

Suction filter

Type S 8 to S 455

RE 51491

Edition: 2023-02

Replaces: 2021-04



- ▶ Nominal size 8 ... 455
- ▶ Connection up to G 3
- ▶ Filter rating from 10 µm nominal

Features

Suction filters are used in hydraulic systems for separating solid particulate from hydraulic and lubrication fluids. The suction filters are designed to be screwed into the suction line on pumps or inside reservoirs.

- ▶ Cleanable wire mesh filter media.
Information on filter material configuration is available in RE 51548.
- ▶ Filtration of hydraulic fluids and lubricants
- ▶ Filtration of industrial fluids
- ▶ Direct installation into suction lines
- ▶ Direct wear protection of pumps
- ▶ Bypass valve and return flow protection possible

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Ordering code

Suction filter

01	02	03	04	05	06	07	08	09
S			S00	-		00	0	0

Design

01	Suction filter	S
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Frame size

02	S..	8 16 28 45 75 115 175 280 455
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Nominal filter rating in µm

03	Stainless steel wire mesh, cleanable	G10 G25 G40 G60 G100 G130 G200 G500 G800
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Element design

04	Standard adhesive T = 100 °C	S00
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Solenoid / bypass valve / maintenance indicator

05	without solenoid, without bypass valve, without maintenance indicator	000
	without solenoid, with bypass valve 0.3 bar, without maintenance indicator, not configurable with check valve	010

Port

06	Standard	00
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Seal

07	without	0
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Material

08	Standard	0
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Supplementary information

09	without	0
	Check valve 0.02 bar, only possible with frame size 75, 115, 175, 280, 455; not configurable with bypass valve	V

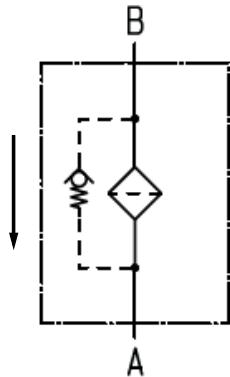
More detailed information on Hengst filter material configuration is available in RE 51548.

Order example:

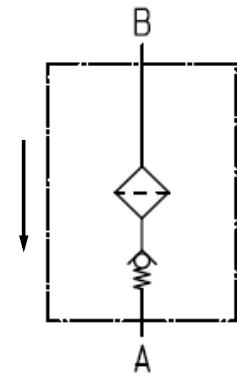
S45 G100-S00-000-00000

Symbols

Filter symbol with bypass



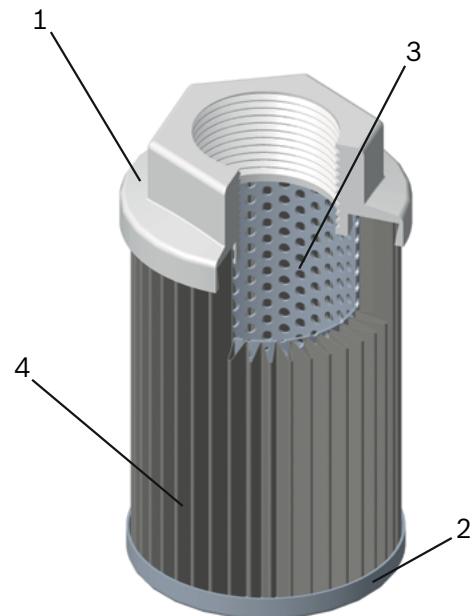
Filter symbol with reverse flow check valve



Function, section

Suction filters are used in hydraulic systems for separating solid particulate from hydraulic and lubrication fluids. They are intended for the direct attachment to suction lines

The suction filter consists of a combination of star-like pleated filter media (4) which is wrapped around a perforated support tube (3). The suction filter is sealed in a longitudinal direction, using a 2-component adhesive. The support tube and filter element mesh-pack are glued to the upper part (1) and the end caps (2).



