

THE ORIGINAL
ROTAMAT®!!!

ROTAMAT® Storm Screen RoK 1



Self-cleansing fine screen for combined sewer overflows

- retaining and/or removing debris
- sturdy and simple design
- 1/4 inch (6 mm) perforations
- made of stainless steel, pickled in an acid bath



►► The Need for Storm Water Screening

During and after storm events large amounts of debris are discharged to streams, rivers and lakes through storm water overflows of combined and sanitary sewer systems. Debris, such as sanitary napkins, condoms, toilet paper, fecal matter, cans and bottles, have a serious impact on the quality of our surface water bodies and impair their use. Screening of all combined sewer overflows (CSO) and sanitary sewer overflows (SSO) is necessary to prevent such harmful pollution.

►► Features

Our ROTAMAT® Storm Screen RoK 1 is a fine screen with 1/4 inch (6 mm) perforations. It reliably screens debris and coarse solids from overflowing storm water.

RoK 1 screens are installed at the downstream side of overflow weirs. Storm water flows over the weir and through the horizontal perforated half-pipe of the screen trough. A screw, with a brush attached on its flights, rotates within the semi-circular screen trough. It cleans the screen and pushes the screenings toward the end of the trough. Operation of the screw is controlled through the water level upstream of the weir.

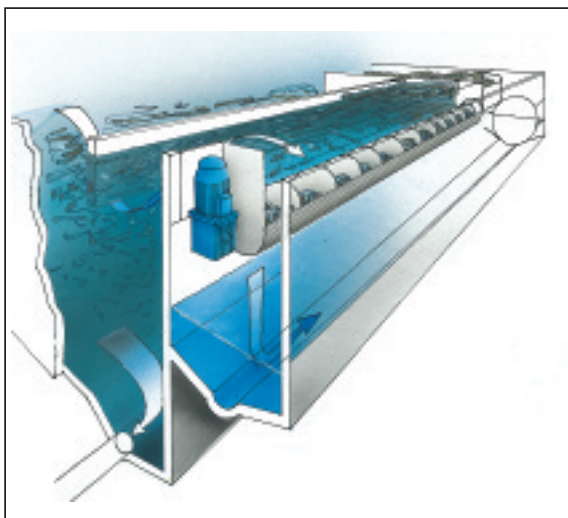
At the end of the screen trough, the screenings are returned into the sewer and carried to the wastewater treatment plant. Alternatively, the screw pushes the screenings through a tube into a separate chamber. The

screenings are removed from the chamber with a chopper pump or a screw conveyor for further treatment, such as dewatering and compaction, e.g. in a ROTAMAT® Screenings Compactor Ro 7 or a Washpress WAP.

The RoK 1 Storm Screen is made of stainless steel for long life in a corrosive sewer atmosphere. It is pickled in an acid bath for perfect finishing and corrosion protection. The cleaning brush is made of wear-resistant polyamide.



Harmful debris discharged during storm events, as often seen on stream and river banks



Typical combined sewer overflow (CSO) structure with a RoK 1 Storm Screen installed at the overflow weir.

