FILTER OUT THE BEST

KÖBO
ECO>PROCESS
ANLAGEN-TECHNOLOGIE

Filter Technology

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Individual Solutions from a Single Source

KÖBO has been developing and supplying high-performance filter and conveying systems for all industrial branches for over 55 years. Our company belongs to the leading providers in this sector.
Needs-based solutions conceived in close collaboration with the customer, high product quality and the most advanced technologies are our guarantees for your satisfaction.
KÖBO represents high competence in problem solving. We offer planning, assembly and commissioning of our filter and conveying systems from a single source.

Do you need individually customized solutions? Just ask us! Benefit from our established know-how which has grown from experience of more than five decades!

As a distinguished specialized company, KÖBO has received various certificates:

- DIN EN ISO 9001:2008
  (German & English)
- TÜV Rheinland specialized company according to Water Recourses Act (WHG)
- TÜV Rheinland manufacturing and welding company according to AD 2000-leaflet HP 0 and DIN EN ISO 3834-3

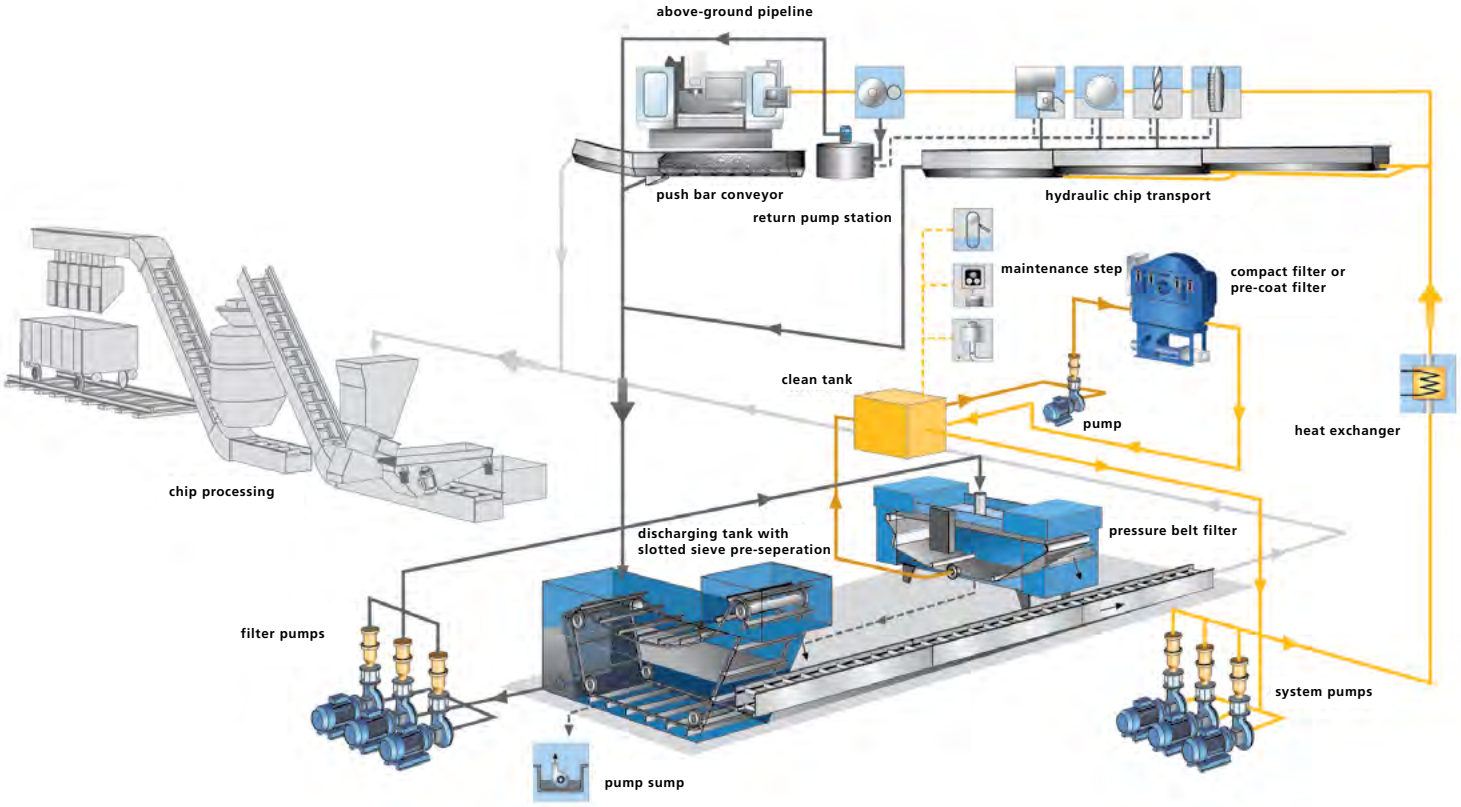
Your Specialist for Filter Solutions

In the filter technology domain, KÖBO is specialized in filter solutions for cleaning of cooling lubricants, for cleaning of transmission oil and for processing of washing water. When it comes to optimizing the fluids, increasing the processing speeds or maximizing the service life, the circulation systems of KÖBO are the adequate solution for this. Our filter solutions are suitable for the standard and superfine filtration of volume flow rates from 1,000 to 30,000 l/min. KÖBO's high-performance product portfolio for cooling lubricant (CL) standard filtration includes pressure belt filter, vacuum belt filter, magnetic separator, chip pre-separator, back-flashing filter and solutions for temperature control of cooling lubricants. For a superfine cleaning of liquids, KÖBO has developed the special pre-coat filters.

