# Modular compact filter KF

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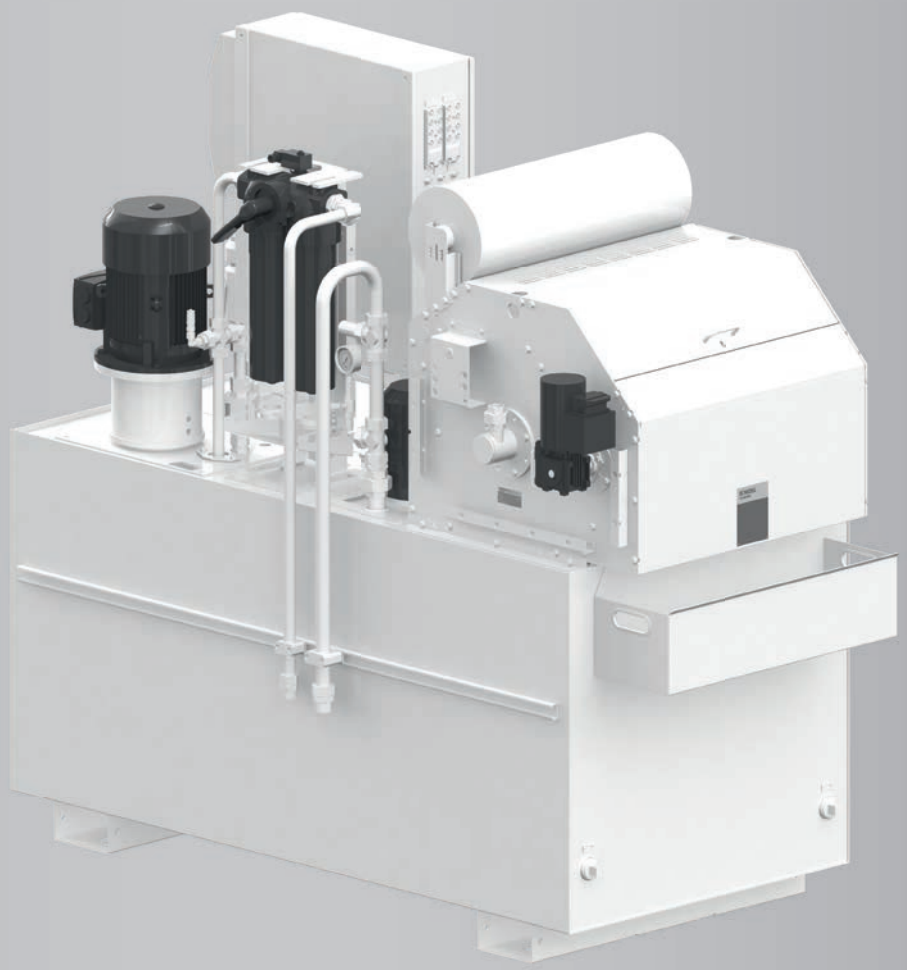


| Properties | Benefits |
|---|---|
| Compact design | Space-saving installation |
| Good value for the money | Short amortization period |
| Higher hydrostatic pressure compared to flat bed filters | Higher flow volume, lower fleece consumption and better level of purity |
| Sweeper blades and scrapers | Trouble-free removal of chips, including light metal |
| Universally applicable for different machining processes, materials, cooling lubricants, volume flows and levels of purity | Simple design and planning |
| Plug-and-Play through universal, digital interfaces | Quick installation and start-up |
| Available as a modular system, standard system or special system | Individual choice with influence on price, delivery time and desired design |

## Areas of application

KNOLL Compact Filters KF are belt filters for cleaning cooling lubricants (KSS) from machining processes
- Used as a stand-alone cleaning unit or in combination with chip conveyors (e.g, at machining centers)
- Local (for one machine tool) or central use (for several machine tools) possible

