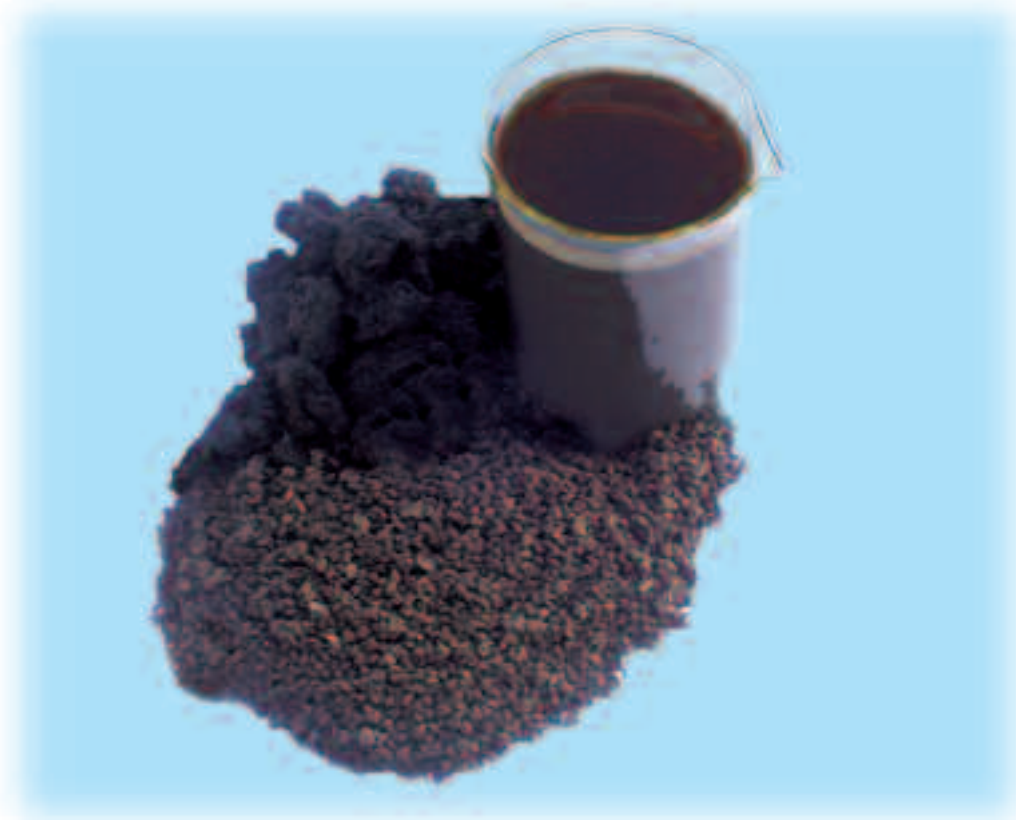


HUBER Sludge Treatment



Screening – Thickening – Disintegration –
Dewatering – Drying – Utilisation

... from one source



➤➤ Sludge treatment

The main waste generated in a municipal wastewater treatment plant is the wastewater sludge that is removed from mechanical, biological and chemical wastewater treatment processes.

The amount of sludge depends on the type of treatment, the connected population and population equivalents, and wastewater characteristics. Wastewater characteristics and specific sludge production vary from country to country and from region to region. There is even a difference between urban and rural areas. Sludge production figures range from 20 to 45 kg of dried solids per person per year.

There are several sludge characteristics that have a great influence on the costs of sludge treatment. The water content is very important as it determines the sludge volume and therefore feasibility and costs of transportation and disposal. The solids and water content of sludge depends on the type of sludge (e.g. primary sludge, waste activated sludge, chemical sludge) and the type and quality of its treatment (e.g. sludge digestion) and on the method of sludge thickening and dewatering.

