

BNF off-line filter



- compact design
- easy installation
- DIN filter elements
- easy replacement of filter element
- filling function optional (BNF 18 / 30)
- low-noise gerotor pump

Why off-line filters?

Practise has shown that for many applications in fluid power and lubrication systems, off line filtration shows the most effective results. Independent from pressure ripples and flow surges, off-line filters develop the best possible retention of particulates and offer the highest possible dirt holding capacity.

In combination with other system components, eg. coolers or heaters, installation cost and space requirements can be minimised.

Why Bühler ?

The Fluidcontrol division of Bühler has been focussed on the fluid power and lubrication industries for a long time and has developed an intimate understanding of the needs of these applications. Although not a filter manufacturer in the classical sense we contribute some advanced developments to off-line filter units for the benefit of this market. The filter housing can accomodate filter elements according to DIN 24550 available from the major filter supplier world wide .

If you do not find an adequate solution for your application in this literature please do not hesitate to contact us for an application specific proposal.

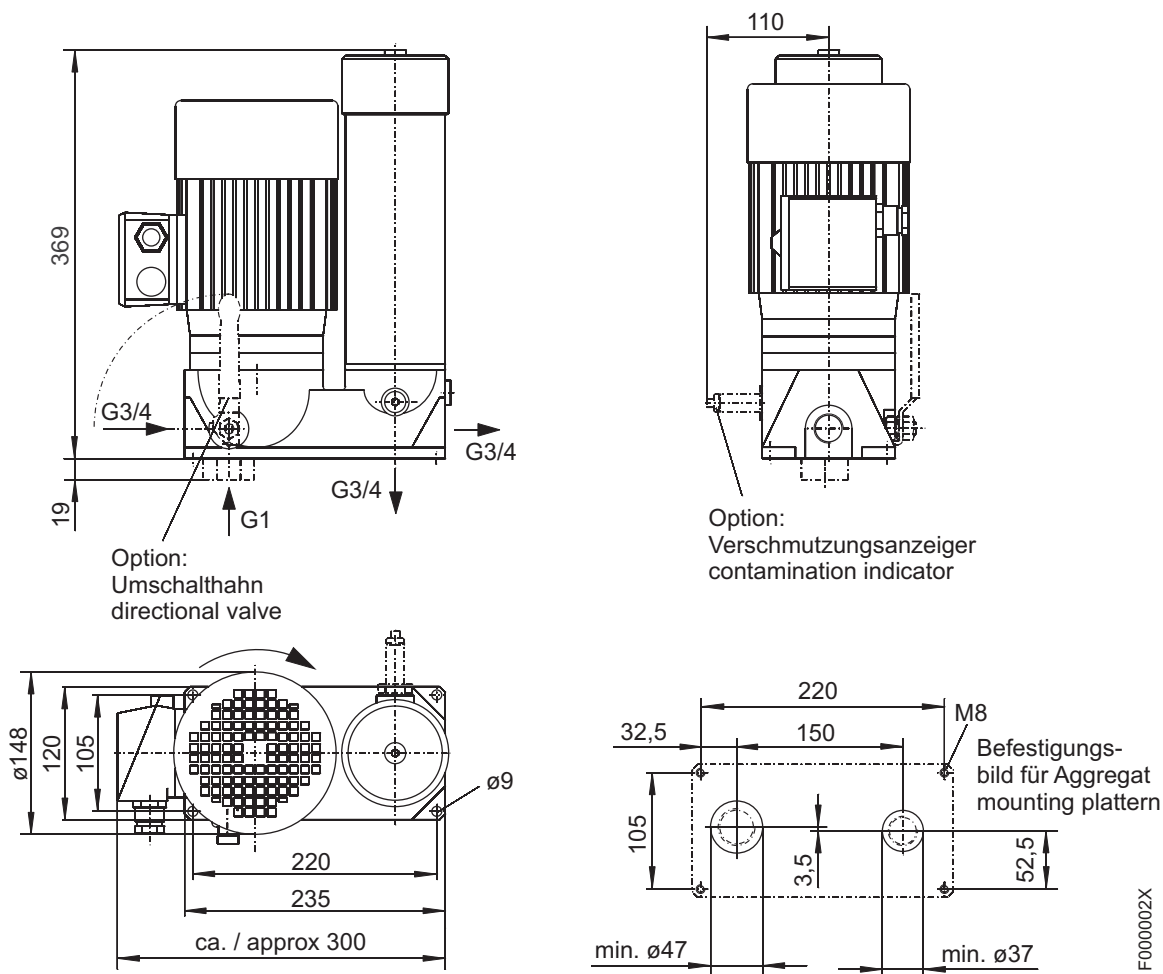
Description

BNF 18/30

