PRESSURE SWITCH TS-4

- NG 4
- Up to 400 Bar *[5801 PSI]*

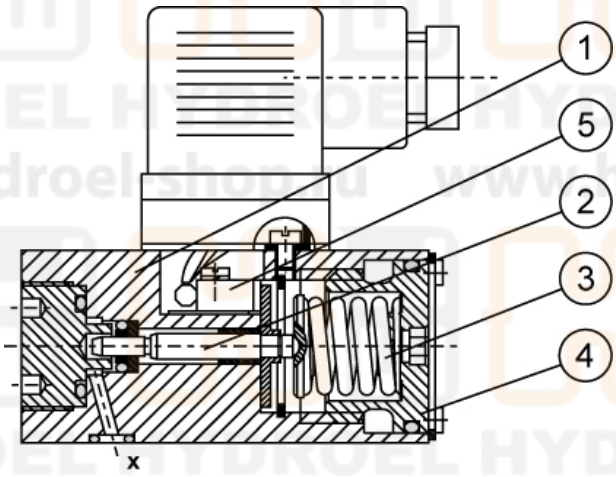
- Minimal dimensions.
- Four pressure ranges.
- Three mounting methods (horizontal, vertical, built into pipeline).
- Three pressure setting methods (by means of Allan key, knob, or lockable knob).
- Lockable pressure setting.
- Operation supervision by means of signal lamp.
- Plug-in connector for solenoids to ISO 4400.

TS-4

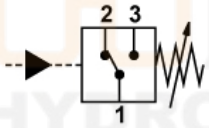
Operation

Pressure switches type TS are used for switching electric circuits on and off, respectively, depending on the pressure rate in the hydraulic system. These switches can be mounted as control or monitoring elements. When the pressure switch is used as monitoring element, the operation of hydraulic systems can be supervised by means of light or sound signals.

The TS type pressure switch consist of a housing (1), a piston (2), a spring (3), a setting knob (4) and a microswitch (5). Pressure acts on the piston (2), pushing it against the spring (3). When the piston force excedes the preset tension of the spring, the microswitch (5) turns the electric power on, or respectively, off. The tension and thereby the switching - on and off pressure rates can be preset by means of the setting knob (4).

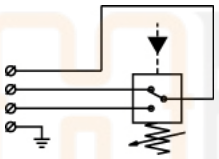


Symbol

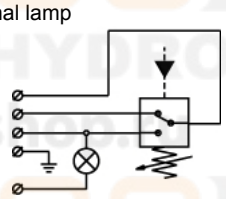


Circuit diagram

Without signal lamp

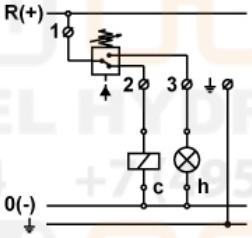


With signal lamp

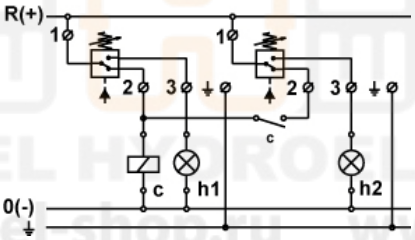


Mounting example

One pressure switch



Two pressure switches



h, h1, h2 = Control lamps.
c = Relay (contactor).

