

Tank mounted return line filter with filter element according to DIN 24550

Type 10TEN0040 to 1000; 10TE2000 and 2500

RE 51424

Edition: 2025-02

Replaced: 2024-09



H7855_d

Features

The tank mounted return line filters are designed for installation on fluid tanks. Their function is to separate solid materials from fluids.

They distinguish themselves by the following:

- ▶ Filter for tank mounting
- ▶ Special highly efficient filter materials
- ▶ Filtration of very fine particles and high dirt holding capacity across a broad pressure differential range
- ▶ High collapse resistance of the filter elements
- ▶ Optionally equipped with mechanical optical maintenance indicator with memory function
- ▶ Available as an option with different electrical switching elements, modular design
- ▶ By default, the filters are equipped with a bypass valve integrated in the filter housing
- ▶ Optional measuring port

- ▶ Size according to DIN 24550: 0040 to 1000
- ▶ additional sizes: 2000, 2500
- ▶ Nominal pressure 10 bar [145 psi]
- ▶ Connection up to 4"
- ▶ Operating temperature
NBR: -40 °C to 100 °C [-40 °F to 212 °F];
FKM: -20 °C to 100 °C [-4 °F to 212 °F]

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Ordering code filter

Sizes 0040 to 0100

01	02	03	04	05	06	07	08	09	09	09	09
10TE	N		-		A00	-		-	-	-	-

Series

01	Return line filter, simple 10 bar [145 psi]	10TE
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Filter element

02	With filter element according to DIN 24550	N
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Size

03	TEN... Filter element according to DIN 24550	0040 0063 0100
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Filter rating in µm

04	Nominal Paper, not cleanable	P10 P25
	Nominal Stainless steel wire mesh, cleanable	G25 G100
	Absolute (ISO 16889; $\beta_{x(c)} \geq 200$) Glass fiber material, not cleanable	PWR3 PWR6 PWR10 PWR20
	Absolute (ISO 16889; $\beta_{x(c)} \geq 200$) Water-absorbing, not cleanable	AS3 AS6 AS10 AS20

Pressure differential

05	Max. permissible pressure differential of the filter element 30 bar [435 psi] – Filter with bypass valve	A00
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Maintenance indicator

06	Without maintenance indicator – bypass cracking pressure 3.5 bar [51 psi]	0
	Pressure gauge ¹⁾ 0...6 bar [0...87 psi] right – bypass cracking pressure 3.5 bar [51 psi]	MR
	Maintenance indicator, polyamide, mech./optical, switching pressure 2.2 bar [32 psi] – bypass cracking pressure 3.5 bar [51 psi]	P2.2
	Maintenance indicator, aluminum, mech./optical, switching pressure 0.8 bar [11.6 psi] – bypass cracking pressure 3.5 bar [51 psi]	V0.8
	Maintenance indicator, aluminum, mech./optical, switching pressure 1.5 bar [21.8 psi] – bypass cracking pressure 3.5 bar [51 psi]	V1.5
	Maintenance indicator, aluminum, mech./optical, switching pressure 2.2 bar [32 psi] – bypass cracking pressure 3.5 bar [51 psi]	V2.2

Seal

07	NBR seal	M
	FKM seal	V

¹⁾ When using a pressure gauge, the maximum permissible operating pressure is reduced to 6 bar [87 psi].

Ordering code filter

Sizes 0040 to 0100

01	02	03	04	05	06	07	08	09	09	09	09
10TE	N		-		A00	-		-	-	-	-

Main inlet

08	Frame size	0040	0063-0100	
	Connection			
	G 3/4	●	X	R3
	G 1	X	●	R4
	1 1/16-12 UN -2B [SAE 12]	X	X	U4
	1 5/16-12 UN -2B [SAE 16]	X	X	U9
<input checked="" type="checkbox"/> Standard connection <input type="checkbox"/> Alternative connection				

Supplementary information (Multiple specifications possible)

09	Breathing filter	F
	Ventilation filter with surge protection	FN
	Outlet pipe L110 mm [10.92 cm]	R110
	Outlet pipe L150 mm [5,9 in]	R150
	Outlet pipe L250 mm [9.8 inch]	R250

Order example:

10TEN0040-PWR10A00-P2,2-M-R3

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

Ordering code filter

sizes 0160 to 2500

01	02	03	04	05	06	07	08	09	
10TE				-	A00	-		-	NB

Series

01	Return line filter, simple 10 bar [145 psi]	10TE
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Filter element

02	With filter element according to DIN 24550 (only with frame size 0160 - 1000)	N
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Size

03	TEN...	0160
	Filter element according to DIN 24550	0250 0400 0630 1000
	TE...	2000
	(Filter elements according to Hengst standard)	2500

Filter rating in µm

04	Nominal	Paper, not cleanable	P10 P25
	Nominal	Stainless steel wire mesh, cleanable	G25 G100
	Absolute (ISO 16889; $\beta_{x(c)} \geq 200$)	Glass fiber material, not cleanable	PWR3 PWR6 PWR10 PWR20
	Absolute (ISO 16889; $\beta_{x(c)} \geq 200$)	Water-absorbing, not cleanable	AS3 AS6 AS10 AS20

Pressure differential

05	Max. permissible pressure differential of the filter element 30 bar [435 psi] – Filter with bypass valve	A00
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Maintenance indicator

06	Without maintenance indicator – bypass cracking pressure 3.5 bar [51 psi]	0
	Pressure gauge ¹⁾ 0...6 bar [0...87 psi] left – bypass cracking pressure 3.5 bar [51 psi]	ML
	Maintenance indicator, polyamide, mech./optical, switching pressure 2.2 bar [32 psi] – bypass cracking pressure 3.5 bar [51 psi]	P2.2
	Maintenance indicator, aluminum, mech./optical, switching pressure 0.8 bar [11.6 psi] – bypass cracking pressure 3.5 bar [51 psi]	V0.8
	Maintenance indicator, aluminum, mech./optical, switching pressure 1.5 bar [21.8 psi] – bypass cracking pressure 3.5 bar [51 psi]	V1.5
	Maintenance indicator, aluminum, mech./optical, switching pressure 2.2 bar [32 psi] – bypass cracking pressure 3.5 bar [51 psi]	V2.2

Seal

07	NBR seal	M
	FKM seal	V

¹⁾ When using a pressure gauge, the maximum permissible operating pressure is reduced to 6 bar [87 psi].

Ordering code filter

sizes 0160 to 2500

01	02	03	04	05	06	07	08	09
10TE				- A00	-	-	-	NB

Main inlet

08	Frame size	0160		0250		0400	0630	1000	2000	2500	
		Connection	0160	0250	0400	0630	1000	2000	2500		
G 1 1/4		●	X								R5
G 1 1/2		X	●								R6
SAE 1 1/4" - 3000 psi		X	X								S5
SAE 1 1/2" - 3000 psi		X	X								S6
1 7/8-12 UN 2B [SAE 24]		X	X								U6
SAE 2" - 3000 psi				●	X						S8
SAE 2 1/2" - 3000 psi				X	●						S9
SAE 3" - 3000 psi						●	X	X			S10
SAE 4" - 3000 psi						X	●	●			S12
● Standard connection X Alternative connection											

Supplementary information (Multiple specifications possible)

09	without bypass valve	NB
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Order example:

10TEN0630-PWR10A00-P2,2-M-S9

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

Preferred types

Filter rating 3 µm, 6 µm, 10 µm and 20 µm

Filter type	Flow in l/min [gpm] with $\nu = 30 \text{ mm}^2/\text{s}$ [142 SUS] and $\Delta p = 0.5 \text{ bar}$ [7.25 psi] ¹⁾	Connection	Material no.	Connection	Material no.
10TEN0040-PWR3A00-P2,2-M...	23 [6.1]	..R3	R928041292	..U4	R928041293
10TEN0063-PWR3A00-P2,2-M...	35 [9.2]	..R4	R928041294	..U9	R928041295
10TEN0100-PWR3A00-P2,2-M...	52 [13.7]	..R4	R928041296	..U9	R928041297
10TEN0160-PWR3A00-P2,2-M...	105 [27.7]	..R5	R928041298	..S5	R928041299
10TEN0250-PWR3A00-P2,2-M...	160 [42.3]	..R6	R928041300	..S6	R928041301
10TEN0400-PWR3A00-P2,2-M...	290 [76.6]	..S8	R928041302	..S9	R928041303
10TEN0630-PWR3A00-P2,2-M...	410 [108.3]	..S9	R928041304	..S8	R928041305
10TEN1000-PWR3A00-P2,2-M...	560 [147.9]	..S10	R928041306	..S12	R928041307
10TE2000-PWR3A00-P2,2-M...	900 [237.7]	..S12	R928041308	..S10	R928041309
10TE2500-PWR3A00-P2,2-M...	1100 [290.6]	..S12	R928041310	..S10	R928041311
10TEN0040-PWR6A00-P2,2-M...	40 [10.6]	..R3	R928052853	..U4	R928052854
10TEN0063-PWR6A00-P2,2-M...	58 [15.3]	..R4	R928052855	..U9	R928052856
10TEN0100-PWR6A00-P2,2-M...	76 [20.1]	..R4	R928052857	..U9	R928052858
10TEN0160-PWR6A00-P2,2-M...	179 [47.3]	..R5	R928044990	..S5	R928053324
10TEN0250-PWR6A00-P2,2-M...	248 [65.5]	..R6	R928046782	..S6	R928048118
10TEN0400-PWR6A00-P2,2-M...	442 [116.8]	..S8	R928046816	..S9	R928052860
10TEN0630-PWR6A00-P2,2-M...	545 [144.0]	..S9	R928044949	..S8	R928044930
10TEN1000-PWR6A00-P2,2-M...	910 [240.4]	..S10	R928046825	..S12	R928052861
10TEN2000-PWR6A00-P2,2-M...	1310 [346.1]	..S12	R928052862	..S10	R928052264
10TEN2500-PWR6A00-P2,2-M...	1440 [380.4]	..S12	R928052863	..S10	R928044973
10TEN0040-PWR10A00-P2,2-M...	43 [11.3]	..R3	R928041271	..U4	R928041272
10TEN0063-PWR10A00-P2,2-M...	62 [16.4]	..R4	R928041273	..U9	R928041274
10TEN0100-PWR10A00-P2,2-M...	80 [21.1]	..R4	R928041275	..U9	R928041276
10TEN0160-PWR10A00-P2,2-M...	190 [50.2]	..R5	R928041277	..S5	R928041278
10TEN0250-PWR10A00-P2,2-M...	260 [68.7]	..R6	R928041279	..S6	R928041280
10TEN0400-PWR10A00-P2,2-M...	460 [121.5]	..S8	R928041281	..S9	R928041282
10TEN0630-PWR10A00-P2,2-M...	560 [147.9]	..S9	R928041283	..S8	R928041284
10TEN1000-PWR10A00-P2,2-M...	970 [256.2]	..S10	R928041285	..S12	R928041286
10TE2000-PWR10A00-P2,2-M...	1350 [356.6]	..S12	R928041288	..S10	R928041289
10TE2500-PWR10A00-P2,2-M...	1450 [383.0]	..S12	R928041290	..S10	R928041291
10TEN0040-PWR20A00-P2,2-M...	62 [16.4]	..R3	R928041199	..U4	R928041200
10TEN0063-PWR20A00-P2,2-M...	80 [21.1]	..R4	R928041201	..U9	R928041202
10TEN0100-PWR20A00-P2,2-M...	95 [25.1]	..R4	R928041203	..U9	R928041204
10TEN0160-PWR20A00-P2,2-M...	260 [68.7]	..R5	R928041205	..S5	R928041206
10TEN0250-PWR20A00-P2,2-M...	320 [84.5]	..R6	R928041208	..S6	R928041209
10TEN0400-PWR20A00-P2,2-M...	560 [147.9]	..S8	R928041210	..S9	R928041211
10TEN0630-PWR20A00-P2,2-M...	630 [166.4]	..S9	R928041223	..S8	R928041224
10TEN1000-PWR20A00-P2,2-M...	1270 [335.5]	..S10	R928041225	..S12	R928041226
10TE2000-PWR20A00-P2,2-M...	1600 [422.7]	..S12	R928041228	..S10	R928041229
10TE2500-PWR20A00-P2,2-M...	1680 [443.8]	..S12	R928041230	..S10	R928041231

¹⁾ An appropriate differential pressure via the filter and measuring device according to ISO 3968. The differential pressure measured on the maintenance indicator is lower.