This unit offers a very compact design and thus requires little installation space. It can be mounted tank top with just a suction and a return pipe straight into the tank. The basic manifold however, allows installation of the unit also onto the reservoir side or even completely independent of the tank for "retro" fitment. With an optional directional valve integrated the unit can also be used for filling or draining the reservoir. The pump has an integrated by-pass valve and the filter housing can be equipped with various contamination indicators. The pump will deliver either an 18 or 30 litre flow.

BNF 60/90

Due to the physical dimensions of the larger pump and the larger filter housing this unit is assembled on a rugged frame for vertical attachment. This unit offers the same principal details as mentioned above with the exception of the integrated by-pass valve and the optional directional valve in the pump.



- If installed at the side of reservoir make sure that pump gets free flow of oil in the suction line
- Make sure that indicator is visible when installing on tank top
- For drain function place orifice in return line

technical data BNF 18/30

flow rate	18 or 28 l/min
pressure	6 bar
suction pressure	2 m
relief valve setting	6 bar
e-motor*	230 / 400 V, 50 Hz \pm 5% 276 / 480 V, 60 Hz \pm 5%
protection class	IP 55
power	18 l/min. 0,55 kW 30 l/min. 0,75kW
current	(at 400V / 50 Hz) 18 l/min. approx. 1,9 A 28 l/min. approx. 2,0 A
weight	18 kg

Fluids

mineral oil according to DIN 51524
phosphate ester HFD-R according to
CETOP RP 77 H

