Filter elements

Type 6., according to Hengst standard

RE 51521
Edition: 2021-04
Replaces: -

- Nominal size 56 ... 560
- Filter rating from 10 µm
- For housing suction filters SE

Features

- Filter media made of wire mesh for numerous fields of application. Information on filter material configuration is available in RE 51548
- Cleanable wire mesh filter media

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Ordering code
Filter element for housing suction filters SE

01	02	03		04		05		06
6.			**–**	**S00**	**–**	**0**	**–**	**0**

Design

01	Filter element (for the admissible temperature ranges, refer to chapter "Technical data")	**6.**

Nominal size

02	according to Hengst standard	**56** **90** **140** **225** **360** **460** **560**

Filter rating in µm

03	Nominal	Stainless steel wire mesh G, cleanable	**G10** **G25** **G40** **G60** **G100** **G200** **G500** **G800**

Differential pressure

04	max. admissible differential pressure of the filter element	1 bar *[14.5 psi]*	**S00**

Bypass valve

05	without	**0**

Seal

06	without	**0**

Further filter ratings and seal materials are available on request.
More detailed information on Hengst filter material configuration is available in RE 51548.

Filter design

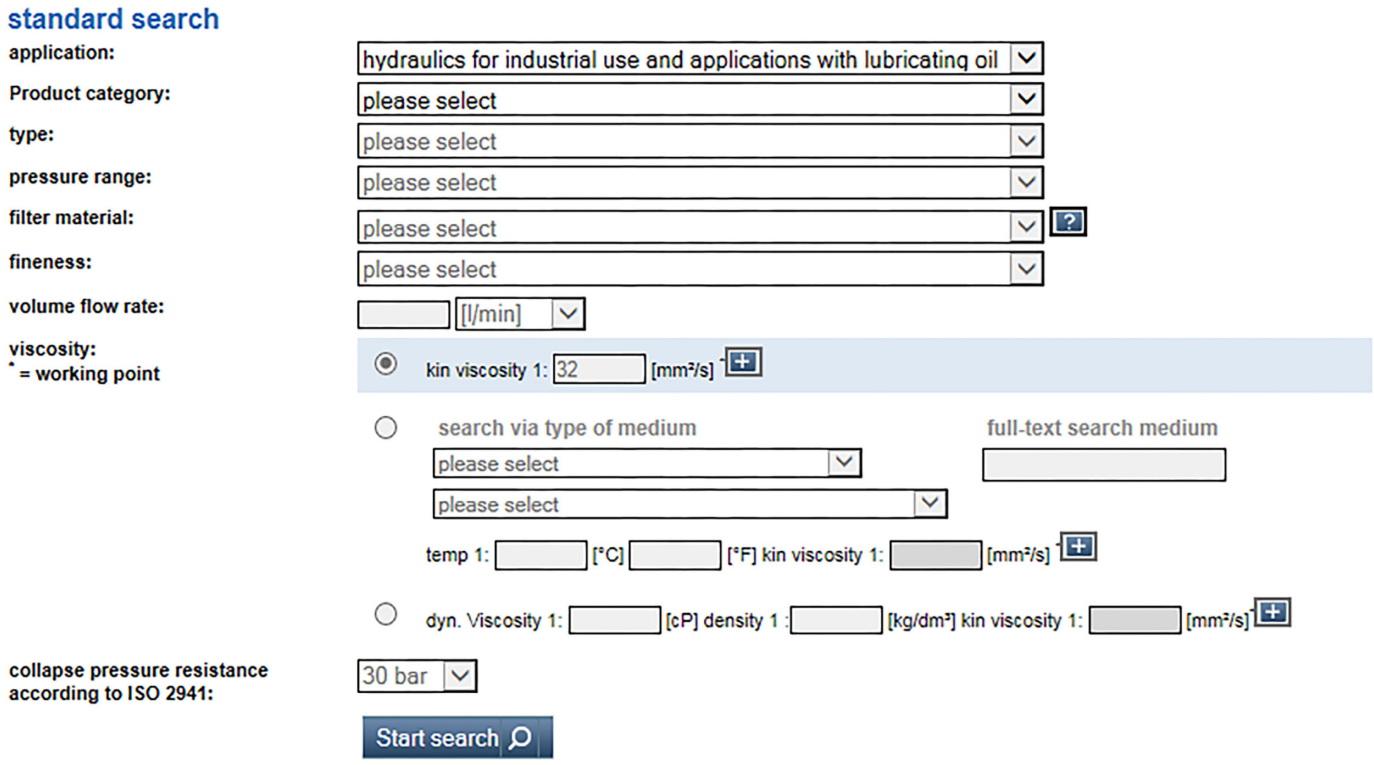
Easy selection of the filter size is made possible by the FilterSelect online tool. The filter can be designed using the operating pressure, flow and fluid system parameters. The required filter rating is based on the application, the sensitivity to contamination of the components and the environmental conditions.

The program leads you through the menu on a step-by-step basis.

A documentation of the filter selection can finally be created in the form of a PDF file. This file contains the entered parameters, the designed filter with material number including spare parts, and the pressure loss curves.

Link FilterSelect:
http://www.filterselect.de

Other languages can be selected using the page navigation.



Product description

The filter element is the main building block of industrial filtration. It is in the filter element where the actual filtration takes place.
According to the large range of different housing designs and sizes, there is also a large number of different sizes and designs of inserted filter elements.

The main filter variables, such as retention capacity, dirt holding capacity and pressure loss are determined by the construction of the filter elements and the filter media used.
Further information on the characteristic values and filter media is available in RE 51548.