Ordering code accessories

Electronic switching element for maintenance indicators

If an electronic switching element with signal suppression up to 30 °C [86 °F] is used (WE-2SPSU-M12 X 1, **R928028411**), it has to be ensured that the aluminum version of the mechanical-optical maintenance indicator must be used. These maintenance indicators are referred

to in the filter type key as "V0.8", "V1.5" or "V2.2". Also refer to the chapter "Spare parts and accessories".

The temperature-controlled signal processing does not work with mechanical-optical maintenance indicators made of polyamide.

01	02	03
WE	-	-

Maintenance indicator

01	electronic switching element	WE
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Type of signal

02	1 switching point	1SP
	2 switching points, 3 LED	2SP
	2 switching points, 3 LED and signal suppression up to 30 °C [86 °F]	2SPSU

Connector

03	Round plug-in connection M12 x 1, 4-pole	M12x1
	Rectangular connector, 2-pole, design A according to EN-175301-803, only possible with "1SP" type of signal.	EN175301-803

Material numbers of the electronic switching elements

With the "mechanical-optical maintenance indicator" option (V..., P...), two mechanical optical maintenance indicators are installed at the factory. So you must always order two electric switching elements as optional accessories.

Material no.	Type	Signal	Switching points	Connector	LED
R928028409	WE-1SP-M12 x 1	Changeover	1		No
R928028410	WE-2SP-M12 x 1	Normally open (at 75%) / normally closed contact (at 100%)	2	M12 x 1	3 pieces
R928028411	WE-2SPSU-M12 x 1				
R928036318	WE-1SP-EN175301-803	Normally closed contact	1	EN 175301-803	No

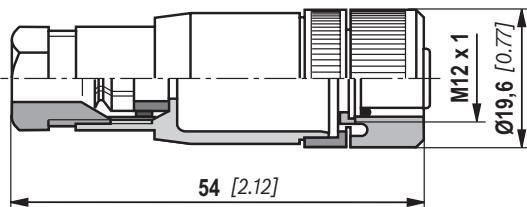
Ordering code
accessories
 (dimensions in mm [*inch*])

Connection sockets (max. permissible voltage: 50 V)

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

Connection socket suitable for K24 4-pole, M12 x 1
 with screw connection, cable gland Pg9.

Material no. R900031155

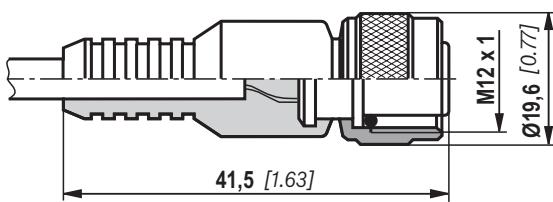


Connection socket suitable for K24-3m 4-pole, M12 x 1
 with integrated PVC cable, 3 m long.

Wire cross-section: 4 x 0.34 mm²

Wire identification: 1 brown 2 white
 3 blue 4 black

Material no. R900064381



Order example:

Tank mounted return line filter with mechanical-optical maintenance indicator for $p_{nom.} = 10$ bar [145 psi], size 0100, with filter element 10 µm and electronic switching element M12 x 1 with 1 switching point for hydraulic fluid mineral oil HLP according to DIN 51524.

Filter with mech. optical maintenance indicator: 10TEN0100-PWR10A00-P2,2-M-R4

Material no.: R928041275

Switching element:

Material no.: R928028409

Connection socket:

Connection socket suitable for K24 4-pin, Material no.: R900031155

M12 x 1 with screw connection,

Cable gland Pg9

Outlet pipes

Outlet pipe, pluggable, size 0040-0100

The outlet pipes are plugged onto the filter bowl outlet piece. Correct seat is confirmed by an audible click. After plug-on, the outlet pipe can no longer be removed.

Material no.	Description
R928038744	ACC-R-10TEN0040-0100-R110
R928038745	ACC-R-10TEN0040-0100-R150
R928038746	ACC-R-10TEN0040-0100-R250

Filter design

Filter size selection is made easy by using our online FilterSelect tool. The filter can be selected using basic parameters like, flow rates, system pressure, viscosities, etc.. The filter fineness is dependant on the required cleanliness level, application, type of contamination and environmental conditions.

The online tool is very user friendly with step-by-step guidelines.

A PDF file can be created of the selected filter, which contains all the stipulated parameters, including relevant part numbers of the selected filter and its spare parts.

Link FilterSelect:

<https://www.filter-select.com/>

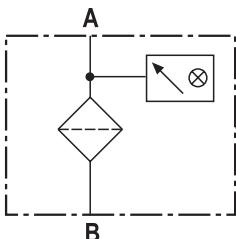
Other languages can be selected using the page navigation.

standard search

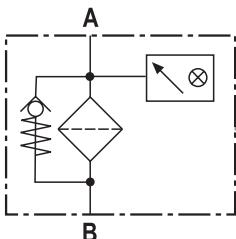
application:	hydraulics for industrial use and applications with lubricating oil		
Product category:	please select		
type:	please select		
pressure range:	please select		
filter material:	please select		
fineness:	please select		
volume flow rate:	<input type="text"/>	[l/min]	<input type="button" value="▼"/>
viscosity: * = working point	<input checked="" type="radio"/> kin viscosity 1: <input type="text" value="32"/> [mm ² /s] <input type="button" value="+"/>		
	<input type="radio"/> search via type of medium full-text search medium		
	<input type="text"/> please select <input type="button" value="▼"/> <input type="text"/> please select <input type="button" value="▼"/>		
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collapse pressure resistance according to ISO 2941:	<input type="text" value="30 bar"/> <input type="button" value="▼"/>		
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Symbols

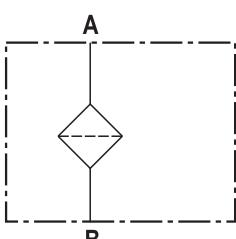
Tank mounted return line filter without bypass and with mechanical indicator



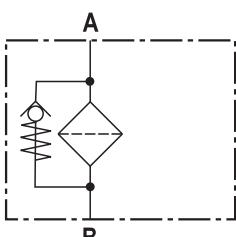
Tank mounted return line filter with bypass and mechanical indicator



Tank mounted return line filters without bypass

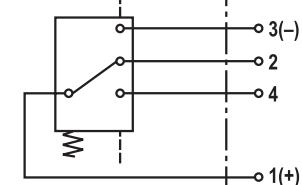


Tank mounted return line filters with bypass



Electronic switching element for maintenance indicator

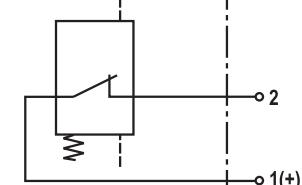
Switching element **Contacts**



WE-1SP-M12x1

Circuit diagram with mounted switching element on unpressurized filter

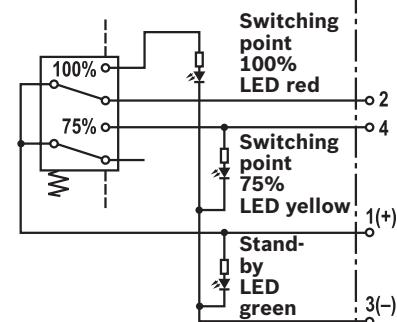
Switching element **Contacts**



WE-1SP-EN175301-803

Circuit diagram with mounted switching element on unpressurized filter

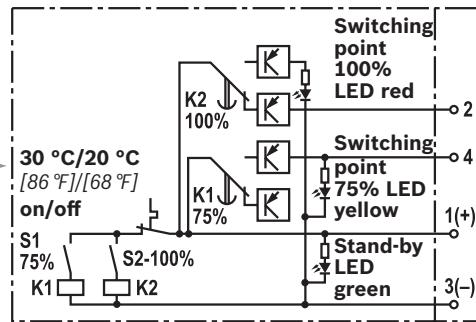
Switching element **Contacts**



WE-2SP-M12x1

Circuit diagram with mounted switching element on unpressurized filter

Switching element **Contacts**



WE-2SPSU-M12x1

Circuit diagram with mounted switching element on unpressurized filter at temperature > 30 °C [86 °F]

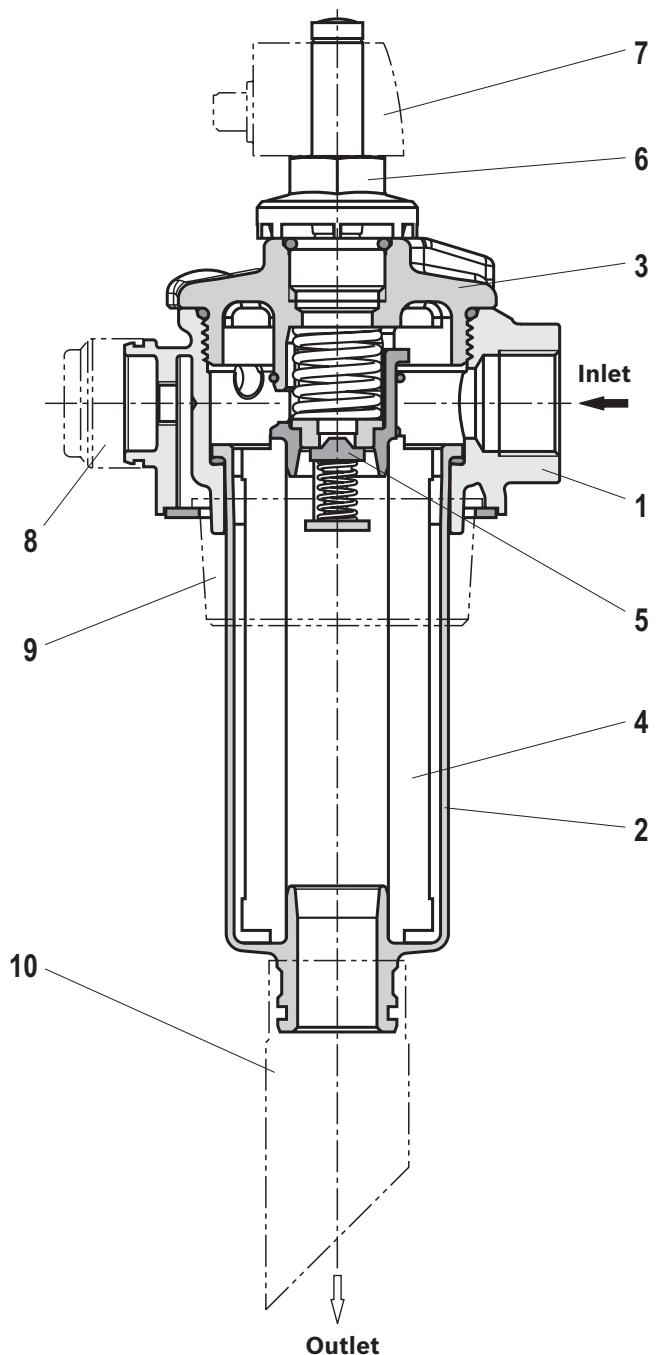
Function, section

The tank mounted return line filter is provided in the return line for direct attachment onto the tank of a hydraulic or lubrication system. It can also be used as filling or bypass filter. The filter basically consists of filter head (1) filter head (2), cover (3), filter element (4), as well as a bypass valve (5).

