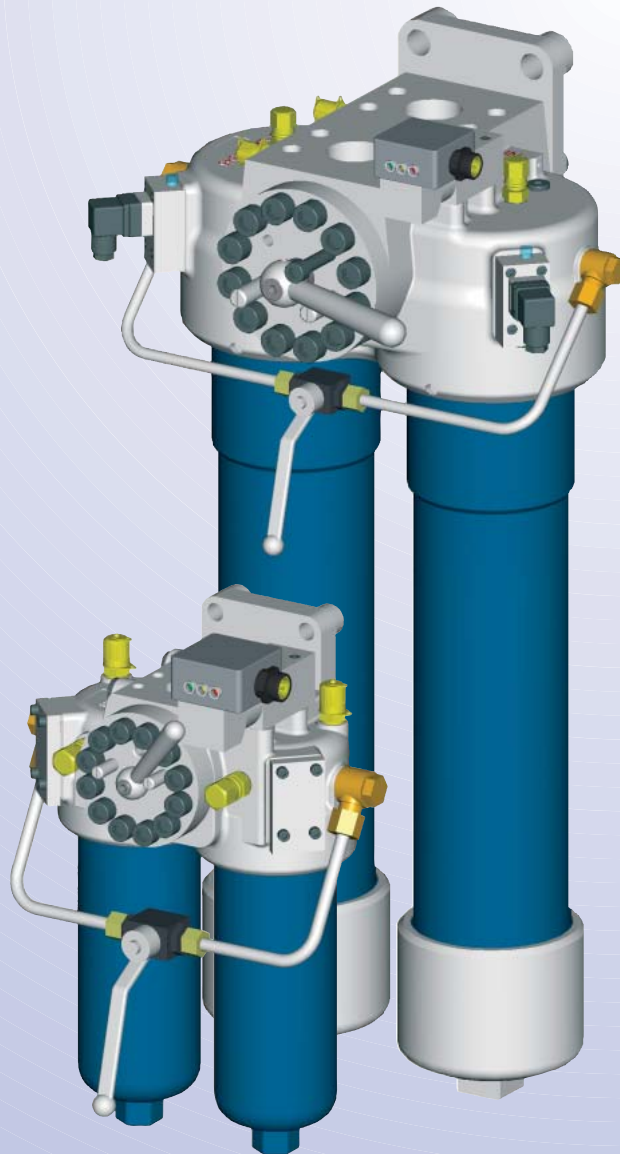




Industrial Filters · Accumulators

## High Pressure Duplex Filters

250/450 LD 0003-0145  
250/450 LDN 0040-1000



*Filters for inline installation  
for continuous operation*

*LDN-Type with Filter Elements  
according to DIN 24550*

*Optimised flow characteristics  
by 3D-computer aided design*

*Low pressure drop*

*Special high efficient filter media*

*Operating pressure: 250/450 bar  
Connections up to SAE 2"*



Quality assured!

# High Pressure Duplex Filters

250/450 LD 0003-0145  
250/450 LDN 0040-1000

Operating pressure 250/450 bar  
Operating temperature -10°C up to +100°C  
Connections up to SAE 2"

## Application

Filtration of liquids and lubricants.  
Filtration of liquids and gases.  
Installation in pipelines to protect subsequent system components from contamination.

Continuous operation due to duplex filter design.

## Design

Filter head with inlet, outlet and filter element spigots. Filter bowl is unscrewed downwards. Filter head includes further switching valve for closure ref. starting filter side.

Material: as per spare part 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 und visual/electrical indicators, with one or two switching points are available.

## Vent Valve

For removing the air from the filter during start up and for secure de pressurising.