*Other motors upon request

please indicate with order

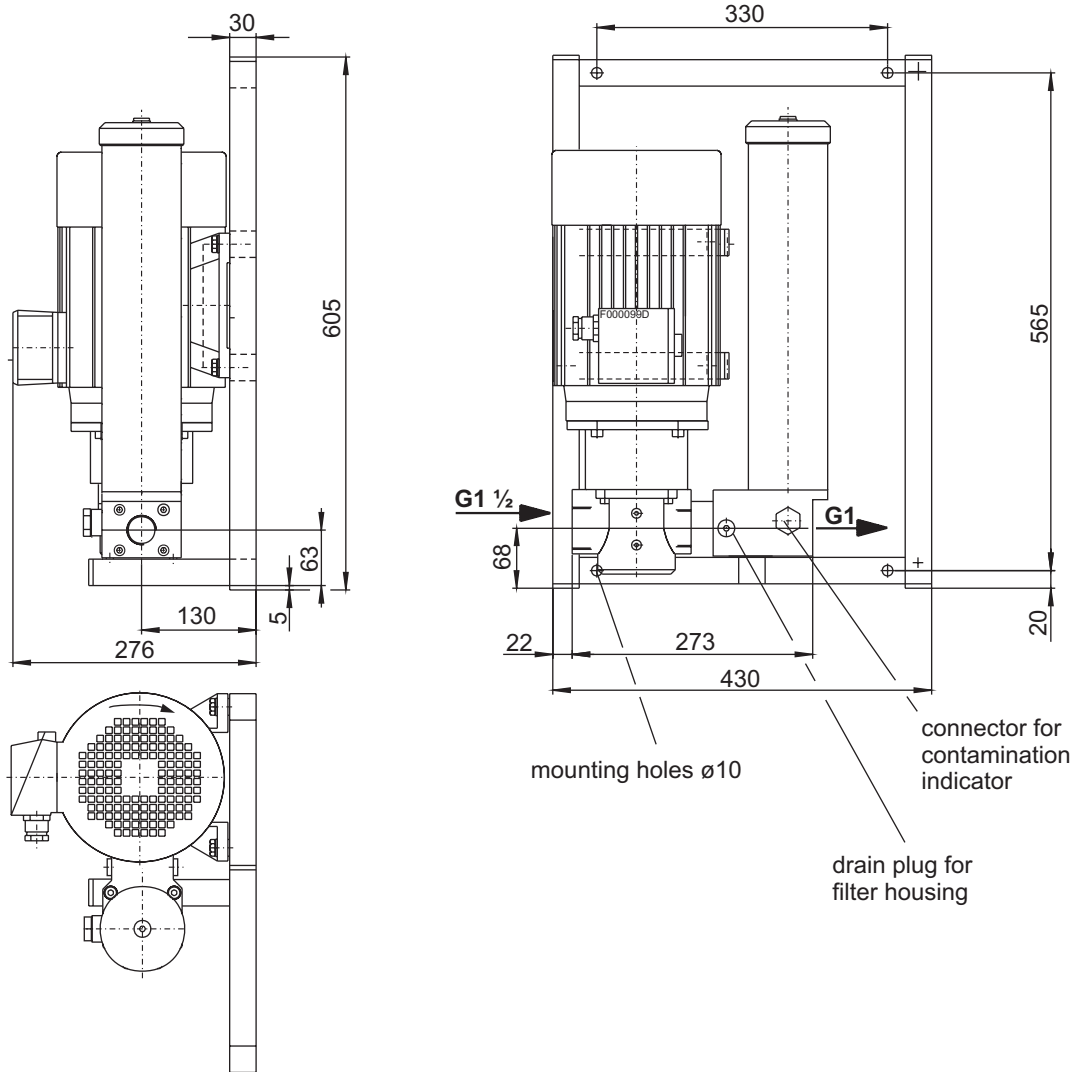
off-line filter unit BNF 18-6-0,55kW	part no. 381 805 5
with 3-way directional valve	part no. 381 805 53
off-line filter unit BNF 30-4-0,75kW	part no. 383 007 5
with 3-way directional valve	part no. 383 007 53

accessories for BNF and BKF

filter indicator:	
visual differential pressure indicator	
with check-function: 2,2 bar	part no. 766 997 1
electrical indicator switch	part no. 753 655 0

filter elements

N 0250 DN 3	part no. 3825003
N 0250 DN 6	part no. 3825006
N 0250 DN 10	part no. 3825010



- If installed at the side of reservoir make sure that pump gets free flow of oil in the suction line
- Make sure that indicator is visible when installing on tank top

technical data BNF 60/90

flow rate	57 or 86 l/min
pressure	10 bar
suction pressure	2 m
relief valve setting	6 bar
e-motor*	230 / 400 V, 50 Hz \pm 5% 276 / 480 V, 60 Hz \pm 5%
protection class	IP 55
power	2,2kW
current	(at 400V / 50 Hz) 57 l/min. approx. 4,7 A 86 l/min. approx. 4,7 A
weight	24 kg

fluids

mineral oil according to DIN 51524
phosphate ester HFD-R according to
CETOP RP 77 H

please indicate with order

off-line filter unit BNF 60-4-2,2kW	part no. 386 022 0
off-line filter unit BNF 90-4-2,2kW	part no. 389 022 0

accessories for BNF and BKF

filter indicator:	
visual differential pressure indicator	
with check-function: 2,2 bar	part no. 766 997 1
electrical indicator switch	part no. 753 655 0