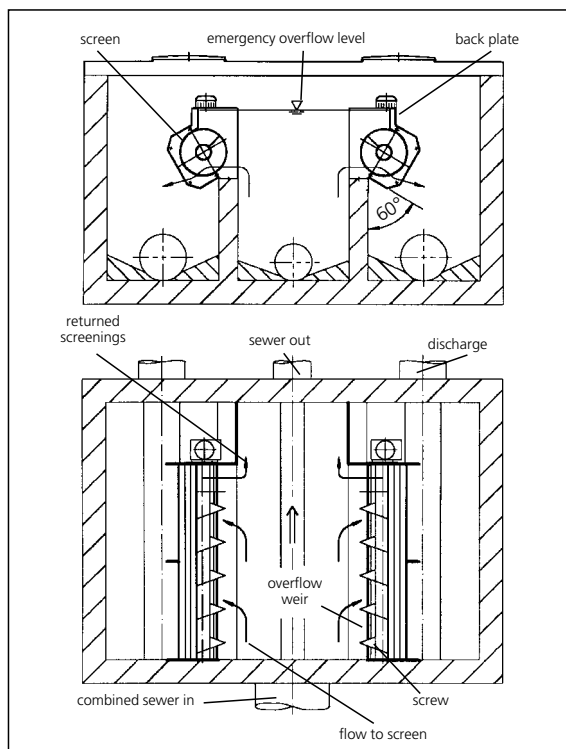
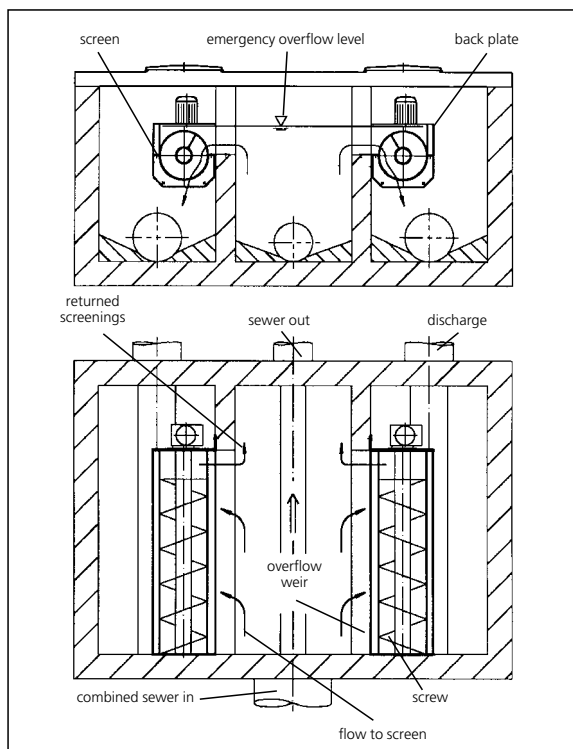


Screw with cleaning brush in horizontal 28" (700 mm) diameter trough attached to the downstream side of an overflow weir

►► Installation Examples

The following drawings show examples for the installation of RoK 1 screens. In the example on the left hand side, the RoK 1 Storm Screens are installed horizontally (no inclination) for high capacity. In the

example on the right hand side, the screens are installed with a 60° inclination to save space. Other inclinations, even an inversion by 180°, are also possible.



Examples of a CSO structure with a pair of overflow weirs: RoK 1 screens with 0° (left) and 60° (right) inclination

►► Applications

RoK 1 Storm Screens are installed at:

- Overflow structures in combined sewers
- Overflows of storm water retention tanks

- Overflows of storm water lagoons
- Storm water clarifiers

►► Benefits

- Excellent capture rate due to 1/4" (6 mm) perforations
- Easy installation behind overflow weirs, no need for structural changes
- Little or no impact on the water level upstream of the weir
- Easy calculation of the flow through the screen from the upstream water level
- No flow restriction or disturbance upstream of the weir

- Emergency bypass by overflow over the screen's back plate
- Simple and sturdy design
- Reliable, self-cleansing operation
- Low maintenance
- Made of stainless steel for long life in corrosive sewer atmosphere
- Pickled in an acid bath for perfect finishing and corrosion protection

►► Screen Sizing

Screen selection and sizing depends on specific hydraulic requirements and structural conditions. The following sizes (= trough diameters) are available:

- Size 300 - 300 mm (12 inch)
- Size 500 - 500 mm (20 inch)
- Size 700 - 700 mm (28 inch)
- Size 1000 - 1,000 mm (40 inch)

The screens have a maximum length of 33 ft (10 m). The largest units have a flow capacity of up to 180 MGD (8 m³/s).

►► Examples of Installations

Only a few examples, selected from hundreds of RoK 1 installations.



Bolted to a vertical concrete weir of a combined sewer overflow structure



Attached with brackets to an inclined overflow weir



Installation at the overflow of a storm water retention basin



Twin screen for high flows over short weirs

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Subject to technical modification

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