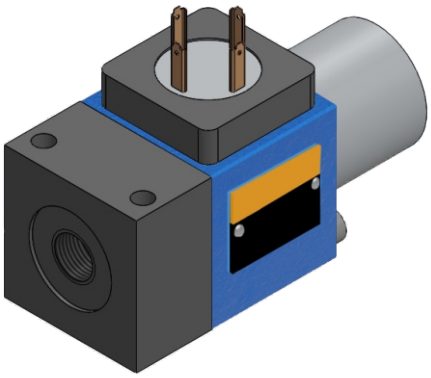
HED 8

PRESSOSTATO IDROELETTRICO

PRESSURE SWITCH

The hydro-electric pressure switch type HED 8 is a piston type pressure switch. It basically comprises of housing, installation kit with piston, compression spring, adjustment element and micro switch.



General

Mass (kg)		0.8
Installation position		any
Ambient temperature range (°C)		-25 to +50 (NBR seals) -20 to +50 (FKM seals) -40 to +50 (low-temperature seals)
Sine test according to DIN EN 60068-2-6:1996-05		5...2000 Hz, max. 10 g, 10 double cycles
Transport shock according to DIN EN 60068-2-27:1995-03		15 g / 11 ms
Bump test according to DIN EN 60068-2-29:1995-03		25 g / 6 ms
Noise test according to DIN EN 60068-2-64:1996-05		20...2000 Hz 10...30 min
Conformity	▸CE	DIN EN 61058-1: 2002 / A2: 2008 DIN EN 60947-1: 2007 / A1: 2011 DIN EN 60947-5-1: 2004 / A1: 2009 DIN EN 60529: 1991 / A2: 2013
	▸UL	UL 508 17th edition File No E223220 (up to 350 bar)
	▸CCC	GB 14048.5-2008
	▸RoHS [1]	Compliant according to EU Directive 2011/65/EU

Hydraulic

Pressure rating (bar)		50	100	200	350	630
Max. operating pressure						
Conformity (bar)	▸NBR/FKM seals	350	350	350	400	630
	▸MT version	315	315	315	315	–
Pressure adjustment range (decreasing) (bar)		5...50	10...100	15...200	25...350	40...630
Pressure differential per rotation[2] (bar)		≈19	≈35	≈77	≈120	≈214
Hydraulic fluid[2]		see table below				
Hydraulic fluid temperature range (at the valve operating ports) (°C)		-25 ... +80 (NBR seals) -20 ... +80 (FKM seals) -40 ... +80 (low-temperature seals)				
Viscosity range (mm²/s)		10 ... 800				
Maximum permissible degree of contamination of the hydraulic fluid, cleanliness class according to ISO 4406 (c)		Class 20/18/15[3]				
Load cycles		≥ 5 million				

[1] Versions type HED8OP-2X/630... may only be used within the scope of the exception for stationary, industrial large tools or stationary large facilities according to EU Directive 2011/65/EU

[2] Direction of rotation:
– clockwise → set pressure increase
– anti-clockwise → set pressure decrease

[3] The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and at the same time increases the life cycle of the components.

Electrical

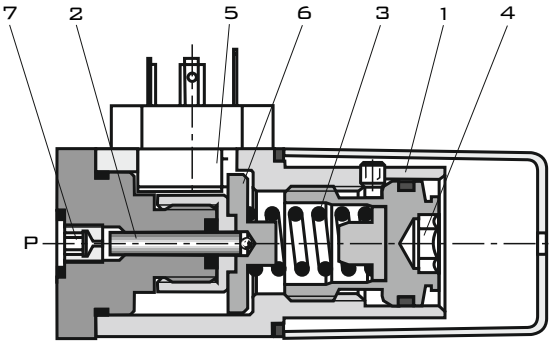
Electrical connection	▸with "K14" connector	EN 175301-803, 3-pole + PE	
	▸with "K35" connector	IEC 61076-2-101, M12 x 1, A-coding, 4-pole	
Protection class according to DIN EN 60529	▸with "K14" connector	IP 65 with mating connector fitted and screwed in place	
	▸with "K35" connector	IP 67 with mating connector fitted and screwed in place	
Maximum switching frequency (1/h)		7200	
Switching accuracy (repetition accuracy)		< ± 1% of the set pressure	
Switches		according to VDE 0630-1/DIN EN 61058-1	
Transition resistance (mΩ)		< 50	
Insulation coordination		Overvoltage category 3	
Contamination		Degree of contamination 3	
Bounce time (ms)	▸ ON	< 5	
	▸ OFF	< 5	
			Utility model according to IEC 60947
Minimum current (mA)		1.0 with 24 V DC	DC-12
Maximum current (A)	▸ with "K14" connector	0.5 at 50 V DC, inductive 0.2 at 125 V DC, inductive 0.1 at 250 V DC, inductive 2.0 at 250 V AC	DC-22 DC-22 DC-22 AC-12
	▸ with "K35" connector	0.5 with 48 V DC, inductive 2.0 with 48 V DC, ohmic load	DC-22 AC-12

