

ROTAMAT® RoK 4 Pumping Stations Screen



Automatically cleaned fine screen with vertical lifting,
dewatering and compaction of screenings

- Prevents clogging and tressing in the pumping station
- Compact unit, easy to fit into confined spaces
- Dewatering and compaction of screenings
- Optional frost-protected unit for outdoor operation
- Sturdy, low-maintenance stainless steel design

►► The situation

Pumps and lifting units are used where wastewater needs to be lifted to a higher level so that it can be passed further on by gravity. However, the solids contained within the wastewater frequently lead to pump failure. Labour-intensive manual cleaning is required to restore the function of the units, or they may need to be replaced, both resulting in high long-term costs.

Reliable solids removal is therefore the only alternative to maintain the operating stability of the pumps.

►► The solution

The ROTAMAT® RoK 4 screen is the ideal solution for this task, whether for new structures or refurbishment. Contrary to conventional screening systems which require manual cleaning, the screen surface of the ROTAMAT® RoK 4 screen is cleaned automatically. The screen vertically lifts the screenings, and dewateres and compacts them at the same time. The compacted screenings are discharged into a container or endless bagger for further disposal thus eliminating odour nuisance and pump failure due to clogging.

►► Features

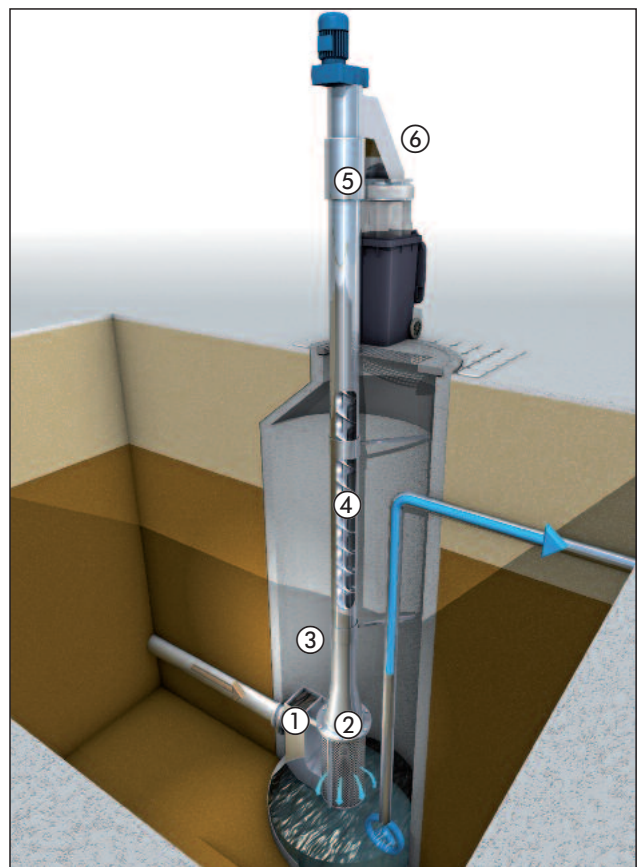
The RoK 4 consists of a vertical perforated screen basket and a shafted auger in a vertical tube. The wastewater flows through an inflow connection and a chamber into the screen basket. Within the screen basket the flights of the screw are equipped with wear-resistant brushes for effective cleaning of the screen. As the screenings are gradually elevated by the auger, they are dewatered. The compacted screenings are discharged into a container or endless bagger thus eliminating odour nuisance.

The screened wastewater flows off by gravity or is pumped to a higher level. The filtrate drains through a hose back into the inlet chamber.

The top of the inflow chamber is open and serves as an emergency bypass so that the machine can be submerged without problems, e.g. in case of a power failure. The integrated bottom step prevents back-flooding into the sewer system and thus undesired deposits in the incoming sewer.



Clogged pumps caused by the solids within the medium to be delivered



- ① Inflow connection with integrated invert step
- ② Screen basket
- ③ Emergency overflow
- ④ Dewatering in vertical auger
- ⑤ Press zone for the compaction of screenings to up to 40 % DS
- ⑥ Discharge chute

►► The installation conditions

The ROTAMAT® Pumping Stations Screen RoK 4 is directly connected to the sewer pipe by means of a flanged joint. The wastewater enters the screen through the optimized inflow chamber with integrated bottom step. As the water streams through the perforated plate into the pump sump, the screenings are retained. An auger, with a brush attached on its flights, rotates within the screen basket and cleans the screen. As the screenings are elevated by the auger, they are dewatered to a degree of up to 40 %. The compacted screenings are discharged into a container. As an option, the RoK 4 is available as a pull screen that allows the screen to be lifted out of the structure, for maintenance purposes for example.

►► The applications

ROTAMAT® Pumping Stations Screens RoK 4 are used for solids retention in the following applications for example:

- In pump stations
- Upstream of pond plants
- In the headworks of wastewater treatment plants

►► The user's benefits

ROTAMAT® Pumping Station Screens RoK 4 offer outstanding advantages:

- Automatic screening, lifting and compaction in a single compact unit
- Optimal solids retention by means of two-dimensional screening (perforated plate)
- Prevent clogging and tressing in pump stations and manholes
- Integrated bottom step to prevent deposits in the incoming sewer
- Easy to install into existing structures
- Availability of completely submerging the screen

►► Technical data

- Screen basket diameter: 300, 500, 700 mm
- Capacity: up to 650 m³/h
- Dewatering efficiency: up to 40 % DS



ROTAMAT® Pumping Stations Screen RoK 4 being lifted into a pumping station



ROTAMAT® Pumping Stations Screen RoK 4 in operation

➤ Installation examples

A selection of installation examples will convince you of the ROTAMAT® Pumping Stations Screen RoK 4.



Frost protected outdoor installation



Installation upstream of a pond plant



Screenings discharge into a bagger for odour-free disposal



Indoor installation on a small footprint