

SV

Solenoid Valves



Danfoss

Solenoid Valves

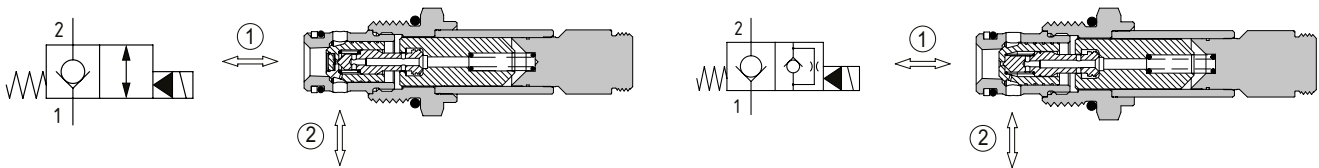
Application Notes

Basic Operation: Solenoid Valves

Solenoid operated poppet and spool valves utilize a coil placed over a tube, in which an armature is attracted to a pole end when the coil is energized. The movement of the armature against a spring either pulls or pushes a poppet or a spool to change the flow path. A spool valve can be 2, 3 or 4-ported with 2 or 3-positions. A direct acting poppet can be 2 or 3-ported with 2-positions. For pilot operated valves, a pilot poppet will open or close an orifice in the main poppet and are limited to 2-port 2-position normally open or closed applications. Poppet type valves have minimal leakage (drops/min), whereas spool valves will leak internally at a much higher rate due to the nature of the design.

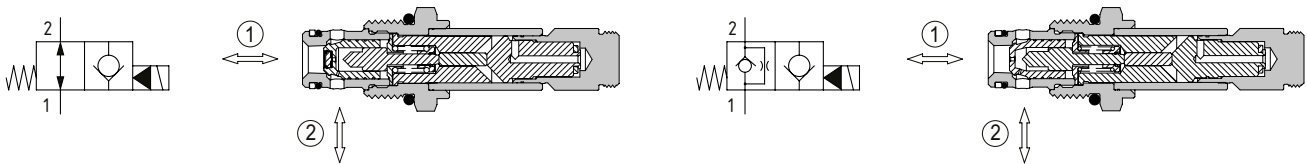
Normally Closed Pilot Operated Poppet Type

Normally closed pilot operated poppet type valves are 2-way, 2-position. In the de-energized position, there is free flow from port 1 to 2 and flow is blocked from port 2 to 1. When the coil is energized, the armature pulls the pilot poppet off its seat allowing the main poppet to move back, which allows flow between port 2 and 1. These valves are available in two options in the energized position: 1) Restricted flow from port 1 to 2 or 2) Free flow from port 1 to 2. These valves are commonly used in applications to hold a load, block a flow path, or unload flow to tank.



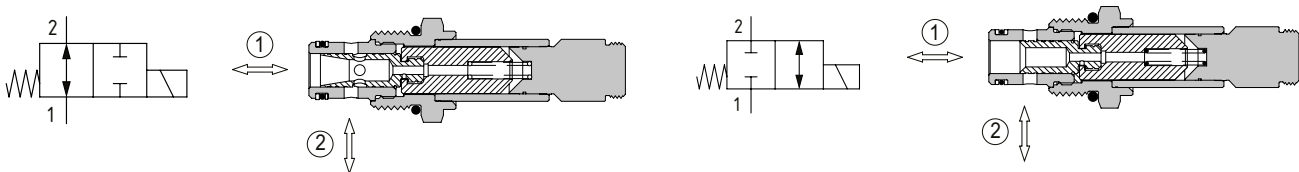
Normally Open Pilot Operated Poppet Type

Normally open pilot operated poppet type valves are 2-way, 2-position. In the de-energized position, there is free flow from port 2 to 1 and two options for flow from port 1 to 2: 1) restricted flow from port 1 to 2 or 2) free flow from port 1 to 2. When the coil is energized, the armature pushes the pilot poppet onto its seat causing the main poppet to block flow between port 2 and 1. In the energized position, free flow can take place from port 1 to 2. These valves are commonly used in applications to hold a load, block a flow path, or unload flow to tank.



