

Line filter with filter element according to DIN 24550

RE 51423/09.12
Replaces: 07.10

1/20

Type 445LEN0040 to 1000

Size according to **DIN 24550**: 0040 to 1000
Nominal pressure: 450 bar [6527 psi]
Connection up to G 1 1/2; to SAE 2 1/2"; to SAE 24
Operating temperature -10 °C to 100 °C [14 °F to 212 °F]



Filter_87

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Features

Line filters are used in hydraulic systems for separating solid materials from the hydraulic fluids and lubricating oils. They are intended for installation into piping.

They distinguish themselves by the following:

- Special highly efficient filter media
- Adsorption of very fine particles across a broad pressure differential range
- High dirt holding capacity thanks to large specific filter area
- Good chemical resistance of the filter elements
- High collapse resistance of the filter elements (e.g. in case of cold start)
- Filter ratings of 3 µm to 100 µm
- By default equipped with mechanical optical maintenance indicator with memory function
- Flow-optimized version due to 3D computer-supported design

Ordering code

of the filter

445	LE			—			00	V5,0		
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Pressure 450 bar [6527 psi] = 445	
Line filter Simple = LE	
Filter element According to DIN 24550 = N	
Size LEN... = 0040 0063 0100 0160 0250 0400 0630 1000	
Filter rating in µm nominal Stainless steel wire mesh, cleanable G10, G25, G40, G100 = G...	
absolute (ISO 16889) Micro glass, not cleanable H3XL, H6XL, H10XL, H20XL = H...XL	
Pressure differential Max. admissible pressure differential of the filter element 30 bar [435 psi], with bypass valve 7 bar [102 psi] = A 330 bar [4786 psi], without bypass valve = B	
Element design Standard adhesive T = 100 °C [212 °F] = 0... Standard material = ...0	
Maintenance indicator Maintenance indicator, mechanical optical specify switching pressure 5.0 bar [72.5 psi] = V5,0	
Seal NBR seal = M FKM seal = V	

Complementary details
V3 = Maintenance indicator right (size 0160-1000; not possible with **M**)
V9 = Maintenance indicator left (size 0160-1000; not possible with **M**)
M = Two Minimes ports (size 0160-1000; not possible in combination with **7** and **9**)
7 = Outlet at the top, outlet opposite to the inlet closed (size 160-1000)
9 = Filter rotated by 180°, filter bowl can be unscrewed to the top (size 0160-1000)

Connection

		Frame size				
		0040	0063-0100	0160-0400	0630-1000	
	Connection					
R2 =	G1/2	•	x			Pipe thread according to ISO 228
R3 =	G3/4	x	x			
R4 =	G1	x	•			
R6 =	G1 1/2			•		
R8 =	G2				x	SAE flange 6000 psi
S6 =	SAE 1 1/2"			x		
S8 =	SAE 2"			x	•	
S9 =	SAE 2 1/2"				x	
U3 =	SAE 10	x				Pipe thread according to SAE J1926
U4 =	SAE 12		x			
U6 =	SAE 24			x		

• = Standard connection
 x = Additional connection possibility

Order example:

445LEN0400-H10XLA00-V5,0-M-R6

Further versions (filter materials, connections,...) are available at request.

of the filter element

2.			—	—	0	
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Filter element Design = 2.	
Size LEN... = 0040 0063 0100 0160 0250 0400 0630 1000	
Filter rating in µm nominal Stainless steel wire mesh, cleanable G10, G25, G40, G100 = G...	
absolute (ISO 16889) Micro glass, not cleanable H3XL, H6XL, H10XL, H20XL = H...XL	

Seal
M = NBR seal
V = FKM seal
Bypass valve
0 = at filter element always 0
Pressure differential
 Max. admissible pressure differential of the filter element
A00 = 30 bar [435 psi]
B00 = 330 bar [4786 psi]

Order example:

2.0400 H10XL-A00-0-M

Standard types

445LE(N) standard types, NBR seal, flow information for 30 mm²/s [150 SUS]

Line filter with bypass, filtration rating 3 µm

Type	Flow in l/min [gpm] with $\Delta p = 1$ bar [14.5 psi] ¹⁾		Material no. Filter			Material no. Replacement element
445LEN0040-H3XLA00-V5,0-M-..	26 [6.87]	..R2	R928043216	..U3	R928043456	R928006645
445LEN0063-H3XLA00-V5,0-M-..	36 [9.51]	..R4	R928043217	..U4	R928043457	R928006699
445LEN0100-H3XLA00-V5,0-M-..	46 [12.15]	..R4	R928043218	..U4	R928043458	R928006753
445LEN0160-H3XLA00-V5,0-M-..	126 [33.29]	..R6	R928043221	..U6	R928043461	R928006807
445LEN0250-H3XLA00-V5,0-M-..	212 [56.01]	..R6	R928043222	..U6	R928043462	R928006861
445LEN0400-H3XLA00-V5,0-M-..	258 [68.16]	..R6	R928043223	..U6	R928043463	R928006915
445LEN0630-H3XLA00-V5,0-M-..	325 [85.86]	..R8	R928043224	..S8	R928043304	R928006969
445LEN1000-H3XLA00-V5,0-M-..	486 [128.40]	..R8	R928043225	..S8	R928043305	R928007023

Line filter with bypass, filtration rating 6 µm

Type	Flow in l/min [gpm] with $\Delta p = 1$ bar [14.5 psi] ¹⁾		Material no. Filter			Material no. Replacement element
445LEN0040-H6XLA00-V5,0-M-..	33 [8.72]	..R2	R928043520	..U3	R928043760	R928006646
445LEN0063-H6XLA00-V5,0-M-..	55 [14.53]	..R4	R928043521	..U4	R928043761	R928006700
445LEN0100-H6XLA00-V5,0-M-..	69 [18.23]	..R4	R928043522	..U4	R928043762	R928006754
445LEN0160-H6XLA00-V5,0-M-..	175 [46.23]	..R6	R928043525	..U6	R928043765	R928006808
445LEN0250-H6XLA00-V5,0-M-..	253 [66.84]	..R6	R928043526	..U6	R928043766	R928006862
445LEN0400-H6XLA00-V5,0-M-..	298 [78.73]	..R6	R928043527	..U6	R928043767	R928006916
445LEN0630-H6XLA00-V5,0-M-..	406 [107.26]	..R8	R928043528	..S8	R928043608	R928006970
445LEN1000-H6XLA00-V5,0-M-..	505 [133.42]	..R8	R928043529	..S8	R928043609	R928007024

Line filter with bypass, filtration rating 10 µm

Type	Flow in l/min [gpm] with $\Delta p = 1$ bar [14.5 psi] ¹⁾		Material no. Filter			Material no. Replacement element
445LEN0040-H10XLA00-V5,0-M-..	37 [9.77]	..R3	R928043904	..U3	R928044064	R928006647
445LEN0063-H10XLA00-V5,0-M-..	70 [18.49]	..R4	R928043825	..U4	R928044065	R928006701
445LEN0100-H10XLA00-V5,0-M-..	78 [20.60]	..R4	R928043826	..U4	R928044066	R928006755
445LEN0160-H10XLA00-V5,0-M-..	211 [55.75]	..R6	R928043829	..U6	R928044069	R928006809
445LEN0250-H10XLA00-V5,0-M-..	280 [73.98]	..R6	R928043830	..U6	R928044070	R928006863
445LEN0400-H10XLA00-V5,0-M-..	325 [85.86]	..R6	R928043831	..U6	R928044071	R928006917
445LEN0630-H10XLA00-V5,0-M-..	460 [121.53]	..R8	R928043832	..S8	R928043912	R928006971
445LEN1000-H10XLA00-V5,0-M-..	515 [136.06]	..R8	R928043833	..S8	R928043913	R928007025

¹⁾ Measured pressure differential across filter and measuring equipment according to ISO 3968. The measured pressure differential at the maintenance indicator is lower.

