DPS2-10 - Logic element

Differential pressure sense valves
60 L/min (15 USgpm) • 290, 350 bar (4200, 5000 psi)

Functional symbols

See pages I-142 & I-143

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.

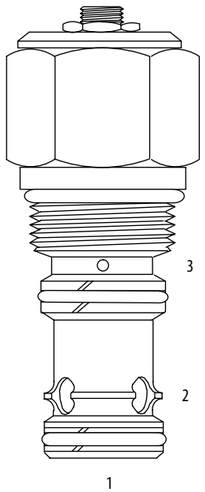
Operation

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

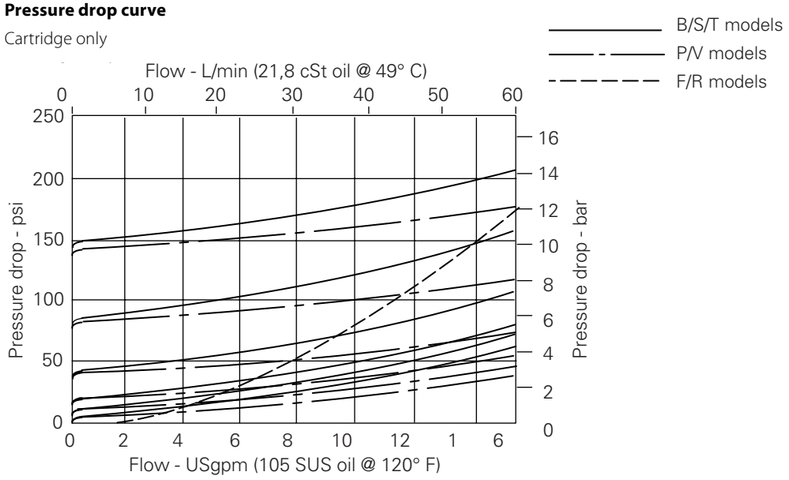
Ratings and specifications

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: 350 bar (5000 psi)
Rated flow	60 L/min (15 USgpm)
Pilot ratio	Spool type P, V, R, F: 1:1 Poppet type B, S, T: 2:1
Internal leakage	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)
Temperature range	-40° to 120° C (-40° to 248° F)
Cavity	C-10-3S
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	0,14 kg (0.30 lbs)
Seal kit	889650 (Buna-N), 889652 (Viton®)

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

1 Function

DPS2 - Differential pressure sensing

2 Size

10 - 10 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 Adjustment

F - None
P - Stroke adjustments

"S" adjustment is not available with F and R functions.

Code	Port size	Housing number
		Aluminium
3B	3/8" BSPP	02-175470*
6T	SAE 6	566413
6H	SAE 6	876706
8H	SAE 8	876712
2G	1/4" BSPP	876707
3G	3/8" BSPP	876710

* Light duty housing
See section J for housing details.

6 Port size

0 - Cartridge only

7 Differential pressure

Note: Code based on pressure in psi
005 - 0,35 bar (5 psi)+ *
010 - 0,7 bar (10 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

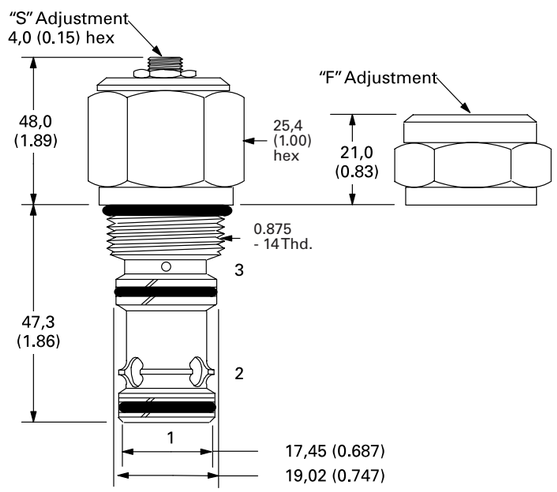
00 - No special features

Dimensions

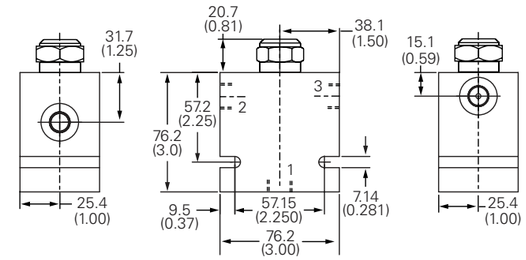
mm (inch)

Torque cartridge in housing
A - 47-54 Nm (35-40 ft lbs)
S - 68-75 Nm (50-55 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).

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