LE

Logic Elements

Danfoss

Logic Elements
Application Notes

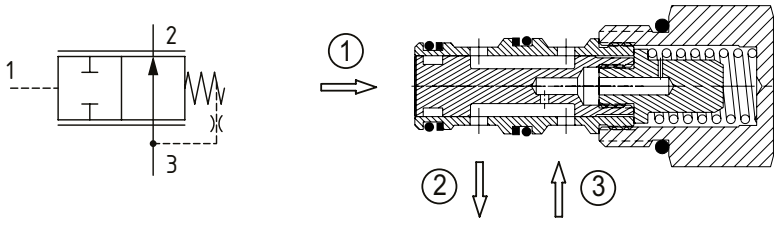
Basic Operation: Pressure Compensators

Pressure Compensators are used to control the pressure drop across an orifice, which can be a fixed orifice, a needle valve / restrictor, a proportional directional valve, or a steering valve. There are three main types: restrictive type (pre- and post-compensated), priority type, and load sense priority type.

- The restrictive type is used as a 2 ported compensator to maintain constant flow rate across variable load conditions.
- The priority type allows the excess flow to be used at pressure in a separate part of a circuit, while maintaining the priority flow.
- The load sense priority type takes a signal from a load sense line and prioritizes the required flow to the actuator.

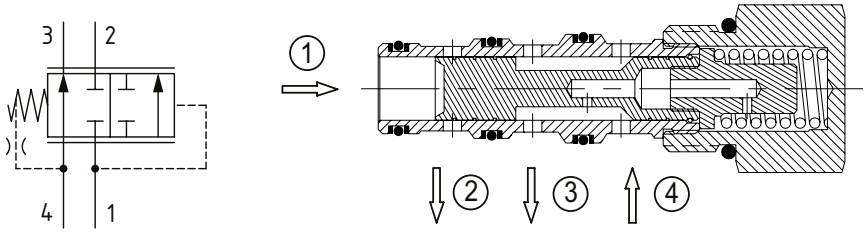
Restrictive Pressure Compensator

Restrictive pressure compensators are normally open, internally drained spool valves with a separate pilot port. By connecting the pilot port 1 upstream of the control orifice and the outlet of the orifice to port 3, the valve will sense the pressure difference. If this pressure difference is higher than the spring pressure setting, the spool will move and restrict the outlet flow to maintain a constant pressure differential and flow across the control orifice.



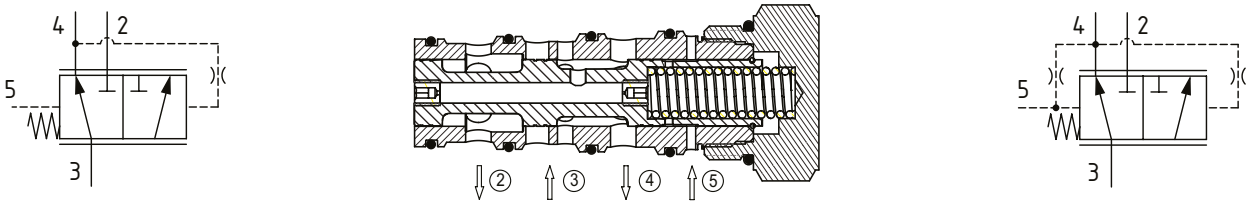
Priority Pressure Compensator

Priority pressure compensators are normally open between port 4 and port 3, with ports 1 and 2 blocked. Port 1 is connected upstream of a control orifice, while port 4 is connected downstream of the orifice. When the pressure differential across the orifice exceeds the spring setting, priority flow is controlled by the restriction created between port 4 and port 3 and the excess flow will pass to port 2. These valves work to maintain a constant priority flow, while diverting the excess flow to a secondary system. The priority flow will remain constant irrespective of changes in the regulated pressure or the excess flow pressure. They are used as part of a circuit where it is important to have a priority flow to a circuit, such as steering, or to keep brake accumulators charged.



Load Sense Priority Pressure Compensator

Load sense priority pressure compensators are used to provide a priority flow to a circuit, such as steering, based on the load sense pressure from an actuator at port 5. With the inlet at port 3, priority flow is controlled at port 4 based on the difference between the load sense pressure and the pressure of the controlled flow. Excess flow passes to another part of the circuit at port 2. The load sense line can be static or dynamic. The static type is used for simple applications where response or circuit stability is not a problem. The dynamic type is used for difficult applications where response and circuit stability are critical. They are commonly used in open circuit load sense steering to provide thermal balancing between the pump flow and steering unit. Additional applications can be in braking circuits as a priority flow regulator, as well as regulation of pilot pressure.



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Basic Operation: Logic Elements

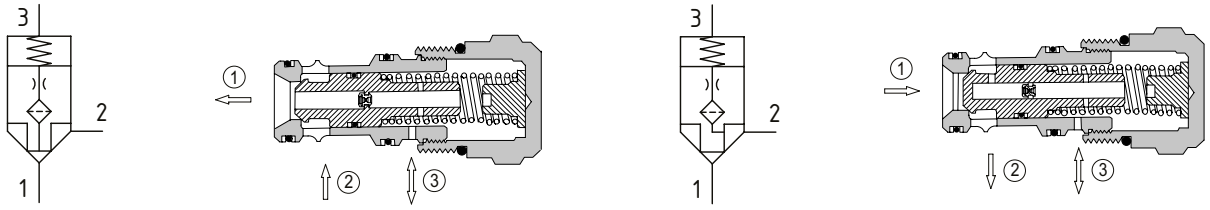
Logic Elements are multipurpose devices that are used in conjunction with other valves in a wide variety of circuits for control of pressure, flow, and direction. They are three ported valves, normally open or closed, poppet or spool, with or without orifice. They can be used in a variety of ways such as compensators, load sense control, high flow relief/pressure reducing functions, bypass, on/off valves, and many more.

Vent to Open Poppet Type Logic Element

The **DPS **B** are normally closed, vent to open, poppet type valves with an internal orifice connecting port 1 to the spring chamber and port 3. Pressure in port 2 will open the valve, allowing flow to pass freely from port 2 to port 1. Pressure in port 1 will keep the valve closed until port 3 is opened to tank through a pilot valve or reaches the setting of a pilot relief valve. It is available with a stroke limiter to limit the opening of the valve.

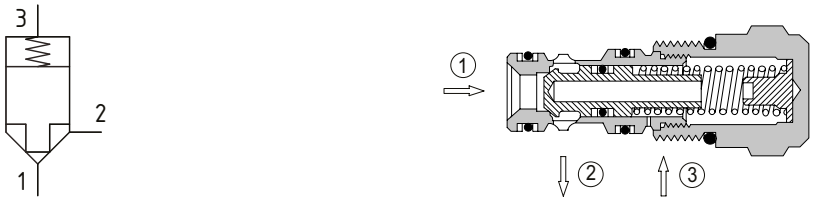
The **DPS **S** are normally closed, vent to open, poppet type valves with an internal orifice connecting port 2 to the spring chamber and port 3. Pressure in port 1 will open the valve allowing flow to pass from port 1 to port 2 freely. Pressure in port 2 will keep the valve closed until port 3 is opened to tank through a pilot valve or reaches the setting of a pilot relief valve. It is available with a stroke limiter to limit the opening of the valve.

Both valve types can be used in conjunction with pilot valves to create directional controls.



Pilot to Close Poppet Type Logic Element

The **DPS2 **T** are normally closed, pilot to close, poppet type valves, which allow free flow in both directions from port 1 to port 2 and port 2 to port 1 if the pressure at port 3 is minimal. Pressure in port 3 will act over the full area of the poppet, piloting it closed. The ratio between the pressure area on port 3 and port 1 is 2:1, as it is with port 2. This valve can be used in directional valve functions using pilot pressure to close the valve and venting the spring chamber to open it. It is available with a stroke limiter to limit the opening of the valve.



Double Blocking Poppet Type Logic Element

This is a normally closed, vent to open, poppet valve that blocks flow from both 1 to 2 and 2 to 1 when the drain port 3 is blocked. There is an orifice in the spool that connects port 1 to port 3, which allows remote control of the pressure in the spring chamber and therefore the pressure required at port 1 to open the valve. This valve uniquely provides poppet type piloted pressure control function for high flow rates.

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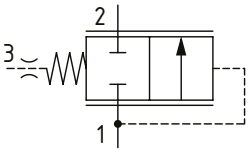
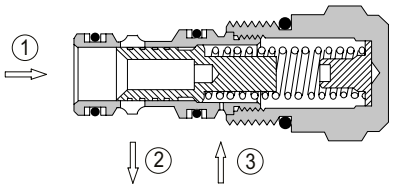
Pilot to Close Spool Type Logic Element

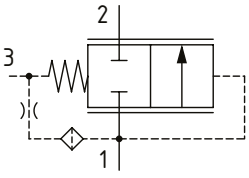
Pilot to close Logic Elements are normally closed, spool type valves that are biased closed by a spring. When pressure in port 1 reaches the spring set pressure, the spool will open port 1 to port 2. Pressure at the pilot port 3 adds to the opening pressure of the valve. These valves are one of the most versatile logic element designs and can be used in directional, pressure control, and flow control circuits. They are most commonly used as a bypass pressure compensator for load sense circuits in systems that use a fixed displacement pump. They can also be applied as a post compensator to provide flow sharing system functionality.

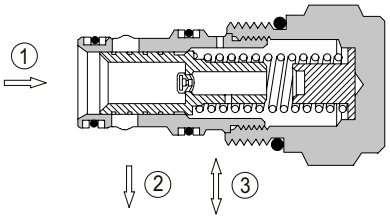




Vent to Open Spool Type Logic Element

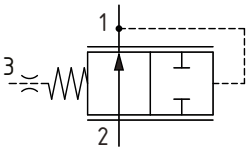
Vent to open Logic Elements are normally closed, spool type valves that are biased closed by a spring. There is an orifice through the spool connecting port 1 to port 3, which allows remote control of the valve by connecting port 3 to a pressure control or a solenoid valve. These valves can be used as an unloading valve or in pressure control and bypass circuits.

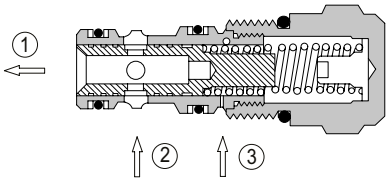




Pilot to Open Spool Type Logic Element

Pilot to open Logic Elements are normally open, spool type valves that are biased open by a spring. Port 1 is open to port 2 until the pressure in port 1 is enough to overcome the spring force offset pressure and plus the pressure in the pilot port 3. They can be used as restrictive type pressure compensators or as a remotely operated pressure reducing valve.





Application Recommendations

- The port 5 load sense line on the Load Sense Priority Pressure Compensator should not be more than 2 meters (6 ft) in length. The control pressure must be high enough to make sure enough flow is available and matched to the steering valve.
- When using the Load Sense Priority Pressure Compensator, changes in pressure in port 2 (excess flow line) can cause compensated flow changes by up to 10%. Relief valves should also be fitted on both outlet lines.
- With 'B', 'S', and 'T' poppet valves, the operating back pressure at port 3 should never be less than 1.3 x the spring set pressure.
- Various spring, stroke, and dampening options are available on most valves, providing flexibility in applications and offering the ability to tune the system.
- Some valves have the option of a stroke limiter, which is used to create stability or simply to limit flow.
- Using these valves in combination with each other provides opportunities for innovative solutions to directional control and pressure control functions.

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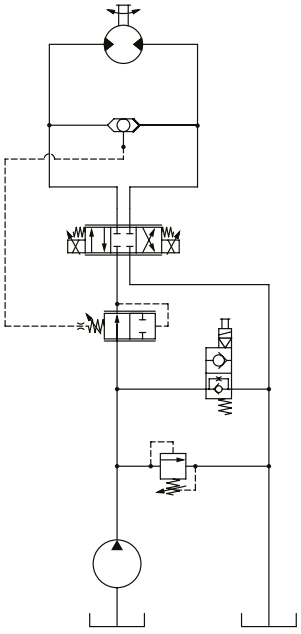
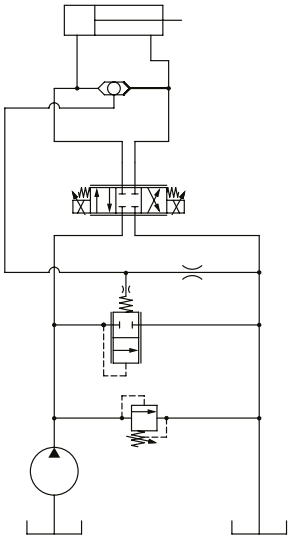
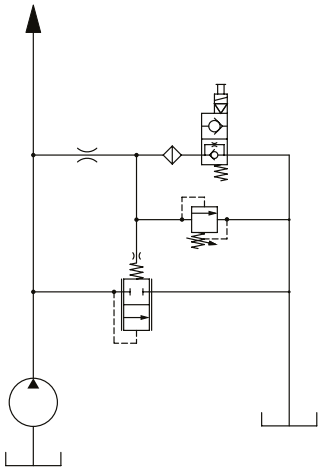
Typical Applications



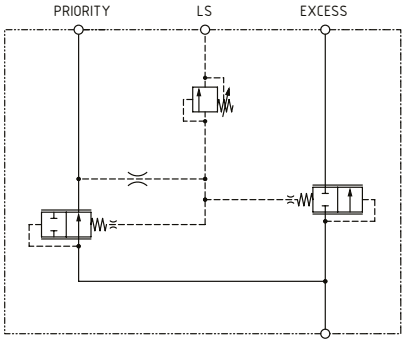
▲ Compensated, Bi-Directional Flow Control



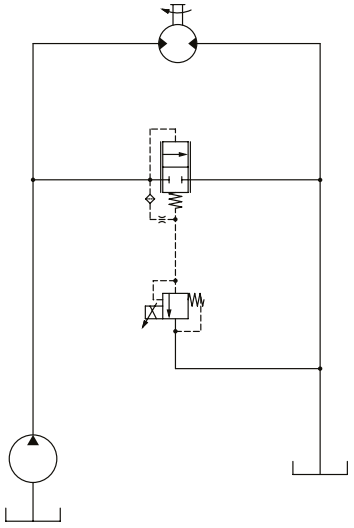
▲ Double acting Cylinder with Proportional Speed Control, Unloading Valve and Circuit Relief



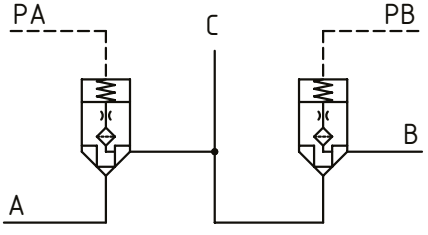
▲ Dump and Relief Valve for a Fixed Pump



▲ Dynamic Priority Valve with Relief



▲ High Flow Proportional Relief



▲ Poppet Type

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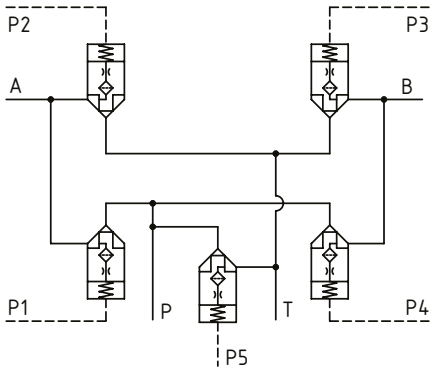
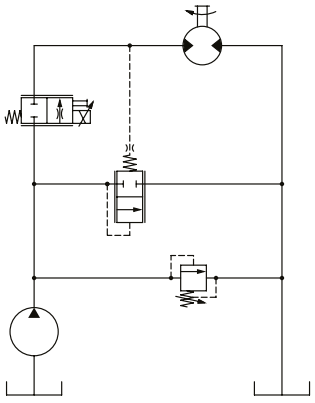
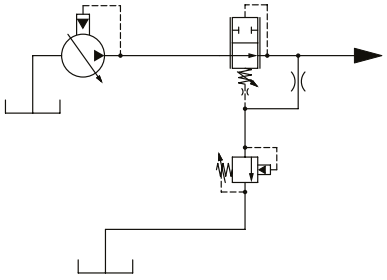
Typical Applications



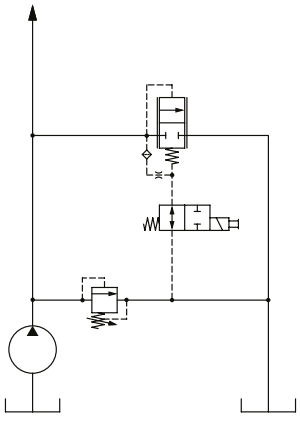
▲ Poppet Type



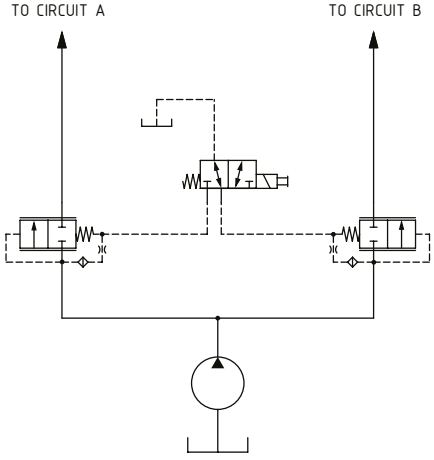
▲ Proportional Bypass Flow Control



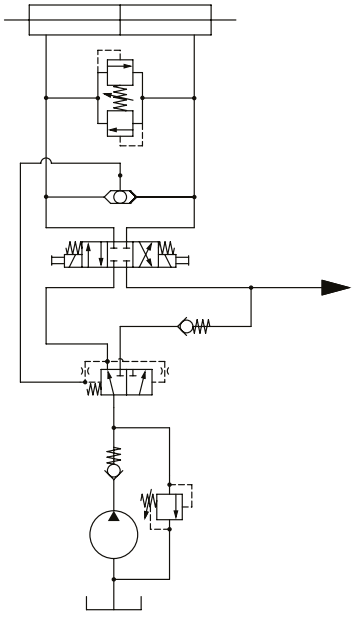
▲ Proportional Pressure Reducing Valve



▲ Pump Unloading

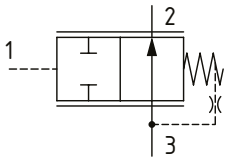


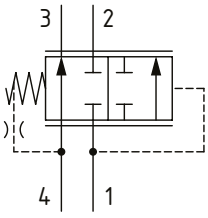
▲ Selector Valve

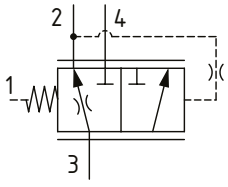


▲ Steering Circuit

Logic Elements
Quick Reference

Pressure Compensator	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP300-4	SDC10-3	Pressure Compensator, Restrictive Type	40 l/min [11 US gpm]	210 bar [3000 psi]	11
	PCS13-10	SDC10-3	Pressure Compensator, Restrictive Type	38 l/min [10 US gpm]	350 bar [5000 psi]	12
	CP301-4	CP12-3	Pressure Compensator, Restrictive Type	90 l/min [24 US gpm]	210 bar [3000 psi]	13
	PCS13-12	C-12-3	Pressure Compensator, Restrictive Type	58 l/min [15 US gpm]	350 bar [5000 psi]	14
	CP302-4	SDC16-3	Pressure Compensator, Restrictive Type	130 l/min [34 US gpm]	210 bar [3000 psi]	15
	PCS13-16	SDC16-3	Pressure Compensator, Restrictive Type	114 l/min [30 US gpm]	350 bar [5000 psi]	16
	CP303-4	SDC20-3	Pressure Compensator, Restrictive Type	284 l/min [75 US gpm]	210 bar [3000 psi]	17

Pressure Compensator	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP310-4	SDC10-4	Pressure Compensator, Priority Type	40 l/min [11 US gpm]	210 bar [3000 psi]	18
	PCS14-10	SDC10-4	Pressure Compensator, Priority Type	38 l/min [10 US gpm]	350 bar [5000 psi]	19
	CP311-4	CP12-4	Pressure Compensator, Priority Type	60 l/min [16 US gpm]	210 bar [3000 psi]	20
	PCS14-12	C-12-4	Pressure Compensator, Priority Type	58 l/min [15 US gpm]	350 bar [5000 psi]	21
	CP312-4	SDC16-4	Pressure Compensator, Priority Type	130 l/min [34 US gpm]	210 bar [3000 psi]	22
	PCS14-16	SDC16-4	Pressure Compensator, Priority Type	114 l/min [30 US gpm]	350 bar [5000 psi]	23
	CP313-4	SDC20-4	Pressure Compensator, Priority Type	340 l/min [90 US gpm]	210 bar [3000 psi]	24

Pressure Compensator	Model No.	Cavity	Description	Flow*	Pressure	Page
	CP310-6	SDC10-4	Pressure Compensator, Load Sense, Static, Priority Type	40 L/min [11 US gpm]	210 bar [3000 psi]	25

*Flow ratings are for reference only. Refer to individual product page for performance information.

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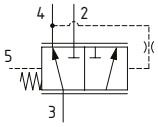
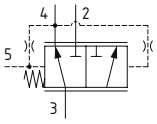
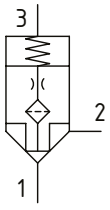
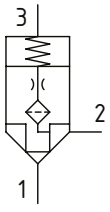
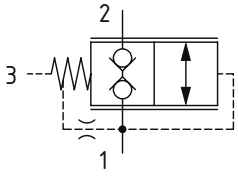
Pressure Compensator	Model No.	Cavity	Description	Flow*	Pressure	Page
	PFRS-12	C-12-5S	Pressure Compensator, Load Sense, Static, Priority Type	76 l/min [20 US gpm]	280 bar [4000 psi]	26
	PFRS-16	C-16-5S	Pressure Compensator, Load Sense, Static, Priority Type	150 l/min [40 Us gpm]	280 bar [4000 psi]	27
	PFRS-20	C-20-5S	Pressure Compensator, Load Sense, Static, Priority Type	230 l/min [60 US gpm]	240 bar [3500 psi]	28

Pressure Compensator	Model No.	Cavity	Description	Flow*	Pressure	Page
	PFRD-12	C-12-5S	Pressure Compensator, Load Sense, Dynamic, Priority Type	76 l/min [20 US gpm]	280 bar [4000 psi]	29
	PFRD-16	C-16-5S	Pressure Compensator, Load Sense, Dynamic, Priority Type	150 l/min [40 Us gpm]	280 bar [4000 psi]	30
	PFRD-20	C-20-5S	Pressure Compensator, Load Sense, Dynamic, Priority Type	230 l/min [60 US gpm]	240 bar [3500 psi]	31

Logic Element	Model No.	Cavity	Description	Flow*	Pressure	Page
	DPS2-10-B	SDC10-3S	Logic Element, Normally Closed, Poppet Type, Vent to Open	60 l/min [16 US gpm]	350 bar [5000 psi]	32
	DPS2-12-B	C-12-3S	Logic Element, Normally Closed, Poppet Type, Vent to Open	114 l/min [30 US gpm]	350 bar [5000 psi]	33
	DPS2-16-B	SDC16-3S	Logic Element, Normally Closed, Poppet Type, Vent to Open	189 l/min [50 US gpm]	350 bar [5000 psi]	34
	DPS2-20-B	C-20-3S	Logic Element, Normally Closed, Poppet Type, Vent to Open	303 l/min [80 US gpm]	350 bar [5000 psi]	35

Logic Element	Model No.	Cavity	Description	Flow*	Pressure	Page
	DPS2-10-S	SDC10-3S	Logic Element, Normally Closed, Poppet Type, Vent to Open	60 l/min [16 US gpm]	350 bar [5000 psi]	36
	DPS2-12-S	C-12-3S	Logic Element, Normally Closed, Poppet Type, Vent to Open	114 l/min [30 US gpm]	350 bar [5000 psi]	37
	DPS2-16-S	SDC16-3S	Logic Element, Normally Closed, Poppet Type, Vent to Open	189 l/min [50 US gpm]	350 bar [5000 psi]	38
	DPS2-20-S	C-20-3S	Logic Element, Normally Closed, Poppet Type, Vent to Open	303 l/min [80 US gpm]	350 bar [5000 psi]	39

Logic Element	Model No.	Cavity	Description	Flow*	Pressure	Page
	VLP 12/P2	NCS 12/3	Logic Element, Normally Closed, Double Blocking, Poppet Type, Vent to Open	160 l/min [42 US gpm]	315 bar [4600 psi]	40

*Flow ratings are for reference only. Refer to individual product page for performance information.

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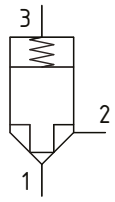
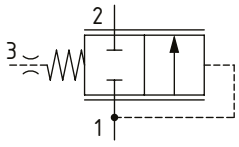
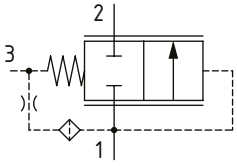
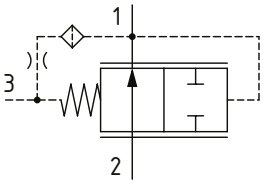
	DPS2-10-T	SDC10-3S	Logic Element, Normally Closed, Poppet Type, Pilot to Close	60 l/min [16 US gpm]	350 bar [5000 psi]	41
	DPS2-12-T	C-12-3S	Logic Element, Normally Closed, Poppet Type, Pilot to Close	114 l/min [30 US gpm]	350 bar [5000 psi]	42
	DPS2-16-T	SDC16-3S	Logic Element, Normally Closed, Poppet Type, Pilot to Close	189 l/min [50 US gpm]	350 bar [5000 psi]	43
	DPS2-20-T	C-20-3S	Logic Element, Normally Closed, Poppet Type, Pilot to Close	303 l/min [80 US gpm]	350 bar [5000 psi]	44

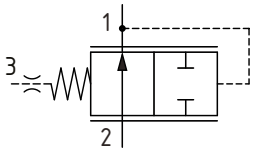
Logic Element	Model No.	Cavity	Description	Flow*	Pressure	Page
	DPS2-8-P	SDC08-3	Logic Element, Normally Closed, Spool Type, Pilot to Close	30 l/min [8 US gpm]	350 bar [5000 psi]	45
	CP700-1	SDC10-3	Logic Element, Normally Closed, Spool Type, Pilot to Close	50 l/min [13 US gpm]	210 bar [3000 psi]	46
	DPS2-10-P	SDC10-3S	Logic Element, Normally Closed, Spool Type, Pilot to Close	60 l/min [16 US gpm]	290 bar [4200 psi]	47
	HLE10-CPC	SDC10-3S	Logic Element, Normally Closed, Spool Type, Pilot to Close	80 l/min [21 US gpm]	350 bar [5000 psi]	48
	CP701-1	CP12-3S	Logic Element, Normally Closed, Spool Type, Pilot to Close	150 l/min [40 US gpm]	350 bar [5000 psi]	49
	DPS2-16-P	SDC16-3S	Logic Element, Normally Closed, Spool Type, Pilot to Close	189 l/min [50 US gpm]	290 bar [4200 psi]	50
	DPS2-20-P	C-20-3S	Logic Element, Normally Closed, Spool Type, Pilot to Close	303 l/min [80 US gpm]	290 bar [4200 psi]	51

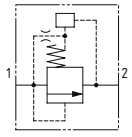
Logic Element	Model No.	Cavity	Description	Flow*	Pressure	Page
	DPS2-8-V	SDC08-3	Logic Element, Normally Closed, Spool Type, Vent to Open	30 l/min [8 US gpm]	350 bar [5000 psi]	52
	CP700-2	SDC10-3	Logic Element, Normally Closed, Spool Type, Vent to Open	50 l/min [13 US gpm]	210 bar [3000 psi]	53
	DPS2-10-V	SDC10-3S	Logic Element, Normally Closed, Spool Type, Vent to Open	60 l/min [16 US gpm]	290 bar [4200 psi]	54
	HLE10-CVO	SDC10-3S	Logic Element, Normally Closed, Spool Type, Vent to Open	80 l/min [21 US gpm]	350 bar [5000 psi]	55
	CP701-2	CP12-3S	Logic Element, Normally Closed, Spool Type, Vent to Open	150 l/min [40 US gpm]	350 bar [5000 psi]	56
	DPS2-16-V	SDC16-3S	Logic Element, Normally Closed, Spool Type, Vent to Open	189 l/min [50 US gpm]	290 bar [4200 psi]	57
	DPS2-20-V	C-20-3S	Logic Element, Normally Closed, Spool Type, Vent to Open	303 l/min [80 US gpm]	290 bar [4200 psi]	58

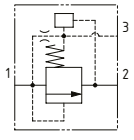
*Flow ratings are for reference only. Refer to individual product page for performance information.

