



Industrial Filters · Accumulators

Offline Filter Systems

10...150 NFF2 0018-0270 (C)

15 NFT 45/21-60/21

35 NFT 90-130

30...170 NFS 0270 (C)

Mobile or stationary filter systems with own motor-pump units

For temporary or permanent installation using offline flow

Relieve usage of main flow filters, extending life of more expensive elements

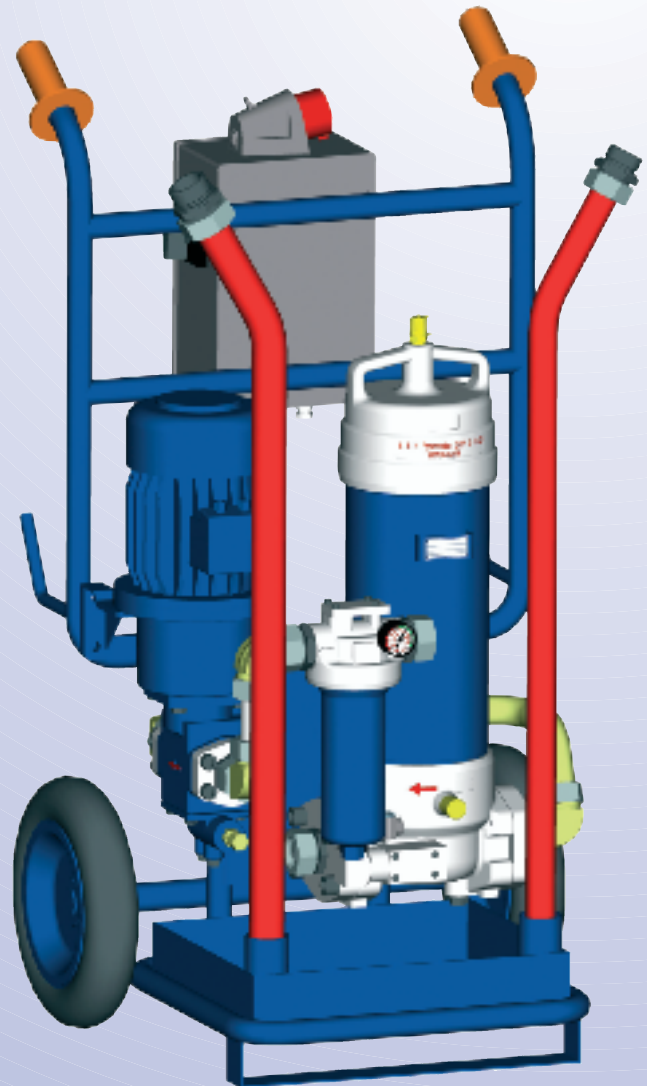
Filtration of fresh and top-up fluids.

Flushing of contaminated systems or reservoirs

Upgrade filtration on existing systems

Low pressure drop

High efficient special filter media



*Flow rate 10 - 170 l/min
Special size on request*



Quality assured!

Offline Filter Systems

mobile: 10 -150 NFF2..., 15-35 NFT...

stationary: 30-170 NFS...

Operating temperature -10°C to +100°C

Application

Filtration of pressurised liquids and lubricants. Separate installation in the offline or cooling circuit for fine filtration and relief for main filter.

Filtration of fresh oil and flushing of contaminated systems.

Wear protection of components and systems.

Design

Mobile offline systems

15-35 NFT...: portable filter unit with spin on filter 80.45...130

10-150 NFF2...: mobile filter system mounted on 2- or 4-wheel-cart with EPE-serial filter.

Stationary offline systems

30-170 NFS 0270...: filter unit mounted on a tub with filter housing 40 FLE 0270(C).

All filter units with filter element 1.0270 are available with EPE-ECOPore® coreless filter element.

Material: as per spare parts list in this brochure.

Filter Element

Pleated design with optimised pleat density and various filter media. The filter element is the most important component of the filter in view of prolonged life and wear protection of the system.

Oil cleanliness, the initial pressure drop and the dirt holding capacity are the most important criteria for selection.

For further detailed information please refer our „Filter Elements“ brochure.