2-Way Normally Open and Normally Closed Spool Type

2-way, 2-position spool type valves are fully open in one condition and closed in both directions in the other condition. These valves are used in a variety of applications where it is important to limit the initial pressure drop when the valve is open. Spool leakage will take place, so to hold a load in place a poppet-type valve is recommended. They can be used in regenerative circuits, pump unloading and in conjunction with a compensator to create two speeds.

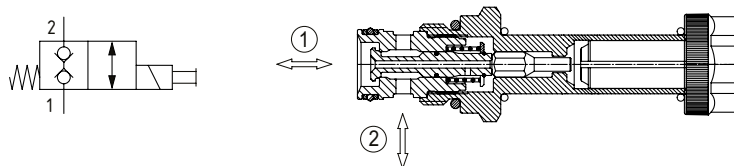


Solenoid Valves

Application Notes

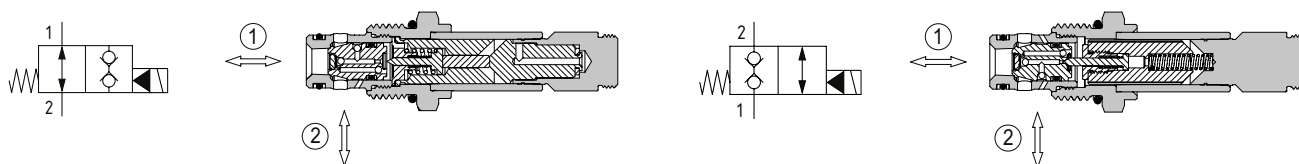
Normally Closed Direct Acting Double Blocking Poppet Type

Direct acting double blocking valves are normally closed 2-position, bi-directional poppet type valves. In the de-energized condition, the valve blocks flow in either direction with a very low leakage. When energized, flow passes freely in both directions. These valves are ideal for use as emergency lowering valves or to hold pressure in a cylinder, preventing up stream shock pressures from opening the valve.



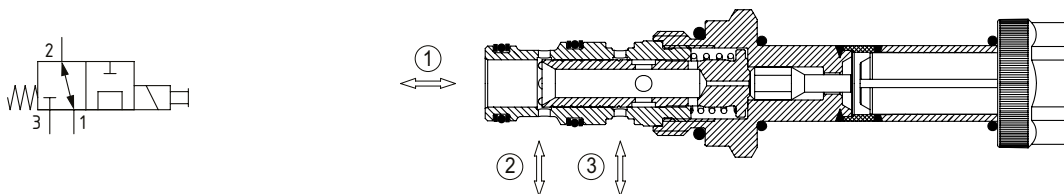
Normally Closed and Normally Open Pilot Operated Double Blocking Poppet Type

Pilot operated double blocking valves are 2-position, bi-directional poppet type valves that are fully open in one condition and closed in the opposite condition. These valves are ideal for isolating and holding actuators in position, as they have very low leakage in the closed condition. The pilot operated design provides a high flow capacity in a compact product.



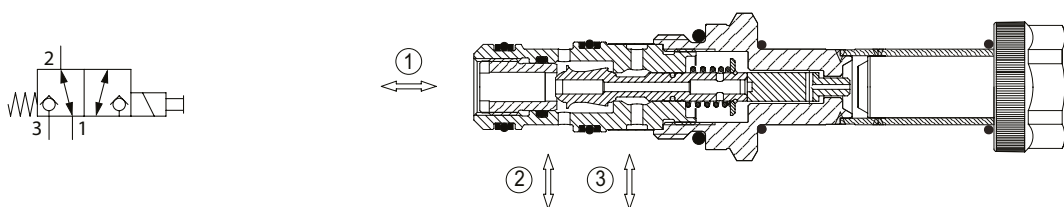
3-Way, 2-Position Spool Type

3-way, 2-position spool type valves are direct acting solenoid operated directional control valves. The valve can be used normally open, normally closed or as a selector and various port configurations are available. Always consult the operating envelope to establish the maximum working parameters for the chosen application. Spool leakage will take place, so to hold a load in place a poppet-type valve is recommended. These valves are commonly used to control single acting cylinders clutches or motors.