For KÖBO, economical production processes and sustainable use of resources go hand in hand. For cleaning of cooling lubricants, for example, we are designing filter-aid-free facilities in order to minimize the amount of residual materials.

CL Standard Filtration

- pressure belt filter
- vacuum belt filter
- chip pre-separator
- back-flushing filter
- CL temperature control
- magnetic separator
- pre-coat filter



Procedure

The graphic representation shows a classical CL filtration using pressure belt filters as well as a chip conveyor system and a processing system.

The cooling lubricant (CL) contaminated with chips is fed to the filter and processing systems. Due to the pre-separation of very coarse chips, the chips get to the chip processing system. Here, they are broken, centrifugated and dropped via bunker into dispatching carriages.

The cooling lubricant with residual chips gets into the pre-separator. There, the coarser chips are separated from the CL and discharged.

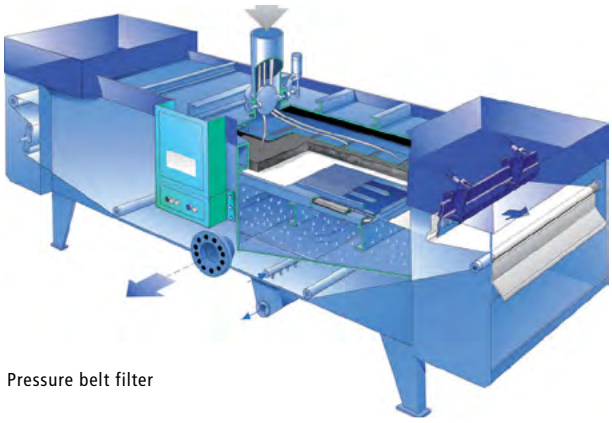
Via filter pumps, the pressure belt filter (PBF) is coated with the contaminated CL. As a consequence thereof, the CL gains the quality that is necessary for use on machines. The filtrate is then taken by the clean tank and is supplied via system pumps of the PBF to the machines again.

OVERVIEW THE EXTENT

Filtration by Means of Pressure

Pressure belt filter

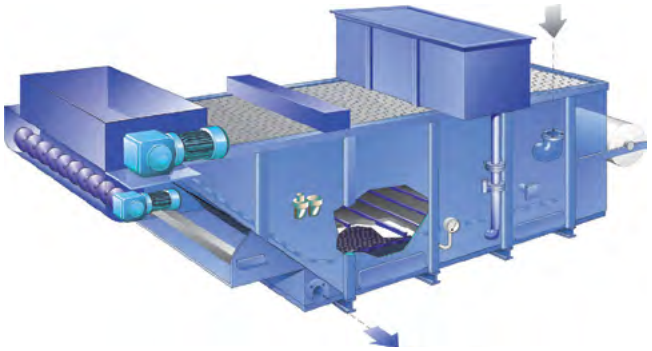
The pressure belt filter (PBF) is fed discontinuously with contaminated cooling lubricants by means of filter pump pressure. The cleaning of cooling lubricants is effected by a circulating or reversing filter medium. After it has freely run off into a clean tank, it can be reused for the supply of the production. The PBF will be delivered completely pre-assembled and therefore requires only minimal setup times.