A proper filter selection is enabled by our "EPE - FILTERSELECT" software.

Accessories

Maintenance Indicators

For monitoring the filter element's contamination status, visual and visual/electrical indicators, with one or two switching points are available.

Bypass Valve

To protect the filter element during start up and over pressurisation due to clogging.

Vent valve

For removing the air from the filter during starting and for safe de-pressurisation.

Guideline for Selection

Initial pressure drop: 0,1-0,5 bar at operating viscosity

Selection in accordance to flow and reservoir capacity

Reservoir capacity volume V	Circulation time time t	Circulation factor factor f*
< 1000 l	30 min	2
1000 l - 5000 l	60 min	1
5000 l - 10000 l	120 min	0,5
> 10000 l	180 min	0,33

Achievable oil cleanliness as per ISO 4406

Calculation example	H1SL	H3SL	H10SL
5	12/9/5	13/11/8	17/15/12
10	10/7/2	12/10/6	15/14/10

Reservoir capacity: 3500 l

Recommended circulation factor: 1

Needed pump flow:

$$Q = \frac{V \times f}{t} = \frac{3500 \times 1}{60} = 58,3 \text{ l/min}$$

Chosen size: 80l/min, 80 NFF2 0270 (C)

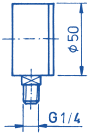
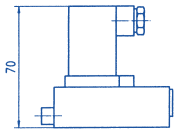
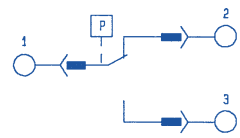
*circulation factor f: indicates how often the system capacity in l passes the filter system in one hour.

The higher this factor the faster the flushing or cleaning process will be.

Maintenance Indicators

Maintenance indicators are used for monitoring the filter element's contamination status. They are available as visual or visual/electrical indicators.

For technical data refer our brochure No. 64 "Maintenance indicators"

NFT	NFF2, NFS
	
A = visual	C = visual/electrical with electrical plug
Ordering Information A = M010	Ordering Information C2,5 = F2,5 GW 02 00P*
	Switching Symbol 

*P = Buna N, V = Viton, E = Ethylene-Propylene, N = Neoprene also possible

Ordering Information

Special models are available on request.

Filter Type	Magnet	Maintenance Indicator	Connection	Material
NFT = portable offline filter system	0 = without	0 = without A = pressure gauge 0-6 bar	00 = Standard	0 = Standard
NFS = stationary offline filter system		C = maintenance indicator visual/electrical with electrical plug		

Filter System → 30 NFS 0270 H10SL - 0 00 - 0 0 0 - 00 P 0 U

Seal Kit → D 30 NFS 0270 - 0 00 P 0

Pump Size	Nom. Size	Filtration Grade	Diff-Pressure	Element Model	Bypass Valve	Seal	Addit. Info
NFT 15 l/min 35 l/min	for NFT 15 l/min	45/21 60/21	0 = 15 bar (Standard) A = 30 bar	0... = Standard-adhesive T = 100°C	for NFT V = Bypass valve (4 bar) in pump	P = Buna N V = Viton	NFT 0 = without 5 = silicone free Z = certificates
NFS 30 l/min 50 l/min 80 l/min 100 l/min 130 l/min 170 l/min	for NFS 35 l/min	90 130	S = Standard for spin-on element	...0 = Standard-material	for NFS 0 = without 7 = 3,5 bar		NFS 0 = without E = air valve (info absolutely necessary) U = medium oil (info absolutely necessary) W = aggressive medium (info absolutely necessary) Z = certificates
Spin-on Filter Element 80. (NFT)	for NFS 30, 50, 80, 100, 130, 170 l/min	0270 0270C			for filter element always "0"		Z = certificates 5 = silicone free
Filter Element 1. (NFS)							

