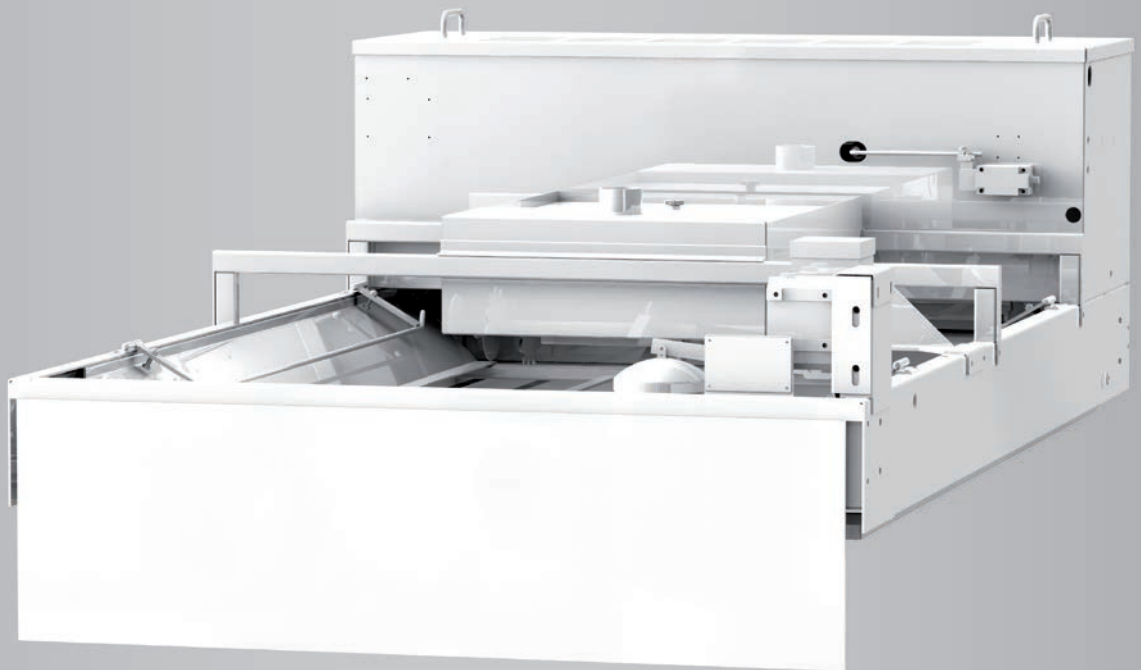


Gravity belt filter PF

KNOLL
.It works

Issue 12-2019



Properties

Good price-performance ratio

Low maintenance and wear

Simple layout, easy access to all components

Can be used universally for different working processes, materials, cooling lubricants, delivery rates and degrees of purity

Benefits

Short amortization time

Low operating costs

Easy maintenance

Simple design and planning

Application

KNOLL gravity belt filters PF and belt filters for cleaning cooling lubricants chip-removing working processes.

- Use as stand-alone cleaning unit on machine tools or in combination with chip conveyors
- Generally local use (for one machine tool)

