Hydro-Static® Screen *CSO Screen*

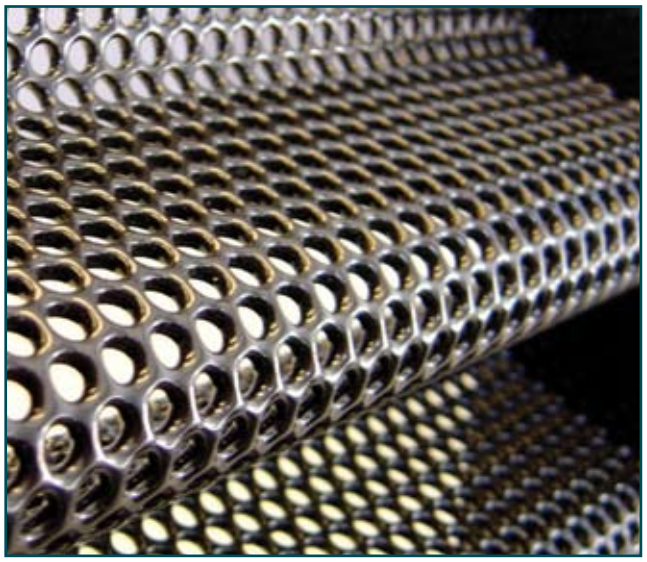
Cost-effective *screening down to 6 mm.*

Applications

- CSO sites with infrequent spills.
- New and retrofit CSO facilities.
- Storm tank and pumping station overflows.

The Hydro-Static® Screen is a non-powered screening technology suitable for sites with infrequent overflows.

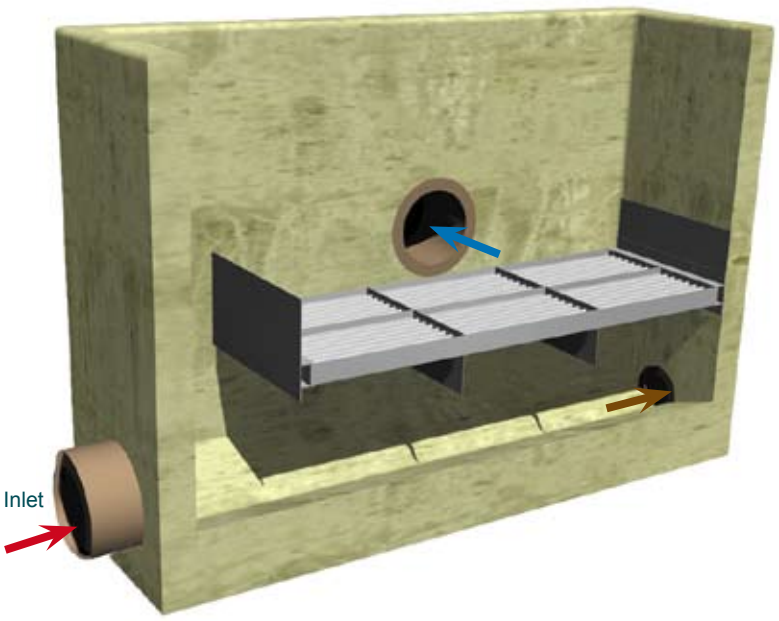
With a small footprint and low capital cost, the Hydro-Static® Screen offers an economically sustainable screen for projects with limited budgets.



Advantages

- No moving parts or power requirement.
- High screen open area.
- Small footprint.
- Mesh screen panels are corrugated to increase flow-through capacity.
- Mesh screen panels are coated in a non-stick polymer.
- Provides screening better than 6 mm in two directions.
- Inexpensive screening solution.
- Patented flow modifying components provide partial cleansing in the Up Flow configuration reducing maintenance costs
- Ideal for smaller CSO sites.

How it Works



During dry weather conditions the flow to the treatment works will pass underneath the screens in the dry weather flow channel.

In a storm event the inflow rate to the chamber will exceed the outflow rate causing water levels to rise in the chamber and spill through the screens.

