

ROTAMAT® Storm Screen for stormwater discharges RoK 1



DP 42 37 123

Automatically cleaned screens for storm-water tanks with
overflow and storm-water discharge channels
Solids retention in sewers
Pollution load reduction
Combined wastewater screening
Reduced treatment and disposal costs

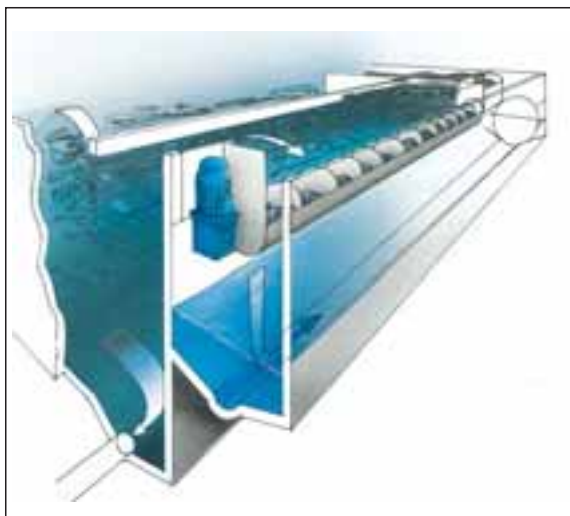


➤➤ The necessity of more extensive storm-water treatment:

When there are heavy rains often significant amounts of floating and suspended matter reach the receiving water course in case of combined sewerage systems via storm-water discharges and storm-water tanks with overflow. The polluting items, such as hygienic articles, toilet paper, faeces, cans, pieces of wood, etc. are not only unsightly but also responsible for considerable cleaning and/or disposal costs. On the basis of the ATV sheet A 128 (an instruction issued by an association dealing with waste water treatment) efforts to fundamentally improve the protection of waters in this sector have been increased. Particularly endangered receiving water courses and nature preservation areas will in future require more extensive measures concerning the treatment of storm-water.

➤➤ The solution:

The ROTAMAT® Screen RoK 1 removes these polluting substances reliably from the storm-water flow. The screen belongs to a group of fine screens designed for high flow rates. The plant, which is made of stainless steel and treated in a pickling bath, together with the many years of experience we have concerning the use of screens, ensures a better than average life expectancy and effective durability as well as maximum reliability.



Flow diagram of a HUBER ROTAMAT® Screen RoK 1

➤➤ The function:

The screen is horizontally situated immediately behind the overflow sill of the storm-water tank with overflow or storm-water discharge (see picture at the right). A screw flight is mounted on a half cylinder of perforated plate. On flowing into the screen the solids discharged are transported to the screenings discharge arrangement by means of the screw flight. Simultaneously the strainer section is cleaned by means of the wear-resistant brush fixed on the screw flight. As standard the screenings are returned to the channel and thus the sewage treatment plant inlet. However there is also the possibility of transporting the screenings to further disposal by means of a screw conveyor. During storm conditions the machine is automatically started and then works fully automatically.



