

Brackett Green® CF200™ and CF100™ Band Screens

With “Thick Plate” Technology



Brackett Green® CF200™ and CF100™ Band Screens

Launched in 1991, the Brackett Green® CF200™ Band Screen quickly established itself as the preferred screening system with water and waste authorities in the UK, and increasingly throughout the world. Over 200 CF200 Band Screens have been installed.

In 2000 the range was extended to include the Brackett Green® CF100™, a screen incorporating all the proven features of the CF200 but suitable for lower flows. The CF200 handles flows from 500-5000L/sec, whereas the new CF100 can handle flows from 50-1500L/sec. Over 100 CF100 Band Screens have been installed.

To complete the inlet works system EWT can package with the J&A Washpactor and EWT Grit Systems to provide effective washing of screenings and removal of grit.

Applications include:

- Waste water treatment plants
- Sewage treatment plants
- Water reclamation facilities
- Combined storm water overflows
- Potable water treatment plants
- Various screening applications



CF200 Band Screen partially assembled



CF100 Band Screen

Band Screen Performance

Individually tailored for each installation, the Brackett Green CF200 and CF100 Band Screens are suited to new treatment works and optimising screening performance within existing plants, usually with minimum modification. Both CF200 and CF100 screens regularly replace straight-through screens, step screens, raking screens and other less efficient screens on inlet works, outfall sites and storm installations.

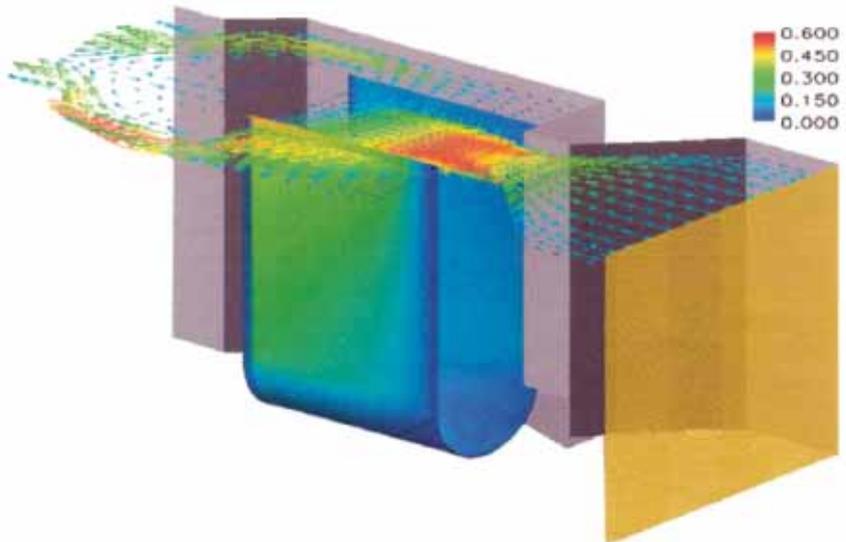
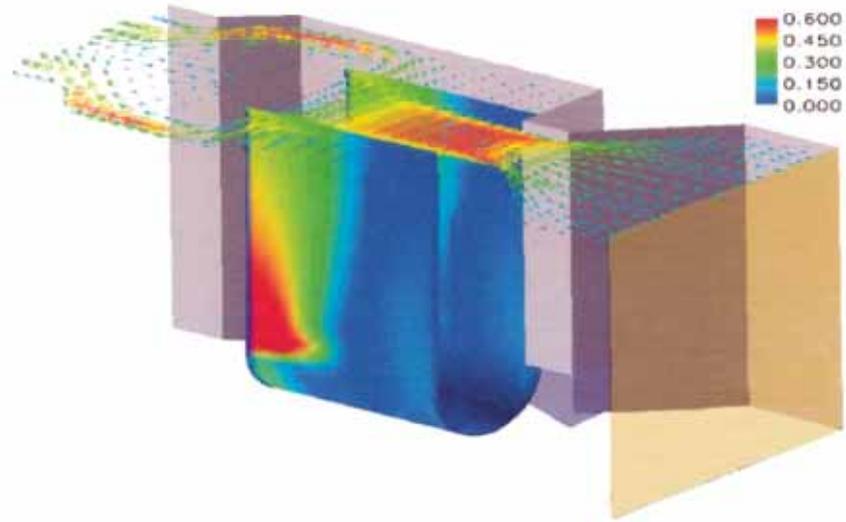
The CF200 can be used on sumps as deep as 15m and channel widths of 1.5m and above. The CF100 range is suitable for channels from 0.7m width and depths from 1m to 10m.

Eimco Water Technologies (EWT) screens have been tested at the National Screen Evaluation Facility 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. EWT screens are fully W.I.M.E.S compliant.

All EWT products are manufactured to BSI 9001 Standards and are subjected to rigorous internal quality audits.