Optionally, the filter is equipped with mechanical optical maintenance indicator (6). The electronic maintenance indicator is connected via the electronic switching element (7) with 1 or 2 switching points (see p. 7), which has to be ordered separately.

During operation, the hydraulic fluid reaches the filter housing via the inlet; here, it flows through the filter element (4) from the outside to the inside and is cleaned according to the filter rating. The dirt particles filtered out settle in the filter head (2) and in the filter element (4). Via the outlet, the filtered hydraulic fluid enters the tank. In case of contamination, the necessary filter element exchange is displayed by the maintenance indicator (6). The electronic switching element (7) is attached to the mechanical optical maintenance indicator (6) and held by means of a locking ring.

Depending on the filter size, more additional functions are available (only for size 0040 - 0100) - e.g. a breathing filter (8), surge protection (9) or return pipes (10) in different lengths – also refer to the chapter “Ordering Codes Accessories”.



Type 10TEN0063

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

General					
Size	Size	0040	0063	0100	0160
Weight	kg [lbs]	1.4 [3.09]	1.6 [3.53]	1.8 [3.97]	4.5 [9.92]
Size	Size	0400	0630	1000	2000
Weight	kg [lbs]	8.0 [17.64]	10.0 [22.05]	18 [39.7]	21.5 [47.42]
Installation position		vertical			
Material	– Filter cover	Carbon fiber reinforced plastic (sizes 0040...0100) Aluminum (sizes 0160...2500)			
	– Filter head	Aluminum			
	– Filter bowl	Carbon fiber reinforced plastic (sizes 0040...0250) Steel aluminized (sizes 0400...2500)			
	– Bypass valve	Plastic / Aluminum from size 1000			
	– Visual (P2.2)	Plastic PA6			
Maintenance indicator (V...)		Aluminum			
	– Electronic switching element	Plastic PA6			
	– Pressure gauge	Plastic			
	– Seals	NBR / FKM			
Surface requirement tank opening	– Roughness depth R_z max. μm	25 (10TDN0040...0100) and 6.3...16 (from 10TDN0160)			
	– Flatness t_E max. μm	0.3...0.5 (10TDN0040...0100) and 0.2 (from 10TDN0160)			

Hydraulic				
Maximum operating pressure		bar [psi]	10 [145]	
Hydraulic fluid temperature range		°C [°F]	NBR: -40 °C to 100 °C [-40 °F to 212 °F]; FKM: -20 °C to 100 °C [-4 °F to 212 °F]	
Minimum conductivity of the medium according to ASTM D 2624		pS/m at 20 °C	300	
Fatigue strength according to ISO 10771 ¹⁾		Load cycles	at rated operating pressure 200,000	
Type of pressure measurement of the maintenance indicator			Back pressure	
Assignment: Response pressure of the maintenance indicator / cracking pressure of the bypass valve			Response pressure of the maintenance indicator	Cracking pressure of the bypass valve
		bar [psi]	without maintenance indicator	
			with pressure gauge	
			V0.8 ± 0.15 [11.6 ± 2.2]	
			V1.5 ± 0.2 [21.8 ± 2.9]	
			V2.2 ± 0.3 [31.9 ± 4.4]	
			P2.2 +0.45/-0.25 [31.9 (+6.4/-3.6)]	3.5 ± 0.35 [50.8 ± 5.1]
Filtration direction			From the outside to the inside	

¹⁾ The life cycle of the components is for example influenced by:

- The individual load frequency of the application
- The actually occurring pressure increase speed The technical data apply in compliance with the specified performance limits.

Extended operational durability/load cycles upon request.

Technical data

(For applications outside these parameters, please consult us!)

Electric (electronic switching element)				
Electrical connection	Round plug-in connection M12 x 1, 4-pole		Standard connection EN 175301-803	
Version	1SP-M12 x 1	2SP-M12 x 1	2SPSU-M12 x 1	1SP-EN175301-803
Contact load, direct voltage	A _{max.}	1		
Voltage range	V _{max.}	150 (AC/DC)	10-30 (DC)	250 (AC)/200 (DC)
max. switching power with resistive load	W	20		70
Switching type	– 75% signal – 100% signal	– Changeover	Normally open contact Normally closed contact	– Normally closed contact
	– 2SPSU		Signal interconnection at 30 °C [86 °F], return switching at 20 °C [68 °F]	
Display via LEDs in the electronic switching element 2SP...			Stand-by (LED green); 75 % switching point (LED yellow) 100 % switching point (LED red)	
Protection class according to EN 60529	IP 65	IP 67		IP 65
Ambient temperature range	°C [°F]	–25...+85 [-13...+185]		
For direct voltage above 24 V, spark extinguishing is to be provided for protecting the switching contacts.				
Weight	electronic switching element: – with round plug-in connection M12x1	kg [lbs]	0,1 [0.22]	

Filter element				
Glass fiber material PWR..	Single-use element on the basis of inorganic fiber			
		Filtration ratio according to ISO 16889 up to $\Delta p = 5$ bar [72.5 psi]	Achievable oil cleanliness according to ISO 4406 (SAE-AS 4059)	
Particle separation	PWR20	$\beta_{20(c)} \geq 200$	$\beta_{21(c)} \geq 1000$	19/16/12 ... 22/17/14
	PWR10	$\beta_{10(c)} \geq 200$	$\beta_{11(c)} \geq 1000$	17/14/10 ... 21/16/13
	PWR6	$\beta_{7(c)} \geq 200$	$\beta_{8(c)} \geq 1000$	15/12/10 ... 19/14/11
	PWR3	$\beta_{5(c)} \geq 200$	$\beta_{6(c)} \geq 1000$	13/10/8 ... 17/13/10
Permissible pressure differential A	bar [psi]	30 [435]		

Compatibility with permitted hydraulic fluids

Hydraulic fluid	Classification	Suitable sealing materials	Standards
Mineral oil	HLP	NBR	DIN 51524
Biodegradable	– insoluble in water	HETG	VDMA 24568
	HEES	FKM	
Flame-resistant	– soluble in water	HEPG	VDMA 24568
	– water-free	HFDR, HFDU	
	– containing water	HFAS	NBR
		HFAE	NBR
		HFC	NBR
			DIN 24320
			VDMA 24317

Important information on hydraulic fluids!

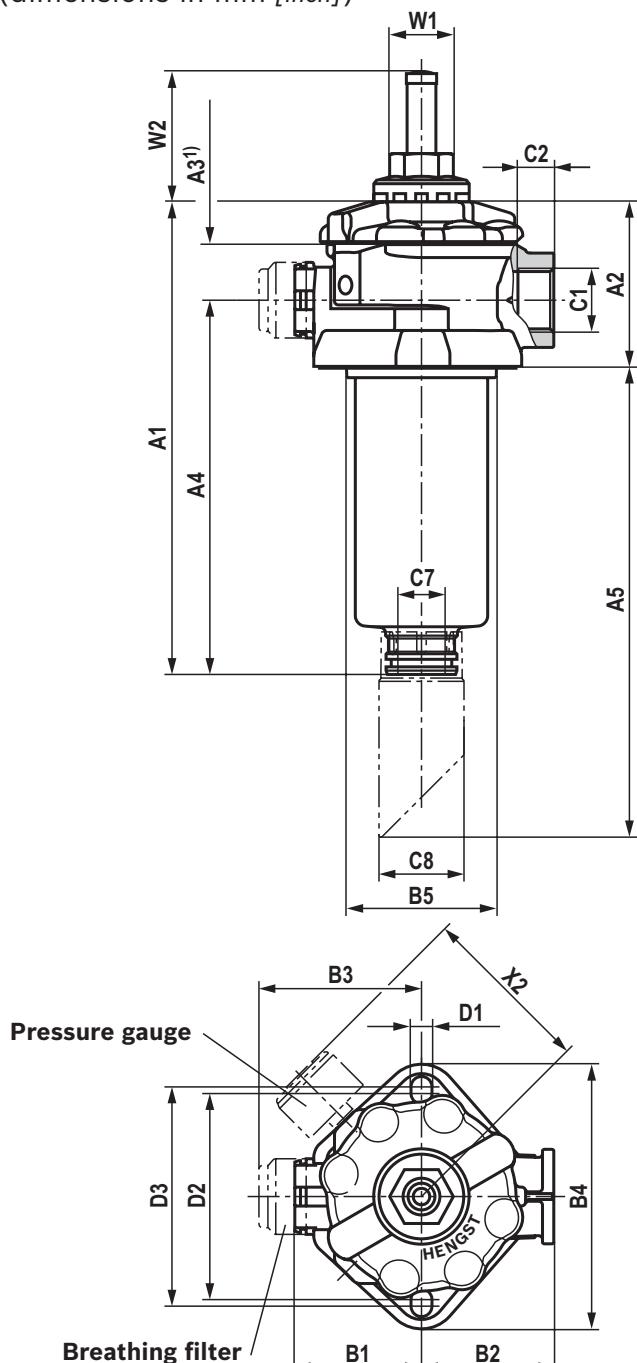
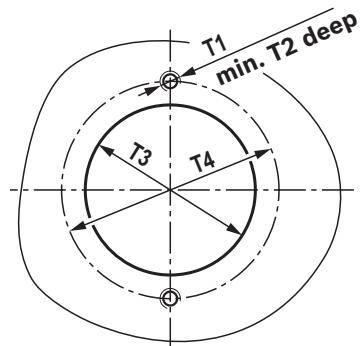
- For further information and data on the use of other hydraulic fluids, please contact us!
- Flame-resistant - containing water: due to possible chemical reactions with materials or surface coatings of machine and system components, the service life with these hydraulic fluids may be less than expected.

Filter materials made of filter paper must not be used, filter elements with glass fiber material or wire mesh have to be used instead.

- **Biodegradable:** If filter materials made of filter paper are used, the filter life may be shorter than expected due to material incompatibility and swelling.

