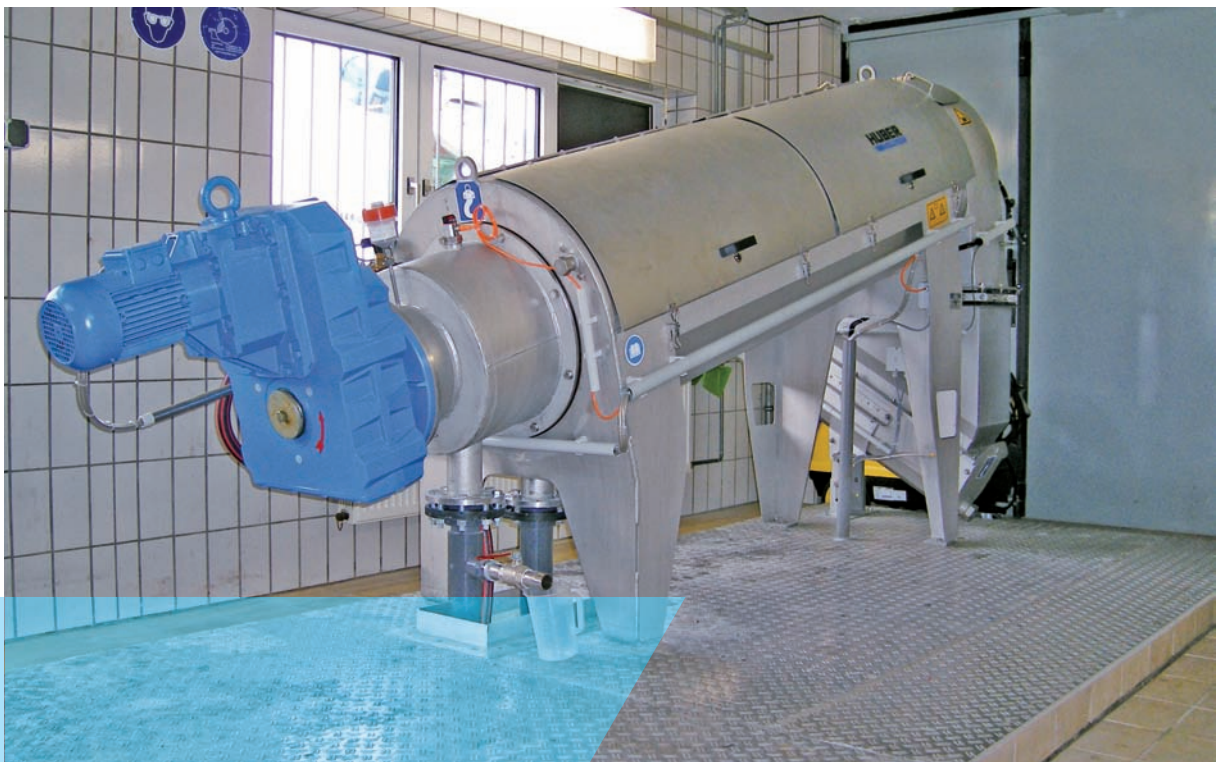


ROTAMAT® Screw Press RoS 3Q



Cost-effective sludge dewatering
for independence in sludge disposal

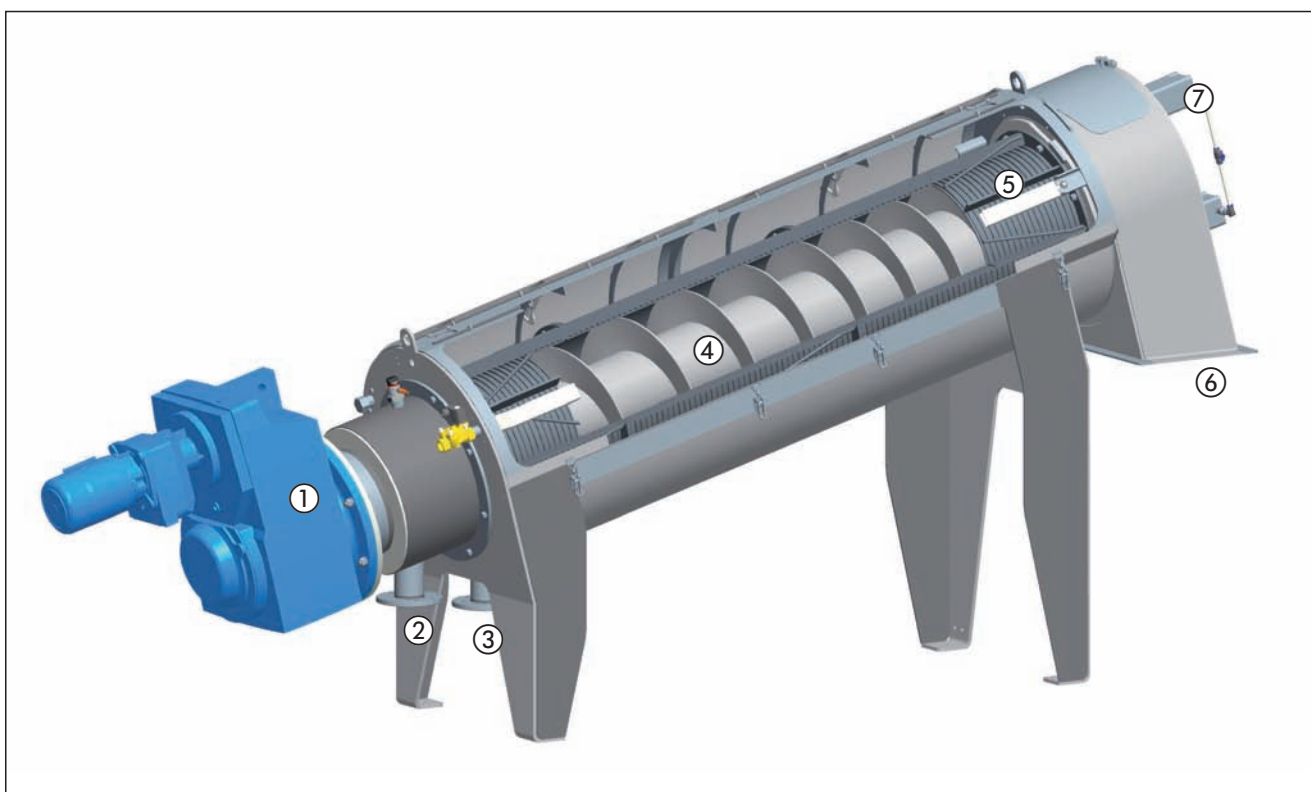
►► The situation and potentials of sewage sludge dewatering