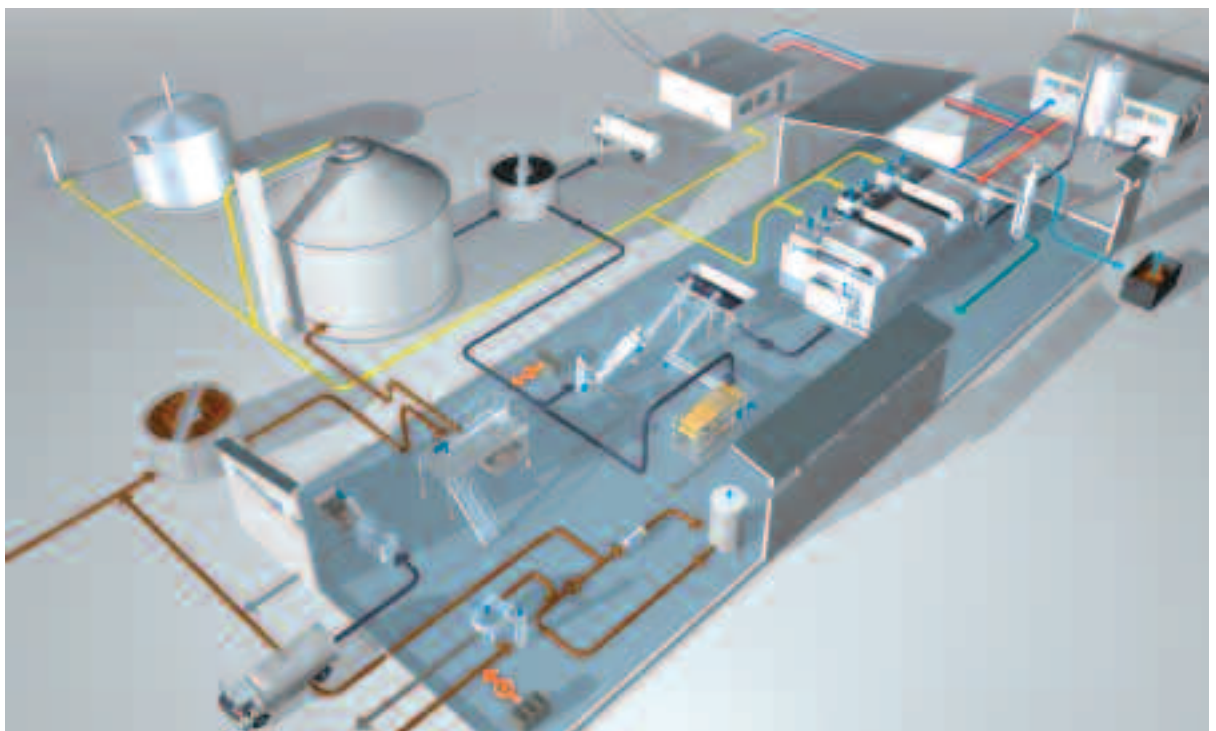
The chemical composition of the sludge also depends on wastewater characteristics and the wastewater treatment method. Of particular importance is the content of heavy metals as their concentration is a limiting factor for land application of biosolids. Despite the fact that land application within the limits set by European biosolids regulation is not only a safe and

beneficial reuse of valuable nutrients, there are politically motivated concerns endangering the long-term continuation of land application. The existence of endocrine substances in biosolids is also an additional concern though these pharmaceutical substances are unlikely to be taken up and incorporated into plants.

European regulations specify that only waste with a volatile solids (organic) content of below 5% may be landfilled. This means the end of the sludge landfilling only the ash from sludge incineration plants may be landfilled. The combination of sludge drying and incineration is about energy neutral. Dried sludge has approximately the same thermal value as brown coal. If dried sludge is incinerated, the generated heat is sufficient for sludge drying.

HUBER offers a virtually complete chain of sludge treatment processes.

Screening – Thickening – Dewatering – Drying – From one source



➤➤ Sludge screening

STRAINPRESS® Coarse Material Separator

Continuous coarse material separation under pressure

- No washwater needed
- Suitable for in-line installation
- With pneumatically regulated pressure cone
- Completely made of stainless steel



STRAINPRESS® – Continuous pressurised coarse material separation

ROTAMAT®

Sludge Screening Plant Ro 3.1

A fine screen in a tank

- Low head loss
- High capture rate
- Robust design
- Optional outdoor installation
- Hundreds of installations
- 6 mm bar spacing



Outdoor installation of a ROTAMAT® Sludge Screening Plant

➤➤ Sludge thickening

ROTAMAT®

Disc Thickener RoS 2S

Mechanical sludge thickening for small to medium-sized wastewater treatment plants