Ordering code: Electronic switching element for maintenance indicator

ABZ F V - -1X / -DIN

Rexroth plant construction accessories

Filter

Maintenance indicator

Electronic switching element with 1 switching point (changeover)
round plug-in connection M12x1

= E1SP-M12X1

Electronic switching element with 2 switching points (normally
open/normally closed), 75 %, 100 %, round plug-in connection
M12x1, 3 LED

= E2SP-M12X1

Electronic switching element with 2 switching points (normally open/
normally closed), 75 %, 100 %, signal suppression until 30 °C
round plug-in connection M12x1, 3 LED

= E2SPSU-M12X1

-DIN = Mark for DIN version

1X =

Component series

Component series 10 to 19
(10 to 19; identical installation
and connection dimensions)

Electronic switching element	Material no.
ABZFV-E1SP-M12X1-1X/-DIN	R901025339
ABZFV-E2SP-M12X1-1X/-DIN	R901025340
ABZFV-E2SPSU-M12X1-1X/-DIN	R901025341

Order example: Line filter with mechanical optical maintenance indicator for $p_{nom.} = 450 \text{ bar}$ [6527 psi] with bypass valve, size 0400, with filter element 10 μm and electronic switching element M12x1 with 1 switching point for hydraulic fluid mineral oil HLP according to DIN 51524.

Filter: 445LEN0400-H10XLA00-V5,0-M-R6

Material no. R928025563

Electron. switching element: ABZFV-E1SP-M12X1-1X/-DIN

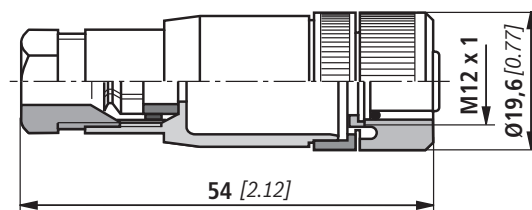
Material no. R901025339

Mating connectors according to IEC 60947-5-2 (dimensions in mm [inch])

For electronic switching element with round plug-in connection M12 x 1

**Mating connector for K24 4-pin, M12 x 1
with screw connection, cable gland Pg9.**

Material no. R900031155



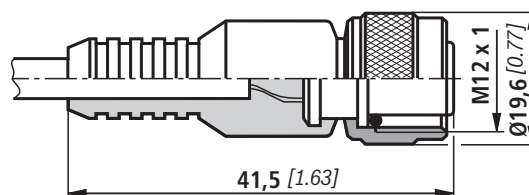
**Mating connector for K24-3m 4-pin, M12 x 1
with potted-in PVC cable, 3 m long.**

Line cross-section: 4 x 0.34 mm²

Core marking:

- 1 Brown
- 2 White
- 3 Blue
- 4 Black

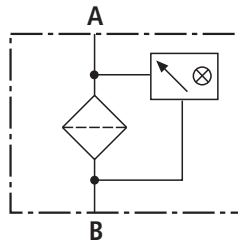
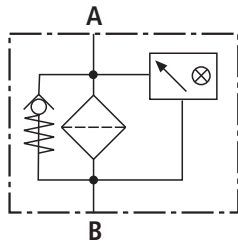
Material no. R900064381



For more round plug-in connections, see data sheet RE 08006.

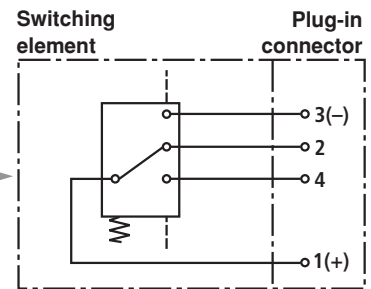
Symbols

Line filter with bypass and mechanical indicator

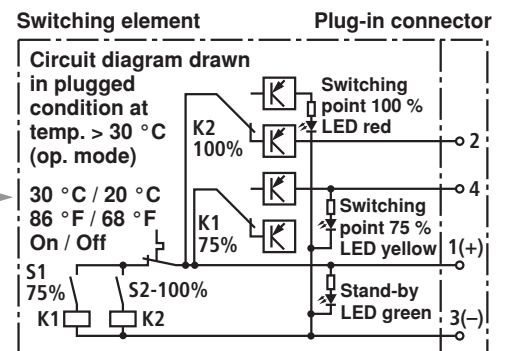


Line filter without bypass and mechanical indicator

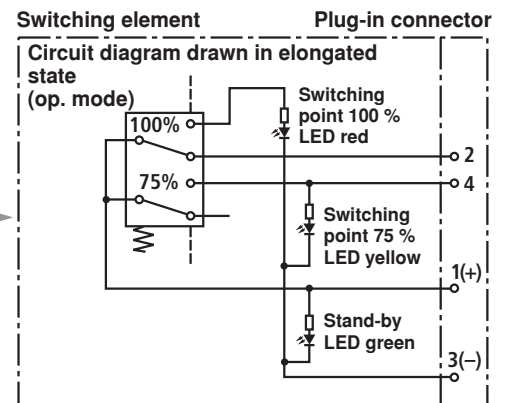
Electronic switching element for maintenance indicator



ABZFV-E1SP-M12X1-1X/-DIN



ABZFV-E2SPSU-M12X1-1X/-DIN



ABZFV-E2SP-M12X1-1X/-DIN

Function, section

The 445LE(N) line filters are suitable for direct installation into pressure lines. They are mostly installed upstream control units or controllers to be protected.

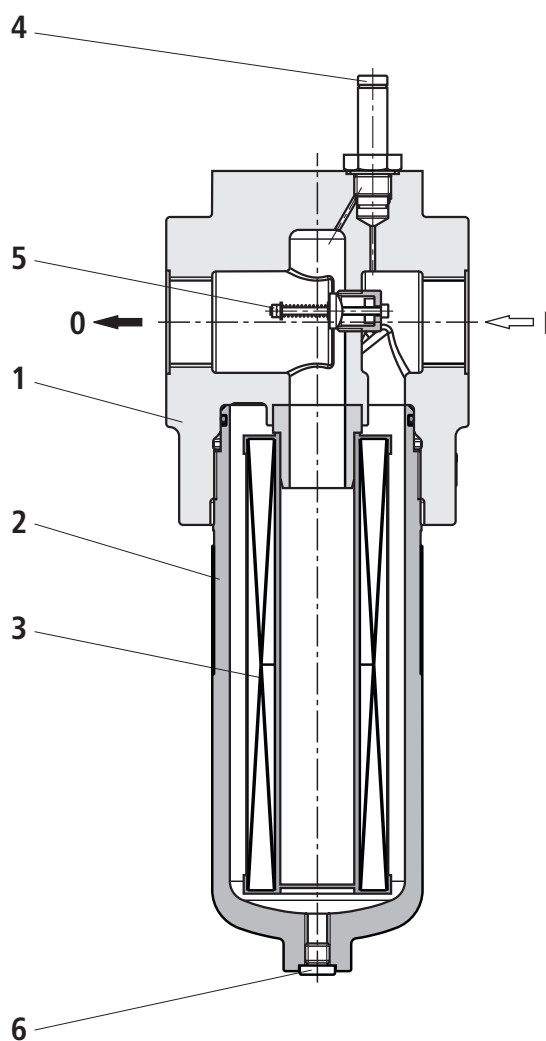
They basically consist of filter head (1), a screwable filter bowl (2), filter element (3) as well as mechanical optical maintenance indicator (4). In case of filters with low-pressure-differential-stable filter elements (= code letter pressure differential A), there is also an assembled bypass valve (5).

