

# Leiblein

world of liquids



## Pressure belt filter

Technologies for solid/liquid separation

## The pressure belt filter

For the filtration of higher throughputs

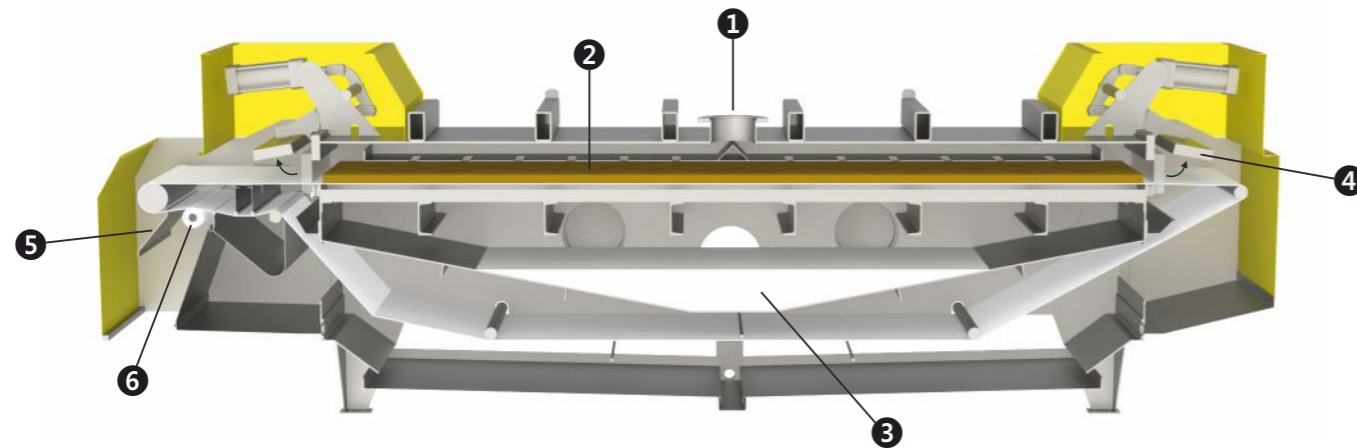
The pressure belt filter (PBF) is used for the filtration of liquids with the help of continuous-filter fabrics or filter fleeces. Compared to hydrostatically working filters, the pressure belt filter has the advantage that the filtration is performed at a higher pressure. In doing so, a higher throughput as well as a better drainage of the filter cake can be reached. The filtration in the pressure belt filter takes place using a filter fabric made of plastic or with filter fleece, which is coordinated with the respective application. In order to reach a higher filtration quality during the fine processing, the PBF can be e.g. aggraded with cellulose.



Pressure belt filter

## Functional principle of the pressure belt filter

Technology made by Leiblein



### Filtering with pressure

The effluent is pumped from above to the upper chamber and distributed on the entire filter surface (1). The dirt settles down on the filter belt / filter fleece and forms the filter cake (2). The filtrate flows downwards to the lower chamber (3).

As the filter cake densifies, the flow resistance increases and the counter pressure increases in the filter chamber. When a limit value (end pressure) is exceeded the feeding is interrupted and regeneration is initiated. Firstly, the remaining liquid is pressed with pressurized air through the filter belt/ filter fleece and the filter cake, through which it is drained.

During the regeneration process the lateral flaps (4) are opened and the belt with the filter cake is retracted, the dirt is removed (5) and the clean belt is fed in again from the other side. Then the flaps close again and the filtration process restarts. When executed with an endless belt, the filter belt is cleaned additionally with a brush (6) and a flushing device.

## Fields of applications of the pressure belt filter

Multiple applications

Pressure belt filters are suitable mainly for large throughputs with lower sediment load and fine particles.

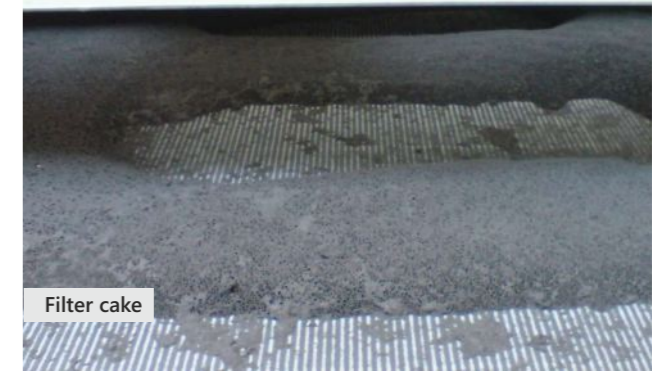
- Cooling lubricant cleaning when grinding and honing
- Oil processing
- Combination with precoat filter domes for the drainage/degreasing
- Filtration of cooling water
- Washing water fine filtration
- Process water preparation



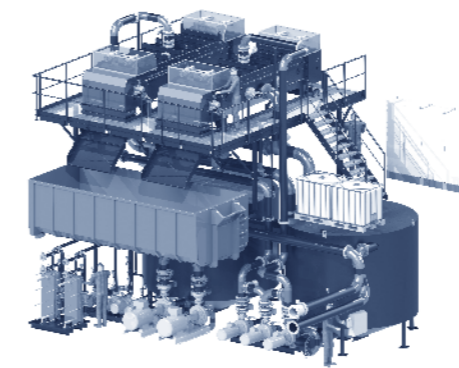
Pressure belt filter central systems while grinding



Pressure belt filter during aluminium processing



Filter cake



Pressure belt filter system



Pressure belt filter during gear manufacturing



Cellulose container for aggradation

### High efficiency

The advantages of our pressure belt filter

- Drying the filter cake with pressurized air is possible
- High throughput performance by pressure filtration
- Device is low-maintenance, no user intervention necessary
- Simple and robust construction
- With the help of aggradation aid usable for fine filtration

## Design

### *Types and materials*

The pressure belt filter can be used as an independent compact device or in connection with a central system. Depending on the medium, it can be equipped with an endless belt or filter fleece.

The hinged belt filter is a smaller version of the pressure belt filter - for up to 60 m<sup>3</sup>/h throughput; for regeneration, the entire upper chamber is raised.

**Material:** Stainless steel 1.4301 / 1.4404  
Steel coated

**Filter belt:** Plastic

**Filter fleece:** Polyester, viscose, polypropylene

Alternative materials upon request.

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Each Pressure belt filter is designed for your specific use . In addition, all products are provided to you as test and/or rental systems.



Mounting of a pressure belt filter



Pressure belt filter

You have questions about the treatment of your medium?  
Do not hesitate and contact us!  
**We would be pleased to advise you.**



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