### Properties

<table>
<thead>
<tr>
<th>Properties</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compact design</td>
<td>Space-saving setup</td>
</tr>
<tr>
<td>Good price-performance ratio</td>
<td>Short amortization time</td>
</tr>
<tr>
<td>Greater hydrostatic pressure as compared to flat-bed filters</td>
<td>Higher delivery rate, lower fleece consumption and better degree of purity</td>
</tr>
<tr>
<td>Sweeping strips and scraper</td>
<td>Problem-free discharge of chips, even light metal ones</td>
</tr>
<tr>
<td>Can be used universally for different working processes, materials, cooling lubricants, delivery rates and degrees of purity</td>
<td>Simple design and planning</td>
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</tbody>
</table>

### Application

KNOLL compact filters KF are belt filters for cleaning cooling lubricants of machining processes
- Use as stand-alone cleaning unit or combined with chip conveyors (e.g. in machining centres)
- Local (for one machine tool) or central (for several machine tools) use possible

### Description

**Filtration process**
1. Contaminated liquid flows from the side through the inlet box into the filter trough
2. The filter fleece holds back the contaminant particles during streaming
3. The contaminant particles form a filter cake, which separates even tiny dirt particles
4. The filtered fluid collects in the clean tank

**Regeneration process**
1. The growing filter cakes increase the flow resistance
2. The fluid level in the filter trough increases
3. The belt drive switches on at a defined level (alternatively: time-controlled)
4. The carrier belt transports a piece of clean filter fleece to the filter surface
5. The fluid level decreases again
6. A sludge container or a winding unit (Option) takes up the dirty filter fleece
Equipment

Belt drive ●
Circulating carrier belt ●
Filter fleece (original equipment) ●
Fleece shortage switch ●
Level measurement technology ●
Control system ●
Magnetic roller as pre-separator ○
Cooling lubricant tank system with supply pump(s) ○
Duplex switch filter ○
Tempering (cooling/heating) ○
Fleece roll arranged on the back (standard starting with KF 300) ○
Winding unit with drive and scraper ○
Sludge container ○
Filter fleece shortage early warning ○
Side panel ○

● Standard equipment
○ Option
Design example

Version A
Transverse filter layout →

Version A
Longitudinal filter layout ↓

Version B
Without winding unit
Version A

Compact filter KF

Transverse installation (KF 1000 - KF 2000)
Only separate transport possible

Version B

Compact filter KF

Longitudinal installation (preference KF 1000 - KF 2000)
Version C

Design example

Version C
Dimensions and technical data

<table>
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<tr>
<th>Type</th>
<th>Version</th>
<th>Filter capacity**/(l/min)</th>
<th>Emulsion DN</th>
<th>Oil DN</th>
<th>Inlet DN</th>
<th>Tank capacity(l)</th>
<th>Fleece- width</th>
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Dimensions without units given in mm.
* KF 110 – KF 200, KF 1000 – KF 2000 fleece roll at the top.
** KF 110 – KF 2000, KF 1000 – KF 2000 fleece roll back (standard)
** Metal cutting with standard fleece
1 \( \nu = 1 \text{ mm}^2/\text{s} \)
2 \( \nu = 10 \text{ mm}^2/\text{s} \) (at operating temperature)
3 During longitudinal installation min. 2200 mm
Compact filter KF