

# DPS2-16 - Logic Element

Differential pressure sense valves

189 L/min (50 USgpm) • 210, 350 bar (3000, 5000 psi)

## Functional Symbols

See pages I-142 & I-143

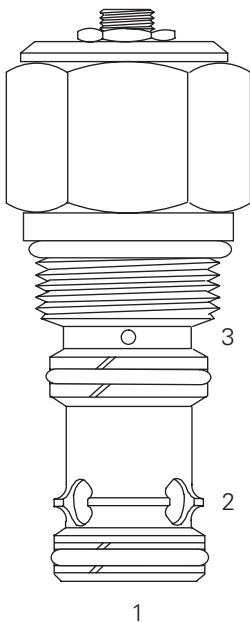
## Operation

This valve is used as a main section of a pilot controlled valve assembly. This valve has multiple uses when used with either directional control, flow control or pressure control cartridges. Refer to application examples.

## Features

Hardened and ground and honed working components. Cartridge construction for maximum mounting flexibility. Low leakage with poppet valves and 350 bar pressure rating

## Sectional View



## Performance Data

### Ratings and Specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure	Spool type:	290 bar (4200 psi)
	Poppet type:	210 bar (3000 psi) or 350 bar (5000 psi)
Rated flow		189 L/min (50 USgpm)
Pilot ratio	Spool type P, V, R, F:	1:1
	Poppet type B, S, T:	2:1
Internal leakage	spool type:	82 cm <sup>3</sup> /min. (5 in <sup>3</sup> /min) max @ 290 bar (4200 psi)
	poppet type:	Port 1 to 2: < 5 drops/min max @ 350 bar (5000 psi)
Temperature range		-40° to 120° C (-40° to 248° F)
Cavity		C-16-3S
Standard housing materials		Aluminium
Fluids		All general purpose hydraulics fluids such as: MIL-H-5606, SAE 10, SAE 20 etc
Filtration		Cleanliness code 18/16/13
Weight cartridge only		0,35 kg (0.78 lbs)
Seal kit		889659 (Buna-N), 02-165871 (Viton®)

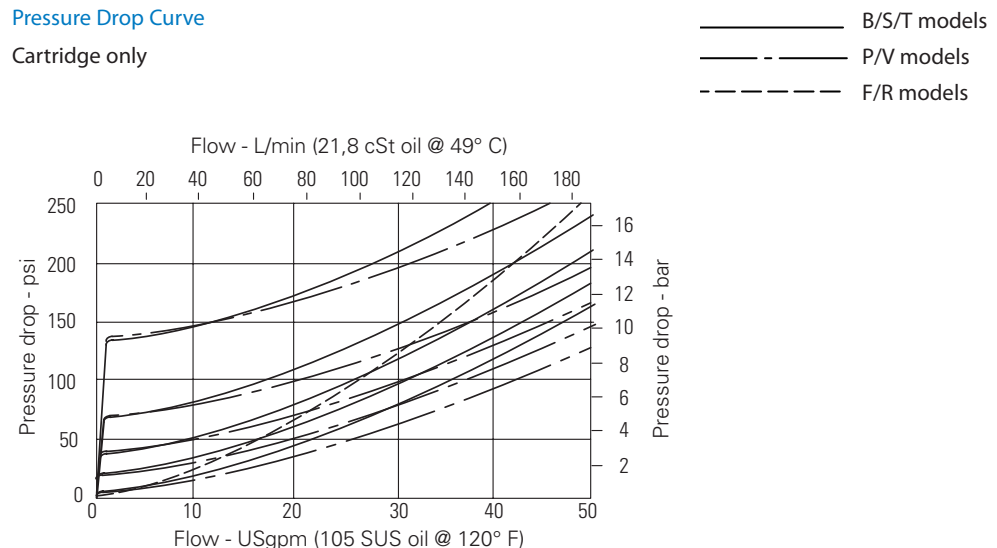
Viton is a registered trademark of E.I. DuPont

## Description

These are normally open or closed logic elements with or without a control orifice. They can be used as main valves for the control of high flows using small pilot cartridges, as compensators or load sense elements.

## Pressure Drop Curve

Cartridge only



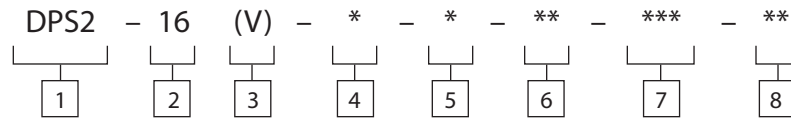
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

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## Model Code



**1** Function  
DPS2 - Differential pressure sensing

**2** Size  
16 - 16 size

**3** Seal Material  
Blank - Buna-N  
V - Viton®

**4** Function  
B - Poppet, vent to open, N/C  
S - Poppet, vent to open, N/C  
T - Poppet, bi-directional, pilot to close, 2:1 ratio, N/C  
P - Spool, N/C (L/S element)  
V - Spool, N/C

R - Spool, pressure reducing, N/O  
F - Spool, flow control, N/O (hydrostat)

**6** Port Size  
0 - Cartridge only

Code	Port Size	Housing Number
Aluminium		
4B	3/4" BSPP	02-175471*
12T	SAE 12	566414*
10H	SAE 10	876725
12H	SAE 12	876727
4G	1/2" BSPP	02-160676
6G	3/4" BSPP	876726

\* Light duty housing  
See section J for housing details.

