

Filter candles for process filtration

Type 38.C filter candles

RE 51487

Edition: 2021-04



- ▶ Plug-in adapter (2x222 seal ring), centering point
- ▶ Size (length): 10"; 20"; 30"
- ▶ Diameter: 70 mm [2.76 in]
- ▶ Maximum pressure differential: 5 bar [73 psi]
- ▶ Filter rating: 1; 5 and 10 µm
- ▶ Operating temperature: +10 °C ... +80 °C [+50 °F... +176 °F]

Features

- ▶ Multi-layer glass fiber material with support layers
- ▶ Direction of flow from the outside to the inside
- ▶ High dirt holding capacity thanks to deep filtration
- ▶ Used in the process filtration of cleaning liquids

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Ordering code: Filter element

Filter candle type 38.C

| | | | | | | | | |
|------|----|----|----|-----|----|----|---|---|
| 01 | 02 | 03 | 04 | | 05 | 06 | | |
| 38.C | | | - | P00 | - | 0 | - | V |

| | |
|------------|---------------------------|
| Frame size | |
| 01 | Filter candle series 38.C |
| 38.C | |

| | |
|-------|------------------------------|
| Size | |
| 02 | According to Hengst standard |
| 10MAC | |
| 20MAC | |
| 30MAC | |

| | |
|--|--|
| Filter rating | |
| 03 | Absolute (ISO 16889; $\beta_{x(c)} \geq 200$) |
| Glass fiber material, non-reusable (not cleanable) | |
| H1FK | |
| H5FK | |
| H10FK | |

| | |
|-----------------------|---|
| Pressure differential | |
| 04 | Max. admissible pressure differential of the filter candle 5 bar [73 psi] |
| P00 | |

| | |
|--------------|----------------------|
| Bypass valve | |
| 05 | Without bypass valve |
| 0 | |

| | |
|------|----------|
| Seal | |
| 06 | FKM seal |
| V | |

Order example:
38.C 30MAC H1FK-P00-0-V

Material no.: R928054381

| Material no. | Type |
|--------------|--------------------------|
| R928034905 | 38.C 10MAC H1FK-P00-0-V |
| R928034934 | 38.C 10MAC H5FK-P00-0-V |
| R928034943 | 38.C 10MAC H10FK-P00-0-V |
| | |
| Material no. | Type |
| R928047447 | 38.C 20MAC H1FK-P00-0-V |
| R928047510 | 38.C 20MAC H5FK-P00-0-V |
| R928047535 | 38.C 20MAC H10FK-P00-0-V |

| Material no. | Type |
|--------------|-------------------------|
| R928054381 | 38.C 30MAC H1FK-P00-0-V |
| R928053684 | 38.C 30MAC H5FK-P00-0-V |
| R928047572 | 38.C 30MAC H10FK-P00-0- |

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.