Features

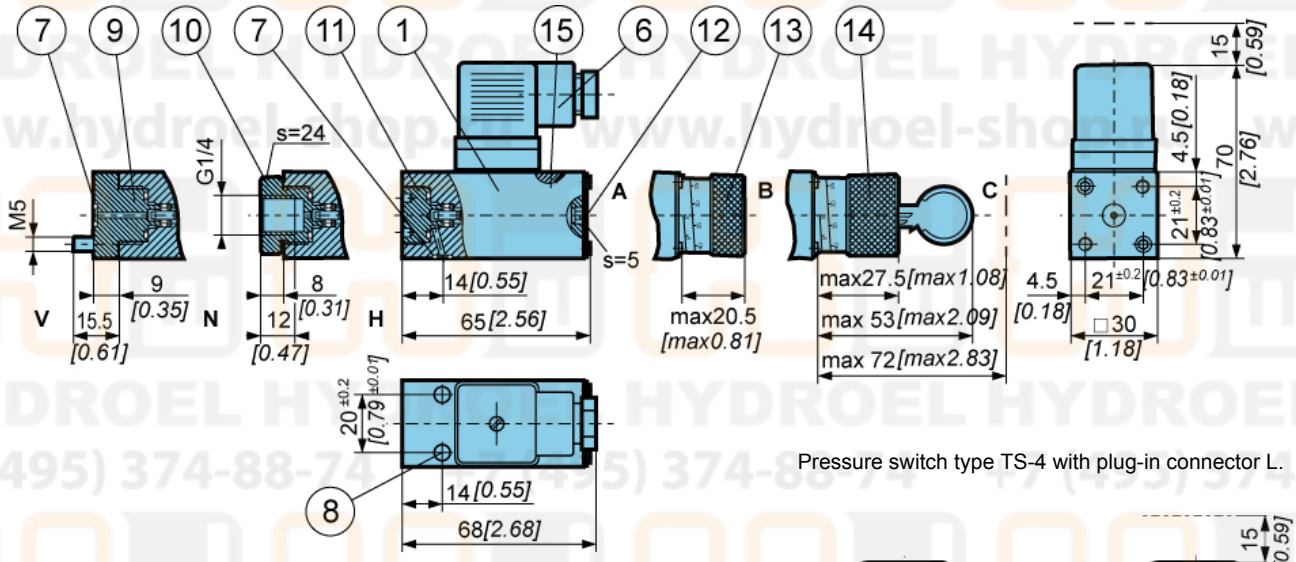
Hydraulic

Type		TS-4-70	TS-4-160	TS-4-250	TS-4-400
Size				4	
Min. pressure at pressure rise	Bar *[PSI]*	< 9 *[< 131]*	< 17 *[< 247]*	< 20 *[< 290]*	< 25 *[< 363]*
Max. pressure at pressure rise	Bar *[PSI]*	70 ±2 *[1 015 ±29]*	160 ±4 *[2 320 ±58]*	250 ±6 *[3 625 ± 87]*	400 ±10 *[5 801± 145]*
Hysteresis at min. pressure	Bar *[PSI]*	≤ 4 *[? 58]*	≤ 8 *[? 116]*	≤ 10 *[? 145]*	≤ 13 *[? 189]*
Hysteresis at max. pressure	Bar *[PSI]*	≤ 8,5 *[? 123]*	≤ 15 *[? 218]*	≤ 20 *[? 290]*	≤ 25 *[? 363]*
Max. pressure	Bar *[PSI]*	400 *[5 801]*		500 *[7 251]*	
Repeating accuracy	%			< ±1	
Shift frequency	min^{-1}			120	
Oil temperature range	°C *[°F]*			-20 to +70 *[-4 to +158]*	
Viscosity range	mm^2/s *[SUS]*			15 to 380 *[3.24 to 82]*	
Filtration	NAS 1638			8	
Mass	kg *[lbs]*			0,2 to 0.4 *[0.44 to 0.88]*	

Electrical

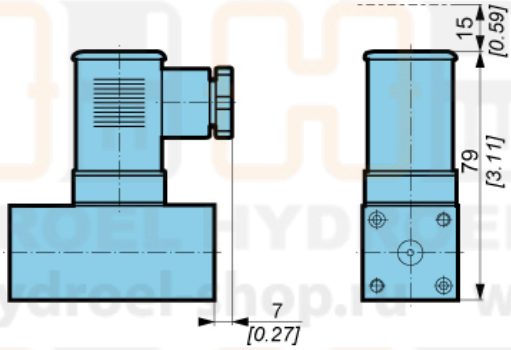
Switching capacity	Alternating current	Voltage	V	125; 250
		Ohm load	A	5
		Inductive load	A	5
	Direct current	Voltage	V	30; 50; 75; 125; 250
		Ohm load	V	5; 2; 1; 0,5; 0,25
		Inductive load	A	5; 2; 1; 0,06; 0,03

Dimensions

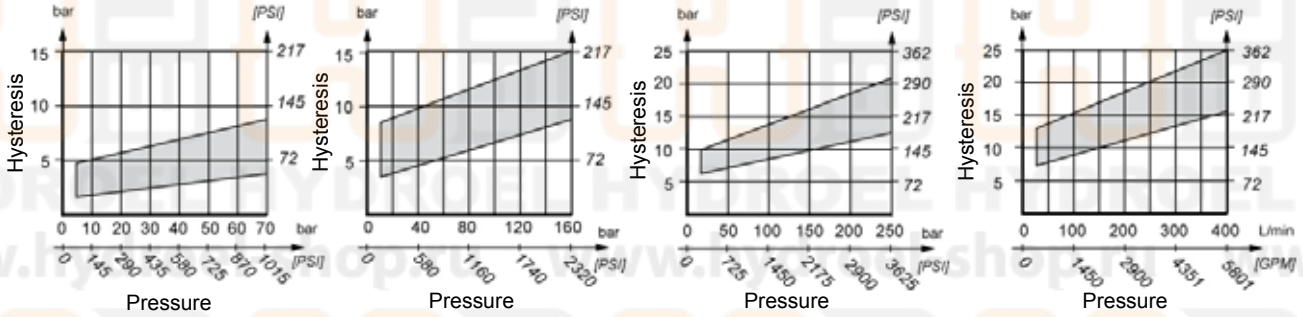


Pressure switch type TS-4 with plug-in connector L.

1. Pressure switch body
6. Plug-in connector
7. O-ring 5x1,5
8. Fixing screws holes, 2 pcs M5x40 to ISO 4762-10.9
   Tightening torque Md=9 Nm (not included)
9. Fixing the switch to stacking sandwich plate
10. Instalation into line
11. Fixing the switch to subplate
12. Pressure setting by means of Allan key
13. Pressure setting by means of knob
14. Pressure setting by means of lockable knob
15. Screw for protection of the seat pressure



Measured at 50°C *[122°F]* and viscosity of 32 mm^2/s *[148 SUS]*..



Model code

T S - 4 - □ - □ - □ - □ - □ - ✱

Pressure setting range

To 70 bar *[1,015 PSI]*	**70**
ToTo 160 bar *[2,320 PSI]*	**160**
ToTo 250 bar *[3,625 PSI]*	**250**
ToTo 400 bar *[5,801 PSI]*	**400**

Mounting method

Vertical	**V**
Horizontal	**H**
Built-in	**N**

Pressure setting element

Allan key	**A**
Knob	**B**
Lockable key	**C**

Plug-in connector

Without signal lamp		**No designation**
With signal lamp	12; 24 V	**L24**
	48 V	**L48**
	110; 230 V	**L230**

Seals type

NBR seals for mineral oil HL,HLP to DIN 51524	**No designation**
FPM seals for HETG, HEES, HEPG to VDMA 24568 and ISO 15380	**E**

Special requirements to be briefly specified