Filter-Element → 1. 0270 H10SL - 0 00 - 0 - P -

Ordering code for 10...150 NFF2 0018-0270(C) see table on page 6 and 7

Quality and Standardisation

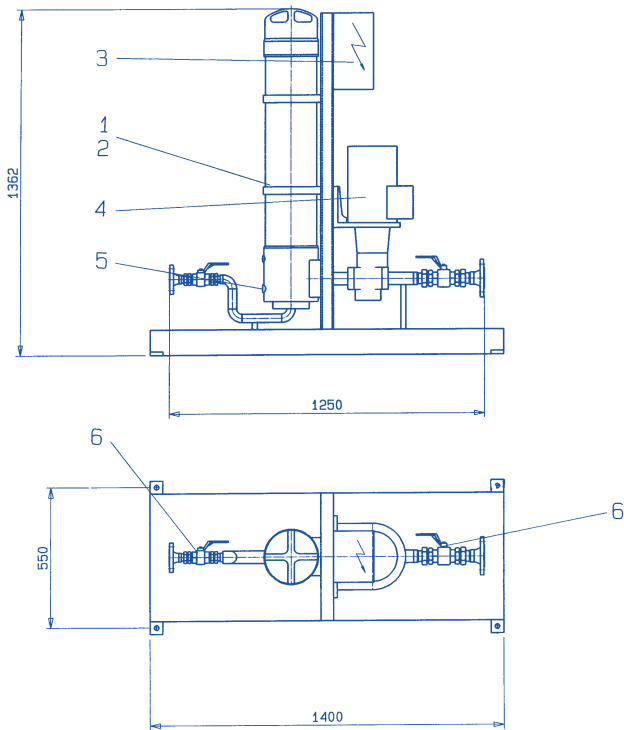
The development, manufacture and assembly of EPE-industrial filters and filter elements is carried out within the framework of a certified quality management system in accordance with DIN EN ISO 9001.

Certification of the filters by accredited institutions (for example TÜV, GL, LRS LRIS, ABS, BV, DNV, DRIRE, UDT, etc.) is available on request. The stability calculation and testing of the filters proceeds according to actual standards, as well as in accordance with national and international norms.

The CE-identification mark according to the Pressure Equipment Directive 97/23/EG depends upon the individual application and operating conditions. On request we will classify the filters.

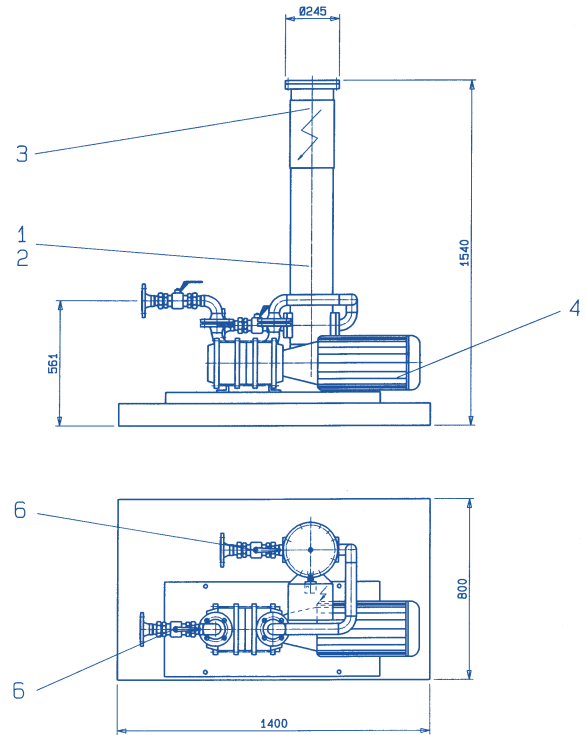
Dimensions

Figure 1
NFS 0270 (C)...U



pump pressure max. 5 bar

Figure 2
NFS 0270 (C)...W



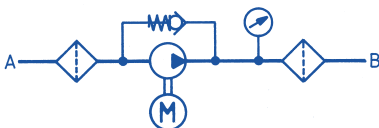
pump pressure max. 5 bar

flow rate	weight in kg	suction side	pressure side	electrical data	viscosity range
30l/min	150	DN 25	DN 20	230/400V; 50 Hz; 0.75kW	1-3000 mm ² /s
50l/min	170	DN 32	DN 25	230/400V; 50 Hz; 1.1kW	
80l/min	180	DN 40	DN 32	230/400V; 50 Hz; 1.5kW	
100l/min	204	DN 50	DN 32	230/400V; 50 Hz; 2.2kW	
130l/min	230	DN 50	DN 32	230/400V; 50 Hz; 3.0kW	
170l/min	260	DN 65	DN 32	230/400V; 50 Hz; 4.0kW	