# Performance Characteristics

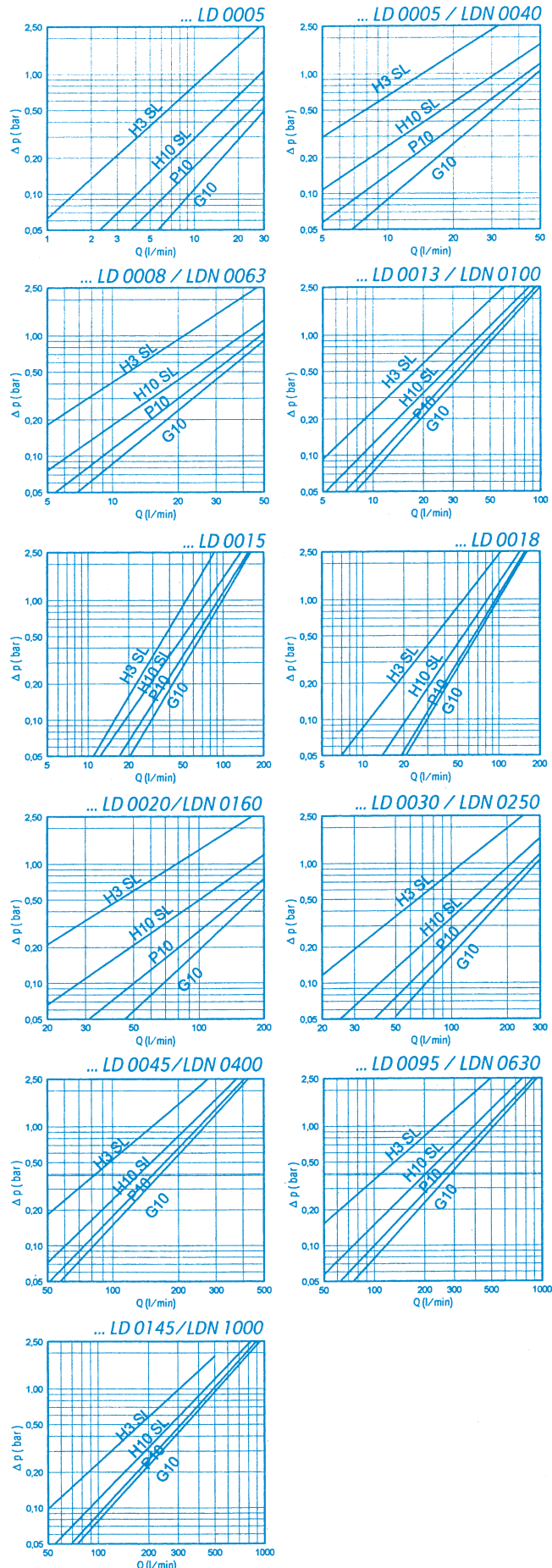
Oil viscosity: 30 mm<sup>2</sup>/s

Specific weight: < 0,9 kg/dm<sup>3</sup>

Pressure drop curves for filter assembly

Recommended initial  $\Delta p$  for filter selection = 2,0 bar (250 LD/LDN) / 2,5 bar (450 LD/LDN)

Recommended max velocity = 6 m/sec. (250 LD/LDN) / 7 m/sec. (450 LD/LDN)



## Ordering Information

Selection of the filter size: using the computer program "EPE-FILTERSELECT" or performance characteristics in this brochure. Special designs available on request..

Filter Type	Magnet	Maintenance Indicator	Connection	Material
LD = Duplex filter with EPE standard filter element  LDN = Duplex filter with filter element acc. to DIN 24550	0 = Without	0 = Without A = Maintenance visual B = Maintenance visual/elect. with equipment connector thread D = Maintenance visual/elect. with signal lights and two switching points  Standard switch pressure: 5,0 bar  See illustrations of maintenance indicator for detailed information and technical data.	R0 = Pipe thread for 250/450 LD 0003-0013 and 250/450 LDN 0040-0100  S0 = SAE-flange for 250/450 LD 0015-0145 and 250/450 LDN 0160-1000	0 = Standard

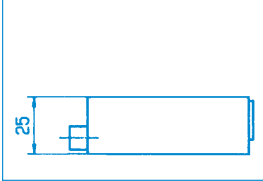
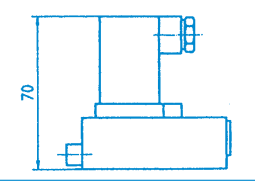
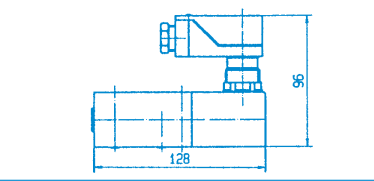
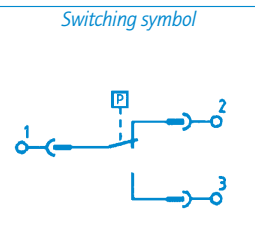
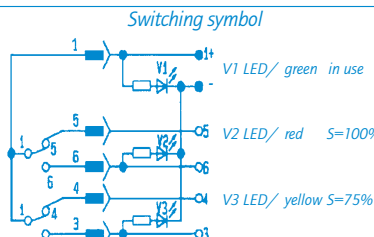
Filter Assembly → 250 LD 0013 H10SL - B 00 - 0 0 B5,0 - R0 P 0 0  
Seal Kit → 250 LD 0013 - B - R0 P 0