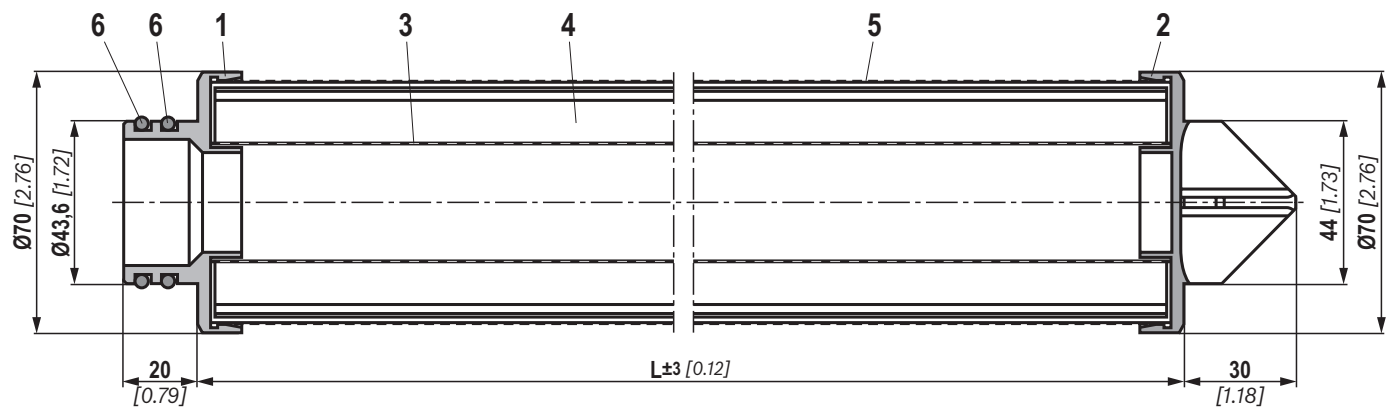
standard search

| | | |
|--|---|---|
| application: | <input type="text" value="hydraulics for industrial use and applications with lubricating oil"/> | |
| Product category: | <input type="text" value="please select"/> | |
| type: | <input type="text" value="please select"/> | |
| pressure range: | <input type="text" value="please select"/> | |
| filter material: | <input type="text" value="please select"/> | <input style="border: 1px solid black;" type="button" value="?"/> |
| fineness: | <input type="text" value="please select"/> | |
| volume flow rate: | <input type="text" value=""/> <input type="text" value="[l/min]"/> | |
| viscosity: * = working point | <input checked="" type="radio"/> kin viscosity 1: <input type="text" value="32"/> <input type="text" value="[mm²/s]"/> <input type="button" value="+"/> | |
| | <input type="radio"/> search via type of medium <div style="float: right; text-align: right;">full-text search medium <input type="text"/></div> <div style="clear: both;"></div> <div style="display: flex; justify-content: space-between;"> <div> <input type="text" value="please select"/> <input type="text" value="please select"/> </div> <div> temp 1: <input type="text"/> [°C] <input type="text"/> [°F] kin viscosity 1: <input type="text"/> [mm²/s] <input type="button" value="+"/> </div> </div> | |
| | <input type="radio"/> dyn. Viscosity 1: <input type="text"/> [cP] density 1: <input type="text"/> [kg/dm³] kin viscosity 1: <input type="text"/> [mm²/s] <input type="button" value="+"/> | |
| collapse pressure resistance according to ISO 2941: | <input type="text" value="30 bar"/> | |
| | <input type="button" value="Start search"/> | |

Function, set-up
(dimensions in mm [inch])

The standard version of the filter candles can be used for all cleaning liquids commonly used in parts cleaning. This includes most watery, neutral, alkaline, acid and hydrocarbon cleaners. With cleaners containing amine, the actual application conditions (concentration and temperature) have to be checked before use. For any others fields of application and media, please consult us first.

The filter candle consists of a composite of star-like pleated filter media (4). To ensure a high degree of stability, the filter element mat which is made of several filter layers is wrapped around a perforated support tube (3) and glued to the bottom (2) and cover (1). A perforated protective cage (5) protects the filter material against mechanical damage and allows for an even flow around the filter element mat. The filter candle is sealed by two seal rings (6).



| Type | L |
|------------|-------------|
| 38.C 10MAC | 256 [10.08] |
| 38.C 20MAC | 492 [19.37] |
| 38.C 30MAC | 764 [30.08] |

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

| general | |
|-------------------------|---|
| Filtration direction | From the outside to the inside |
| Fluid temperature range | °C [°F] +10 ... +80 [+50 ... +176] |
| Filter material | Glass fiber |
| Diameter | mm [in] 70 [2.76] |
| Filter area/ 10" | cm² [in²] 2700 [418] |
| Seal material | FKM |
| Design | |
| Version | Open on one side, SOE, with centering point |
| Slot | Plug-in adapter, double seal ring, SOE222 |

Filter media

Glass fiber filter material achieves the best cleanliness possible compared to other filter media. It is suitable for many watery cleaning media such as hydraulic oils, lubricants, chemical and industrial liquids. Due to its defined retention capacity (ISO 16889), it offers highly effective protection for machines and system components which are sensitive to contamination. An optimized dirt holding capacity in connection with an excellent cleanliness class is achieved by several glass fiber liners

which are relevant for filtration. The cloth used is also responsible for a very high degree of stability of the filter element in case of pulsations.

If the filter medium is properly designed and applied, it achieves a high degree of cleanliness of the media and in this way provides effective protection of the soil-sensitive parts, machines and system components which are to be cleaned.

Filtration ratio $\beta_{x(c)}$

Typical β values of up to 2.2 bar [31.9 psi]

| Filter medium | Particle size "x" for different β values, measurement according to ISO 16889 | |
|---------------|--|--------------------------|
| | $\beta_{x(c)} \geq 200$ | $\beta_{x(c)} \geq 1000$ |
| H1FK | < 4 $\mu\text{m(c)}$ | 4.5 $\mu\text{m (c)}$ |
| H5FK | 4.5 $\mu\text{m(c)}$ | 5.5 $\mu\text{m (c)}$ |
| H10FK | 7.7 $\mu\text{m(c)}$ | 9.0 $\mu\text{m (c)}$ |

Installation, commissioning and maintenance

When does the filter candle have to be exchanged?

As soon as the dynamic pressure or the pressure differential set at the maintenance indicator is reached, the filter candle has to be exchanged. It should be exchanged after 6 months at the latest.

Notice:

If the maintenance indicator is ignored, the disproportionately increasing pressure differential may damage (collapse) the filter candle.

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.
- Functional and safety warranty only applicable when using genuine Hengst spare parts.
- 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 conditions that do not comply with the installation conditions.

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.