Spare Parts List

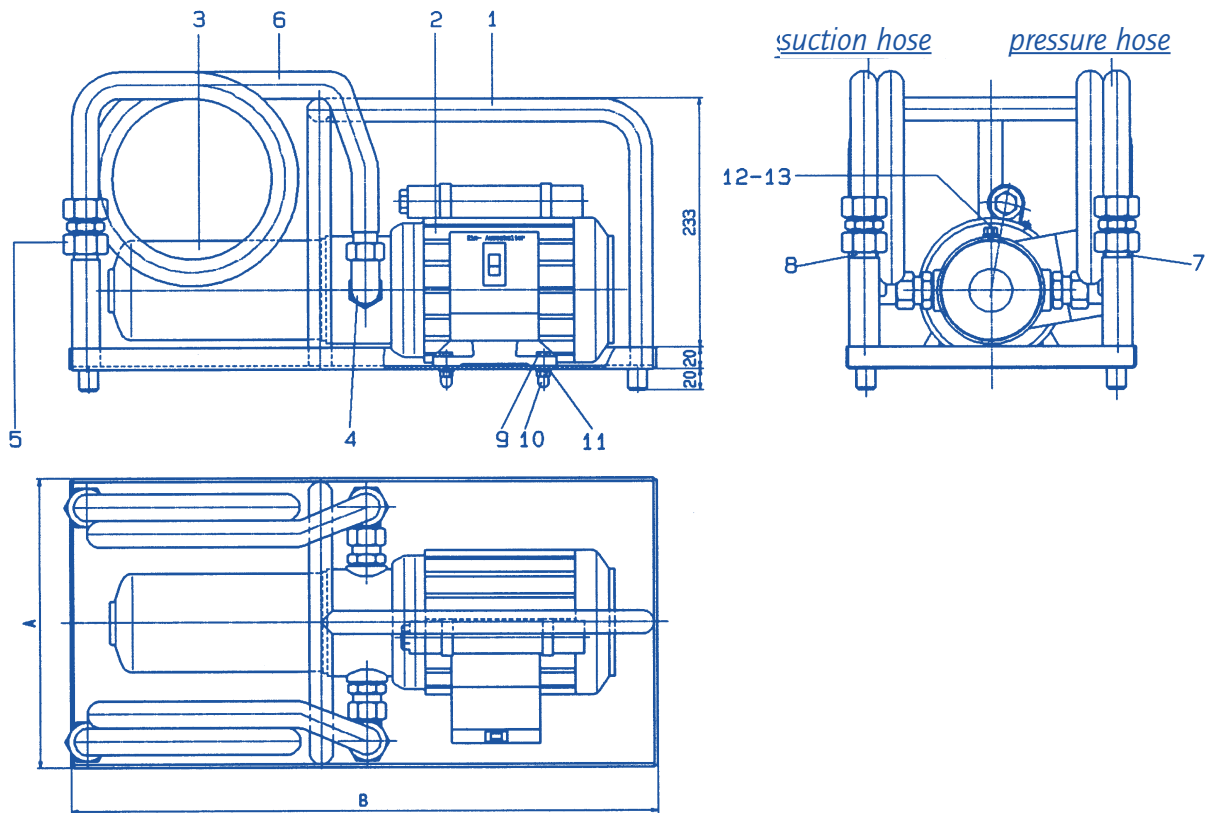
Part	Quantity	Size Designation	NFS...U	NFS...W
1	1	inline filter	please indicate ordering information "Filter System"	
2	1	filter element	please indicate ordering information "Filter Element"	
3	1	switch box with CEE outlet and switch	please indicate ordering information "Filter System"	
4	1	motor-pump-unit	please indicate ordering information "Filter System"	
5	1	maintenance indicator	F2,5 GW 02 OOP	F2,5 GW 02 OMP
6	1	shut-off-valve	please indicate ordering information "Filter System"	