Dimensions: 10TEN0040, 0063, 0100

(dimensions in mm [inch])

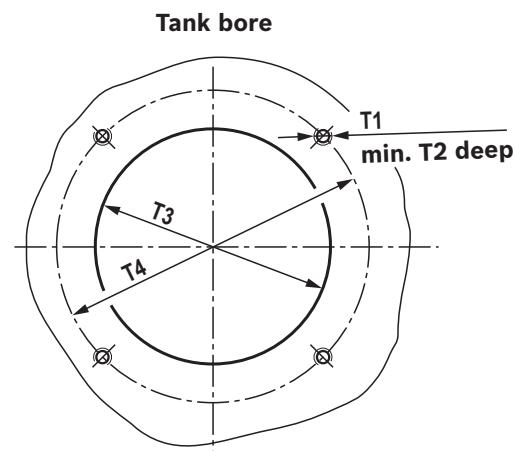
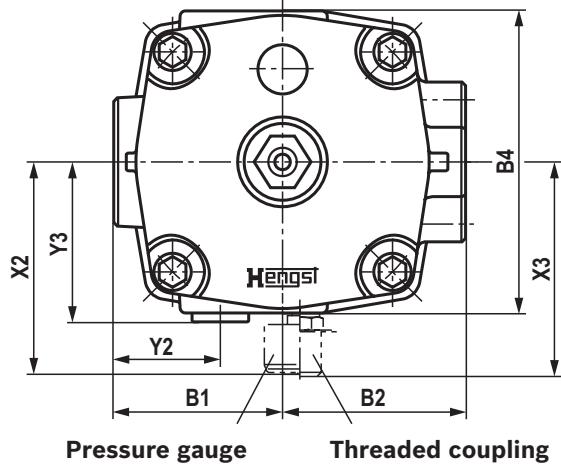
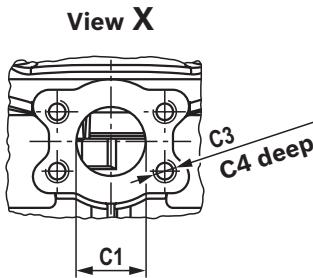
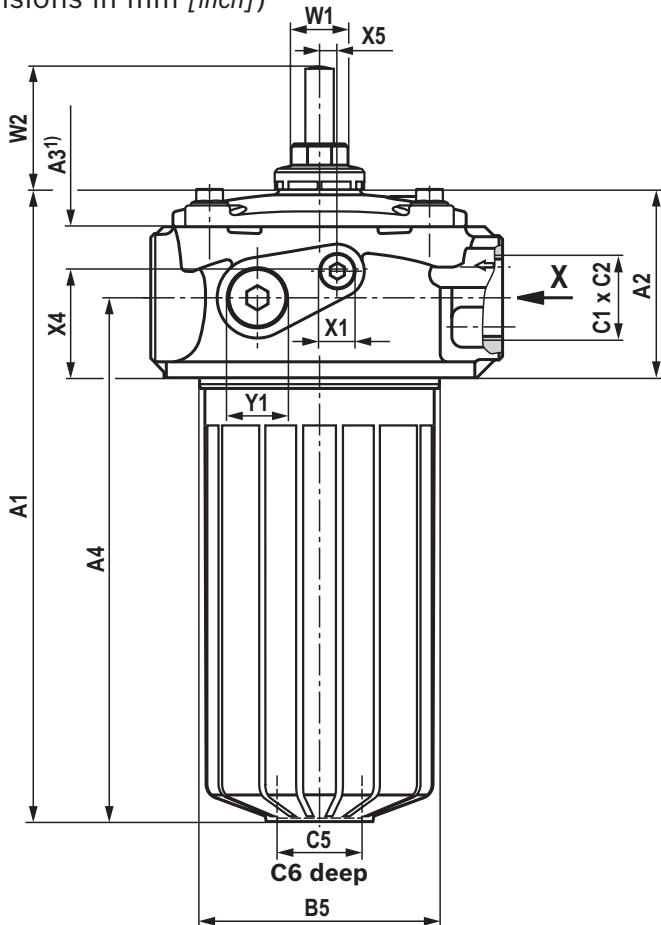
**Tank bore**

¹⁾ Servicing height for filter element exchange

Type 10...	A1	A2	A3 ^{1⁾}	A4	A5	
TEN0040	190 [7.38]	87 [3.43]	100 [3.94]	138 [5.43]	R110	190 [7.38]
					R150	230 [9.06]
					R250	330 [12.99]
TEN0063	250 [9.84]		160 [6.30]	198 [7.80]	R110	250 [9.84]
					R150	290 [11.42]
					R250	390 [15.35]
TEN0100	340 [13.39]		250 [9.84]	288 [11.34]	R110	340 [13.39]
					R150	380 [14.96]
					R250	480 [18.90]

Type 10...	B1	B2	B3	B4	ØB5
TEN0040	67 [2.64]	70 [2.76]	86 [3.39]	140 [5.51]	80 [3.15]
TEN0063					
TEN0100					

Type 10...	Standard	C1 connection	C2	C7	ØC8	D1	D2	D3	T1	T2 ^{2⁾} [0.08]	ØT3	ØT4	W1	W2	X2 ≈
		Optional													
TEN0040	G 3/4	G 1	17 [0.67]	NW 25	45 [1.77]	11 [0.43]	109 [4.29]	116 [4.57]	M10	12 [0.47]	90 [3.54]	115 [4.53]	SW30	69 [2.72]	90 [3.54]
		1 1/16-12 UN-2B													
		1 5/16-12 UN-2B													
TEN0063	G 1	G 3/4	19 [0.75]	NW 25	45 [1.77]	11 [0.43]	109 [4.29]	116 [4.57]	M10	12 [0.47]	90 [3.54]	115 [4.53]	SW30	69 [2.72]	90 [3.54]
		1 1/16-12 UN-2B													
		1 5/16-12 UN-2B													
TEN0100	G 1	G 3/4	19 [0.75]	NW 25	45 [1.77]	11 [0.43]	109 [4.29]	116 [4.57]	M10	12 [0.47]	90 [3.54]	115 [4.53]	SW30	69 [2.72]	90 [3.54]
		1 1/16-12 UN-2B													
		1 5/16-12 UN-2B													

Dimensions: 10TEN0160, 0250
(dimensions in mm [inch])


1) Servicing height for filter element exchange

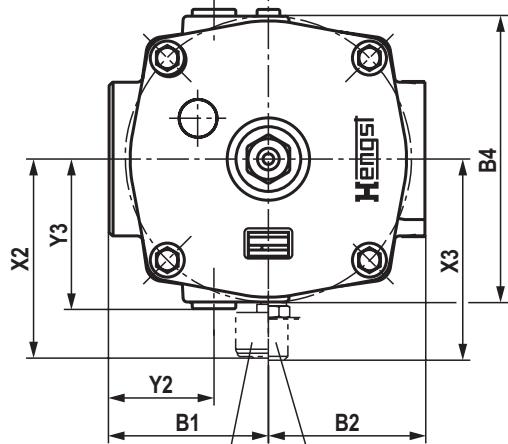
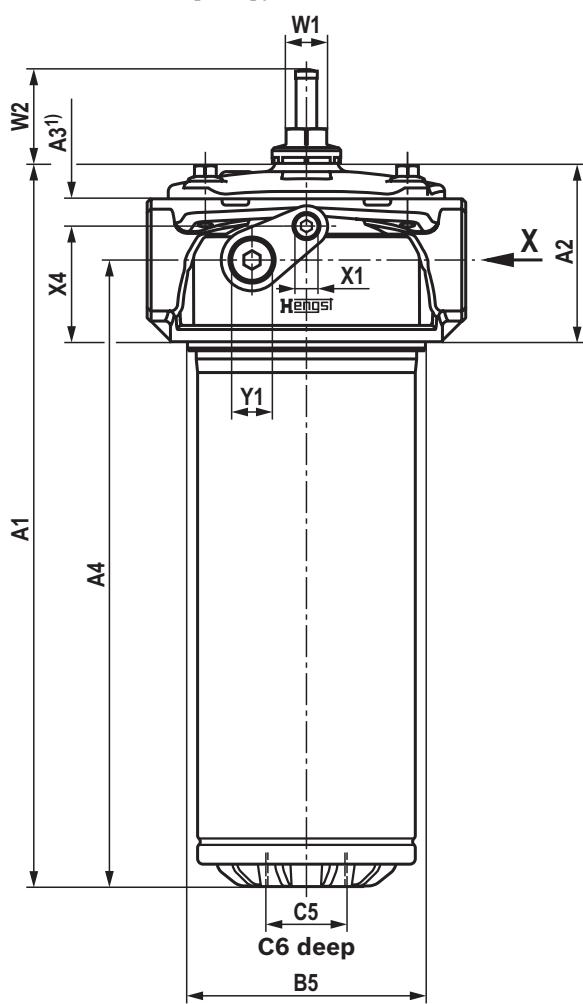
Type 10...	A1	A2	A3 ¹⁾	A4	B1	B2
TEN0160	267 [10.51]	106 [4.17]	160 [6.30]	206 [8.11]	95 [3.74]	103 [4.06]
TEN0250	357 [14.06]		260 [10.24]	296 [11.65]		

Type 10...	B4	ØB5	C1 connection				C2	C3	C4		C5
			Standard	Optional					C4		
TEN0160	170 [6.69]	135 [5.31]	G 1 1/4	G 1 1/4	SAE 1 1/2" 3000 psi	1 7/8-12 UN-2B	20 [0.79]	M12 M10	20 (24) [0.79 (0.94)]	16 (19) [0.63 (0.75)]	G 1 1/2
TEN0250			G 1 1/2	G 1 1/4	SAE 1 1/4" 3000 psi	1 7/8-12 UN-2B	22 [0.87]	M12 M10	20 (24) [0.79 (0.94)]	16 (19) [0.63 (0.75)]	

Type 10...	C6	T1	T2 ² [0.08]	ØT3	ØT4	W1	W2	X1	X2 ≈	X3 ≈	X4	Y1	Y2	Y3
TEN0160	26 [1.02]	M10	12 [0.47]	140 [5.51]	185 [7.28]	SW30	69 [2.72]	G 1/4	120 [4.72]	116 [4.57]	60 [2.36]	G 3/4	60 [2.36]	90 [3.54]
TEN0250														

Dimensions: 10TEN0400, 0630

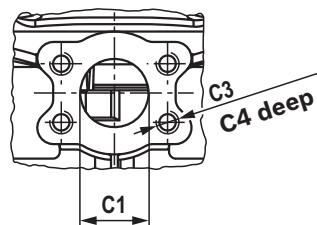
(dimensions in mm [inch])