Via port I, the hydraulic fluid reaches the filter element (3) where it is cleaned. The dirt particles filtered out settle in the filter bowl (2) and in the filter element (3). Via port O, the filtered hydraulic fluid enters the hydraulic circuit.

The filter housing and all connection elements are designed so that pressure peaks - as they may e.g. occur in case of the abrupt opening of large control valves due to the accelerated fluid weight - can be securely absorbed. As of size 0160, the standard equipment comprises an oil drain plug (6). With size 1000, the filter bowl has a two-part design.

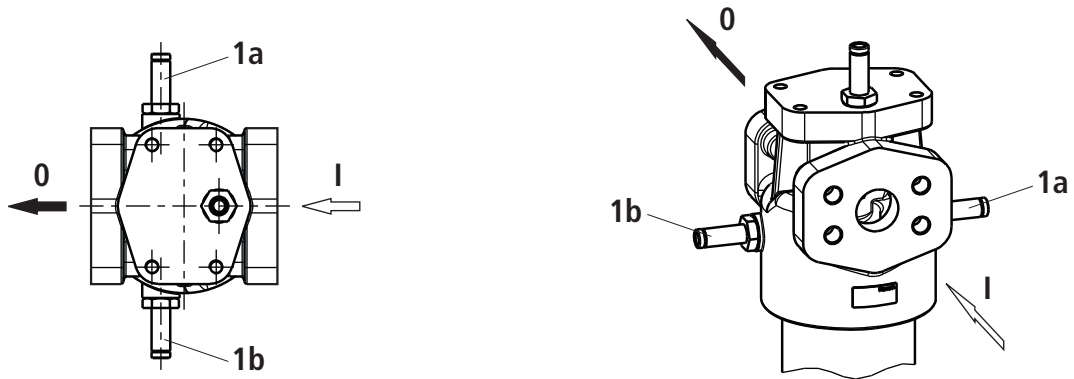
The filter is basically equipped with a mechanical-optical maintenance indicator (4) or alternatively, with an additional pressure gauge (See chapter Complementary details). The electronic maintenance indicator is connected via the electronic switching element with 1 or 2 switching points, which has to be ordered separately.

The electronic switching element is attached to the mechanical optical maintenance indicator and held by means of a locking ring.



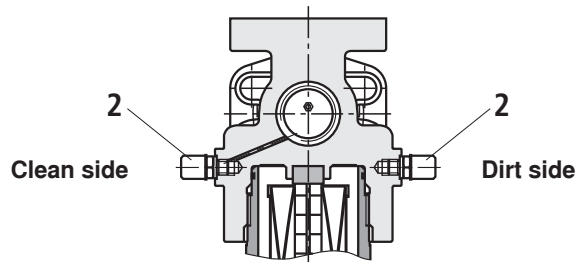
Additional design options

Position of the mechanical optical maintenance indicator (standard position at the top)



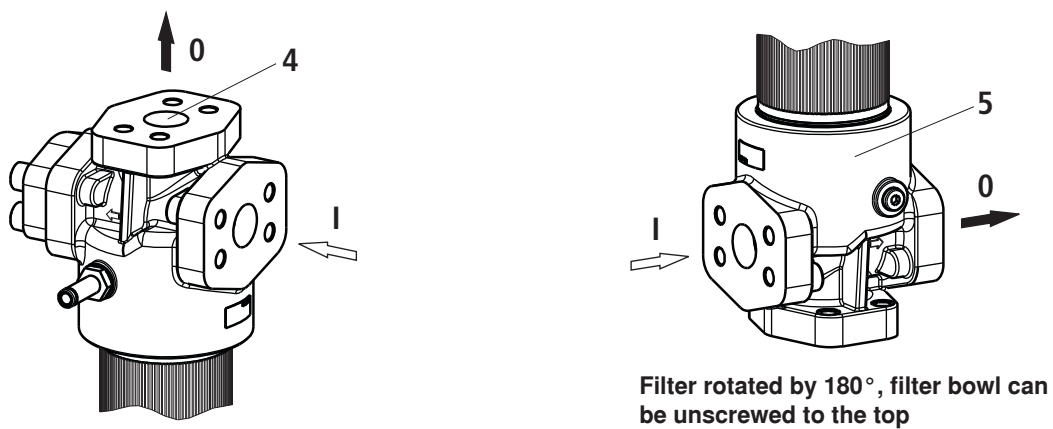
Complementary details	Item	Ordering code	Example
Maintenance indicator right	1a	V3	445LEN0160-H3XLA00-V5,0-M-R4-V3
Maintenance indicator left	1b	V9	445LEN0160-H3XLA00-V5,0-M-R4-V9

2 additional Minimes connections on clean and dirt side



Complementary details	Item	Ordering code	Example
Minimes connections (2 x)	2	M	445LEN0160-H3XLA00-V5,0-M-R4-M

Outlet at the top, outlet opposite to the inlet closed



Complementary details	Item	Ordering code	Example
Outlet at the top	4	7	445LEN0160-H3XLA00-V5,0-M-R4-7
Filter rotated by 180°	5	9	445LEN0160-H3XLA00-V5,0-M-R4-9

Technical data (For applications outside these parameters, please consult us!)**general**

Installation position		Vertical				
Ambient temperature range		°C [°F]	-30 to +100 [-22 to +212]			
Weight	Size	0040	0063	0100		
	kg [lbs]	4.4 [9.7]	5 [11.1]	5.9 [13.1]		
Weight	Size	0160	0250	0400	0630	1000
	kg [lbs]	24 [53.2]	26 [57.7]	30 [66.5]	60 [133.1]	104 [230.7]
Material	Filter head	GGG				
	Filter bowl	Steel				
	Optical maintenance indicator	Brass				
	Electronic switching element	Plastic PA6				

hydraulic

Maximum operating pressure	bar [psi]	450 [6527]
Hydraulic fluid temperature range	°C [°F]	-10 to +100 [+14 to +212]
Fatigue strength according to ISO 10771	Load cycles	> 10 ⁶ with max. operating pressure
Cracking pressure of the bypass valve	bar [psi]	7 ± 0.5 [100 ± 7]
Type of pressure measurement of the maintenance indicator	Pressure differential	
Response pressure of the maintenance indicator	bar [psi]	5 ± 0.5 [72 ± 7]

electrical (electronic switching element)

Electrical connection		Round plug-in connection M12 x 1, 4-pin	
Contact load, direct voltage		A	Max. 1
Voltage range	E1SP-M12x1	V DC/AC	Max. 150
	E2SP	V DC	10 to 30
Max. switching power with resistive load		20 VA; 20 W; (70 VA)	
Switching type	E1SP-M12x1	Changeover	
	E2SP-M12x1	Normally open contact at 75 % of the response pressure, normally closed contact at 100 % of the response pressure	
	E2SPSU-M12x1	Normally open contact at 75 % of the response pressure, normally closed contact at 100 % of the response pressure Signal interconnection at 30 °C [86 °F], return switching at 20 °C [68 °F]	
Display via LEDs in the electronic switching element E2SP...		Stand-by (LED green); 75 % switching point (LED yellow) 100 % switching point (LED red)	
Protection class according to EN 60529		IP 65	

For direct voltage above 24 V, a spark extinguishing is to be planned to protect the switching contacts.