Function, section

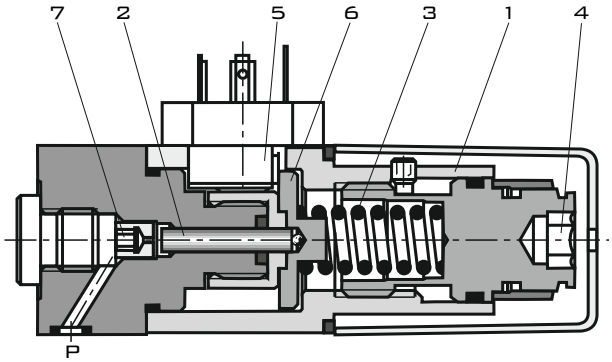
The hydro-electric pressure switch type HED 8 is a piston type pressure switch. It basically comprises of housing (1), installation kit with piston (2), compression spring (3), adjustment element (4) and micro switch (5).
If the pressure to be monitored is below the set pressure, the micro switch (5) is operated. The pressure to be monitored is applied via the nozzle (7) at the piston (2). The piston (2) is supported by the spring plate (6) and acts against the continuously adjustable force of the compression spring (3). The spring plate (6) transmits the movement of the piston (2) onto the micro switch (5) and releases the latter when the set pressure is reached. This switches the electric circuit on or off, depending on the circuit set-up. The mechanical positive stop of the spring plate (6) protects the micro switch (5) in case of a sudden pressure drop from mechanical destruction and, in case of overpressure, prevents solid compression of the compression spring (3).

☞ Notes:

In order to increase the life cycle, the pressure switch should be mounted with low vibrations and protected from hydraulic pressure surges.

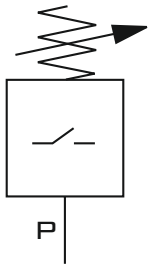


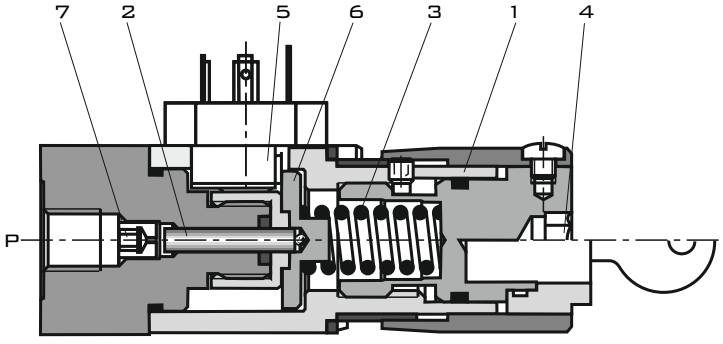
Type HED 8 OH-2X/...K14
Type HED 8 OH-2X/...K14S