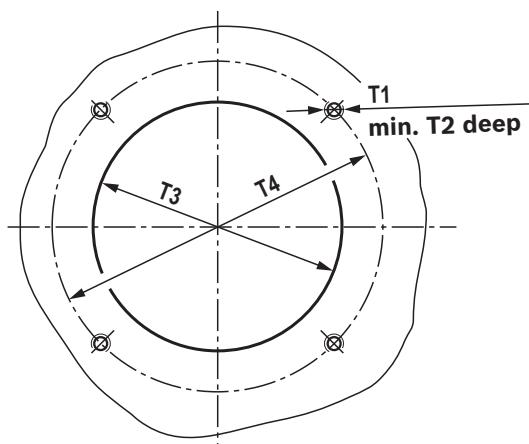
Pressure gauge

Threaded coupling

View X



Tank bore

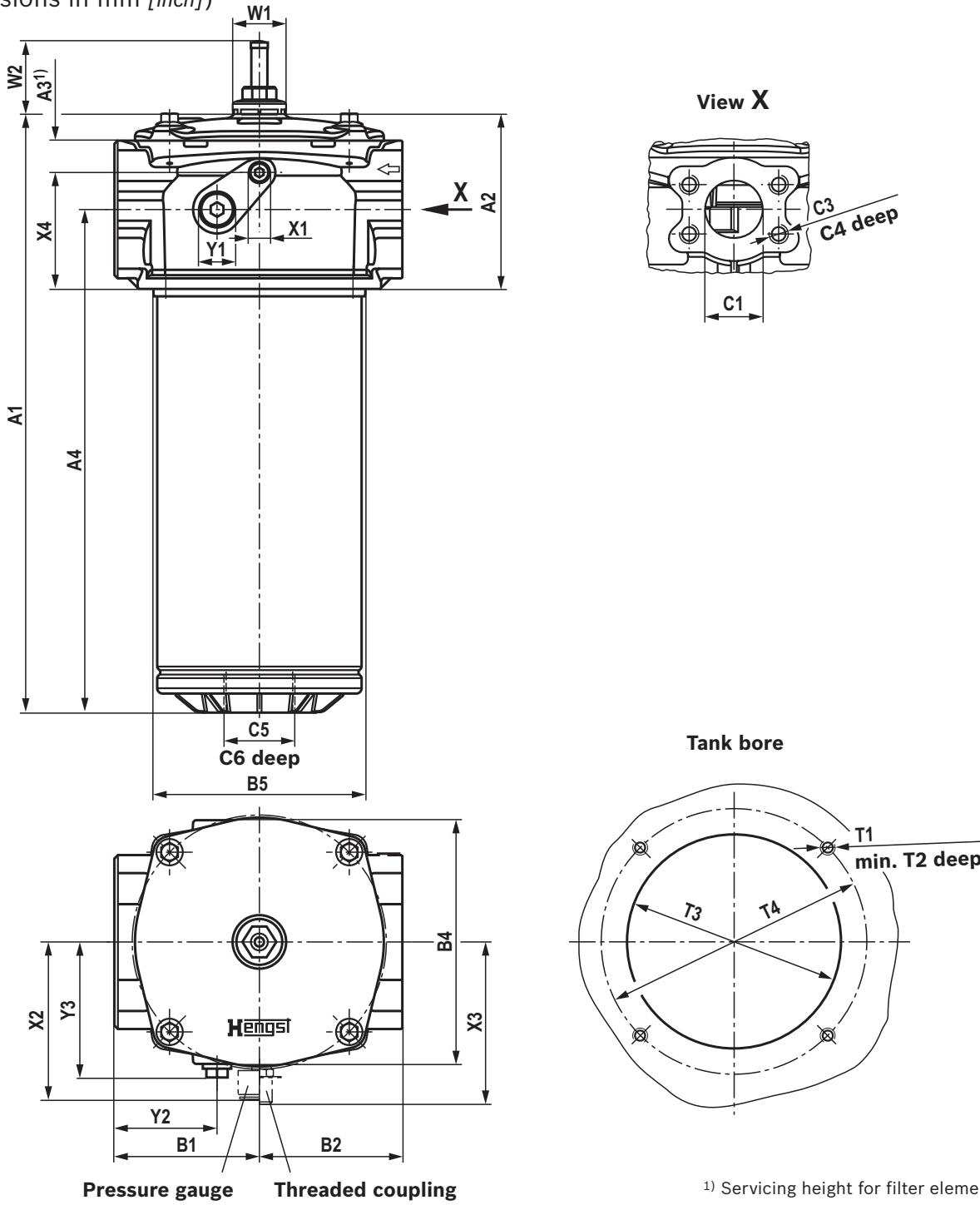


1) Servicing height for filter element exchange

Type 10...	A1	A2	A3 ¹⁾	A4	B1	B2	B4	ØB5	C1 connection		C3
									Standard	Optional	
TEN0400	378 [14.88]	131	250 [9.84]	307 [12.09]	117	115	210	175	SAE 2" 3000 psi	SAE 2 1/2" 3000 psi	M12
TEN0630	528 [20.79]	[5.16]	400 [15.75]	457 [17.99]	[4.61]	[4.53]	[8.27]	[6.89]	SAE 2 1/2" 3000 psi	SAE 2" 3000 psi	

Type 10...	C4	C5	C6	T1	T2 ⁺² [0.08]	ØT3	ØT4	W1	W2	X1	X2 ≈	X3 ≈	X4	Y1	Y2	Y3
TEN0400	20 (24)		25	M10	12	178	220	SW30	69	G 1/4	138 [5.43]	134 [5.28]	85	G 3/4	77 [3.03]	110 [4.33]
TEN0630	[0.79 (0.94)]	G 2	[0.98]		[0.47]	[7.01]	[8.66]		[2.72]							

Dimensions: 10TEN1000, 10TE2000, 10TE2500
(dimensions in mm [inch])

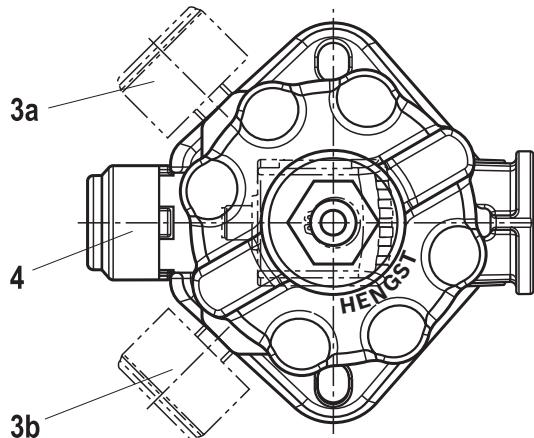


¹⁾ Servicing height for filter element exchange

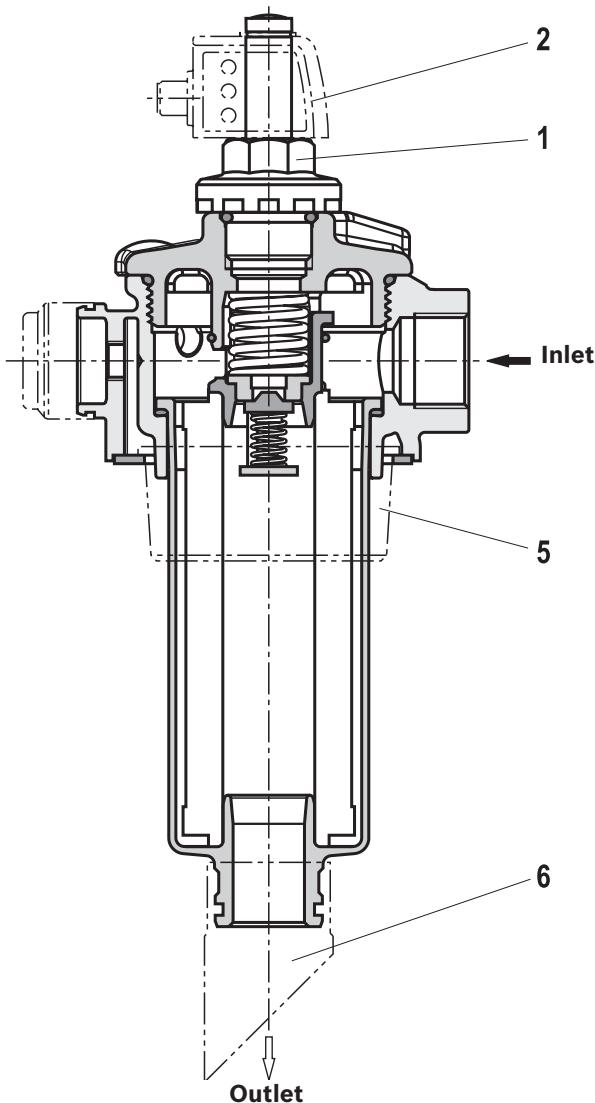
Type 10...	A1	A2	A3 ¹⁾	A4	B1	B2	B4	ØB5	C1 connection		C3
									Standard	Optional	
TEN1000	565 [22.24]	165 [6.50]	530 [20.87]	457 [17.99]	137 [5.39]	135 [5.31]	230 [9.06]	200	SAE 3" 3000 psi	SAE 4" 3000 psi	M16
TEN2000	923 [36.34]		880 [34.65]	833 [32.80]					SAE 4" 3000 psi	SAE 3" 3000 psi	
TEN2500	1158 [45.59]		1130 [44.49]	1068 [42.05]							

Type 10...	C4	C5	C6	T1	T2 ⁺² [0.08]	ØT3	ØT4	W1	W2	X1	X2 ≈	X3 ≈	X4	Y1	Y2	Y3
TEN1000	26 (30) [1.02 (1.18)]	G 3	35 [1.38]	M10	12 [0.47]	202 [7.95]	250 [9.84]	SW30	69 [2.72]	G 1/4	149 [5.87]	146 [5.75]	110 [4.33]	G 3/4	97 [3.82]	120 [4.72]
TEN2000																
TEN2500																

Options



Exemplary representation based on a filter 10TEN0063.



- Optional
- not possible

Ordering code	Maintenance indicator options	Item	Frame size	
			0040-0100	0160-2500
P2,2; V0,8; V1,5; V2,2	Mechanical optical maintenance indicator	1	●	●
MR	Pressure gauge right	3a	●	—
ML	Pressure gauge left	3b	—	●
V2,2MR	Mechanical optical maintenance indicator + pressure gauge right	1 + 3a	●	—
V2,2ML	Mechanical optical maintenance indicator + pressure gauge left	1 + 3b	—	●
plus R928...	Electronic switching element	See chapter "Accessories"		

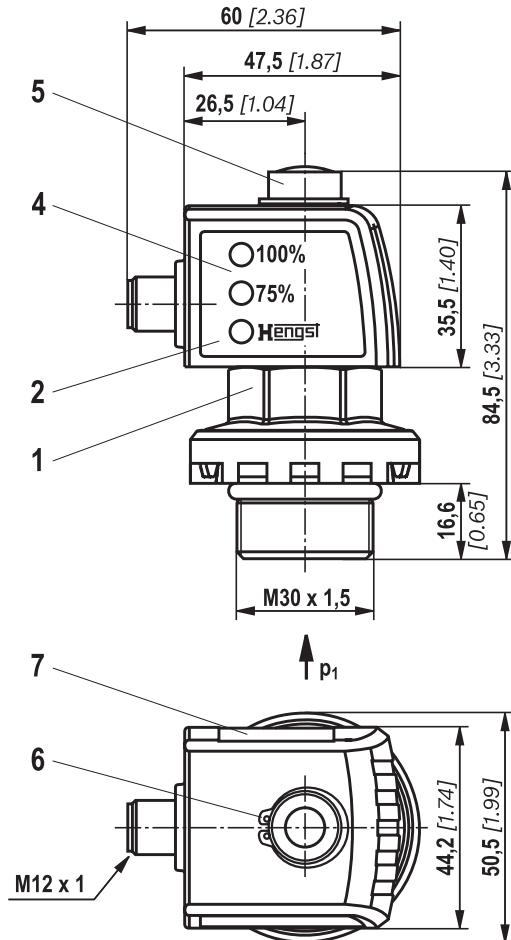
Ordering code	Supplementary information options	Item	Frame size	
			0040-0100	0160-2500
F	Breathing filter	4	●	—
FN	Ventilation filter with surge protection	4 + 5	●	—
MR	Threaded coupling right (not possible with pressure gauge right)	3a	●	—
ML	Threaded coupling left (not possible with pressure gauge left)	3b	—	●
NB	Without bypass valve		●	●
R110	Outlet pipe 110 cm	6	● ¹⁾	—
R150	Outlet pipe 150 cm	6	● ¹⁾	—
R250	Outlet pipe 250 cm	6	● ¹⁾	—

¹⁾ Outlet pipes for sizes 0040...0100 are to be ordered preferably pre-assembled over the complete filter.
See chapter "Order Code Accessories".