Weight	Electronic switching element: – with round plug-in connection M12 x 1	kg [lbs]	0.1 [0.22]
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Technical data (For applications outside these parameters, please consult us!)**Filter element**

Glass fiber paper H..XL			Single-use element on the basis of inorganic fiber	
			Filtration ratio according to ISO 16889 up to $\Delta p = 5 \text{ bar [72.5 psi]}$	Achievable oil cleanliness according to ISO 4406 [SAE-AS 4059]
		H20XL	$\beta_{20}(c) \geq 200$	19/16/12 – 22/17/14
		H10XL	$\beta_{10}(c) \geq 200$	17/14/10 – 21/16/13
		H6XL	$\beta_6(c) \geq 200$	15/12/10 – 19/14/11
		H3XL	$\beta_5(c) \geq 200$	13/10/8 – 17/13/10
Admissible pressure differential	A	bar [psi]	30 [435]	
	B	bar [psi]	330 [4785]	

Seal material for hydraulic fluids

Mineral oil			Ordering code
Mineral oil	HLP	according to DIN 51524	M
Flame-resistant hydraulic fluids			Ordering code
Emulsions	HFA-E	according to DIN 24320	M
Synthetic water solutions	HFA-S	according to DIN 24320	M
Water solutions	HFC	according to VDMA 24317	M
Phosphoric acid esters	HFD-R	according to VDMA 24317	V
Organic esters	HFD-U	according to VDMA 24317	V
Fast biodegradable hydraulic fluids			Ordering code
Triglycerides (rape seed oil)	HETG	according to VDMA 24568	M
Synthetic esters	HEES	according to VDMA 24568	V
Polyglycols	HEPG	according to VDMA 24568	V

Characteristic curves (measured with HLP46, according to ISO 3968)

H3XL

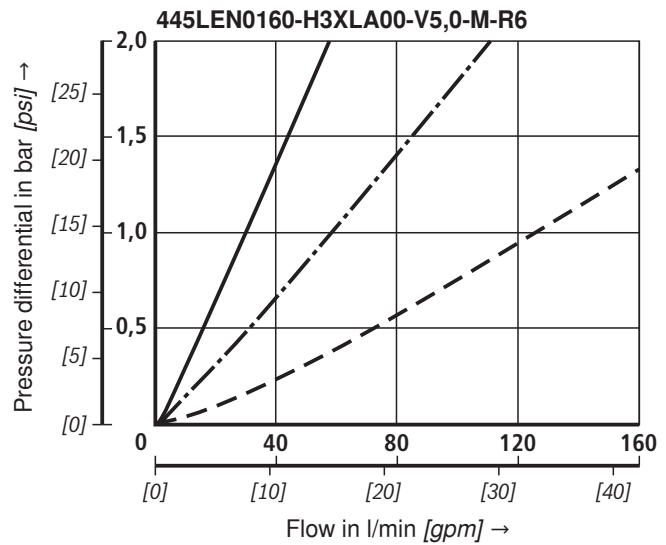
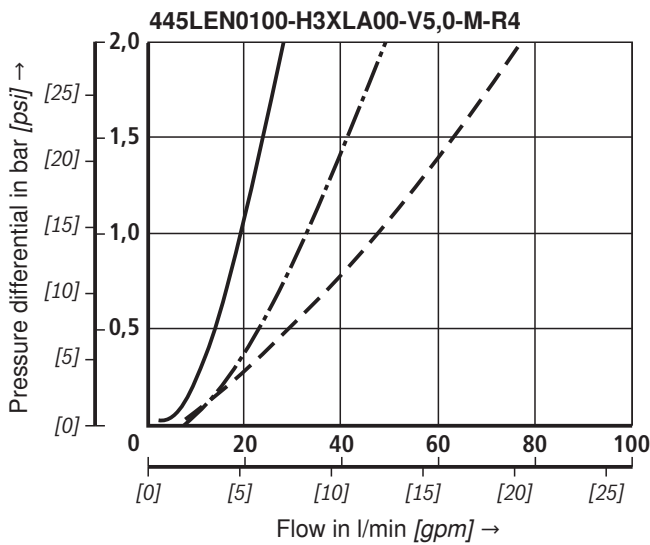
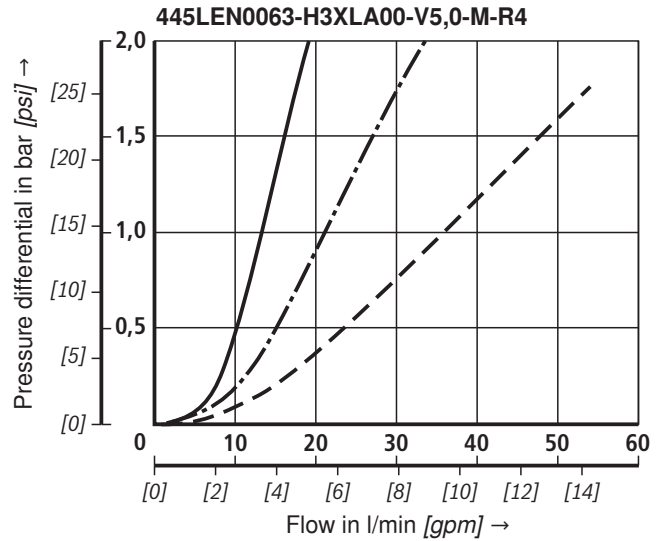
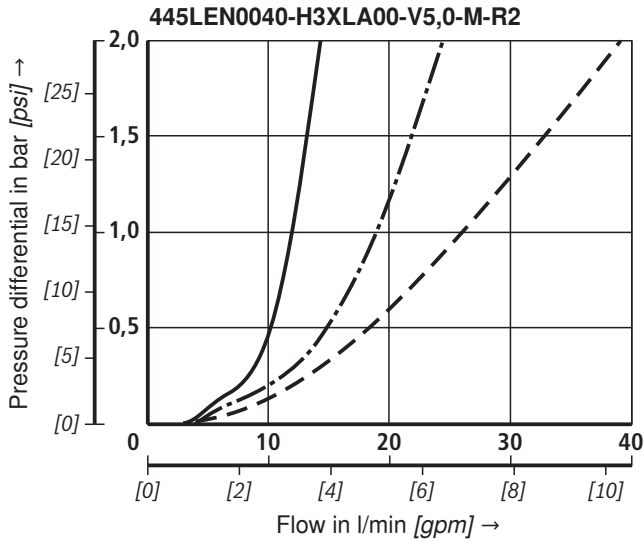
Specific weight: < 0.9 kg/dm³

Δp -Q characteristic curves for complete filters

recommended initial Δp for design = 1 bar [14.5 psi]

A proper filter design is enabled by our computer program "BRFilterSelect".