Technical data

(for applications outside the stated values, please consult us!)

general (net weights refer to versions without bypass and check valve)							
Weight	NG	8	16	28	45	75	115
	kg [lbs]	0.1 [0.22]	0.12 [0.27]	0.14 [0.31]	0.24 [0.53]	0.3 [0.66]	0.45 [0.99]
	NG	175	280	455			
	kg [lbs]	0.58 [1.28]	1.46 [3.22]	1.6 [3.5]			
Operating temperature range	°C [°F]	-20 ... +100 [-4 ... +212]					
Storage conditions	°C [°F]	-40 ... +65 [-40 ... +149]; max. relative air humidity 65%					
Material	▶ Upper part	Polyamide with frame size 16 to 175					
		Aluminum with frame size 8, 280 and 455					
	▶ Support tube	Galvanized steel					
	▶ Base	Galvanized steel					

hydraulic

Flow direction	from the outside to the inside
Maximum differential pressure	bar [psi] 1 [14.5]

Compatibility with permitted hydraulic fluids

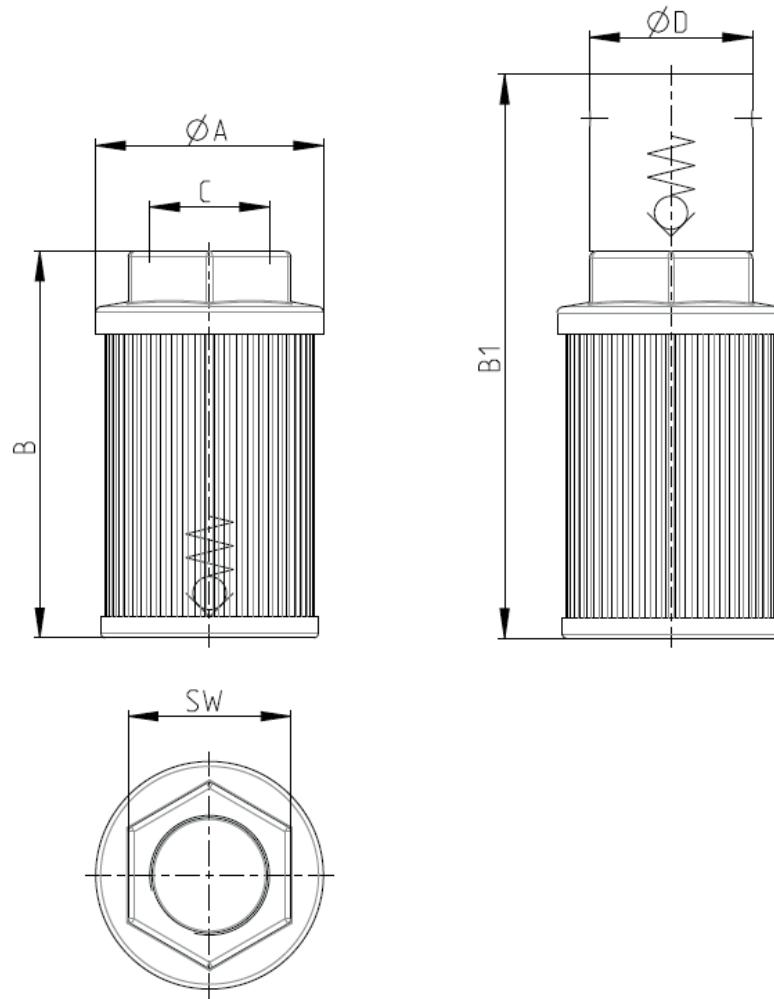
Hydraulic fluid	Classification	Standards
Mineral oil	HLP	DIN 51524
Bio-degradable	– insoluble in water	HETG
		HEES
	– soluble in water	HEPG
Flame-resistant	– water-free	HFDU, HFDR
		VDMA 24568
		VDMA 24568
		VDMA 24317

 **Important information on hydraulic fluids!**

- ▶ For further information and data on the use of other hydraulic fluids, please refer to data sheet 90220 or contact us!