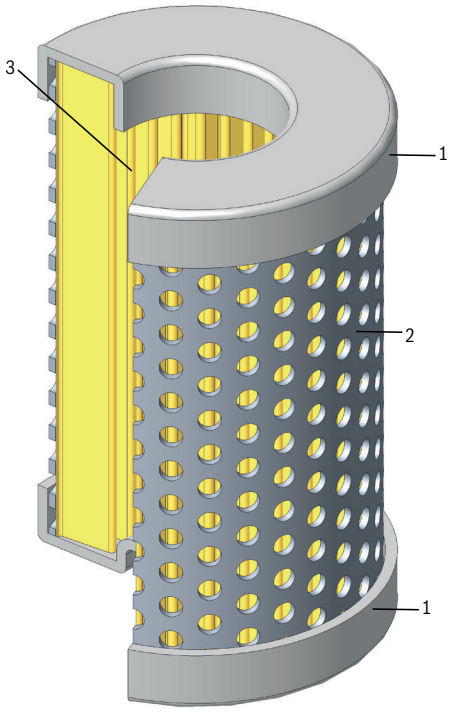
Hengst filter elements are used for filtration of various hydraulic fluids, lubricants and other industrial fluids and gases, depending on the series.

Filtration takes place on the 6th filter elements from the inside to the outside of the filter element. The fluid or gas must flow from the dirt side through the filter element out to the clean side.

In general, Hengst filter elements consist of a combination of star-like, pleated filter media (3) called filter element mesh-pack.

On the 6th filter elements, the filter element mesh-pack is laid into a perforated support tube (2) which gives the set-up the required stability to withstand high differential pressures.

The filter element mesh-pack laid into the support tube is glued to the joint and the two end caps (1) and therefore sealed between the dirt and the clean side. Sealing between the filter element and the filter housing is effectively done by means of seals on the filter housing.



Technical data
(for applications outside these values, please consult us!)

general		
Material	– Cover of the filter element	Galvanized steel
	– Base of the filter element	Galvanized steel
	– Support tube of the filter element	Galvanized steel

hydraulic		
Filtration direction		from the inside to the outside
Maximum differential pressure	bar *[psi]*	1 *[14.5]*

Admissible operating temperature range, depending on material combination

		Operating temperature range °C *[°F]*
Filter material configuration	**Code letter**	
Stainless steel wire mesh	G...	–40 ... +100 *[-40 ... +212]*

Compatibility with permitted hydraulic fluids

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

Assembly, commissioning, maintenance

When should the filter element be replaced or cleaned?
The filter element must be exchanged or cleaned if the indicator on the optical maintenance indicator goes into the red zone at operating temperature or if a switching process is triggered in the electric maintenance indicator. It is not advisable to operate a filter housing without a filter element maintenance indicator, however, in the event that the filter housing is not fitted with an indicator, we recommend changing or cleaning the filter elements at least every 6 months.

Filter element exchange
Detailed instructions with regard to the filter element exchange can be found in the data sheet of the relevant filter series.

Environment and recycling

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

⚠ WARNING!

- Filters are containers under pressure. Before opening the filter housing, check whether the system pressure in the filter has been decreased to ambient pressure. Only then may the filter housing be opened for maintenance.
- Filter elements must be unpacked outside ATEX zones

☞ **Notice:**

- Due to the high viscosity at cold start conditions, the pre-set signal value of the visual maintenance indicator may be exceeded at start-up.
- If the maintenance indicator alarm is disregarded, the disproportional, increasing differential pressure may damage the filter element.
- Information on dirt holding capacity characteristic values exclusively refer to the measurement results obtained under laboratory conditions according to ISO 16889. These may deviate from measurements obtained in real applications due to various influencing factors. It is expected that a higher comparable dirt holding capacity, according to ISO 16889 at a comparable filtration ratio $ß_{x(c)}$, can be achieved under real operating conditions.
- 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.
- Technical characteristic values such as retention rate and dirt holding capacity have been determined at a temperature of 40 °C (+/- 5 °C).

Directives and standardization

Product validation

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

Filtration performance test (multipass test)	ISO 16889:2008-06
Δp (pressure loss) characteristic curves	ISO 3968:2001-12
Compatibility with hydraulic fluid	ISO 2943:1998-11
Collapse pressure test	ISO 2941:2009-04
Fluid Technology; Hydraulic Filter – Part 2; Assessment Criteria and Requirements	DIN 24550-2:2006-09

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 filter elements are not equipment or components in the sense of directive 2014/34/EU and are not provided with the CE marking.
It has been proven with the ignition risk analysis that these filter elements do not have own ignition sources according to DIN EN ISO 80079-36.

The filter elements can be used for the following potentially explosive atmospheres:

	Zone suitability	
Gas	1	2
Dust	21	22

⚠ WARNING!

- For use of the filter elements 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 filter element exchange, the packaging material is to be removed from the replacement element 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 filter elements serve as components as per the EC Machinery Directive 2006/42/EC in hydraulic machinery for the separation of dirt particles.
The filter elements 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 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"
- 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 filter elements 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 admissible.
Improper use of the filter elements includes:

- Incorrect storage
- Incorrect transport
- Lack of cleanliness during storage and assembly
- Incorrect installation
- Use of inappropriate/non-admissible hydraulic fluids
- Exceedance of the specified maximum pressures and load cycles
- Operation outside the approved temperature range
- Installation and operation in inadmissible 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.

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