

ROTAMAT® Disc Thickener RoS 2S



Sewage sludge thickening

- compact, enclosed unit
- reliable operation, minimised operator attention
- low operation costs
- high throughput capacity up to 40 m³/h

➤➤ The purpose of sewage sludge thickening

Sewage sludge, particularly secondary sludge, is characterised by low solids concentrations and big volumes. Good sludge thickening is required as a prerequisite for the efficient further treatment of sewage sludge, for example in digesters, and is also necessary where liquid sewage sludge is transported to further treatment steps or utilisation. The following criteria are decisive for the selection of the thickening process:

- performance and efficiency
- reliable operation
- easy maintenance and operation



Outdoor installation of a ROTAMAT® Disc Thickener RoS 2S

➤➤ Design and function of the ROTAMAT® Disc Thickener RoS 2S

A slightly inclined, slowly rotating filter disc covered with a filter cloth separates flocculated sludge from filtrate. A baffle plate distributes the inflow evenly across the entire filter radius. Sludge liquor collects on the bottom section of the filter disc so that a low hydrostatic pressure develops enhancing sludge liquor drain-off. Flexibly supported plows divide and move the sludge layer on the disc and open up furrows so that water can easily

drain through the filter cloth, thus enhancing the filtration effect. At the sludge discharge outlet, a scraper pushes the thickened sludge from the disc. The filter cloth is cleaned by a spray bar so that the solids are washed back into the sludge to ensure the filtrate water is clear.



Graphic drawing of a ROTAMAT® Disc Thickener RoS 2S

➤➤ The benefits of the ROTAMAT® Disc Thickener RoS 2S

Performance and efficiency

- Sludge volume reduction > 85 %
- Typical thickening results > 6 % DR
- Low polymer consumption
- Specific power consumption < 0.03 kWh/m³
- Minimum operator attendance requirements of less than 10 minutes a day
- Wash water demand < 5 % of sludge throughput
- Wash water pressure < 3 bar
- Filtrate water can be used as wash water for the spray bar.
- Typical separation efficiency > 97 %

Easy and safe to operate

- Throughput, polymer dose and filter rotation speed can be adjusted to optimise the degree of thickening.
- Big inspection openings to facilitate maintenance and inspection
- Encased thickener suitable for the treatment of strong-smelling sludge, protecting operators against harmful spray water aerosols
- Automatic control technology
- Suitable for unattended operation over 24 hours per day

Reliable operation

- Robust design
- Stainless steel filter cloth for long life
- Slow filter rotation < 5 rpm
- Low maintenance
- No need for lubrication
- Easy access for inspection, maintenance and operation
- Proven in hundreds of installations



ROTAMAT® Disc Thickener RoS 2S size 2 with preceding flocculation reactor



ROTAMAT® Disc Thickener RoS 2S designed to thicken 35 m³/h



Wear-resistant stainless steel filter cloth

➤➤ Special applications

Specific installation conditions

As 80 % of the filter surface of the ROTAMAT® Disc Thickener RoS 2S are permanently used, a very compact and small machine design is possible.

- Minimal space requirements for installation
- Ideal as mobile installation
- Easy container installation
- Easy retrofitting
- No need for foundations or service platforms
- Variable inlet and outlet arrangement



Mobile ROTAMAT® Disc Thickener RoS 2S mounted on a car trailer, clear filtrate water runs off in the foreground

Efficient use of water

The ROTAMAT® Disc Thickener RoS 2S needs little wash water at a very low pressure anyway but the need for adding external wash water can completely be eliminated by using filtrate for filter cleaning.

- Saving water resources
- Reducing the load on local water treatment facilities
- Reducing operation costs
- Hydraulic load reduction
- Virtually no additional demand for electrical energy for pressure increase



Two units installed in confined space

➤➤ Unit sizes

| Size | Throughput capacity [m³/h] | Drive capacity [kW] |
|------|----------------------------|---------------------|
| 1 | 20 | 0.55 |
| 2 | 40 | 0.75 |



Filtrate storage tank and spray water pump for water recycling