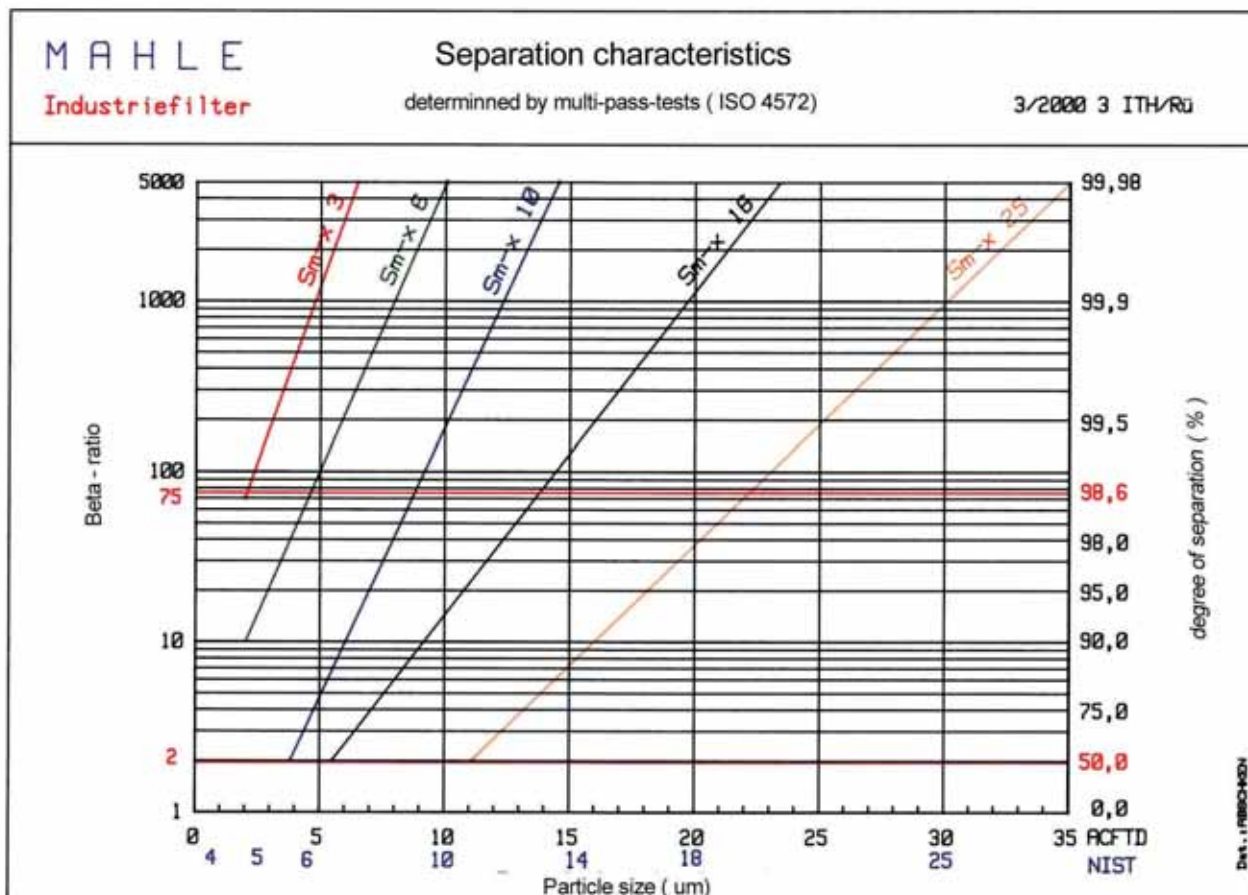
filter elements

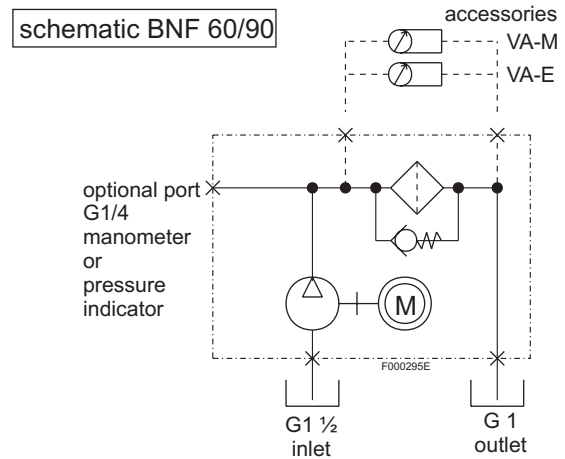
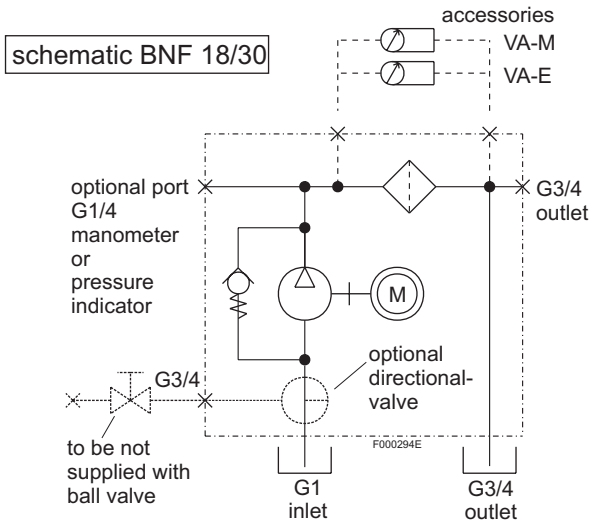
N 0400 DN 3	part no. 3840003
N 0400 DN 6	part no. 3840006
N 0400 DN 10	part no. 3840010

*Other motors upon request

Selecting the retention rate

Definition of cleanliness code as per ISO 4406		Type of hydraulic system	Recommended filtrationrate	Recommended element
> 5 μm	> 15 μm		β_x 75	
11	8	Against silting-up of sensitive control system with very high reliability; laboratory or aerospace industry	1 - 3	Sm-N2
12	9	High-performance servo systems and high-pressure systems with long service life; e.g. aircraft industry, machine tools etc.	3 - 6	Sm-x3
13	10			Sm-x6
15	11	High-quality systems; systems requiring high reliability; mechanical engineering	6 - 10	Sm-x10
17	12	General mechanical engineering and automotive applications; mid-range pressure, mid-range capacity	10 - 16	Sm-x16
19	13	General mechanical engineering and automotive applications; low-pressure systems in heavy engineering	16 - 25	Sm-x25 / Mic 10





Planning hints

Installation Location

When mounting the BNF outdoors it has to be protected with adequate weather protection. Leave access for servicing.

Mounting

BNFs are mounted with four screws. The strength of the base has to be strong enough to carry the unit.

Tubing

Tubing to the system has to be free of tension and vibration. This will be maintained by using flexible tubes.

Take care of local laws concerning environment protection due to accidental leakage (for example, by using drip pans).



The series BNF is a product designed by BÜHLER company

The company

BÜHLER MESS- UND REGELTECHNIK GMBH, Ratingen was founded in 1969.

BÜHLER's corporate philosophy is to offer products and solutions representative of the state of the art.

BÜHLER also specialises in producing level and temperature measuring equipment, particularly for the fluid power industry.

The products

Our commitment to customers has given rise to a production program which comprises specialized products for fluid technology.

Although these products were initially developed entirely as specials many of them have now become industry standards.

Bühler quality

Bühler has achieved accreditation from Lloyd's register to be in compliance with ISO 9001 and therefore consider it as our obligation to offer our customers not only excellent products, but also the best service possible.