## Properties

<table>
<thead>
<tr>
<th>Properties</th>
<th>Benefits</th>
</tr>
</thead>
</table>
| Compact and modular                       | • Space-saving installation  
• Flexible and demand-driven configuration                              |
| Plug-and-Play                             | • Fast installation                                                      |
| • Easy retrofitting                       | • Short-breaking chips                                                  |
| High pressure up to 90 bar with optional flushing pump | • Reduced processing times due to higher cutting speeds  
• Extended tool life  
• High flushing performance           |
| Effective filtration via belt filter      | • Reduced concentration of ultra-fine particles  
• Long service life of components and the cooling lubricant (CL) |
| Wear-resistant screw spindle pump         | Long service life and process reliability                               |
| Demand-driven pump control                | • Lower energy costs                                                     |
| • Lower heat development                  | • Longer durability                                                       |
| Attractive price-performance ratio        | Short amortization time                                                  |

## Application

The KNOLL high pressure unit LubiCool®-L is a compact high pressure unit for machine tools, particularly for small and medium machining centers and lathes. The system cleans the CL and provides the machine with high pressure.

It is suitable for
• Demanding machining processes
• Machining difficult materials (e.g. high-alloy steels, titanium, copper)
• High pressure requirements with increased volume of CL
• Additional flushing requirements
• Original equipment and retrofitting

## Description

1. The transfer pump or the lift pump of the chip conveyor conveys the dirt CL from the machine tool into the compact filter.
2. The compact filter separates chips and the soiling from the CL, which flows in the clean media tank.
3. The dirty fleece is collected in the sludge container.
4. The high pressure pump provides the machine tool demand-driven with cleaned CL through switchable outputs.
5. The optional flushing pump can operate different flushing processes via up to four switchable outputs.
6. The SmartConnect control takes over control, monitoring and visualization of the system parameters.
Pump characteristic curve

With the optional frequency control, every point within the diagram in the light blue area is possible.

Layout example
Media: Emulsion
Viscosity: 2 mm²/s
Pressure: 70 bar
Delivery rate: 40 l/min

Equipment

Paneling
- KNOLL compact filter KF (with filter fleece)
- KNOLL screw pump KTS (high-pressure pump)
- KNOLL SmartConnect control incl. touchpad and LED-status light
- Interface cables (individual)
- Clean tank
- Sludge container
- Fixed high pressure outlet
- Transfer pump with frequency inverter
- Centrifugal pump TG (flushing pump)
- Switchable output high-pressure pump 1 or 4
- Switchable output flushing pump 4
- Frequency inverter for all pumps
- Cooling (continuous flow cooler or plate heat exchanger)
- Temperature sensor
- WHG-sensor
- Chip conveyor control
- Hose set
- Pressure reduction for spindle flushing

● Standard equipment
○ Option
Dimensions and technical data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected load high-pressure pump</td>
<td>max. 7.5 kW</td>
</tr>
<tr>
<td>Connected load transfer pump</td>
<td>max. 2.2 kW</td>
</tr>
<tr>
<td>Connected load flushing pump</td>
<td>max. 1.5 kW</td>
</tr>
<tr>
<td>Pressure range</td>
<td>Up to 100 bar</td>
</tr>
<tr>
<td>Volumetric flow</td>
<td>Up to 150 l/min</td>
</tr>
<tr>
<td>Filter fineness</td>
<td>Up to 20 μm</td>
</tr>
<tr>
<td>Cooling lubricant</td>
<td>Emulsion, oil</td>
</tr>
<tr>
<td>Power supply</td>
<td>400 V</td>
</tr>
<tr>
<td>Tank capacity</td>
<td>360 l</td>
</tr>
<tr>
<td>Dimensions (L x W x H)</td>
<td>1615 x 865 x 1530 mm</td>
</tr>
</tbody>
</table>