# HUBER Disc Dryer RotaDry®

## Contact drying of sewage sludge

**Partial drying of sewage sludge for recycling in fluidized bed incineration plants**

The HUBER RotaDry® Disc Dryer is designed for homogeneous partial drying of dewatered sewage sludge. Due to its compact design and high specific water evaporation, it is not only ideally suited for use in new sewage sludge mono-incineration plants, but also for capacity expansions of existing plants. The dryer can dry exactly to the required DR content and thus enable a self-sustaining combustion in the fluidized bed incinerator.

A reliable condensate removal system, an innovative concept for moisture control, an optimised feed and a steam control line with minimised pressure loss characterise the HUBER Disc Dryer RotaDry® as the perfect sewage sludge dryer in combination with a mono-incineration plant.

Mono-incineration of the sewage sludge achieves an enormous reduction in volume and mass and provides for the recovery of phosphorus. At the same time, the heat required for drying is provided and, depending on the size of the plant, electricity is also generated by means of a steam turbine.

The HUBER RotaDry® is available in different sizes so that water evaporation of two to six tons per hour and dryer can be achieved. By using different disc diameters and numbers of discs, the dryer surface can be optimally adapted to the amount of generated sludge and the disc dryer can be operated in the ideal capacity range.

## Function principle and vapour condensation

- Feeding from the sludge bunker optionally via an impurity separator
- Sludge drying by steam-heated rotor and optionally steam-heated jacket
- Vapour condensation for heat recovery
- Optional condensate treatment
- Delivery of dried sludge and non-condensable residual vapours to the incineration plant

From a sludge bunker, the sludge is delivered to the dryer by a pump in the standard case. Dewatered sludge is normally supplied with a DR of 20 - 30%. Inside the dryer the sludge is heated, turned, dried and conveyed towards the dryer discharge. Between 40 and 64 hollow discs are welded onto the dryer rotor. Saturated steam streams through the discs and heats them. Before entering the dryer, the steam must be conditioned so that it flows into the interior of the rotor as saturated steam or only slightly superheated.

The rotor is driven by a gear motor, the speed of which can be changed by a frequency converter. The (partially) dried sewage sludge leaves the dryer with 40 - 45% DR via the discharge screw. The vapour dome is used to remove the water vapour produced. In a condenser, the condensation heat of the vapour can be partially recovered and fed into a district heating network, for example.

## Benefits

- **Compact design**
  The HUBER Disc Dryer RotaDry® convinces by its compact design, which allows the dryer to be installed even on a small footprint or to be integrated into existing plants.
- **Proven and durable technology**
  The many years of successful use of disc dryers in combination with sewage sludge incineration plants demonstrate the robust technology of the process.
- **High specific water evaporation capacity**
  Heating of the rotor discs and optionally of the jacket allows for high volume-specific water evaporation.
- **Uniform and homogeneous drying**
  The sludge is mixed by the rotation of the rotor and blades mounted on the outer end of the discs.
- **Heat recovery through use of condensation heat**
  The water evaporated from the sewage sludge can be precipitated again in the vapour condenser, whereby part of the energy used for thermal drying can be recovered.
- **Reliable condensate removal**
  The condensate is removed from the rotor by a process-safe variant without a welded siphon tube.
- **Optimised humidity control for the partially dried sludge by integrated DR measurements at the dryer inlet and outlet**
  The control of the disc dryer is dependent on the detected DR content at the inlet and outlet. This provides the possibility to react to fluctuating DR contents of the dewatered sludge.

