



PETKUS Technologie GmbH
Röberstraße 8
D-99848 Wutha-Farnroda
Germany
Phone +49(0)36921-98-0
Fax +49(0)36921-98 333
E-mail petkus@petkus.de
www.petkus.de

PETKUS Filtration Technology

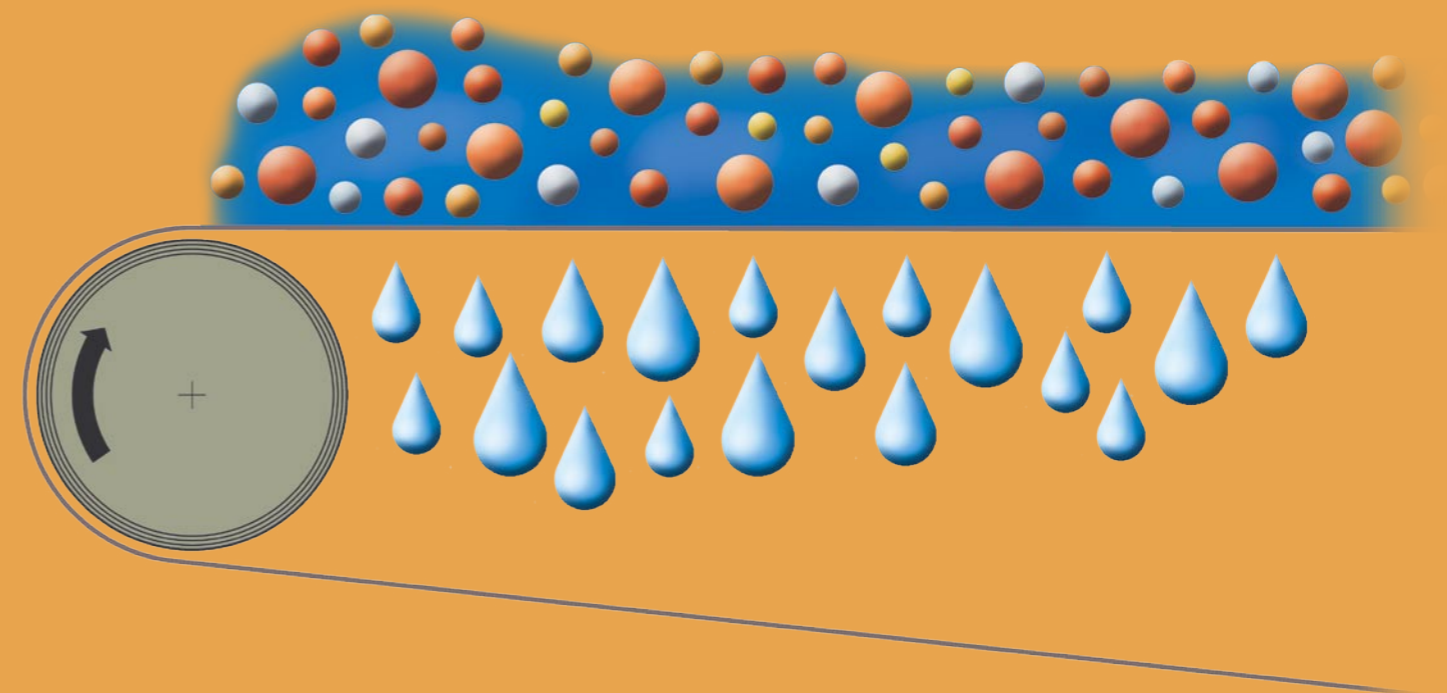
Gravity Belt Thickener

PETKUS Technologie GmbH, founded in 1852, was the world's first manufacturer of mechanical seed sorting equipment. PETKUS today has grown to be one of the market leading suppliers of a comprehensive range of seed and grain handling and processing technologies, feed plants as well as filtration and water technology.

The business area water is engaged in systems and technologies for processing of municipal, industrial, organic and mineral sludge. PETKUS is developing and producing a considerable range of filter presses and thickening systems as well as systems for filtration and sludge dewatering. The performance of PETKUS covers

- consulting
- service
- machines and plants
- engineering

The close coordinated cooperation of regionally responsible sales engineers, technology- and machine specialists as well as engineering- and turn key project experts assures the most excellent result for the customers. A global network of PETKUS offices and representations as well as associated partners guarantees a confident and successful cooperation in partnership with convincing performances when consulting technologically and practising the transfer of know how as well as the after sales service locally and world wide.



