

## **HYDAC** INTERNATIONAL

### **Clogging Indicators for Process Filters**

Clogging indicators for HYDAC process filters are designed to indicate visually and/or electrically when the filter elements have to 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.



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## DIFFERENTIAL PRESSURE INDICATOR

### 1.1. DESCRIPTION

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

In the standard model all parts in contact with the medium are made from stainless steel and the seals are in FPM (Viton).

### 1.2. TORQUE RATING - DIFFERENTIAL PRESSURE INDICATORS

**Note:**  
**The clogging indicators must only be tightened or adjusted on the hexagons.**

PVD...B.1 : SW 27  
PVD...C.0: SW 30  
PVD...D.0/-L...: SW 30

Max. torque rating: 100 Nm

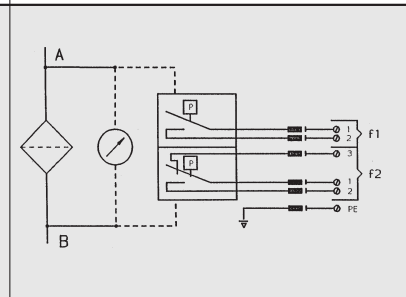
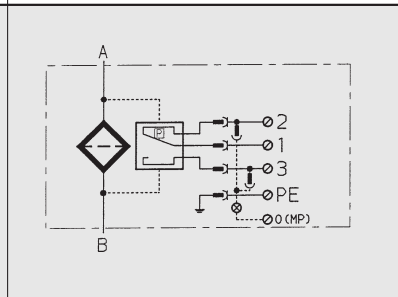
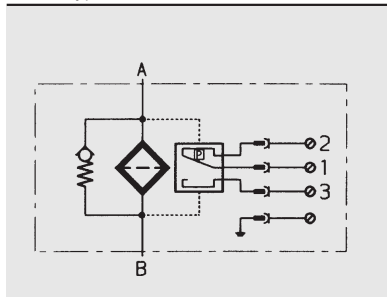
### 2.1. TECHNICAL SPECIFICATIONS



<b>General details</b>	
Designation of clogging indicator	PVD..B.1
Suitable for filter types	all PFL, PFM, PRFL / PRFLD, ENF, EDF, PDFDK for other types, please contact our sales/technical department
Weights	110 g
Type of indication	visual, green/red band, automatic re-set
<b>Hydraulic details</b>	
Cracking pressure or indication range	1 bar ± 10 %      3 bar ± 10 % 1.5 bar ± 10 %    5 bar ± 10 % 2 bar ± 10 %      8 bar ± 10 %
Permiss. operating pressure	420 bar
Permiss. operating temperature	-10 °C to +100 °C
Accuracy class	–
<b>Electrical details</b>	
Switching type	–
Max. switching voltage	–
Electrical connection	–
Max. switching output at resistive load	–
Switching capacity*	–
Safety type (to DIN 40050)	–
<b>Symbols</b>	
<p>* High voltage peaks sometimes occur when inductances are switched off. Therefore the use of protection diodes should be considered.</p>	



PVD..C.0	PVD..D.0/-L..	V01..VZ.0
all PFL, PFM, PRFL/PRFLD, PRFS/PRFSD for other types, please contact our sales/technical department	all PFL, PFM, PRFL/ PRFLD, EDF, PRFS/PRFSD for other types, please contact our sales/technical department	all PRFL/ PRFLD, PRFS/PRFSD for other types, please contact our sales/technical department
220 g	250 g	650 g
electrical switch	visual/ electrical (visual = light)	visual/analogue and 1 electrical switching contact at 75 % and 100 % of the cracking pressure
1 bar ± 10 % 1.5 bar ± 10 % 2 bar ± 10 %	3 bar ± 10 % 5 bar ± 10 % 8 bar ± 10 %	0.8 bar +10% 2 bar +10% 4.3 bar +10%
420 bar	420 bar	160 bar
-30 °C to +100 °C	-10 °C to +100 °C	-10 °C to +100 °C
-	-	-
N/C or N/O contact (change-over)	N/C or N/O contact (change-over)	
230 V	24V, 220V depending on type of light insert	75% contact, N/O 100% contact, change-over
plug connection, PG 11, socket to DIN 43650	plug connection, PD11, socket to DIN 43650	threaded connection, PD11
60 W = 100 VA~	100VA/ 60W	75% contact 120VA/ 120W 100% contact 60VA/ 30W
ohmic 3 A at 24 V = ohmic 0.03 to 5 A at max. 230 V ~	ohmic 3A at 24V= ohmic 5A at 220V~	ohmic 2.5 A at 24V= ohmic 1 A at 250V~
IP 65 (only if the plug is wired and fitted correctly)	IP 65	IP 55



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Differential pressure gauge DS11

all PRFL/ PRFLD, PRFS/PRFSD, RF3  
for other types, please contact our  
sales/technical department

1.2 - 3.5 kg

2 microswitches, 1 pole  
change-over contacts  
can be adjusted  
manually to  
recommended set values