3-Way, 2-Position Poppet Type

3-way, 2-position poppet type valves are direct acting solenoid operated directional control valves. This valve is designed for hydraulic circuits requiring very low leakage and can be used for load holding and blocking applications.

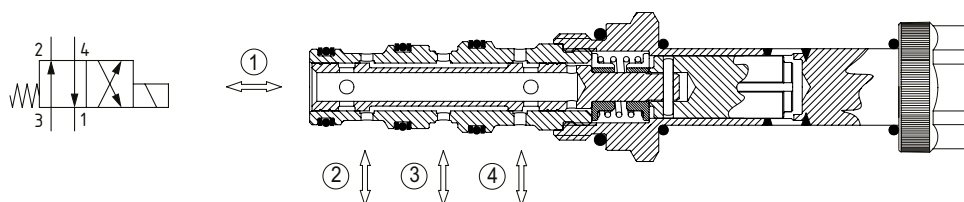


Solenoid Valves

Application Notes

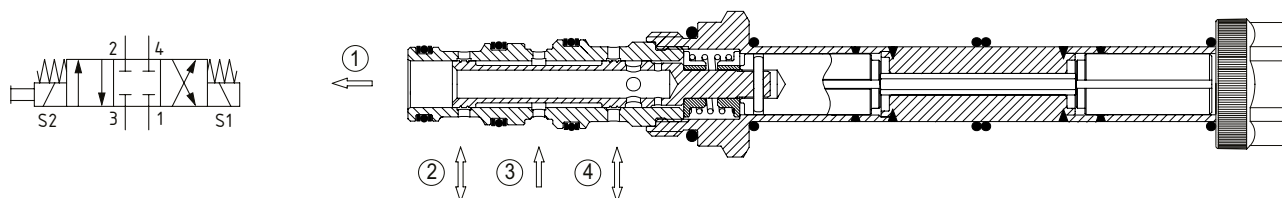
4-Way, 2-Position Spool Type

4-way, 2-position spool type valves are direct acting solenoid operated directional control valves. There are various spool configurations available often used to control double acting cylinders or motor reversing applications.



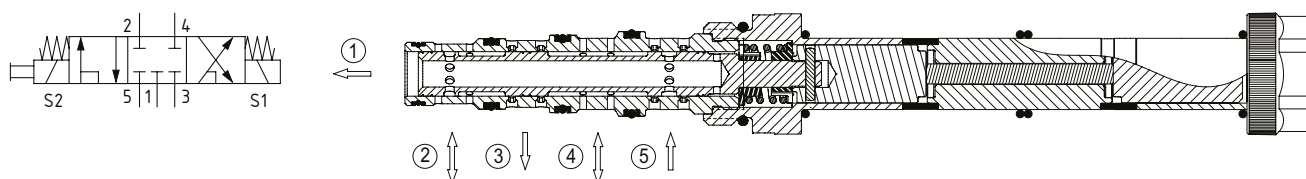
4-Way, 3-Position Spool Type

4-way, 3-position spool type valves are direct acting solenoid operated directional control valves. They control the direction of the fluid within a system and offer various center configurations when de-energized, including all ports blocked, all ports open, motor spools and pressure to tank. Spool leakage will take place, so additional poppet-type holding valve on the work ports is recommended to hold a load in place. These are commonly used to control double acting cylinders or in motor reversing applications.



5-Way, 3-Position Spool Type

5-way, 3-position spool type valves are direct acting solenoid operated directional control valves. They control the direction of the fluid within a system and offer center configurations where all ports are blocked or with the work ports connected to tank. A load sense port is also included, which is closed until the valve is energized, connecting the load sense port to the inlet port. Spool leakage will take place, so an additional poppet-type holding valve on the work ports is recommended to hold a load in place. These are commonly used to control double acting cylinders or in motor reversing applications.