Logic Elements
Quick Reference

Logic Element	Model No.	Cavity	Description	Flow*	Pressure	Page
	DPS2-8-R	SDC08-3	Logic Element, Normally Open, Spool Type, Vent to Close	30 l/min [8 US gpm]	350 bar [5000 psi]	59
	CP700-3	SDC10-3	Logic Element, Normally Open, Spool Type, Vent to Close	40 l/min [11 US gpm]	210 bar [3000 psi]	60
	DPS2-10-R	SDC10-3S	Logic Element, Normally Open, Spool Type, Vent to Close	60 l/min [16 US gpm]	290 bar [4200 psi]	61
	HLE10-OVC	SDC10-3S	Logic Element, Normally Open, Spool Type, Vent to Close	60 l/min [16 US gpm]	350 bar [5000 psi]	62
	CP701-3	CP12-3S	Logic Element, Normally Open, Spool Type, Vent to Close	80 l/min [21 US gpm]	350 bar [5000 psi]	63
	DPS2-16-R	SDC16-3S	Logic Element, Normally Open, Spool Type, Vent to Close	189 l/min [50 US gpm]	290 bar [4200 psi]	64
	DPS2-20-R	C-20-3S	Logic Element, Normally Open, Spool Type, Vent to Close	303 l/min [80 US gpm]	290 bar [4200 psi]	65

Logic Element	Model No.	Cavity	Description	Flow*	Pressure	Page
	DPS2-8-F	SDC08-3	Logic Element, Normally Open, Spool Type, Pilot to Open	30 l/min [8 US gpm]	350 bar [5000 psi]	66
	CP700-4	SDC10-3	Logic Element, Normally Open, Spool Type, Pilot to Open	40 l/min [11 US gpm]	210 bar [3000 psi]	67
	DPS2-10-F	SDC10-3S	Logic Element, Normally Open, Spool Type, Pilot to Open	60 l/min [16 US gpm]	290 bar [4200 psi]	68
	HLE10-OPO	SDC10-3S	Logic Element, Normally Open, Spool Type, Pilot to Open	60 l/min [16 US gpm]]	350 bar [5000 psi]	69
	CP701-4	CP12-3S	Logic Element, Normally Open, Spool Type, Pilot to Open	76 l/min [20 US gpm]	350 bar [5000 psi]	70
	DPS2-16-F	SDC16-3S	Logic Element, Normally Open, Spool Type, Pilot to Open	189 l/min [50 US gpm]	290 bar [4200 psi]	71
	DPS2-20-F	C-20-3S	Logic Element, Normally Open, Spool Type, Pilot to Open	303 l/min [80 US gpm]	290 bar [4200 psi]	72

Logic Element	Model No.	Cavity	Description	Flow*	Pressure	Page
	LE402	SDC20-2	Logic Element, Normally Closed, Spool Type, Pilot Valve Adapter	350 l/min [93 US gpm]	350 bar [5000 psi]	73

Logic Element	Model No.	Cavity	Description	Flow*	Pressure	Page
	LEV402	A21773	Logic Element, Normally Closed, Spool Type, Vent to Open with Pilot Valve Adapter	400 l/min [106 US gpm]	250 bar [3600 psi]	74

*Flow ratings are for reference only. Refer to individual product page for performance information.

Logic Elements
CP300-4

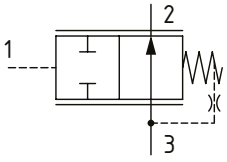
Pressure Compensator, Restrictive Type

210 bar [3000 psi] • 40 l/min [11 US gpm]

DESCRIPTION AND OPERATION

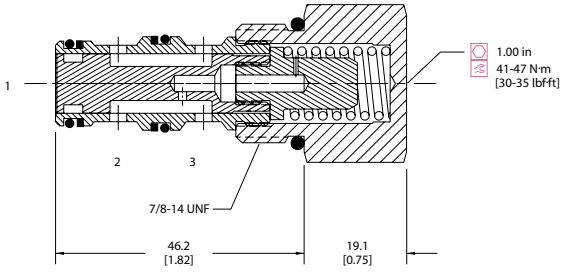
This is a 3-ported spool valve, where port 3 is connected to port 2 and port 1 is the pilot port. The spring chamber is connected to port 3 through an orifice. When port 3 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a restrictive pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool restricts flow from port 3 to port 2 and compensates for any change in pressure difference across the valve.

SCHEMATIC



DIMENSIONS

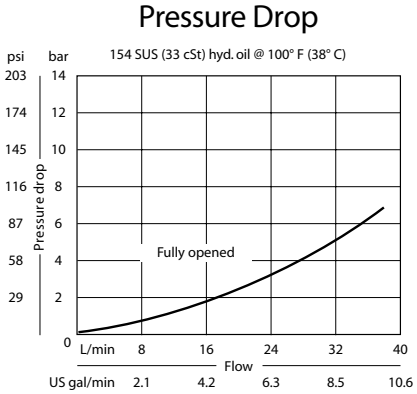
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**40 l/min [11 US gpm]**
Weight	0.13 kg [0.29 lb]
Cavity	SDC10-3

PERFORMANCE CURVES



MODEL CODE

CP300 - 4 - B - 8S - 0 - 080

Seal Option

Code	Seal kit
B-Buna - N	120027
V-Viton	120028

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
SE3B	AL, 3/8 BSP	SDC10-3-SE-3B
SE4B	AL, 1/2 BSP	SDC10-3-SE-4B
6S	AL, #6 SAE	CP10-3-6S
8S	AL, #8 SAE	CP10-3-8S

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.8	[40]
080	5.5	[80]
110	7.6	[110]
150	10.3	[150]
190	13.1	[190]

Spool Seal Option

0 - No Seal
S - Seal included

Logic Elements
PCS13-10

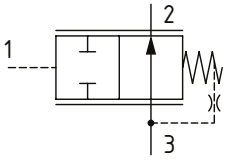
Pressure Compensator, Restrictive Type

350 bar [5000 psi] • 38 l/min [10 US gpm]

DESCRIPTION AND OPERATION

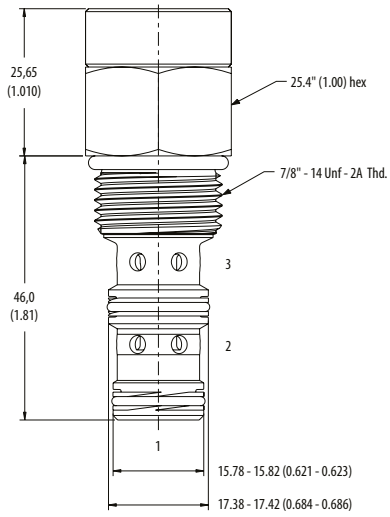
This is a 3-ported spool valve, where port 3 is connected to port 2 and port 1 is the pilot port. The spring chamber is connected to port 3 through an orifice. When port 3 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a restrictive pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool restricts flow from port 3 to port 2 and compensates for any change in pressure difference across the valve.

SCHEMATIC



DIMENSIONS

mm [in]

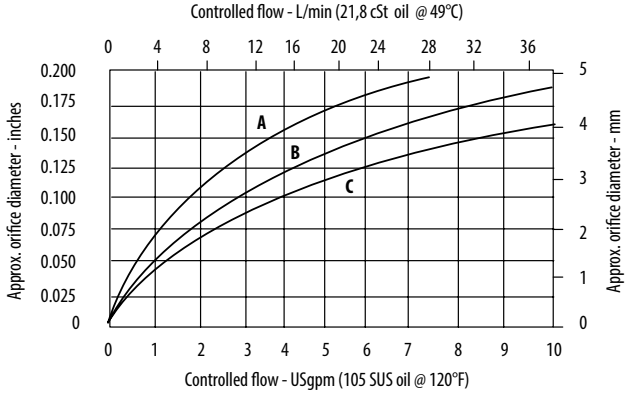


Installation torque
A-47-54 Nm [35-40 ft. lbs]
S-68-75 Nm [50-55 ft. lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**38 l/min [10 US gpm]**
Weight	0.12 kg [0.26 lb]
Cavity	SDC10-3

PERFORMANCE CURVES



A-2.8 bar [40 psi] • **B**-5.5 bar [80 psi] • **C**-11.0 bar [160 psi]

MODEL CODE

PCS13 - 10 - V - A - 0 - S - 40

Seal Option

Code	Seal kit
Omit-Buna - N	889624
V-Viton	889628

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports	Aluminum Heavy duty	Steel
0	No housing		
2G	1/4" BSP	876705	02-175127
3G	3/8" BSP	876714	02-175128
6H	#6 SAE	876704	
8H	#8 SAE	876711	
6T	#6 SAE		02-175124
8T	#8 SAE		02-175125

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
40	2.8	[40]
80	5.5	[80]
160	11.0	[160]

Spool Seal Option

Omit - No seal
S - Seal included

Logic Elements

CP301-4

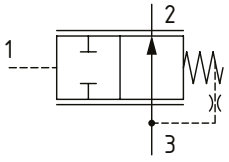
Pressure Compensator, Restrictive Type

210 bar [3000 psi] • 90 l/min [24 US gpm]

DESCRIPTION AND OPERATION

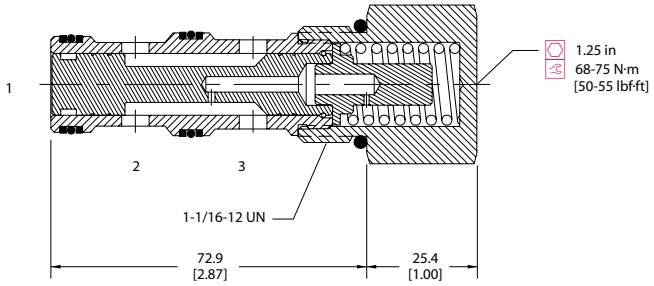
This is a 3-ported spool valve, where port 3 is connected to port 2 and port 1 is the pilot port. The spring chamber is connected to port 3 through an orifice. When port 3 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a restrictive pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool restricts flow from port 3 to port 2 and compensates for any change in pressure difference across the valve.

SCHEMATIC



DIMENSIONS

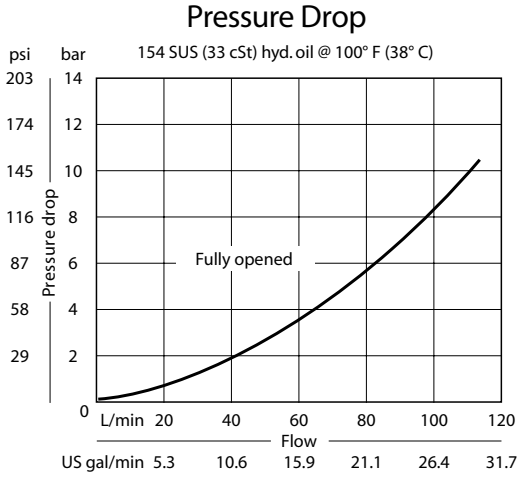
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**90 l/min [24 US gpm]**
Weight	0.30 kg [0.67 lb]
Cavity	CP12-3

PERFORMANCE CURVES



MODEL CODE

CP301 - 4 - B - 10S - 0 - 050

Seal Option

Code	Seal kit
B-Buna - N	120053
V-Viton	120052

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
10S	AL, #10 SAE	CP12-3-10S
12S	AL, #12 SAE	CP12-3-12S
4B	AL, 1/2 BSP	CP12-3-4B
6B	AL, 3/4 BSP	CP12-3-6B

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
050	3.5	[50]
080	5.5	[80]
100	6.9	[100]
150	10.3	[150]
190	13.1	[190]

Spool Seal Option

0 - No Seal
S - Seal included

Logic Elements
PCS13-12

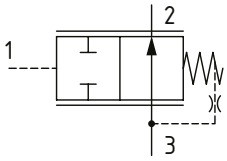
Pressure Compensator, Restrictive Type

350 bar [5000 psi] • 58 l/min [15 US gpm]

DESCRIPTION AND OPERATION

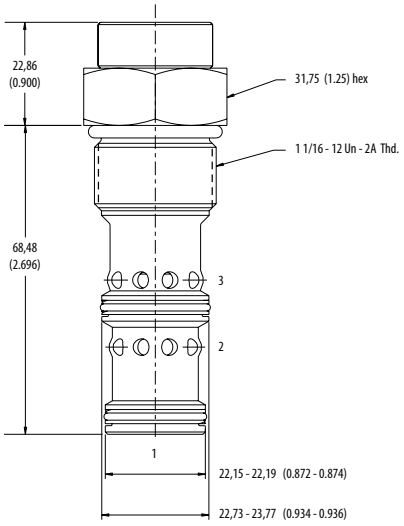
This is a 3-ported spool valve, where port 3 is connected to port 2 and port 1 is the pilot port. The spring chamber is connected to port 3 through an orifice. When port 3 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a restrictive pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool restricts flow from port 3 to port 2 and compensates for any change in pressure difference across the valve.

SCHEMATIC



DIMENSIONS

mm [in]

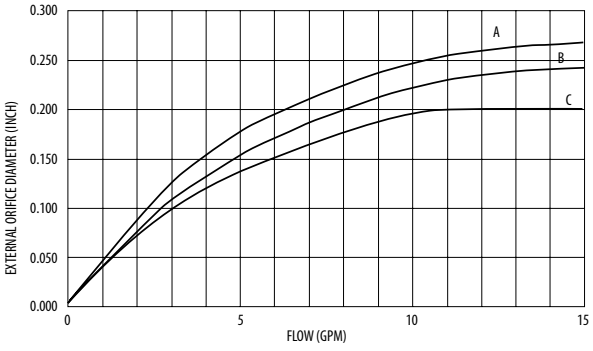


Installation torque
A-81-95 Nm [60-70 ft lbs]
S-102-115 Nm [75-85 ft lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**58 l/min [15 US gpm]**
Weight	0.30 kg [0.55 lb]
Cavity	C-12-3

PERFORMANCE CURVES



A-2.8 bar [40 psi] • **B**-5.5 bar [80 psi] • **C**-11.0 bar [160 psi]

MODEL CODE

PCS13 - 12 - V - A - 0 - S - 40

Seal Option

Code	Seal kit
Omit-Buna - N	9900333-000
V-Viton	9900334-000

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports	Aluminum Heavy duty	Steel
0	No housing		
4G	1/2" BSP	02-161817	02-169815
6G	3/4" BSP	02-161816	02-169814
10H	#10 SAE	02-160642	
12H	#12 SAE	02-160646	
10T	#10 SAE		02-161070
12T	#12 SAE		02-169816

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
40	2.8	[40]
80	5.5	[80]
120	8.3	[120]
160	11.0	[160]

Spool Seal Option

Omit - No seal
S - Seal included

Logic Elements
CP302-4

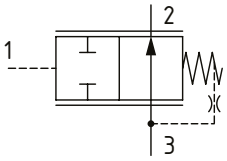
Pressure Compensator, Restrictive Type

210 bar [3000 psi] • 130 l/min [34 US gpm]

DESCRIPTION AND OPERATION

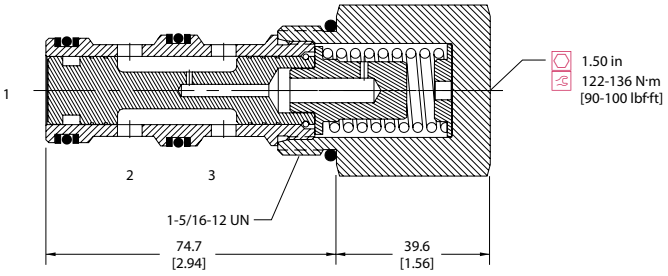
This is a 3-ported spool valve, where port 3 is connected to port 2 and port 1 is the pilot port. The spring chamber is connected to port 3 through an orifice. When port 3 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a restrictive pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool restricts flow from port 3 to port 2 and compensates for any change in pressure difference across the valve.

SCHEMATIC



DIMENSIONS

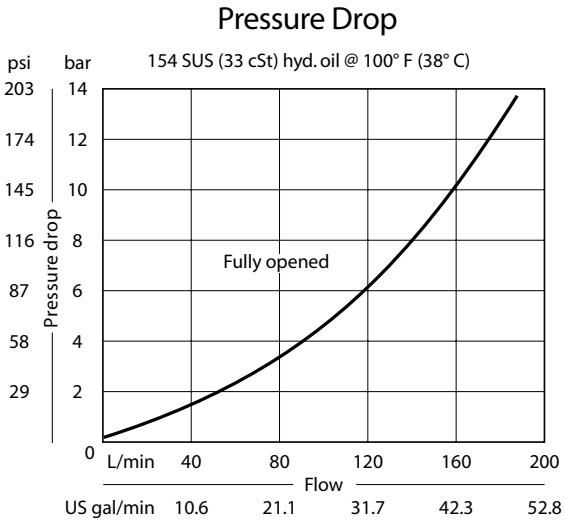
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**130 l/min [34 US gpm]**
Weight	0.56 kg [1.24 lb]
Cavity	SDC16-3

PERFORMANCE CURVES



MODEL CODE

CP302 - 4 - B - 16S - 0 - 040

Seal Option

Code	Seal kit
B-Buna - N	120202
V-Viton	120203

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
HE6B	AL, 3/4 BSP	SDC16-3-HE-6B
HE8B	AL, 1 BSP	SDC16-3-HE-8B
12S	AL, #12 SAE	CP16-3-12S
16S	AL, #16 SAE	CP16-3-16S

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.8	[40]
080	5.5	[80]
100	6.9	[100]
150	10.3	[150]
230	15.9	[230]

Spool Seal Option

0 - No seal
S - Seal included

Logic Elements
PCS13-16

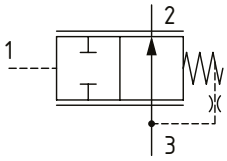
Pressure Compensator, Restrictive Type

350 bar [5000 psi] • 114 l/min [30 US gpm]

DESCRIPTION AND OPERATION

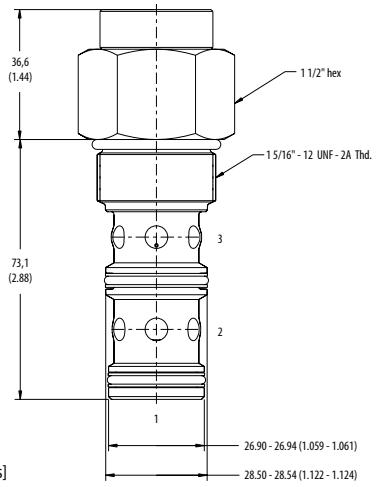
This is a 3-ported spool valve, where port 3 is connected to port 2 and port 1 is the pilot port. The spring chamber is connected to port 3 through an orifice. When port 3 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a restrictive pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool restricts flow from port 3 to port 2 and compensates for any change in pressure difference across the valve.

SCHEMATIC



DIMENSIONS

mm [in]

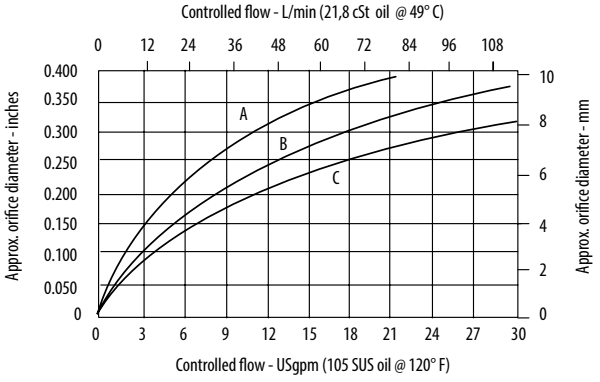


Installation torque
A-108-122 Nm [80-90 ft lbs]
S-136-149 Nm [100-110 ft lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**114 l/min [30 US gpm]**
Weight	0.38 kg [0.84 lb]
Cavity	SDC16-3

PERFORMANCE CURVES



A-2.8 bar [40 psi] • **B**-5.5 bar [80 psi] • **C**-11.0 bar [160 psi]

MODEL CODE

PCS13 - 16 - V - A - 4G - S - 40

Seal Option

Code	Seal kit
Omit-Buna - N	565811
V-Viton	889610

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports	Aluminum Heavy duty	Steel
0	No Housing		
10H	#10 SAE	876721	
12H	#12 SAE	876723	
4G	1/2" BSP	876720	02-175131
6G	3/4" BSP	876722	02-175132
10T	#10 SAE		02-175129
12T	#12 SAE		02-175130

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
40	2.8	[40]
80	5.5	[80]
160	11.0	[160]

Spool Seal Option

Omit - No seal
S - Seals included

Logic Elements

CP303-4

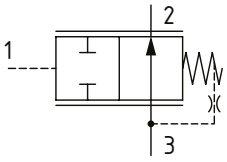
Pressure Compensator, Restrictive Type

210 bar [3000 psi] • 284 l/min [75 US gpm]

DESCRIPTION AND OPERATION

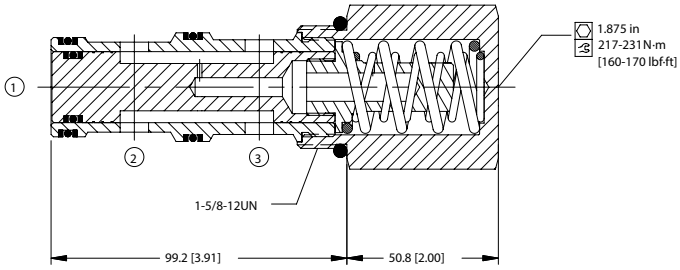
This is a 3-ported spool valve, where port 3 is connected to port 2 and port 1 is the pilot port. The spring chamber is connected to port 3 through an orifice. When port 3 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a restrictive pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool restricts flow from port 3 to port 2 and compensates for any change in pressure difference across the valve.

SCHEMATIC



DIMENSIONS

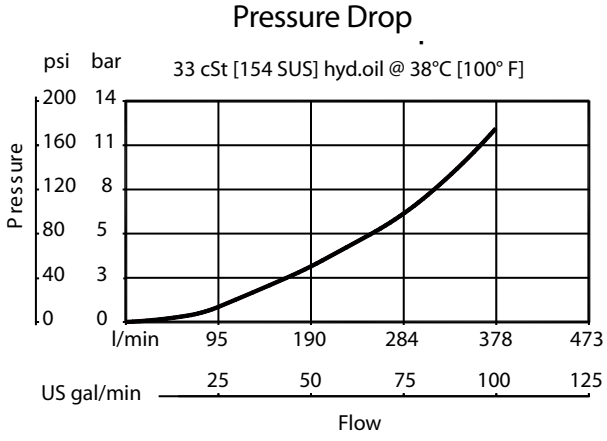
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**284 l/min [75 US gpm]**
Weight	1.11 kg [2.45 lb]
Cavity	SDC20-3

PERFORMANCE CURVES



MODEL CODE

CP303 - 4 - B - 16S - 0 - 050

Seal Option

Code	Seal kit
B-Buna - N	120200
V-Viton	120201

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
16S	AL, #16 SAE	CP20-3-16S
20S	AL, #20 SAE	CP20-3-20S
8B	AL, 1 BSP	CP20-3-8B
10B	AL, 1-1/4 BSP	CP20-3-10B

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
050	3.4	[50]
080	5.5	[80]
100	6.9	[100]
130	9.0	[130]
150	10.3	[150]

Spool Seal Option

0 - No Seal
S - Seal included

Logic Elements
CP310-4

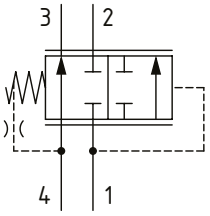
Pressure Compensator, Priority Type

210 bar [3000 psi] • 40 l/min [11 US gpm]

DESCRIPTION AND OPERATION

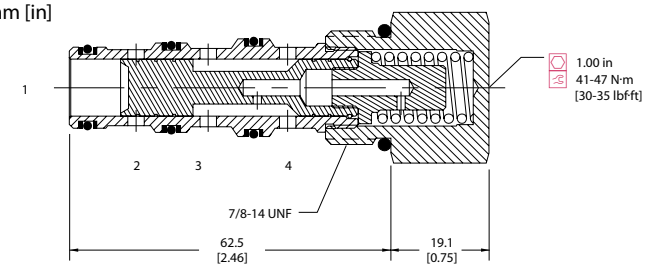
This is a 4-ported spool valve where flow from port 1 to port 2 is blocked and port 4 is connected to port 3. The spring chamber is connected to port 4 through an orifice in the spool. When port 4 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a priority pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool begins to restrict the flow to port 3, while opening port 1 to port 2 to allow excess flow to pass to another part of the circuit. If the pressure in the second part of the circuit rises above the pressure in port 3, the spool will move back to restrict the flow from port 1 to port 2 and maintain the priority flow to port 3 regardless of pressure changes between port 3 and port 2. These valves are ideal for use in circuits where a priority flow is needed to a function while allowing the excess flow to be used for other purposes.

SCHEMATIC



DIMENSIONS

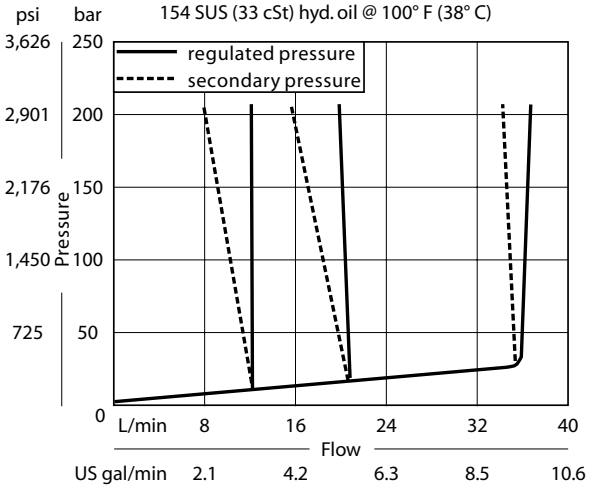
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**40 l/min [11 US gpm]**
Weight	0.15 kg [0.32 lb]
Cavity	SDC10-4

PERFORMANCE CURVES



MODEL CODE

CP310 - 4 - B - L3B - 040

Seal Option

Code	Seal kit
B-Buna - N	120023
V-Viton	120024

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
L3B	AL, 3/8 BSP	SDC10-4-L-3B
L4B	AL, 1/2 BSP	SDC10-4-L-4B
6S	AL, #6 SAE	CP10-4-6S
8S	AL, #8 SAE	CP10-4-8S

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.8	[40]
080	5.5	[80]
110	7.6	[110]
150	10.3	[150]
190	13.1	[190]

Logic Elements
PCS14-10

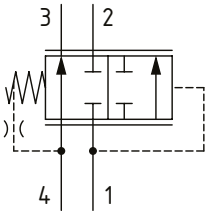
Pressure Compensator, Priority Type

350 bar [5000 psi] • 38 l/min [10 US gpm]

DESCRIPTION AND OPERATION

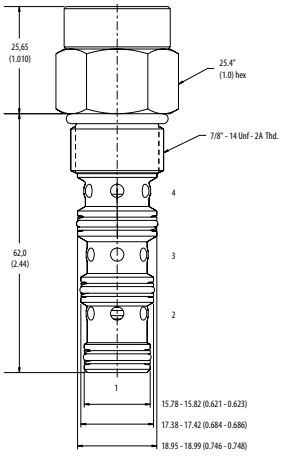
This is a 4-ported spool valve where flow from port 1 to port 2 is blocked and port 4 is connected to port 3. The spring chamber is connected to port 4 through an orifice in the spool. When port 4 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a priority pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool begins to restrict the flow to port 3, while opening port 1 to port 2 to allow excess flow to pass to another part of the circuit. If the pressure in the second part of the circuit rises above the pressure in port 3, the spool will move back to restrict the flow from port 1 to port 2 and maintain the priority flow to port 3 regardless of pressure changes between port 3 and port 2. These valves are ideal for use in circuits where a priority flow is needed to a function while allowing the excess flow to be used for other purposes.

SCHEMATIC



DIMENSIONS

mm [in]

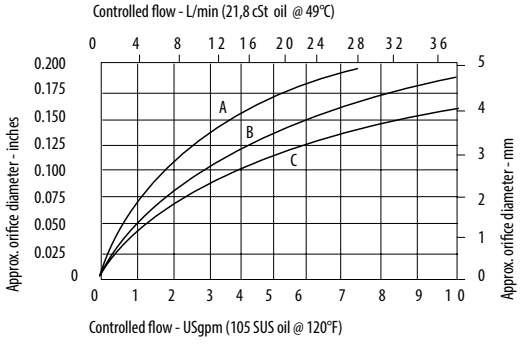


Installation torque
A-47-54 Nm [35-40 ft. lbs]
S-68-75 Nm [50-55 ft. lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**38 l/min [10 US gpm]**
Weight	0.14 kg [0.32 lb]
Cavity	SDC10-4

PERFORMANCE CURVES



A-2.8 bar [40 psi] • **B**-5.5 bar [80 psi] • **C**-11.0 bar [160 psi]

MODEL CODE

PCS14 - 10 - V - A - 3B - 40

Seal Option

Code	Seal kit
Omit-Buna - N	889651
V-Viton	889653

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Differential Pressure

Code	Bar	Psi
40	2.8	[40]
80	5.5	[80]
160	11.0	[160]

Housing

Code	Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
0	No housing			
3B	3/8" BSP	02-179705		
6T	#6 SAE	566161		02-175137
8T	#8 SAE			02-175138
2G	1/4" BSP		876709	02-175139
3G	3/8" BSP		876715	02-175140
6H	#6 SAE		876708	
8H	#8 SAE		876713	

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements

CP311-4

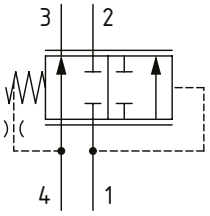
Pressure Compensator, Priority Type

210 bar [3000 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

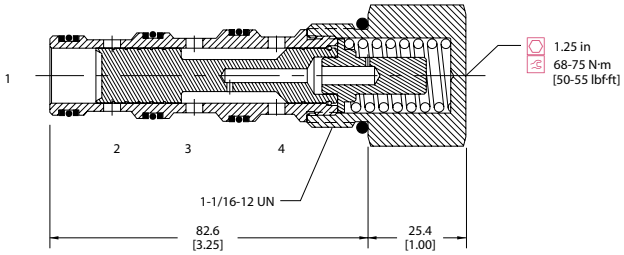
This is a 4-ported spool valve where flow from port 1 to port 2 is blocked and port 4 is connected to port 3. The spring chamber is connected to port 4 through an orifice in the spool. When port 4 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a priority pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool begins to restrict the flow to port 3, while opening port 1 to port 2 to allow excess flow to pass to another part of the circuit. If the pressure in the second part of the circuit rises above the pressure in port 3, the spool will move back to restrict the flow from port 1 to port 2 and maintain the priority flow to port 3 regardless of pressure changes between port 3 and port 2. These valves are ideal for use in circuits where a priority flow is needed to a function while allowing the excess flow to be used for other purposes.

