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

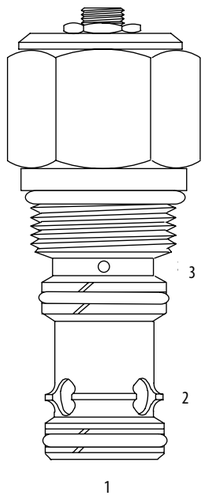
Operation

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
Internal leakage	Poppet type B, S, T: 2:1
Temperature range	spool type: 82 cm³/min. (5 in³/min) max @ 290 bar (4200 psi) poppet type: Port 1 to 2:< 5 drops/min max @ 350 bar (5000 psi)
Cavity	-40° to 120° C (-40° to 248° F)
Standard housing materials	C-16-3S
Fluids	Aluminium
Filtration	All general purpose hydraulics fluids such as: MIL-H-5606, SAE 10, SAE 20 etc
Weight cartridge only	Cleanliness code 18/**16/13**
Seal kit	0,35 kg (0.78 lbs)
	889659 (Buna-N), 02-165871 (Viton®)

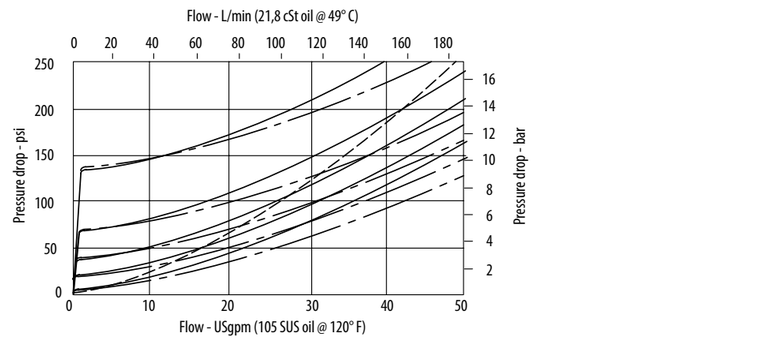
Viton is a registered trademark of E.I. DuPont

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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Differential pressure sense valves
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Model code

DPS2 – **16** **(V)** – ***** – ***** – ****** – ******* – ******
1 2 3 4 5 6 7 8

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)

5 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.

6 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 back pressure 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".)

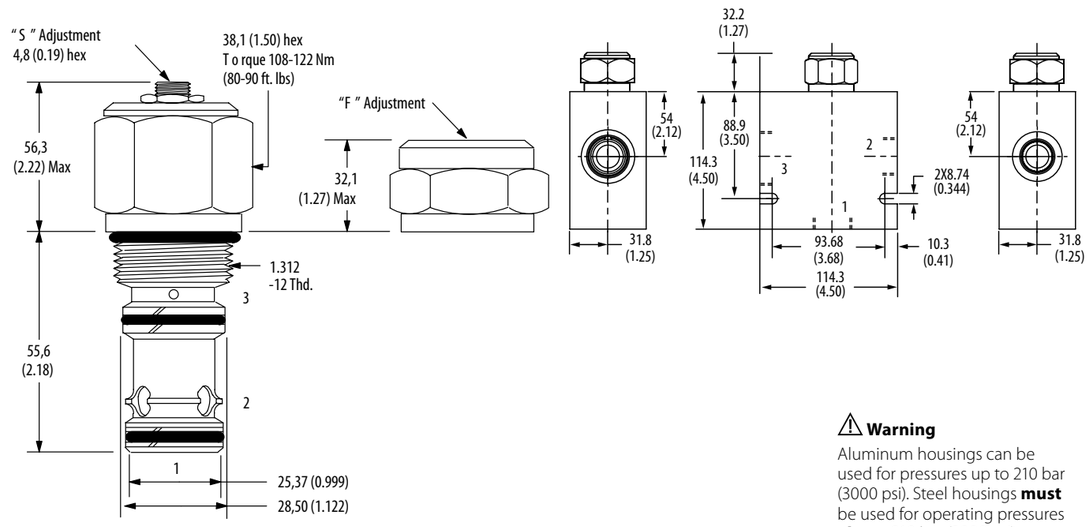
Dimensions

mm (inch)

Cartridge only

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

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).

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