Description

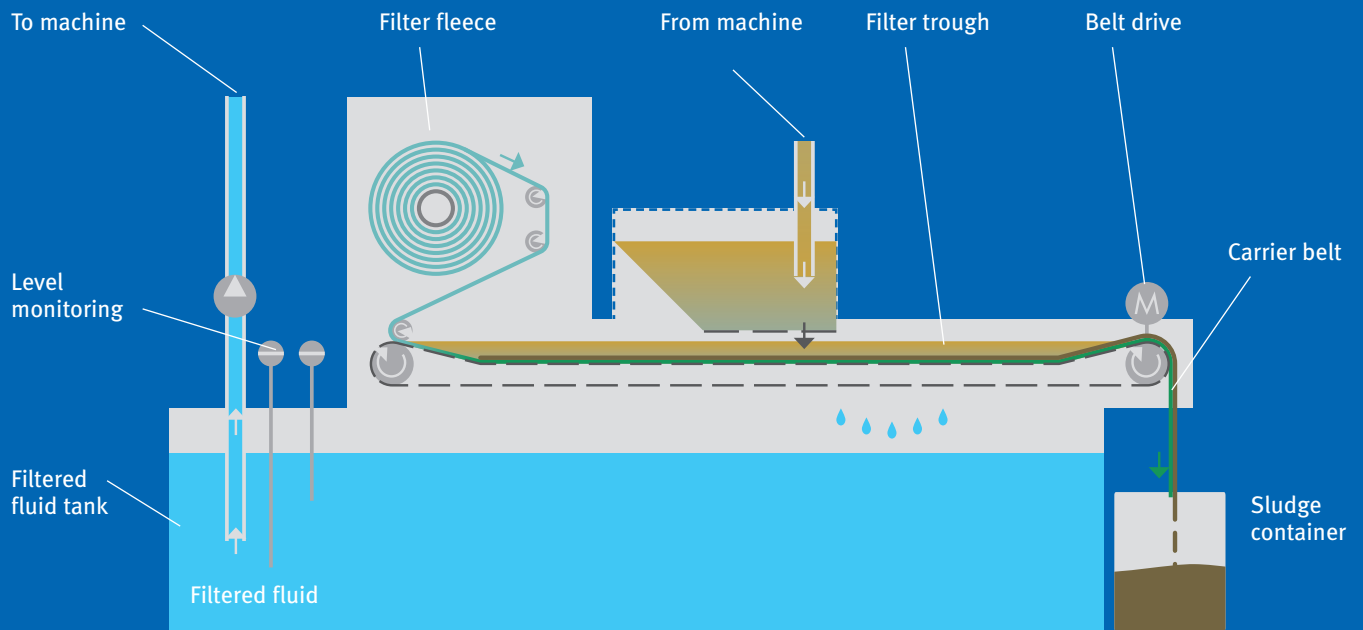
Filtration process

1. Contaminated liquid flows 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 itself separates even the smallest dirt particles
4. The filtered fluid collects in the filtered fluid tank

Regeneration process

1. The growing filter cake increases the flow resistance
2. The fluid level in the filter trough increases
3. At a defined level, the belt drive switches on (alternatively: time-controlled)
4. The carrier belt transports a piece of clean filter fleece to the filter surface
5. The fluid level sinks again
6. A sludge container takes up the dirty filter fleece

Scheme



Equipment

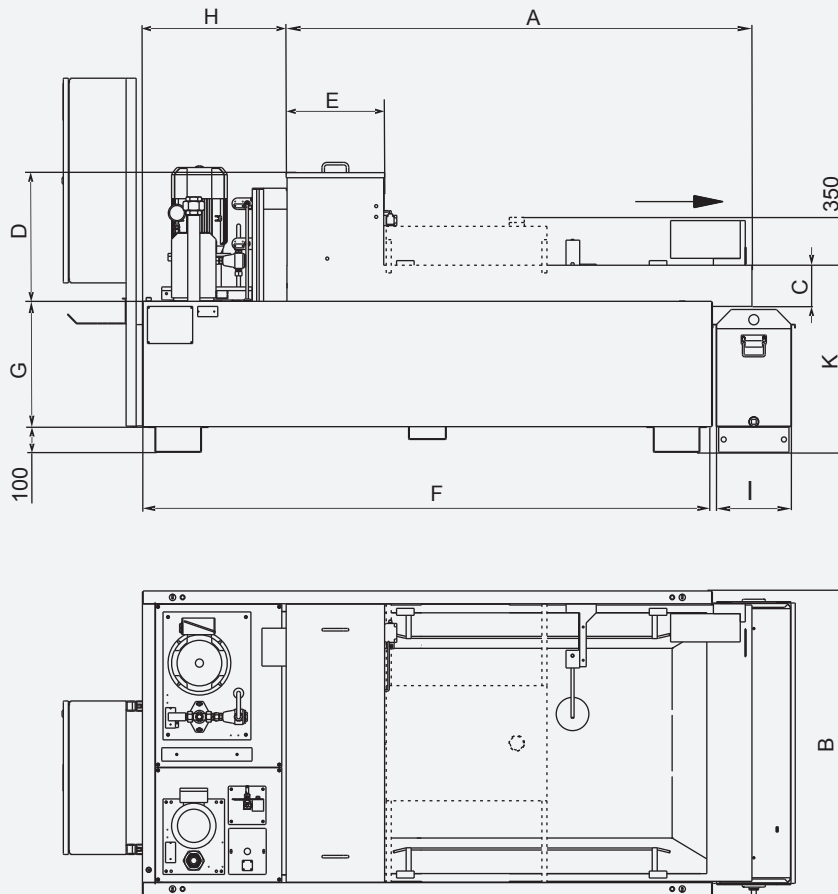
Belt drive	●
Circulation carrier belt	●
Filter fleece (initial equipment)	●
Filter fleece shortage switch	●
Fleece roll integrated into housing	●
Level measurement technology	●
Control	●
Magnetic roller as pre-separator	○
Cooling lubricant tank system with supply pump(s)	○
Duplex switch filter	○
Tempering (cooling/heating)	○
Sludge container	○
Filter fleece shortage early warning	○
Inlet box	○
Inlet plate	○

● Standard equipment
○ Option

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PF

Dimensions and technical data



Type	Filter capacity l/min Emulsion ¹ / Oil ²	A	B	C	D	E	F	G	H	I	K	Fleece width	Content (l)
PF 70	70 / 50	1200	720	160	500	385	1680	400	590	300	640	540	280
PF 100	100 / 70	1350	920	160	500	385	1840	400	650	300	640	710	500
PF 160	160 / 100	1750	920	160	500	385	2240	480	650	300	720	710	780
PF 210	210 / 150	1850	1190	160	500	385	2270	490	575	300	730	1020	1050
PF 350	350 / 250	3000	1190	160	500	385	3415	520	575	300	760	1020	1700
PF 650	650 / 450	3000	1700	200	540	385	3390	620	550	300	900	1020	3000

Dimensions without units given in mm.

¹ $\mu = 1 \text{ mm}^2/\text{s}$

² $\mu = 12 \text{ mm}^2/\text{s}$ (at operating temperature)

Drive motor up to PF 160 in the fleece compartment

Driving power 0.015 to 0.06 kW depending on series