

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.

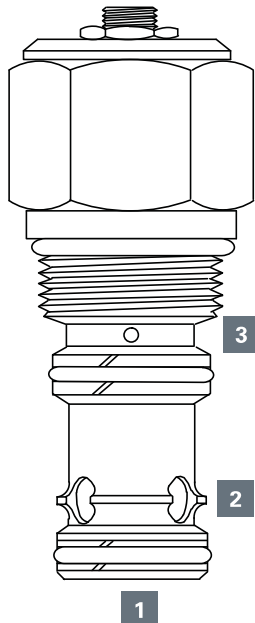
Operation

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

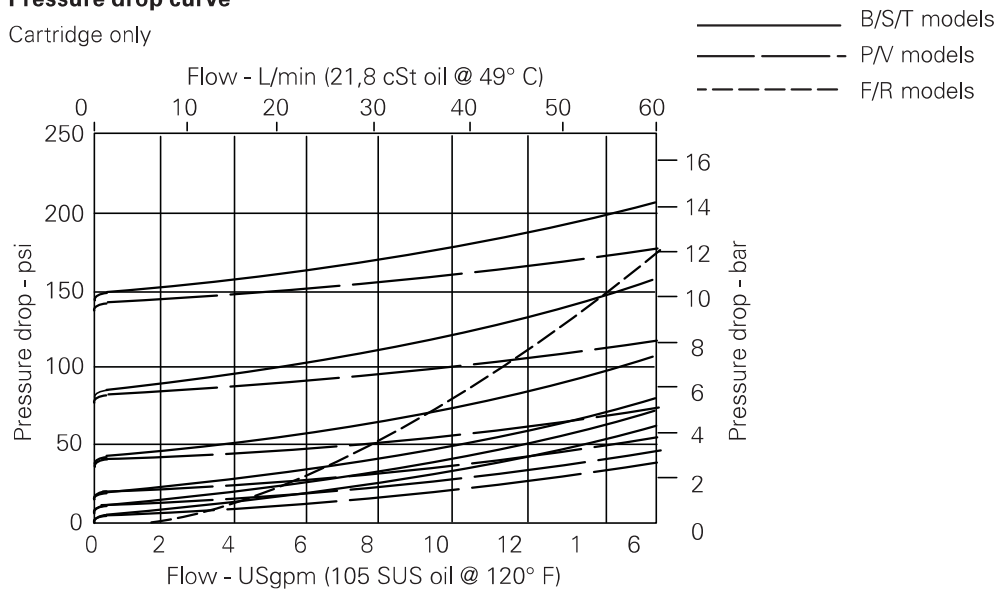
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

| | |
|------------------------------|--|
| 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 cm ³ /min. (5 in ³ /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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Model code



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.

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.

| 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.

8 Special features

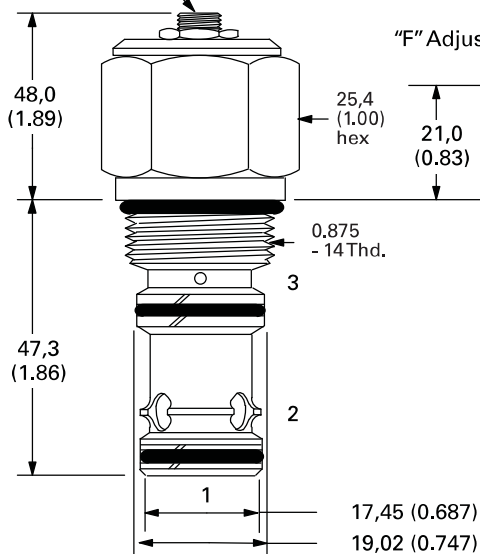
00 - No special features

Dimensions

mm (inch)

Cartridge only

"S" Adjustment
4,0 (0.15) hex

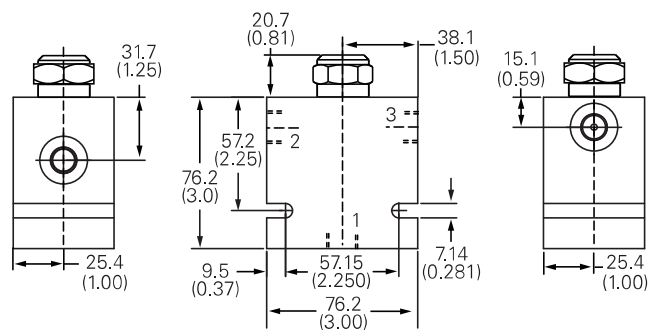


Torque cartridge in housing

A - 47-54 Nm (35-40 ft lbs)

S - 68-75 Nm (50-55 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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