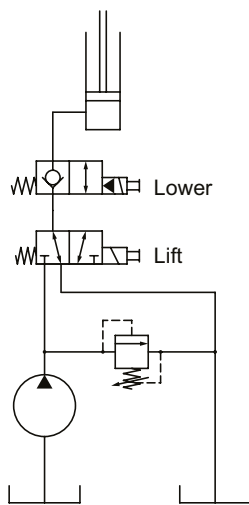
Application Recommendations

- Always refer to the performance envelope curves when specifying a solenoid valve.
- Over-flowing the valve may result in unsolicited spool movement and reversal of the function.
- Always consider that there may be a pressure limitation on the port connected to the core tube.
- Increase in coil temperature may affect the performance of the valve at the limits of the operating envelope.
- The coil temperature will increase above the ambient, so care should be taken not to exceed the insulation and encapsulation limits of the coil.
- Shifting times will vary when a valve is used with high viscosity fluids or at low temperatures.
- Pilot operated valves may produce a momentary opening as pressures equalize over the main poppet.
- All spool valves will leak internally. The amount of leakage will vary depending on the spool configuration and the direction of leakage.
- 3, 4, and 5-way spool valves are designed with a 'zero overlap' spool transition unless otherwise specified on the individual product page. However, due to manufacturing tolerances, a closed transition or highly restricted open transition could occur.