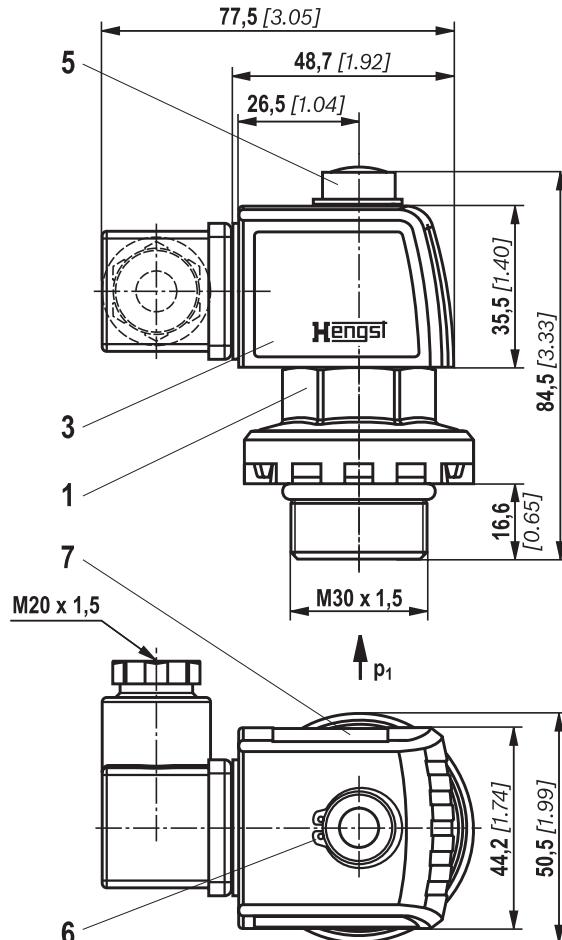
Maintenance indicator

(dimensions in mm [inch])

Electronic switching element with round plug-in connection M12 x 1, 4-pole



Electronic switching element with rectangular plug-in connection EN 175301-803



- 1 Mechanical optical maintenance indicator;
max. tightening torque $M_{A \max} = 50 \text{ Nm} [36.88 \text{ lb-ft}]$
Tightening torque for back pressure indicator in
PA6.6 $M_{A \max} = 35 \text{ Nm} [25.82 \text{ lb-ft}]$
- 2 Switching element with locking ring for electrical maintenance indicator (rotatable by 360°); plug-in connection M12 x 1, 4-pole
- 3 Switching element with locking ring for electrical maintenance indicator (rotatable by 360°); plug-in connection EN175301-803
- 4 Housing with three LEDs: 24V =
green: Stand-by
yellow: Switching point 75%
red: Switching point 100%
- 5 Optical indicator bistable
- 6 Locking ring DIN 471-16 x 1
- 7 Name plate

☞ Notices:

Representation contains mechanical optical maintenance indicator (1) and electronic switching element (2) (3). If an electronic switching element with signal suppression up to 30 °C [86 °F] is used (WE-2SPSU-M12 X 1), it has to be ensured that the aluminum version of the mechanical-optical maintenance indicator must be used. These maintenance indicators are referred to in the filter type key as "V0.8", "V1.5" or "V2.2". See chapter "Order Code Spare Parts". The temperature-controlled signal processing does not work with mechanical-optical maintenance indicators made of polyamide.

Ordering code spare parts

Filter element

01	02	03	04	05	06			
1.			-	A00	-	0	-	

01	Design	1.
----	--------	----

Size

02	TEN... (Filter elements according to DIN 24550)	0040 0063 0100 0160 0250 0400 0630 1000
	TE... (Filter elements according to Hengst standard)	2000 2500

Filter rating in μm

03	Nominal	Paper, not cleanable	P10 P25
	Nominal	Stainless steel wire mesh, cleanable	G25 G100
	Absolute (ISO 16889); $\beta_{x(c)} \geq 200$	Glass fiber material, not cleanable	PWR3 PWR6 PWR10 PWR20
	Absolute (ISO 16889; $\beta_{x(c)} \geq 200$)	Water-absorbing, not cleanable	AS3 AS6 AS10 AS20

Pressure differential

04	Maximum permissible pressure differential of the filter element: 30 bar [435 psi]	A00
----	---	-----

Bypass valve

05	without bypass valve	0
----	----------------------	---

Seal

06	NBR seal	M
	FKM seal	V

Order example:

1.0100 PWR3-A00-0-M

For detailed information on Hengst filter elements please refer to data sheet 51515.

Ordering code spare parts

Preferred program Replacement elements

Filter element type	Filter material/material no.			
	PWR3	PWR6	PWR10	PWR20
1.0040 ...A00-0-M	R928005835	R928005836	R928005837	R928005838
1.0063 ...A00-0-M	R928005853	R928005854	R928005855	R928005856
1.0100 ...A00-0-M	R928005871	R928005872	R928005873	R928005874
1.0160 ...A00-0-M	R928005889	R928005890	R928005891	R928005892
1.0250 ...A00-0-M	R928005925	R928005926	R928005927	R928005928
1.0400 ...A00-0-M	R928005961	R928005962	R928005963	R928005964
1.0630 ...A00-0-M	R928005997	R928005998	R928005999	R928006000
1.1000 ...A00-0-M	R928006033	R928006034	R928006035	R928006036
1.2000 ...A00-0-M	R928041312	R928048158	R928040797	R928041235
1,2500 ...A00-0-M	R928041314	R928046806	R928040800	R928041315

Mechanical optical maintenance indicator

01	02	03	04	05	06	07
W	O	-	S01	-	-	10

01	Maintenance indicator	W
02	mechanical optical indicator	O

Design

03	Back pressure, modular design	S01
----	-------------------------------	-----

Switching pressure

04	0.8 bar [12 psi] (not possible with plastic version)	0,8
	1.5 bar [22 psi] (not possible with plastic version)	1,5
	2.2 bar [32 psi]	2,2

Seal

05	NBR seal	M
	FKM seal	V

Max. nominal pressure

06	10 bar [145 psi]	10
----	------------------	----

Housing material

07	Plastic only 2.2 bar [32 psi] possible	PA
	Aluminum	without information

Mechanical optical maintenance indicator

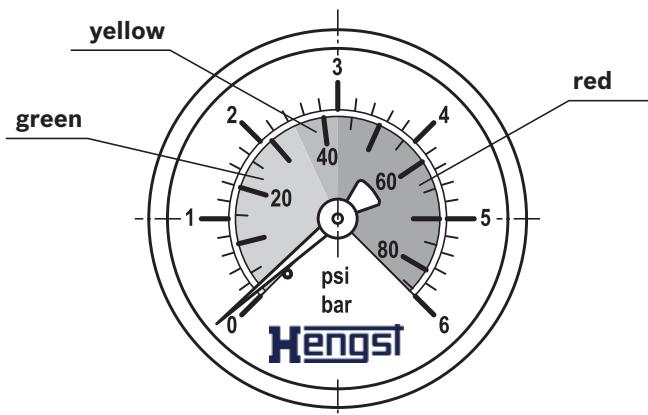
Material no.	Description
R928038773	WO-S01-0.8-M-10
R928038772	WO-S01-0.8-V-10
R928038776	WO-S01-1.5-M-10
R928038774	WO-S01-1.5-V-10
R901025310	WO-S01-2.2-M-10
R901066232	WO-S01-2.2-V-10
R928038771	WO-S01-2.2-M-10-PA
R928038769	WO-S01-2.2-V-10-PA

Ordering code spare parts

Pressure gauge ¹⁾

Material no.	Description
R928019224	M010 0-6 bar [0-87 psi], fluid connection R1/4, Ø 50 mm

¹⁾ When using a pressure gauge, the maximum permissible operating pressure is reduced to 6 bar [87 psi].



Breathing filter element

(only for 10TEN0040-0100) incl. plastic cap

Material no.	Description
R928019705	71.001 P5-S00-0-0

Seal kit

01	02	03	04	05
D	10TE		-	-

01	Seal kit	D
02	Series	10TE

Size

03	0040-0100	N0040-0100
	0160-0250	N0160-0250
	0400-0630	N0400-0630
	1000	N1000
	2000-2500	2000-2500

Seal

04	NBR seal	M
	FKM seal	V

Supplementary information

05	Breathing filter with oil mist separator (only for size 0040-0100)	FN
----	--	----

Seal kit

Material no.	Description
R928028013	D10TEN0040-0100-M
R928028014	D10TEN0160-0250-M
R928028015	D10TEN0400-0630-M
R928039806	D10TEN1000-M
R928039807	D10TE2000-2500-M
R928048445	D10TEN0040-0100-V

Material no.	Description
R928052864	D10TEN0160-0250-V
R928052765	D10TEN0400-0630-V
R928052865	D10TEN1000-V
R928052866	D10TE2000-2500-V
R928048707	D10TEN0040-0100-M-FN
R928048709	D10TEN0040-0100-V-FN

Assembly, commissioning, maintenance

Installation

- ▶ The max. operating pressure of the system must not exceed the max. permissible operating pressure of the filter (see type plate).
- ▶ Before the assembly, the hole pattern of the tank must be compared to the dimensions from the "Dimensions" chapter.
- ▶ Drain pipes as of a length of approx. 500 mm must be carried in a bracket in order to avoid oscillations caused by the fluid flow in the tank. It is moreover to be ensured that in case of maintenance works, the filter bowl and the outlet pipe are pulled out of the filter head together.
- ▶ During assembly of the filter (see also chapter "Tightening torque"), the flow direction (direction arrows) and the required servicing height of the filter element (see chapter "Dimensions") are to be considered.
- ▶ Perfect functioning is only guaranteed in the installation position filter bowl vertically downwards and **on** the tank.
- ▶ The maintenance indicator should be arranged in a visible manner.
- ▶ Remove the plastic plugs in the filter inlet and outlet.
- ▶ Ensure that the system is assembled without tension stress.
- ▶ The optional electronic maintenance indicator is connected via the electronic 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. More details see data sheet 51450

Commissioning

Commission the system.

Notice:

There is no bleeding provided at the filter.

Caution, risk of burning! During any work at the filter, e.g. filter element exchange and cleaning, any hot operating fluids must be observed. The safety instructions of the machine end-user must be observed.

Maintenance

- ▶ If at operating temperature, the red indicator pin extends out of the mechanical optical maintenance indicator and/or if the switching process in the electronic switching element is triggered, the filter element is contaminated and needs to be replaced and cleaned respectively. More details see data sheet 51515.
- ▶ The material number of the corresponding replacement filter element is indicated on the name plate of the complete filter. It must comply with the material number on the filter element.
- ▶ Switch off the system, discharge the filter on the pressure side.
- ▶ Screw off the filter cover (NG0040-0100) and/or loosen the screws (from NG0160) and remove the filter cover upwards.

Notice:

Note that with lower ratings, it may take slightly longer to discharge the residual oil. If the filter element is removed before running off residue oil, dirty oil can occur on the clean side.

Caution, risk of burning! During any work at the filter, e.g. filter element exchange and cleaning, any hot operating fluids must be observed. The safety instructions of the machine end-user must be observed.

