



## Clogging Indicators for Process Filters

### 1. Technical Specifications

#### 1.1 General

HYDAC clogging indicators are designed to indicate visually and/or electrically when the filter elements must be cleaned or changed. The use of clogging indicators guarantees both the operational safety of the system and the efficient utilisation of the filter elements.

#### 1.2 Seals

V (=Viton) or T (=FEP encapsulated)

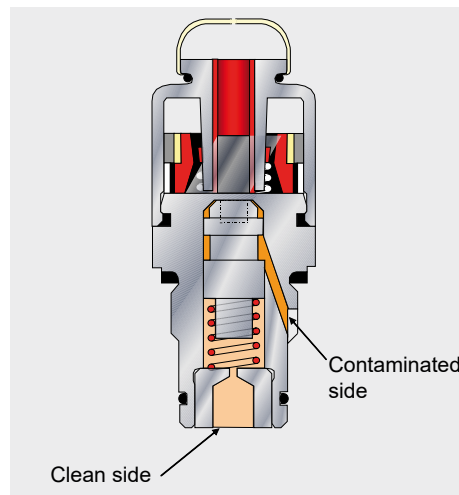
#### 1.3 construction

Differential pressure indicators are used on all process filters. They react to the pressure differential between the filter inlet and the filter outlet, which rises as the level of contamination in the element increases.

Simplest fitting of the differential pressure indicator:  
G 1/2" cavity  
(acc. HYDAC works standard HN 28-22)

The differential pressure indicator type V01 is piped up separately.

For duplex filter housings, the differential pressure indicators are connected using an adaptor block.



#### 1.4 Special indicators

**electrical aTEX indicators:** Optional: electrical indicator for process filters for use in potentially explosive atmospheres subject to the ATEX equipment directive 94/9/EC and the ATEX operator directive 1999/92/EC.

#### 1.5 Torque Values - differential pressure indicators

**note:**

The clogging indicators must only be tightened or adjusted on the spanner flats.

|                       |        |
|-----------------------|--------|
| ●PVD..B.1:            | SW27   |
| ●PVD..C.0:            | SW30   |
| ●PVD..D.0/L....: max. | SW30   |
| torque value:         | 100 Nm |

## 2. Quick Selection: clogging indicators according To filter Type

Please select from the table the clogging indicator required for your filter.

| Type                        | Filter types  |               |            |     |               |
|-----------------------------|---------------|---------------|------------|-----|---------------|
|                             | PRFL<br>PRFLD | PRFS<br>PRFSD | PFM<br>PFH | EDF | PMRF<br>PMRFD |
| PVD ..B                     | ●             | ●             | ●          | ●   | ●             |
| PVD ..C                     | ●             | ●             | ●          | ●   | ●             |
| PVD ..D                     | ●             | ●             | ●          | ●   | ●             |
| V01 ...VZ                   | ●             | ●             | on request |     | ●             |
| Differential pressure gauge | ●             | ●             |            |     | ●             |

### 3. Model code

pVd 2 d. 0 / -I24

#### differential pressure clogging indicator

PVD = Clogging indicator

V01 = Clogging indicator

#### cracking pressure

0 = +0.8 bar (only for V01 indicator)

1 = +1 bar (PVD indicator)

1 = +1.5 bar (PVD indicator)

2 = +2 bar (all clogging indicators)

3 = +3 bar (PVD indicator)

4 = +4.3 bar (only for V01 indicator)

5 = +5 bar (only for PVD indicator)

8 = +8 bar (only for PVD indicator)

#### Type of clogging indicator

B. = visual indicator with automatic reset

C. = electrical indicator

D. = visual/electrical indicator

VZ = visual/analogue indicator with 75% and 100% switch contacts

#### Modification number

0 = all clogging indicators

1 = only B. type

#### Supplementary details (only PVD)

-L24 = light with 24 V

-L48 = light with 48 V

-L110 = light with 110 V

-L220 = light with 220 V

#### differential pressure gauge dS11 electrical

|                |             |
|----------------|-------------|
| Display range: | 0 - 1.6 bar |
|----------------|-------------|

|                               |        |
|-------------------------------|--------|
| Permitted operating pressure: | 25 bar |
|-------------------------------|--------|