SCHEMATIC



DIMENSIONS

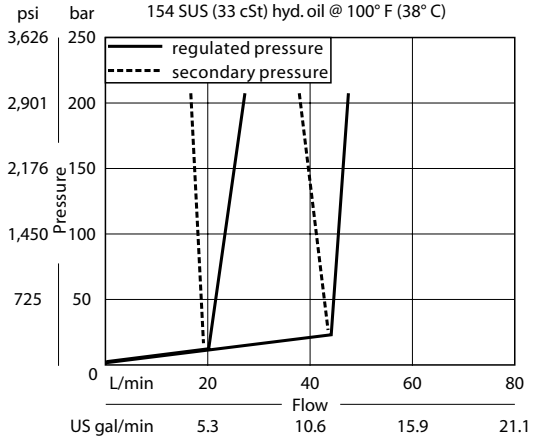
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**60 l/min [16 US gpm]**
Weight	0.31 kg [0.69 lb]
Cavity	CP12-4

PERFORMANCE CURVES



MODEL CODE

CP311 - 4 - B - 8S - 050

Seal Option

Code	Seal kit
B-Buna - N	120262
V-Viton	120263

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
8S	AL, #8 SAE	CP12-4-8S
10S	AL, #10 SAE	CP12-4-10S
12S	AL, #12 SAE	CP12-4-12S
3B	AL, 3/8 BSP	CP12-4-3B
4B	AL, 1/2 BSP	CP12-4-4B

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
050	3.5	[50]
080	5.5	[80]
100	6.9	[100]
150	10.3	[150]

Logic Elements
PCS14-12

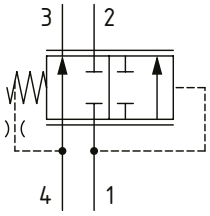
Pressure Compensator, Priority Type

350 bar [5000 psi] • 58 l/min [15 US gpm]

DESCRIPTION AND OPERATION

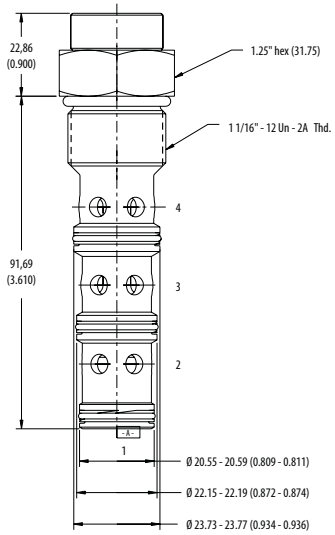
This is a 4-ported spool valve where flow from port 1 to port 2 is blocked and port 4 is connected to port 3. The spring chamber is connected to port 4 through an orifice in the spool. When port 4 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a priority pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool begins to restrict the flow to port 3, while opening port 1 to port 2 to allow excess flow to pass to another part of the circuit. If the pressure in the second part of the circuit rises above the pressure in port 3, the spool will move back to restrict the flow from port 1 to port 2 and maintain the priority flow to port 3 regardless of pressure changes between port 3 and port 2. These valves are ideal for use in circuits where a priority flow is needed to a function while allowing the excess flow to be used for other purposes.

SCHEMATIC



DIMENSIONS

mm [in]

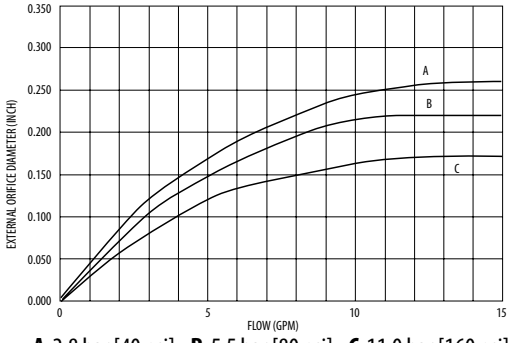


Installation torque
A-81-95 Nm [60-70 ft. lbs]
S-102-115 Nm [75-85 ft. lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**58 l/min [15 US gpm]**
Weight	0.36 kg [0.80 lb]
Cavity	C-12-4

PERFORMANCE CURVES



A-2.8 bar [40 psi] • **B**-5.5 bar [80 psi] • **C**-11.0 bar [160 psi]

MODEL CODE

PCS14 - 12 - V - A - 4G - 40

Seal Option

Code	Seal kit
Omit-Buna - N	9900335-000
V-Viton	9900336-000

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Differential Pressure

Code	Bar	Psi
40	2.8	[40]
80	5.5	[80]
120	8.3	[120]
160	11.0	[160]

Housing

Code	Ports	Aluminum	Heavy duty	Steel
0	No housing			
4G	1/2" BSP	5986431-001		
6G	3/4" BSP	5986432-001		5991073-001
8H	#8 SAE	5986433-001		
10H	#10 SAE	5986434-001		5991074-001
12H	#12 SAE	5986436-001		5991075-001

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
CP312-4

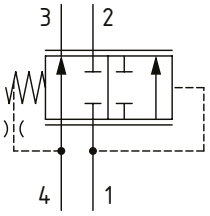
Pressure Compensator, Priority Type

210 bar [3000 psi] • 130 l/min [34 US gpm]

DESCRIPTION AND OPERATION

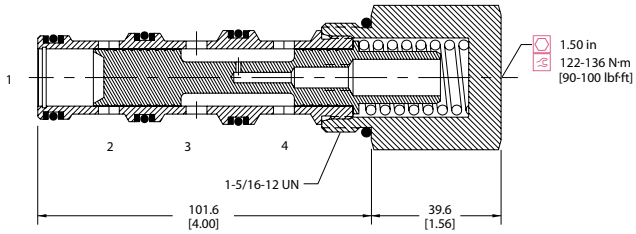
This is a 4-ported spool valve where flow from port 1 to port 2 is blocked and port 4 is connected to port 3. The spring chamber is connected to port 4 through an orifice in the spool. When port 4 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a priority pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool begins to restrict the flow to port 3, while opening port 1 to port 2 to allow excess flow to pass to another part of the circuit. If the pressure in the second part of the circuit rises above the pressure in port 3, the spool will move back to restrict the flow from port 1 to port 2 and maintain the priority flow to port 3 regardless of pressure changes between port 3 and port 2. These valves are ideal for use in circuits where a priority flow is needed to a function while allowing the excess flow to be used for other purposes.

SCHEMATIC



DIMENSIONS

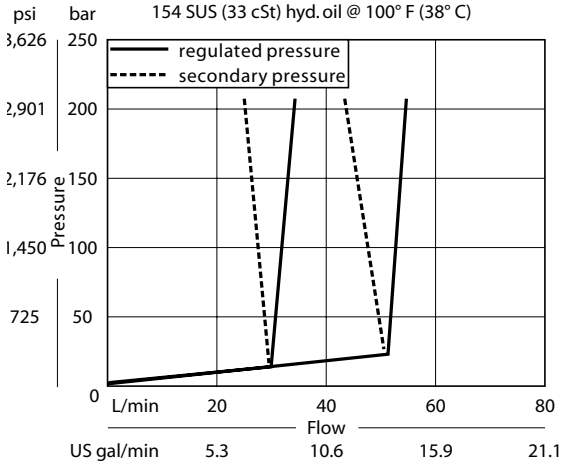
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**130 l/min [34 US gpm]**
Weight	0.60 kg [1.32 lb]
Cavity	SDC16-4

PERFORMANCE CURVES



MODEL CODE

CP312 - 4 - B - 6B - 040

Seal Option

Code	Seal kit
B-Buna - N	120025
V-Viton	120026

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
6B	AL, 3/4 BSP	CP16-4-6B
8B	AL, 1 BSP	CP16-4-8B
12S	AL, #12 SAE	CP16-4-12S
16S	AL, #16 SAE	CP16-4-16S

Differential Pressure

Code	Bar	Psi
040	2.8	[40]
080	5.5	[80]
110	7.6	[110]
150	10.3	[150]

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
PCS14-16

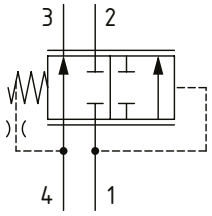
Pressure Compensator, Priority Type

350 bar [5000 psi] • 114 l/min [30 US gpm]

DESCRIPTION AND OPERATION

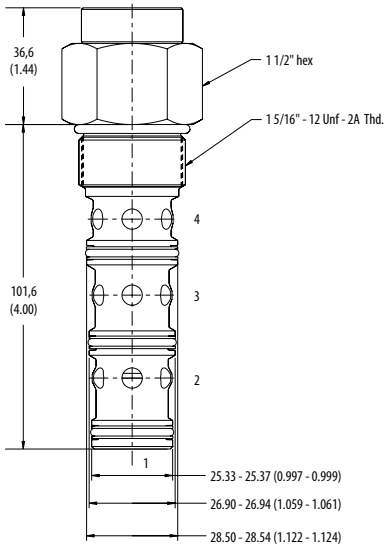
This is a 4-ported spool valve where flow from port 1 to port 2 is blocked and port 4 is connected to port 3. The spring chamber is connected to port 4 through an orifice in the spool. When port 4 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a priority pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool begins to restrict the flow to port 3, while opening port 1 to port 2 to allow excess flow to pass to another part of the circuit. If the pressure in the second part of the circuit rises above the pressure in port 3, the spool will move back to restrict the flow from port 1 to port 2 and maintain the priority flow to port 3 regardless of pressure changes between port 3 and port 2. These valves are ideal for use in circuits where a priority flow is needed to a function while allowing the excess flow to be used for other purposes.

SCHEMATIC



DIMENSIONS

mm [in]

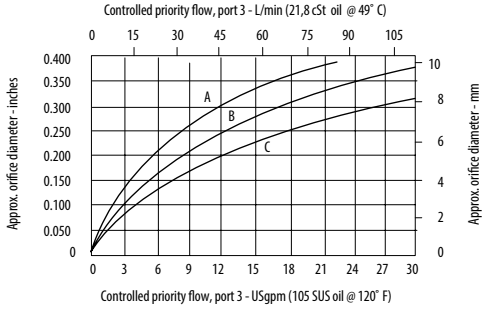


Installation torque
A-108-122 Nm [80-90 ft. lbs]
S-136-149 Nm [100-110 ft. lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**114 l/min [30 US gpm]**
Weight	0.50 kg [1.12 lb]
Cavity	SDC16-4

PERFORMANCE CURVES



A-2.8 bar [40 psi] • **B**-5.5 bar [80 psi] • **C**-11.0 bar [160 psi]

MODEL CODE

PCS14 - 16 - V - A - 4G - 40

Seal Option

Code	Seal kit
Omit-Buna - N	889660
V-Viton	02-175435

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Differential Pressure

Code	Bar	Psi
40	2.8	[40]
80	5.5	[80]
160	11.0	[160]

Housing

Code	Ports	Aluminum Standard duty	Aluminum Heavy duty	Steel
0	No housing			
10T	#10 SAE			02-175141
12T	#12 SAE	566411		02-175142
6B	3/4" BSP	02-175468		
10H	#10 SAE		876729	
12H	#12 SAE		876731	
4G	1/2" BSP		876728	02-175143
6G	3/4" BSP		876730	02-175144

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements

CP313-4

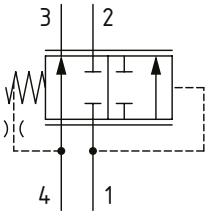
Pressure Compensator, Priority Type

210 bar [3000 psi] • 340 l/min [90 US gpm]

DESCRIPTION AND OPERATION

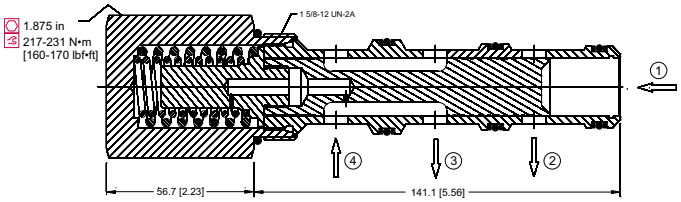
This is a 4-ported spool valve where flow from port 1 to port 2 is blocked and port 4 is connected to port 3. The spring chamber is connected to port 4 through an orifice in the spool. When port 4 is connected to the outlet of a control orifice and port 1 is connected upstream of the orifice, the valve functions as a priority pressure compensator. When the pressure drop across the orifice is equal to the spring set pressure, the spool begins to restrict the flow to port 3, while opening port 1 to port 2 to allow excess flow to pass to another part of the circuit. If the pressure in the second part of the circuit rises above the pressure in port 3, the spool will move back to restrict the flow from port 1 to port 2 and maintain the priority flow to port 3 regardless of pressure changes between port 3 and port 2. These valves are ideal for use in circuits where a priority flow is needed to a function while allowing the excess flow to be used for other purposes.

SCHEMATIC



DIMENSIONS

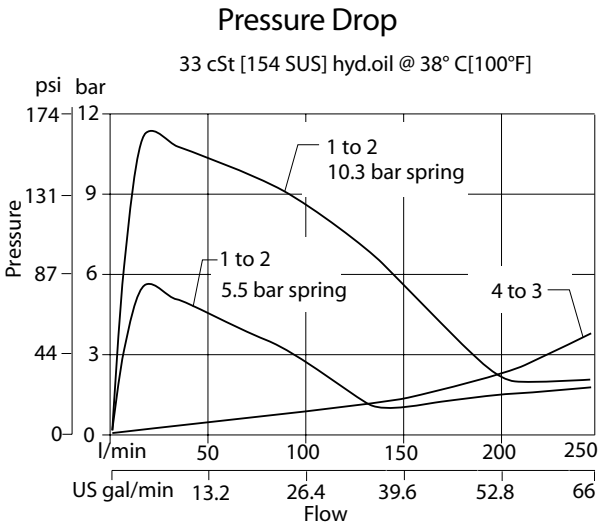
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**340 l/min [90 US gpm]**
Weight	1.30 kg [2.80 lb]
Cavity	SDC20-4

PERFORMANCE CURVES



MODEL CODE

CP313 - 4 - B - 8B - 050

Seal Option

Code	Seal kit
B-Buna - N	120181
V-Viton	120182

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
8B	AL, 1 BSP	CP20-4-8B
10B	AL, 1-1/4 BSP	CP20-4-10B
16S	AL, #16 SAE	CP20-4-16S
20S	AL, #20 SAE	CP20-4-20S

Differential Pressure

Code	Bar	Psi
050	3.4	[50]
080	5.5	[80]
100	6.9	[100]
130	9.0	[130]
150	10.3	[150]

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
CP310-6

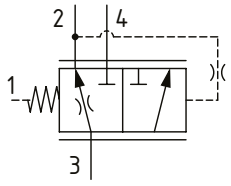
Pressure Compensator, Load Sense, Static, Priority Type

210 bar [3000 psi] • 40 l/min [11 US gpm]

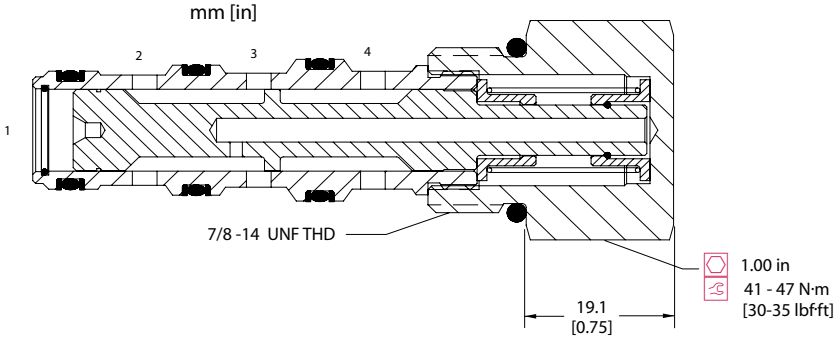
DESCRIPTION AND OPERATION

This is a 4-ported, static, priority load sense pressure compensator. Flow passes from the inlet port 3 to the priority port 2, which is connected to the inlet of a control orifice. Port 1 is the load sense port which connects to the outlet of the control orifice. The valve maintains the priority flow to port 2 regardless of inlet pressure change or load pressure changes, while also allowing excess flow to pass to the rest of the system through port 4. This valve is ideal for use in a system where the excess flow at port 4 needs to work at a higher pressure than the pressure of the priority flow at port 2. Additionally, the valve will allow flow to the excess port 4 when the priority port 2 is blocked.

SCHEMATIC



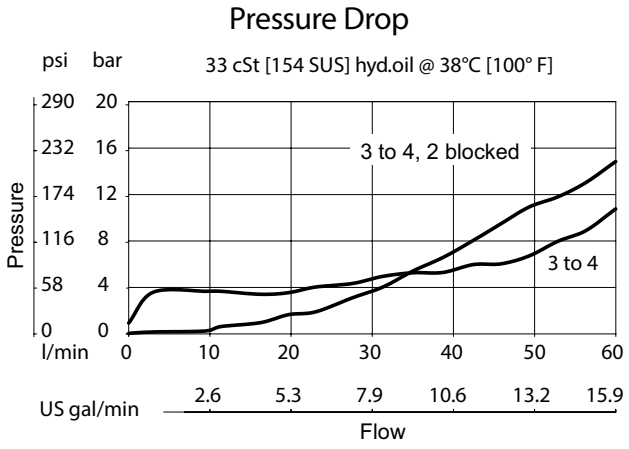
DIMENSIONS



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**40 l/min [11 US gpm]**
Weight	0.15 kg [0.32 lb]
Cavity	SDC10-4

PERFORMANCE CURVES



MODEL CODE

CP310 - 6 - B - 6S - 080

Seal Option

Code	Seal kit
B-Buna - N	120023
V-Viton	120024

Differential Pressure

Code	Bar	Psi
080	5.5	[80]
150	10.3	[150 psi]

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
L3B	AL, 3/8 BSP	SDC10-4-L-3B
L4B	AL, 1/2 BSP	SDC10-4-L-4B
6S	AL, #6 SAE	CP10-4-6S
8S	AL, #8 SAE	CP10-4-8S

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
PFRS-12

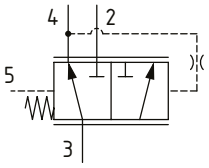
Pressure Compensator, Load Sense, Static, Priority Type

280 bar [4000 psi] • 76 l/min [20 US gpm]

DESCRIPTION AND OPERATION

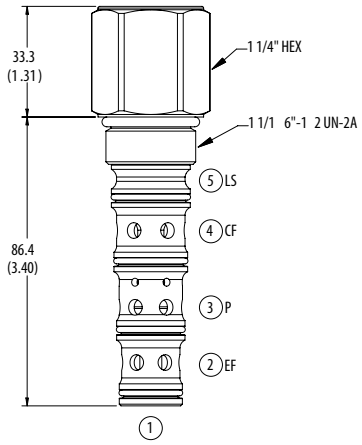
This is a 5-ported, static, priority load sense pressure compensator that supplies fluid on demand to an actuator or a steering valve. Flow passes from the inlet port 3 to the controlled flow port 4. Pressure in port 4 is connected to port 1 (which is plugged) through an orifice. When the pressure in port 1 is higher than the load sense pressure in port 5, the spool moves against the spring and begins to open port 2 and allows excess flow to pass to the rest of the system. When the flow is no longer required through the controlled port and the load sense line falls, all of the oil will pass to the excess flow port 2.

SCHEMATIC



DIMENSIONS

mm [in]



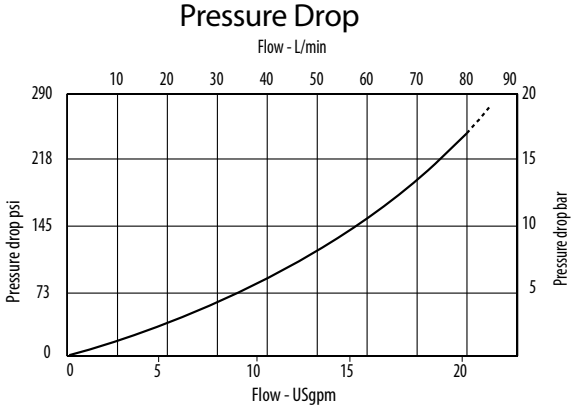
Installation torque
A-81-95 Nm [60-70 ft. lbs]
S-102-115 Nm [75-85 ft. lbs

PERFORMANCE DATA

Rated pressure	**280 bar [4000 psi]**
Rated flow	**76 l/min [20 US gpm]**
Leakage	164 ml/min [10 in3/min] @ 210 bar [3000 psi]
Weight	0.36 kg [0.79 lb]
Cavity	C-12-5S

Note: Port 1 is unused and should be plugged.
Note: Minimum inlet flow should not be less than 1/4 maximum of inlet flow.

PERFORMANCE CURVES



Port 3 to 2

MODEL CODE

PFRS - 12 - U - A - 10T - 075

Seal Option

Code	Seal kit
U-Urethane	202914-921

Housing Material

0-No housing
A-Aluminum
S-Steel

Housing

Code	Port 2, 3 & 4	Port 5	Aluminum	Steel
000	No housing			
10T	#10 SAE	#4 SAE	4998820-001	4998821-001
12T	#12 SAE	#4 SAE	4998820-002	4998821-002
04G	1/2" BSP	1/4" BSP	4998820-003	4998821-003
06G	3/4" BSP	1/4" BSP	4998820-004	4998821-004

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
055	3.8	[55]
078	5.4	[78]
100	6.9	[100]

Logic Elements
PFRS-16

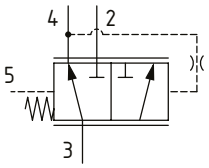
Pressure Compensator, Load Sense, Static, Priority Type

280 bar [4000 psi] • 150 l/min [40 US gpm]

DESCRIPTION AND OPERATION

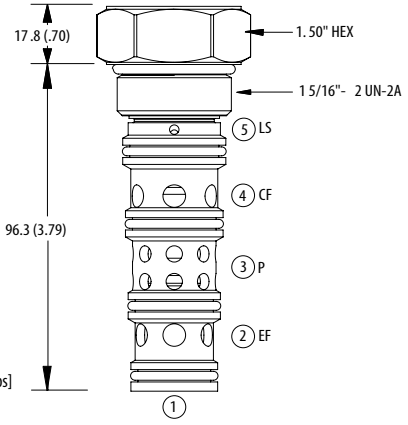
This is a 5-ported, static, priority load sense pressure compensator that supplies fluid on demand to an actuator or a steering valve. Flow passes from the inlet port 3 to the controlled flow port 4. Pressure in port 4 is connected to port 1 (which is plugged) through an orifice. When the pressure in port 1 is higher than the load sense pressure in port 5, the spool moves against the spring and begins to open port 2 and allows excess flow to pass to the rest of the system. When the flow is no longer required through the controlled port and the load sense line falls, all of the oil will pass to the excess flow port 2.

SCHEMATIC



DIMENSIONS

mm [in]



Installation torque
A-108-122 Nm [80-90 ft. lbs]
S-136-149 Nm [100-110 ft. lbs]

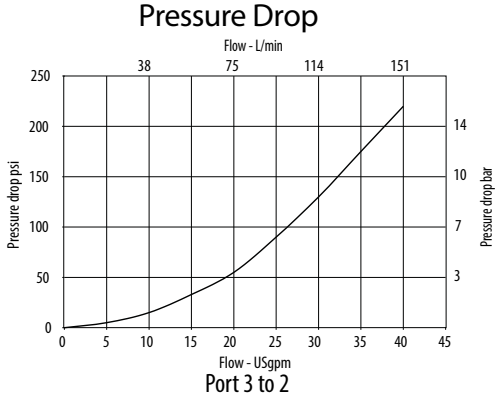
PERFORMANCE DATA

Rated pressure	**280 bar [4000 psi]**
Rated flow	**150 l/min [40 US gpm]**
Leakage	164 ml/min [10 in³/min] @ 210 bar [3000 psi]
Weight	0.47 kg [1.05 lb]
Cavity	C-16-5S

Note: Port 1 is unused and should be plugged.

Note: Minimum inlet flow should not be less than 1/4 maximum of inlet flow.

PERFORMANCE CURVES



MODEL CODE

PFRS - 16 - U - A - 12T - 080

Seal Option

Code	Seal kit
U-Urethane	202915-922

Housing Material

0 - No housing
A - Aluminum
S - Steel

Differential Pressure

Code	Bar	Psi
065	4.5	[65]
130	8.9	[130]
160	11.0	[160]

Housing

Code	Port 2, 3 & 4	Port 5	Aluminum	Steel
000	No housing			
12T	#12 SAE	#4 SAE	4994880-001	4994881-001
16T	#16 SAE	#4 SAE	4994880-002	4994881-002
06G	3/4" BSP	1/4" BSP	4994880-003	4994881-003
08G	1" BSP	1/4" BSP	4994880-004	4994881-004

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
PFRS-20

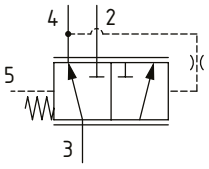
Pressure Compensator, Load Sense, Static, Priority Type

240 bar [3500 psi] • 230 l/min [60 US gpm]

DESCRIPTION AND OPERATION

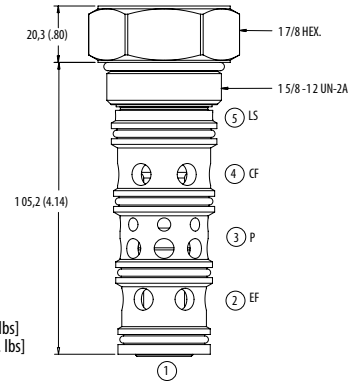
This is a 5-ported, static, priority load sense pressure compensator that supplies fluid on demand to an actuator or a steering valve. Flow passes from the inlet port 3 to the controlled flow port 4. Pressure in port 4 is connected to port 1 (which is plugged) through an orifice. When the pressure in port 1 is higher than the load sense pressure in port 5, the spool moves against the spring and begins to open port 2 and allows excess flow to pass to the rest of the system. When the flow is no longer required through the controlled port and the load sense line falls, all of the oil will pass to the excess flow port 2.

SCHEMATIC



DIMENSIONS

mm [in]



Installation torque
A-130-155 Nm [95-115 ft. lbs]
S-160-180 Nm [120-135 ft. lbs]

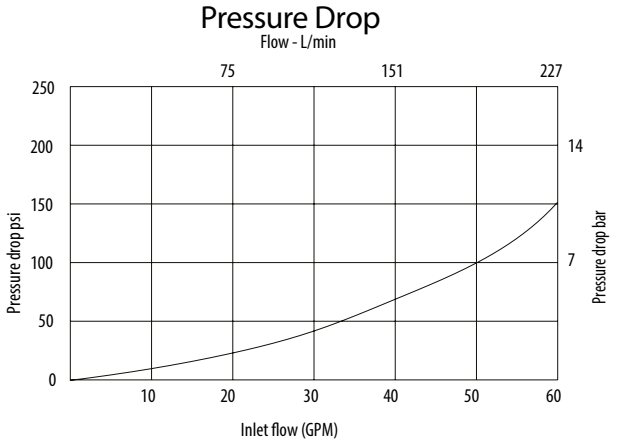
PERFORMANCE DATA

Rated pressure	**240 bar [3500 psi]**
Rated flow	**230 l/min [60 US gpm]**
Leakage	164 ml/min [10 in³/min] @ 210 bar [3000 psi]
Weight	0.86 kg [1.9 lb]
Cavity	C-20-5S

Note: Port 1 is unused and should be plugged.

Note: Minimum inlet flow should not be less than 1/4 maximum of inlet flow.

PERFORMANCE CURVES



Port 3 to 2

MODEL CODE

PFRS - 20 - U - A - 12T - 085

Differential Pressure

Code	Bar	Psi
080	5.5	[80]
100	6.9	[100]

Seal Option

Code	Seal kit
U-Urethane	02-187543

Housing Material

0 - No Housing
A - Aluminum
S - Steel

Housing

Code	Port 2, 3 & 4	Port 5	Aluminum	Steel
000	No housing			
12T	#12 SAE	#4 SAE	4998822-001	4998823-001
16T	#16 SAE	#4 SAE	4998822-002	4998823-002
06G	3/4" BSP	1/4" BSP	4998822-003	4998823-003
08G	1" BSP	1/4" BSP	4998822-004	4998823-004

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
PFRD-12

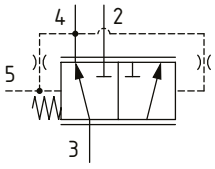
Pressure Compensator, Load Sense, Dynamic, Priority Type

280 bar [4000 psi] • 76 l/min [20 US gpm]

DESCRIPTION AND OPERATION

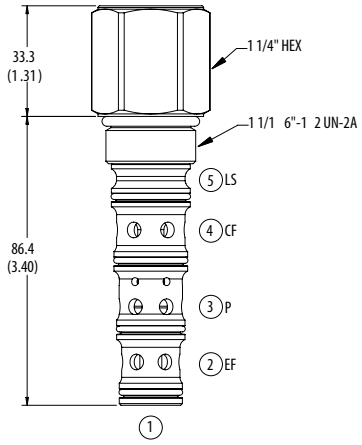
This is a 5-ported, dynamic, priority load sense pressure compensator that supplies fluid on demand to an actuator or a steering valve. Flow passes from the inlet port 3 to the controlled flow port 4. Pressure in port 4 is connected to port 1 (which is plugged) through an orifice and to port 5. When the pressure in port 1 is higher than the load sense pressure in port 5, the spool moves against the spring and begins to open port 2 and allows excess flow to pass to the rest of the system. When the flow is no longer required through the controlled port and the load sense line falls, all of the oil will pass to the excess flow port 2. Some oil will pass from port 5 to port 1, which provides additional stability to the system.