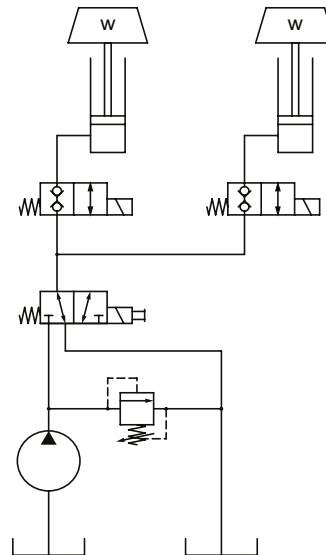
Solenoid Valves

Application Notes

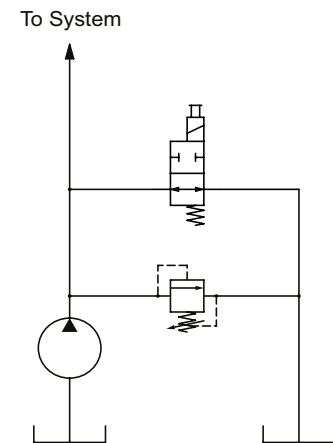
Typical Applications



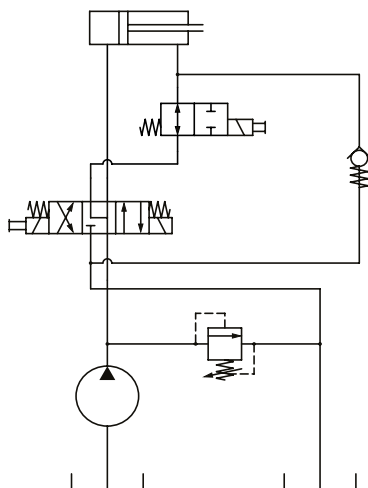
▲ Holding and Lowering



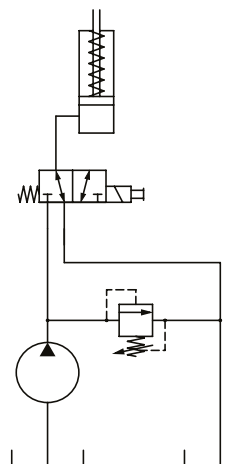
▲ Independent Cylinder



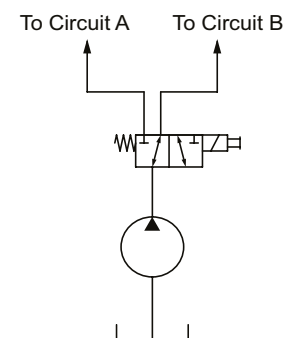
▲ Pump Unloading



▲ Regenerative Circuit



▲ Single Acting Cylinder Control

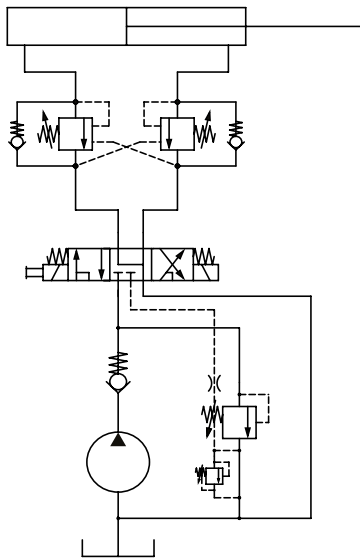


▲ Selector Circuit

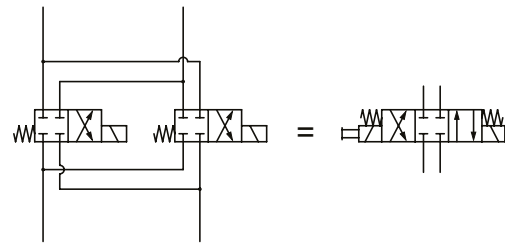
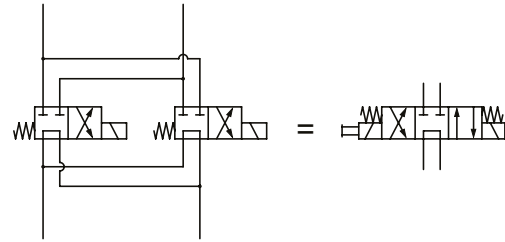
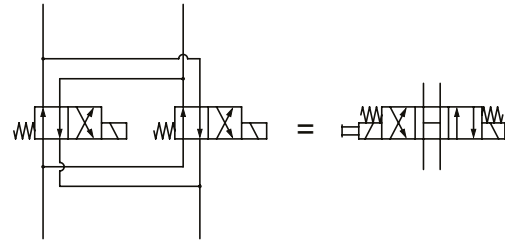
Solenoid Valves

Application Notes

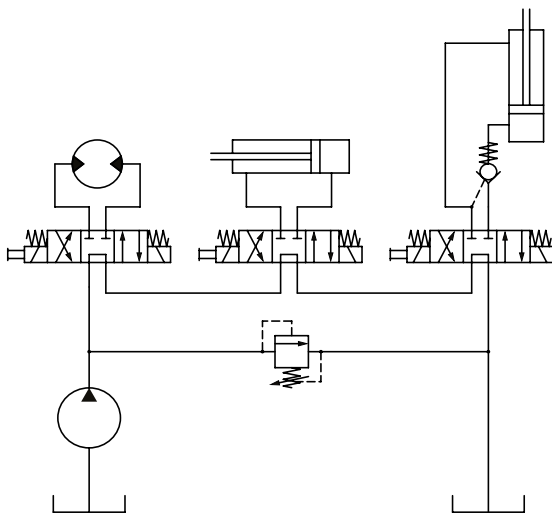
Typical Applications



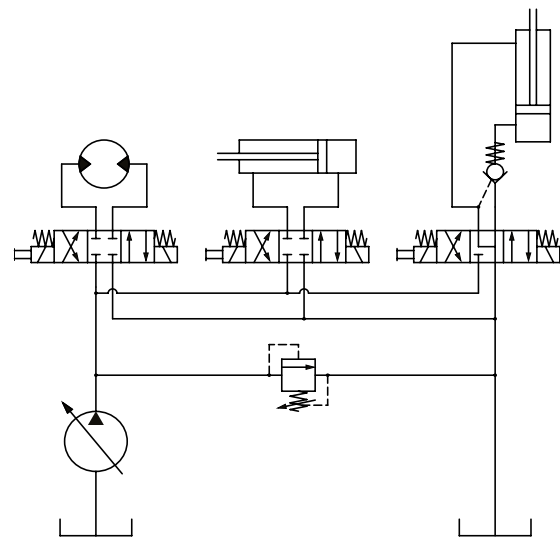
▲ Load Sense



▲ 4-Way, 3-Position



▲ Series (Open Center)



▲ Parallel (Closed)

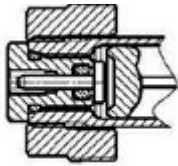
Solenoid Valves

Manual Override Options

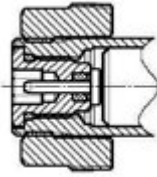
Note: Manual overrides are intended for emergency use only, not for continuous duty operation.