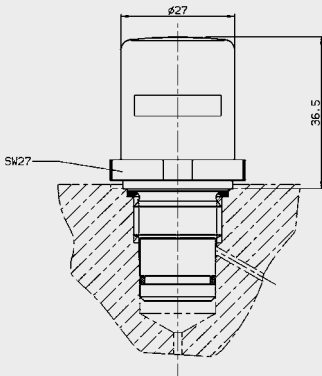
|                                |                  |
|--------------------------------|------------------|
| Pressure chamber in aluminium: | Order no. 639311 |
|--------------------------------|------------------|

|                                      |                  |
|--------------------------------------|------------------|
| Pressure chamber in stainless steel: | Order no. 639586 |
|--------------------------------------|------------------|

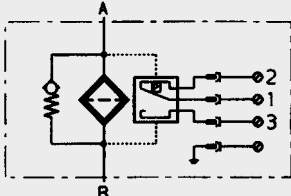
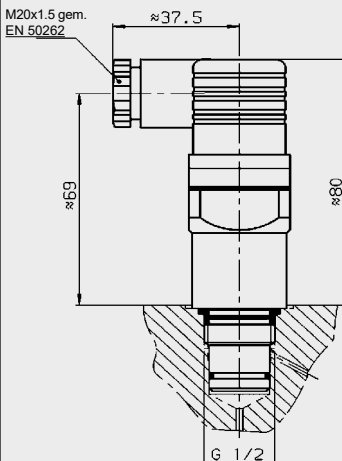
Other versions available on request

## 4. Specifications

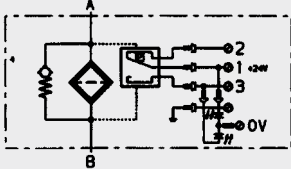
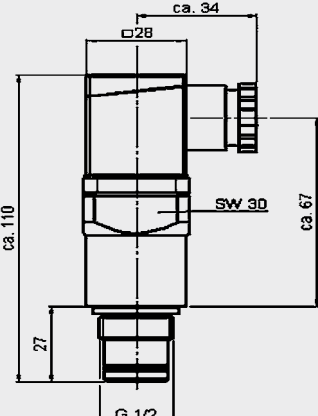
### pVd x B.x

|                                                                                   |                                          |                                                                                 |                                                                                     |
|-----------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  | Type of indication                       | Visual, red/green band<br>Automatic reset                                       |  |
|                                                                                   | Weight                                   | 110 g                                                                           |                                                                                     |
|                                                                                   | Cracking pressure or indication range    | 1 bar ± 10% 3 bar ± 10%<br>1.5 bar ± 10% 5 bar ± 10%<br>2 bar ± 10% 8 bar ± 10% |                                                                                     |
|                                                                                   | Perm. operating pressure                 | 420 bar                                                                         |                                                                                     |
|                                                                                   | Perm. temperature range                  | -20°C to +100°C                                                                 |                                                                                     |
|                                                                                   | Thread                                   | G 1/2                                                                           |                                                                                     |
|                                                                                   | Max. torque value                        | 100 Nm                                                                          |                                                                                     |
|                                                                                   | Switching type                           | —                                                                               |                                                                                     |
|                                                                                   | Max. switching voltage                   | —                                                                               |                                                                                     |
|                                                                                   | Electrical connection                    | —                                                                               |                                                                                     |
|                                                                                   | Max. switching voltage at resistive load | —                                                                               |                                                                                     |
|                                                                                   | Switching capacity                       | —                                                                               |                                                                                     |
|                                                                                   | Protection class acc. DIN 40050          | —                                                                               |                                                                                     |
|                                                                                   | Order example                            | PVD 2 B.1                                                                       |                                                                                     |