Pressure belt filter

Vacuum belt filter

The vacuum belt filter (VBF) is charged continuously with contaminated cooling lubricants from the return flow of the production. Filter pumps or system pumps which are connected to the bottom suction chamber exhaust the cooling lubricant through the filter medium, clean it und make it available again for the supply of the production. Thanks to the modular system, the commissioning of the VBF can be carried out quickly and easily.



Vacuum belt filter

Filtration

The cleaning of cooling lubricants is referred to as filtration. This process is important to guarantee a good surface quality of work pieces, better service life of tools and longer period of application of cooling lubricants.
For cleaning of large volume flows, KÖBO recommends the application of pressure belt filters (PBF) or vacuum belt filters (VBF). Both solutions are fully automatic cooling lubricant filters.

Chip pre-separator

Pressure belt filter

Vacuum belt filter

Variable Functions

Chip pre-separator

In order to relieve the downstream filter systems, chip pre-separators can be put to good use. They absorb the contaminated cooling lubricant supplied by the production and hold coarse particles such as chips.

Their functional principles are variable. Depending on the requirements, KÖBO develops individual solutions for your production process. Chip sedimentation can be complemented functionally by an additional separation over the surface of the slotted sieve hidden behind. Separation of chips as a form separation over the surface of the slotted sieve positioned below – without sedimentation – is also possible. It offers technical benefits especially for separation of light and floating chips. The pre-cleaned cooling lubricant continues to run automatically further to the downstream filter systems. It can be exhausted by means of pumps and fed to the filter systems.

Product Advantages

- intelligent technology
- constant temperature level
- filtration efficiency from 1,000 bis 30,000 l/min
- low operting costs
- optimum filtrate quality
- expandable systems

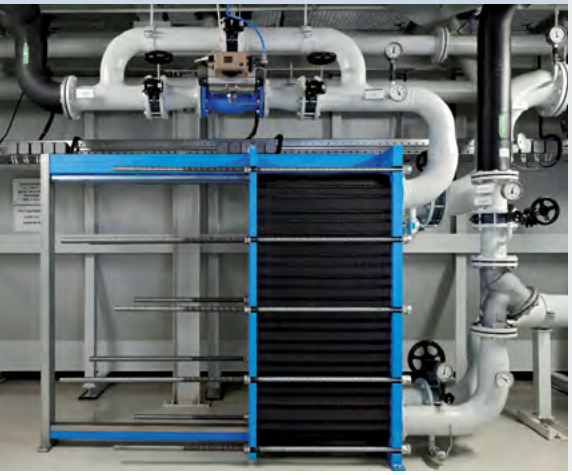
Flushing and Temperature Control

Back-flushing filter

KÖBO's back-flushing filters are suited for a standard filtration of cooling lubricants. They may be used for a variety of purposes, for example, as a main filter stage, as a fine filter stage connected downstream to the belt filter or to protect the machines against dirt supply in the case of a breakthrough of the main filter stage. The intelligent back-flushing filter technology guarantees that the dirt particles contained in the cooling lubricant are securely hold and filtered out.

CL temperature control

The CL temperature control provided by KÖBO keeps liquid media while supplying the machines and devices at a given temperature. Alternatively, the regulation can be made according to the room temperature (either for cooling or for heating). Temperature control can be implemented in bypass via separate cooling or heating pumps at the clean tank or at the system flow as well as in the system full flow. Prior to switching on the plant, the entire cooling lubricant must be brought up to the temperature needed for production. The CL temperature control developed by KÖBO ensures that the required temperature level is kept continuously during manufacturing processes.



CL temperature control

Back-flushing filter

Removing of Any Kind of Contamination

Magnetic separator

KÖBO develops special filter solutions for all branches and applications in the industry. These also include magnetic separators which remove ferritic impurities from cooling lubricants by magnetic forces. These could be, e.g., cooling lubricants for cold rolling as well as for machining of cast iron. The magnetic separators operate in continuous mode, cause only low operating costs and are low-maintenance. Their efficiency varies from 1,000 to 6,000 l/min.

Magnet roller

Pre-coat filter

The pre-coat filtration works well for a superfine cleaning of liquids. It requires only little space, even so it stands out through its convincing filtration performance. Due to the use of a subsequent secondary filter and blow-drying, the fluid loss is reduced during the back-flushing to a minimal. Another advantage of the pre-coat filtration is its automatic operation mode. Moreover, the system is expandable and offers an optimal filtrate quality.

Pre-coat filter

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