

ROTAMAT®

Fine Screen Ro 1



Reliable and efficient mechanical solids separation
with well-proven technology

- with integrated screenings press
- with integrated screenings washing
- compact design

►► The challenge – Our solution

For mechanical treatment for sewage works, both inlet and other applications, such as process water treatment, a screening plant is essential as a first process step.

The aim is to achieve the maximum separation efficiency under the prevailing hydraulic conditions. Operating reliability, efficiency and hygienic operation are important factors for a mechanical separation plant.

The ROTAMAT® Fine Screen Ro 1 operation is based upon a unique patented system that allows combination of screening, washing, transport, compaction and dewatering in a single unit.

Depending on the screen bar spacing (6 or 10 mm) and screen size (screen basket diameter of up to 3000 mm), the throughput can be individually adjusted to specific site requirements.

The ROTAMAT® Fine Screen Ro 1 is completely made of stainless steel and acid treated in a pickling bath.

The screen can be installed either directly in the channel or in a separate tank.

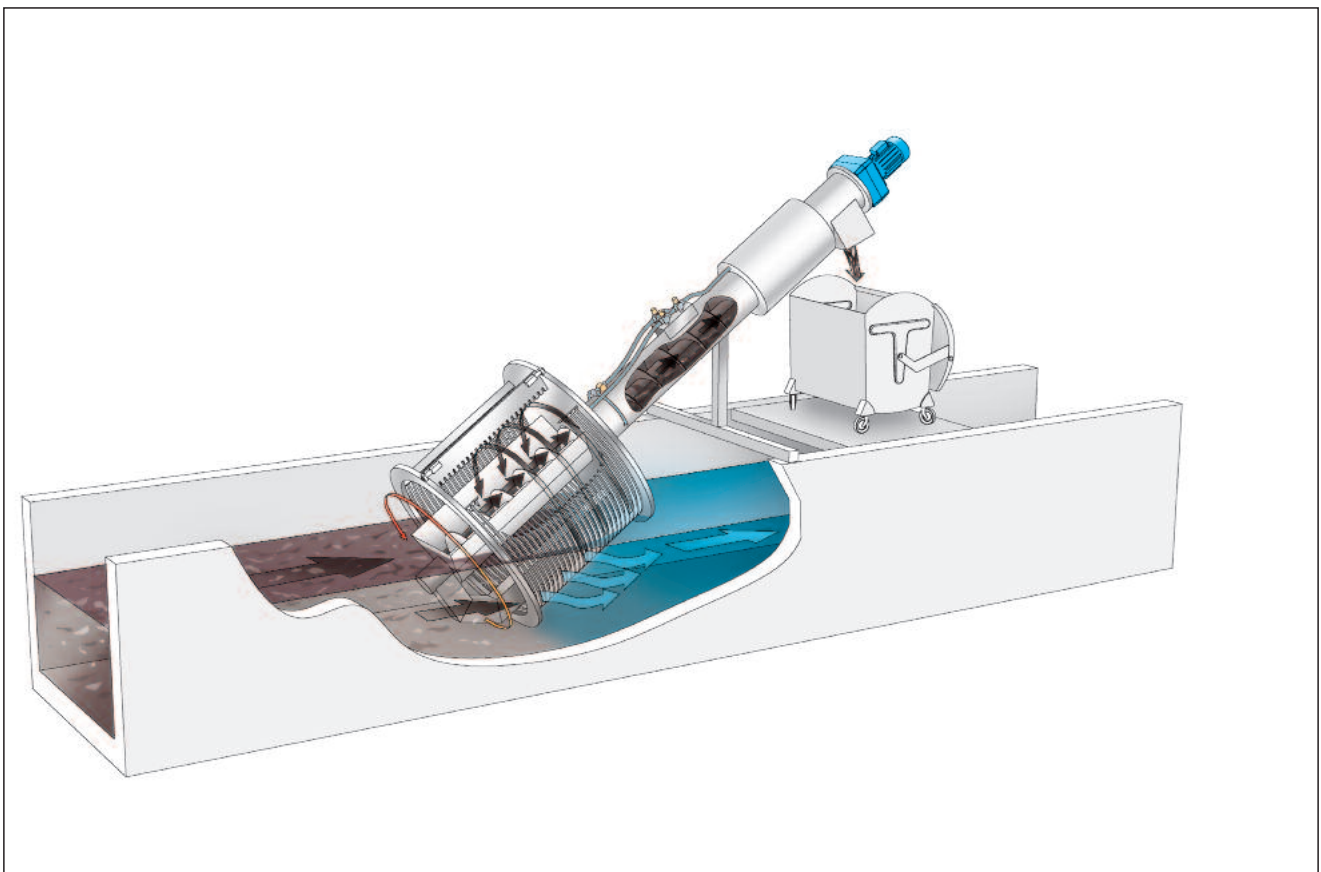
Design and function

ROTAMAT® Fine Screens are either installed directly into the channels, or are supplied as tank-mounted units, with an inclination of 35°. The wastewater flows into the open end of the inclined screen basket and then through the

screen. Floating and suspended materials are retained by the bars of the screen basket. Blinding of the screen surface generates an additional filtering effect so that solids can be retained that are smaller than the bar spacing.