## Description

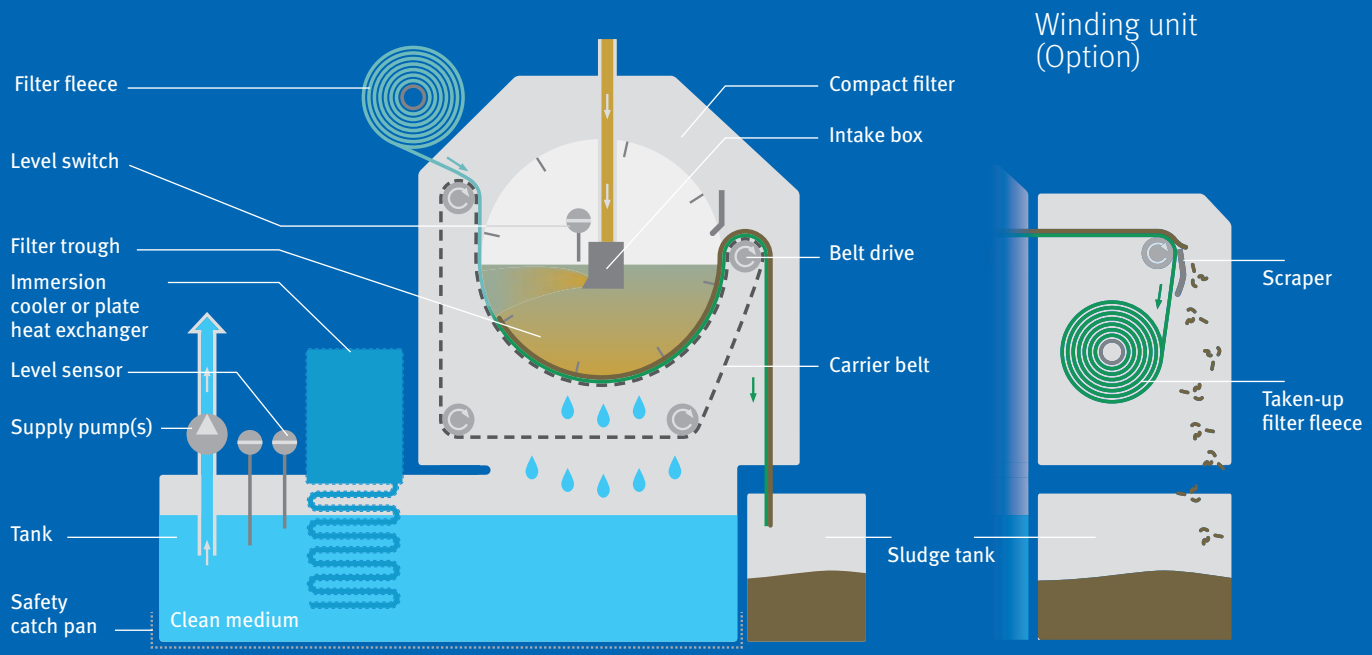
### Filtering process

1. Dirty liquid flows laterally through the intake box into the filter trough
2. The filter fleece retains the dirt particles as they flow through it
3. The dirt particles form a filter cake that separates even the smallest dirt particles
4. The clean liquid collects in the clean tank
5. Low and high pressure pumps supply the machine tool with cleaned KSS as required

### Regenerations process

1. The growing filter cake increases the flow resistance
2. The liquid 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 onto the filter surface
5. The level of the liquid decreases again
6. A sludge container or a take-up unit takes up the dirty filter fleece

# Diagram




## Basic equipment

- Compact filter
- Filter fleece (initial equipment)
- Supply pump(s)
- Low fleece switch
- Level measurement technology
- Control unit
- Tank

## Powerful electrical engineering

Customized electrical engineering with modular design - optimally prepared for your application

