

STAUFF PRESSURE  
FILTERS  
VALVES & INDICATORS



HYDRAULIC  
COMPONENTS  
& FLUID CONTAMINATION  
CONTROL



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## Product Description (not available for SFZ)

The optional valves are fitted as an insert in the filter head and incorporate the spigot on which the element seals. The valve is selected to suit the filter application.

- HVO** **Non-bypass standard insert** without any valve function.  
Element collapse rating should be higher than the system pressure
- HVB** **Bypass valve** which allows oil to bypass the element when the differential pressure across the element reaches  $6^{+0.5}$  bar /  $87^{+7.25}$  PSI. (Other pressure settings available on request). The opening pressure should be higher than the  $\Delta p$  setting of an optional clogging indicator. Low collapse 30 bar / 435 PSI  $\Delta p$  elements are normally used with this valve.
- HVR** **Reverse flow valve** is used in systems where there is flow in reverse through the filter. It allows reverse flow without backflushing the element but does not filter in the reverse direction. Element collapse rating should be higher than the system pressure.

- HVN** **Non-return valve**  
This valve prevents the oil in the delivery line from draining out while the filter is being serviced. Because there is no bypass, the element collapse rating should be higher than system pressure.
- HVM** **Multi-function valve**  
This valve combines the bypass, the reverse flow and the non-return functions in one unit. The by-pass opening pressure is  $6^{+0.5}$  bar /  $87^{+7.25}$  PSI  $\Delta p$  with other opening pressures available on request. The opening pressure should be higher than the  $\Delta p$  setting of an optional clogging indicator. Low collapse 30 bar / 435 PSI  $\Delta p$  elements are normally used with this valve.

## Order Code

**VALVE - HVB - 014/030 / X**

① ② ③ ④

### ① Type

Valve for Pressure Filters **VALVE**

### ② Valve Type

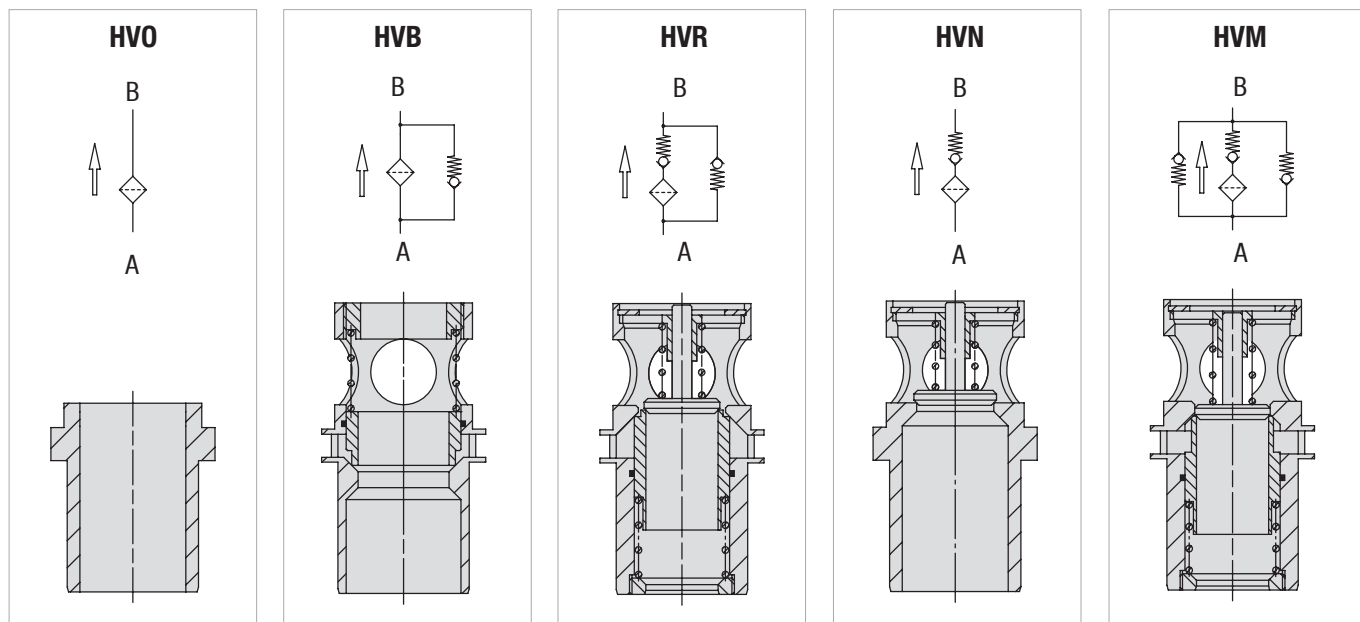
|  |            |
|--|------------|
| Non-bypass standard insert without any valve | <b>HVO</b> |
| Bypass valve                                 | <b>HVB</b> |
| Reverse flow valve                           | <b>HVR</b> |
| Non-return valve                             | <b>HVN</b> |
| Multi-function valve                         | <b>HVM</b> |

