

ROTAMAT® Storm Screen for stormwater discharges RoK 1



Automatically cleaned screen for solids retention in stormwater tanks and overflows

- Efficient solids separation
- Continuous automatic screen cleaning
- Defined solids removal
- For discharges with limited upstream head possibilities
- Sturdy, low-maintenance stainless steel design

►► The situation

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. Frequently, even the installation of scum boards is insufficient to prevent such pollution. The polluting items, such as sanitary products, toilet paper, faeces, plastic foils, etc. are not only unsightly but also responsible for considerable cleaning and/or disposal costs. On the basis of the DWA sheet A 128 (an instruction issued by an association dealing with wastewater treatment) efforts to fundamentally improve the protection of waters in this sector have been increased. Particularly endangered receiving water courses and nature preservation areas require more extensive measures concerning the treatment of stormwater.

►► The solution

The ROTAMAT® RoK 1 screen is the ideal solution for this task, whether for new structures or refurbishment. The screen belongs to a group of fine screens designed for high flow rates at an extremely low hydraulic resistance. Two-dimensional screening guarantees a very high solids retention combined with automatic, gentle cleaning of the perforated plate.

►► The function

RoK 1 screens are horizontally installed at the downstream side of overflow weirs. A screw flight is mounted on a half cylinder of perforated plate. As the stormwater flows through the horizontal perforated half-pipe of the screen trough the solids are retained. A screw, with a brush attached on its flights, rotates within the semi-circular screen trough. It cleans the screen and pushes the screenings gently towards the end of the trough. At the end of the trough, the screenings are returned into the sewer and carried to the wastewater treatment plant. Alternatively, the screenings are removed from the plant with a pump for further disposal. During storm conditions the screen is automatically started and then works fully automatically.



Unsightly matter discharged during storm events, typical for stormwater discharges without coarse material retention



Gentle automatic cleaning of the semi-circular perforated plate



Return of screenings into the sewer

►► The installation conditions

On the left or right side of the weir overflow – standard inclination angles 0° and 60°. To allow for different structural conditions and local hydraulic conditions it is necessary that the screen can be flexibly installed into existing buildings. The full screen surface is available already at the beginning of a storm event so that the hydraulic resistance is minimized with the result of a very high solids retention.

►► The applications

HUBER ROTAMAT® Screens RoK 1 can be used for a variety of applications in the combined sewage sector.