SCHEMATIC



DIMENSIONS

mm [in]



Installation torque
A-81-95 Nm [60-70 ft. lbs]
S-102-115 Nm [75-85 ft. lbs

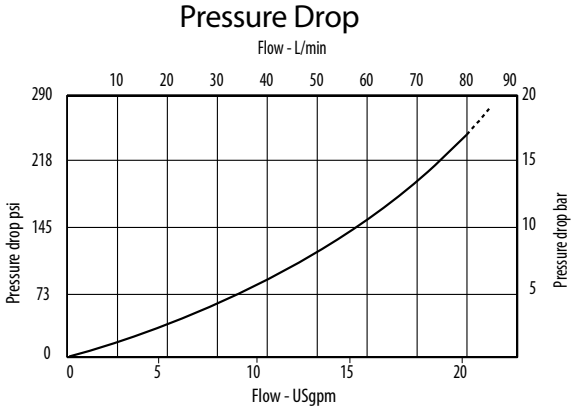
PERFORMANCE DATA

Rated pressure	**280 bar [4000 psi]**
Rated flow	**76 l/min [20 US gpm]**
Leakage	164 ml/min [10 in3/min] @ 210 bar [3000 psi]
Weight	0.36 kg [0.79 lb]
Cavity	C-12-5S

Note: Port 1 is unused and should be plugged.

Note: Minimum inlet flow should not be less than 1/4 maximum of inlet flow.

PERFORMANCE CURVES



Port 3 to 2

MODEL CODE

PFRD - 12 - U - A - 10T - 075

Seal Option

Code	Seal kit
U-Urethane	202914-921

Housing Material

0-No housing
A-Aluminum
S-Steel

Housing

Code	Port 2, 3 & 4	Port 5	Aluminum	Steel
000	No housing			
10T	#10 SAE	#4 SAE	4998820-001	4998821-001
12T	#12 SAE	#4 SAE	4998820-002	4998821-002
04G	1/2" BSP	1/4" BSP	4998820-003	4998821-003
06G	3/4" BSP	1/4" BSP	4998820-004	4998821-004

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
075	5.2	[75]
110	7.6	[110]
145	10.0	[145]

Logic Elements
PFRD-16

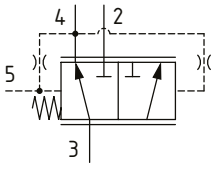
Pressure Compensator, Load Sense, Dynamic, Priority Type

280 bar [4000 psi] • 150 l/min [40 US gpm]

DESCRIPTION AND OPERATION

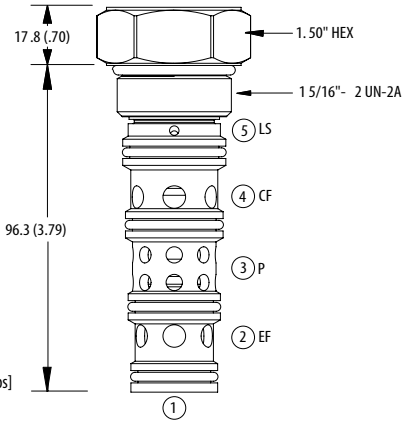
This is a 5-ported, dynamic, priority load sense pressure compensator that supplies fluid on demand to an actuator or a steering valve. Flow passes from the inlet port 3 to the controlled flow port 4. Pressure in port 4 is connected to port 1 (which is plugged) through an orifice and to port 5. When the pressure in port 1 is higher than the load sense pressure in port 5, the spool moves against the spring and begins to open port 2 and allows excess flow to pass to the rest of the system. When the flow is no longer required through the controlled port and the load sense line falls, all of the oil will pass to the excess flow port 2. Some oil will pass from port 5 to port 1, which provides additional stability to the system

SCHEMATIC



DIMENSIONS

mm [in]



Installation torque
A-108-122 Nm [80-90 ft. lbs]
S-136-149 Nm [100-110 ft. lbs]

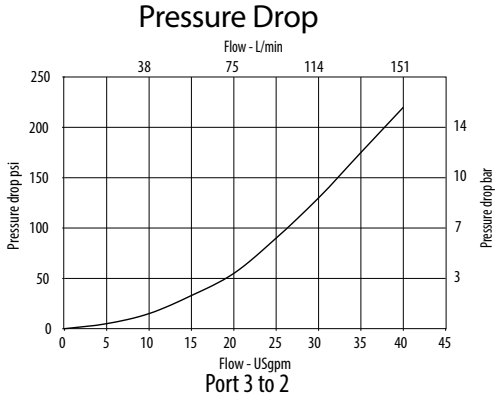
PERFORMANCE DATA

Rated pressure	**280 bar [4000 psi]**
Rated flow	**150 l/min [40 US gpm]**
Leakage	164 ml/min [10 in³/min] @ 210 bar [3000 psi]
Weight	0.47 kg [1.05 lb]
Cavity	C-16-5S

Note: Port 1 is unused and should be plugged.

Note: Minimum inlet flow should not be less than 1/4 maximum of inlet flow.

PERFORMANCE CURVES



MODEL CODE

PFRD - 16 - U - A - 12T - 080

Basic Code

PFRS - Static signal
PFRD- Dynamic signal

Seal Option

Code	Seal kit
U-Urethane	202915-922

Housing Material

0 - No housing
A - Aluminum
S - Steel

Differential Pressure

Code	Bar	Psi
080	5.5	[80]
110	7.6	[110]
130	9.0	[130]

Housing

Code	Port 2, 3 & 4	Port 5	Aluminum	Steel
000	No housing			
12T	#12 SAE	#4 SAE	4994880-001	4994881-001
16T	#16 SAE	#4 SAE	4994880-002	4994881-002
06G	3/4" BSP	1/4" BSP	4994880-003	4994881-003
08G	1" BSP	1/4" BSP	4994880-004	4994881-004

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
PFRD-20

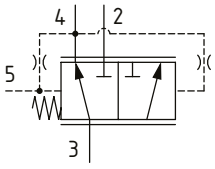
Pressure Compensator, Load Sense, Dynamic, Priority Type

240 bar [3500 psi] • 230 l/min [60 US gpm]

DESCRIPTION AND OPERATION

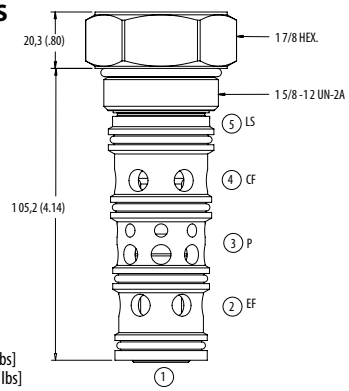
This is a 5-ported, dynamic, priority load sense pressure compensator that supplies fluid on demand to an actuator or a steering valve. Flow passes from the inlet port 3 to the controlled flow port 4. Pressure in port 4 is connected to port 1 (which is plugged) through an orifice and to port 5. When the pressure in port 1 is higher than the load sense pressure in port 5, the spool moves against the spring and begins to open port 2 and allows excess flow to pass to the rest of the system. When the flow is no longer required through the controlled port and the load sense line falls, all of the oil will pass to the excess flow port 2. Some oil will pass from port 5 to port 1, which provides additional stability to the system.

SCHEMATIC



DIMENSIONS

mm [in]



Installation torque
A-130-155 Nm [95-115 ft. lbs]
S-160-180 Nm [120-135 ft. lbs]

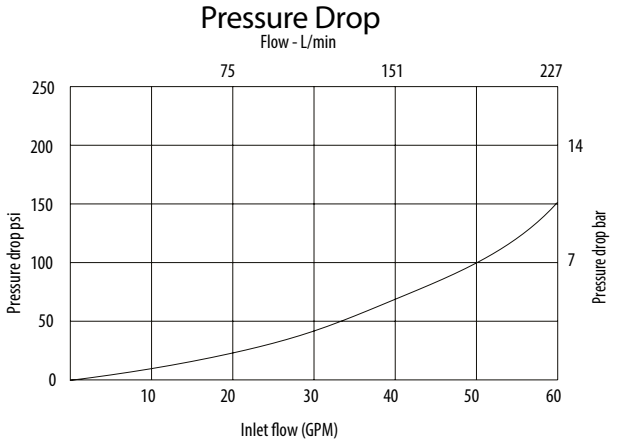
PERFORMANCE DATA

Rated pressure	**240 bar [3500 psi]**
Rated flow	**230 l/min [60 US gpm]**
Leakage	164 ml/min [10 in³/min] @ 210 bar [3000 psi]
Weight	0.86 kg [1.9 lb]
Cavity	C-20-5S

Note: Port 1 is unused and should be plugged.

Note: Minimum inlet flow should not be less than 1/4 maximum of inlet flow.

PERFORMANCE CURVES



Port 3 to 2

MODEL CODE

PFRD - 20 - U - A - 12T - 085

Basic Code
PFRS - Static signal
PFRD- Dynamic signal

Seal Option

Code	Seal kit
U-Urethane	02-187543

Housing Material
0 - No Housing
A - Aluminum
S - Steel

Differential Pressure

Code	Bar	Psi
085	5.9	[85]
110	7.6	[110]

Housing

Code	Port 2, 3 & 4	Port 5	Aluminum	Steel
000	No housing			
12T	#12 SAE	#4 SAE	4998822-001	4998823-001
16T	#16 SAE	#4 SAE	4998822-002	4998823-002
06G	3/4" BSP	1/4" BSP	4998822-003	4998823-003
08G	1" BSP	1/4" BSP	4998822-004	4998823-004

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
DPS2-10-B

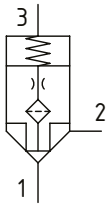
Logic Element, Normally Closed, Poppet Type, Vent to Open

350 bar [5000 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

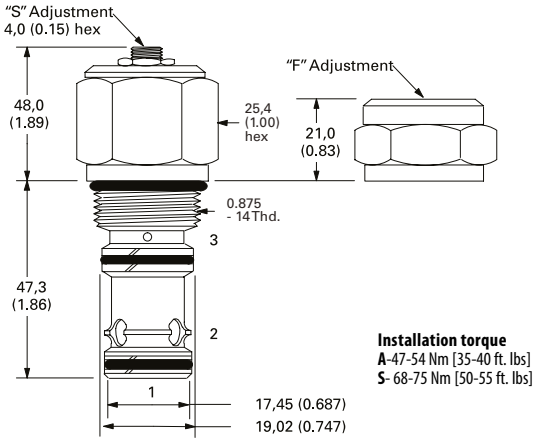
This is a 3-ported, vent to open, poppet type logic element with port 1 connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 or from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2, but flow can still take place from port 2 to port 1. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 and 2 is also 1:2. By controlling the flow or pressure out of port 3, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

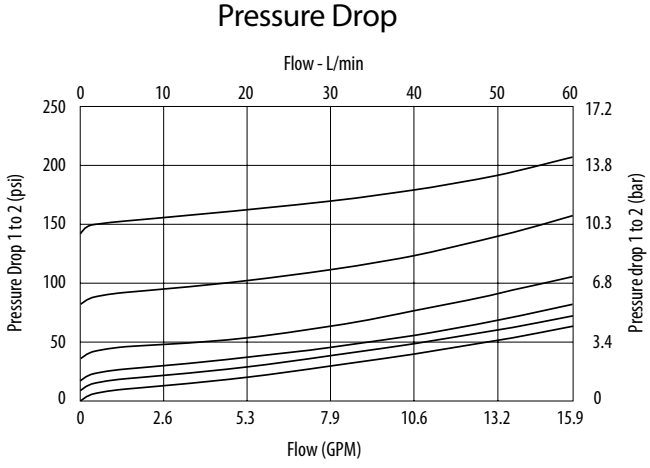
mm [in]



PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**60 l/min [16 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.14 kg [0.30 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 10 - V - B - F - A - 3G - 040

Seal Option

Code	Seal kit
Omit-Buna - N	889650
V-Viton	889652

Adjustment Option

F- Fixed
S- Stroke Adjustments

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
2G	1/4" BSP	1/4" BSP	876707	
3G	3/8" BSP	1/4" BSP	876710	02–163313
4G	1/2" BSP	1/4" BSP		02–163324
6H	#6 SAE	#6 SAE	876706	
8H	#8 SAE	#6 SAE	876712	
6T	#6 SAE	#6 SAE		02–171961
8T	#8 SAE	#6 SAE		02–163322
10T	#10 SAE	#6 SAE		02–163323

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5]
010	0.7	[10]
020	1.40	[20]
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

Logic Elements
DPS2-12-B

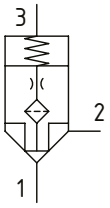
Logic Element, Normally Closed, Poppet Type, Vent to Open

350 bar [5000 psi] • 114 l/min [30 US gpm]

DESCRIPTION AND OPERATION

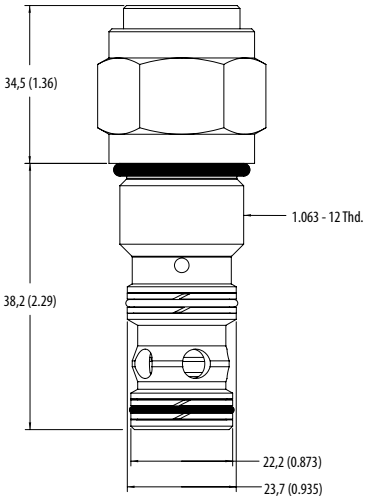
This is a 3-ported, vent to open, poppet type logic element with port 1 connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 or from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2, but flow can still take place from port 2 to port 1. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 and 2 is also 1:2. By controlling the flow or pressure out of port 3, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

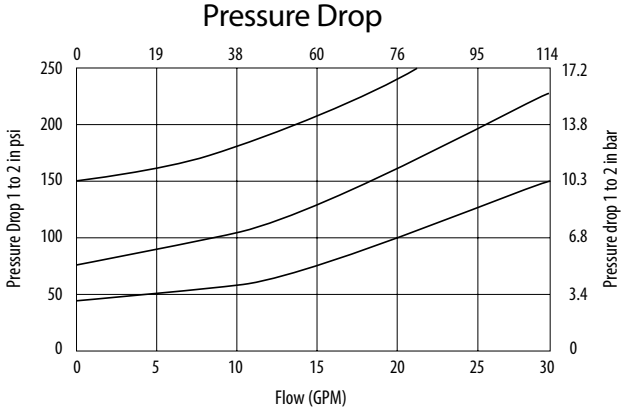


Installation torque
A-81-95 Nm [60-70 ft. lbs]
S-102-115 Nm [75-85 ft. lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**114 l/min [30 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.31 kg [0.68 lb]
Cavity	C-12-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 12 - V - B - F - A - 10T - 040

Seal Option

Code	Seal kit
Omit-Buna - N	02-165872
V-Viton	02-165886

Adjustment Option

F- Fixed

Housing Material

Omit - No housing
A - Aluminum
S - Steel

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

Housing

Code	Port 1 & 2	Port 3	Aluminium Heavy duty	Steel
0	No housing			
10T	#10 SAE	#6 SAE	02-178268	02-160996
12T	#12 SAE	#6 SAE	02-178269	02-160997
4G	1/2" BSP	3/8" BSP	02-178270	02-160994
6G	3/4" BSP	3/8" BSP	02-178271	02-160995

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
DPS2-16-B

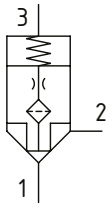
Logic Element, Normally Closed, Poppet Type, Vent to Open

350 bar [5000 psi] • 189 l/min [50 US gpm]

DESCRIPTION AND OPERATION

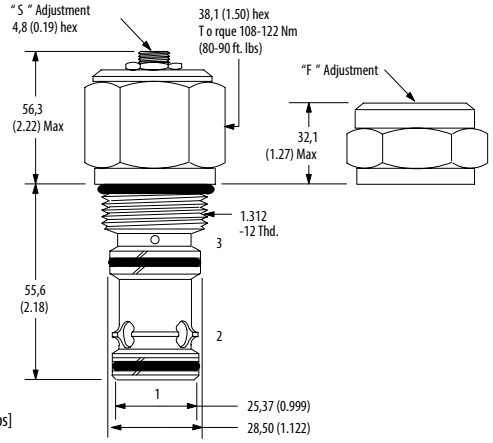
This is a 3-ported, vent to open, poppet type logic element with port 1 connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 or from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2, but flow can still take place from port 2 to port 1. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 and 2 is also 1:2. By controlling the flow or pressure out of port 3, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

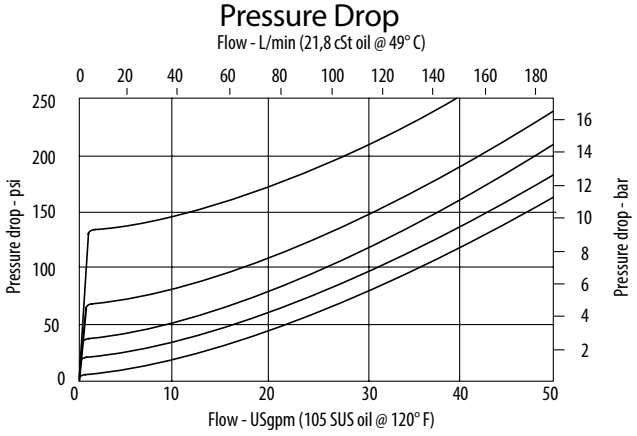


Installation torque
A-108-122 Nm [80-90 ft. lbs]
S-136-149 Nm [100-110 ft. lbs]

PERFORMANCE DATA

Rated pressure (AA option only)	**350 bar [5000 psi]**
Rated Pressure (standard)	210 bar [3000 psi]
Rated flow	**189 l/min [50 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.35 kg [0.78 lb]
Cavity	SDC16-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 16 - V - B - A - 4G - F - 040 - AA

Seal Option

Code	Seal kit
Omit-Buna - N	889659
V-Viton	02-165871

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
4G	1/2" BSP	3/8" BSP	02-160676	02–175118
6G	3/4" BSP	3/8" BSP	876726	02–175119
10H	#10 SAE	#6 SAE	876725	
12H	#12 SAE	#6 SAE	786727	
10T	#10 SAE	#6 SAE		02–175116
12T	#12 SAE	#6 SAE		02–175117

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Rated Pressure

Omit-210 bar [3000 psi]
AA-350 bar [5000 psi]

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

Adjustment Option

F- Fixed
S- Stroke Adjustment

Logic Elements
DPS2-20-B

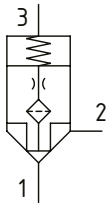
Logic Element, Normally Closed, Poppet Type, Vent to Open

350 bar [5000 psi] • 303 l/min [80 US gpm]

DESCRIPTION AND OPERATION

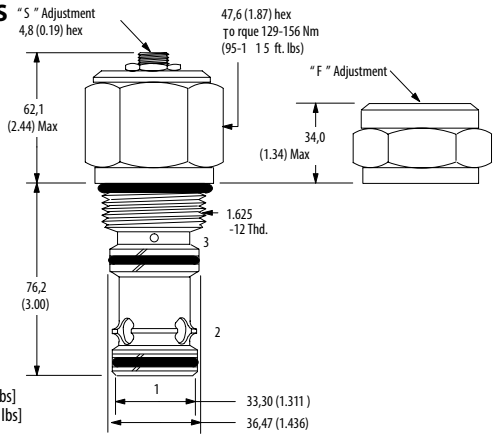
This is a 3-ported, vent to open, poppet type logic element with port 1 connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 or from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2, but flow can still take place from port 2 to port 1. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 and 2 is also 1:2. By controlling the flow or pressure out of port 3, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



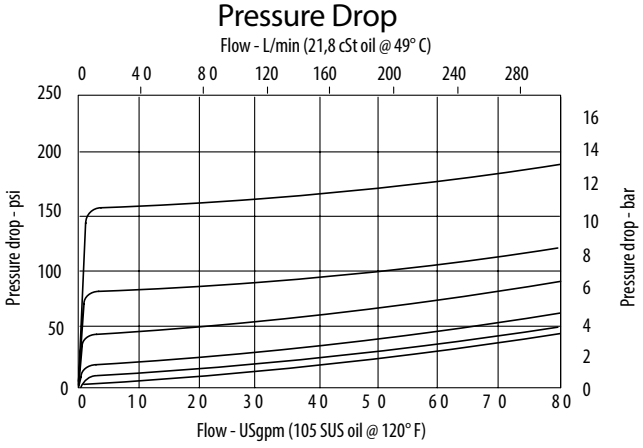
DIMENSIONS

mm [in]



Installation torque
A-130-155 Nm [95-115 ft. lbs]
S-160-180 Nm [120-135 ft. lbs]

PERFORMANCE CURVES



PERFORMANCE DATA

Rated pressure (AA option only)	**350 bar [5000 psi]**
Rated Pressure (standard)	210 bar [3000 psi]
Rated flow	**303 l/min [80 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.81 kg [1.78 lb]
Cavity	C-20-3S

MODEL CODE

DPS2 - 20 - V - B - A - 6G - F - 040 - AA

Seal Option

Code	Seal kit
Omit-Buna - N	02-113153
V-Viton	02-112969

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
6G	3/4" BSP	3/8" BSP	876740	02–175122
8G	1" BSP	3/8" BSP	876742	02–175123
12H	#12 SAE	#6 SAE	876741	
16H	#16 SAE	#6 SAE	876743	
12T	#12 SAE	#6 SAE		02–175120
16T	#16 SAE	#6 SAE		02–175121

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

Adjustment Option

F- Fixed
S- Stroke Adjustment

Rated Pressure

Omit - 210 bar [3000 psi]
AA - 350 bar [5000 psi]

Logic Elements
DPS2-10-S

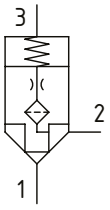
Logic Element, Normally Closed, Poppet Type, Vent to Open

350 bar [5000 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

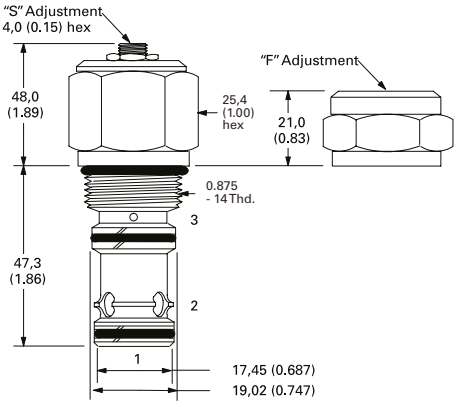
This is a 3-ported, vent to open, poppet type logic element with port 2 connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 or from port 2 to port 1.
Closing port 3 will prevent the valve from opening from port 2 to port 1, but flow can still take place from port 1 to port 2. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 to 2 is also 1:2.
By controlling the flow or pressure out of port 3, the valve can be used as an on/ off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

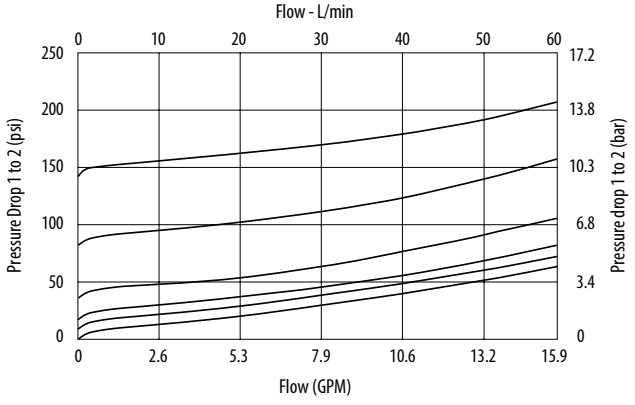


Installation torque
A-47-54 Nm [35-40 ft. lbs]
S-68-75 Nm [50-55 ft. lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**60 l/min [16 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.14 kg [0.30 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 10 - V - S - F - A - 3G - 040

Seal Option

Code	Seal kit
Omit-Buna - N	889650
V-Viton	889652

Adjustment Option

F- Fixed
S- Stroke Adjustments

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
2G	1/4" BSP	1/4" BSP	876707	
3G	3/8" BSP	1/4" BSP	876710	02–163313
4G	1/2" BSP	1/4" BSP		02–163324
6H	#6 SAE	#6 SAE	876706	
8H	#8 SAE	#6 SAE	876712	
6T	#6 SAE	#6 SAE		02–171961
8T	#8 SAE	#6 SAE		02–163322
10T	#10 SAE	#6 SAE		02–163323

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5]
010	0.7	[10]
020	1.40	[20]
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

Logic Elements
DPS2-12-S

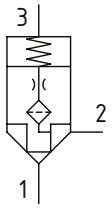
Logic Element, Normally Closed, Poppet Type, Vent to Open

350 bar [5000 psi] • 114 l/min [30 US gpm]

DESCRIPTION AND OPERATION

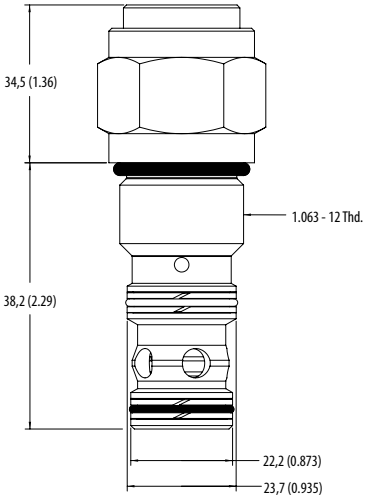
This is a 3-ported, vent to open, poppet type logic element with port 2 connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 or from port 2 to port 1.
Closing port 3 will prevent the valve from opening from port 2 to port 1, but flow can still take place from port 1 to port 2. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 to 2 is also 1:2.
By controlling the flow or pressure out of port 3, the valve can be used as an on/ off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

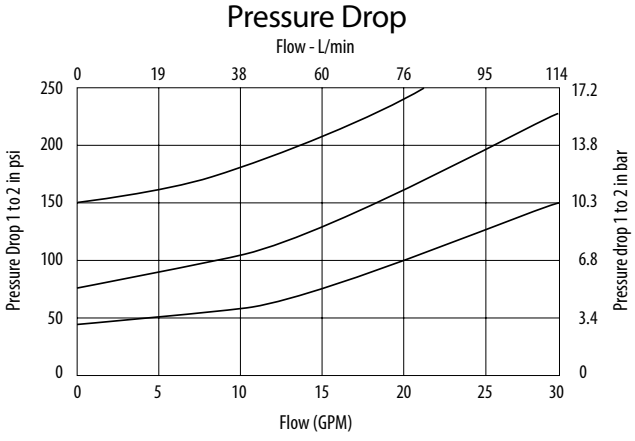


Installation torque
A-81-95 Nm [60-70 ft. lbs]
S-102-115 Nm [75-85 ft. lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**114 l/min [30 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.31 kg [0.68 lb]
Cavity	C-12-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 12 - V - S - F - A - 10T - 040

Seal Option

Code	Seal Kit
Omit-Buna - N	02-165872
V-Viton	02-165886

Adjustment Option

F- Fixed

Housing Material

Omit- No housing
A- Aluminum
S- Steel

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

Housing

Code	Port 1 & 2	Port 3	Aluminium Heavy duty	Steel
0	No housing			
10T	#10 SAE	#6 SAE	02-178268	02-160996
12T	#12 SAE	#6 SAE	02-178269	02-160997
4G	1/2" BSP	3/8" BSP	02-178270	02-160994
6G	3/4" BSP	3/8" BSP	02-178271	02-160995

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
DPS2-16-S

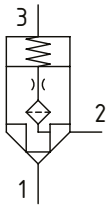
Logic Element, Normally Closed, Poppet Type, Vent to Open

350 bar [5000 psi] • 189 l/min [50 US gpm]

DESCRIPTION AND OPERATION

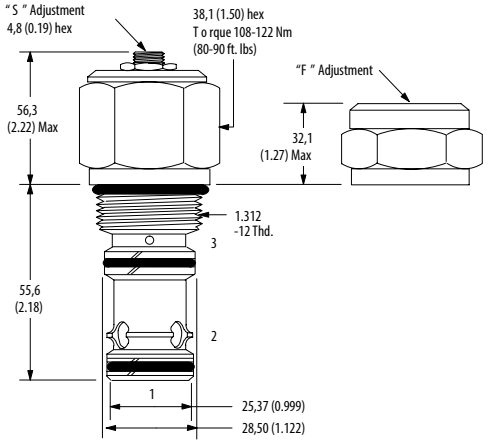
This is a 3-ported, vent to open, poppet type logic element with port 2 connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 or from port 2 to port 1.
Closing port 3 will prevent the valve from opening from port 2 to port 1, but flow can still take place from port 1 to port 2. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 to 2 is also 1:2. By controlling the flow or pressure out of port 3, the valve can be used as an on/ off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

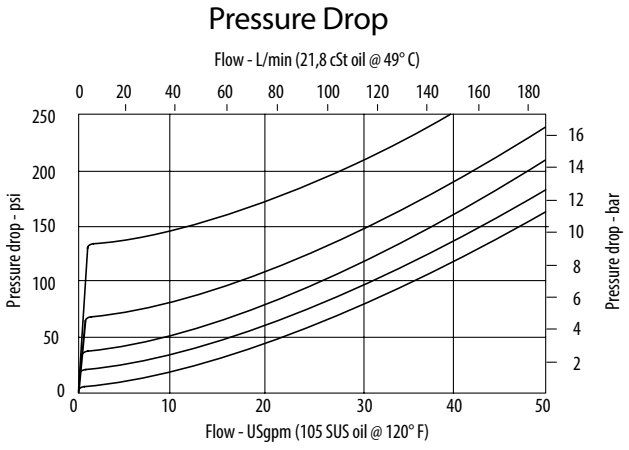
mm [in]



