Areas of application

The compact filter KF is a band filter for cleaning cooling lubricants in metal machining. As a cleaning and supply unit for chip-producing machine tools, it is usually combined with chip conveyors.

System configuration

<table>
<thead>
<tr>
<th>Machine manufacturer:</th>
<th>freely selectable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of machines:</td>
<td>1</td>
</tr>
<tr>
<td>Processing:</td>
<td>turning, drilling, milling (others after consultation)</td>
</tr>
<tr>
<td>Customer specification:</td>
<td>no, KNOLL standard model</td>
</tr>
<tr>
<td>Energy supply:</td>
<td>400 V, 50 Hz</td>
</tr>
<tr>
<td>Compressed air connection:</td>
<td>min. 5 bar, provided by the customer</td>
</tr>
<tr>
<td>Volumetric flow:</td>
<td>200 l/min for emulsion and steel or aluminum &lt; 8% Si</td>
</tr>
<tr>
<td></td>
<td>100 l/min for emulsion and cast (GG, GGG) or aluminum &gt; 8% Si</td>
</tr>
<tr>
<td></td>
<td>90 l/min for oil up to max. 10 mm²/s at operating temperature and steel</td>
</tr>
<tr>
<td>Filter fineness:</td>
<td>nominally 40 µm with filter fleece PW70/70</td>
</tr>
<tr>
<td>Chip pre-separation:</td>
<td>via chip conveyor provided by the customer (with edge filter or strainer basket)</td>
</tr>
<tr>
<td>Colors:</td>
<td>system RAL 7035*, control cabinet RAL 7035*, components RAL 9005, cooler RAL 7005*</td>
</tr>
<tr>
<td>Documentation:</td>
<td>on CD, languages: German / English / French / Italian / Spanish / Czech / Dutch / Swedish</td>
</tr>
<tr>
<td>Equipment labeling:</td>
<td>local languages named + English</td>
</tr>
<tr>
<td>User guidance:</td>
<td>local languages named / English / German*</td>
</tr>
</tbody>
</table>

* Other colors available at extra charge (see price list) after consultation with KNOLL. All systems and components except electrical users are powder-coated (textured paint Emil Frei GmbH & Co., gloss level 60% at an angle of 60°, tolerance of gloss level ±10%).

Equipment

Options

- Option 1: Centrifugal pump I
- Option 2: Centrifugal pump II
- Option 3: Screw pump
- Option 4: Duplex switch filter
- Option 5: Continuous-flow cooler
- Option 6: Hose package
- Option 7: Electricity for customer lifting pump and level sensors

Basic equipment

- Compact filter KF 200
- Electronic control cabinet
- 2 level sensors
- Coolant container FKA 950
- Connection for continuous-flow cooler

Standard filter system KF 200/950
### Basic equipment

**Compact filter KF 200**, fleece installation on top | **Coolant container FKA 950**, content 950 l, holders for max. 2 low-pressure pumps, holder for max. 1 high-pressure pump, connection for continuous-flow cooler | **2 level sensors** with visual display (overflow alarm, cooling lubricant min. alarm) | **Electric control cabinet** (see back)

### Option 1 – Centrifugal pump I (for external cooling lubricant supply)

- **0** without pump, holder sealed with sheet metal piece
- **1** MTR 5-18/18, 40 l/min @ 11.5 bar (100 l/min @ 9 bar), 3.0 kW Han-Drive, DBD and pressure gauge
- **2** MTR 5-18/8, 40 l/min @ 5 bar (80 l/min @ 4 bar), 1.1 kW Han-Drive, pressure gauge

### Option 2 – Centrifugal pump II (for flushing)

- **0** without pump, holder sealed with sheet metal piece
- **1** TG 40-42/22533, 120 l/min @ 2.7 bar (75 l/min @ 2.7 bar | 200 l/min @ 2.3 bar), 2.2 kW Han-Drive, pressure gauge