### pVd x c.x

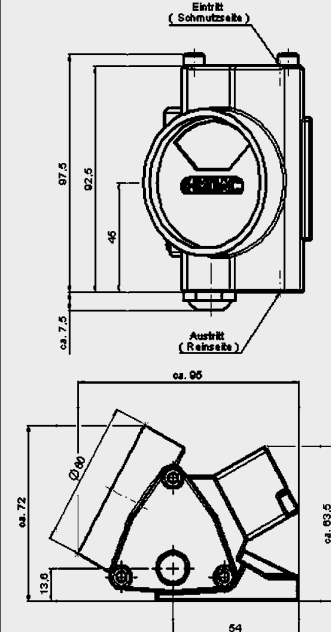
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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <br> | Type of indication                       | Electrical switch                                                               |  |
|                                                                                                                                                                          | Weight                                   | 220 g                                                                           |                                                                                      |
|                                                                                                                                                                          | Cracking pressure or indication range    | 1 bar ± 10% 3 bar ± 10%<br>1.5 bar ± 10% 5 bar ± 10%<br>2 bar ± 10% 8 bar ± 10% |                                                                                      |
|                                                                                                                                                                          | Perm. operating pressure                 | 420 bar                                                                         |                                                                                      |
|                                                                                                                                                                          | Perm. temperature range                  | -20°C to +100°C                                                                 |                                                                                      |
|                                                                                                                                                                          | Thread                                   | G 1/2                                                                           |                                                                                      |
|                                                                                                                                                                          | Max. torque value                        | 100 Nm                                                                          |                                                                                      |
|                                                                                                                                                                          | Switching type                           | N/C or N/O (change-over contacts)                                               |                                                                                      |
|                                                                                                                                                                          | Max. switching voltage                   | 230 V                                                                           |                                                                                      |
|                                                                                                                                                                          | Electrical connection                    | Male connection M20x1.5 acc. EN 50262<br>Female connector acc. DIN              |                                                                                      |
|                                                                                                                                                                          | Max. switching voltage at resistive load | 436 W =<br>100 VA ~                                                             |                                                                                      |
|                                                                                                                                                                          | Switching capacity                       | Ohmic 3 A at 24 V =<br>Ohmic 0.03 to 5 A at max. 230 V ~                        |                                                                                      |
|                                                                                                                                                                          | Protection class acc. DIN 40050          | IP 65 (only if the connector is wired and fitted correctly)                     |                                                                                      |
|                                                                                                                                                                          | Order example                            | PVD 5 C.0                                                                       |                                                                                      |

### pVd x d.x /-I...

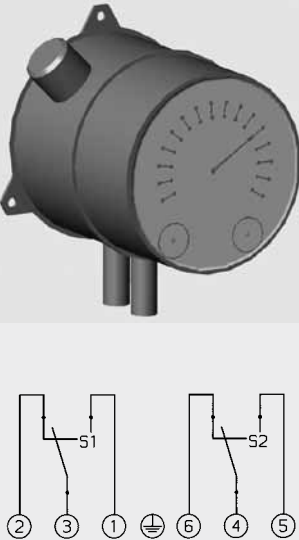
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <br> | Type of indication                       | Visual indicator and electrical switch                                          |  |
|                                                                                                                                                                           | Weight                                   | 250 g                                                                           |                                                                                       |
|                                                                                                                                                                           | Cracking pressure or indication range    | 1 bar ± 10% 3 bar ± 10%<br>1.5 bar ± 10% 5 bar ± 10%<br>2 bar ± 10% 8 bar ± 10% |                                                                                       |
|                                                                                                                                                                           | Perm. operating pressure                 | 420 bar                                                                         |                                                                                       |
|                                                                                                                                                                           | Perm. temperature range                  | -20°C to +100°C                                                                 |                                                                                       |
|                                                                                                                                                                           | Thread                                   | G 1/2                                                                           |                                                                                       |
|                                                                                                                                                                           | Max. torque value                        | 100 Nm                                                                          |                                                                                       |
|                                                                                                                                                                           | Switching type                           | N/C or N/O (change-over contacts)                                               |                                                                                       |
|                                                                                                                                                                           | Max. switching voltage                   | 24, 48, 110, 230 V depending on the light insert                                |                                                                                       |
|                                                                                                                                                                           | Electrical connection                    | Male connection M20x1.5 acc. EN 50262<br>Female connector acc. DIN              |                                                                                       |
|                                                                                                                                                                           | Max. switching voltage at resistive load | 436 W =<br>100 VA ~                                                             |                                                                                       |
|                                                                                                                                                                           | Switching capacity                       | Ohmic 3 A at 24 V =<br>Ohmic 0.03 to 5 A at max. 230 V ~                        |                                                                                       |
|                                                                                                                                                                           | Protection class acc. DIN 40050          | IP 65 (only if the connector is wired and fitted correctly)                     |                                                                                       |
|                                                                                                                                                                           | Order example                            | PVD 2 D.0 /-L24                                                                 |                                                                                       |