**5** Stroke Adjustment  
F - None  
S - Stroke adjustments  
"S" adjustment is not available with F and R functions.

**7** Differential Pressure  
Note: Code based on pressure in psi  
005 - 0,35 bar (5 psi)+  
020 - 1,40 bar (20 psi)+  
040 - 2,80 bar (40 psi)  
080 - 5,50 bar (80 psi)  
160 - 11,0 bar (160 psi)  
+ Not available with the "B", "S" and "T" poppet.  
The operating backpressure at port 3 should never be less than 1.3 times the spring set pressure.

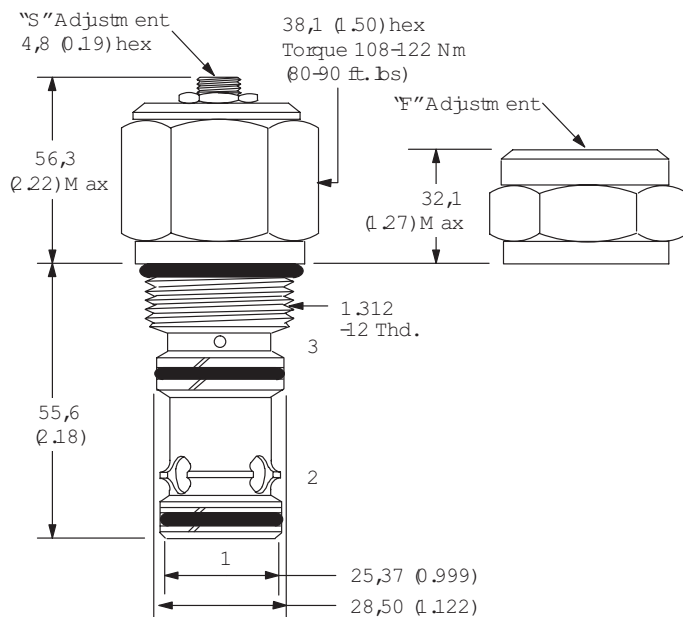
**8** Special Features  
00 - 210 bar (3000 psi) rated valve  
AA - 350 bar (5000 psi) rated valve (poppet type only).  
(Only required if valve has special features, omit if "00")

## Dimensions

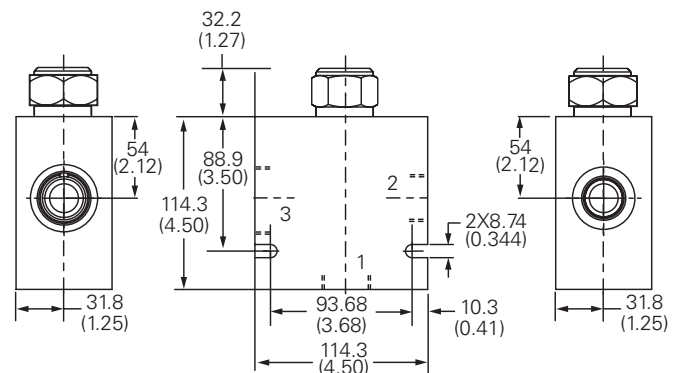
mm (inch)

Torque cartridge in housing  
A - 108-122 Nm (80-90 ft lbs)  
S - 136-149 Nm (100-110 ft lbs)

### Cartridge Only



### Installation Drawing

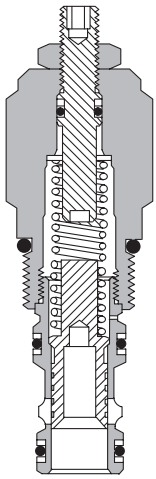
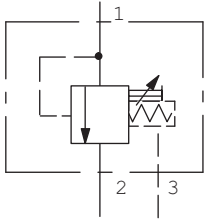


**WARNING**  
Aluminum housings can be used for pressures up to 210 bar (3000 psi). Steel housings must be used for operating pressures above 210 bar (3000 psi).