# Modular systems

Compact filter

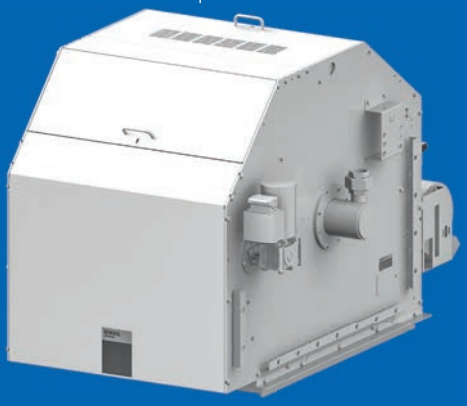
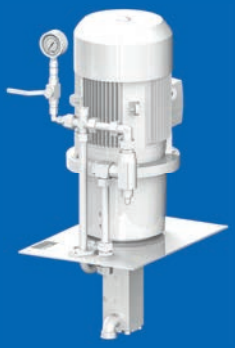


Plate heat exchanger

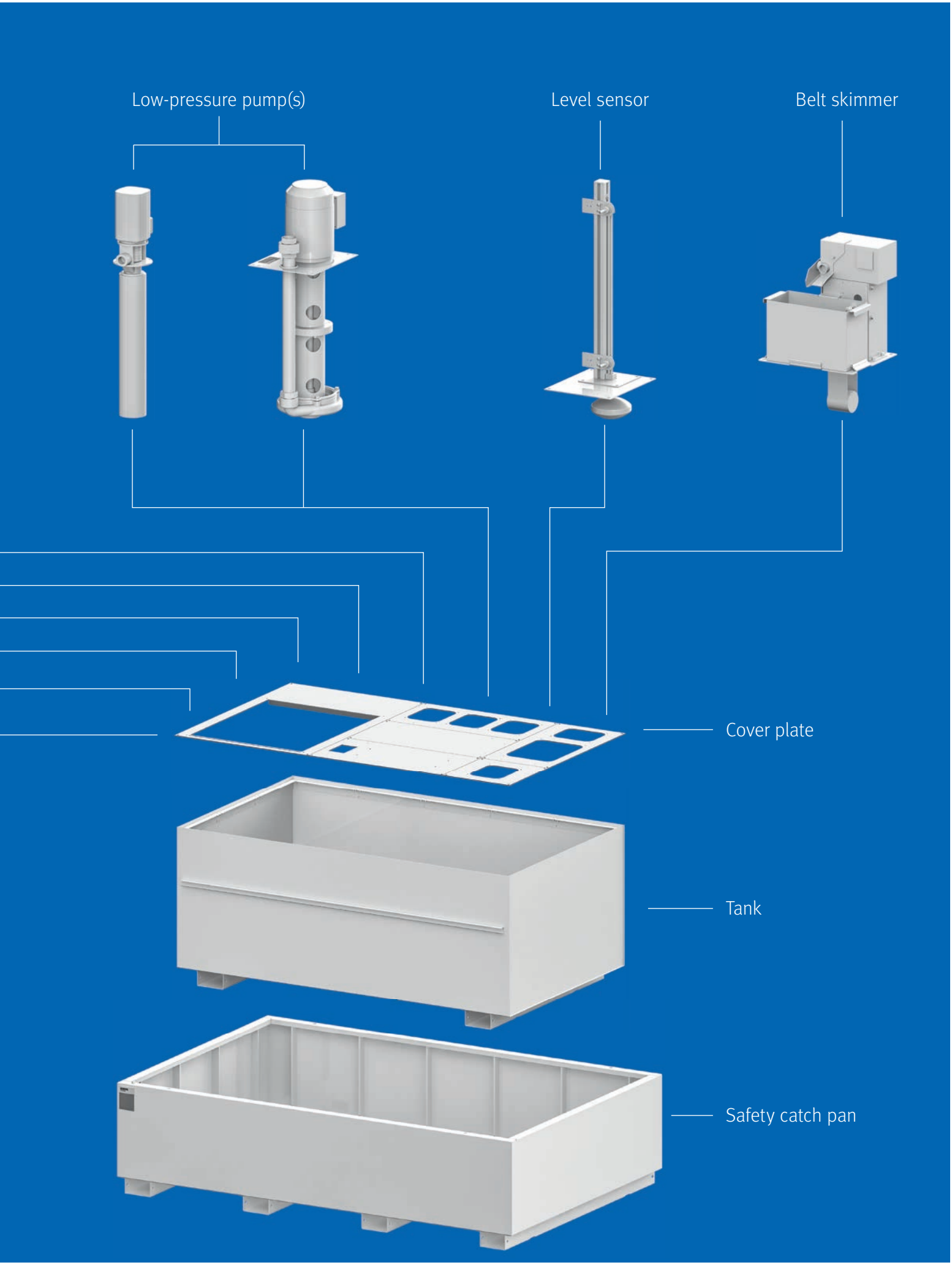
Duplex switch filter

High-pressure pump(s)