Type HED 8 OP-2X/...K14A
Type HED 8 OP-2X/...K14AS

Symbol



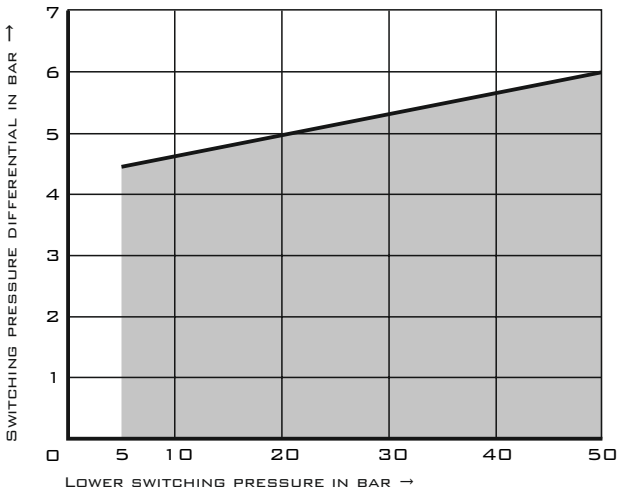


Type HED 8 OA-2X/...K14KW
Type HED 8 OA-2X/...K14KS

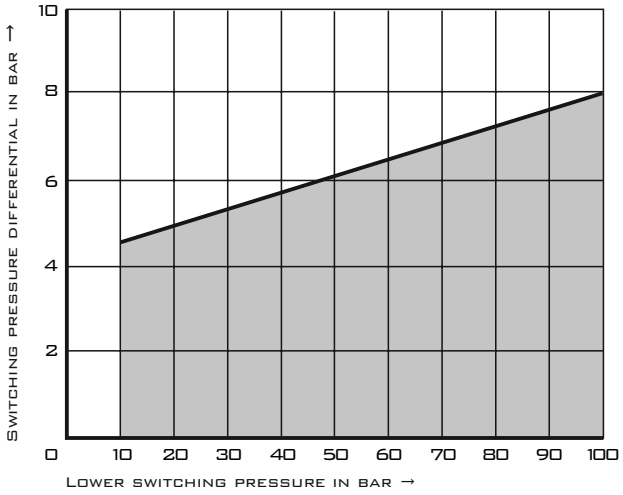
CHARACTERISTIC CURVES

SWITCHING PRESSURE DIFFERENTIAL (MEASURED WITH HLP46, ϑ_{OIL} = 40 ± 5 °C)