### ③ Filter Group

|                                 |                |
|---------------------------------|----------------|
| For filter size 014/030         | <b>014/030</b> |
| For filter size 045/070/125     | <b>045/070</b> |
| For filter size 090/160/250/300 | <b>090/160</b> |

### ④ Design Code

Only for information **X**



Flow characteristics of the valves see page 56.

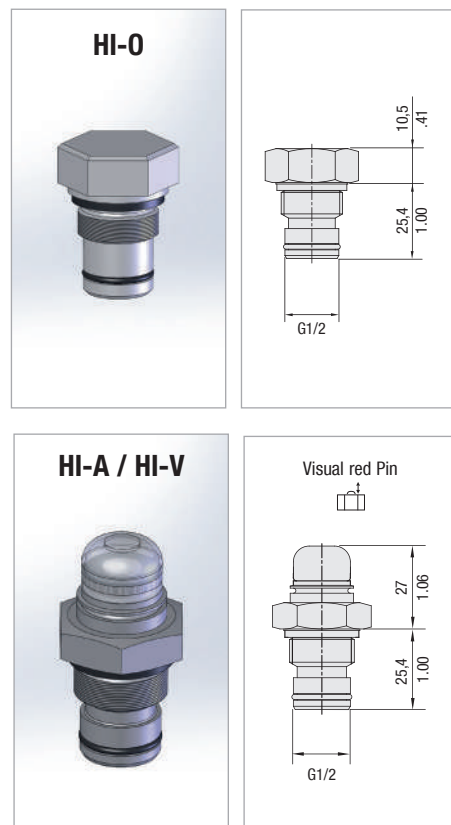


## Clogging Indicators

### Product Description

STAUFF Pressure Filters have a wide range of clogging indicators available. If no indicator is specified, the port is sealed by a plug (HI-O). The clogging indicators are actuated by the differential pressure ( $\Delta p$ ) across the element. The special piston design minimizes the effects of peak pressures in the system. An optional thermal lockout (thermo-stop) is available to prevent false indication under cold start conditions. Fluid temperature have to be at least  $+20\text{ }^{\circ}\text{C}$  /  $+68\text{ }^{\circ}\text{F}$  for the indicator to function.

### Plug Type HI-O and visual Clogging Indicators Type HI-A and HI-V



#### Technical Data

##### Materials

- Body: Stainless Steel

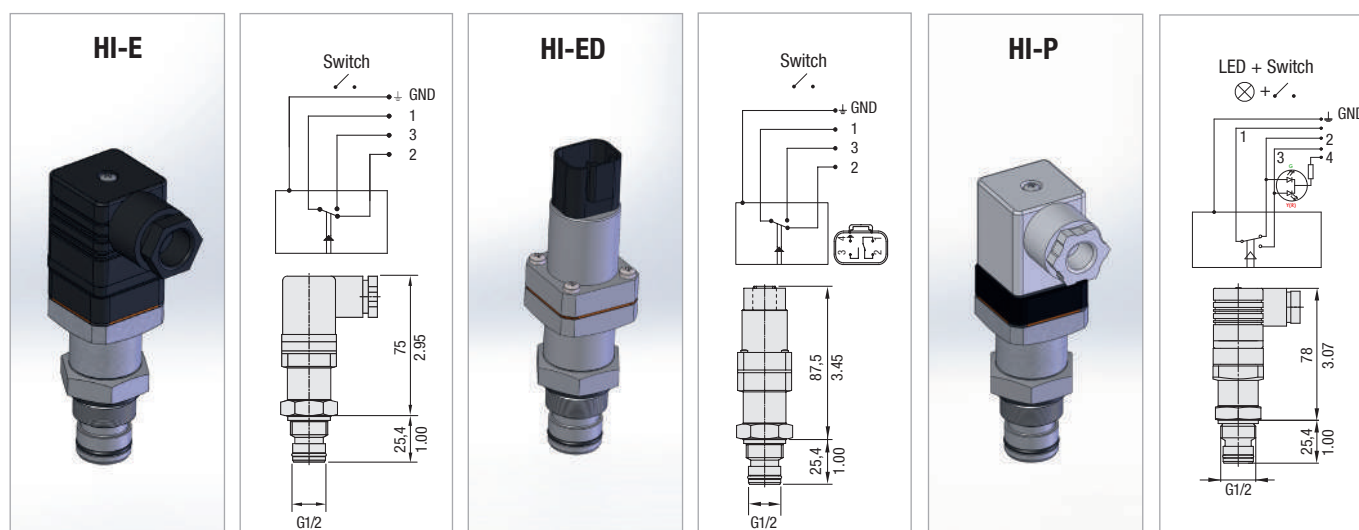
The visual clogging indicators are available in the following configurations:

- Manual reset:**  
The indicator continues to display the clogged signal even through the  $\Delta p$  may have fallen. Pressing the plastic cover down will reset the indicator.
- Automatic reset:**  
The clogged signal will disappear when the  $\Delta p$  drops below the setting for the indicator.

#### Order Code

| HI - A - T - B - B5.0 / X               |   |   |   |   |             |
|---|---|---|---|---|-------------|
| ①                                       | ② | ③ | ④   | ⑤   | ⑥           |
| <b>① Type</b>                           |   |   | <b>③ Sealing Material</b>                                   |   |             |
| Clogging Indicator for Pressure Filters |   |   | HI  | NBR (Buna-N®)                               | B           |
|   |   |   |   | FKM (Viton®)                                | V           |
|   |   |   |   | EPDM  | E           |
| <b>② Indicator Type</b>                 |   |   | <b>④ Differential Pressure Setting (only HI-A and HI-V)</b> |   |             |
| Plug                                    |   |   | O   | 1,72 bar / 25 PSI                           | B1.7        |
| Visual, automatic reset                 |   |   | A   | 2,0 bar / 29 PSI                            | B2.0        |
| Visual, manual reset                    |   |   | V   | 2,5 bar / 36.3 PSI                          | B2.5        |
|   |   |   |   | 3,0 bar / 43.5 PSI                          | B3.0        |
| <b>③ Thermostop</b>                     |   |   |   | <b>5,0 bar / 72.5 PSI (standard option)</b> | <b>B5.0</b> |
| Without thermostop                      |   |   | none  | 7,0 bar / 101.5 PSI                         | B7.0        |
| With thermostop                         |   |   | T   | Note: Bold types identify standard option   |             |
|   |   |   |   | <b>⑤ Design Code</b>                        |             |
|   |   |   |   | Only for information                        | X           |

### Electrical and Visual-electrical Clogging Indicators Type HI-E, HI-ED and HI-P



Continued on page 55.

Dimensional drawings: All dimensions in mm/in.



## Clogging Indicators

### Technical Data

#### Materials

- Body: Stainless Steel

#### Alarm outputs

- HI-E: electrical
- HI-ED: electrical
- HI-P: visual-electrical (LED red and green)

#### Electrical

- Plug according to DIN-EN 175301-803 A (DIN 43650-A).
- Screwed cable gland PG11
- Protection rating (DIN 40050) IP65
- Both NO and NC contacts are available in the switch, rated capacity: see chart below
- Deutsch plug

Note: The customer / user carries the responsibility for the electrical connection.

#### Rated Capacity

| Voltage<br>V  | Resistive Load<br>A | Inductive Load<br>A |
|---------------|---------------------|---------------------|
| 110 V AC      | 5A                  | 3A                  |
| 230 V AC      | 3A                  | 2A                  |
| 24 V DC       | 4A                  | 3A                  |
|               | Max. Load           |                     |
| 24 V AC ± 10% | 1A                  |                     |

High voltage peaks occur when inductive loads are switched off. Protective circuitry should be employed to reduce contact burnout.