- ▶ Remove the filter element including the filter bowl. From frame size 0160, the filter bowls are equipped with removal brackets.
- ▶ Remove the filter element from the spigot in the filter bowl by rotating it slightly.
- ▶ Clean the filter components, if necessary.
- ▶ Check the seals at filter cover and filter bowl for damage and renew them, if necessary. For suitable seal kits refer to chapter "Order Codes Spare Parts".
- ▶ Filter elements made of wire mesh can be cleaned. For detailed cleaning instructions refer to data sheet 51515.
- ▶ Install the new or cleaned filter element on the spigot again by slightly rotating it.
- ▶ The filter is to be assembled in reverse order. The torque specifications ("Tightening torques" chapter) are to be observed.

Assembly, commissioning, maintenance

⚠ WARNING!

- ▶ Assembly and disassembly only with depressurized system! For the filter element exchange refer to "Maintenance".
- ▶ Filter is under pressure!
- ▶ Do not exchange the optical/mechanical maintenance indicator while the filter is under pressure!

☞ Notices:

- ▶ All works at the filter only be trained specialists.
- ▶ Functioning and safety are only guaranteed if original Hengst filter elements and spare parts are used.
- ▶ Warranty becomes void if the delivered item is changed by the ordering party or third parties or improperly mounted, installed, maintained, repaired,

used or exposed to environmental condition that do not comply with the installation conditions.

Note torques for fastening the SAE connection flanges:

- ▶ Only screws of grade 8.8 may be used.
- ▶ The torques are specified in the relevant standard (ISO 6162-2:2012-12, or are as per REXROTH AB22-15 separate flanges).

Tightening torques

(dimensions in mm [*inch*])

Tank mounting

Series 10...	TEN0040	TEN0063	TEN0100	TEN0160	TEN0250	TEN0400	TEN0630	TEN1000	TE2000	TE2500
Screw Tank mounting		M10 x 30			M10 x 25				M12 x 25	
Quantity		2					4			
Recommended property class of screw					8.8					
Tightening torque with $\mu_{\text{total}} = 0.14$				21 Nm \pm 10%				37 Nm \pm 10%		

Connection flange SAE 3000 psi

Series 10...	TEN0040	TEN0063	TEN0100	TEN0160	TEN0250	TEN0400	TEN0630	TEN1000	TE2000	TE2500
Connection variant		Thread		SAE 1 1/4" / SAE 1 1/2"		SAE 2" / SAE 2 1/2"		SAE 3" / SAE 4"		
Tank mounting screw				M10 / M12		M12		M16		
Quantity						4				
Recommended property class of screw			—			8.8				
Tightening torque with $\mu_{\text{total}} = 0.14$				33 Nm \pm 10 % / 60 Nm \pm 10 %		60 Nm \pm 10%		137 Nm \pm 10%		

Filter cover

Series 10...	TEN0040	TEN0063	TEN0100	TEN0160	TEN0250	TEN0400	TEN0630	TEN1000	TE2000	TE2500
Screw Filter cover		Re-tighten by hand until stop, if necessary using an open-end wrench (SW41).		M10				M12		
Quantity		—				4				
Recommended property class of screw		—				8.8				
Tightening torque with $\mu_{\text{total}} = 0.14$		—		21 Nm \pm 10%				50 Nm \pm 10%		

Maintenance indicator / Plug screw

Series	10TEN0040...10TEN1000, 10TE2000, 10TE2500
Tightening torque maintenance indicator, mechanical optical, aluminum, V...	50 Nm \pm 5 Nm
Tightening torque maintenance indicator, mechanical optical, PA, P2,2	35 Nm \pm 3 Nm
Tightening torque cubic connector screw switching element EN-175301-803	M3/0.5 Nm
Plug screw G1/4	7 Nm \pm 0.5 Nm
Plug screw G3/4	63 Nm \pm 6 Nm

Directives and standardization

Product validation

Hengst filters, the filter elements built into them and filter accessories are tested and quality-monitored according to different ISO test standards:

Pressure pulse test	ISO 10771:2015-08
Filtration performance test (multipass test)	ISO 16889:2022-01
Δp (pressure loss) characteristic curves	ISO 3968:2017-07
Compatibility with hydraulic fluid	ISO 2943:1998-11
Collapse pressure test	ISO 2941:2009-04

The development, manufacture and assembly of Hengst industrial filters and Hengst filter elements is carried out within the framework of a certified quality management system in accordance with ISO 9001:2015.

Classification according to the Pressure Equipment Directive

The filters for hydraulic applications are pressure holding equipment according to article 2, section 5 of the Pressure Equipment Directive 2014/68/EU (PED). However, due to the safety requirements fulfilled in article 4, section 3, hydraulic filters are exempt from the PED if they are not classified higher than category I.

For the classification, fluids from the chapter "Compatibility with permitted hydraulic fluids" have been taken into consideration. The intended use is only permissible with fluids of group 2 and within the specified limitations of use (see chapter "Technical data").

Therefore, these filters are not provided with the CE mark.

Use in explosive areas according to directive 2014/34/EU (ATEX)

These filters are not equipment or components in terms of Directive 2014/34/EU and are not provided with the CE mark. It has been proven with the ignition risk analysis that these filters do not have own ignition sources acc. to DIN EN 80079-36.

According to DIN EN 60079-11:2012, electronic maintenance indicators with a switching point:

WE-1SP-M12 x 1 R928028409

WE-1SP-EN175301-803 R928036318

are simple, electronic operating equipment that do not have an own voltage source. This simple, electronic operat-

ing equipment may - according to DIN EN 60079-14:2012 - in intrinsically safe electric circuits (Ex ib) be used in systems without marking and certification.

The filters and electronic maintenance indicators described here can be used for the following potentially explosive areas:

	zone suitability	
Gas	1	2
Dust	21	22

Directives and standardization

Complete filter with mech./opt. maintenance indicator

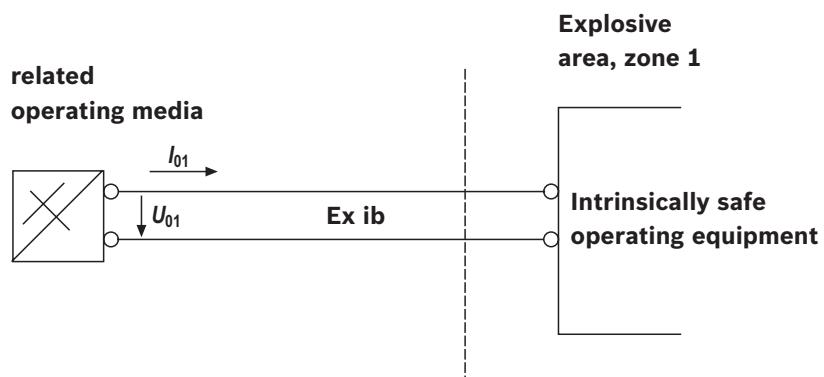
Use/assignment		Gas 2G	Dust 2D
Assignment		Ex h IIC T6...T1 Gb	Ex h IIC T100°C...T450°C Db
Conductivity of the medium according to ASTM D 2624 at 20 °C	pS/m	min 300	
Dust accumulation	max	–	0.5 mm

Electronic switching element in the intrinsically safe electric circuit

Use/assignment		Gas 2G	Dust 2D
Assignment		Ex II 2G Ex ib IIB T4 Gb	Ex II 2D Ex ib IIIC T100°C Db
Perm. intrinsically safe electric circuit		Ex ib IIC, Ex ic IIC	Ex ib IIIC
Technical data		Values only for intrinsically safe electric circuit	
Switching voltage Ui	max		150 V AC/DC
Switching current li	max		1,0 A
Switching power Pi	max	1,3 W T4 T_{max} 40 °C	750 mW T_{max} 40 °C
	max	1,0 W T4 T_{max} 80 °C	550 mW T_{max} 100 °C
Surface temperature	max	–	100 °C
inner capacity Ci			neglectable
inner inductivity Li			neglectable
Dust accumulation	max	–	0.5 mm

1) The temperature depends on the temperature of the medium in the filter and must not exceed the value specified here.

Possible circuit according to DIN EN 60079-14



Directives and standardization

⚠ WARNING!

- ▶ Explosion hazard due to high temperature!
The temperature depends on the temperature of the medium in the hydraulic circuit and must not exceed the value specified here. Measures are to be taken so that in the explosive area, the max. permissible ignition temperature is not exceeded.
- ▶ When using the filters in potentially explosive areas, appropriate equipotential bonding has to be ensured.

The filter should ideally be earthed via the mounting screws. Here, please note that paintings and oxidic protective layers are not electrically conductive.

- ▶ During filter element exchanges, the packaging material is to be removed from the replacement element outside the explosive area

☞ Notices:

- ▶ Maintenance only by specialists, instruction by the machine end-user acc. to DIRECTIVE 1999/92/EC appendix II, section 1.1
- ▶ Functional and safety warranty only applicable when using genuine Hengst spare parts

Use

Intended use

The filters consist of a filter housing, filter element and maintenance indicator, which serve as components in the sense of the EC Machinery Directive 2006/42/EC in hydraulic machinery for the separation of dirt particles.

The filters are used under the following boundary conditions and limits:

- ▶ Only in systems with fluids of group 2, according to Pressure Equipment Directive 2014/68/EU
- ▶ Only according to the application and environmental conditions in the section "Technical data".
- ▶ Only in compliance with the specified performance limits in the section "Technical data"; extended operational durability/load cycles on request
- ▶ Only with hydraulic fluids and the intended seals according to the section "Compatibility with hydraulic fluids"

Improper use

Any use deviating from the intended use is improper and thus not permissible.

Improper use of the filters includes:

- ▶ Incorrect storage
- ▶ Incorrect transport
- ▶ Lack of cleanliness during storage and assembly
- ▶ Incorrect installation
- ▶ Use of inappropriate/not-permissible hydraulic fluids
- ▶ Exceedance of the specified maximum pressures and load cycles

- ▶ Use in potentially explosive areas according to the section "Directives and standardization".
- ▶ The notes regarding the operating modes according to the section "Assembly, commissioning, maintenance" must be observed.
- ▶ Compliance with application and environmental conditions according to the technical data.
- ▶ Compliance with the specified performance limits.
- ▶ Use in the original condition, without damage.
- ▶ Maintenance work, such as the replacement of seals, filter elements and optical indicators with original Hengst spare parts, is permissible. Repair by the customer, particularly at pressurized components, is not permissible.
- ▶ This filter is exclusively intended for professional use and not for private use.

- ▶ Operation outside the approved temperature range
- ▶ Installation and operation in a not-permissible device group or category
- ▶ Operation outside the specified limits for the operating voltage, see the section "Technical data"

Hengst Filtration GmbH does not assume any liability for damage caused by improper use. The user assumes all risks involved with improper use.

Environmental and recycling

- The used filter element should be disposed of in accordance with the respective country-specific legal regulations of environmental protection.
- After completion of the filter life, the components of the filter, in accordance with the respective country-specific legal regulations of environmental protection, are recycled.

