### Features

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>High filter fineness (1–3 μm)</td>
<td>Consistent high-quality of the cooling lubricant</td>
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<tr>
<td>Faster and more effective regeneration cycle</td>
<td>Low backflush volume for treatment</td>
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<td>Recovery of valuable raw materials at low expense</td>
<td>High efficiency</td>
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<tr>
<td>Fast replacement of filter cartridges</td>
<td>Cost-effective maintenance</td>
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<td>Backwashable filter cartridges with long service life</td>
<td>Low costs for consumables</td>
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<tr>
<td>Demand-based pump regulation and backflushing without air</td>
<td>Energy-efficient system operation</td>
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<tr>
<td>Flexible modular system with low space requirements</td>
<td>Can be applied to a wide range of applications and requirements</td>
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### Application

The MicroPur® is a backflushing filter for separating the finest impurities from cooling lubricants (oils and aqueous solutions).

- Ideal for tool grinding in carbide and HSS
- Local use for a machine as a standardised individual system
- Central use for multiple machines as an individual central system
- For cooling lubricant maintenance in the bypass flow

### Description

**Filtering process**

1. The filter pump conveys the dirty cooling lubricant tangentially into the filter bowl
2. Centrifugal force causes larger solids to accumulate on the housing wall
3. The cooling lubricant flows through the filter elements from the outside to the inside
4. A filter cake (concentrate) forms on the surface of the filter element and acts as an additional deep-bed filter aiding microfiltration
5. The filtered cooling lubricant (filtrate) enters the clean tank

**Regeneration process**

1. The growing filter cake causes a reduction in the volumetric flow or an increase in the pressure differential at the filter cartridge
2. The regeneration phase starts in response to pressure or time control: The intake valve closes and the drain valve opens
3. The flushing pump conveys the cooling lubricant that has just been cleaned to the filter element, from the inside to the outside
4. The filter cake is released and enters the sludge tank
5. Downstream equipment for sludge treatment (automatic concentrator) further reduces the concentrate and conveys it to an external container
Equipment

- Tank system ●
- Filter pump(s) ●
- Flushing pump(s) ●
- Valve technology ●
- Sensor system ●
- Filter elements ●
- Control system ●
- Ability to control the temperature ●
- Magnetic cylinder for pre-separation ○
- Compact filter KF-E for pre-separation ○
- Automatic concentrator for sludge treatment ●
- Supply pump(s) ●
- Sludge container/sludge carrier ○

MicroPur® superfine filter
MicroPur® 120 and MicroPur® 240 standard systems with integrated automatic concentrator for fully automated recovery of metal.

The system components include process pumps that can be used universally and an integrated cycle cooler which enables the temperature of the cooling lubricant to be controlled precisely according to the process.

MicroPur® standard systems for grinding applications with long-fibre particles.

Filter module MicroPur® 480 M for scaling the volume flow of central filter systems.
MicroPur® central filter system for multiple tool grinding machines with integrated automatic concentrator for fully automated recovery of metal

Application-specific process pumps specifically meet requirements

MicroPur® central filter system for tool grinding in carbide

MicroPur® central filter system for profile and thread grinding of various steel materials
Model A
MicroPur® 120/550 | AK5 standard system

Model B
MicroPur® 240/900 | AK5 standard system

Model E
MicroPur® 480 M module

Model F
MicroPur® 40
## Dimensions and technical data

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<td>AK5 A</td>
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* Approximate values for oil with $\nu = 8 \text{ mm/s}^2$ (at processing temperature) and with a carbide total contaminant content of max. 100 mg/l. Central systems are put together according to customer requirements. The relevant filter capacity is scalable as desired in modular stages of 480 l/min.

Technical specifications are subject to change without notice.