Oil viscosity:
 — 140 mm²/s [649 SUS]
 - · - 68 mm²/s [315 SUS]
 - - - 30 mm²/s [139 SUS]



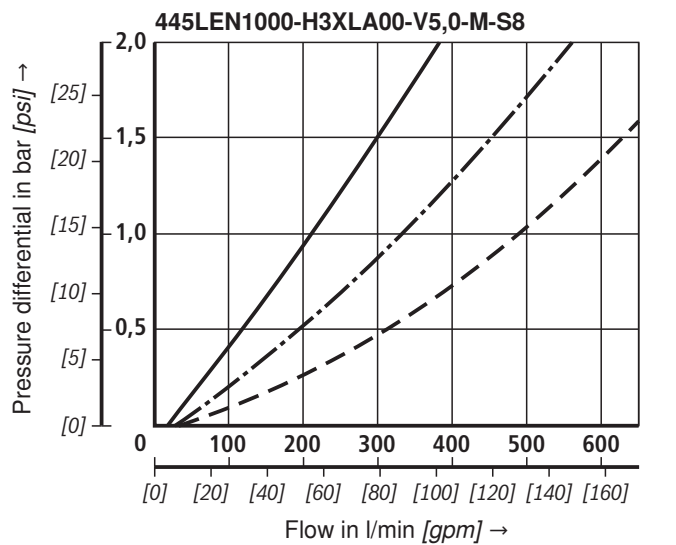
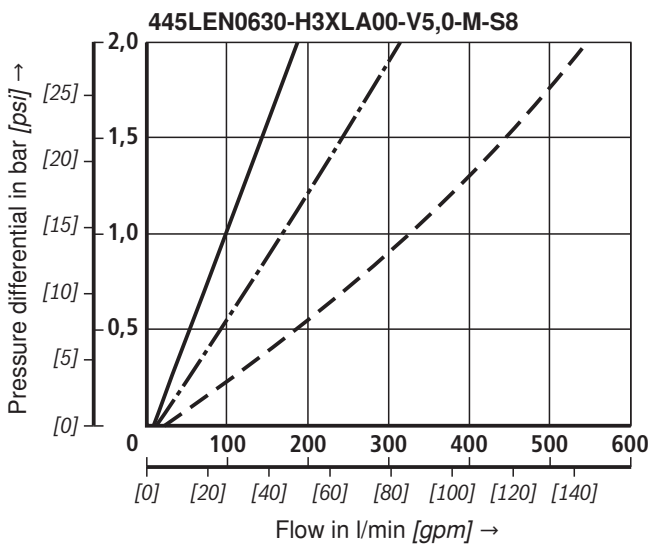
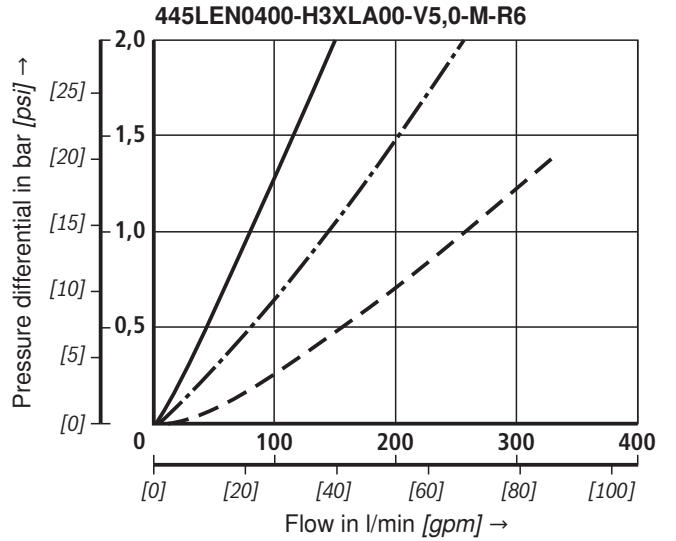
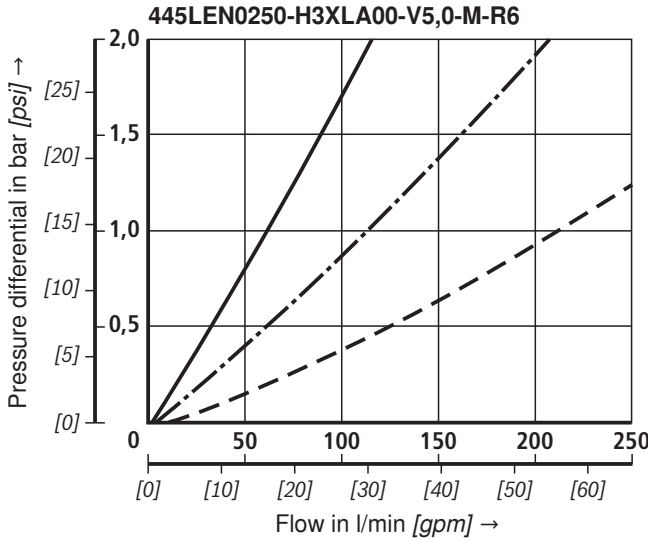
Characteristic curves (measured with HLP46, according to ISO 3968)

H3XL

Specific weight: < 0.9 kg/dm³
 Δp -Q characteristic curves for complete filters
 recommended initial Δp for design = 1 bar [14.5 psi]

A proper filter design is enabled by our computer program "BRFilterSelect".

Oil viscosity:
 — 140 mm²/s [649 SUS]
 - · - 68 mm²/s [315 SUS]
 - - - 30 mm²/s [139 SUS]



Characteristic curves (measured with HLP46, according to ISO 3968)