Pressure	Nominal Size	Filtration Grade	Differential Pressure	Filter Element Design	Bypass Valve	Seal	Additional Information
250 bar 450 bar	250/450 LD... 0003* 0005 0008 0013 00 15 00 18 0020 0030 0045  250/450 LDN... 0040 0063 0100 0160 0250 0400	Nominal filtration grade in µm G = Stainless steel wire mesh; cleanable G10 G25 G40 G60 G80 G100  VS = Nonwoven media, non cleanable VS25 VS40 VS60  P = Paper, not cleanable P5 P10 P25  Absolute filtration grade (ISO 4572) in µm H...SL = Micro glas-fibre, non cleanable H1SL H3SL H6SL H10SL H20SL  AS = Micro glas-fibre, water adsorbent, non cleanable AS1 AS3 AS6 AS10 AS20	Maximum allowable differential pressure drop across the filter elements  A = 30 bar B = 330 bar C = 160 bar	0... = Standard adhesive T = 100°C  E... = Special adhesive T = 160°C  ...0 = Standard material ...Z = Zinc free	0 = Without	P = Buna N V = Viton  E = Ethylene-Propylene N = Neoprene	0 = Without 4 = Drain plug 5 = Silicone free A = Pressure equalisation-line E = Vent valve Z = Inspection certificate  5 = Silicone free Z = Inspection certificate

Filterelement → 2. 0013 H10SL - B 00 - 0 - P -

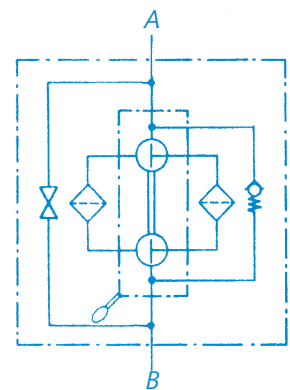
## Maintenance Indicator

The maintenance indicator monitors the degree of clogging of the filter elements: They are available as visual or visual/electrical displays. See "Maintenance Indicator" brochure for technical data.