The Hydro-Static® Screen is mounted over the dry weather flow channel so that the flow passes up and through the screen during a storm event (red arrow). Solids and floatables are trapped below the screen and returned to the sanitary continuation flow (brown arrrow). Screen effluent is discharged to a receiving watercourse (blue arrow).

An emergency weir is incorporated into the screen should the peak design flow be exceeded.

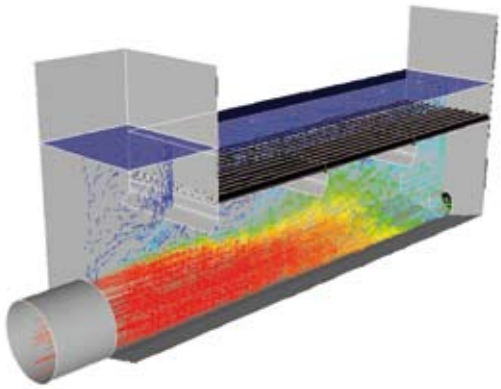
Hydro-Static® Screen

Maintenance

Patented flow modifying baffles provide partial cleansing in the Up Flow configuration minimising maintenance requirements.

The mesh screen panels are coated in a non-stick polymer to keep debris from sticking to the screen.

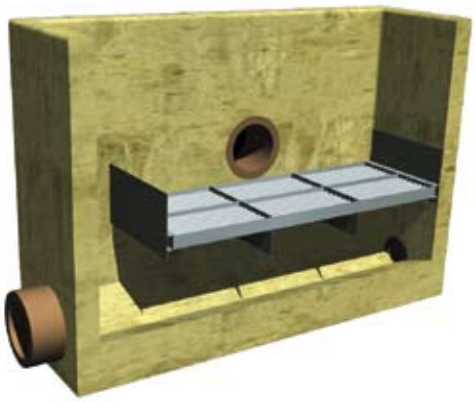
As the self-cleansing aspects of any static screen are limited it is suggested that they are inspected after each significant storm event. Any adverse blinding material should be removed. Spray systems are becoming more prevalent with this regard.



CFD modelling shows the recirculation of flow paths in the Up Flow Configuration.

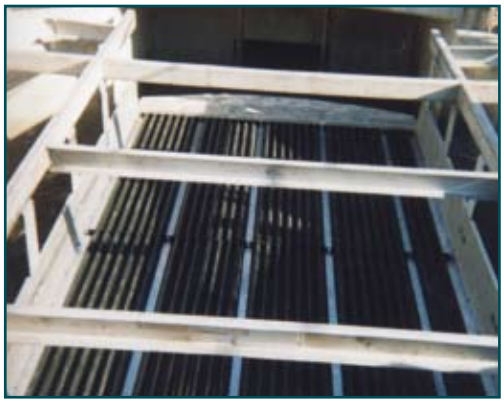
Configurations

Up Flow Hydro-Static® Screen

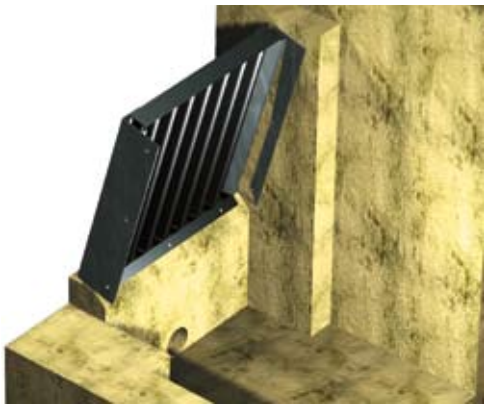


Hydro-Static® Screen in the Up Flow configuration is mounted horizontally over the dry weather channel so that the flow passes up and through the screen in a storm event.

The patented flow modifying components enhance the naturally occurring recirculation patterns and therefore reduce the blinding effect when the screen is in operation.



Through Flow Hydro-Static® Screen



The Hydro-Static® Screen in the Through Flow configuration is offset from the vertical to encourage screenings to drop away from the corrugated mesh once the storm subsides.

Design Requirements

- Spill frequency.
- Flow rates.
- Chamber details.
- Hydraulic conditions.

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