PERFORMANCE DATA

Rated pressure (AA option only)	**350 bar [5000 psi]**
Rated Pressure (standard)	210 bar [3000 psi]
Rated flow	**189 l/min [50 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.35 kg [0.78 lb]
Cavity	SDC16-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 16 - V - S - A - 4G - F - 040 - AA

Seal Option

Code	Seal Kits
Omit-Buna - N	889659
V-Viton	02-165871

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
4G	1/2" BSP	3/8" BSP	02-160676	02–175118
6G	3/4" BSP	3/8" BSP	876726	02–175119
10H	#10 SAE	#6 SAE	876725	
12H	#12 SAE	#6 SAE	786727	
10T	#10 SAE	#6 SAE		02–175116
12T	#12 SAE	#6 SAE		02–175117

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Rated Pressure

Omit - 210 bar [3000 psi]
AA - 350 bar [5000 psi]

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

Adjustment Option

F- Fixed
S- Stroke Adjustment

Logic Elements
DPS2-20-S

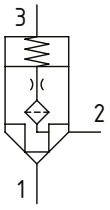
Logic Element, Normally Closed, Poppet Type, Vent to Open

350 bar [5000 psi] • 303 l/min [80 US gpm]

DESCRIPTION AND OPERATION

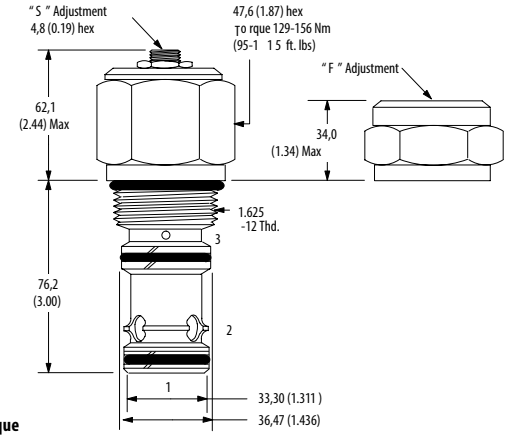
This is a 3-ported, vent to open, poppet type logic element with port 2 connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 or from port 2 to port 1.
Closing port 3 will prevent the valve from opening from port 2 to port 1, but flow can still take place from port 1 to port 2. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 to 2 is also 1:2.
By controlling the flow or pressure out of port 3, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

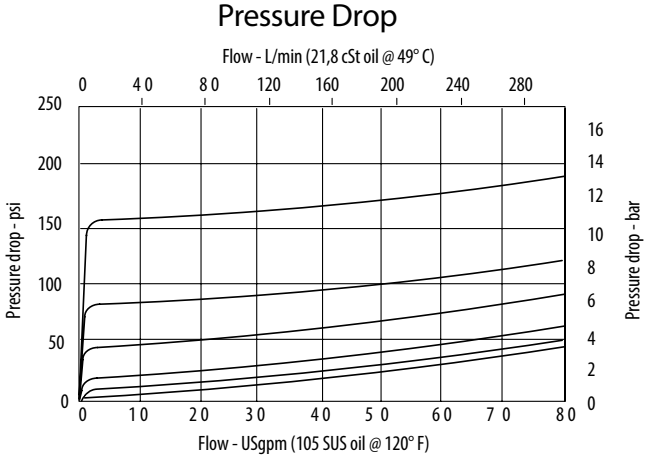


Installation torque
A-130-155 Nm [95-115 ft. lbs]
S-160-180 Nm [120-135 ft. lbs]

PERFORMANCE DATA

Rated pressure (AA option only)	**350 bar [5000 psi]**
Rated pressure (standard)	210 bar [3000 psi]
Rated flow	**303 l/min [80 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.81 kg [1.78 lb]
Cavity	C-20-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 20 - V - S - A - 8G - F - 040 - AA

Seal Option

Code	Seal kit
Omit-Buna - N	02-113153
V-Viton	02-112969

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
6G	3/4" BSP	3/8" BSP	876740	02–175122
8G	1" BSP	3/8" BSP	876742	02–175123
12H	#12 SAE	#6 SAE	876741	
16H	#16 SAE	#6 SAE	876743	
12T	#12 SAE	#6 SAE		02–175120
16T	#16 SAE	#6 SAE		02–175121

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Rated Pressure

Omit - 210 bar [3000 psi]
AA - 350 bar [5000 psi]

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

Adjustment Option

F- Fixed
S- Stroke Adjustment

Logic Elements
VLP 12/P2

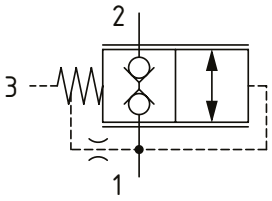
Logic Element Poppet, Double Blocking Closed, Vent to Open

315 bar [4600 psi] • 160 l/min [42 US gpm]

DESCRIPTION AND OPERATION

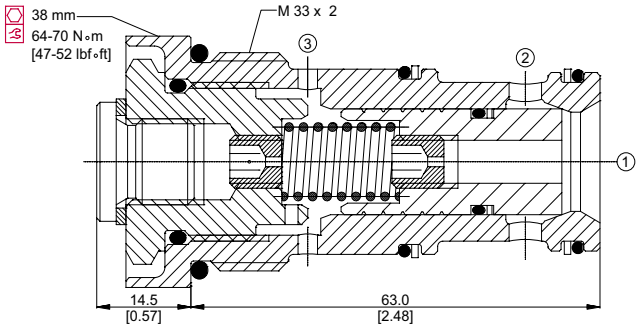
This is a 3-ported, normally closed, double blocking poppet type logic element, with port 1 connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 but not from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2. The area ratio between port 1 and 3 is 1 to 1 and port 2 is balanced between the seat diameter and the seal poppet diameter. By controlling the flow or pressure out of port 3 the valve can be used as an on/ off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

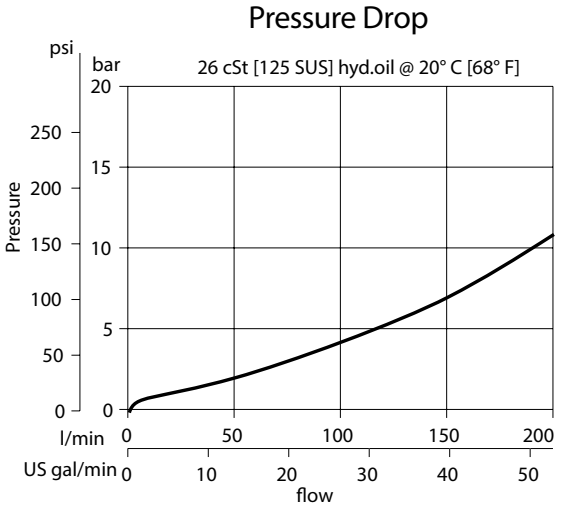
mm [in]



PERFORMANCE DATA

Rated pressure	**315 bar [4600 psi]**
Rated flow	**160 l/min [42 US gpm]**
Differential Pressure	2 bar [29 psi]
Weight	0.30 kg [0.66 lb]
Cavity	NCS12/3

PERFORMANCE CURVES



MODEL CODE

VLP 12/P2 - B - SE8S - V

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
SE1/2	AL, 1/2 BSP	NCS12/3-SE-1/2
SE3/4	AL, 3/4 BSP	NCS12/3-SE-3/4
SE8S	AL, #8 SAE	NCS12/3-SE-8S
SE12S	AL, #12 SAE	NCS12/3-SE-12S

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Seal Option

Code	Seal kit
Omit-Buna - N	230000130
V-Viton	230000360

Logic Elements
DPS2-10-T

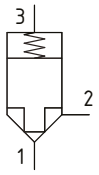
Logic Element, Normally Closed, Poppet Type, Pilot to Close

350 bar [5000 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

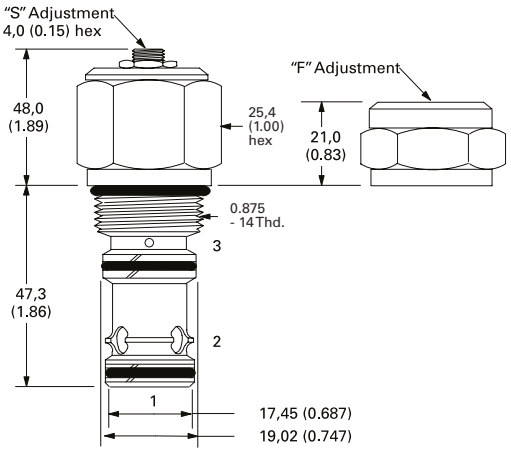
This is a 3-ported, normally closed, pilot to close, poppet type logic element. By opening port 3 to tank, flow can pass from port 2 to port 1 or from port 1 to port 2. Applying pressure to port 3 will prevent the valve from opening in either direction. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 to 2 is also 1:2. By controlling the pressure in port 3 the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

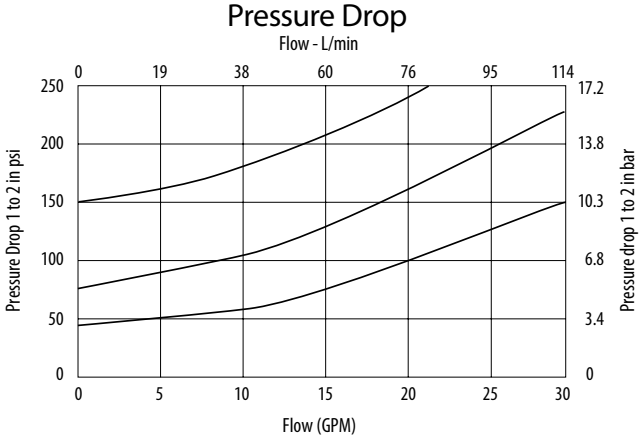
mm [in]



PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**60 l/min [16 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.14 kg [0.30 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 10 - V - T - F - A - 2G - 040

Seal Option

Code	Seal kit
Omit-Buna - N	889650
V-Viton	889652

Adjustment Option

F- Fixed
S- Stroke Adjustments

Housing Material

Omit- No housing
A- Aluminum
S- Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
2G	1/4" BSP	1/4" BSP	876707	
3G	3/8" BSP	1/4" BSP	876710	02–163313
4G	1/2" BSP	1/4" BSP		02–163324
6H	#6 SAE	#6 SAE	876706	
8H	#8 SAE	#6 SAE	876712	
6T	#6 SAE	#6 SAE		02–171961
8T	#8 SAE	#6 SAE		02–163322
10T	#10 SAE	#6 SAE		02–163323

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5]
010	0.7	[10]
020	1.40	[20]
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

Logic Elements
DPS2-12-T

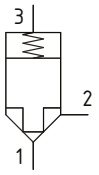
Logic Element, Normally Closed, Poppet Type, Pilot to Close

350 bar [5000 psi] • 114 l/min [30 US gpm]

DESCRIPTION AND OPERATION

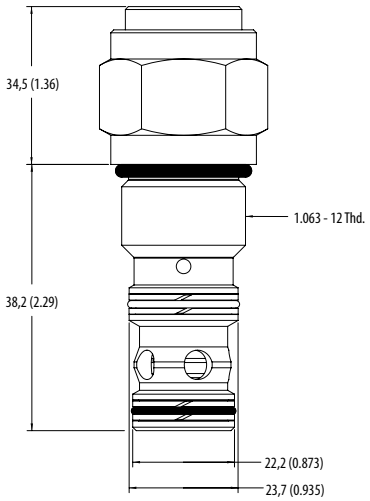
This is a 3-ported, normally closed, pilot to close, poppet type logic element. By opening port 3 to tank, flow can pass from port 2 to port 1 or from port 1 to port 2. Applying pressure to port 3 will prevent the valve from opening in either direction. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 to 2 is also 1:2. By controlling the pressure in port 3 the valve can be used as an on/ off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

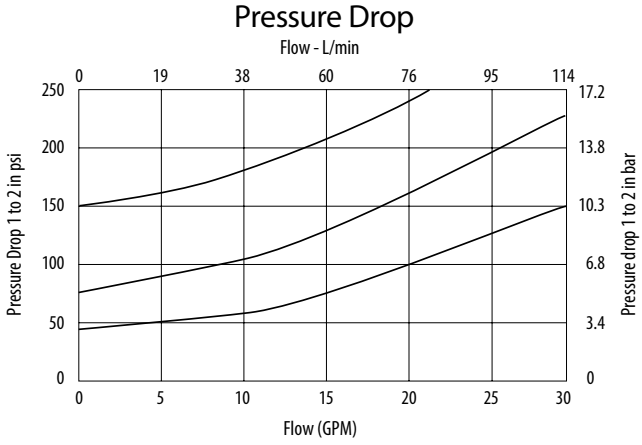


Installation torque
A-81-95 Nm [60-70 ft. lbs]
S-102-115 Nm [75-85 ft. lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**114 l/min [30 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.31 kg [0.68 lb]
Cavity	C-12-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 12 - V - T - F - A - 10T - 040

Seal Option

Code	Seal kit
Omit-Buna - N	02-165872
V-Viton	02-165886

Adjustment Option

F- Fixed

Housing Material

Omit - No housing
A - Aluminum
S - Steel

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

Housing

Code	Port 1 & 2	Port 3	Aluminium Heavy duty	Steel
0	No housing			
10T	#10 SAE	#6 SAE	02-178268	02-160996
12T	#12 SAE	#6 SAE	02-178269	02-160997
4G	1/2" BSP	3/8" BSP	02-178270	02-160994
6G	3/4" BSP	3/8" BSP	02-178271	02-160995

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
DPS2-16-T

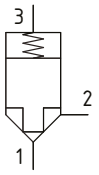
Logic Element, Normally Closed, Poppet Type, Pilot to Close

350 bar [5000 psi] • 189 l/min [50 US gpm]

DESCRIPTION AND OPERATION

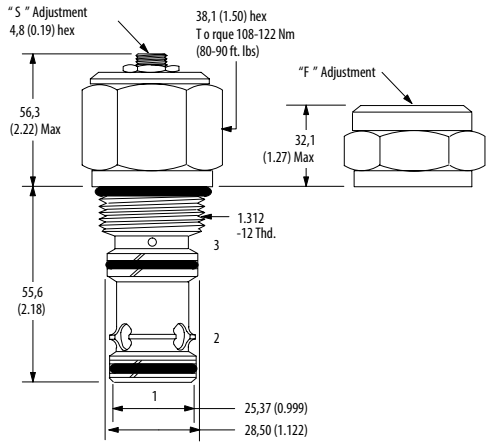
This is a 3-ported, normally closed, pilot to close, poppet type logic element. By opening port 3 to tank, flow can pass from port 2 to port 1 or from port 1 to port 2. Applying pressure to port 3 will prevent the valve from opening in either direction. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 to 2 is also 1:2. By controlling the pressure in port 3 the valve can be used as an on/ off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

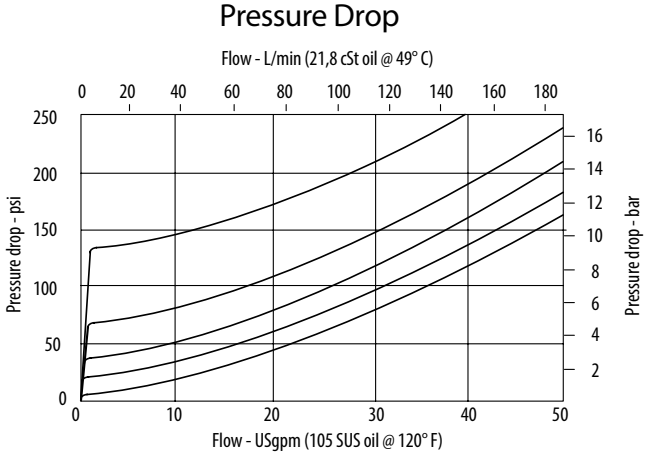


Installation torque
A-108-122 Nm [80-90 ft. lbs]
S-136-149 Nm [100-110 ft. lbs]

PERFORMANCE DATA

Rated pressure (AA option only)	**350 bar [5000 psi]**
Rated Pressure (standard)	210 bar [3000 psi]
Rated flow	**189 l/min [50 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.35 kg [0.78 lb]
Cavity	SDC16-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 16 - V - T - A - 4G - F - 040 - AA

Seal Option

Code	Seal kit
Omit-Buna - N	889659
V-Viton	02-165871

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
4G	1/2" BSP	3/8" BSP	02-160676	02–175118
6G	3/4" BSP	3/8" BSP	876726	02–175119
10H	#10 SAE	#6 SAE	876725	
12H	#12 SAE	#6 SAE	786727	
10T	#10 SAE	#6 SAE		02–175116
12T	#12 SAE	#6 SAE		02–175117

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Rated Pressure

Omit - 210 bar [3000 psi]
AA - 350 bar [5000 psi]

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

Adjustment Option

F- Fixed
S- Stroke Adjustment

Logic Elements
DPS2-20-T

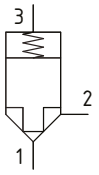
Logic Element, Normally Closed, Poppet Type, Pilot to Close

350 bar [5000 psi] • 303 l/min [80 US gpm]

DESCRIPTION AND OPERATION

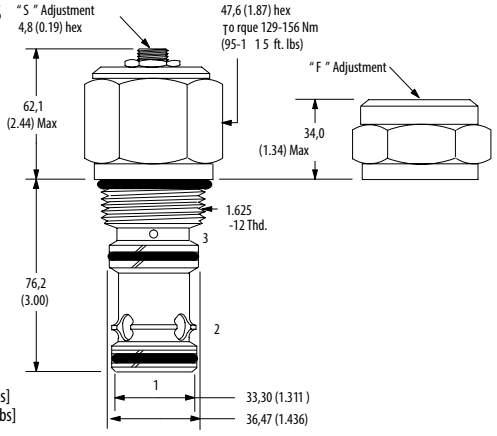
This is a 3-ported, normally closed, pilot to close, poppet type logic element. By opening port 3 to tank, flow can pass from port 2 to port 1 or from port 1 to port 2. Applying pressure to port 3 will prevent the valve from opening in either direction. The area ratio between port 1 and 3 is 1:2 and the ratio between port 1 to 2 is also 1:2. By controlling the pressure in port 3 the valve can be used as an on/ off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

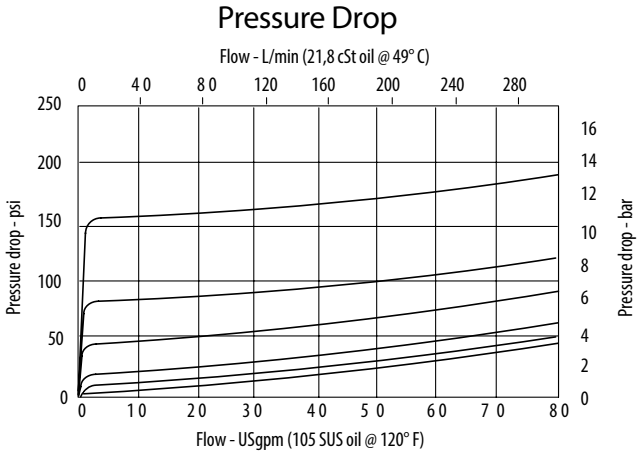


Installation torque
A-130-155 Nm [95-115 ft. lbs]
S-160-180 Nm [120-135 ft. lbs]

PERFORMANCE DATA

Rated pressure (AA option only)	**350 bar [5000 psi]**
Rated Pressure (standard)	210 bar [3000 psi]
Rated flow	**303 l/min [80 US gpm]**
Pilot Ratio	2:1
Leakage	5 drops/min @ 350 bar [5000 psi]
Weight	0.81 kg [1.78 lb]
Cavity	C-20-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 20 - V - T - A - 8G - F - 040 - AA

Seal Option

Code	Seal kit
Omit-Buna - N	02-113153
V-Viton	02-112969

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
6G	3/4" BSP	3/8" BSP	876740	02–175122
8G	1" BSP	3/8" BSP	876742	02–175123
12H	#12 SAE	#6 SAE	876741	
16H	#16 SAE	#6 SAE	876743	
12T	#12 SAE	#6 SAE		02–175120
16T	#16 SAE	#6 SAE		02–175121

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

Adjustment Option

F- Fixed
S- Stroke Adjustment

Rated Pressure

Omit - 210 bar [3000 psi]
AA - 350 bar [5000 psi]

Logic Elements
DPS2-8-P

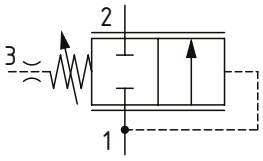
Logic Element, Normally Closed, Spool Type, Pilot to Close

350 bar [5000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

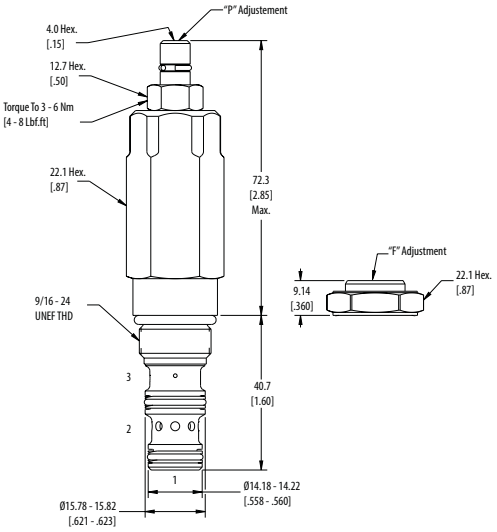
This is a 3-ported, normally closed, pilot to close spool type logic element. By opening port 3 to tank, flow can pass from port 1 to port 2. Flow is blocked from port 1 to port 2 unless the pressure is high enough in port 1 to overcome the spring set pressure. Applying pressure to port 3 will increase the pressure required in port 1 to open the valve by a factor of 1 to 1. This valve is ideal for use as a pressure compensator, bypass valve, or a pilot to close valve in regenerative circuits.

SCHEMATIC



DIMENSIONS

mm [in]

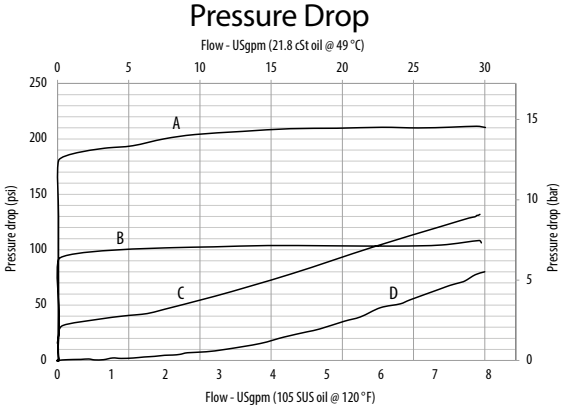


Installation torque
34-41 Nm [25-30 ft lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**30 l/min [8 US gpm]**
Leakage	82 ml/min [5 in³/min] @ 350 bar [5000 psi]
Weight	0.07 kg [0.16 lb]
Cavity	SDC08-3

PERFORMANCE CURVES



A - 160 PSI • **B** - 80 PSI • **C** - 40 PSI • **D** - Without Spring

MODEL CODE

DPS2 - 8 - V - P - A - 4T - F - 040

Seal Option

Code	Seal kit
Omit-Buna - N	02-160755
V-Viton	02-160756

Housing Material

Omit - No housing
A - Aluminum
S - Steel

Housing

Code	Port size	Aluminum	Steel
0	No housing		
4T	#4 SAE	02-160741	02-160745
6T	#6 SAE	02-160742	02-160746
2G	1/4" BSP	02-160739	02-160743
3G	3/8" BSP	02-160740	02-160744

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]
300	5.5-20.7	[80-300]*

* Only for "P" Adjustment pressure setting, factory set at Max pressure.

Adjustment Option

F- Fixed
P- Pressure Adjustment

Logic Elements
CP700-1

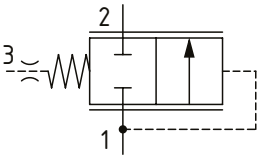
Logic Element, Normally Closed, Spool Type, Pilot to Close

210 bar [3000 psi] • 50 l/min [13 US gpm]

DESCRIPTION AND OPERATION

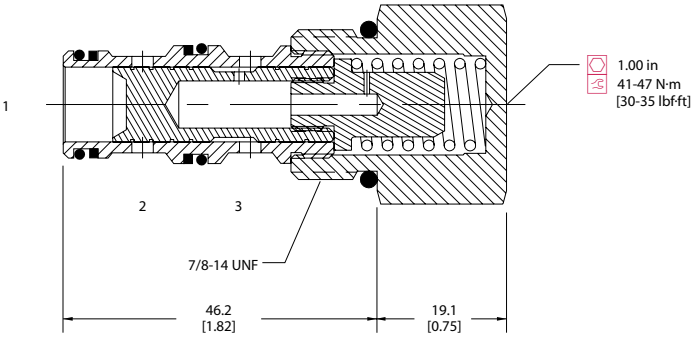
This is a 3-ported, normally closed, pilot to close spool type logic element. By opening port 3 to tank, flow can pass from port 1 to port 2. Flow is blocked from port 1 to port 2 unless the pressure is high enough in port 1 to overcome the spring set pressure. Applying pressure to port 3 will increase the pressure required in port 1 to open the valve by a factor of 1 to 1. This valve is ideal for use as a pressure compensator, bypass valve, or a pilot to close valve in regenerative circuits.

SCHEMATIC



DIMENSIONS

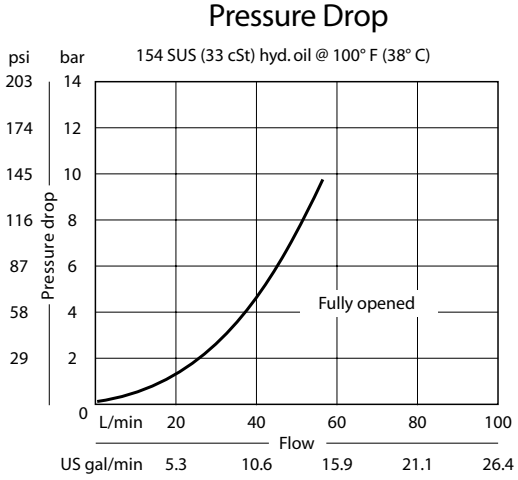
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**50 l/min [13 US gpm]**
Weight	0.12 kg [0.27 lb]
Cavity	SDC10-3

PERFORMANCE CURVES



MODEL CODE

CP700 - 1 - B - 8S - 080

Seal Option

Code	Seal kit
B-Buna - N	120027
V-Viton	120028

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
SE3B	AL, 3/8 BSP	SDC10-3-SE-3B
SE4B	AL, 1/2 BSP	SDC10-3-SE-4B
6S	AL, #6 SAE	CP10-3-6S
8S	AL, #8 SAE	CP10-3-8S

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.8	[40]
080	5.5	[80]
110	7.6	[110]
150	10.3	[150]
190	13.1	[190]

Logic Elements
DPS2-10-P

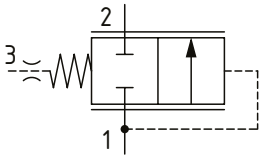
Logic Element, Normally Closed, Spool Type, Pilot to Close

290 bar [4200 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

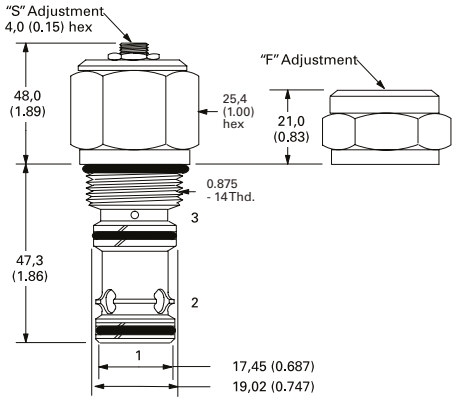
This is a 3-ported, normally closed, pilot to close spool type logic element. By opening port 3 to tank, flow can pass from port 1 to port 2. Flow is blocked from port 1 to port 2 unless the pressure is high enough in port 1 to overcome the spring set pressure. Applying pressure to port 3 will increase the pressure required in port 1 to open the valve by a factor of 1 to 1. This valve is ideal for use as a pressure compensator, bypass valve, or a pilot to close valve in regenerative circuits.

