Coolant Filtration Systems

For single machines or central systems

Savings through environmental protection
**Function**

This filter is based on the build-up of a filter cake which is periodically removed through rotation. During the periodic rotation, the coarse particles deposited in the filter housing are also carried out by special cleats. Simultaneously, the accumulated filter cake is removed by the brush, and the filter mat pores are additionally cleaned using a separate clean coolant (flushing) pump from inside to outside. This lowers the coolant level and completes the cleaning cycle. The dimensions of the clean tank are matched to your local conditions.
Modular centralized units

Next to its solid and simple design (no vacuum required), the RBF filter can be expanded to form larger central units through a combination of the standard modules. This kind of compact system is the perfect solution for the growing demand in smaller centralized units (from 1.000 l to 4.000 l).

... to reduce your coolant costs

... or centralized systems

<table>
<thead>
<tr>
<th>Filter-Modul</th>
<th>Machining Soluble (l/min.)</th>
<th>Machining oil 20 Cst. (l/min.)</th>
<th>Grinding Soluble (l/min.)</th>
<th>Grinding oil 20 Cst. (l/min.)</th>
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VERTIDRUM Vacuum Filter

Primary function: Filtering of coolant
To be used for: Cutting and machining of steel, gray cast iron, brass, copper and aluminium
Chip types: Short chips
Cooling lubricant
quantity: from 200 l/min to 8,000 l/min
Filtration quality: 20 - 50 μm
Selection criteria: Media free filter
Save operating costs (consumables)
No conveyor for pre-separation required
No clean tank required
Flexibility through modular design

The function principle

Chips and coolants are fed into the dirty tank together. The filter drum elements connected to a vacuum source are located in this dirty coolant tank. The dirty cooling lubricant is then sucked through the filter drum wall by the vacuum pump and pumped back to the machine tool. When penetrating the perforated drum walls, contaminations and fine chips form a filter cake. The regeneration process of the filter is trigged by a time and vacuum switch. Here, only one drum segment is flushed with clean cooling lubricant before the drum is indexed by one cycle.

As 98% of the filter surface is always being used under vacuum according to this principle, the coolant flow is not interrupted (permanent flow) so that no clean tank is required. The flushed back filter cake is carried out by a scraper conveyor in the filter tank together with the chips.
Advantages

Mayfran drum filters have proven their efficiency time and over again due to their reliability, the flexible installation options, as well as their low operating costs for filtering the emulsion or the coolant. In most cases, they don’t need any precipitation of the chips in the fluid and are therefore particularly well suited for the integration in a chip disposal system and easy to retrofit as expansion or upgrade of the filtering capacity. The configuration of the vacuum filter offers a higher percentage purity without the use of filter auxiliary consumables. This does not only drastically lower the operating costs but also makes the system less sensitive to any cracks or holes in the filter mat.
**MVF-LF FILTER**

A long proven vacuum belt filter for flow rates from 100 to 2,000 l/min. To be used both for single machines and for machine groups. Also available as continuous mat types.

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**PRESSURE BELT FILTER**

- **Capacity:** up to 20,000 l/min
- **Filtration quality:** up to 10 μm depending on the chip type and contamination
- **Application:** grinding, turning
- **Chip type:** fine, short
- **Advantages:** good drying of the filter cake

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**VACUUM BELT FILTER**

... with patented sealing of the filter auxiliary means

- **Capacity:** from 200 l/min to 5,000 l/min
- **Filtration quality:** 20 to 100 μm
- **Application:** Chip removal and grinding
- **Advantages:** Better price/performance ratio and lower space requirements as compared to pressure belt filter
Coolant and chip handling…

… at MAYFRAN, everything comes from a single source.

Chips and coolant over the floor pump systems

**Viavent®** is a floor-mounted overhead piping system for the automatic pumpback of chips and cooling lubricants in combination with pumpback stations. The modular pipe system grants maximum flexibility for assembly/disassembly as the machine tool installation is no longer bound into floor channels due to the flexible location options in Viavent®. The closed loop Viavent® piping system permits a significantly lower cooling lubricant consumption and a longer service life of the emulsion - which finally allows for smaller filters leaving more free space altogether.

Compact chips & coolant handling systems

The solution for smaller groups of machine tools. Due to the different modular options of the Mayfran filters and the Viavent® pumpback system, even smaller central systems can be combined in a flexible and expandable way. Available space and number of machines permitting, you may efficiently utilize the advantages of a central filtering process and cooling lubricant control.

Chip processing

*Higher profit through environmental protection*

Stricter environment regulations require the companies to process the chips produced and to take care of a dry chip disposal. The coolant thus recycled can be re-introduced to the machining process which grants essential cost savings for instance in the case of oils. Simultaneously, dry chips guarantee a higher sales profit and meet the growing environmental restrictions.