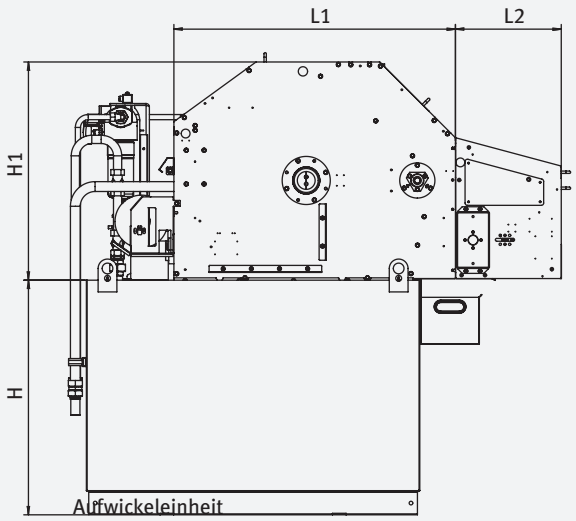


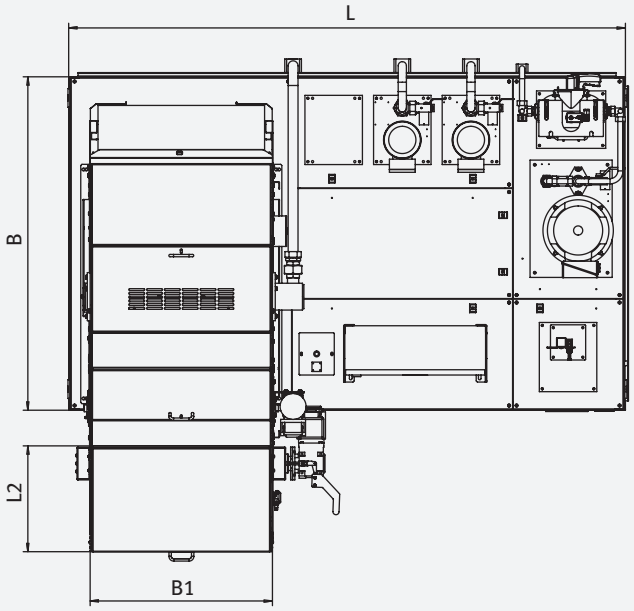
Control cabinet

Immersion cooler


Low-pressure pump(s)
Level sensor
Belt skimmer
Cover plate
Tank
Safety catch pan

# Dimensions




# Configuring an individual filter system

## 1. Select the compact filter

| Type* | Filter capacity (l/min) | | Intake | Fleece width | H1 | B1 | L1 | L2 |
|---|---|---|---|---|---|---|---|---|
| | Emulsion** | Oil | DN | | | | | (optional) |
| KF 110 | 110 | 40 | 25 | 390 | 740 | 455 | 780 | 415 |
| KF 150 | 150 | 60 | 25 | 540 | 740 | 600 | 780 | 415 |
| KF 200 | 200 | 90 | 25 | 710 | 740 | 780 | 780 | 415 |
| KF 300 | 300 | 130 | 40 | 540 | 1050 | 600 | 1200 | 450 |
| KF 400 | 400 | 175 | 40 | 710 | 1050 | 780 | 1200 | 450 |
| KF 600 | 600 | 250 | 40 | 1020 | 1240 | 1100 | 1495 | 450 |

