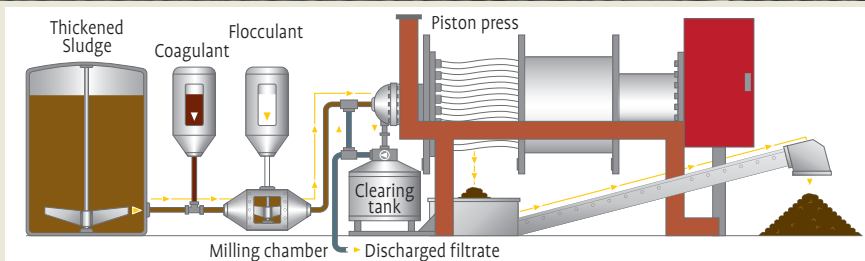




Sludge dewatering technology

From waste to nature



Innovative dewatering technology

Bucher Unipektin is one of the world's leading manufacturers of machines and systems for efficient solid-liquid separation of biosolids. The patented technology of Bucher hydraulic presses has been implemented in over 2000 installations worldwide. The reliability of Bucher presses in demanding applications and use has set new standards.

Bucher Unipektin team of experienced engineers and technicians works to meet the challenges of tomorrow for the benefit of our customers and our environment. The challenging expectations of our customers are the focus of our activities. Our employees in addition to a high level of training also have many years of experience in solids-liquids separation. This allows us to offer our customers exceptionally innovative solutions for dewatering.

Based on this experience and with further development of its robust press technology, Bucher Unipektin has expanded the boundaries of what has to date been technically possible in dewatering of sludge. Systems delivered by Bucher Unipektin are characterised by a high level of performance and long service life with minimal maintenance. System design and construction are prepared and executed in a constructive dialogue together with planners and clients efficiently and in a cost-saving way according to specific needs.

The pivotal point of sludge treatment in both municipal and industrial sludge is mechanical drainage. It specifies whether or not sludge utilisation can subsequently be resource-saving, energy-efficient and thus sustainable.

Bucher Unipektin's HPS technology ensures energy-efficient thermal utilisation of the sludge as well as easy handling of the filter cake in agricultural recycling processes at the highest possible degree of mechanical dewatering.



Dewatering system



Filter system

High performance through proven methods

A complete pressing cycle consists of a filling, pressing and an automatic emptying phase.

A complete cycle takes 70 – 120 minutes depending on the drainage characteristics of the sludge.

1 Filling

The press volume is filled up by using a pump.

2 Pressing

The press piston is moved forward reducing the press volume forcing the liquid through the drainage elements into the filtrate collection chamber at the end of the cylinder.

3 Loosening

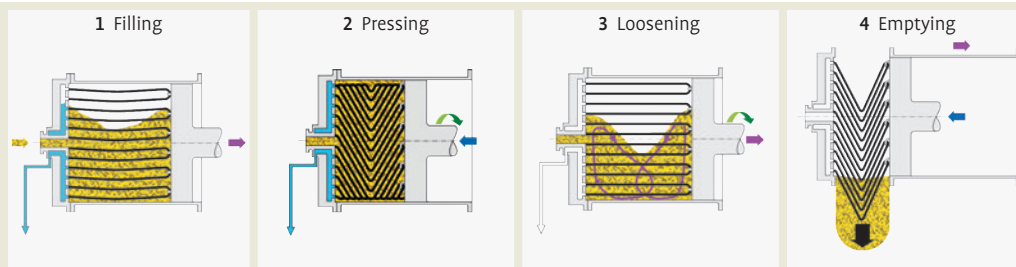
The press piston is pulled back. The slow rotation of the cylinder and movement of the drainage elements allows the filter cake to fragment into pieces. The vacuum created in the cylinder causes a back flow through the filter sleeves thus cleaning them. During the next pressing phase the filter cake effectively assists in the filtering.

The process steps 1, 2 and 3 are repeated until a sufficient quantity of filter cake has developed in the press space. The actual pressing phase follows by alternating process steps 2 and 3 until the desired degree of dewatering is achieved.

The high degree of dewatering is due to the short flow path of the liquid to the filter elements through frequent pressing and loosening.

4 Emptying

When pressing is complete the press space casing is hydraulically opened and the filter cake is discharged by the press piston.