Translation table (Rexroth material number to Hengst material number)

Hengst material no.	Type code	Rexroth material no.
Complete filter		
1052217B	10TEN0040-PWR3A00-P2,2-M-U4	R928041293
1052077B	10TEN0063-PWR3A00-P2,2-M-U9	R928041295
1010303B	10TEN0100-PWR3A00-P2,2-M-U9	R928041297
1010305B	10TEN0160-PWR3A00-V2,2-M-S5	R928041299
1010307B	10TEN0250-PWR3A00-P2,2-M-S6	R928041301
1051876B	10TEN0400-PWR3A00-P2,2-M-S9	R928041303
1010310B	10TEN0630-PWR3A00-P2,2-M-S8	R928041305
1051863B	10TEN1000-PWR3A00-P2,2-M-S12	R928041307
1010313B	10TE2000-PWR3A00-P2,2-M-S10	R928041309
1010315B	10TE2500-PWR3A00-P2,2-M-S10	R928041311
1015055B	10TEN0040-PWR6A00-P2,2-M-U4	R928052854
1015057B	10TEN0063-PWR6A00-P2,2-M-U9	R928052856
1015059B	10TEN0100-PWR6A00-P2,2-M-U9	R928052858
1015346B	10TEN0160-PWR6A00-P2,2-M-S5	R928053324
1012908B	10TEN0250-PWR6A00-P2,2-M-S6	R928048118
1015061B	10TEN0400-PWR6A00-P2,2-M-S9	R928052860
1011113B	10TEN0630-PWR6A00-P2,2-M-S8	R928044930
1015062B	10TEN1000-PWR6A00-P2,2-M-S12	R928052861
1014762B	10TE2000-PWR6A00-P2,2-M-S10	R928052264
1011137B	10TE2500-PWR6A00-P2,2-M-S10	R928044973
1010280B	10TEN0040-PWR10A00-P2,2-M-U4	R928041272
1010282B	10TEN0063-PWR10A00-P2,2-M-U9	R928041274
1010284B	10TEN0100-PWR10A00-P2,2-M-U9	R928041276
1010286B	10TEN0160-PWR10A00-V2,2-M-S5	R928041278
1010288B	10TEN0250-PWR10A00-P2,2-M-S6	R928041280
1010290B	10TEN0400-PWR10A00-P2,2-M-S9	R928041282
1010292B	10TEN0630-PWR10A00-P2,2-M-S8	R928041284
1010294B	10TEN1000-PWR10A00-P2,2-M-S12	R928041286
1010297B	10TE2000-PWR10A00-P2,2-M-S10	R928041289
1010299B	10TE2500-PWR10A00-P2,2-M-S10	R928041291
1052236B	10TEN0040-PWR20A00-P2,2-M-U4	R928041200
1052095B	10TEN0063-PWR20A00-P2,2-M-U9	R928041202
1051957B	10TEN0100-PWR20A00-P2,2-M-U9	R928041204
1051897B	10TEN0160-PWR20A00-V2,2-M-S5	R928041206
1010237B	10TEN0250-PWR20A00-P2,2-M-S6	R928041209
1010239B	10TEN0400-PWR20A00-P2,2-M-S9	R928041211
1010247B	10TEN0630-PWR20A00-P2,2-M-S8	R928041224
1010249B	10TEN1000-PWR20A00-P2,2-M-S12	R928041226
1010251B	10TE2000-PWR20A00-P2,2-M-S10	R928041229
1010253B	10TE2500-PWR20A00-P2,2-M-S10	R928041231

Hengst material no.	Type code	Rexroth material no.
Complete filter		
1010300B	10TEN0040-PWR3A00-P2,2-M-R3	R928041292
1010301B	10TEN0063-PWR3A00-P2,2-M-R4	R928041294
1010302B	10TEN0100-PWR3A00-P2,2-M-R4	R928041296
1010304B	10TEN0160-PWR3A00-V2,2-M-R5	R928041298
1010306B	10TEN0250-PWR3A00-P2,2-M-R6	R928041300
1010308B	10TEN0400-PWR3A00-P2,2-M-S8	R928041302
1010309B	10TEN0630-PWR3A00-P2,2-M-S9	R928041304
1010311B	10TEN1000-PWR3A00-P2,2-M-S10	R928041306
1010312B	10TE2000-PWR3A00-P2,2-M-S12	R928041308
1010314B	10TE2500-PWR3A00-P2,2-M-S12	R928041310
1015054B	10TEN0040-PWR6A00-P2,2-M-R3	R928052853
1015056B	10TEN0063-PWR6A00-P2,2-M-R4	R928052855
1015058B	10TEN0100-PWR6A00-P2,2-M-R4	R928052857
1011150B	10TEN0160-PWR6A00-P2,2-M-R5	R928044990
1012244B	10TEN0250-PWR6A00-P2,2-M-R6	R928046782
1012266B	10TEN0400-PWR6A00-P2,2-M-S8	R928046816
1011123B	10TEN0630-PWR6A00-P2,2-M-S9	R928044949
1012271B	10TEN1000-PWR6A00-P2,2-M-S10	R928046825
1015063B	10TE2000-PWR6A00-P2,2-M-S12	R928052862
1015064B	10TE2500-PWR6A00-P2,2-M-S12	R928052863
1010279B	10TEN0040-PWR10A00-P2,2-M-R3	R928041271
1010281B	10TEN0063-PWR10A00-P2,2-M-R4	R928041273
1010283B	10TEN0100-PWR10A00-P2,2-M-R4	R928041275
1010285B	10TEN0160-PWR10A00-P2,2-M-R5	R928041277
1010287B	10TEN0250-PWR10A00-P2,2-M-R6	R928041279
1010289B	10TEN0400-PWR10A00-P2,2-M-S8	R928041281
1010291B	10TEN0630-PWR10A00-P2,2-M-S9	R928041283
1010293B	10TEN1000-PWR10A00-P2,2-M-S10	R928041285
1010296B	10TE2000-PWR10A00-P2,2-M-S12	R928041288
1010298B	10TE2500-PWR10A00-P2,2-M-S12	R928041290
1010231B	10TEN0040-PWR20A00-P2,2-M-R3	R928041199
1010232B	10TEN0063-PWR20A00-P2,2-M-R4	R928041201
1010233B	10TEN0100-PWR20A00-P2,2-M-R4	R928041203
1010234B	10TEN0160-PWR20A00-V2,2-M-R5	R928041205
1010236B	10TEN0250-PWR20A00-P2,2-M-R6	R928041208
1010238B	10TEN0400-PWR20A00-P2,2-M-S8	R928041210
1010246B	10TEN0630-PWR20A00-P2,2-M-S9	R928041223
1010248B	10TEN1000-PWR20A00-P2,2-M-S10	R928041225
1010250B	10TE2000-PWR20A00-P2,2-M-S12	R928041228
1010252B	10TE2500-PWR20A00-P2,2-M-S12	R928041230

Translation table (Rexroth material number to Hengst material number)

Hengst material no.	Type code	Rexroth material no.	Hengst material no.	Type code	Rexroth material no.
Extension pipes for NG0040-0100					
1009224B	ACC-R-10TEN0040-0100-R110	R928038744	1009232B	WO-S01-0,8-M-10	R928038773
1009225B	ACC-R-10TEN0040-0100-R150	R928038745	1009231B	WO-S01-0,8-V-10	R928038772
1009226B	ACC-R-10TEN0040-0100-R250	R928038746	1009234B	WO-S01-1,5-M-10	R928038776
Filter element					
1002277B	1.0040 PWR3-A00-0-M	R928005835	1009233B	WO-S01-1,5-V-10	R928038774
1002292B	1.0063 PWR3-A00-0-M	R928005853	1000524B	WO-S01-2,2-M-10	R901025310
1002309B	1.0100 PWR3-A00-0-M	R928005871	1000529B	WO-S01-2,2-V-10	R901066232
1002326B	1.0160 PWR3-A00-0-M	R928005889	1009230B	WO-S01-2,2-M-10-PA	R928038771
1002344B	1.0250 PWR3-A00-0-M	R928005925	1009229B	WO-S01-2,2-V-10-PA	R928038769
1002361B	1.0400 PWR3-A00-0-M	R928005961	1004755B	M010 0-6 BAR	R928019224
Electronic switching elements and cable sockets					
1002379B	1.0630 PWR3-A00-0-M	R928005997	1006503B	WE-1SP-M12X1	R928028409
1002395B	1.1000 PWR3-A00-0-M	R928006033	1006504B	WE-2SP-M12X1	R928028410
1010316B	1.2000 PWR3-A00-0-M	R928041312	1006505B	WE-2SPSU-M12X1	R928028411
1010317B	1.2500 PWR3-A00-0-M	R928041314	1008297B	WE-1SP-EN175301-803	R928036318
1002278B	1.0040 PWR6-A00-0-M	R928005836	1000460B	PLUG-IN CONNECTOR 4P Z24 SPEZ	R900031155
1002293B	1.0063 PWR6-A00-0-M	R928005854	1000466B	PLUG-IN CONNECTOR 4P Z24M12X1 +3MSPEZ	R900064381
1002310B	1.0100 PWR6-A00-0-M	R928005872	Filter element for ventilation		
1002327B	1.0160 PWR6-A00-0-M	R928005890	1004914B	71.001 P5-S00-0-0	R928019705
1002345B	1.0250 PWR6-A00-0-M	R928005926	Seal kit		
1002362B	1.0400 PWR6-A00-0-M	R928005962	1006362B	D10TEN0040-0100-M	R928028013
1002380B	1.0630 PWR6-A00-0-M	R928005998	1006363B	D10TEN0160-0250-M	R928028014
1002396B	1.1000 PWR6-A00-0-M	R928006034	1006364B	D10TEN0400-0630-M	R928028015
1012931B	1.2000 PWR6-A00-0-M	R928048158	1009695B	D10TEN1000-M	R928039806
1012258B	1.2500 PWR6-A00-0-M	R928046806	1009696B	D10TE2000-2500-M	R928039807
1002279B	1.0040 PWR10-A00-0-M	R928005837	1013095B	D10TEN0040-0100-V	R928048445
1002294B	1.0063 PWR10-A00-0-M	R928005855	1015065B	D10TEN0160-0250-V	R928052864
1002311B	1.0100 PWR10-A00-0-M	R928005873	1015006B	D10TEN0400-0630-V	R928052765
1002328B	1.0160 PWR10-A00-0-M	R928005891	1015066B	D10TEN1000-V	R928052865
1002346B	1.0250 PWR10-A00-0-M	R928005927	1015067B	D10TE2000-2500-V	R928052866
1002363B	1.0400 PWR10-A00-0-M	R928005963	1013206B	D10TEN0040-0100-M-FN	R928048707
1002381B	1.0630 PWR10-A00-0-M	R928005999	1013208B	D10TEN0040-0100-V-FN	R928048709
1002397B	1.1000 PWR10-A00-0-M	R928006035			
1010026B	1.2000 PWR10-A00-0-M	R928040797			
1010028B	1.2500 PWR10-A00-0-M	R928040800			
1002280B	1.0040 PWR20-A00-0-M	R928005838			
1002295B	1.0063 PWR20-A00-0-M	R928005856			
1002312B	1.0100 PWR20-A00-0-M	R928005874			
1002329B	1.0160 PWR20-A00-0-M	R928005892			
1002347B	1.0250 PWR20-A00-0-M	R928005928			
1002364B	1.0400 PWR20-A00-0-M	R928005964			
1002382B	1.0630 PWR20-A00-0-M	R928006000			
1002398B	1.1000 PWR20-A00-0-M	R928006036			
1010256B	1.2000 PWR20-A00-0-M	R928041235			
1010257B	1.2500 PWR20-A00-0-M	R928041237			