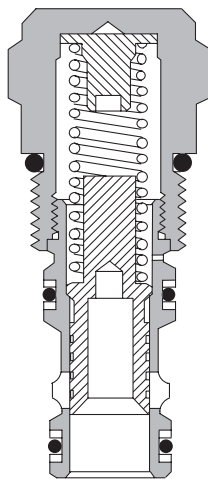
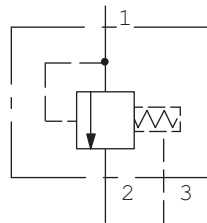
# DPS2

## Spool type functional symbols

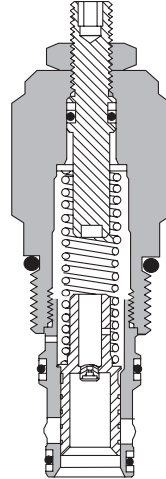
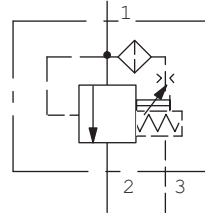
DPS2-\*\*-P-S



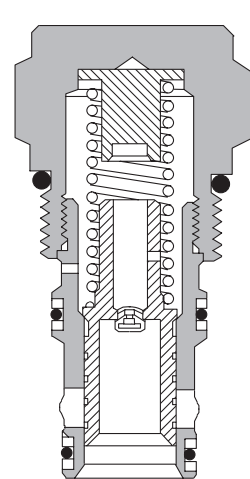
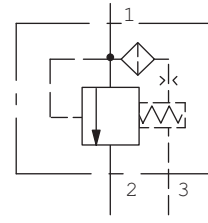
DPS2-\*\*-P-F



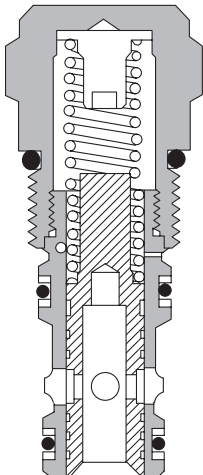
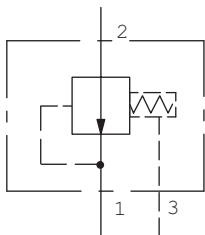
DPS2-\*\*-V-S



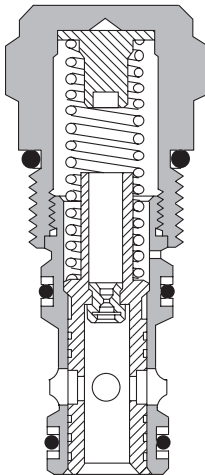
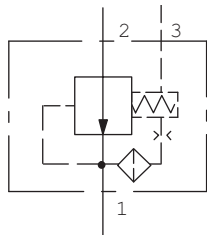
DPS2-\*\*-V-F



DPS2-\*\*-F-F



DPS2-\*\*-R-F

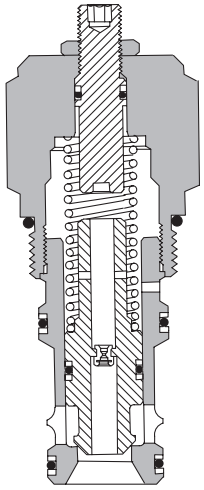
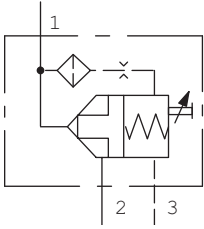


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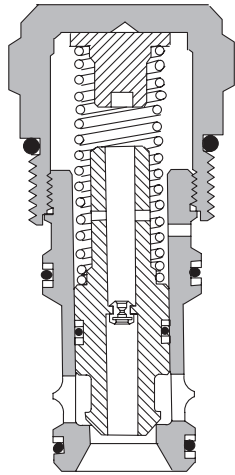
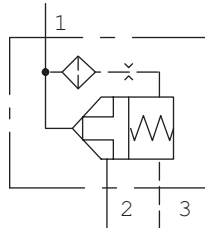
# DPS2

## Poppet type functional symbols

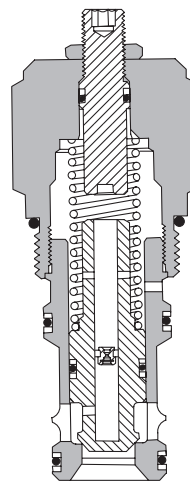
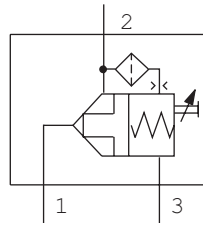
DPS2-\*\*-B-S



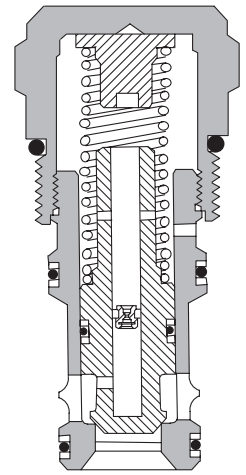
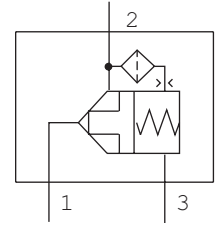
DPS2-\*\*-B-F



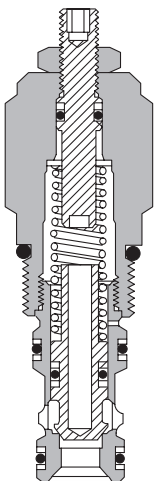
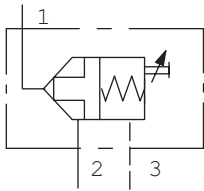
DPS2-\*\*-S-S



DPS2-\*\*-S-F



DPS2-\*\*-T-S



DPS2-\*\*-T-F