H10XL

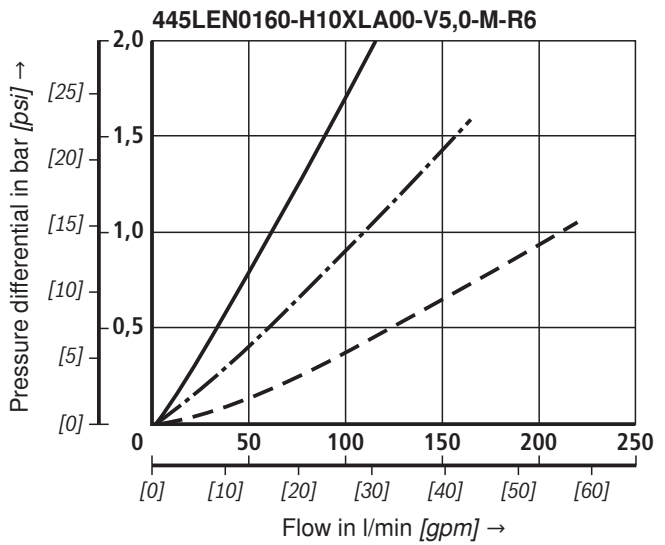
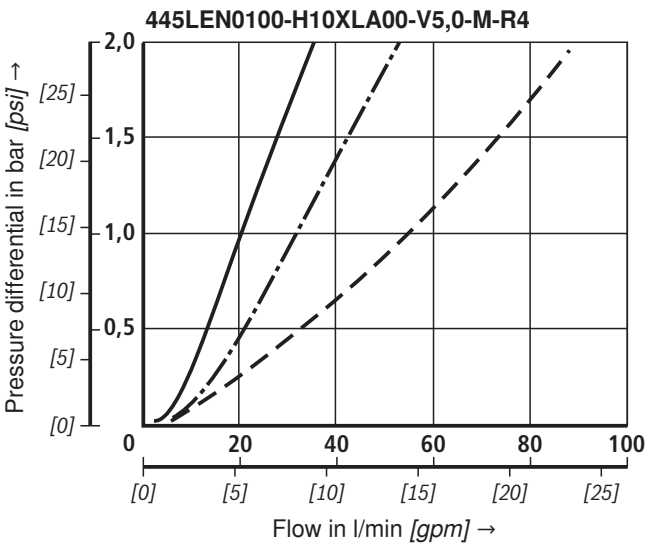
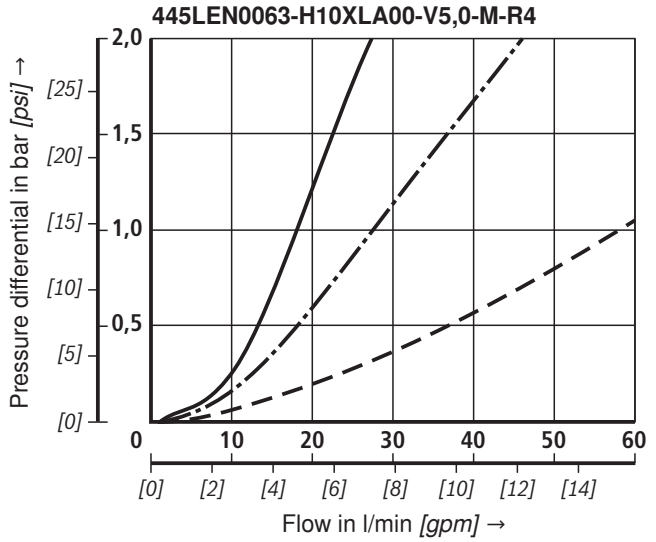
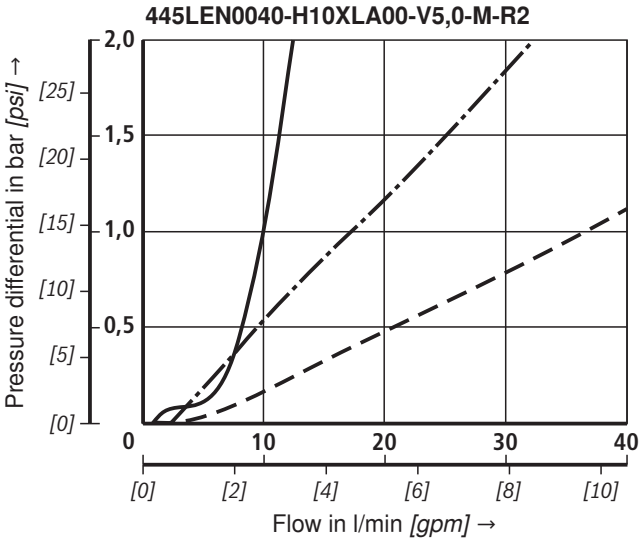
Specific weight: < 0.9 kg/dm³

Δp -Q characteristic curves for complete filters

recommended initial Δp for design = 1 bar [14.5 psi]

A proper filter design is enabled by our computer program "BRFilterSelect".

Oil viscosity:
 — 140 mm²/s [649 SUS]
 - · - 68 mm²/s [315 SUS]
 - - - 30 mm²/s [139 SUS]



Characteristic curves (measured with HLP46, according to ISO 3968)

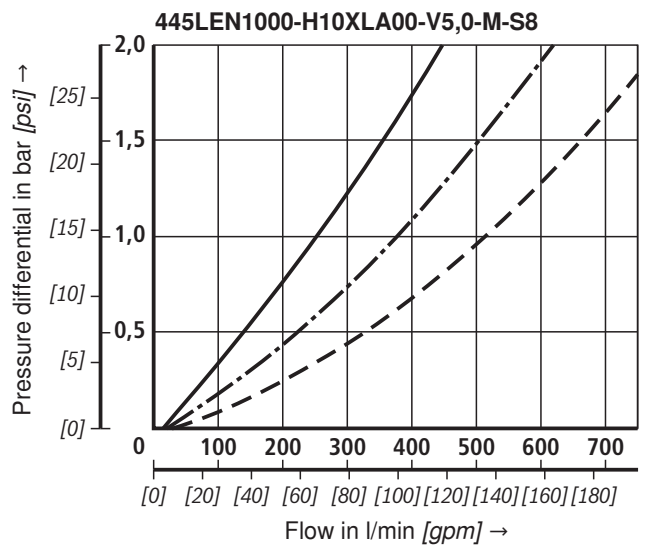
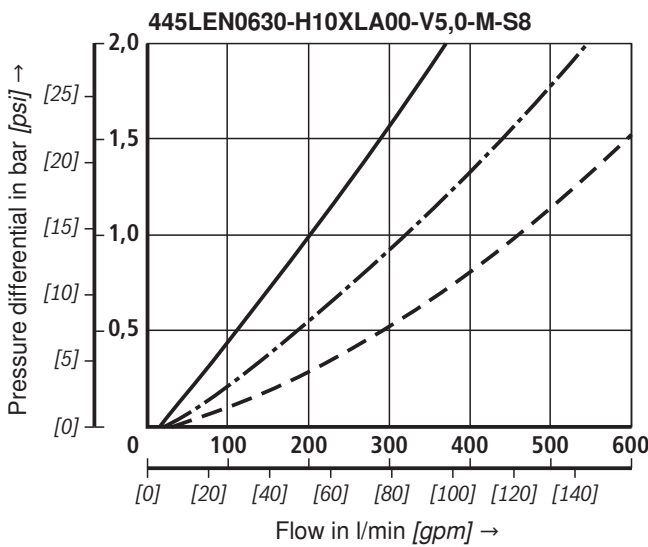
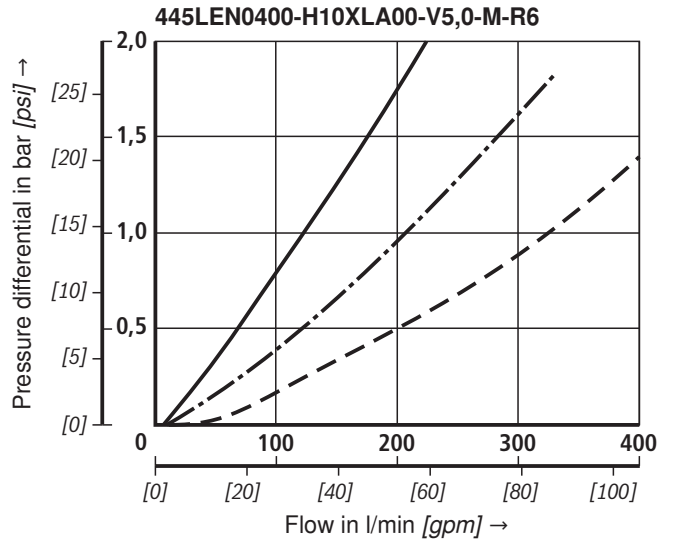
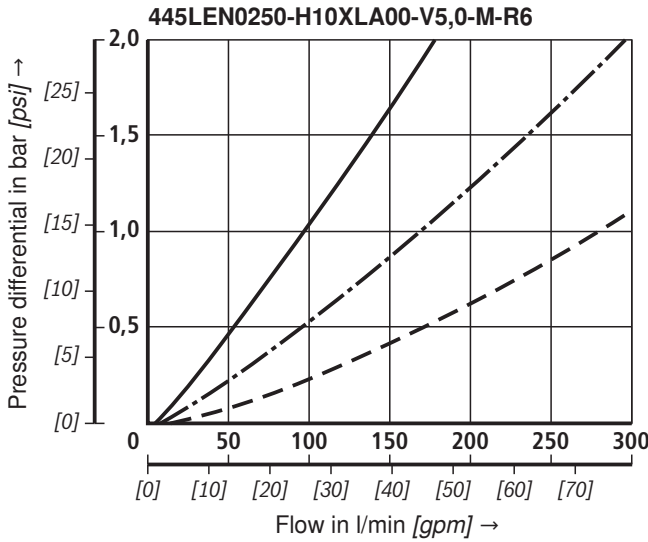
H10XL

Specific weight: < 0.9 kg/dm³

Δp -Q characteristic curves for complete filters
recommended initial Δp for design = 1 bar [14.5 psi]

A proper filter design is enabled by our computer program
"BRFilterSelect".