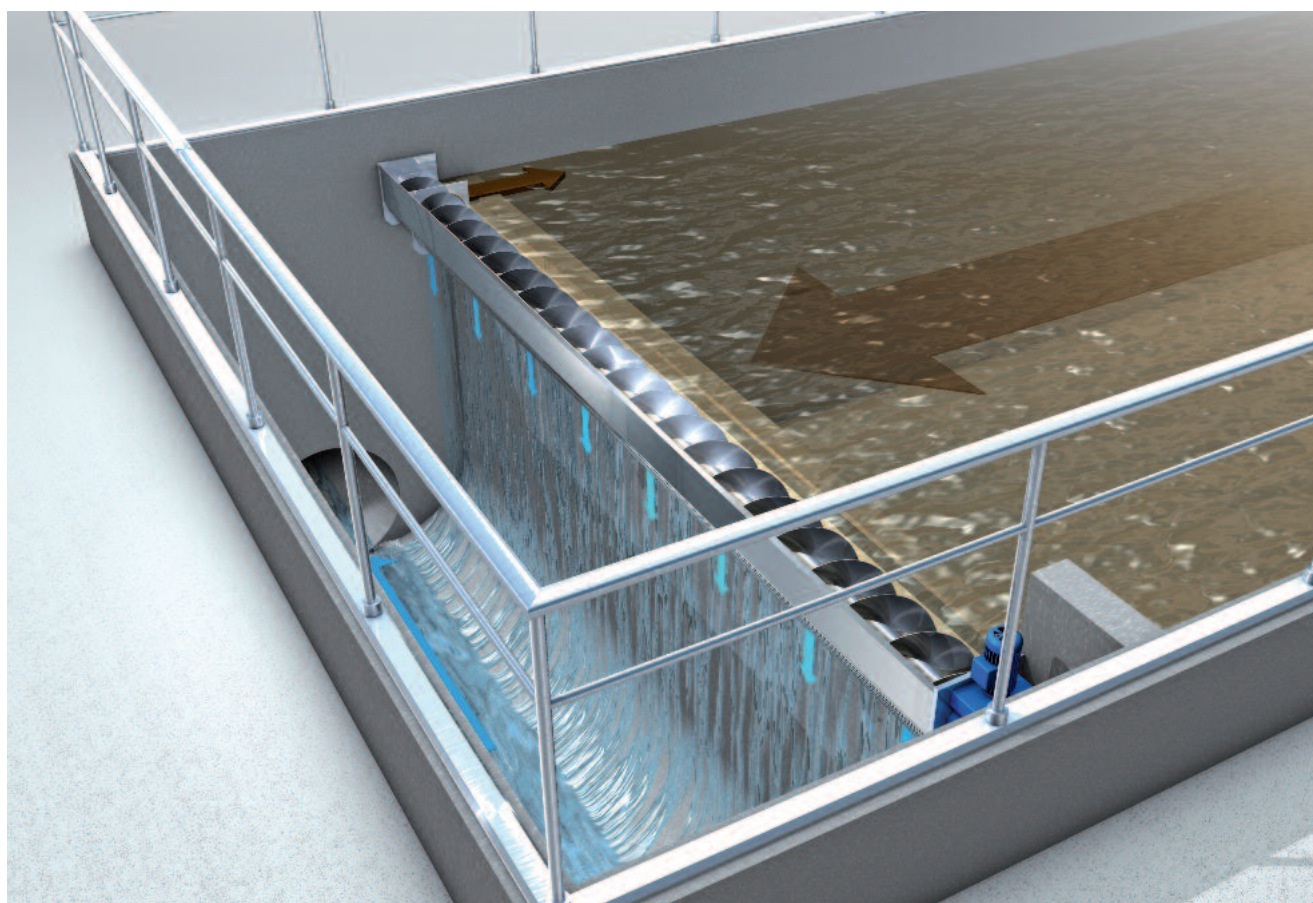
To avoid another point of maintenance it is generally not intended to remove screenings from the structure. Instead, the screenings remain within the sewer or tank and are introduced into the wastewater treatment plant after the storm event.

However, there is also the possibility of removing the screenings by pump and return them elsewhere to the wastewater flow.

►► The user's benefits

The screen is installed behind the weir overflow. This design results in the following favourable benefits:

- Optimal solids retention by means of two-dimensional screening (perforated plate)
- Low hydraulic resistance due to installation at weir height
- The perfect solution for discharges with limited upstream head possibilities
- Defined screenings discharge
- For problem-free retrofitting into existing structures
- Possibility of completely submerging the screen



Flow diagram of a ROTAMAT® Storm Screen RoK 1

►► Installation examples

A selection of installation examples will convince you of the HUBER ROTAMAT® Storm Screen RoK 1:



ROTAMAT® Storm Screen RoK 1 installed at an overflow weir



Combination of two HUBER ROTAMAT® RoK 1 screens to handle very high combined water flows



ROTAMAT® RoK 1 screens installed at an angle of 60° on both sides of an overflow



HUBER ROTAMAT® Screen RoK 1 installed in a stormwater discharge channel

►► Screen sizes

Screen selection and sizing depends on specific hydraulic requirements and structural conditions.

Trough diameter:
300, 500, 700, 1000 mm

Perforation:
6 mm standard,
other perforations available on request

Trough length:
up to 10 m

Capacity:
up to 10 m³/sec

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