HUBER TECHNOLOGY
WASTE WATER Solutions

HUBER Drainbelt DB

Belt thickener for highly efficient sludge thickening

The potentials of sewage sludge thickening

Sludge volume reduction through sludge thickening significantly reduces sewage sludge transport costs. Concentrated sludge is even the basic prerequisite for the efficient operation of digestors and dewatering systems.

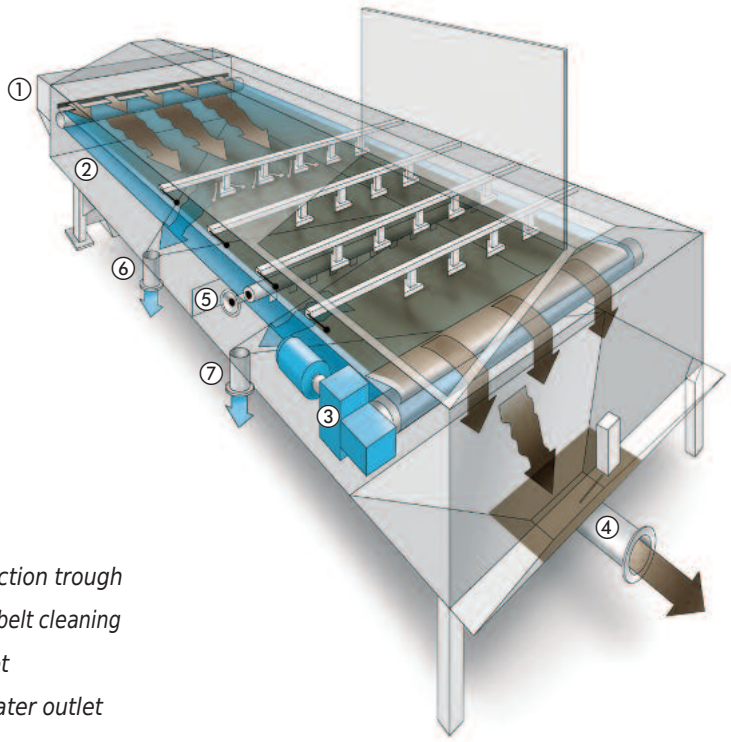
The following criteria are decisive for the selection of the most economical thickening process:

- Low operating costs
- High-efficiency thickening
- Reliable technology

Mobile demo unit

Design and function of the HUBER Drainbelt DB

A feed reactor ensures the uniform distribution of the conditioned sludge over the full width of the continuously travelling filter belt. The water filtered through the belt filter cloth drains off into collection troughs. Chicanes furrow the sludge to facilitate drainage and support the production of a concentrated sludge cake. The initial thin sludge volume is reduced by approx. 85 %. When the sludge cake has been discharged into the thick sludge collection trough a spray bar cleans the filter belt.



① *Thin sludge inlet*
② *Filter belt*
③ *Belt drive*
④ *Thick sludge collection trough*
⑤ *Spray bar for filter belt cleaning*
⑥ *Clear filtrate outlet*
⑦ *Filter belt wash water outlet*

The user's benefits

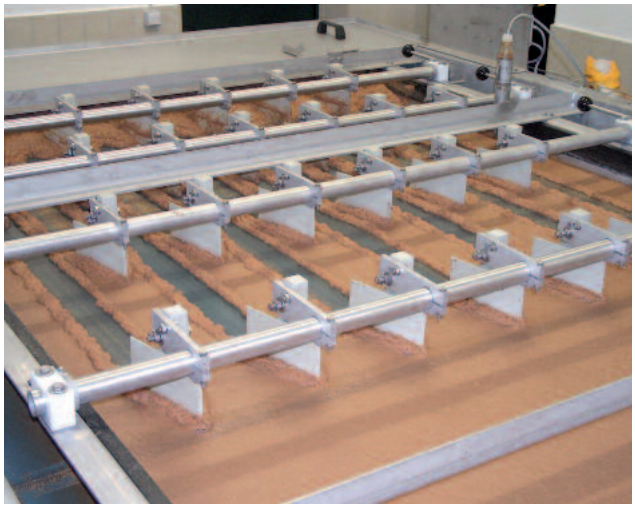
Low operating costs

- Sludge volume reduction > 85 %
- Typical thickening results > 6 %, therefore:
- Significantly reduced costs for further sludge treatment
- Minimised coagulant consumption, normally only 2 – 3 $g_{effective\ substance}/kg_{DR}$
- Belt filter cleaning with service water
- Low specific energy demand