At a certain difference of the water levels up- and downstream of the screen, which is caused by screen surface blinding, the rake arm situated on the axle centre starts to rotate. Its tines, extending completely through the screen bars, clean the basket, remove all the screenings, and lift them to a 12 o'clock position. The screenings drop into the centrally positioned trough with integrated screw conveyor. The rake is then returned back through its 12 o'clock position. During this return movement a hinged comb pushes the screenings off the rake so that the tines are additionally cleaned. With the rotational movement of the conveying screw the screenings are transported out of the trough and conveyed through the rising pipe.

As the screenings are conveyed and compressed within the inclined pipe, they are dewatered and compacted without any odour annoyance prior to being discharged into the customer's container or a subsequent conveying unit.

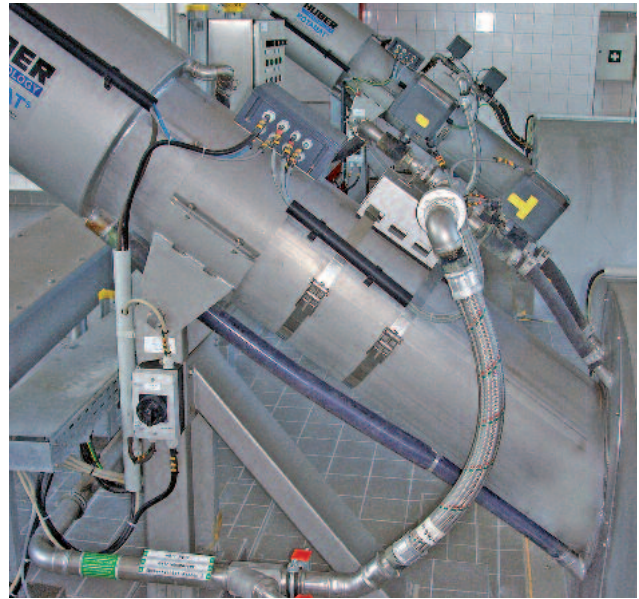


➤ Integrated Screenings Washing System IRGA

The integrated screenings washing system is a well-proven instrument for improvement of the clarification process as it improves the nitrogen/carbon ratio and saves costs.

The ROTAMAT® principle allows for integration of the screenings washing system directly in the bottom area of the rising pipe. As the soluble matter is separated from the inert material, faeces are virtually completely washed out which leads to a significant weight reduction.

- Optimal cost/performance ratio
- Easy retrofit
- Minimised disposal costs
- Improved operating and hygienic conditions
- Virtually complete washout of faeces
- Weight reduction by approx. 50 %
- Dewatering performance of up to 40 % DS



ROTAMAT® Fine Screen Ro 1 with integrated Screenings Washing System IRGA installed in the channel

➤ The advantages of the ROTAMAT® Fine Screen Ro 1

a) Low headloss – High separation efficiency

Due to the screen basket shape and 35° installation the screen area is much larger than that of a vertical or steeply inclined screen, which results in a low headloss, high separation efficiency and maximum throughput.

b) Completely made of stainless steel

The machine is completely made of stainless steel and pickled in an acid bath which eliminates corrosion and thus reduces maintenance.

c) Reliable, self-cleansing operation

Positive cleaning of the complete screen area is guaranteed due to full engagement of the rake's tines. The screen is unimpaired even by high pollution loads. Additionally, a single flow path guarantees that the screenings remain constantly inside the basket (in front of the screen area), i.e. screenings are not taken out of the wastewater and transported into the already cleaned downstream flow during the cleaning process.

d) Several functions combined in one system

The ROTAMAT® Screen performs the functions of screenings removal, transport, washing, dewatering and compaction in a single space-saving unit. An additional bagging unit guarantees operation of the entire system without odour nuisance.

e) Outdoor installation

For outdoor installations, the ROTAMAT® Fine Screen can be supplied with a frost protection, combined with an additional insulation, if required.

f) Retrofitting

The design of the ROTAMAT® Screens allows for later modification so that the systems can be adapted to changing requirements. Both the heating and integrated screenings washing system for example can be retrofitted.

g) Low maintenance

No lubrication. Regular checking and visual inspection are sufficient.

➤➤ A few examples from thousands of installations



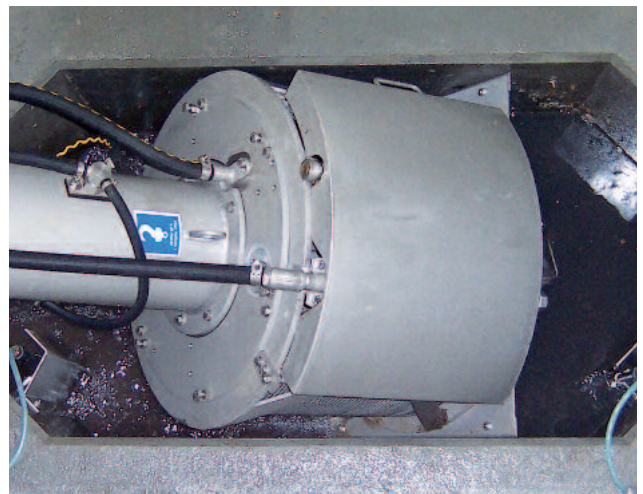
Outdoor installation of a ROTAMAT® Fine Screen Ro 1 with frost-protection



Several parallel ROTAMAT® Fine Screens installed in the channel



ROTAMAT® Fine Screen Ro 1 in a tank



ROTAMAT® Fine Screen with splash guard

➤➤ Screen sizes

Screen basket diameter: 600 - 3000 mm

Installation angle: 35°

Bar spacing:

6 or 10 mm

(For other bar spacings, please consult HUBER Germany.)