Hydraulic-Circuit-Plan



Dimensions

Figure 3
15/35 NFT



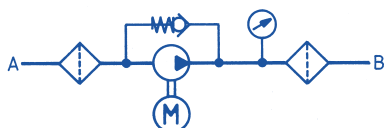
pump pressure max. 4 bar

Type	weight in kg	connection	A	B	tube	electrical data	viscosity range
15 NFT	21	DN 20	270	550	1.5 m	230V; 50Hz; 0.25kW	10-200 mm ² /s
35 NFT	26	DN 25	305	610	1.5m	230V; 50Hz; 0.55kW	

Spare Parts List

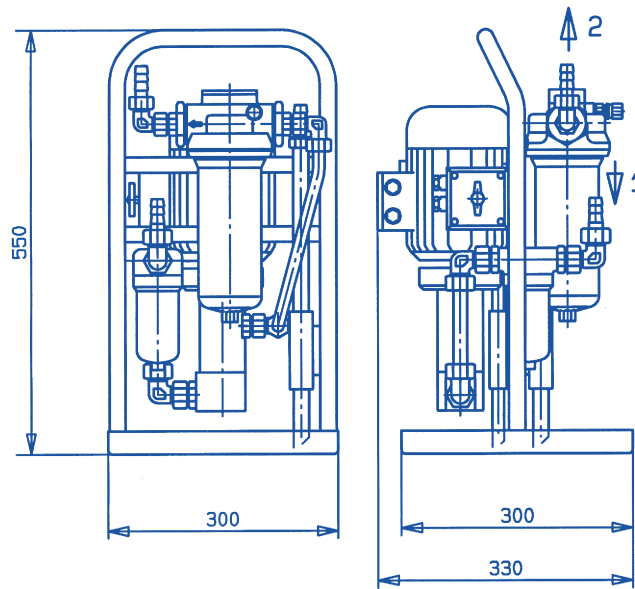
Part	Quantity	Size Designation	NFT 15	NFT 35
1	1	Portable frame	please indicate ordering information "Filter System"	
2	1	Filter pump	please indicate ordering information "Filter System"	
3	1	Spin on filter	please indicate ordering information "Spin On Filter"	
4	2	Adjustable stud elbows	Part No. 3783	Part No. 3064
5	2	Adjustable stud elbows	Part No. 3400	Part No. 1333
6	2	Hose	Part No. 6150	Part No. 6757
7	1	Pipe	please indicate ordering information "Filter System"	
8	1	Suction pipe	please indicate ordering information "Filter System"	
9	4	Hexagon screw	Part No. 4097	Part No. 570
10	4	Hexagon cap nuts	Part No. 701	Part No. 1384
11	4	Sealing	please indicate ordering information "Seal Kit"	
12	1	Pressure gauge	please indicate ordering information "Maintenance Indicator"	
13	1	Reduction	Part No. 3807	