Due to the declining acceptance of sewage sludge spreading on agricultural land the cheapest disposal option is disappearing. Advanced sewage sludge treatment, such as disinfection, drying or incineration, requires particularly efficient upstream mechanical sludge dewatering units:

- Increased solids concentrations to minimize transport and utilisation costs
- Increased plant availability to avoid unplanned machine down time
- Flexible adaption to varying sludge properties to secure sludge utilisation
- Reduced operating costs

►► Screw Press RoS 3Q features

The conditioned sewage sludge is pumped into the compaction chamber inside the cylindrical sieve of the ROTAMAT® Screw Press RoS 3Q. A screw shaft slowly rotates inside the compaction chamber and continuously conveys the sludge through the chamber to the press zone with pneumatic counter-pressure cone at the upper end of the chamber where the sludge is pushed by the conveying screw past the pressure cone into the discharge chamber. Due to the conical shape of the screw shaft and decreasing pitch of the screw flights the volume of material between the flights is reduced and the sludge pressed against the inner screen surface so that the sludge is dewatered and the water pressed out through the sieve. The pressing force is adjustable via the position and counterpressure of the pressure cone. The outer surface of the screen drum is washed periodically while the inner screen surface is cleaned by brushes fitted on the screw flights.



- ① Screw shaft drive with 0.2 - 1.5 rpm
- ② Pressure feeding of sludge
- ③ Filtrate outlet
- ④ Conically shaped screw conveyor with decreasing pitch for optimal compaction
- ⑤ Cylindrical filtration unit with a 1.0 to 0.05 mm screen
- ⑥ Press cake
- ⑦ Infinitely variable pressure cone

►► The benefits of the ROTAMAT® Screw Press RoS 3Q

High dry substance contents of the press cake are achieved through:

- Defined volume reduction by the conveying and compacting screw
- Pressure cone for infinitely variable dewatering pressure
- High driving torque for pressure build-up
- Permanent cleaning of the inner screen surface
- Minimum filter cake thickness

Outstanding plant availability is ensured by:

- Virtually wear-free operation due to the slow screw speed of < 1.5 rpm
- Only few moving parts
- Sturdy stainless steel design
- Easy access through large inspection openings
- Simple electrical control technology
- Optional unattended round-the-clock operation

Minimized operating costs due to:

- Outstanding energy efficiency
- Specific power consumption < 0.01 kW/kgDR
- Minimum operator attendance requirements of less than 20 minutes a day
- Minimum costs for wear parts
- Low wash water demand of below 8 % of the sludge throughput
- Low filtrate return load
- High separation degree, normally > 97 %

Low total investment costs due to:

- Compact, space-saving design
- Simple electrical control technology
- Integrated machine feet
- Vibration-free, virtually noiseless operation
- Encapsulated, odour-free plant



Mobile unit mounted on a trailer



Sturdy stainless steel filtration unit



Stationary unit dewatering 140 kgDR/h

►► Special applications of the ROTAMAT® Screw Press RoS 3Q

Dewatering of thin sludge:

As the ROTAMAT® Screw Press RoS 3Q is pressure fed and therefore can separate huge amounts of water in the pre-dewatering zone, it permits direct dewatering of thin sludge with solids contents below 1 %.

Benefits:

- Sludge dewatering without the need for preceding thickening
- Typical dry substance of press cake: 18 – 24 %
- Sludge volume reduction > 97 % in one single treatment step
- Saves investment and operating cost for sludge thickening
- Minimum operator attendance for sludge treatment

Varying sludge properties

frequently have an adverse affect on sludge dewatering efficiency and lead to increased operator attendance being required.

The ROTAMAT® Screw Press RoS 3Q automatically identifies overloads or underloads and a control circuit automatically ensures the optimal operating point is maintained.

Benefits:

- Constant performance
- Reliable operation
- Minimum operator attendance required

Available RoS 3Q sizes

Size	Throughput capacity [kgDR/h]	Drive capacity [kW]
280	70	0.37
440	140	1.5
800	500	4.0



Mobile RoS 3Q 440 unit for contract dewatering



Screw press for unattended round-the-clock operation



Complete RoS 3Q 280 installation on 12 m²

Aguas Latinas México S. de R.L. de C.V.

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Subject to technical modification
1,5 / 3 – 8.2010 – 4.2005

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