Dimensions without specification of units in mm

* KF 110 – KF 200 Fleece roll at the top, KF 300 – KF 600 fleece roll at the rear (standard)

** Machining with standard fleece

## 2. Select pump assembly and design

| Maximum number of high-pressure pumps | Maximum number of low-pressure pumps |
|---|---|
| 2 | 3 |
| 1 | 4 |
| 0 | 5 |

| Pump 1-5 | High-pressure | Low-pressure | |
|---|---|---|---|
| Motor circuit | direct | plug connection | Inverter |
| Valve | Vario | Standard | |
| Pressure sensor | ○ | | |
| Duplex switch filter | ○ | | |

## 3. Select variants

| | | | |
|---|---|---|---|
| Filter fleece (initial equipment) | **PW 70/70** | PW 100/100 | PW 150/150 |
| Fleece roll arrangement | **top** | **rear** | |
| Level indicator | **optical** | digital | |
| Level sensor | **digital** | analog | |
| Cooler | side cooler | immersion cooler | plate heat exchanger |
| Control | **absolute temperature** | room temperature | |
| Control panel | **KTP 400** | KTP 700 | SmartConnect (starting in 2023) |
| Interface connection | **mating connector** | open end | custom |
| BUS interface | none | Profinet | Profibus |

**Highlighted**= recommended standard

## 4. Select options

| | |
|---|---|
| Take-up device | ○ |
| Belt skimmer | ○ |
| Magnetic roller as pre-separator | ○ |
| Side panel | ○ |
| Fill level measuring technology i.a.w. WRA | ○ |
| Safety catch pan i.a.w. WRA | ○ |

## 5. Select tank

| Filters | Tank | Dimensions LxWxH [mm] | Volume [l] approx. |
|---|---|---|---|
| **KF 110, KF 150,** KF 200<br>**KF 110, KF 150,** KF 200 | R0 | 1431 x 950 x 800<br>1431 x 950 x 1000 | 800<br>1100 |
| **KF 110, KF 150,** KF 200<br>**KF 150, KF 200** | R1 | 1902 x 950 x 800<br>1902 x 950 x 1000 | 1100<br>1500 |
| **KF 150, KF 200**<br>**KF 200,** KF 300 | R2 | 2373 x 950 x 800<br>2373 x 950 x 1000 | 1400<br>1850 |
| **KF 150, KF 200,** KF 300<br>**KF 200, KF 300,** KF 400 | R3 | 1902 x 1421 x 800<br>1902 x 1421 x 1000 | 1700<br>2200 |
| **KF 200, KF 300,** KF 400<br>**KF 300, KF 400** | R4 | 2373 x 1421 x 800<br>2373 x 1421 x 1000 | 2100<br>2800 |
| **KF 300, KF 400**<br>**KF 300, KF 400,** KF 600 | R5 | 2844 x 1421 x 800<br>2844 x 1421 x 1000 | 2500<br>3300 |
| **KF 300, KF 400**<br>**KF 400, KF 600** | R6 | 2373 x 1892 x 800<br>2373 x 1892 x 1000 | 2800<br>3700 |
| KF 300, **KF 400,** KF 600<br>**KF 400, KF 600** | R7 | 2844 x 1892 x 800<br>2844 x 1892 x 1000 | 3350<br>4400 |
| **KF 110**<br>**KF 110,** KF 150 | Q0 | 950 x 950 x 800<br>950 x 950 x 1000 | 580<br>760 |
| KF 110, **KF 150, KF 200**<br>KF 150, **KF 200, KF 300** | Q1 | 1431 x 1421 x 800<br>1431 x 1421 x 1000 | 1300<br>1700 |
| **KF 200, KF 300,** KF 400<br>**KF 300, KF 400** | Q2 | 1902 x 1892 x 800<br>1902 x 1892 x 1000 | 2200<br>3000 |
| **KF 400,** KF 600<br>**KF 600** | Q3 | 2373 x 2363 x 800<br>2373 x 2363 x 1000 | 3500<br>4600 |