Thickener installation for up to 100 m³/h

High performance

- Large active filter surface
- Very long thickening zone, with the result of:
- High specific throughput capacity up to 45 m³/h per metre of filter belt width
- Increased filtration results through repeated sludge restacking
- Selectable filter cloth options to meet specific requirements



Thickening of dairy sludge

Reliable technology

- Long filter cloth life due to slow filter belt velocity
- Typical filter belt velocity < 20 m/min
- Automatic control technology
- Big inspection openings
- Easy to operate and maintain

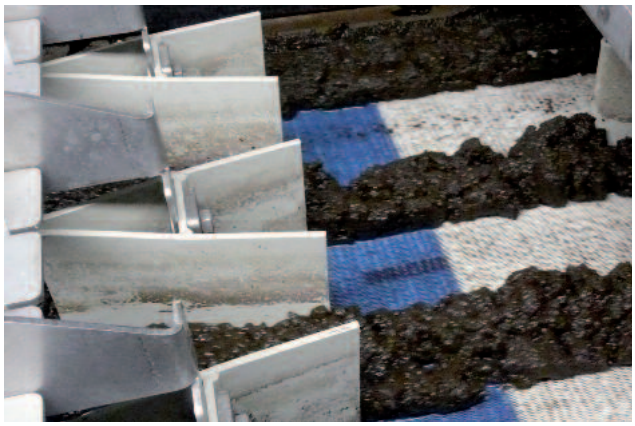
Belt thickener for 60 m³/h

Special applications

Thickening of critical sludges

The HUBER Drainbelt DB is especially designed for sludges with poor settling properties:

- Minimised coagulant consumption due to efficient distribution
- Constant thickening result due to the long sludge residence time on the filter belt
- Increased thickening results due to a ramp installed to decelerate the sludge prior to being discharged
- A variety of filter belt qualities to meet specific requirements

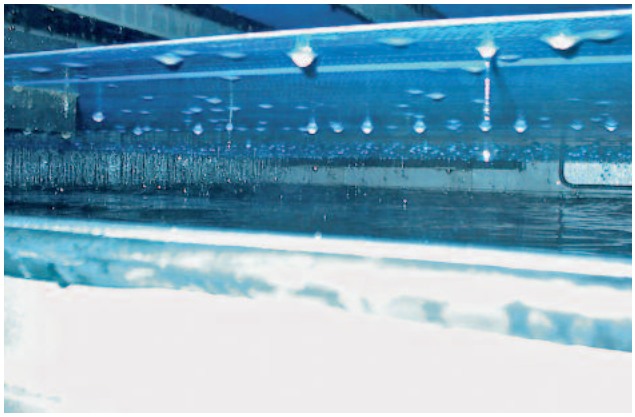


Thickening zone

Efficient use of water

Filtrate water can be used to wash the filter belt:

- No need for external wash water
- Reduced operating costs
- Saves water resources
- Hydraulic load reduction



FIltration process

The polluted water from filter belt washing is discharged separately and therefore can be recycled through the HUBER Drainbelt DB:

- Separation degree increase from 97% to 99%
- Minimised return load to WWTP
- Reduced hidden operating costs

Belt washing with filtrate water

HUBER Drainbelt DB sizes

Size	Belt width [mm]	Throughput capacity [m³/h]
0.5	500	23
1.0	1000	45
1.5	1500	68
2.0	2000	90

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