Unsightly matter left on the bank area of a receiving water course

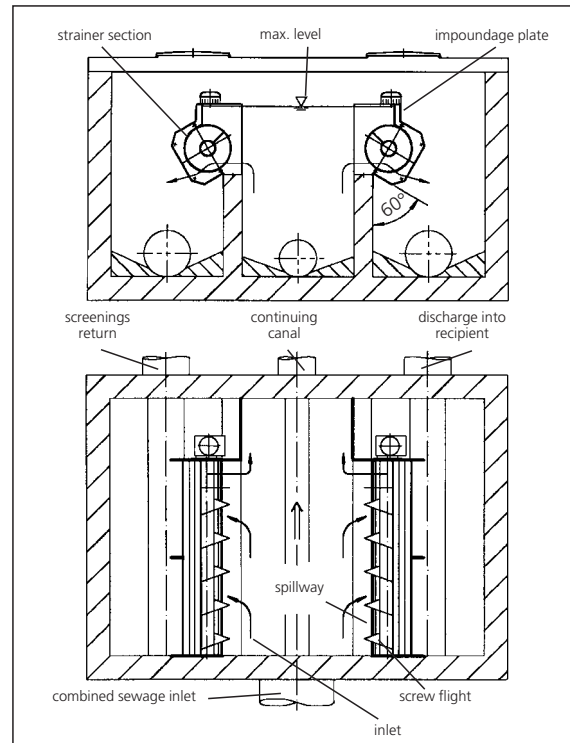
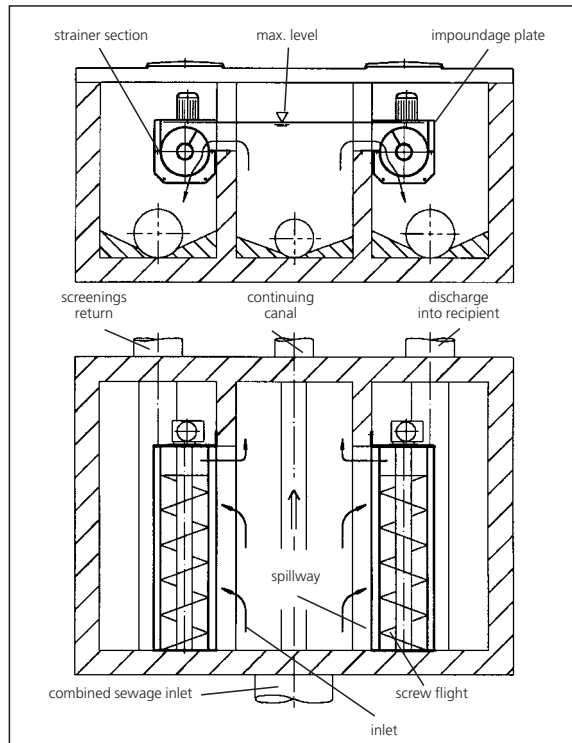


HUBER-ROTAMAT® Screen RoK 1 with upstream discharge flow measuring device

►► 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. Both pictures show the installation on the left and the right side of the weir overflow as well as the installation at an angle of 0° and 60°, as have already been adopted in practice.



Standard installation angles 0° and 60° of the ROTAMAT® Screen RoK 1 at the overflow sill of a storm-water tank with overflow

►► The applications

HUBER ROTAMAT® Screens RoK 1 can be used for the following discharges in the combined sewage sector:

- storm-water tanks with overflow
- sewer with storage capacity and overflow
- storm-water tank with overflow for settled combined sewage

- storm-water tank retaining the first flush of storm-water
- compound tanks

►► The user's benefits:

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

- no impact upstream: if, for instance, the diverted sewage has to be measured too great an impact on hydraulics due to additional mechanical engineering should be avoided. The installation of the RoK 1 fulfils this basic requirement. For existing discharges with limited upstream head possibilities the RoK 1 is more or less the perfect solution.
- low hydraulic resistance due to installation at spillway height
- measuring the amount of diverted sewage: It is no problem to retrospectively equip screens, which have already been installed, with weirs equipped with measuring devices.
- possibility of submerging the plant: although the screen may completely be submerged it will still work, with the exception that the screenings are not removed - e. g. in case of electricity failure.
- optimal solids retention by means of two-dimensional screening (perforated plate)

➤➤ Screen sizes

The screen layout and selection depends on the specific hydraulic and structural conditions.
The following sizes are available.

- Size 300
 - Size 500
 - Size 700
 - Size 1000
- Throughputs up to 8 m³/sec are possible depending on the screen size and length (up to 10 m available).

Send us your data and you will receive our proposal of a HUBER ROTAMAT® Screen RoK 1 adapted to your specific hydraulic conditions.

➤➤ Installation examples

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



HUBER ROTAMAT® Screen RoK 1 installed in a storm-water discharge channel



HUBER ROTAMAT® Screen RoK 1 installed at a overflow sill



HUBER ROTAMAT® Screen RoK 1 installed in a storm-water retention basin



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

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Subject to technical alteration
**ROTAMAT® Storm
Screen for stormwater
discharges RoK 1**