Hydraulic-Circuit-Plan

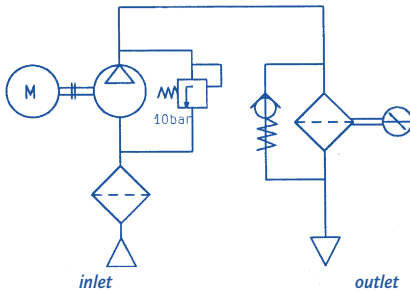


Dimensions

Figure 4
10 NFF2 0018



Hydraulic-Circuit-Plan for Type NFF2



drawn without hoses

↓ 1 = suction hose

↑ 2 = pressure hose

Ordering code/Spare Parts List

Filter System consisting of:	10 NFF2 0018...A00-07A2,5-00P00	30 NFF2 0045...A00-07B2,5-00P00	50 NFF2 0095...A00-07B2,5-00P00
Main Filter	40 LE 0018...A00-07A2,5-R0P00	40 FLE 0045...A00-07B2,5-S0P00	40 FLE 0095...A00-07B2,5-S0P00
Maintenance Indicator	visual F2,5 A0 00P	visual/electrical F2,5 GW 02 00P	
Main Filter Element	2.0018...A00-0-P	1.0045...A00-0-P	1.0095...A00-0-P
Suction Filter	20 L 20 G800-A00-000-00P00	40 LE 0008 G800-A00-000-R0P00	40 LE 0015 G800-A00-000-R0P00
Suction Filter Element	4.20 G800-A00-0-P	2.0008 G800-A00-0-P	2.0015 G800-A00-0-P
Mounting	portable	mobile with 2 wheels	
Hose	1.5 m + lance 0.4m	2 m + lance 1 m	
Nominal Size Suction/Pressure	DN 16 / DN 16	DN 30 / DN 25	DN 40 / DN 30
Electrical Data	230 V; 50 Hz; 0.37 kW	400 V; 50 Hz; 1.1 kW	400 V; 50 Hz; 1.5 kW
Volume Flow Rate	10 l/min	30 l/min	50 l/min
Pump Pressure	max 10 bar		
Viscosity Range	6-200 mm ² /s (up to 1000 mm ² /s on request)		
Weight	20 kg	72 kg	84 kg

... => Filter fineness see ordering code page 3, category "Filtration Grade"
Special design on request

Figure 5
30...80 NFF2 0045-0120

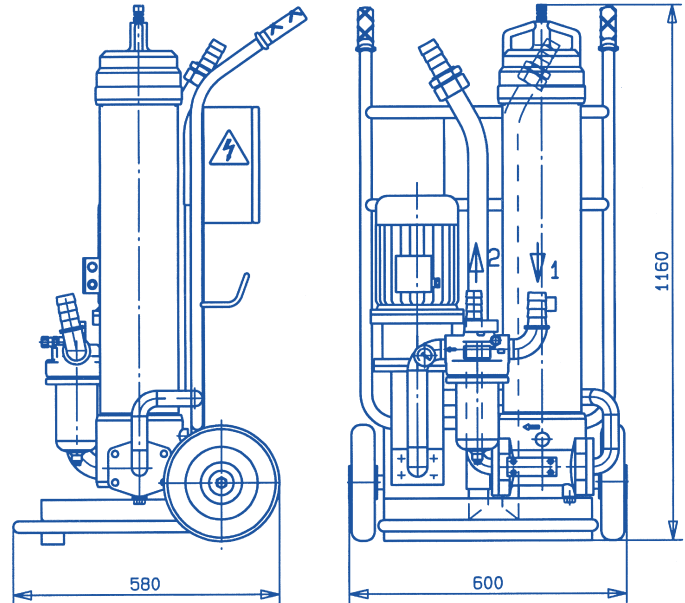
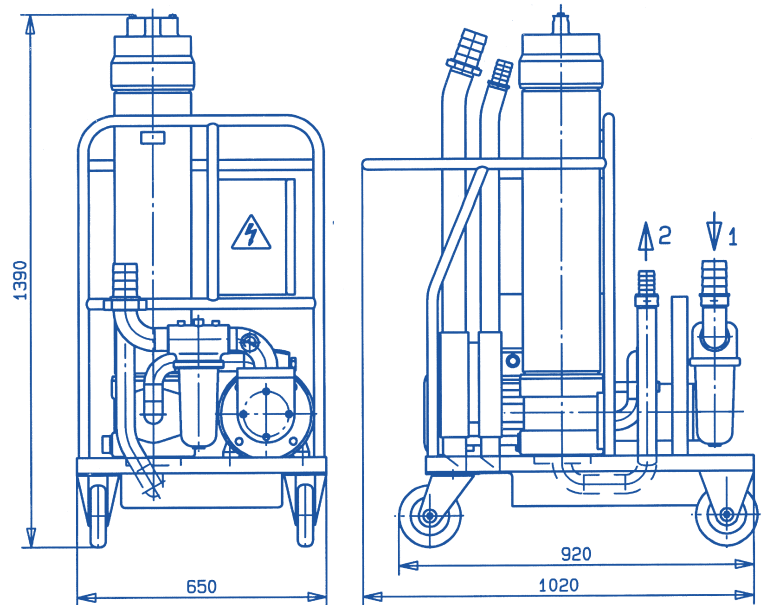