### Order Code

| <div> <div>HI</div> <div>-</div> <div>P</div> <div>T</div> <div>230</div> <div>-</div> <div>B</div> <div>-</div> <div>B5.0</div> <div>/</div> <div>X</div> </div> |  |   |   |   |  |   |
|---|--|---|---|---|--|---|
| ①   | ②  | ③ | ④ | ⑤   | ⑥  | ⑦   |
| <b>① Type</b><br>Clogging Indicator for Pressure Filters <b>HI</b>  | <b>④ Voltage (only for Code P)</b><br>24 V DC <b>024</b><br>110 V AC <b>110</b><br>230 V AC <b>230</b> |   |   | <b>⑤ Sealing Material</b><br>NBR (Buna-N®) <b>B</b><br>FKM (Viton®) <b>V</b><br>EPDM <b>E</b> | <b>⑥ Differential Pressure Setting</b><br>1,72 bar / 25 PSI      B1.7<br>2,0 bar / 29 PSI      B2.0<br>2,5 bar / 36.3 PSI      B2.5<br>3,0 bar / 43.5 PSI      B3.0<br><b>5,0 bar / 72.5 PSI (standard option)</b> <b>B5.0</b><br>7,0 bar / 101.5 PSI      B7.0<br>Note: Bold types identify standard option | <b>⑦ Design Code</b><br>Only for information <b>X</b> |
| <b>② Indicator Type</b><br>electrical <b>E</b><br>Electrical, Deutsch plug <b>ED</b><br>Visual-electrical <b>P</b>  |  |   |   |   |  |   |
| <b>③ Thermostop</b><br>Without thermostop <b>none</b><br>With thermostop <b>T</b>   |  |   |   |   |  |   |

## Double Visual-electrical Clogging Indicator

### Product Description

The differential pressure indicator HI-D024 is a microprocessor controlled pressure switch with two alarm outputs for pre-alarm and shut-off. It is used to monitor the capacity of oil filters in oil-circulating systems. For this purpose, a microprocessor-controlled pressure sensor observes the dynamic pressure in front of the filter element or the differential pressure at the filter element. The pressure increases depending on the cumulative clogging of the filter. To avoid false alarms due to high viscosity during start-up, the device is equipped with a temperature control and time delay function.

### Technical Data

#### Connection Thread

- G1/2

#### Operating Pressure

- Max. 420 bar / 6000 PSI

#### Temperature Range

- 20 °C ... +80 °C / -4 °F ... +176 °F
- ready for operation > 20 °C / 68 °F

#### Materials

- Body: Brass
- Sealing Material: NBR (Buna-N®)

#### Protection Rating

- IP 67

#### Rated Capacity

- Max. 0,2 A, 24 V DC

#### Operating Voltage

- 24 V DC

#### Alarm outputs (electrical)

- 3,8 + 10% bar / 55.1 +/- 10% PSI  
Δp = 75% (Pin 4)
- 5 + 10% bar / 72.5 +/- 10% PSI  
Δp = 100% (Pin 2)

#### Alarm outputs (visual)

| Range<br>(%FS) | Color<br>T>T* (Thermo-stop) |
|----------------|-----------------------------|
| 0-50           | green                       |
| 50-75          | yellow                      |
| 75-100         | orange                      |
| 100            | red (flashing)              |
|                | T<T* (Thermo-stop)          |
| 0-100          | blue                        |

T= Temperature  
T\* = 20 °C / 68 °F

### Order Code

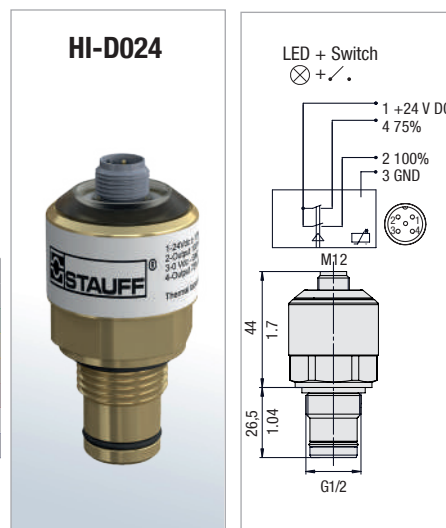
| HI-D-024-B-B5.0 |
|-----------------|
| ①               |

#### ① Type

Clogging Indicator for Pressure Filters

HI-D-024-B-B5.0

Dimensional drawings: All dimensions in mm/in.



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