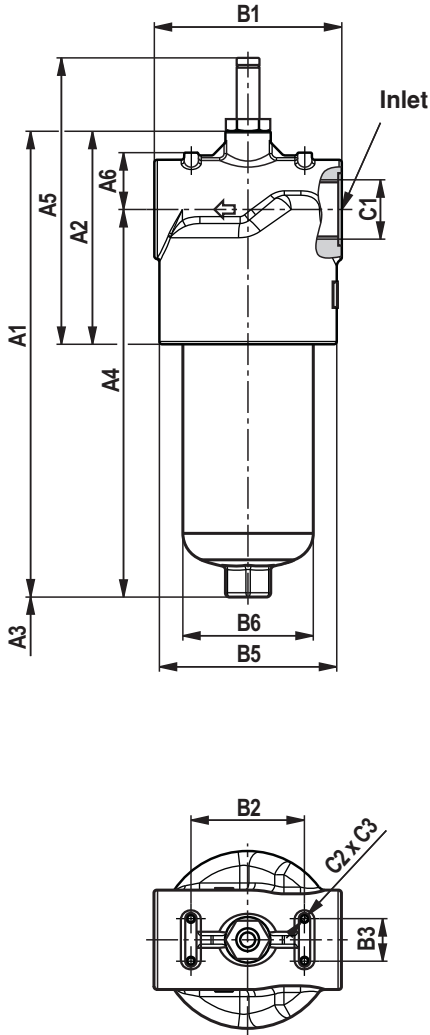
Oil viscosity:
 — 140 mm²/s [649 SUS]
 - · - 68 mm²/s [315 SUS]
 - - - 30 mm²/s [139 SUS]



Unit dimensions size 0040 to size 1000 (dimensions in mm [inch])

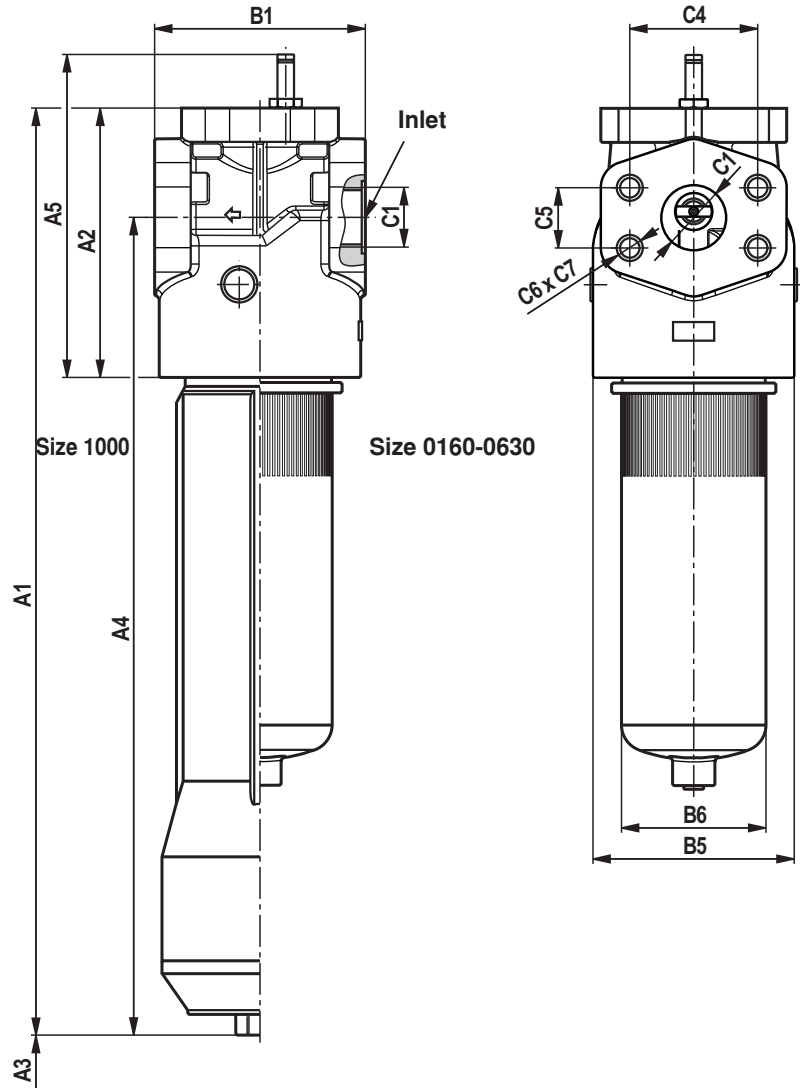
Size 0040-0100

Connections
pipe threads
UNF thread



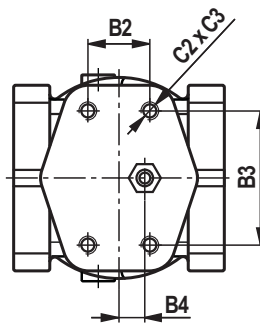
Size 0160-1000

Connections
SAE



Size 1000

Size 0160-0630



Unit dimensions size 0040 to size 1000 (dimensions in mm [inch])

Filter housing for filter elements in accordance with DIN 24550 and according to BR standard

Type 445 LE(N)	Content in l [US gal]	A1	A2	A3 ¹⁾	A4	A5	A6	B1	B2	B3
0040	0.25 [0.07]	203 [7.99]	115 [4.53]	80 [3.15]	158 [6.22]	167 [6.57]	25 [0.98]	92 [3.62]	65 [2.56]	30 [1.18]
0063	0.35 [0.09]	266 [10.47]		221 [8.70]						
0100	0.52 [0.14]	356 [14.02]		80 [3.15]	311 [12.24]					
0160	1.4 [0.37]	344 [13.54]	192 [7.56]	120 [4.72]	262 [10.31]	244 [9.61]	-	164 [6.46]	55 [2.17]	105 [4.13]
0250	1.95 [0.52]	434 [17.09]			352 [13.86]					
0400	3.1 [0.82]	584 [22.99]			502 [19.76]					
0630	5.0 [1.32]	656 [25.83]	261 [10.28]	160 [6.30]	550 [21.65]	313 [12.32]	-	204 [8.03]	60 [2.36]	130 [5.12]
1000	6.5 [1.72]	984 [38.74]		650 [25.59]	788 [31.02]					

Type 445 LE(N)	B4	B5 Ø	B6 Ø	Standard	R...	C1 S...	U...	C2	C3
0040	-	85 [3.35]	64 [2.52]	G 1/2	G 3/4	-	SAE 10 7/8-12 UNF-2B	M6	8 [0.31]
0063				G 1			SAE 12 1 1/16-12 UN-2B		
0100									
0160	30 [1.18]	150 [5.91]	114 [4.49]	G 1 1/2	-	SAE 1 1/2" 6000 psi	SAE 24 1 7/8-12 UN-2B	M12	28 [1.10]
0250						SAE 2" 6000 psi			
0400									
0630	25 [0.98]	195 [7.68]	140 [5.51]	SAE 2" 6000 psi	G 2	SAE 2 1/2" 6000 psi	-	M16	33 [1.30]
1000			188 [7.40]						