SCHEMATIC



DIMENSIONS

mm [in]

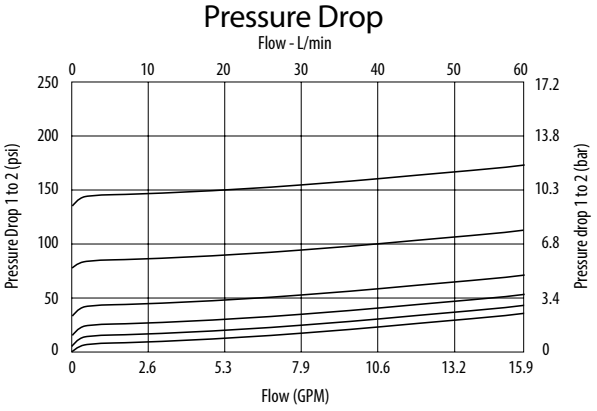


Installation torque
A-47-54 Nm [35-40 ft. lbs]
S-68-75 Nm [50-55 ft. lbs]

PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**60 l/min [16 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 290 bar [4200 psi]
Weight	0.14 kg [0.30 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 10 - V - P - F - A - 3G - 005

Seal Option

Code	Seal kit
Omit-Buna - N	889650
V-Viton	889652

Adjustment Option

F- Fixed
S- Stroke Adjustment

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Differential Pressure

Code	Bar	Psi
005	0.35	[5]*
010	0.7	[10]*
020	1.40	[20]*
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
2G	1/4" BSP	1/4" BSP	876707	
3G	3/8" BSP	1/4" BSP	876710	02–163313
4G	1/2" BSP	1/4" BSP		02–163324
6H	#6 SAE	#6 SAE	876706	
8H	#8 SAE	#6 SAE	876712	
6T	#6 SAE	#6 SAE		02–171961
8T	#8 SAE	#6 SAE		02–163322
10T	#10 SAE	#6 SAE		02–163323

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
HLE10-CPC

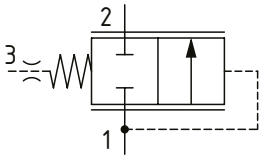
Logic Element, Normally Closed, Spool Type, Pilot to Close

350 bar [5000 psi] • 80 l/min [21 US gpm]

DESCRIPTION AND OPERATION

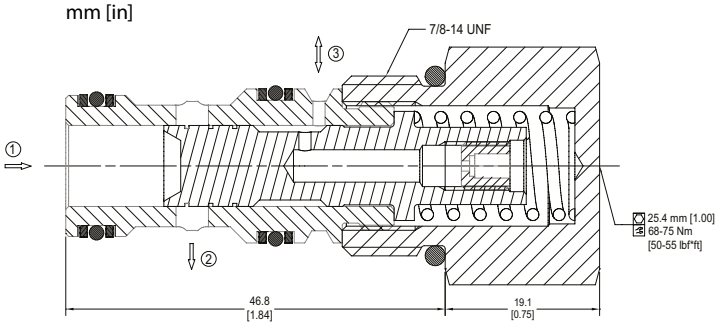
This is a 3-ported, normally closed, pilot to close spool type logic element. By opening port 3 to tank, flow can pass from port 1 to port 2. Flow is blocked from port 1 to port 2 unless the pressure is high enough in port 1 to overcome the spring set pressure. Applying pressure to port 3 will increase the pressure required in port 1 to open the valve by a factor of 1 to 1. This valve is ideal for use as a pressure compensator, bypass valve, or a pilot to close valve in regenerative circuits.

SCHEMATIC



DIMENSIONS

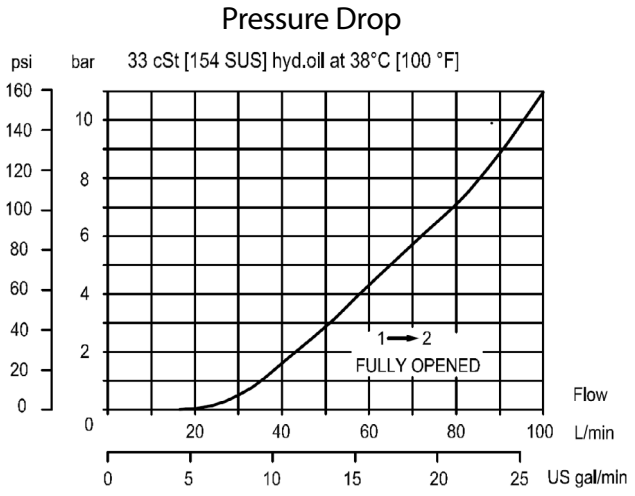
mm [in]



PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**80 l/min [21 US gpm]**
Weight	0.14 kg [0.31 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



MODEL CODE

HLE10 - CPC - 2.75 - B - 00

Differential Pressure

Code	Bar	Psi
2.75	2.75	[40]
5.5	5.5	[80]
7.5	7.5	[110]
10.0	10.0	[150]
13.0	13.0	[190]
15.0	15.0	[220]

Seal Option

Code	Seal kit
B-Buna - N	11126248
V-Viton	11126249

Housing

Code	Ports & Material	Housing Model Code
00	No housing	
6S	AL, #6 SAE	SDC10-3S-6S
8S	AL, #8 SAE	SDC10-3S-8S
3B	AL, 3/8 BSP	SDC10-3S-3B
4B	AL, 1/2 BSP	SDC10-3S-4B
S6S	STEEL, #6 SAE	SDC10-3S-S6S
S8S	STEEL, #8 SAE	SDC10-3S-S8S

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
CP701-1

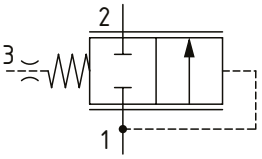
Logic Element, Normally Closed, Spool Type, Pilot to Close

350 bar [5000 psi] • 150 l/min [40 US gpm]

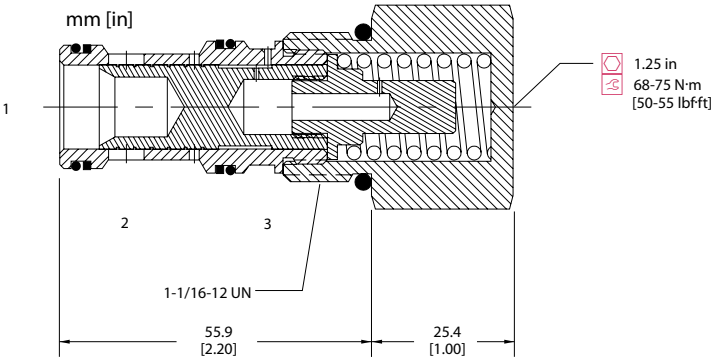
DESCRIPTION AND OPERATION

This is a 3-ported, normally closed, pilot to close spool type logic element. By opening port 3 to tank, flow can pass from port 1 to port 2. Flow is blocked from port 1 to port 2 unless the pressure is high enough in port 1 to overcome the spring set pressure. Applying pressure to port 3 will increase the pressure required in port 1 to open the valve by a factor of 1 to 1. This valve is ideal for use as a pressure compensator, bypass valve, or a pilot to close valve in regenerative circuits.

SCHEMATIC



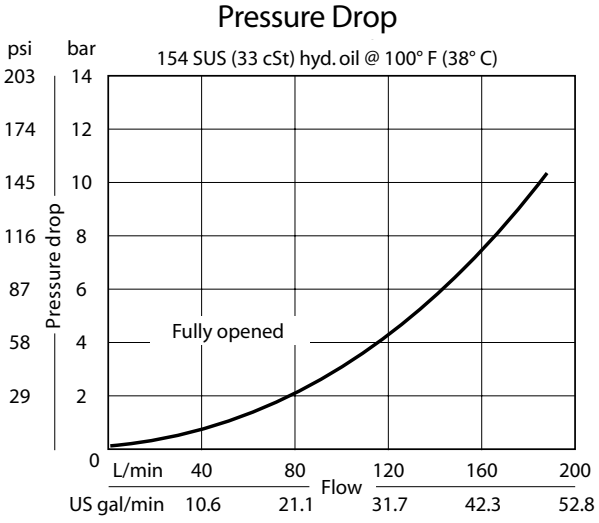
DIMENSIONS



PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**150 l/min [40 US gpm]**
Weight	0.26 kg [0.57 lb]
Cavity	CP12-3S

PERFORMANCE CURVES



MODEL CODE

CP701 - 1 - B - 12S - 080

Seal Option

Code	Seal kit
B-Buna - N	120335
V-Viton	120336

Housing

Code	Ports & Material	Housing Model Code	Pilot port
0	No Housing		
4B	AL, 1/2 BSP	CP12-3S-4B/2B	1/4 BSP
6B	AL, 3/4 BSP	CP12-3S-6B/2B	1/4 BSP
10S	AL, #10 SAE	CP12-3S-10S/4S	#4 SAE
12S	AL, #12 SAE	CP12-3S-12S/4S	#4 SAE

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
030	2.1	[30]
050	3.5	[50]
080	5.5	[80]
100	6.9	[100]
150	10.3	[150]
170	11.7	[170]

Logic Elements
DPS2-16-P

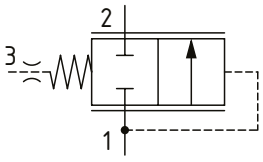
Logic Element, Normally Closed, Spool Type, Pilot to Close

290 bar [4200 psi] • 189 l/min [50 US gpm]

DESCRIPTION AND OPERATION

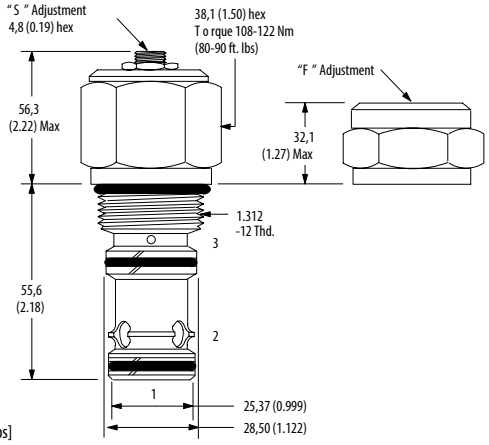
This is a 3-ported, normally closed, pilot to close spool type logic element. By opening port 3 to tank, flow can pass from port 1 to port 2. Flow is blocked from port 1 to port 2 unless the pressure is high enough in port 1 to overcome the spring set pressure. Applying pressure to port 3 will increase the pressure required in port 1 to open the valve by a factor of 1 to 1. This valve is ideal for use as a pressure compensator, bypass valve, or a pilot to close valve in regenerative circuits.

SCHEMATIC



DIMENSIONS

mm [in]

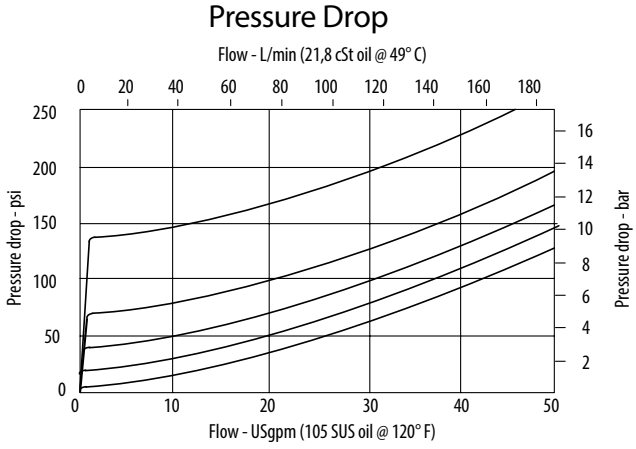


Installation torque
A-108-122 Nm [80-90 ft. lbs]
S-136-149 Nm [100-110 ft. lbs]

PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**189 l/min [50 US gpm]**
Leakage	82 ml/min [5 in³/min] @ 290 bar [4200 psi]
Weight	0.35 kg [0.78 lb]
Cavity	SDC16-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 16 - V - P - A - 4G - F - 005

Seal Option

Code	Seal kit
Omit-Buna - N	889659
V-Viton	02-165871

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
4G	1/2" BSP	3/8" BSP	02-160676	02–175118
6G	3/4" BSP	3/8" BSP	876726	02–175119
10H	#10 SAE	#6 SAE	876725	
12H	#12 SAE	#6 SAE	786727	
10T	#10 SAE	#6 SAE		02–175116
12T	#12 SAE	#6 SAE		02–175117

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5]*
020	1.40	[20] *
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Adjustment Option

F- Fixed
S- Stroke Adjustment

Logic Elements
DPS2-20-P

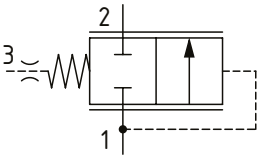
Logic Element, Normally Closed, Spool Type, Pilot to Close

290 bar [4200 psi] • 303 l/min [80 US gpm]

DESCRIPTION AND OPERATION

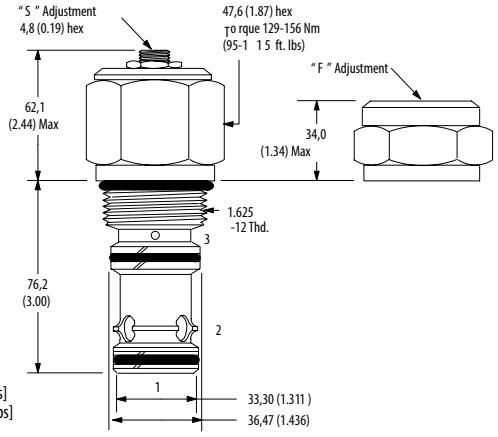
This is a 3-ported, normally closed, pilot to close spool type logic element. By opening port 3 to tank, flow can pass from port 1 to port 2. Flow is blocked from port 1 to port 2 unless the pressure is high enough in port 1 to overcome the spring set pressure. Applying pressure to port 3 will increase the pressure required in port 1 to open the valve by a factor of 1 to 1. This valve is ideal for use as a pressure compensator, bypass valve, or a pilot to close valve in regenerative circuits.

SCHEMATIC



DIMENSIONS

mm [in]

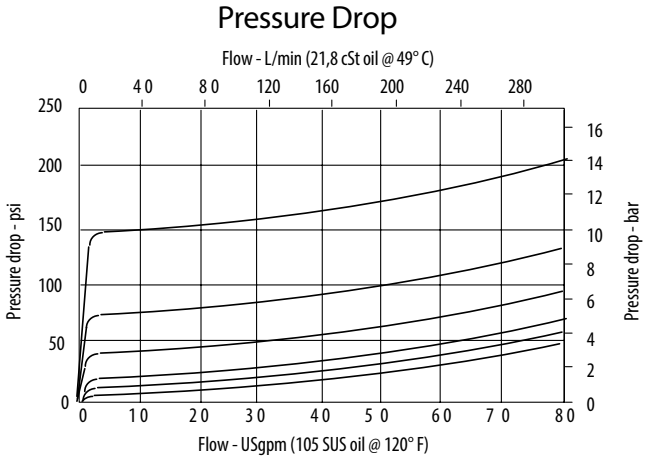


Installation torque
A-130-155 Nm [95-115 ft. lbs]
S-160-180 Nm [120-135 ft. lbs]

PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**303 l/min [80 US gpm]**
Leakage	82 ml/min [5 in³/min] @ 290 bar [4200 psi]
Weight	0.81 kg [1.78 lb]
Cavity	C-20-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 20 - V - P - A - 8G - F - 005

Seal Option

Code	Seal kit
Omit-Buna - N	02-113153
V-Viton	02-112969

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
6G	3/4" BSP	3/8" BSP	876740	02–175122
8G	1" BSP	3/8" BSP	876742	02–175123
12H	#12 SAE	#6 SAE	876741	
16H	#16 SAE	#6 SAE	876743	
12T	#12 SAE	#6 SAE		02–175120
16T	#16 SAE	#6 SAE		02–175121

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5] *
010	0.7	[10]*
020	1.40	[20] *
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Adjustment Option

F- Fixed
S- Stroke Adjustment

Logic Elements
DPS2-8-V

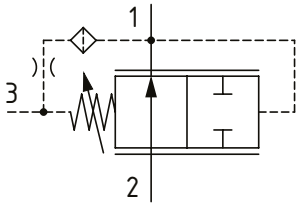
Logic Element, Normally Closed, Spool Type, Vent to Open

350 bar [5000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

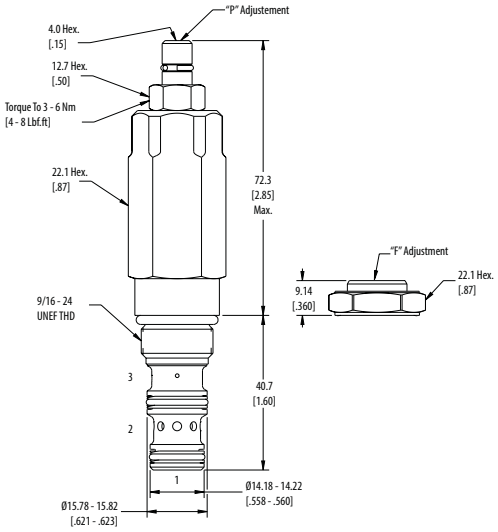
This is a 3-ported, normally closed, vent to open spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 but not from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2.
By controlling the flow or pressure out of port 3 with a secondary valve, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

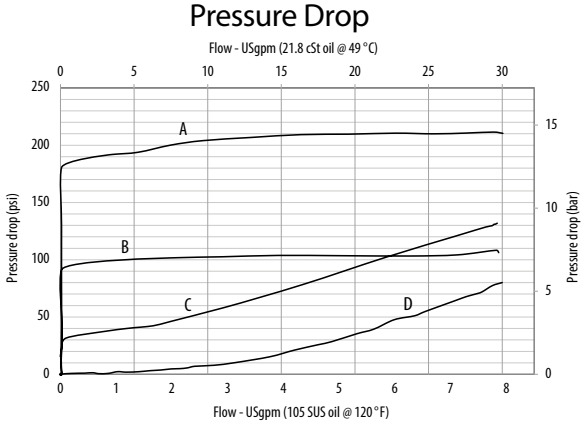


Installation torque
34-41 Nm [25-30 ft lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**30 l/min [8 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 350 bar [5000 psi]
Weight	0.07 kg [0.20 lb]
Cavity	SDC08-3

PERFORMANCE CURVES



A - 160 PSI • **B** - 80 PSI •**C** - 40 PSI • **D** - Without Spring

MODEL CODE

DPS2 - 8 - V - V - A - 4T - F - 040

Seal Option

Code	Seal kit
Omit-Buna - N	02-160755
V-Viton	02-160756

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Port size	Aluminum	Steel
0	No housing		
4T	#4 SAE	02-160741	02-160745
6T	#6 SAE	02-160742	02-160746
2G	1/4" BSP	02-160739	02-160743
3G	3/8" BSP	02-160740	02-160744

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]
300	5.5-20.7	[80-300]*

* Only for "P" Adjustment pressure setting, factory set at Max pressure.

Adjustment Option

F- Fixed
P- Pressure Adjustment

Logic Elements

CP700-2

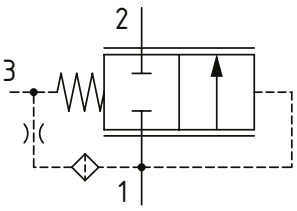
Logic Element, Normally Closed, Spool Type, Vent to Open

210 bar [3000 psi] • 50 l/min [13 US gpm]

DESCRIPTION AND OPERATION

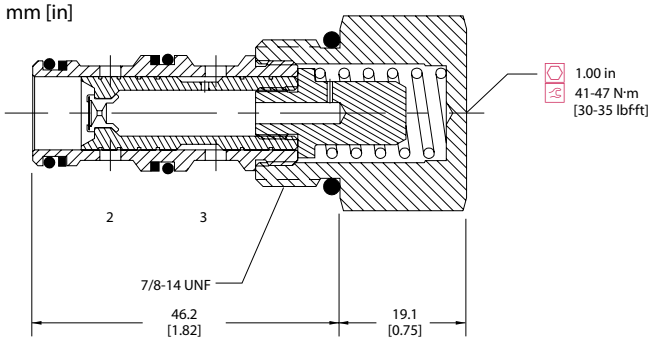
This is a 3-ported, normally closed, vent to open spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 but not from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2. By controlling the flow or pressure out of port 3 with a secondary valve, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

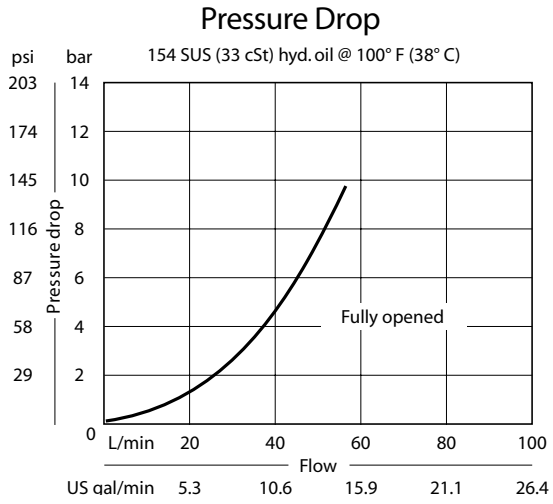
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow	**50 l/min [13 US gpm]**
Weight	0.13 kg [0.28 lb]
Cavity	SDC10-3

PERFORMANCE CURVES



MODEL CODE

CP700 - 2 - B - 8S - 080

Seal Option

Code	Seal kit
B-Buna - N	120027
V-Viton	120028

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
SE3B	AL, 3/8 BSP	SDC10-3-SE-3B
SE4B	AL, 1/2 BSP	SDC10-3-SE-4B
6S	AL, #6 SAE	CP10-3-6S
8S	AL, #8 SAE	CP10-3-8S

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.8	[40]
080	5.5	[80]
110	7.6	[110]
150	10.3	[150]
190	11.7	[190]

Logic Elements
DPS2-10-V

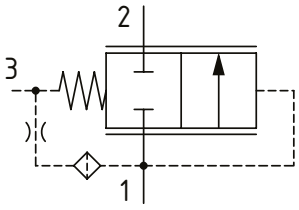
Logic Element, Normally Closed, Spool Type, Vent to Open

290 bar [4200 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

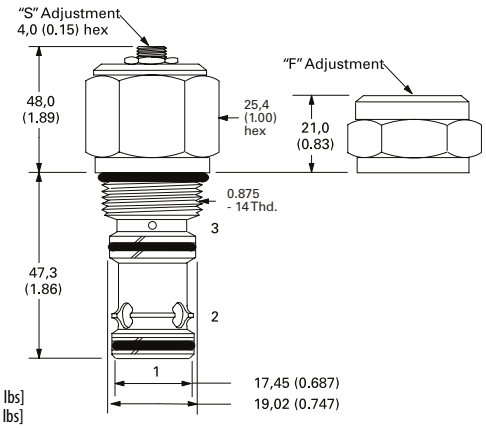
This is a 3-ported, normally closed, vent to open spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 but not from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2. By controlling the flow or pressure out of port 3 with a secondary valve, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

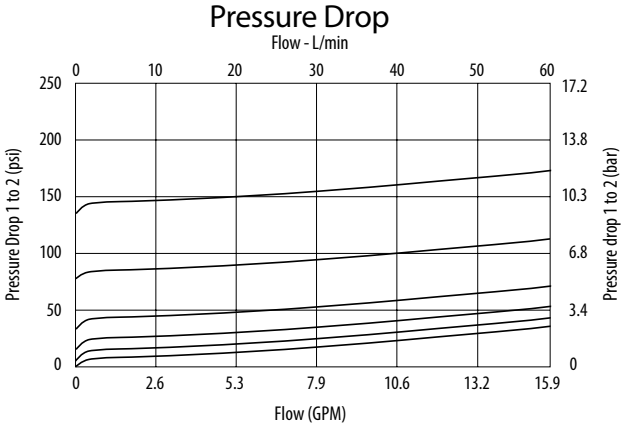


Installation torque
A-47-54 Nm [35-40 ft. lbs]
S-68-75 Nm [50-55 ft. lbs]

PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**60 l/min [16 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 290 bar [4200 psi]
Weight	0.14 kg [0.30 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 10 - V - V - F - A - 3G - 005

Seal Option

Code	Seal kit
Omit-Buna - N	889650
V-Viton	889652

Adjustment Option

F- Fixed
S- Stroke Adjustment

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
2G	1/4" BSP	1/4" BSP	876707	
3G	3/8" BSP	1/4" BSP	876710	02–163313
4G	1/2" BSP	1/4" BSP		02–163324
6H	#6 SAE	#6 SAE	876706	
8H	#8 SAE	#6 SAE	876712	
6T	#6 SAE	#6 SAE		02–171961
8T	#8 SAE	#6 SAE		02–163322
10T	#10 SAE	#6 SAE		02–163323

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5] *
010	0.7	[10] *
020	1.40	[20] *
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Logic Elements
HLE10-CVO

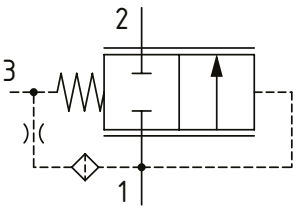
Logic Element, Normally Closed, Spool Type, Vent to Open

350 bar [5000 psi] • 80 l/min [21 US gpm]

DESCRIPTION AND OPERATION

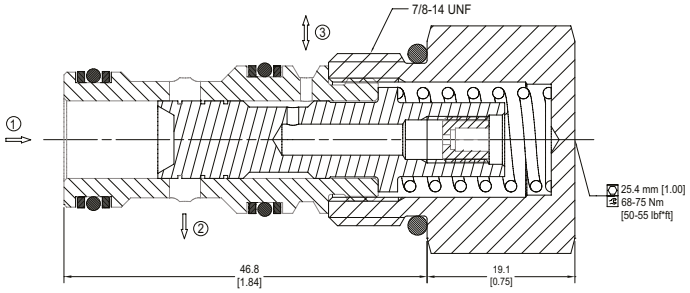
This is a 3-ported, normally closed, vent to open spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 but not from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2. By controlling the flow or pressure out of port 3 with a secondary valve, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

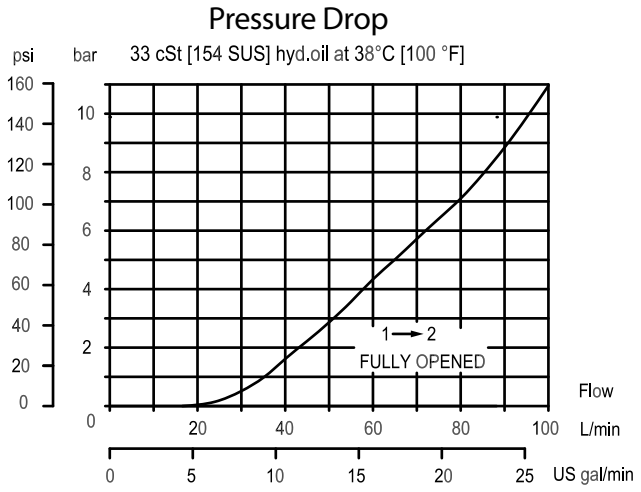
mm [in]



PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**80 l/min [21 US gpm]**
Weight	0.14 kg [0.31 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



* INCLUDES SDC10-3S CAVITY WITH SAE #8 PORTS

MODEL CODE

HLE10 - CVO - 2.75 - B - 00

Differential Pressure

Code	Bar	Psi
2.75	2.75	[40]
5.5	5.5	[80]
7.5	7.5	[110]
10.0	10.0	[150]
13.0	13.0	[190]
15.0	15.0	[220]
18.0	18.0	[260]

Seal Option

Code	Seal kit
B-Buna - N	11126248
V-Viton	11126249

Housing

Code	Ports & Material	Housing Model Code
00	No housing	
6S	AL, #6 SAE	SDC10-3S-6S
8S	AL, #8 SAE	SDC10-3S-8S
3B	AL, 3/8 BSP	SDC10-3S-3B
4B	AL, 1/2 BSP	SDC10-3S-4B
S6S	STEEL, #6 SAE	SDC10-3S-S6S
S8S	STEEL, #8 SAE	SDC10-3S-S8S

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
CP701-2

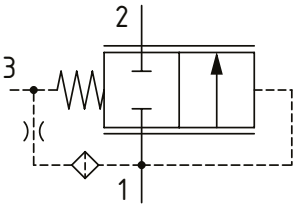
Logic Element, Normally Closed, Spool Type, Vent to Open

350 bar [5000 psi] • 150 l/min [40 US gpm]

DESCRIPTION AND OPERATION

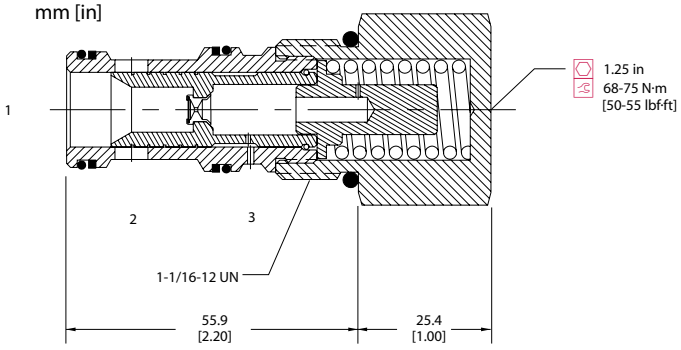
This is a 3-ported, normally closed, vent to open spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 but not from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2. By controlling the flow or pressure out of port 3 with a secondary valve, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

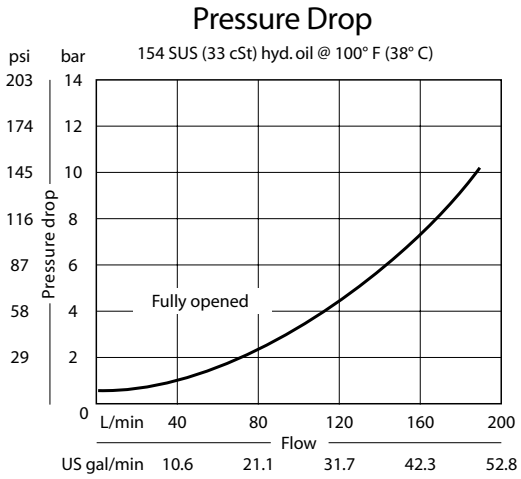
mm [in]



PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**150 l/min [40 US gpm]**
Weight	0.26 kg [0.57 lb]
Cavity	CP12-3S

PERFORMANCE CURVES



MODEL CODE

CP701 - 2 - B - 12S - 080

Seal Option

Code	Seal kit
B-Buna - N	120335
V-Viton	120336

Housing

Code	Ports & Material	Housing Model Code	Pilot port
0	No Housing		
4B	AL, 1/2 BSP	CP12-3S-4B/2B	1/4 BSP
6B	AL, 3/4 BSP	CP12-3S-6B/2B	1/4 BSP
10S	AL, #10 SAE	CP12-3S-10S/4S	#4 SAE
12S	AL, #12 SAE	CP12-3S-12S/4S	#4 SAE

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
030	2.1	[30]
050	3.5	[50]
080	5.5	[80]
100	6.9	[100]
150	10.3	[150]