**Highlighted** = standard filter for the tank size

# 6. Place components with mounting plates on the tank

Mounting plate

XS = 469 x 469 mm
Components (except for compact filter, control cabinet, immersion cooler, high-pressure pump)

S = 469 x 940 mm
Components (except for compact filter, immersion cooler)

M = 940 x 940 mm
- KF 110, 150, 200
- Components (except for plate heat exchanger)

L = 469 x 1411 mm
Components (except for compact filter, immersion cooler, plate heat exchanger)

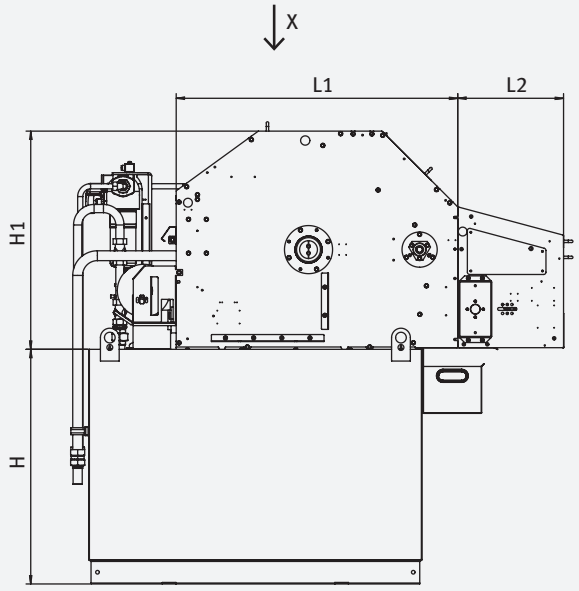
XL = 940 x 1411 mm
- KF 300, 400
- Components (except for immersion cooler, high pressure pump, plate heat exchanger)

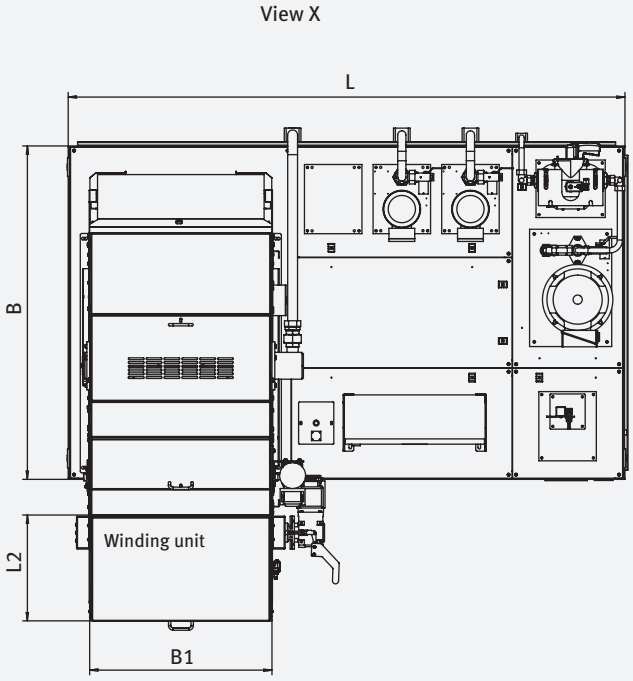
XXL = 1411 x 1411 mm
- KF 600
- Components (except for immersion cooler, high pressure pump, plate heat exchanger)