Benefit through technology

Requirements

The mechanical surplus- and thin sludge thickening become more important in the last few years. The most simple, efficient and protective way of thickening these types of sludge is achieved by using the PETKUS Belt Thickeners. The units are available in the following model ranges:

EC, ST and MAXI DRAIN

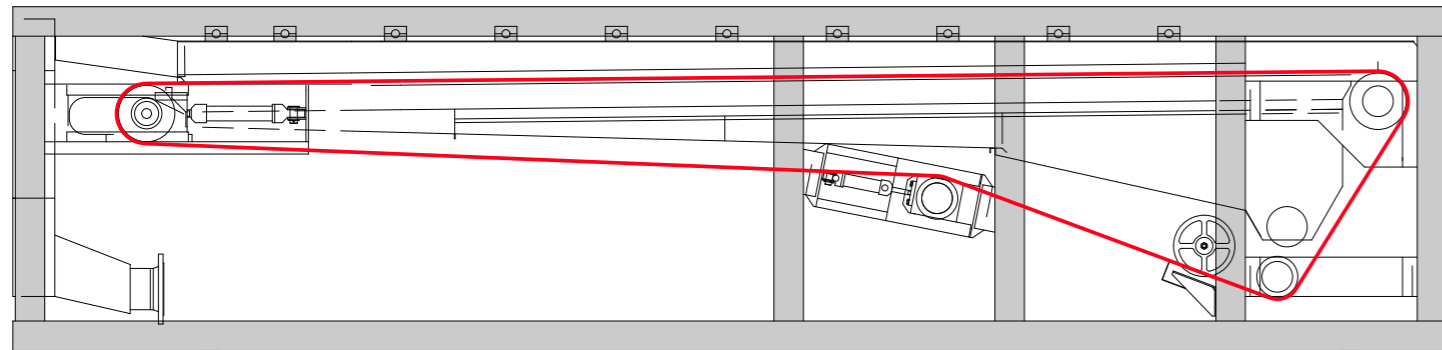
Using the same construction concept, modular structural components from the PETKUS Belt Filter Press series the Belt Thickener has the same advantages as the PETKUS Belt Filter Presses, i.e.

- optimum performance-price-ratio
- minimisation of operating costs
- trouble free, reliable and automatic operation

The choice of the type and size of the Belt Thickener is related to the required throughput and desired sludge DS content. The economy and standard series allow the adjustment of the DS content within a few minutes due to an unique construction.



Sludge Belt Thickening Plant with hydraulically controlled Belt Thickener, Model ST, Waste Water Treatment Plant Legnica



	Belt Thickener Model Economy 2 sizes of belt width		Belt Thickener Model Standard 2 sizes of belt width		Belt Thickener Model Maxi Drain 3 sizes of belt width		
	Type 12-EC	Type 18-EC	Type 18-ST	Type 24-ST	Type MD 12	Type MD 18	Type MD 24
A length	4,400 mm	4,400 mm	5,870 mm	5,870 mm	4,000 mm	4,000 mm	4,150 mm
B width, without drive	1,780 mm	2,080 mm	2,400 mm	3,000 mm	2,270 mm	2,850 mm	3,760 mm
C height	1,400 mm	1,400 mm	1,550 mm	1,550 mm	1,400 mm	1,400 mm	1,400 mm
weight	1.2 t	1.4 t	2.6 t	3.6 t	0.85 t	1.05 t	1.5 t

Function

The required flocculent agent and sludge are intensively mixed in a specially constructed and adjustable polyelectrolyte-/ sludge dosing-/ mixing device. After the initial mixing more energy is added using the downstream mixer's turbulence. The piping after the mixer is designed to allow a reaction and retention time of approx. one minute to develop a stable floc, whereby as separation of water and solids takes place.

The sensitive floc of surplus activated sludge in the treated suspension is led through a reaction tank before it will carefully be fed onto thickener's filter belt. With this technical solution, without turbulence a better stabilization of the flocculated sludge is achieved.

An adjustable distribution nozzle feeds the suspension onto the thickener's filter belt. The filtration takes place on the horizontal part of the machine, where a system of baffles and guides distributes the suspension over the belt width and improves the dewatering process.

A special designed adjusting roller together with deflector plates, free of belt contact, cause a sludge damming, allowing a final DS control within certain values. The damming controls the sludge's retention time in the dewatering zone. At the end of the process the thickened sludge is removed by scrapers, collected and pumped together to a tank or digester.

The thickening process is completed while the filter belt runs to the feed end, being automatically tensioned, corrected and water washed with a spray-bar with interchangeable nozzles.

