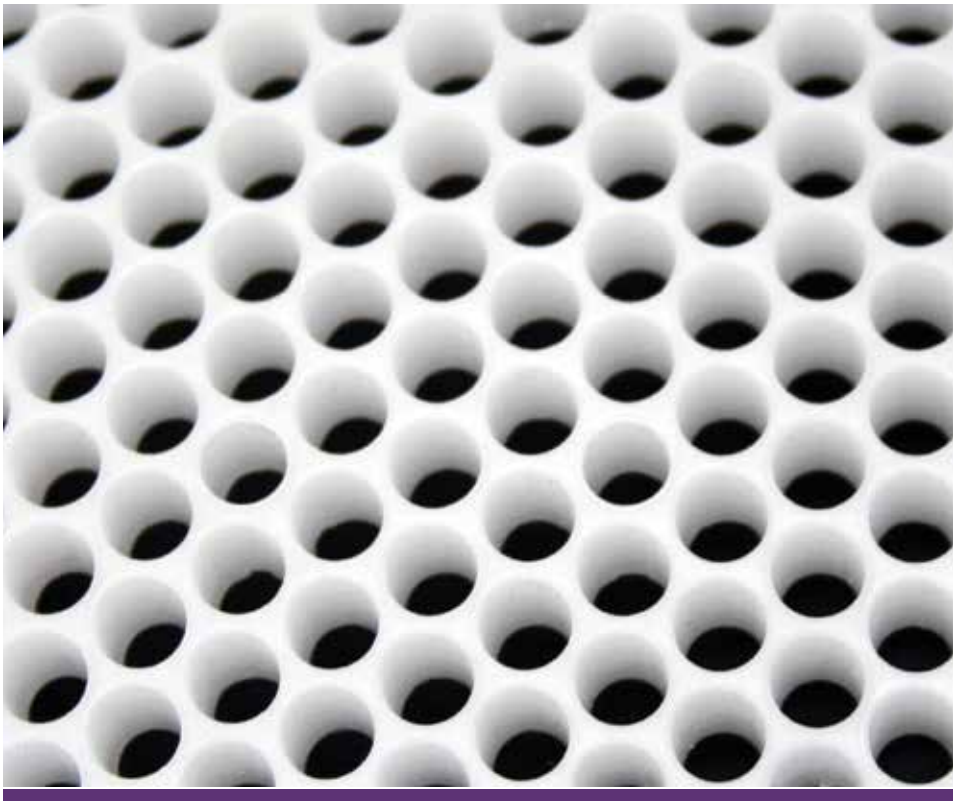
Sealing between the moving band of mesh panels and the screen frame is achieved by a proprietary 3D neoprene seal, in contact with a low friction plastic sealing face. CF100 screens feature a debris elevator attached to the trailing edge of each panel. The channel immediately in front of the screen is sealed by deflector plates fitted to the screens framework – at this juncture between screen and civil work a static seal is also used.

ONE-PIECE INSTALLATION

CF100 band screens are usually delivered in one piece – this allows for ease of installation and enables the screens to be lifted into position fully assembled.

The CF band screen head sections are fitted with removable access panels. These can incorporate inspection windows and splash guards specially designed to reduce aerosol from the spray jets to an absolute minimum.

Ovivo designs, manufactures and installs CF100 band screen inlet structures fabricated in stainless steel, reducing civil works requirements to a minimum.



Close up of Ovivo's ProPaPanel® technology

ENGINEERING SERVICES

COMPUTER-AIDED-DESIGN AND ENGINEERING

Ovivo's engineers have previous experience of computer-aided-design processes, and Ovivo continues to make extensive investment in this area. Advanced 3D graphics and modeling packages allow screens and their associated equipment to be modeled together and compared to site conditions.

Advanced design and state-of-the-art manufacturing procedures are standard at Ovivo, enabling every CAD generated design to be precision engineered.

INSTALL, COMMISSION AND MAINTAIN

Ovivo's service engineers will install, commission and maintain all machines. Our team of international engineers will visit sites around the world to advise on all aspects of our products.

We are able to provide long-term agreements covering spares and maintenance, relieving you of costly overheads by providing trained personnel.

SPARE PARTS

Ovivo retain comprehensive records of all the machines we have built. The records can be accessed quickly on our spare parts database. The spares supplied are genuine, guaranteed and backed by our detailed knowledge of all the subsequent modifications, or upgrades, which may have occurred since the machines were supplied.

Our spares managers are available for advice at any time. We recommend suitable spare parts, for both holding on site as strategic spares and your long term needs for planned maintenance shut downs. Spares are ex-works, and are delivered to site for installation.

TRAINING

As a supplier of engineered capital equipment, it is natural for us to offer our end users on-site or in-house training courses. Skilled instructors are available, and we can train your team in all aspects of equipment use, including detailed instructions for replacement of parts, adjustment and monitoring.

The training courses are for individuals on a one-to-one basis or for groups of up to eight, either on-site or in our worldwide offices.

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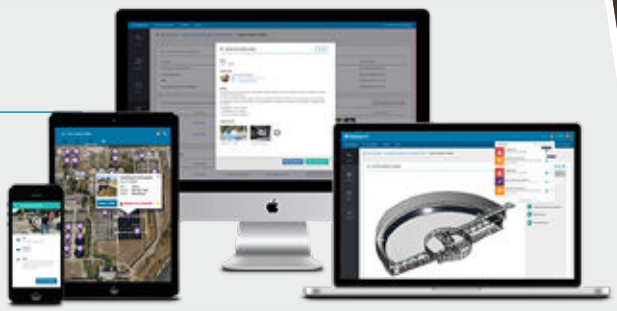

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