Examples

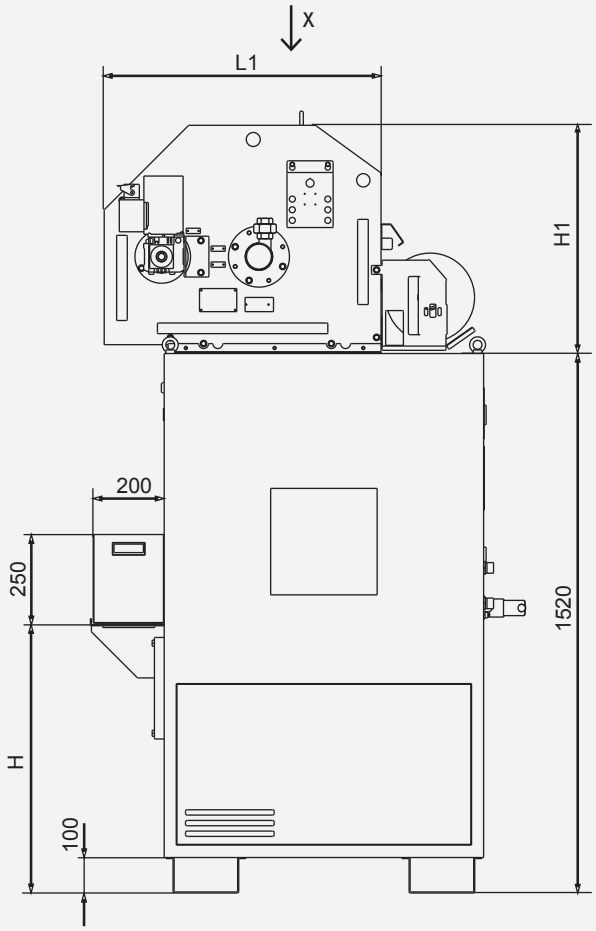
# Standardanlagen

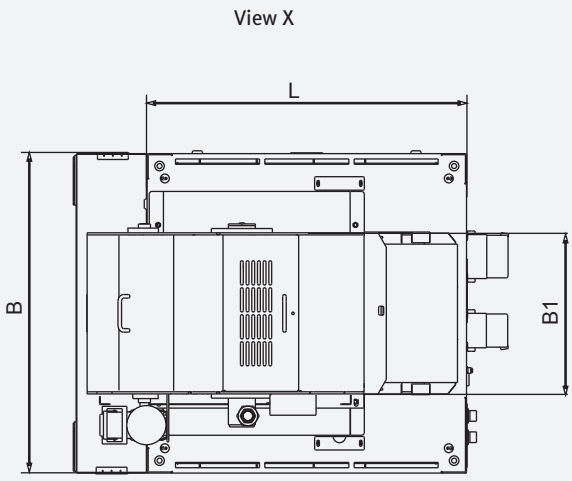
## Version A




## Version B



# Technical data

| Type | Ver-sion | Filter capacity* [l/min] | | Inlet DN | Tank-capacity [l] | Fleece-breite [mm] | H [mm] | H1 [mm] | B [mm] | B1 [mm] | L [mm] | L1 [mm] | L2 Option [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Emulsion | Oill | | | | | | | | | | |
| KF 1000* | A | 1000 | 450 | 100 | 6000 | 1020 | 1100 | 1240 | 1950 | 1100 | 3400 | 1495 | 450 |
| KF 1500* | A | 1500 | 750 | 100 | 9000 | 1520 | 1100 | 1240 | 1950 | 1605 | 5000 | 1495 | 450 |
| KF 2000* | A | 2000 | 1000 | 100 | 12000 | 2000 | 1100 | 1240 | 1950* | 2080 | 6800 | 1495 | 450 |
| KF 110 | B | 110 | 40 | 25 | 480 | 390 | 760 | 650 | 900 | 455 | 900 | 780 | |
| KF 150 | B | 150 | 60 | 25 | 480 | 540 | 760 | 650 | 900 | 600 | 900 | 780 | |
| KF 150 | B | 150 | 60 | 25 | 650 | 540 | 760 | 650 | 1000 | 600 | 1100 | 780 | |
| KF 200 | B | 200 | 90 | 25 | 650 | 710 | 760 | 650 | 1000 | 780 | 1100 | 780 | |

* Metal cutting with standard fleece
** During longitudinal installation min. 2200 mm

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# Compact filter KF

KF

**KNOLL Maschinenbau GmbH**
Schwarzachstraße 20
DE-88348 Bad Saulgau
Tel. +49 7581 2008-0
Fax +49 7581 2008-90140
info.itworks@knoll-mb.de
www.knoll-mb.de



631446