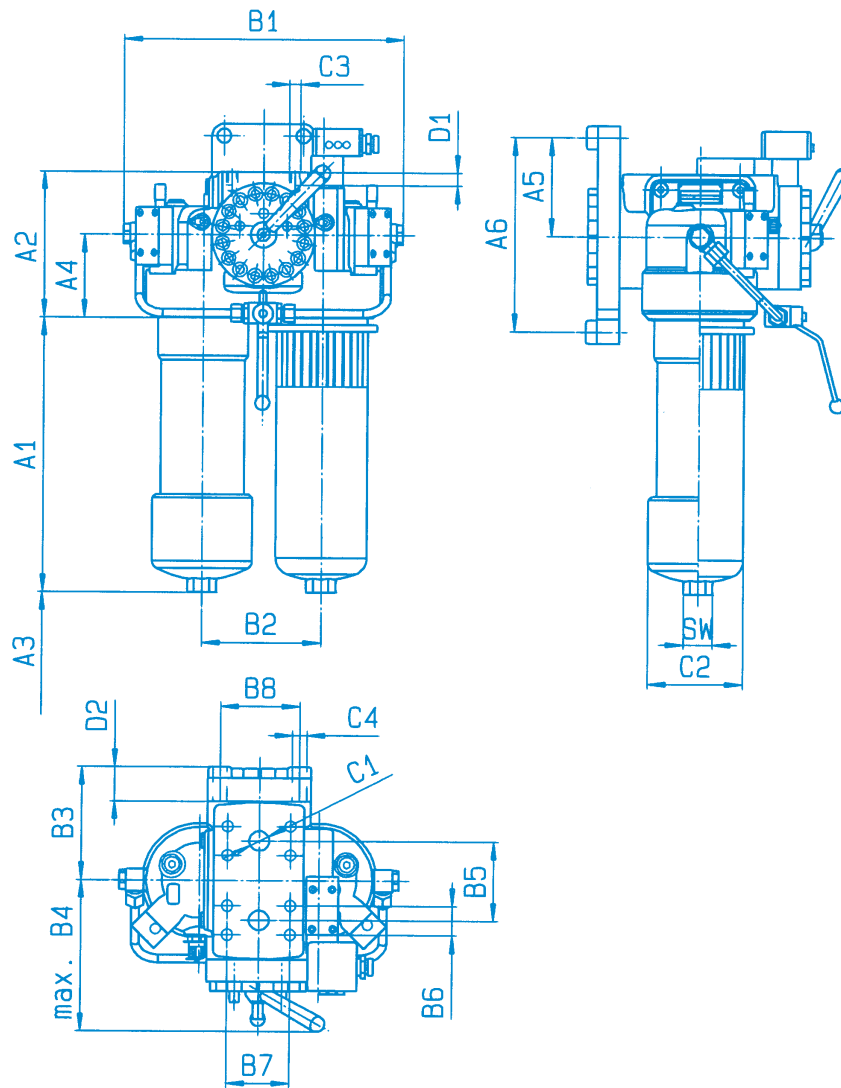
		
A...Visual	B...Visual/Electrical	D...Visual/Electrical with three 24 V diodes and two switching points
Ordering information A5,0 = F5,0 AO 00 00P*	Ordering information B5,0 = F5,0 GW 02 00P*	Ordering information D5,0 = R5,0 GW 09 Z0P*
	Switching symbol 	Switching symbol 

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

## Filter Switching Symbol



## Dimensions



### Filter Housing for Filter Elements according to EPE Standard

Type	Volume in ltrs.	Weight in kg <sup>1)</sup>	A1	A2	A3 <sup>2)</sup>	A4	A5	A6	B1	B2	B3	B4	B5	B6	B7	B8	C1 Connect. RO/SO	C2 250   450	C3	C4	D1	D2	SW		
250/450 LD 0003	2 x 0,2	12,5	92	109	110	60	60	120	238	90	85	160	40	-	-	56	G 1/2	Ø64	Ø67	-	Ø9	-	35	24	
250/450 LD 0005	2 x 0,2	12,5																							
250/450 LD 0008	2 x 0,3	14,0																							
250/450 LD 0013	2 x 0,5	18,5	245	127,5	-	75	72,5	170	302	120	111	160	75	27,76	57,15	80	SAE 1" 6000 psi	Ø92	M12	Ø14	22	36	-	32	
250/450 LD 0015	2 x 0,9	32,0																							
250/450 LD 0018	2 x 1,1	34,0																							
250/450 LD 0020	2 x 1,3	56,0	171	184	120	105	125	245	352	150	143	190	100	36,50	79,38	100	SAE 1 1/2" 6000 psi	Ø114	M16	Ø18	25	43	-	41	
250/450 LD 0030	2 x 1,9	60,0																							
250/450 LD 0045	2 x 3,0	66,0																							
450 LD 0095	2 x 4,5	122,5	418	192	-	110	110	240	440	190	166	245	120	44,45	96,82	110	SAE 2" 6000 psi	-	Ø140 Ø156	M20	Ø23	30	46	-	41
450 LD 0145	2 x 6,2	148,5																							