0 - 1.6 bar  
0 - 4 bar on request

25 bar, 40 bar on request

-10 °C to +70 °C

± 2.5 % of the final value of the  
measurement range

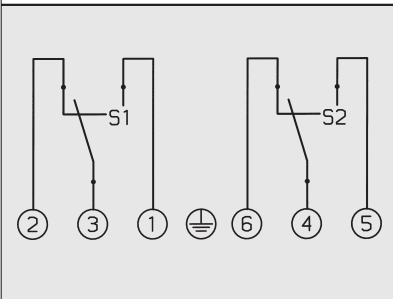
Change-over contacts

U<sub>max.</sub> = 250 V AC  
U<sub>max.</sub> = 30 V DC

hard-wired numbered cable,  
cable connector,  
7 pole plug-in connection

I<sub>max.</sub> = 5 A, P<sub>max.</sub> = 250 VA  
I<sub>max.</sub> = 0.4 A, P<sub>max.</sub> = 10W

IP 54

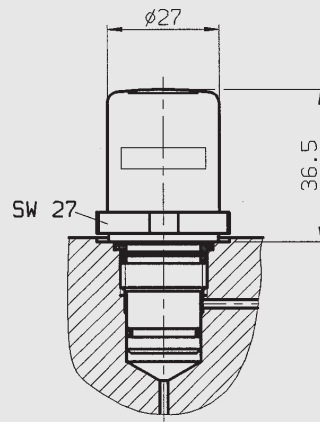


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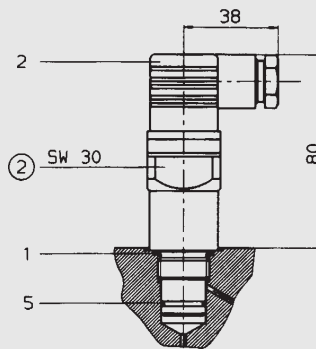


## 2.2. DIMENSIONS

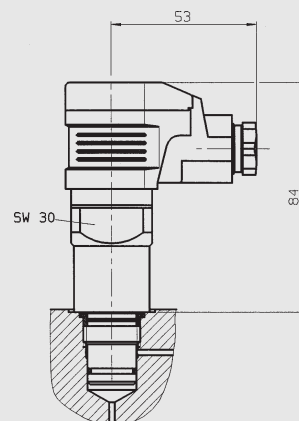
### PVD..B1



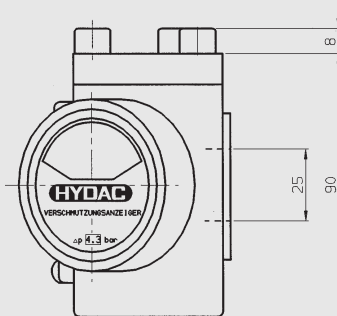
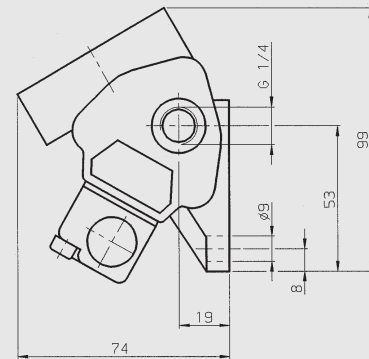
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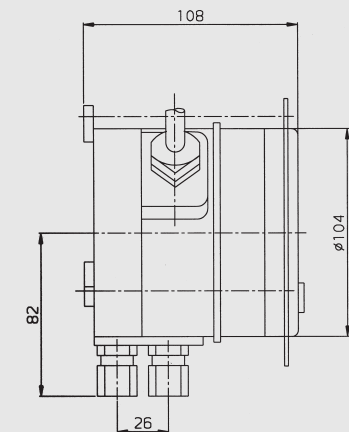
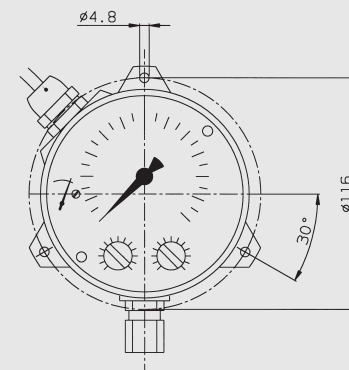
### PVD..D.0/-L..



### V01..VZ.0



### DS 11



### 3. MODEL CODE

(also order example)

PVD 2 D. 0 / -L24

#### Differential pressure clogging indicator

PVD clogging indicator  
V01 clogging indicator

#### Cracking pressure

0.8 +0.8 bar (for V01 indicators only)  
1 +1 bar (for PVD indicators)  
1.5 +1.5 bar (for PVD indicators)  
2 +2 bar (all clogging indicators)  
3 +3 bar (for PVD indicators)  
4.3 +4.3 bar (for V01 indicators only)  
5 +5 bar (for PVD indicators only)  
8 +8 bar (for PVD indicators only)

#### Type of clogging indicator

B. visual indicator with automatic re-set  
C. electrical indicator  
D. visual/electrical indicator  
VZ visual/analogue indicator with 75 % and 100 % switching contacts

#### Modification number

0 all clogging indicators  
1 B-type only

#### Supplementary details (PVD only)

-L24 light with 24 volt supply  
-L48 light with 48 volt supply  
-L110 light with 110 volt supply  
-L220 light with 220 volt supply

### 4. 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.

#### Differential pressure gauge DS11 electrical

Indication range:	0 - 1.6 bar
Permissible operating pressure:	25 bar
Pressure chamber in aluminium:	Order number 639311
Pressure chamber in stainless steel:	Order number 639586
Port connections	1/4" BSP male

Other versions on request