Dimensions

(dimensions in mm)



Type	Dimensions (mm)					
	$\varnothing A$	B	B1: For version with check valve	C	$\varnothing D$: For version with check valve	SW
S 8	40	45		G 3/8		24
S 16	57	60		G 1/2		36
S 28	57	90		G 3/4		36
S 45	77	95	155	G1	55	55
S 75	77	130	190	G 1 1/4	55	55
S 115	109	135	189	G 1 1/2	75	75
S 175	109	180	234	G 2	75	75
S 280	150	169	254	G 2 1/2	105	105
S 455	150	249	334	G 3	105	105

Assembly, commissioning & maintenance

Assembly

Install the suction filter directly to the suction line of the pump. Vertical installation preferred.

Commissioning

Commission the system.

Maintenance

- ▶ If the suction filter is contaminated (recommendation max. 0.3 bar underpressure (absolute)), it should be replaced or cleaned
- ▶ Switch off the system
- ▶ Screw off the suction filter
- ▶ Replace or clean the suction filter
- ▶ Suction filters made of wire mesh can be cleaned. The cleaning process requirements depend on the type of contamination and the differential pressure obtained before the suction filter service interval
For detailed cleaning instructions, refer to data sheet RE 51548
- ▶ Install on the new or cleaned suction filter
The torque specifications ("Tightening torques" section) are to be considered
- ▶ Commission the system

Tightening torques

(dimensions in mm [*inch*])

Series suction filter S...	8	16	28	45	75	115	175	280	455
Suction filter				25 Nm ± 10 Nm					

Environment and recycling

- ▶ The used suction filter has to be disposed of according to the country-specific legal regulations for environmental protection.

Notice:

- ▶ If the recommended differential pressure is disregarded, the disproportionately increasing differential pressure may damage the suction filter (collapse).

Warranty expires in the event that the delivered item is changed by the ordering party or third parties or improperly mounted, installed, maintained, repaired, used or exposed to environmental conditions that do not comply with the installation conditions.

Guidelines and standards

Product validation

Hengst filters are tested and quality-monitored according to different ISO test standards:

Compatibility with hydraulic fluid	ISO 2943:1998-11
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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.

Use in potentially explosive atmospheres according to directive 2014/34/EU (ATEX):

The suction filters are not equipment or components in the sense of directive 2014/34/EU and are not provided with the CE mark.

It has been proven with the ignition risk analysis that these suction filters do not have own ignition sources according to DIN EN ISO 80079-36.

The suction filters can be used for the following potentially explosive atmospheres:

	Zone suitability	
Gas	1	2
Dust	21	22

⚠ WARNING!

- ▶ For use of the suction filters in potentially explosive atmospheres, ATEX suitability of the complete filter assembly is an imperative requirement.
- ▶ Conductivity of the medium: at least 300 pS/m
- ▶ During suction filter exchange, the packaging material is to be removed from the suction filter outside the potentially explosive atmosphere.
- ▶ Maintenance to be conducted only by specialists, as per the instruction by the machine end-user according to DIRECTIVE 1999/92/EC Appendix II, section 1.1

Intended use

The suction filters serve as components as per the EC Machinery Directive 2006/42/EC in hydraulic machinery for the separation of dirt particles.

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

- ▶ only in hydraulic systems with fluids of group 2, according to Pressure Equipment Directive 2014/68/EU
- ▶ only according to the application and environmental conditions in the chapter "Technical data"
- ▶ only with hydraulic fluids and the intended seals according to the section "Compatibility with hydraulic fluids"
- ▶ Use in potentially explosive atmospheres according to the chapter "Guidelines and standards"
- ▶ Compliance with application and environmental conditions according to the technical data
- ▶ Compliance with the specified performance limits
- ▶ The suction filters are intended exclusively for professional use and not for private use

Improper use

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

Improper use of the suction filters includes:

- ▶ Incorrect storage
- ▶ Incorrect transport
- ▶ Lack of cleanliness during storage and assembly
- ▶ Incorrect installation
- ▶ Use of inappropriate/non-permissible hydraulic fluids
- ▶ Operation outside the approved temperature range
- ▶ Installation and operation in impermissible device group and category

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