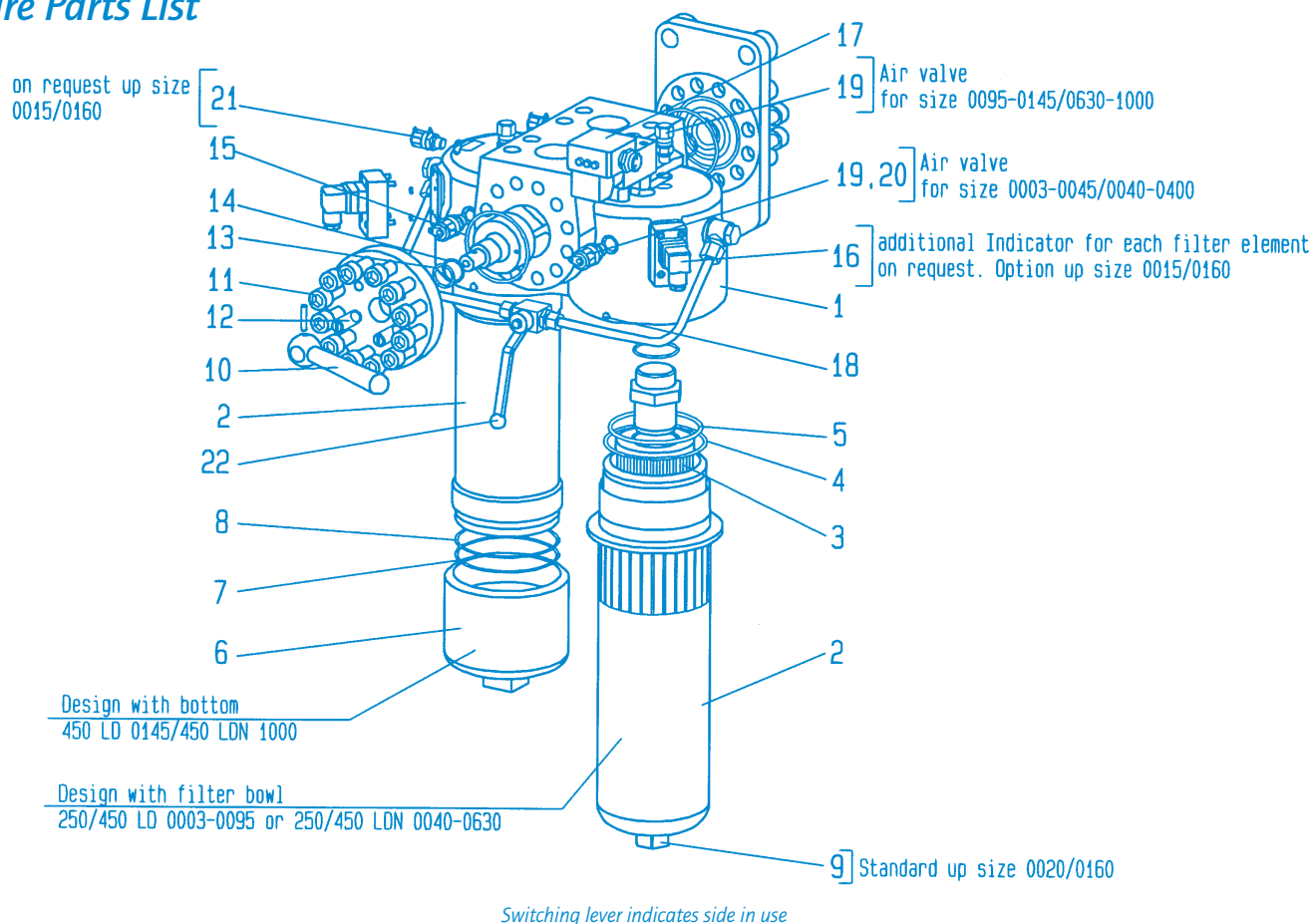
### Filter Housing for Filter Elements according to DIN 24550

Type	Volume in ltrs.	Weight in kg <sup>1)</sup>	A1	A2	A3 <sup>2)</sup>	A4	A5	A6	B1	B2	B3	B4	B5	B6	B7	B8	C1 Connect. RO/SO	C2 250   450	C3	C4	D1	D2	SW		
250/450 LDN 0040	2x0,2	12,5	92	109	110	60	60	120	238	90	85	160	40	-	-	56	G 1/2	Ø64	Ø67	-	Ø9	-	35	24	
250/450 LDN 0063	2x0,3	14,0																							
250/450 LDN 0100	2x0,5	18,5																							
250/450 LDN 0160	2x1,3	56,0	171	184	120	105	125	245	352	150	143	190	100	36,50	79,38	100	SAE 1 1/2" 6000 psi	Ø114	M16	Ø18	25	43	-	32	
250/450 LDN 0250	2x1,9	60,0																							
250/450 LDN 0400	2x3,0	66,0																							
450 LDN 0630	2x4,5	122,5	418	192	-	110	110	240	440	190	166	245	120	44,45	96,82	110	SAE 2" 6000 psi	-	Ø140 Ø156	M20	Ø23	30	46	-	41
450 LDN 1000	2x6,2	148,5																							

<sup>1)</sup> = weight including standard filter element and maintenance indicator