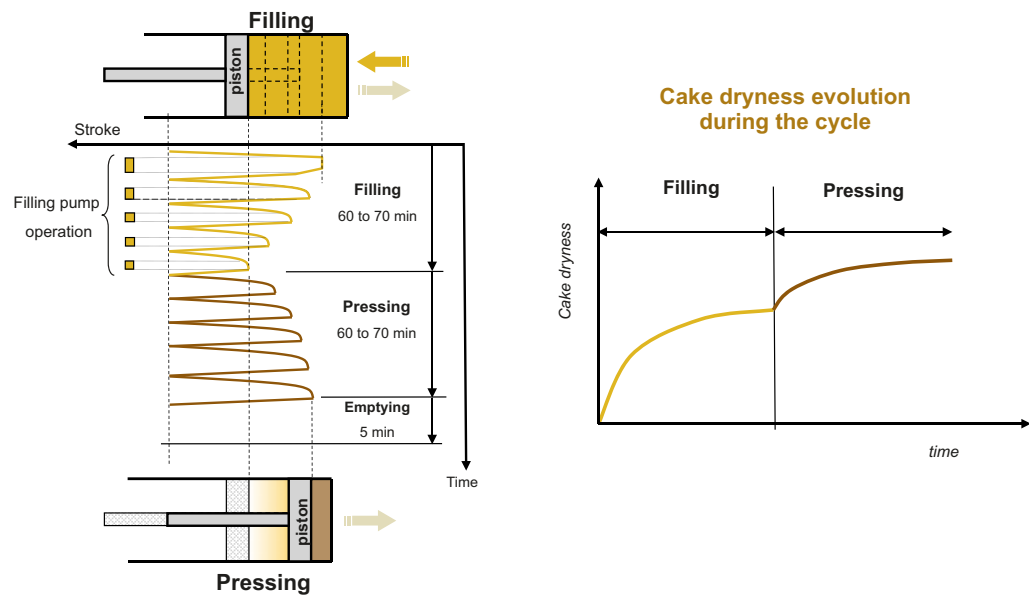


Operation safety through self-optimising controls

Maximum dewatering performance is achieved with self-optimising controls. The operator may select the degree of dewatering or the pressing time.

The press is operated from a user-friendly operator interface with process visualisation. The relevant process data is displayed.

The high level of automation combined with the self-optimising controls guarantee maximum operational safety and performance with a minimum of operator input.



Cylindrical drum



Press residue



Hydraulic aggregate

Minimal disposal costs by maximum drainage

Sludge dewatering is currently facing several challenges which are already being covered by the Bucher press:

Increase of energy efficiency

The newly developed hydraulics could reduce the HPS energy requirement by 20%. Therefore, depending on the type of sludge, the actual energy requirement for dewatering with HPS technology lies in a range of 20 to 50 kWh/t dry residue.

Low backflow load of the filtrate

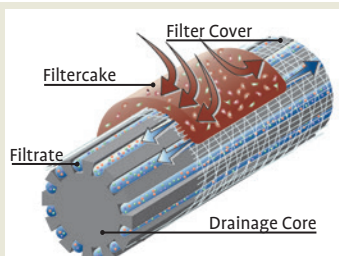
Due to the filtration process used in connection with sludge conditioning, the backflow load of the filtrate by solids will be reduced to a minimum. This significantly simplifies a filtrate aftertreatment. This is especially true for the recovery of primary resources (P, N, etc.).

Maximum drainage

Comparing the technologies, it can be seen that the Bucher press achieves significantly higher dry substances than conventional processes. The better the drainability of a sludge, the greater the difference to other processes.

Thermal utilisation of dewatered sludges

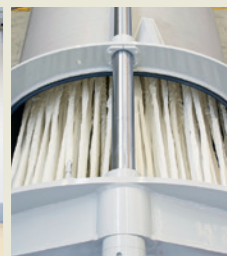
The HPS technology can achieve autothermal levels for almost all types of sludge. This allows direct thermal utilisation of HPS dewatered sludges without the implementation of a cost and energy intensive thermal pretreatment. As a result, the best possible energy balance in the sludge treatment can be achieved.



Drainage core



Press HPS 6007



HPS filtering system

Quality and service

Quality

Unipektin processes all orders with the same care, whether for individual plant components, complete processing lines or spare parts. Bucher Unipektin systems stand out for their high availability and long service life with minimal maintenance.

We are ISO 9001:2015 certified.

Innovation

With the development of the HP system, Bucher Unipektin has succeeded in revolutionizing the press technology in a sustainable way. Bucher Unipektin has a whole team of experienced development engineers working on the press technology of tomorrow – for the benefit of our customers!

The requirements and wishes of our Customers are always the focus of our activities.

Worldwide service

In order to guarantee optimally functioning systems to our customers, our commissioning engineers will intensively train and instruct your operating personnel on site.

The support team in our customer service and after-sales department consists of experienced professionals. Our central spare parts warehouse guarantees a long-term availability of spare parts as well as fast and reliable delivery worldwide.

For a personal consultation of our service and service packages, please contact our customer service. Further information can be found on our website.



Panel display



Spare parts



Service

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