### Option 3 – Screw pump (for internal cooling lubricant supply)

- **0** without pump, holder sealed with sheet metal piece
- **1** KTS 25-60-T, 37 l/min @ 70 bar, 7.5 kW Han-Drive, Vario valve SPB-H-15 with pressure gauge
- **2** KTS 25-38-T with FI (PQ-Tronic), 5.5 kW with FI Kostal (piggyback), Vario valve SPB-H-15 with pressure gauge | 8.7 l/min @ 70 bar @ 1,450 mm⁻¹ | 24.2 l/min @ 70 bar @ 2,900 mm⁻¹ | 30.6 l/min @ 70 bar @ 3,500 mm⁻¹
- **3** KTS 25-38-T, 26.8 l/min @ 40 bar, 3.0 kW Han-Drive, DBD with pressure gauge

### Option 4 – Duplex switch filter (as police filter)

- **0** without duplex switch filter
- **1** duplex switch filter PI3730 DRG100

### Option 5 – Continuous-flow cooler

- **0** without continuous-flow cooler
- **1** continuous-flow cooler alpha 9 for emulsion, cooling capacity 8.3 kW, air-cooled, at ambient temperature 42 °C, medium 20 °C, temperature completely controlled, own control, own power supply, length 715 mm, width 715 mm, height 1,545 mm
- **2** continuous-flow cooler alpha 9 for oil, cooling capacity 8.3 kW, air-cooled, at ambient temperature 42 °C, medium 25 °C, temperature completely controlled, own control and power supply, length 715 mm, width 715 mm, height 1,545 mm

### Option 6 – Hose package (cooler to coolant container)

- **0** without hose package
- **1** hose package 5 m (2 oil flex hoses à 5 m, each with mech. ball valve, ready for connection)
- **2** hose package 10 m (2 oil flex hoses à 10 m, each with mech. ball valve, ready for connection)

### Option 7 – Electricity for customer lifting pump and level sensors

- **0** without
- **1** for lifting pump with motor 1.8 – 2.5 A
- **2** for lifting pump with motor 2.2 – 3.2 A
- **3** for lifting pump with motor 2.8 – 4.0 A
- **4** for lifting pump with motor 3.5 – 5.0 A
- **5** for lifting pump with motor 4.5 – 6.3 A
- **6** for lifting pump with motor 5.5 – 8.0 A

### Order key

The performance data of the pumps named above refer to operation with emulsion. In case of operation with oil, the performance data of the low-pressure pumps is reduced by 10-20% depending on viscosity.
Electric control cabinet

E-Plan E-102578.00.x-x-x-x-x-x | Electricity for compact filters
Control cabinet AE1058 (600x800x250)
PLC control VIPA SLIO | text display KTP400

**Power sections**

1 x KF drive (Han-Drive)
1 x low-pressure pump 1* (Han-Drive)
1 x low-pressure pump 2* (Han-Drive)
2 x high-pressure pump 1* (Han-Drive)

**Please note**

400 V interface for the cooler is not included | If a cooler unit is required, it must be supplied directly via the hall energy supply | The cooler is released via a potential-free contact from the cooling lubricant system | Signal is located on the terminal strip (without connector)

**Sensor system**

2 level sensors KF filter | 1 light sensor fleece end | 1 button fleece transport manual operation | 1 level sensor (overflow alarm) | 1 level sensor

(cooling lubricant min. alarm) | 1 bypass valve high-pressure pump*

**Interface to machine tool**

- 400 V supply via 35 A Harting connector with mating plug (supplied loose)
- Signal exchange via 24-pin Harting connector with mating plug (supplied loose)
- Requirement low-pressure pump 1*
- Requirement low-pressure pump 2*
- Requirement high-pressure pump 1*
- Requirement pressure stage high-pressure 1/2/3* | Release signal charge KF filter possible

**Equipment/Version**

Wire marking printed wires | Range selector switch black (Eaton) | Power switch Sirius (Siemens) | Contactor Sirius (Siemens) | PLC control (VIPA) | Visualization (Siemens) | Power supply (Murr) | Terminals (Phoenix) | Connector (Harting) | Frequency inverter (Kostal) | Installation PUR line (Lapp)

Connection voltage 3 x 400 V | Frequency 50 Hz

* Only included if the associated option was selected

**Dimensions**

Option Continuos flow-cooler