Logic Elements
DPS2-16-V

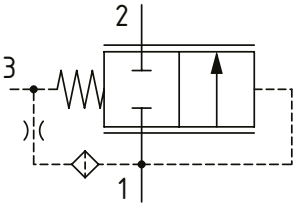
Logic Element, Normally Closed, Spool Type, Vent to Open

290 bar [4200 psi] • 189 l/min [50 US gpm]

DESCRIPTION AND OPERATION

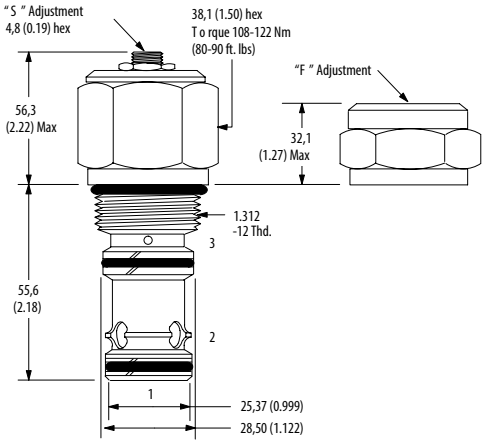
This is a 3-ported, normally closed, vent to open spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 but not from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2. By controlling the flow or pressure out of port 3 with a secondary valve, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

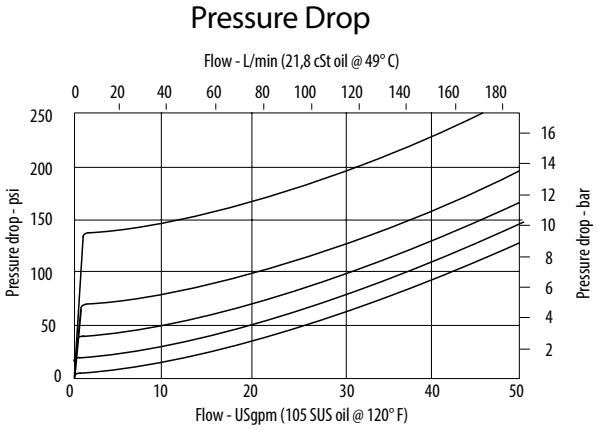


Installation torque
A-108-122 Nm [80-90 ft. lbs]
S-136-149 Nm [100-110 ft. lbs]

PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**189 l/min [50 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 290 bar [4200 psi]
Weight	0.35 kg [0.78 lb]
Cavity	SDC16-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 16 - V - V - A - 4G - F - 005

Seal Option

Code	Seal kit
Omit-Buna - N	889659
V-Viton	02-165871

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
4G	1/2" BSP	3/8" BSP	02-160676	02–175118
6G	3/4" BSP	3/8" BSP	876726	02–175119
10H	#10 SAE	#6 SAE	876725	
12H	#12 SAE	#6 SAE	786727	
10T	#10 SAE	#6 SAE		02–175116
12T	#12 SAE	#6 SAE		02–175117

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5] *
020	1.40	[20] *
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Adjustment Option

F- Fixed
S- Stroke Adjustment

Logic Elements
DPS2-20-V

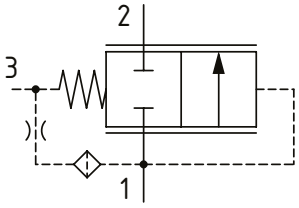
Logic Element, Normally Closed, Spool Type, Vent to Open

290 bar [4200 psi] • 303 l/min [80 US gpm]

DESCRIPTION AND OPERATION

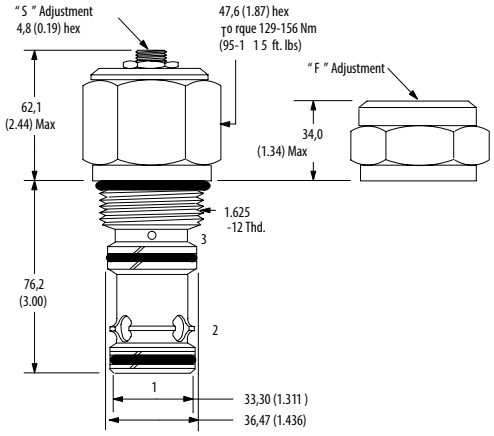
This is a 3-ported, normally closed, vent to open spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow can pass from port 1 to port 2 but not from port 2 to port 1. Closing port 3 will prevent the valve from opening from port 1 to port 2. By controlling the flow or pressure out of port 3 with a secondary valve, the valve can be used as an on/off valve or in a pressure control function.

SCHEMATIC



DIMENSIONS

mm [in]

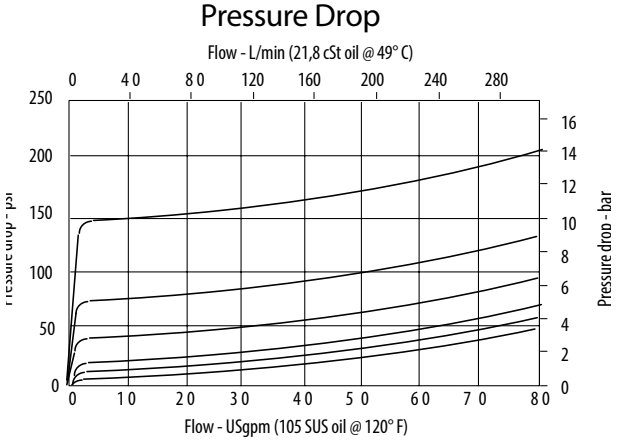


Installation torque
A-130-155 Nm [95-115 ft. lbs]
S-160-180 Nm [120-135 ft. lbs]

PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**303 l/min [80 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 290 bar [4200 psi]
Weight	0.81 kg [1.78 lb]
Cavity	C-20-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 20 - V - V - A - 8G - F - 005

Seal Option

Code	Seal kit
Omit-Buna - N	02-113153
V-Viton	02-112969

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
6G	3/4" BSP	3/8" BSP	876740	02–175122
8G	1" BSP	3/8" BSP	876742	02–175123
12H	#12 SAE	#6 SAE	876741	
16H	#16 SAE	#6 SAE	876743	
12T	#12 SAE	#6 SAE		02–175120
16T	#16 SAE	#6 SAE		02–175121

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5] *
010	0.7	[10] *
020	1.40	[20] *
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Adjustment Option

F- Fixed
S- Stroke Adjustment

Logic Elements
DPS2-8-R

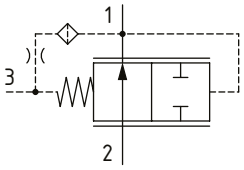
Logic Element, Normally Open, Spool Type, Vent to Close

350 bar [5000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

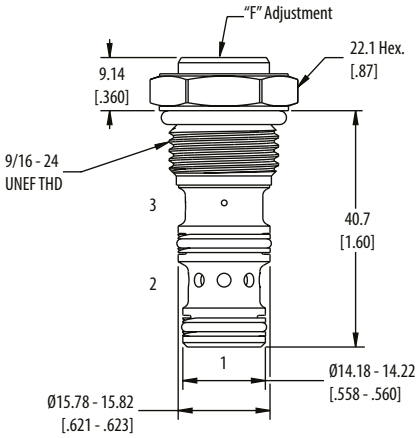
This is a 3-ported, normally open, vent to close, spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow is blocked from port 1 to port 2 and port 2 to port 1. Closing port 3 will keep the valve open from port 1 to port 2 and port 2 to 1. By controlling the flow or pressure out of port 3 with a secondary valve, this can be used as an on/off valve or as a pressure reducing valve.

SCHEMATIC



DIMENSIONS

mm [in]

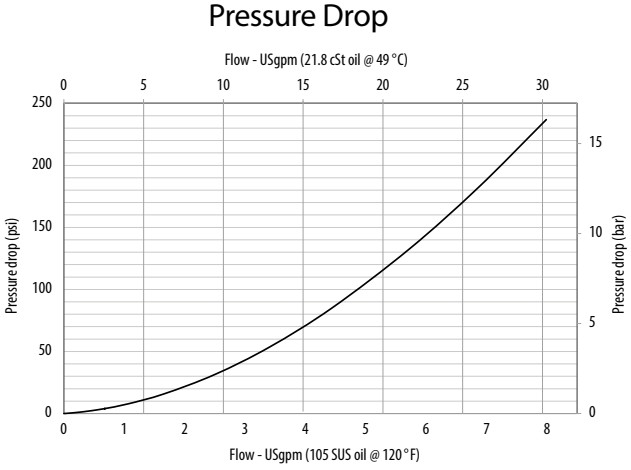


Installation torque
34-41 Nm [25-30 ft lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**30 l/min [8 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 350 bar [5000 psi]
Weight	0.07 kg [0.20 lb]
Cavity	SDC08-3

PERFORMANCE CURVES



MODEL CODE

DPS2 - 8 - V - R - A - 4T - F - 040

Seal Option

Code	Seal kit
Omit-Buna - N	02-160755
V-Viton	02-160756

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Port size	Aluminum	Steel
0	No housing		
4T	#4 SAE	02-160741	02-160745
6T	#6 SAE	02-160742	02-160746
2G	1/4" BSP	02-160739	02-160743
3G	3/8" BSP	02-160740	02-160744

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

Adjustment Option

F- Fixed

Logic Elements
CP700-3

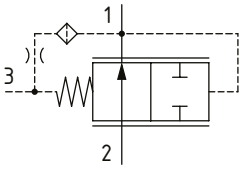
Logic Element, Normally Open, Spool Type, Vent to Close

210 bar [3000 psi] • 40 l/min [11 US gpm]

DESCRIPTION AND OPERATION

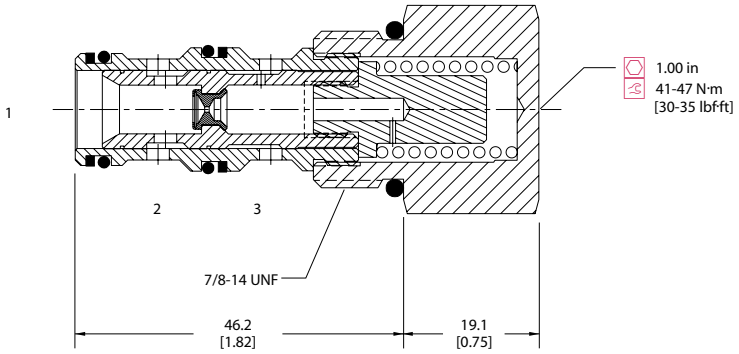
This is a 3-ported, normally open, vent to close, spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow is blocked from port 1 to port 2 and port 2 to port 1. Closing port 3 will keep the valve open from port 1 to port 2 and port 2 to 1. By controlling the flow or pressure out of port 3 with a secondary valve, this can be used as an on/off valve or as a pressure reducing valve.

SCHEMATIC



DIMENSIONS

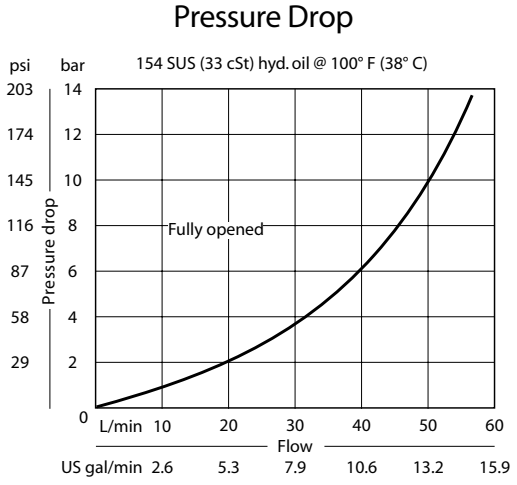
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow @ 7 bar [100 psi]	**40 l/min [11 US gpm]**
Weight	0.13 kg [0.28 lb]
Cavity	SDC10-3

PERFORMANCE CURVES



MODEL CODE

CP700 - 3 - B - 8S - 080

Seal Option

Code	Seal kit
B-Buna - N	120027
V-Viton	120028

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
SE3B	AL, 3/8 BSP	SDC10-3-SE-3B
SE4B	AL, 1/2 BSP	SDC10-3-SE-4B
6S	AL, #6 SAE	CP10-3-6S
8S	AL, #8 SAE	CP10-3-8S

Differential Pressure

Code	Bar	Psi
040	2.8	[40]
080	5.5	[80]
110	7.6	[110]
150	10.3	[150]
200	13.8	[200]

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
DPS2-10-R

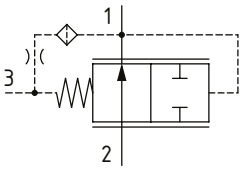
Logic Element, Normally Open, Spool Type, Vent to Close

290 bar [4200 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

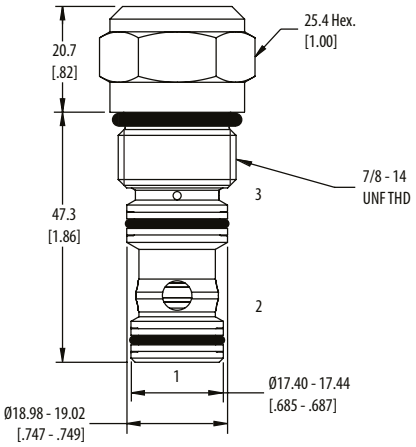
This is a 3-ported, normally open, vent to close, spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow is blocked from port 1 to port 2 and port 2 to port 1. Closing port 3 will keep the valve open from port 1 to port 2 and port 2 to 1. By controlling the flow or pressure out of port 3 with a secondary valve, this can be used as an on/off valve or as a pressure reducing valve.

SCHEMATIC



DIMENSIONS

mm [in]

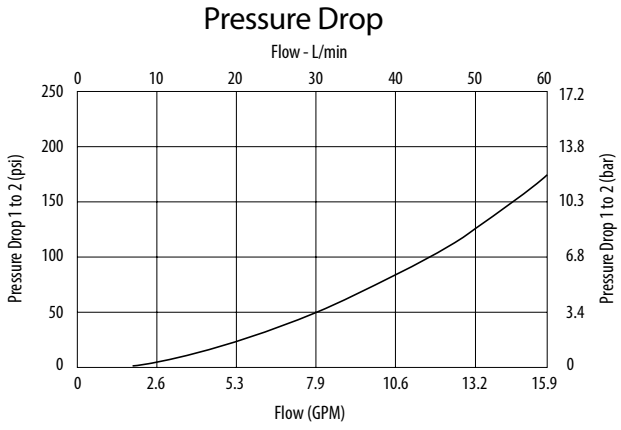


Installation torque
A-47-54 Nm [35-40 ft. lbs]
S-68-75 Nm [50-55 ft. lbs]

PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**60 l/min [16 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 290 bar [4200 psi]
Weight	0.14 kg [0.30 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 10 - V - R - F - A - 3G - 005

Seal Option

Code	Seal kit
Omit-Buna - N	889650
V-Viton	889652

Adjustment Option

F- Fixed

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
2G	1/4" BSP	1/4" BSP	876707	
3G	3/8" BSP	1/4" BSP	876710	02–163313
4G	1/2" BSP	1/4" BSP		02–163324
6H	#6 SAE	#6 SAE	876706	
8H	#8 SAE	#6 SAE	876712	
6T	#6 SAE	#6 SAE		02–171961
8T	#8 SAE	#6 SAE		02–163322
10T	#10 SAE	#6 SAE		02–163323

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5] *
010	0.7	[10] *
020	1.40	[20] *
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Logic Elements
HLE10-OVC

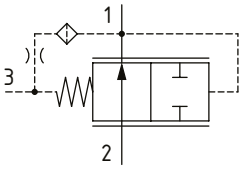
Logic Element, Normally Open, Spool Type, Vent to Close

350 bar [5000 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

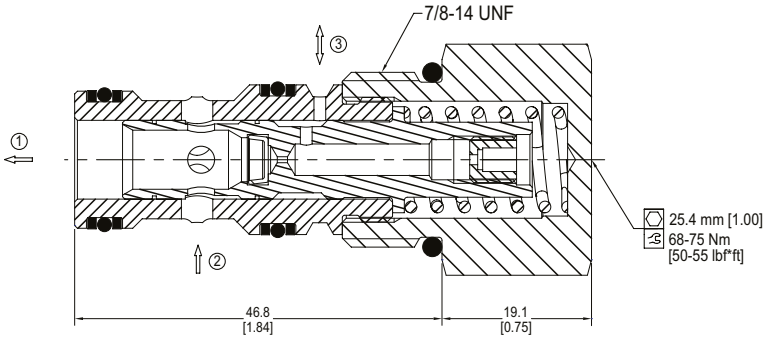
This is a 3-ported, normally open, vent to close, spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow is blocked from port 1 to port 2 and port 2 to port 1. Closing port 3 will keep the valve open from port 1 to port 2 and port 2 to 1. By controlling the flow or pressure out of port 3 with a secondary valve, this can be used as an on/off valve or as a pressure reducing valve.

SCHEMATIC



DIMENSIONS

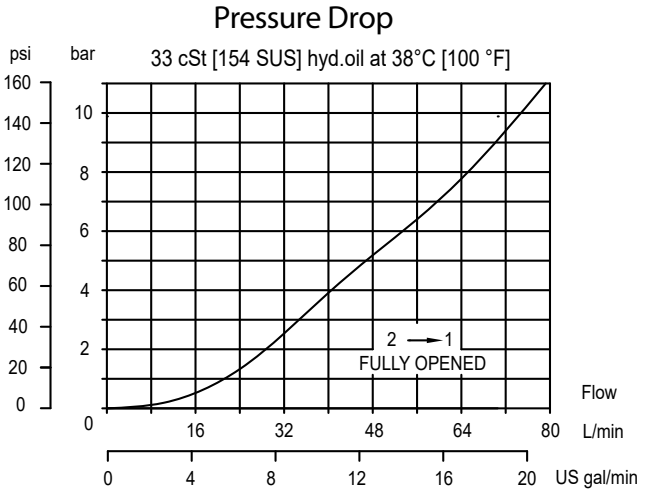
mm [in]



PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow @ 7 bar [100 psi]	**60 l/min [16 US gpm]**
Weight	0.14 kg [0.31 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



MODEL CODE

HLE10 - OVC - 2.75 - B - 00

Differential Pressure

Code	Bar	Psi
2.75	2.75	[40]
5.5	5.5	[80]
7.5	7.5	[110]
10.0	10.0	[150]
14.0	14.0	[200]
19.0	19.0	[275]

Seal Option

Code	Seal kit
B-Buna - N	11126248
V-Viton	11126249

Housing

Code	Ports & Material	Housing Model Code
00	No housing	
6S	AL, #6 SAE	SDC10-3S-6S
8S	AL, #8 SAE	SDC10-3S-8S
3B	AL, 3/8 BSP	SDC10-3S-3B
4B	AL, 1/2 BSP	SDC10-3S-4B
S6S	STEEL, #6 SAE	SDC10-3S-S6S
S8S	STEEL, #8 SAE	SDC10-3S-S8S

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
CP701-3

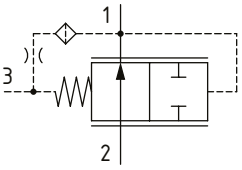
Logic Element, Normally Open, Spool Type, Vent to Close

350 bar [5000 psi] • 80 l/min [21 US gpm]

DESCRIPTION AND OPERATION

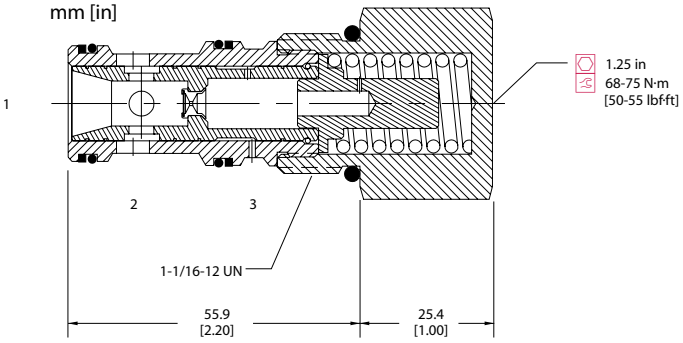
This is a 3-ported, normally open, vent to close, spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow is blocked from port 1 to port 2 and port 2 to port 1. Closing port 3 will keep the valve open from port 1 to port 2 and port 2 to 1. By controlling the flow or pressure out of port 3 with a secondary valve, this can be used as an on/off valve or as a pressure reducing valve.

SCHEMATIC



DIMENSIONS

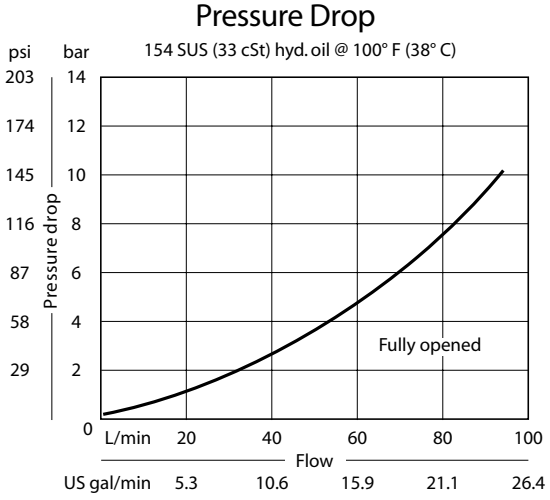
mm [in]



PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**80 l/min [21 US gpm]**
Weight	0.26 kg [0.57 lb]
Cavity	CP12-3S

PERFORMANCE CURVES



MODEL CODE

CP701 - 3 - B - 12S - 080

Seal Option

Code	Seal kit
B-Buna - N	120335
V-Viton	120336

Housing

Code	Ports & Material	Housing Model Code	Pilot port
0	No Housing		
4B	AL, 1/2 BSP	CP12-3S-4B/2B	1/4 BSP
6B	AL, 3/4 BSP	CP12-3S-6B/2B	1/4 BSP
10S	AL, #10 SAE	CP12-3S-10S/4S	#4 SAE
12S	AL, #12 SAE	CP12-3S-12S/4S	#4 SAE

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
030	2.1	[30]
050	3.5	[50]
080	5.5	[80]
100	6.9	[100]
150	10.3	[150]

Logic Elements
DPS2-16-R

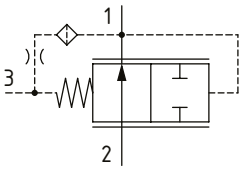
Logic Element, Normally Open, Spool Type, Vent to Close

290 bar [4200 psi] • 189 l/min [50 US gpm]

DESCRIPTION AND OPERATION

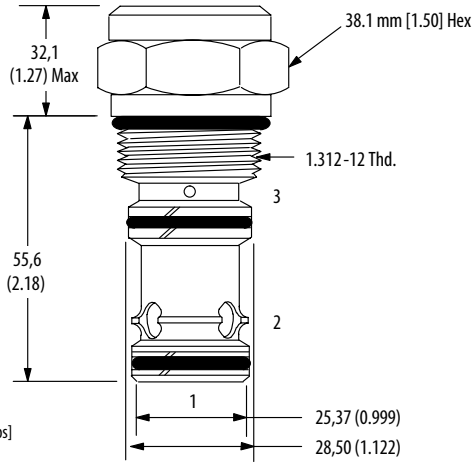
This is a 3-ported, normally open, vent to close, spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow is blocked from port 1 to port 2 and port 2 to port 1. Closing port 3 will keep the valve open from port 1 to port 2 and port 2 to 1. By controlling the flow or pressure out of port 3 with a secondary valve, this can be used as an on/off valve or as a pressure reducing valve.

SCHEMATIC



DIMENSIONS

mm [in]

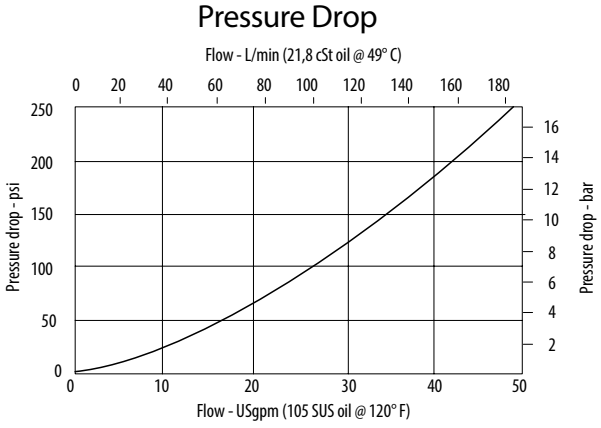


Installation torque
A-108-122 Nm [80-90 ft. lbs]
S-136-149 Nm [100-110 ft. lbs]

PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow @ 7 bar [100 psi]	**189 l/min [50 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 290 bar [4200 psi]
Weight	0.35 kg [0.78 lb]
Cavity	SDC16-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 16 - V - R - A - 4G - F - 005

Seal Option

Code	Seal kit
Omit-Buna - N	889659
V-Viton	02-165871

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
4G	1/2" BSP	3/8" BSP	02-160676	02–175118
6G	3/4" BSP	3/8" BSP	876726	02–175119
10H	#10 SAE	#6 SAE	876725	
12H	#12 SAE	#6 SAE	786727	
10T	#10 SAE	#6 SAE		02–175116
12T	#12 SAE	#6 SAE		02–175117

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5] *
020	1.40	[20] *
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Adjustment Option

F- Fixed

Logic Elements
DPS2-20-R

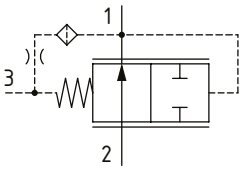
Logic Element, Normally Open, Spool Type, Vent to Close

290 bar [4200 psi] • 303 l/min [80 US gpm]

DESCRIPTION AND OPERATION

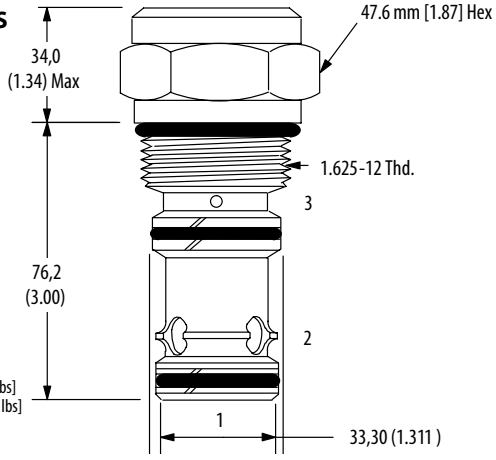
This is a 3-ported, normally open, vent to close, spool type logic element. Port 1 is connected to port 3 through an orifice. By opening port 3 to tank, flow is blocked from port 1 to port 2 and port 2 to port 1. Closing port 3 will keep the valve open from port 1 to port 2 and port 2 to 1. By controlling the flow or pressure out of port 3 with a secondary valve, this can be used as an on/off valve or as a pressure reducing valve.

SCHEMATIC



DIMENSIONS

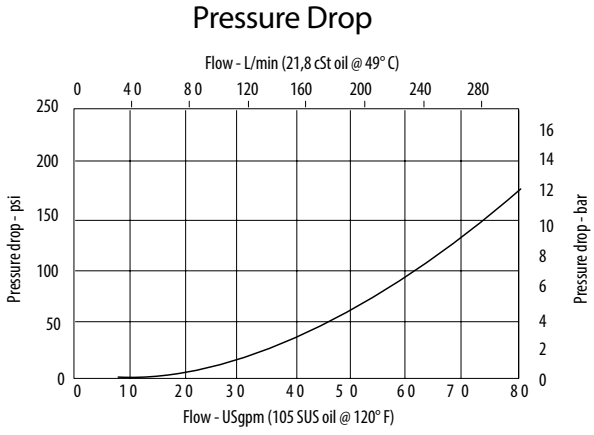
mm [in]



PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**303 l/min [80 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 290 bar [4200 psi]
Weight	0.81 kg [1.78 lb]
Cavity	C-20-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 20 - V - R - A - 8G - F - 005

Seal Option

Code	Seal kit
Omit-Buna - N	02-113153
V-Viton	02-112969

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
6G	3/4" BSP	3/8" BSP	876740	02–175122
8G	1" BSP	3/8" BSP	876742	02–175123
12H	#12 SAE	#6 SAE	876741	
16H	#16 SAE	#6 SAE	876743	
12T	#12 SAE	#6 SAE		02–175120
16T	#16 SAE	#6 SAE		02–175121

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5] *
010	0.7	[10] *
020	1.40	[20] *
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Adjustment Option

F- Fixed]

Logic Elements
DPS2-8-F

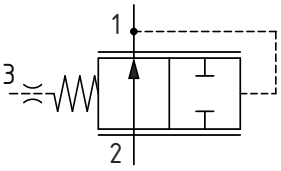
Logic Element, Normally Open, Spool Type, Pilot to Open

350 bar [5000 psi] • 30 l/min [8 US gpm]

DESCRIPTION AND OPERATION

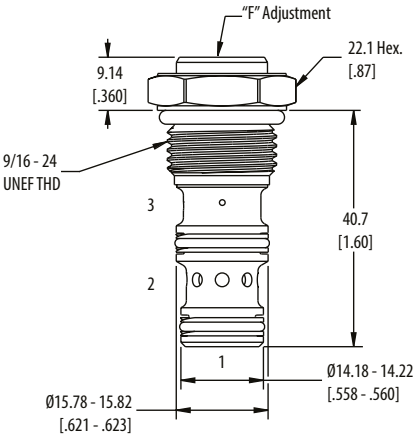
This is a 3-ported, normally open, pilot to open, spool type logic element. Flow is open from port 2 to port 1, until pressure in port 1 is sufficient to overcome the spring set pressure plus any pressure in port 3. The pressure in port 3 can be controlled remotely making the valve ideal for use as a normally open on/off element in a pressure reducing function. This valve is most commonly used as a pressure compensator in conjunction with a proportional directional valve.