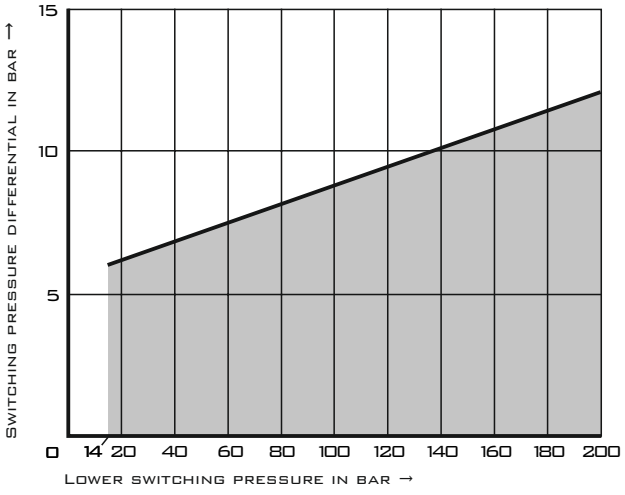
PRESSURE RATING 50



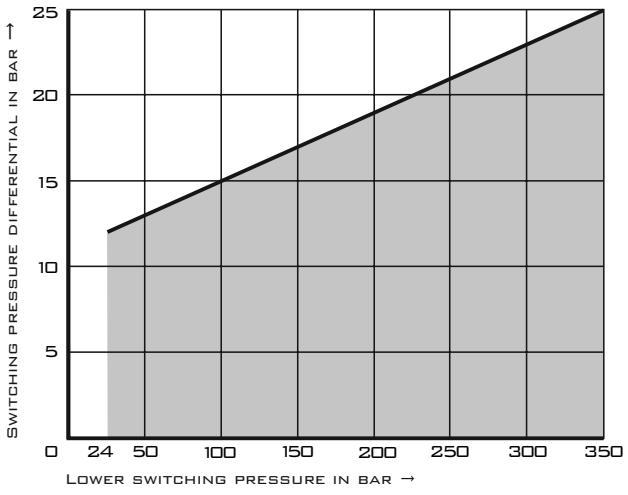
PRESSURE RATING 100



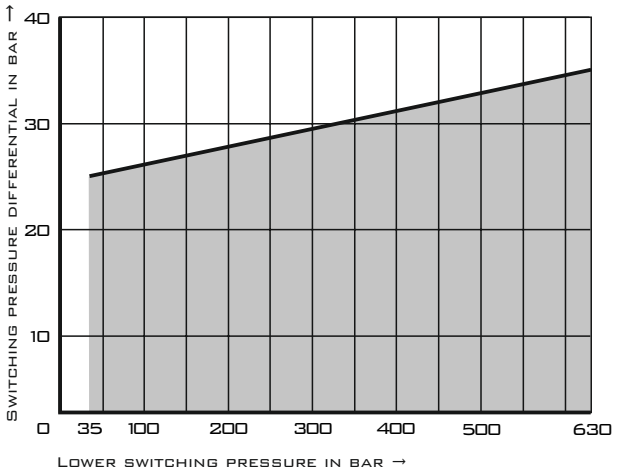
PRESSURE RATING 200



PRESSURE RATING 350



PRESSURE RATING 630

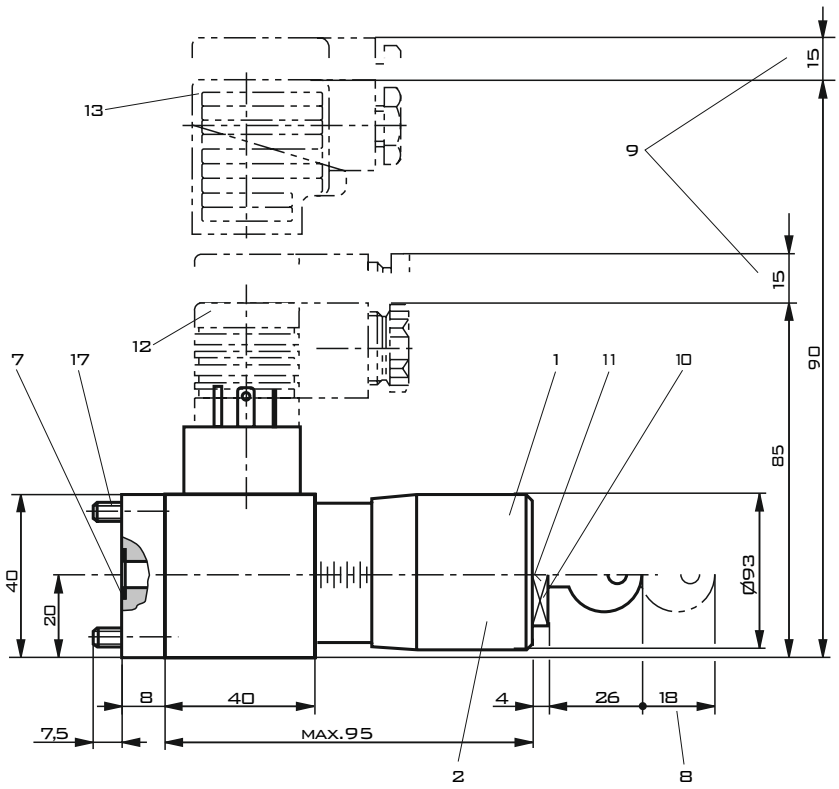


☞ NOTES:

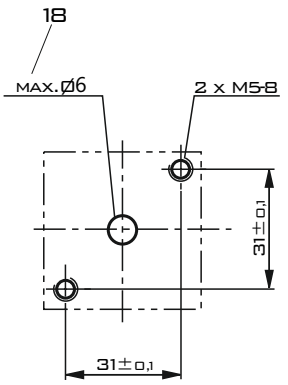
THE SWITCHING PRESSURE DIFFERENTIAL MAY INCREASE WITHIN THE COURSE OF THE LIFE CYCLE DUE TO THE DETERIORATION OF THE OIL QUALITY AND THE NUMBER OF LOAD CYCLES.