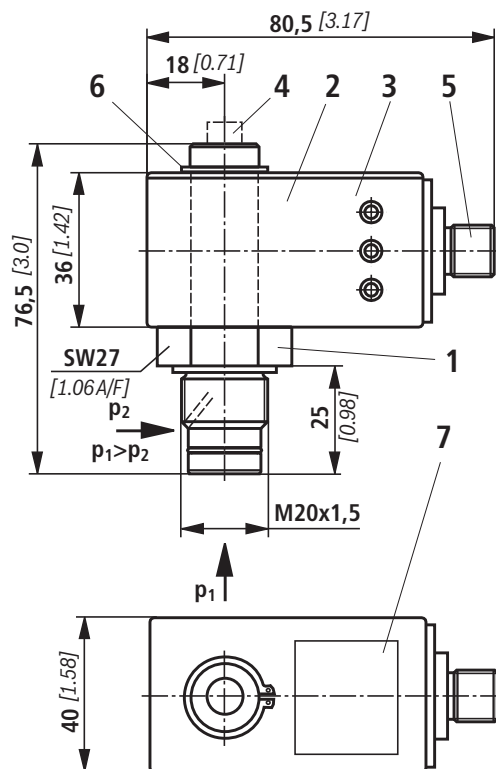
Additional ports

Port	C1 Ø	C4	C5	C6	C7
SAE 1 1/2" 6000 psi	38 [1.50]	79.38 [3.13]	36.5 [1.44]	M16	22 [0.87]
SAE 2" 6000 psi	51 [2.01]	96.82 [3.81]	44.45 [1.75]	M20	33 [1.30]
SAE 2 1/2" 6000 psi	63 [2.48]	123.8 [4.87]	58.7 [2.31]	M24	33 [1.30]

¹⁾ Servicing height for filter element replacement.

Maintenance indicator (dimensions in mm [inch])

Electronic switching element M12x1



- 1 Mechanical optical maintenance indicator;
max. tightening torque $M_{A \max} = 50 \text{ Nm}$ [36.88 lb-ft]
- 2 Switching element with locking ring for electrical
maintenance indicator (can be rotated by 360°); plug-in
connection M12x1 or according to DIN EN 175201-804
- 3 Housing with three LEDs: 24 V =
 - a. Green: Stand-by
 - b. Yellow: Switching point 75 %
 - c. Red: Switching point 100 %
- 4 Optical indicator bistable
- 5 Round connector M12x1, 4-pin
- 6 Locking ring
- 7 Name plate

Notes:

Presentation contains mechanical optical maintenance
indicator (1) and electronic switching element (2).

Round plug-in connection M12x1 (5)

For connection e.g. to ABZFV-E1SP-M12x1-1X/-DIN
(see page 4).

Switching elements with increased switching power at
request.

Spare parts

Mechanical optical maintenance indicator

ABZ F V-HV5-1X/ -DIN

Rexroth plant construction accessories

Filter

Maintenance indicator

Mechanical optical maintenance indicator for high-pressure filters switching point 5 bar [72 psi]

= HV5

DIN = Mark for DIN and SAE version

Seal material

NBR seal

FKM seal

M =

V =

Component series

Component series 10 to 19 (10 to 19; identical installation and connection dimensions)

1X =

Mechanical optical maintenance indicator	Material no.
ABZ FV-HV5-1X/M-DIN	R901025313

Seal kit

D 350/445LE

Seal kit

= D

Series

= 350/445LE

Size

Size 0040-0100

= N0040-0100

Size 0160-0400

= N0160-0400

Size 0630

= N0630

Size 1000

= N1000

Seal

NBR seal

FKM seal

M =

V =

Seal kit	Material no.
D350/445LEN0040-0100-M	R928028527
D350/445LEN0160-0400-M	R928028532
D350/445LEN0630-M	R928028536
D350/445LEN1000-M	R928028537

Installation, commissioning and maintenance

Installation of the filter

Verify operating overpressure with name plate information. Remove the blanking plugs in the filter inlet and outlet. Screw the filter head (1) to the fastening device, considering flow direction (direction arrows) and servicing height of the element. The filter must preferably be installed with the filter bowl (2) downward. The maintenance indicator must be arranged in a well visible way.

Connection of the electronic maintenance indicator

Basically, the filter is equipped with mechanical optical maintenance indicator (4). The electronic maintenance indicator is connected via the switching element with 1 or 2 switching points, which is attached to the mechanical optical maintenance indicator and held by means of the locking ring.

When must the filter element be exchanged or cleaned respectively?

Upon start-up in cold condition, the red pushbutton of the optical maintenance indicator (4) may jump out and an electrical signal is output via the switching element. Only push the red pushbutton in again after the operating temperature has been reached. If it jumps out again immediately or if the electrical signal has not gone out at operating temperature, the filter element must be exchanged or cleaned respectively after the end of the shift.

Element exchange

- Switch off the system and discharge the filter on the pressure side.
- Screw off the filter bowl (2) or the floor (size 1000) by anticlockwise rotation. Clean the filter housing in a suitable medium.
- Remove the filter element (3) from the centering spigot in the filter head by turning it slightly
- Check the seal ring and the support ring in the filter bowl for position and damage. If necessary, these parts are to be renewed.
- Replace filter elements H...XL, clean filter elements G...
- The efficiency of the cleaning process depends on the characteristics of contamination and the amount of the pressure differential before the filter element exchange. If the pressure differential after the filter element exchange exceeds 50 % of the value before the filter element exchange, the G... element also needs to be replaced.
- Check whether the type designation or material number on the replacement element corresponds to the type designation/material number on the name plate of the filter.
- Install replaced or cleaned filter element on the spigot again by slightly turning it.
- Now screw in the filter bowl to stop. Then turn out the filter bowl by 1/8 to 1/2 turn so that the filter bowl is not stuck due to the pressure pulsation and can be easily loosened in case of maintenance works.

Quality and standardization

The line filters for hydraulic applications according to RE 51423 are pressure holding equipment according to article 1, section 2.1.4 of the pressure equipment directive 97/23/EC (PED). However, on the basis of the exception in article 1, section 3.6 of the PEG, hydraulic filters are exempt from the PED if they are not classified higher than category I (guideline 1/19). They do not receive a CE mark.

Use in explosive areas according to directive 94/9/EC (ATEX)

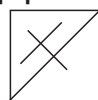
The line filters according to RE 51423 are no equipment or components in the sense of directive 94/9/EC and are not provided with a CE mark.

When using the line filters according to RE 51423 in explosive areas, potential equalization has to be ensured.

According to DIN EN 50020, the electronic maintenance indicators are simple, electronic operating equipment not having an own voltage source. This simple, electronic operating equipment may - according to DIN EN 60079-14 - in intrinsically safe electrical circuits (EEx ib) be used in systems for device group II, category 2G (zone 1) and category 3G (zone 2) without marking and certification. The operating equipment is assigned to explosion group II B and temperature class T5.

Possible circuit according to DIN EN 60079-14

Related operating equipment



I_{01}

U_{01}

EX ib

Explosive area, zone 1

Intrinsically safe operating equipment

With electrical maintenance indicators with two switching points, switching devices with two intrinsically safe input circles must be used.

Notes

Notes