"Omit/PN" - Push Pin

08 and 15 series



10 series



Product Availability

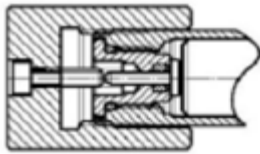
SVP08-CDB	HSV08-23-01	SV15-34-02	SV08-34-05
EVK06/C5	SV10-23-01	SV08-34-03	HSV08-34-05
SVP08-NO/NOR	CP521-21	SV10-34-03	SV10-34-05
SVP10-NO/NOR	SV08-23-03	SV15-34-03	SV15-34-05
SV08-22-01	SV08-34-02	SV08-34-04	SV10-34-11
EVH 06/D5	HSV08-34-02	SV10-34-04	SV10-35-02
SV08-23-01	SV10-34-02	SV15-34-04	SV10-35-05

OPERATION

1. Push the pin toward the valve using a hex key to actuate override
2. Remove the hex key to return to neutral position

"OPS" - Protected Push Pin

08 and 10 Series



Product Availability

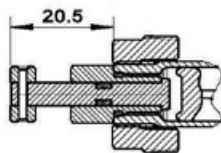
SVP08-CDB	SV10-23-01	SV10-34-04
EVK06/C5	SV08-23-03	SV08-34-05
SVP08-NO/NOR	SV08-34-02	SV10-34-05
SVP10-NO/NOR	SV10-34-02	SV10-34-11
SV08-22-01	SV08-34-03	SV10-35-02
EVH 06/D5	SV10-34-03	SV10-35-05
SV08-23-01	SV08-34-04	

OPERATION

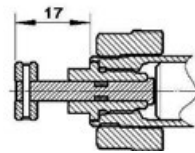
1. Screw the nut clockwise to actuate override
2. Unscrew the nut counterclockwise to return to neutral position

"PB" - Push Button

08 series



10 series



Neutral

Product Availability

SVP08-CDB	SV08-23-01	SV10-34-02	HSV08-34-05
EVK06/C5	HSV08-23-01	SV08-34-03	SV10-34-05
SVP08-NO/NOR	SV10-23-01	SV10-34-03	SV10-34-11
SVP10-NO/NOR	SV08-23-03	SV08-34-04	SV10-35-02
SV08-22-01	SV08-34-02	SV10-34-04	SV10-35-05
EVH 06/D5	HSV08-34-02	SV08-34-05	

OPERATION

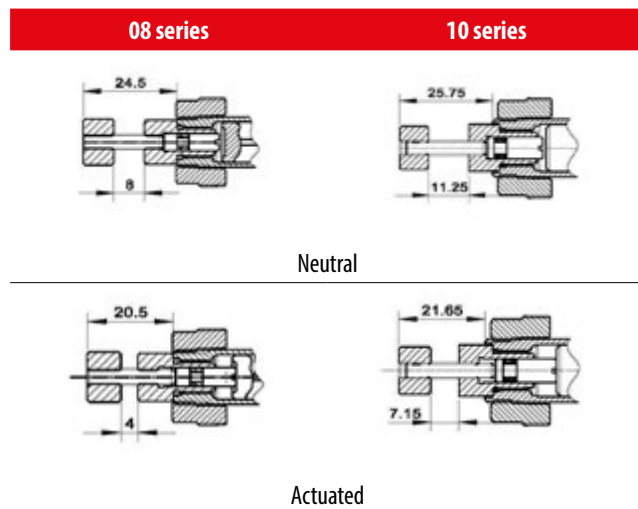
1. Push the button toward the valve to actuate override
2. Release the button to return to neutral position

Solenoid Valves

Manual Override Options

Note: Manual overrides are intended for emergency use only, not for continuous duty operation.