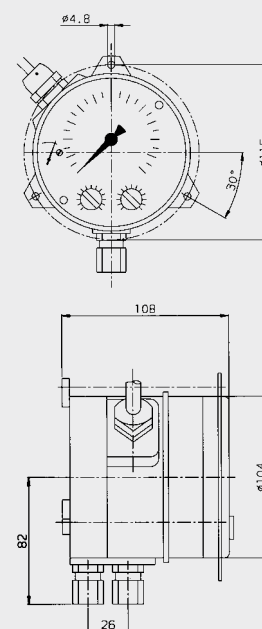
## V01 x VZ.x

|                                                                                  |                                          |                                                                                                       |                                   |
|----------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------|
|  | Type of indication                       | Visual/analogue indicator and 1 electrical switching contact at 75% and 100% of the cracking pressure |                                   |
|                                                                                  | Weight                                   | 650 g                                                                                                 |                                   |
|                                                                                  | Cracking pressure or indication range    | 0.8 bar $\pm$ 10%<br>2.0 bar $\pm$ 10%<br>4.3 bar $\pm$ 10%                                           |                                   |
|                                                                                  | Perm. operating pressure                 | 160 bar                                                                                               |                                   |
|                                                                                  | Perm. temperature range                  | -20°C to +100°C                                                                                       |                                   |
|                                                                                  | Thread                                   | G 1/4                                                                                                 |                                   |
|                                                                                  | Max. torque value                        | —                                                                                                     |                                   |
|                                                                                  | Switching type                           | 75% - N/O contact<br>100% - N/C contact                                                               |                                   |
|                                                                                  | Max. switching voltage                   | 250 V                                                                                                 |                                   |
|                                                                                  | Electrical connection                    | Threaded connection<br>M20x1.5 acc. EN 50262                                                          |                                   |
|                                                                                  | Max. switching voltage at resistive load | 75% contact<br>120 W =<br>120 VA ~                                                                    | 100% contact<br>30 W =<br>60 VA ~ |
|                                                                                  | Switching capacity                       | Ohmic 2.5 A at 24 V =<br>Ohmic 1 A at 250 V ~                                                         |                                   |
|                                                                                  | Protection class acc. DIN 40050          | IP 55                                                                                                 |                                   |
|                                                                                  | Order example                            | V01 2 VZ.0                                                                                            |                                   |



## differential pressure gauge dS11

|                                                                                   |                                          |                                                                                                  |                                                       |
|-----------------------------------------------------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------|
|  | Type of indication                       | 2 microswitches, 1-pole change-over contacts, can be adjusted manually to recommended set values |                                                       |
|                                                                                   | Weight                                   | 1.2 - 3.5 kg                                                                                     |                                                       |
|                                                                                   | Cracking pressure or indication range    | 0 - 1.6 bar<br>0 - 4 bar on request                                                              |                                                       |
|                                                                                   | Perm. operating pressure                 | 25 bar, 40 bar on request                                                                        |                                                       |
|                                                                                   | Perm. temperature range                  | -10°C to +100°C                                                                                  |                                                       |
|                                                                                   | Thread                                   | G 1/4                                                                                            |                                                       |
|                                                                                   | Max. torque value                        | —                                                                                                |                                                       |
|                                                                                   | Switching type                           | Change-over contacts                                                                             |                                                       |
|                                                                                   | Max. switching voltage                   | U~max = 250 V AC<br>U~max = 30 V DC                                                              |                                                       |
|                                                                                   | Electrical connection                    | Hard-wired numbered cable, cable connector, 7 pole plug-in connection                            |                                                       |
|                                                                                   | Max. switching voltage at resistive load | I <sub>max</sub> = 5 A,<br>I <sub>max</sub> = 0.4 A,                                             | P <sub>max.</sub> = 250VA<br>P <sub>max.</sub> = 10 W |
|                                                                                   | Switching capacity                       | —                                                                                                |                                                       |
|                                                                                   | Protection class to DIN 40050            | IP 55                                                                                            |                                                       |
|                                                                                   | Order numbers                            | Pressure chamber in aluminium: 639311<br>Pressure chamber in stainless steel: 639586             |                                                       |



## note

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

**HYDAC** Process Technology GmbH  
Am Wrangelflöz 1