STORM SCREEN TYPE PAS

BIOGEST® | CSO screening with pump cleaning



Contact-free screening of combined sewer overflows, with no moving parts in the screen basket

Combined sewers carry rainwater and sewage in a common pipe. In heavy rainfall the capacity of the system can be exceeded and a combined sewer overflow (CSO) is required. Untreated effluent can then discharge from the CSO outlet, leaving visual and odour pollution in the surrounding area.

The BIOGEST® Storm Screen Type PAS is a simple and robust CSO screen that prevents the discharge of floating, suspended, non-biodegradable and solid material. Any material greater than 6 mm in two directions is retained in the flow for later removal at the inlet works of the wastewater treatment plant.

How it works

A separate level sensor controls the screen. When the water level rises to the underside of the screen, an ultrasonic sensor head signals the control panel to start the pump. The effluent is pumped through a Venturi that entrains air into the flow, and the air and water are mixed in a section of pipe before entering the screen basket.

The resulting air and water jet scours the underside of the perforated stainless steel screen along its full length, removing debris and preventing blinding. Screenings are carried past the end of the screen, so they cannot be re-presented. There is no physical contact with the basket, so there is no mechanical wear and no shearing of solids: material stays at its original size and is not forced through the perforations. When the flow subsides, a second signal from the ultrasonic unit stops the pump.

The screen is installed on the flow side of the overflow weir, just below weir level. It suits new installations such as sewage, tank, stormwater and emergency overflows, and can be retrofitted through existing manholes with minimal or no alterations.

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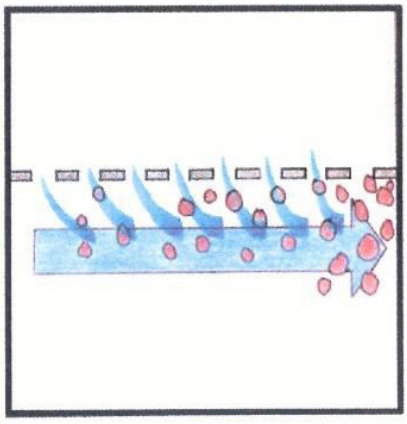
Axius Water companies

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Advantages

- No moving parts in the basket: contact-free cleaning
- Low wear through the scouring action of the air and water jet
- Variable pulsed operation optimises cleaning
- Operates only during overflow, dependent on chamber level
- Fully automatic operation with integrated level control
- Modular design for retrofitting through existing manholes
- Pump on guide rails: servicing without entering the chamber
- Solids retention value (SRV) of 58
- Air introduction reduces the oxygen demand of the spill



Wigan test results

Independently tested at the National CSO Test Facility, Wigan (Report Ref. 06/WW/08/14), the PAS achieved a screenings retention value (SRV) of 58%, ahead of a number of established CSO screens in the same trials.

Maintenance

No specialist maintenance is required. Periodic checks confirm that the pump is operational and the screen is clean. The pump should be serviced by a manufacturer-approved supplier.

Specification

Basket diameter	300 to 500 mm
Flow rate	Up to 1,900 l/s per system
Basket length	Up to 4,000 mm (standard)
Screen width	400 to 650 mm (single)
Perforation	6 mm (5 mm and 8 mm optional)
Open area	50% (58% optional)
Power demand	3.5 to 5 kW
Material	Perforated stainless steel