Figure 6
80...150 NFF2 0270 (C)



Ordering code/Spare Parts List

Filter System consisting of:	80 NFF2 0120...-A00-07B2,5-00P00	80 NFF2 0270C...-A00-07B2,5-00P00	150 NFF2 0270C...-A00-07B2,5-00P00
Main Filter	40 FLE 0120...-A00-07B2,5-S0P00	40 FLE 0270C...-A00-07C2,5-S0P00	40 FLE 0270C...-A00-07C2,5-S0P00
Maintenance Indicator	visual/electrical F2,5 GW 02 00P		
Main Filter Element	1.0120...-A00-0-P	1.0270C...-A00-0-P	1.0270C...-A00-0-P
Suction Filter	40 LE 0020 G800 A00-000-R0P00	40 LE 0020 G800 A00-000-R0P00	10 DLW 180 G800 A00-000-00P00
Suction Filter Element	2.0020 G800-A00-0-P	2.0020 G800-A00-0-P	2.0180 G800-A00-0-P
Mounting	mobile with 2 wheels	mobile with 4 wheels	
Hose	2 m + lance 1 m		
Nominal Size Suction/Pressure	DN 45 / DN 30	DN 45 / DN 30	DN 60 / DN 45
Electrical Data	400 V; 50 Hz; 1.5 kW	400 V; 50 Hz; 2.2 kW	400 V; 50 Hz; 4.0 kW
Volume Flow Rate	80 l/min	80 l/min	variable from 40 up to 150 l/min
Pump Pressure	max 10 bar		
Viscosity Range	6-200 mm ² /s (up to 1000 mm ² /s on request)		
Weight	90 kg	150 kg	175 kg

... => Filter fineness see ordering code page 3, category "Filtration Grade"
Special design on request



Industrial Filters · Accumulators

Installation, Starting and Maintenance

Installation of Offline Filter Systems

Stationary Offline Systems

Remove dust protection plugs from filter inlet and outlet. Connect inlet and outlet in pipeline without tension stress considering flow direction (direction arrows).

Bypass filtration units have to be mounted in a way that effective flushing of the reservoir is possible. Please connect the suction line in the return chamber of the reservoir, and the pressure line in the suction chamber of the reservoir. If you use a cooling system, please connect it behind the filter.

Mobile Offline Systems

Connect the pressure and the suction hose in the same way as described above. Please take care, that the hoses are beneath the oil level. If you do not use screw fittings, you can also use the included pipe nozzles.

Starting

Open valves if existing. Start pump of the bypass filtration unit. Vent the filter by open the vent valve. Close vent valve when liquid emerges.

Maintenance

If the system is equipped with a visual/electrical indicator the system shuts down automatically if the pressure drop of the filter element reaches the switching point of 2,5 bar.

Filter Element Service

Switch off the pump of the bypass filter unit.

15-35 NFT...:

Unscrew and replace spin-on element. Use new seal/o-ring of new spin-on element. Screw spin-on element hand tight.

10-150 NFF2... , 30-170 NFS...:

Open vent valve and depressurise system. Open plug and drain contaminated oil from the filter housing. Unscrew filter upper part / filter cover and remove filter element from housing turning slightly off its spigot in the filter lower part. Screw in plug.

Check filter housing inside and clean if necessary.

Replace filter element H... -SL, P... and VS... Lubricate filter element o-ring and install replaced filter element inside filter housing by putting it up to its locator and slightly turning.

Take care not to damage pleated filter element matrix during installation in filter housing. Remove the filter element's polyethylene protection sleeve when operation temperature is above 60°C or synthetic oil is used (only size O270).
10 NFF2 0018 :

Screw filter bowl and tighten with the hexagon bolt using a suitable tool.

30-150 NFF2... , NFS O270(C)...U, NFS O270(C)...W:

Check o-ring in filter housing, replace in case of damage or wear.

Screw on filter head (30-150 NFF2... and NFS O270(C)...U) hand tighten, then tighten a further 1/4 turn back. Do not over tighten.

Assemble filter cover with hexagon screw (NFS O270(C)...W).

Operate as described above.

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