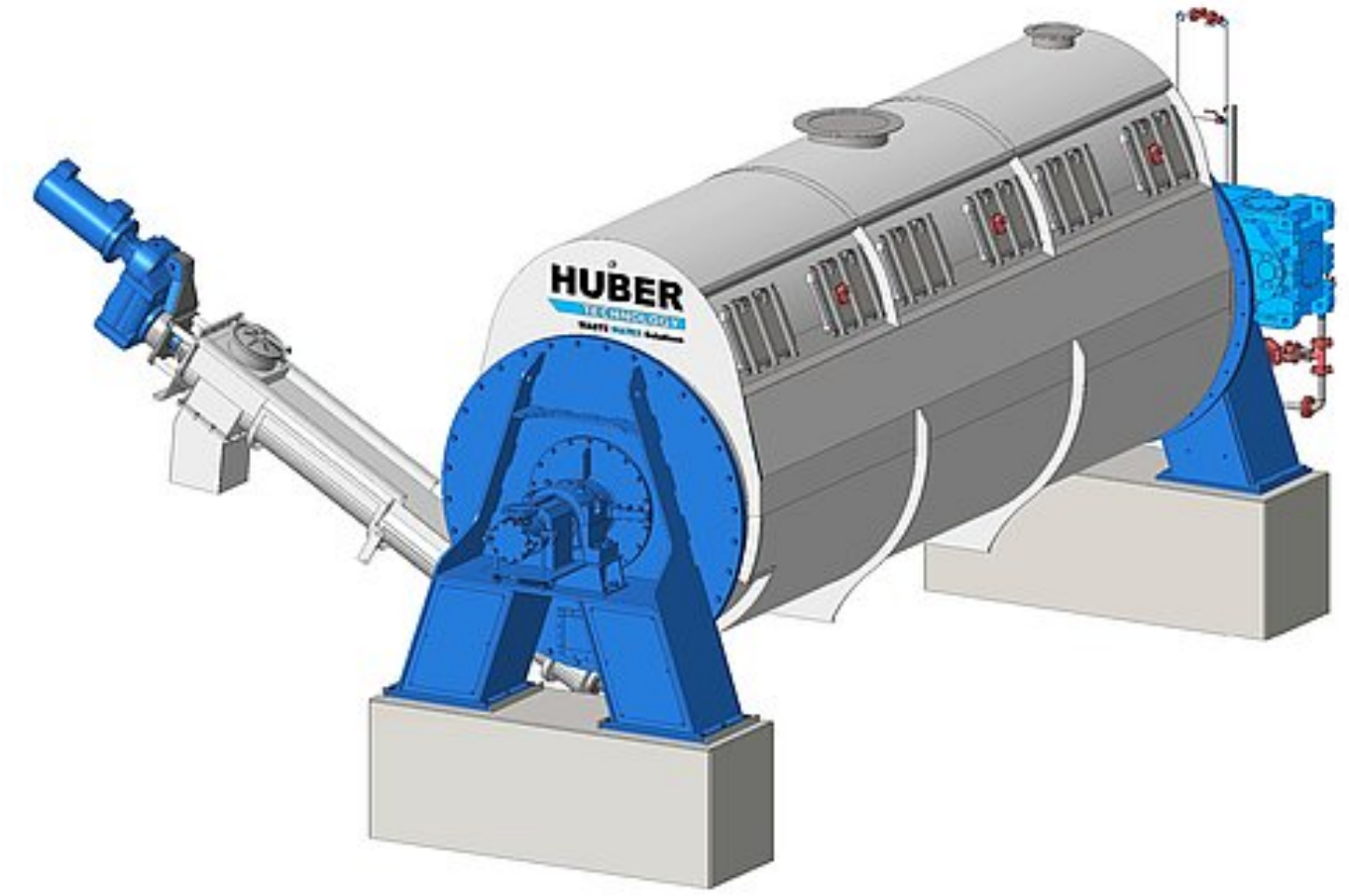
## Downloads

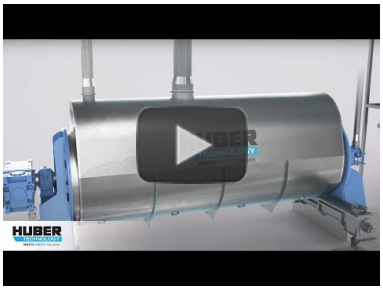
Brochure: HUBER Disc Dryer RotaDry® [pdf, 0.99 MB]

## Case Studies

- Plant for mono-incineration of sewage sludge in Hannover-Lahe: HUBER Disc Dryer RotaDry® ready for hot commissioning
- Innovation for drying sewage sludge: The benefits of the HUBER Disc Dryer RotaDry®
- Over 40 tons of sewage sludge per hour: Berlin-Waßmannsdorf STP receives four HUBER Disc Dryers RotaDry®
- Success story continues: HUBER SE receives major order to deliver three disc dryers for Germany's largest sewage sludge incineration plant
- General conditions for the use of disc dryers
- The new HUBER Disc Dryer RotaDry®
- HUBER Disc Dryer RotaDry®: Trial disc dryer for small-scale tests
- Successful commissioning of the first HUBER RotaDry® disc dryer in Hanover-Lahe

## Design Sketch




Animation: HUBER Disc Dryer RotaDry®

https://www.youtube.com/watch?v=IdLZjLGGx10

## More products of this group: Sludge Drying

- HUBER Solar Active Dryer SRT
- HUBER Belt Dryer BT

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