<sup>2)</sup> = servicing height for filter element replacement

## Spare Parts List



Part	Qty.	Designation	Material	Size LD												Part-Number											
				Size LDN		0003		0005		0008		0013		0015			0018		0020		0030		0045		0095		0145
				250	450	250	450	250	450	250	450	250	450	250	450	250	450	250	450	250	450	-	450	-	450		
1	1	Filter head	GGG 50	please indicate ordering information „Filter“																							
2	2	Filter bowl	C-steel/24CrMo5/42CrMo4	please indicate ordering information „Filter“																							
3	2	Filter element	various	please indicate ordering information „Filter Element“																							
3.1	2	O-ring	Buna N/Viton	please indicate ordering information „Seal Kit“																							
4	2	Supporting ring	Teflon	please indicate ordering information „Seal Kit“																							
5	2	O-ring	Buna N/Viton	please indicate ordering information „Seal Kit“																							
6	2	Bottom	42CrMo4	-																							
7	4	Supporting ring	Teflon	-																							
8	4	O-ring	Buna N/Viton	-																							
9	2	Plug	St	-																							
10	1	Lever	St	-																							
10.1	1	Clamping sleeve	Spring steel/A4	-																							
8	8	Hexagon screw	A4	745																							
11	32	Hexagon screw	8.8	-																							
	24	Hexagon screw	8.8	-																							
12	2	Set screw	St	3959																							
13	2	Supporting ring	Teflon	-																							
14	2	O-ring	Buna N/Viton	-																							
15	2	O-ring	Buna N/Viton	-																							
16	2	Maintenance Indicator	various	-																							
17	1	Maintenance Indicator	various	-																							
18	2	Stud bolt	8.8	-																							
19	2	Measuring connection	St/Viton	-																							
20	2	Vent valve	Bronze	848	-	848	-	1282	-	1282	-	1282	-	1282	-	1282	-	1282	-	1282	-	1282	-	1282	-	1282	
20.1	2	Sealing ring	Iron	-																							
21	2	Measuring connection	St/Viton	-																							
22	1	Pressure equalisation device	various	-																							

## 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 existing pressure vessel regulations, 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.



Industrial Filters · Accumulators

## Installation, Starting and Maintenance

### Filter Installation

Verify operating pressure with name plate information.  
Mount the filter assembly using mounting device on the head Part 1 considering flow direction (direction arrows) and servicing height required for cleaning/replacing elements Part 3.  
Remove dust protection plugs from filter inlet and outlet, screw filter in pipeline without tension stress.

### Connection of Electrical Maintenance Indicator

See brochure 64 and list according to this brochure.

### Starting

Put valve handle Part 10 in the central position to fill both filter sides.  
Switch on system pump.  
Ventilate filter by opening the valves Part 19/Part 20, close when operating liquid emerges. Put valve handle Part 10 in end stop for standard operation.

### Maintenance

The filter element is clogged and needs to be replaced or cleaned when at the operating temperature the visual indicator's Part 17 red pin reaches its final position and/or the electrical switch is activated.

### Filter Element Service

Open pressure-equalisation valve Part 22 to equalise pressure in both filter housings.

Switch change over valve on other side by moving lever Part 10.

Close pressure-equalisation valve Part 22.

Open the valves Part 19/Part 20 on the filter taken out of operation and reduce the pressure.

Unscrew filter bowl Part 2/Bottom Part 6 (only 450 LD 0145 and 450 LDN 1000) of filter bowl Part 2 and remove filter element Part 3, turning slightly off its spigot in the filter head (Part 1).

Check filter Part 2 inside and clean if necessary.

Replace filter element H...SL, P..., VS... and AS... .

The filter element with G... media is cleanable. The efficiency of the cleaning process depends on the characteristics of contamination and the final pressure drop prior to servicing/cleaning the element. If the differential pressure after the filter element's cleaning process exceeds more than 50% of the pre service value the G... element also needs to be replaced. Install cleaned or replaced filter element by slightly turning it back on its spigot.

250/450 LD 0003-0045 or 250/450 LDN 0040-0400:

Check o-ring Part 5 on filter bowl Part 2, replace in case of damage or wear.

450 LD 0095-0145 or 450 LDN 0630-1000:

Check o-ring Part 8 on filter bowl Part 2, replace in case of damage or wear.

Screw filter bowl Part 2/Bottom Part 6 and tighten it at hexagon bolt using a suitable tool.

Open pressure-equalisation valve Part 22, ventilate filter by opening the valves Part 19/Part 20, close when operating liquid emerges.

Close pressure-equalisation valve Part 22.

### Warning

Assemble and disassemble filter only when system is switched off!

Vessel is under pressure!

Leave pressure-equalisation valve closed while filter housing is out of service!

Do not operate switching device while filter housing is out of service!

Do not change maintenance indicator or pressure-equalisation valve when filter is under pressure:

Functions and safety warranty only with EPE-spare part!

Service filter only by trained personal!

Technical modifications reserved!