Dimensions

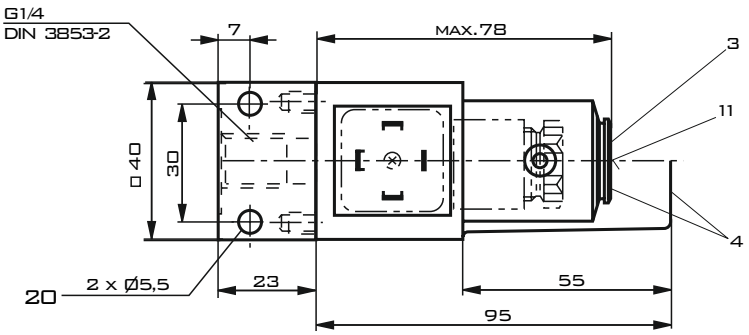
Type HED 8 ...K14 (dimensions in mm)



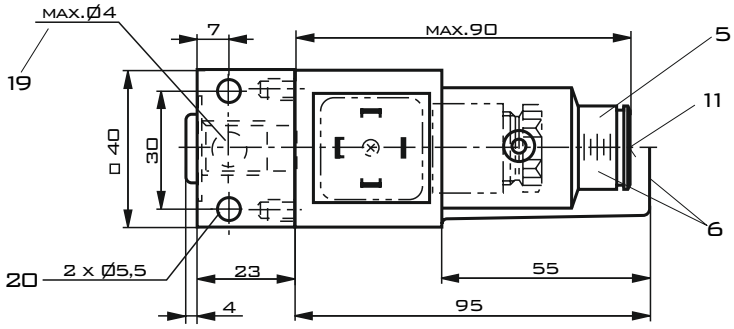
Type HED 8 OH...



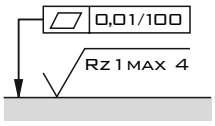
Connection dimensions



Type HED 8 OH...



Type HED 8 OP...



Required surface quality of the device contact surface
(for "OH" and "OP" designs)

Dimensions

1 Adjustment type “KW”
2 Adjustment type “KS”
3 Adjustment type “-”
4 Adjustment type “S”
5 Adjustment type “A”
6 Adjustment type “AS”
7 Seal ring
8 Space required to remove the key
9 Space required to remove the mating connector
10 Hexagon SW27 (with adjustment type “KS”)
11 Internal hexagon SW10
12 Mating connector **without** circuitry for “K14” connection
13 Mating connector **with** circuitry for “K14” connection
14 Mating connector for “K35” connection
15 Mating connector suitable for “K35”, angled
16 Mating connector for “K35” connection with cable
17 **Valve mounting screw** (separate order) for type HED 8 OH...
2 hexagon socket head cap screws metric ISO 4762 - M5 x 55 - 10.9-flZn-240h-L
Friction coefficient µtotal = 0.09 to 0.14,
Tightening torque MA = 6÷0,5 Nm.
18 Maximum diameter of the counterpart connection bore (type HED 8 **OH**...)
19 Maximum diameter of the counterpart connection bore (type HED 8 **OP**...)
20 **Valve mounting screws** (separate order) for type HED 8 **OA**... and ...**OP**...
2 hexagon socket head cap screws metric ISO 4762 - M5 x 50 - 10.9-flZn-240h-L
Friction coefficient µtotal = 0.09 to 0.14,
Tightening torque **MA** = 7÷0.5 Nm,

Order code

HED8		-	2X	/					*

HED8 =
Piston type
pressure switch

OH = Flange connection
(ISO 16873)[1]
OP = Subplate mounting
OA = Pipeline installation

2X = Component series 60 ... 69
(60 ... 69: unchanged installation
and connection dimensions)

50 = Max. pressure rating 50 bar
100 = Max. pressure rating 100 bar
200 = Max. pressure rating 200 bar
350 = Max. pressure rating 350 bar
630[2]=Max. pressure rating 630 bar

K14[3]= Without mating connector;
connector DIN EN 175301-803
K35[3]= Without mating connector;
connector IEC 61076-2-101,
M12 x 1, A-coding

Further details
in the plain text

no code = NBR seals
V = FKM seals
MT = Low-temperature seal
(max. 315 bar)

no code = Spindle with
internal hexagon, without
scale, without protective cap
S = Spindle with internal
hexagon, without scale,
with protective cap, sealing
A[5]= Spindle with scale,
without protective cap
AS[5]= Spindle with scale,
with protective cap
KS[4;5]= lockable rotary knob
with scale
KW[5]= Rotary knob with scale

1) Sandwich plate for vertical stacking,
separate order, see accessories
2) Not permissible for vertical stacking,
not with low-temperature seal,
without UL approval
3) Mating connectors, separate order, see accessories
4) H-key, is included in the scope of delivery
5) The exact setting of the switching pressure is only possible using
a pressure gauge (scale is used as orientation)