SCHEMATIC



DIMENSIONS

mm [in]

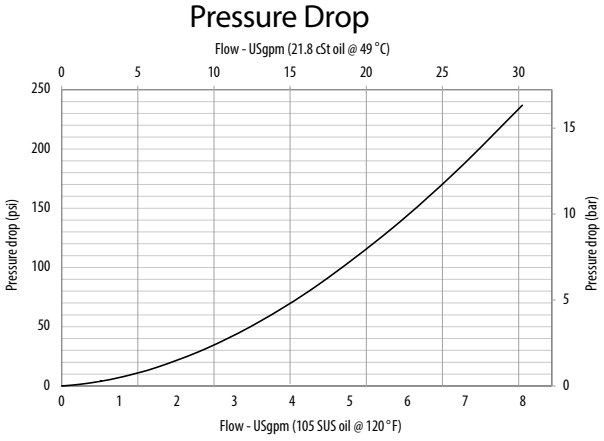


Installation torque
34-41 Nm [25-30 ft lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**30 l/min [8 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 350 bar [5000 psi]
Weight	0.07 kg [0.20 lb]
Cavity	SDC08-3

PERFORMANCE CURVES



MODEL CODE

DPS2 - 8 - V - F - A - 4T - F - 040

Seal Option

Code	Seal kit
Omit-Buna - N	02-160755
V-Viton	02-160756

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Port size	Aluminum	Steel
0	No housing		
4T	#4 SAE	02-160741	02-160745
6T	#6 SAE	02-160742	02-160746
2G	1/4" BSP	02-160739	02-160743
3G	3/8" BSP	02-160740	02-160744

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

Adjustment Option

F- Fixed

Logic Elements
CP700-4

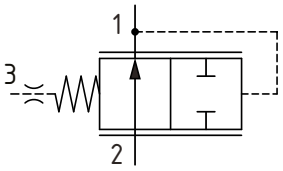
Logic Element, Normally Open, Spool Type, Pilot to Open

210 bar [3000 psi] • 40 l/min [11 US gpm]

DESCRIPTION AND OPERATION

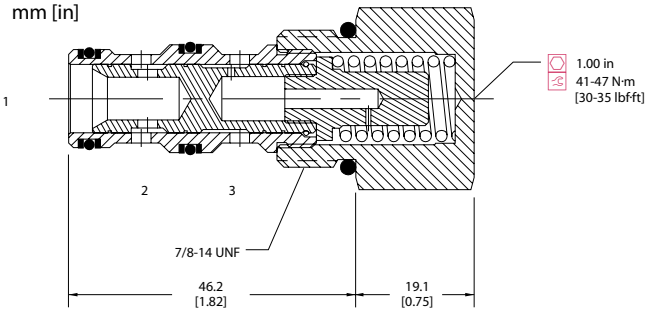
This is a 3-ported, normally open, pilot to open, spool type logic element. Flow is open from port 2 to port 1, until pressure in port 1 is sufficient to overcome the spring set pressure plus any pressure in port 3. The pressure in port 3 can be controlled remotely making the valve ideal for use as a normally open on/off element in a pressure reducing function. This valve is most commonly used as a pressure compensator in conjunction with a proportional directional valve.

SCHEMATIC



DIMENSIONS

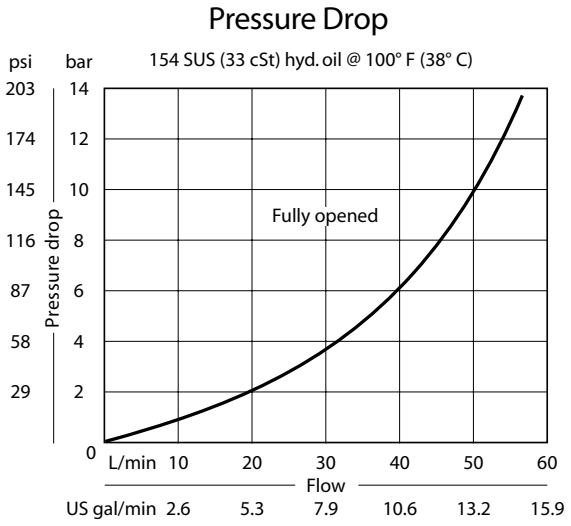
mm [in]



PERFORMANCE DATA

Rated pressure	**210 bar [3000 psi]**
Rated flow @ 7 bar [100 psi]	**40 l/min [11 US gpm]**
Weight	0.13 kg [0.28 lb]
Cavity	SDC10-3

PERFORMANCE CURVES



MODEL CODE

CP700 - 4 - B - 8S - 080

Seal Option

Code	Seal kit
B-Buna - N	120009
V-Viton	120010

Housing

Code	Ports & Material	Housing Model Code
0	No Housing	
SE3B	AL, 3/8 BSP	SDC10-3-SE-3B
SE4B	AL, 1/2 BSP	SDC10-3-SE-4B
6S	AL, #6 SAE	CP10-3-6S
8S	AL, #8 SAE	CP10-3-8S

Differential Pressure

Code	Bar	Psi
040	2.8	[40]
080	5.5	[80]
110	7.6	[110]
150	10.3	[150]
200	13.8	[200]

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
DPS2-10-F

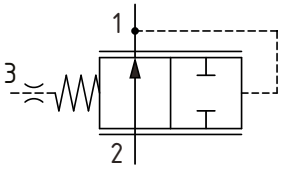
Logic Element, Normally Open, Spool Type, Pilot to Open

290 bar [4200 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

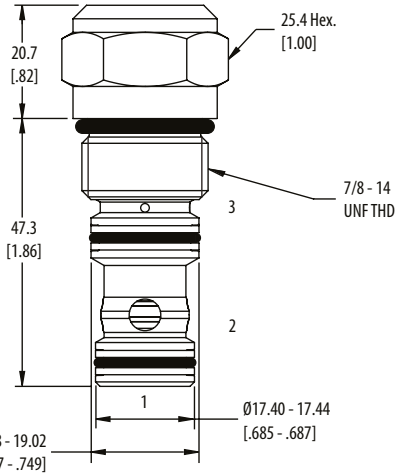
This is a 3-ported, normally open, pilot to open, spool type logic element. Flow is open from port 2 to port 1, until pressure in port 1 is sufficient to overcome the spring set pressure plus any pressure in port 3. The pressure in port 3 can be controlled remotely making the valve ideal for use as a normally open on/off element in a pressure reducing function. This valve is most commonly used as a pressure compensator in conjunction with a proportional directional valve.

SCHEMATIC



DIMENSIONS

mm [in]

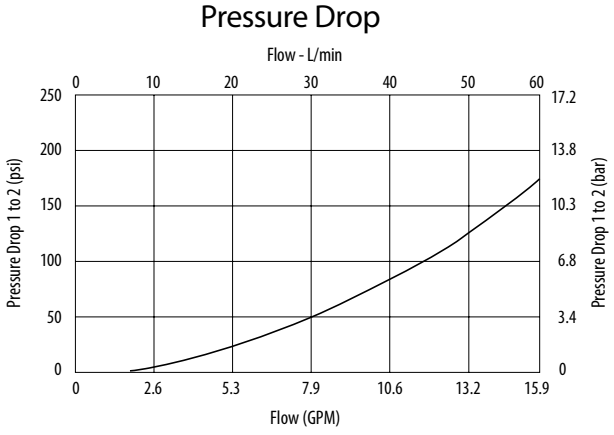


Installation torque
A-47-54 Nm [35-40 ft. lbs]
S-68-75 Nm [50-55 ft. lbs]

PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**60 l/min [16 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 290 bar [4200 psi]
Weight	0.14 kg [0.30 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 10 - V - F - F - A - 3G - 005

Seal Option

Code	Seal kit
Omit-Buna - N	889650
V-Viton	889652

Adjustment Option

F- Fixed

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
2G	1/4" BSP	1/4" BSP	876707	
3G	3/8" BSP	1/4" BSP	876710	02–163313
4G	1/2" BSP	1/4" BSP		02–163324
6H	#6 SAE	#6 SAE	876706	
8H	#8 SAE	#6 SAE	876712	
6T	#6 SAE	#6 SAE		02–171961
8T	#8 SAE	#6 SAE		02–163322
10T	#10 SAE	#6 SAE		02–163323

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5] *
010	0.7	[10] *
020	1.40	[20] *
040	2.80	[40]
080	5.50	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Logic Elements
HLE10-OPO

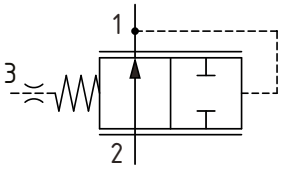
Logic Element, Normally Open, Spool Type, Pilot to Open

350 bar [5000 psi] • 60 l/min [16 US gpm]

DESCRIPTION AND OPERATION

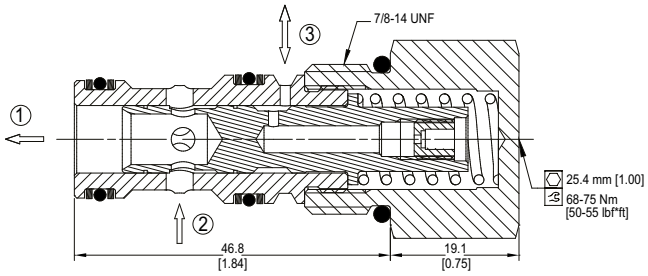
This is a 3-ported, normally open, pilot to open, spool type logic element. Flow is open from port 2 to port 1, until pressure in port 1 is sufficient to overcome the spring set pressure plus any pressure in port 3. The pressure in port 3 can be controlled remotely making the valve ideal for use as a normally open on/off element in a pressure reducing function. This valve is most commonly used as a pressure compensator in conjunction with a proportional directional valve.

SCHEMATIC



DIMENSIONS

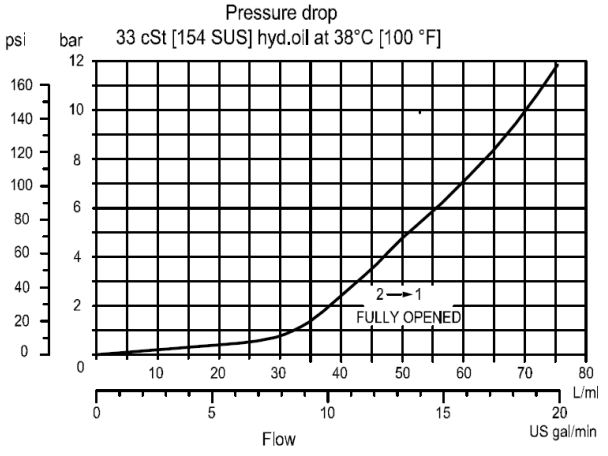
mm [in]



PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow @ 7 bar [100 psi]	**60 l/min [16 US gpm]**
Weight	0.14 kg [0.31 lb]
Cavity	SDC10-3S

PERFORMANCE CURVES



MODEL CODE

HLE10 - OPO - 2.75 - B - 00

Differential Pressure

Code	Bar	Psi
2.75	2.75	[40]
5.5	5.5	[80]
7.5	7.5	[110]
10.0	10.0	[150]
13.0	13.0	[190]
15.0	15.0	[218]

Seal Option

Code	Seal kit
B-Buna - N	11126248
V-Viton	11126249

Housing

Code	Ports & Material	Housing Model Code
00	No housing	
6S	#6 SAE, AL	SDC10-3S-6S
8S	#8 SAE, AL	SDC10-3S-8S
S6S	#6 SAE, DUCTILE	SDC10-3S-S6S
S8S	#8 SAE, DUCTILE	SDC10-3S-S8S
3B	3/8 BSP, AL	SDC10-3S-3B
4B	1/2 BSP, AL	SDC10-3S-4B

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements

CP701-4

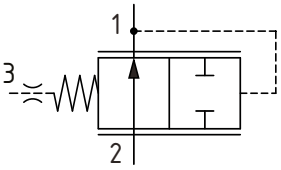
Logic Element, Normally Open, Spool Type, Pilot to Open

350 bar [5000 psi] • 76 l/min [20 US gpm]

DESCRIPTION AND OPERATION

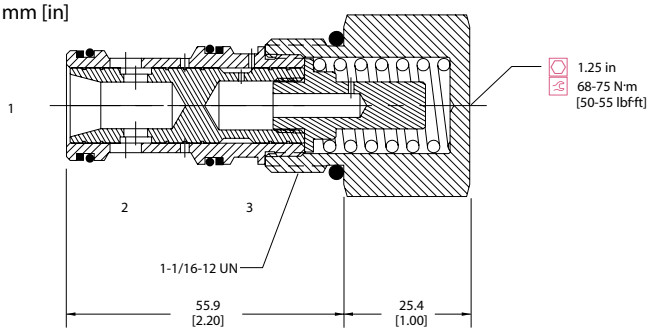
This is a 3-ported, normally open, pilot to open, spool type logic element. Flow is open from port 2 to port 1, until pressure in port 1 is sufficient to overcome the spring set pressure plus any pressure in port 3. The pressure in port 3 can be controlled remotely making the valve ideal for use as a normally open on/off element in a pressure reducing function. This valve is most commonly used as a pressure compensator in conjunction with a proportional directional valve.

SCHEMATIC



DIMENSIONS

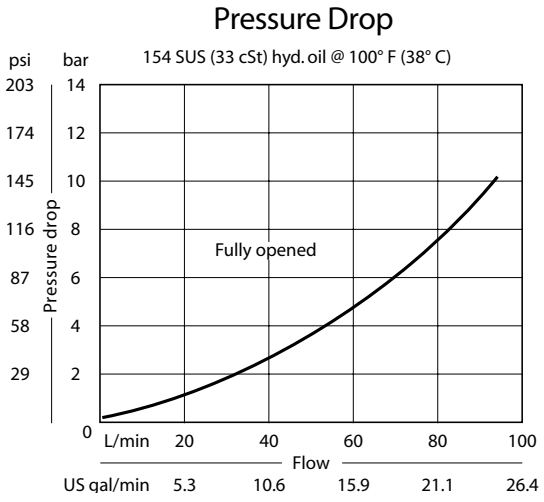
mm [in]



PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow @ 7 bar [100 psi]	**76 l/min [20 US gpm]**
Weight	0.26 kg [0.57 lb]
Cavity	CP12-3S

PERFORMANCE CURVES



MODEL CODE

CP701 - 4 - B - 12S - 080

Seal Option

Code	Seal kit
B-Buna - N	120335
V-Viton	120336

Housing

Code	Ports & Material	Housing Model Code	Pilot port
0	No Housing		
4B	AL, 1/2 BSP	CP12-3S-4B/2B	1/4 BSP
6B	AL, 3/4 BSP	CP12-3S-6B/2B	1/4 BSP
10S	AL, #10 SAE	CP12-3S-10S/4S	#4 SAE
12S	AL, #12 SAE	CP12-3S-12S/4S	#4 SAE

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
030	2.1	[30]
050	3.5	[50]
080	5.5	[80]
100	6.9	[100]
150	10.3	[150]

Logic Elements
DPS2-16-F

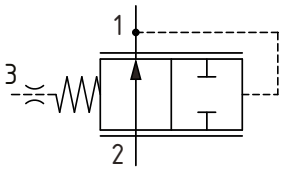
Logic Element, Normally Open, Spool Type, Pilot to Open

290 bar [4200 psi] • 189 l/min [50 US gpm]

DESCRIPTION AND OPERATION

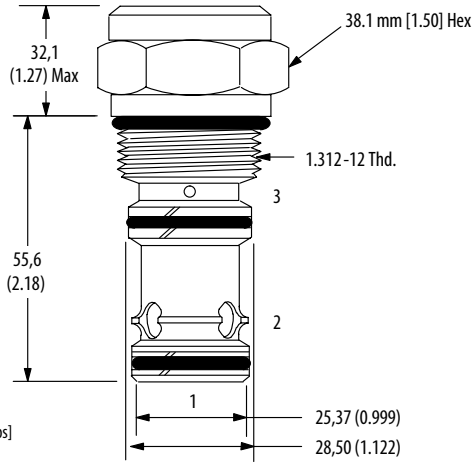
This is a 3-ported, normally open, pilot to open, spool type logic element. Flow is open from port 2 to port 1, until pressure in port 1 is sufficient to overcome the spring set pressure plus any pressure in port 3. The pressure in port 3 can be controlled remotely making the valve ideal for use as a normally open on/off element in a pressure reducing function. This valve is most commonly used as a pressure compensator in conjunction with a proportional directional valve.

SCHEMATIC



DIMENSIONS

mm [in]

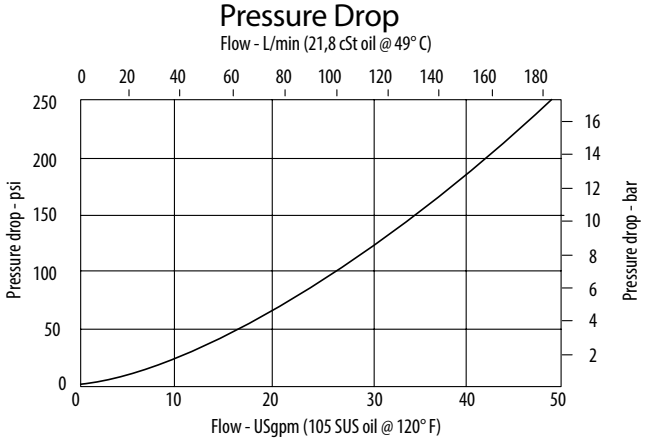


Installation torque
A-108-122 Nm [80-90 ft. lbs]
S-136-149 Nm [100-110 ft. lbs]

PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**189 l/min [50 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 290 bar [4200 psi]
Weight	0.35 kg [0.78 lb]
Cavity	SDC16-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 16 - V - F - A - 4G - F - 005

Seal Option

Code	Seal kit
Omit-Buna - N	889659
V-Viton	02-165871

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
4G	1/2" BSP	3/8" BSP	02-160676	02–175118
6G	3/4" BSP	3/8" BSP	876726	02–175119
10H	#10 SAE	#6 SAE	876725	
12H	#12 SAE	#6 SAE	786727	
10T	#10 SAE	#6 SAE		02–175116
12T	#12 SAE	#6 SAE		02–175117

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5] *
020	1.40	[20] *
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Adjustment Option

F- Fixed

Logic Elements
DPS2-20-F

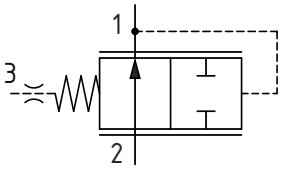
Logic Element, Normally Open, Spool Type, Pilot to Open

290 bar [4200 psi] • 303 l/min [80 US gpm]

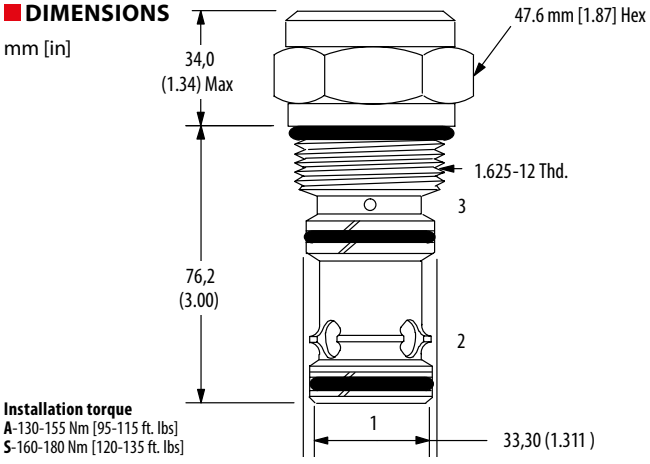
DESCRIPTION AND OPERATION

This is a 3-ported, normally open, pilot to open, spool type logic element. Flow is open from port 2 to port 1, until pressure in port 1 is sufficient to overcome the spring set pressure plus any pressure in port 3. The pressure in port 3 can be controlled remotely making the valve ideal for use as a normally open on/off element in a pressure reducing function. This valve is most commonly used as a pressure compensator in conjunction with a proportional directional valve.

SCHEMATIC



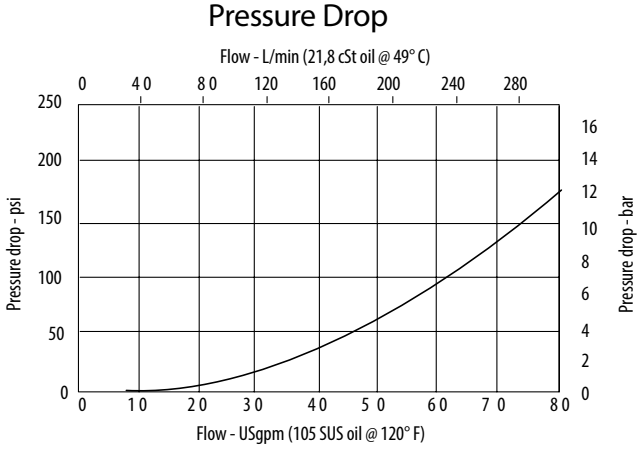
DIMENSIONS



PERFORMANCE DATA

Rated pressure	**290 bar [4200 psi]**
Rated flow	**303 l/min [80 US gpm]**
Leakage	82 ml/min [5 in3/min] @ 290 bar [4200 psi]
Weight	0.81 kg [1.78 lb]
Cavity	C-20-3S

PERFORMANCE CURVES



MODEL CODE

DPS2 - 20 - V - F - A - 8G - F - 005

Seal Option

Code	Seal kit
Omit-Buna - N	02-113153
V-Viton	02-112969

Housing Material

Omit-No housing
A-Aluminum
S-Steel

Housing

Code	Ports 1 & 2	Port 3	Aluminum Heavy Duty	Steel
0	No Housing			
6G	3/4" BSP	3/8" BSP	876740	02–175122
8G	1" BSP	3/8" BSP	876742	02–175123
12H	#12 SAE	#6 SAE	876741	
16H	#16 SAE	#6 SAE	876743	
12T	#12 SAE	#6 SAE		02–175120
16T	#16 SAE	#6 SAE		02–175121

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Differential Pressure

Code	Bar	Psi
005	0.35	[5] *
010	0.7	[10] *
020	1.40	[20] *
040	2.80	[40]
080	5.5	[80]
160	11.0	[160]

* The operating back pressure at port 3 should never be less than 1.3 times the spring set pressure.

Adjustment Option

F- Fixed

Logic Elements
LE402

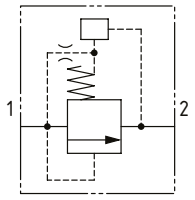
Logic Element, Normally Closed, Spool Type, Pilot Valve Adapter

350 bar [5000 psi] • 350 l/min [93 US gpm]

DESCRIPTION AND OPERATION

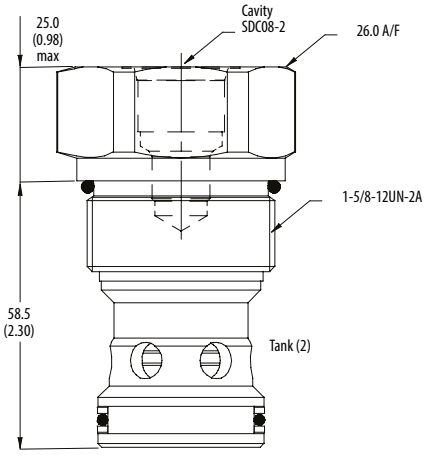
This is a high flow, 2-port logic element where a pilot control valve can be installed into the cavity on the top of the valve. The valve is normally closed from port 1 to 2, with an orifice through the spool connecting port 1 to the inlet port 1 of the control valve. Installing a direct acting relief valve will make this valve a high flow relief valve, a solenoid valve a high flow on/off valve, and a proportional control valve a high flow proportional control valve.

SCHEMATIC



DIMENSIONS

mm [in]

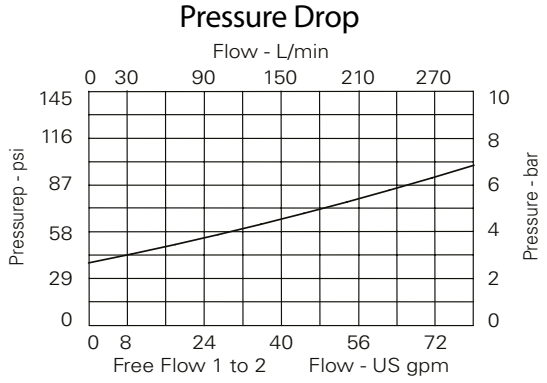


Installation torque
60 Nm [44 ft lbs]

PERFORMANCE DATA

Rated pressure	**350 bar [5000 psi]**
Rated flow	**350 l/min [93 US gpm]**
Pilot Valve Cavity	SDC08-2
Leakage	350 ml/min nominal
Weight	0.29 kg [0.63 lb]
Cavity	SDC20-2

PERFORMANCE CURVES



MODEL CODE

LE452 - N - 0.2 - 1DR2-P-40S - 10W - 377

Basic Code
LE402 -No housing
LE452- Cartridge and housing

Seal Option

Code	Seal Kit
N-Buna-N	SK633
V- Viton	SK633V

Spring Bias
0.2 - 2 bar [29 psi]

Pilot cartridge
Omit - None
1DR2-P-40S
PDR21AN*6**
S207N

Housing Material
Omit-Aluminum/No housing
377 - Steel

Housing

Code	Ports	Aluminum	Steel
Omit	No housing		
10W	1-1/4" BSP	C24005	C24006
12W	1-1/2" BSP	C24007	C24008
20T	1-1/4" SAE	C24011	C24012
24T	1-1/2" SAE	C24013	C24014

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Logic Elements
LEV402

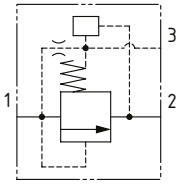
Logic Element, Normally Closed, Spool Type, Vent to Open with Pilot Valve Adapter

250 bar [3600 psi] • 400 l/min [106 US gpm]

DESCRIPTION AND OPERATION

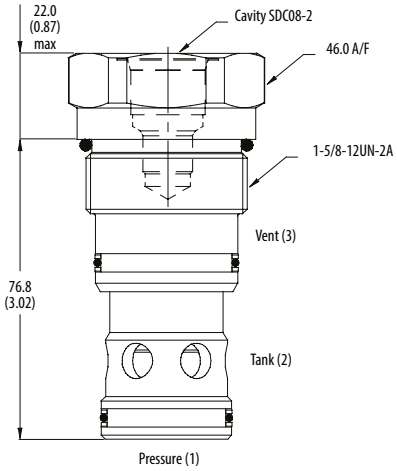
This is a high flow, 3-port logic element where a pilot control valve can be installed into the cavity on the top of the valve. The valve is normally closed from port 1 to 2 with an orifice through the spool connecting port 1 to the inlet port 1 of the control valve and to port 3. Installing a direct acting relief valve will make this valve a high flow relief valve, a solenoid valve a high flow on/off valve, and a proportional control valve a high flow proportional control valve. A second, optional control valve can be connected remotely to port 3. This is ideal for two pressure control or proportional control with a maximum pressure limit.

SCHEMATIC



DIMENSIONS

mm [in]

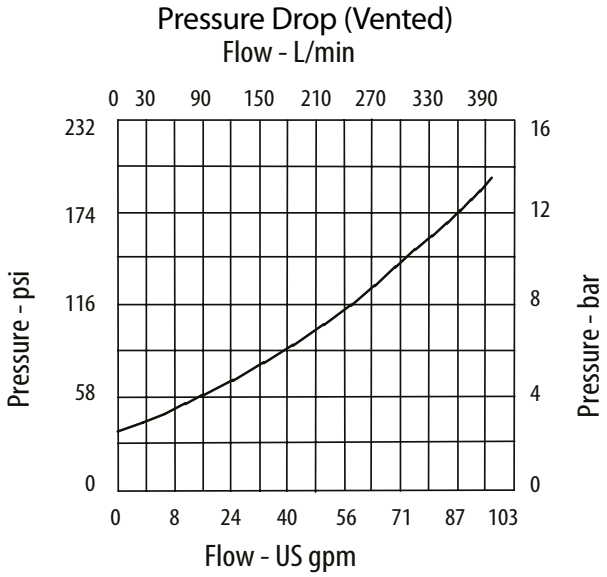


Installation torque
150 Nm [110 ft lbs]

PERFORMANCE DATA

Rated pressure	**250 bar [3600 psi]**
Rated flow	**400 l/min [106 US gpm]**
Max port 3 pressure	210 bar [3000 psi]
Pilot Valve Cavity	SDC08-2
Leakage	350 ml/min nominal
Weight	0.70 kg [1.54 lb]
Cavity	A21773

PERFORMANCE CURVES



MODEL CODE

LEV452 - N - 0.2 - 1DR2-P-40S - 10W - 377

Basic Code
LEV402-No housing
LEV452-Cartridge and housing

Seal Option

Code	Seal Kit
N-Buna-N	SK1232
V- Viton	SK1232V

Spring Bias
0.2 - 2 bar [29 psi]

Pilot cartridge
Omit - None
1DR2-P-40S
PDR21AN*6**
S207N

Housing Material
Omit -Aluminum/No housing
377 -Steel

Housing

Code	Ports	Aluminum	Steel
Omit	No housing		
10W	1-1/4" BSP, 1/4" BSP vent	C24005	C24006
12W	1-1/2" BSP, 1/4" BSP vent	C24007	C24008
20T	1-1/4" SAE, 1/4" SAE vent	C24011	C24012
24T	1-1/2" SAE, 1/4" SAE vent	C24013	C24014

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available