Brackett Green CF200 and CF100 features:

- Rigid frame construction
- Enclosed head section with access panel
- Shaft mounted drive
- Anti-friction bearings
- Positive sealing so that nothing larger than the screen size can bypass the screen
- Patented panels eliminate the need for brush gear



Computer generated flow velocity patterns are modelled for every site before EWT tenders are submitted.

Band Screen Construction

The Brackett Green CF200 and CF100 Band Screens are housed within a freestanding stainless steel framework. This design reduces civil work and eliminates the requirement for the built-in chain guides to be accurately aligned in the civil work.

The screening band is carried on main chains that are supported by above-deck sprockets. The frames are fitted with replacable 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. A power-monitoring device prevents torque overload.

On the CF200 screen effective sealing is provided between the moving band and the screen frame by a heavy duty rubber seal and low friction plastic sealing fin, and between each mesh panel with a flexible rubber seal. The CF100 features low friction plastic sealing fins in contact with the low friction plastic track section. This combined with the hinged mesh panel arrangement provides effective sealing of the moving band. On both the CF200 and CF100 a debris elevator is a feature of the trailing edge of each mesh panel. The channel immediately in front of the screen is sealed to the chamber by inlet plates fitted to the screen framework and attached to the chamber wall and floor.

Brackett Green CF200 and CF100 Band Screens are fitted with patented polyurethane mesh panels. Unlike conventional perforated plate panels, Brackett Green panels actively discourage 'hairpinning' or blockage of the screen mesh by the fine fibres found in effluent. This eliminates the requirement for brush gear – a constant source of problems on alternative machines.

The Brackett Green CF200 and CF100 Band Screen mesh is available with apertures ranging from 2mm–6mm. A similar patented mesh is used on the Brackett Green Sewage Drum Screen design.



Band screens under construction at our Colchester facility in the UK.



Rigid frame construction for durability.



Fully assembled CF100 ready for installation.

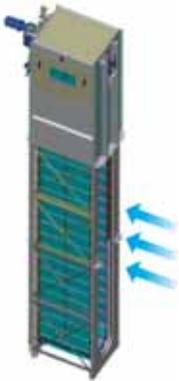


CF200 seal between moving band, screen frame and debris elevators.



CF100 contact seal and debris elevators arrangement.

Band Screens Operation



The central flow pattern has proven to be the most effective means of removing suspended solids in waste water.



Panels are cleaned by low pressure jets.

Flow pattern

Both CF200 and CF100 screens usually adopt a central flow pattern, ie. water enters the centre of the screen first. Research by EWT has proved the central flow principle is the most effective means of removing suspended solids for waste water applications.

CF200 and CF100 screens eliminate the problem of 'carry over' often encountered with the more traditional straight-through flow screens. Step screens are regularly criticised for this problem.

Waste water enters the centre of the fine screen and flows outwards through a continuously moving fine of polyurethane mesh panels to the outside of the screen chamber. Screenings are retained on the inside of the screen panels and are discharged when the panels elevate to deck level where they are cleaned by low pressure water jets.

The water jets are mounted onto a jet pipe inside the screen head section. 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 and if washwater is unavailable a pressure switch and gauge prevents screen operation. On many sites the Brackett Brieden automatic strainer allows screened effluent to be used as the screen wash water supply.

For some special applications the flow can be reversed with water flowing from the outside to the



Prefabricated inlet structure for CF100 screens with central bypass barscreen.



centre, this flow pattern also totally eliminates 'carry over'.

One piece installation

CF200 and 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 CF200 and CF100 Band Screens head sections are fitted with removable access panels. These incorporate inspection windows and splashguards specially designed to reduce aerosol from the spray jets to an absolute minimum.

EWT has also designed, manufactured and installed CF100 Band Screen inlet structures fabricated in stainless steel, reducing civil works requirement to a minimum.

Band Screen Engineering

Computer-aided-design and engineering

EWT has made extensive investment in computer-aided-design processes. Advanced 3D graphics and modelling packages, including ProEngineer®, allow all screens and their associated equipment to be generically modelled and tested in relation to different operating conditions.

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

Install, commission and maintain

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

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

Spare parts

EWT retains comprehensive records of all the machines they have built. The records can be accessed quickly on our computerised spare parts database held in Colchester, UK, and Houston, USA. The spares supplied are genuine, guaranteed and backed by our detailed knowledge of all the subsequent modifications, or upgrades, that may have occurred since the machines were supplied.

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



Each Fine Screen is modelled on CAD software to ensure it meets our customers needs and benefits from EWT's years of experience.



Laser cutting the screen components, enables the manufacturing process to be precision engineered.



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. We have skilled instructors available and can train your staff 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. Contact our spares and service managers for details of the courses available.



Each Fine Screen is modelled and tested on CAD software before precision engineering and assembly.

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Fine Screens undergoing final assembly at the Colchester manufacturing facility.





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