- Totally enclosed design
- High degree of separation
- Easy to operate
- Robust stainless steel filter
- Low wash water consumption
- Adjustable for varying degrees of thickening



Unique sludge thickener for wastewater treatment plant sizes of up to 200,000 PE

HUBER Drainbelt DB

Mechanical sludge thickening for any size of wastewater treatment plant

- Low polymer consumption
- Minimum operating costs
- Variable belt speed
- Low energy consumption



HUBER Drainbelt – worldwide well-proven thickener

ROTAMAT® Rotary Screw Thickener RoS 2

Mechanical sludge thickening for any size of wastewater treatment plant

- Totally enclosed design to eliminate odour problems
- Low washwater consumption
- Fully automatic operation
- Low specific energy consumption



ROTAMAT® Rotary Screw Thickener – well-proven in hundreds of installation worldwide

Drum Thickener RoST

Mechanical thickener for high throughputs

- High degree of thickening
- Low cost machine with high performance
- Enclosed design
- Fully automatic operation
- Low specific energy consumption



ROTAMAT® Drum Thickener – the new HUBER drum screen

►► Homogenisation

HUBER Sludge Squeezer HSS

Two-stage sludge homogenisation

- Minimised volatile solids
- Increased gas yield
- Improved hydrolysis / capacity of sewage sludge processing
- Increased process stability
- Suited to control sludge bulking



Optimised sludge digestion

►► Sludge dewatering

HUBER Bogenpress BS

Belt filter press

- Versatile sludge press
- High efficiency (low polymer and power consumption)
- Small footprint
- High capacity (due to extended pre-dewatering zone)
- Application-optimised design



The HUBER Bogenpress can be combined with the Drainbelt unit to further increase capacity.

ROTAMAT® Screw Press RoS 3 / RoS 3-Q

Screw press for wastewater treatment sizes up to 30,000 PE

- High dewatering efficiency
- Low energy consumption
- Easy to operate
- Compact, enclosed design
- Optional mobile units



ROTAMAT® Screw Press – mobile solution for small wastewater treatment plants

➤➤ Sludge drying

KULT® Solar Active Dryer SRT

Dryer for small to medium size wastewater treatment plants

- Sewage sludge drying with solar energy
- Fully automatic drying reliably throughout the year due to the utilisation of regenerative energy sources
- Continuously operating drying system
- Modular system providing for the option of a fully automatic plant
- Odourless due to complete re-stacking of the sludge



KULT® SRT – innovative sludge drying

HUBER Middle Temperature Dryer KULT® BT plus

- Best available belt drying technology
- Utilisation of site-specific exhaust heat
- Simple design, easy maintenance
- Versatile biomass dryer
- Conforms to ATEX regulations

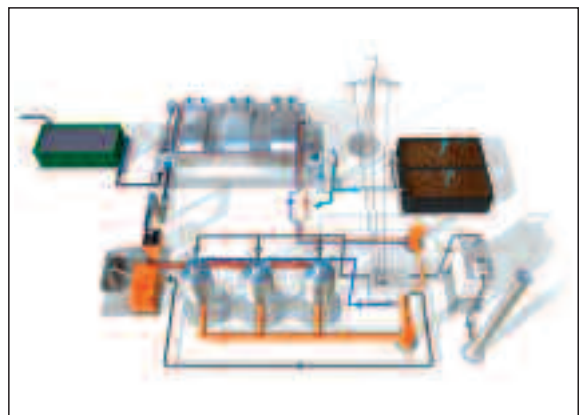


KULT® BT+ – energy-efficient belt dryer

sludge2energy® – Sewage sludge utilisation

A concept for decentralised sludge utilisation by generation and use of thermal and electrical energy

- Municipal use of sludge keeps costs under control
- Addition of other municipal waste (screenings, yard waste, etc.)
- Reuse of the generated heat and power (e.g. for sludge drying)
- Supported by EU-Life
- Developed in cooperation with atz



Sludge2energy® – decentralised sewage sludge utilisation

Hans Huber AG

Maschinen- und Anlagenbau
Postfach 63 · D-92332 Berching

Phone: + 49 - 84 62 - 201 - 0
Telefax: + 49 - 84 62 - 201 - 810
E-mail: info@huber.de
Internet: www.huber.de

Subject to technical modification

HUBER
Sludge Treatment