"SPS" - Screw Type

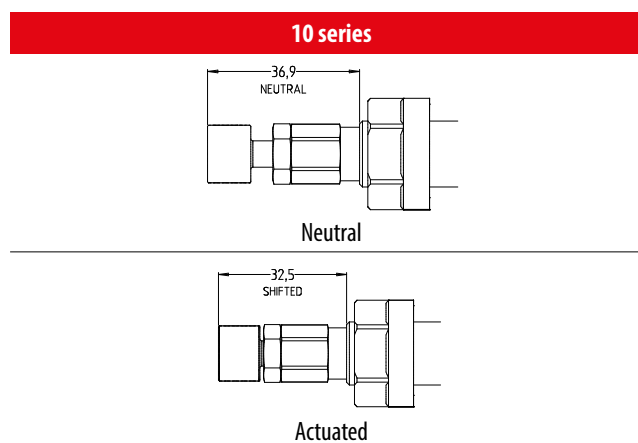


Product Availability			
SVP08-CDB	HSV08-23-01	SV08-34-03	HSV08-34-05
EVK06/C5	SV10-23-01	SV10-34-03	SV10-34-05
SVP08-NO/NOR	SV08-23-03	SV15-34-03	SV15-34-05
SVP10-NO/NOR	SV08-34-02	SV08-34-04	SV10-34-11
SV08-22-01	HSV08-34-02	SV10-34-04	SV10-35-02
EVH 06/D5	SV10-34-02	SV15-34-04	SV10-35-05
SV08-23-01	SV15-34-02	SV08-34-05	

OPERATION

1. Screw the knob clockwise to actuate override
2. Unscrew the knob counterclockwise to return to neutral position

"PAT" - Push and Twist



Product Availability		
SVP10-NO/NOR	SV10-34-03	SV10-34-11
SV10-23-01	SV10-34-04	SV10-35-02
SV10-34-02	SV10-34-05	SV10-35-05

OPERATION

1. Push the knob toward the valve until it stops.
2. Twist the knob clockwise until the override locks in place (180 degrees).
3. Release the knob to leave in the actuated position.
4. To de-activate, push the knob toward the valve slightly.
5. Twist the knob clockwise until the override returns to the neutral position (180 degrees).

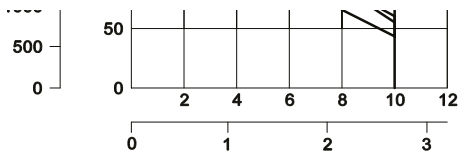
Solenoid Valves

Manual Override Options

Note: Manual overrides are intended for emergency use only, not for continuous duty operation.

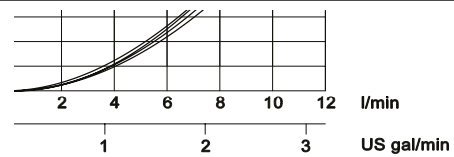
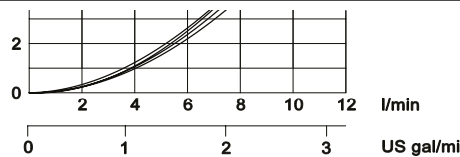
"PAP" - Push and Pull

08 series



10 series

Neutral



Actuated

OPERATION

1. Push the knob toward the valve to actuate the override in one direction.
2. Pull the knob away from the valve to actuate the override in the opposite direction.
3. In either direction, release the knob to return the override to the neutral position.

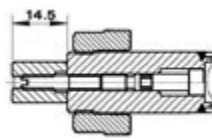
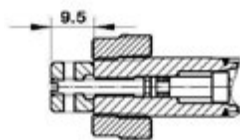
Product Availability

SV10-34-02	SV10-35-05	SV10-34-11
SV10-34-05	SV08-34-02	
SV10-35-02	SV08-34-05	

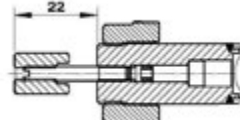
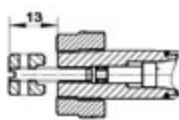
"M" - Screw Type (Pull)

08 series

10 series



Neutral



Actuated

Product Availability

SVP08-NCF
SVP08-NC/NCR
SVP10-NC/NCR

OPERATION

1. Unscrew the nut counterclockwise to actuate override.
2. Screw the nut clockwise to return to neutral position.

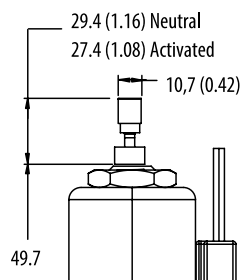
Solenoid Valves

Manual Override Options

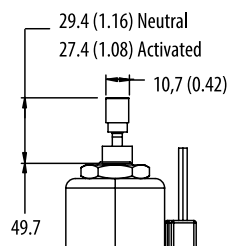
Note: Manual overrides are intended for emergency use only, not for continuous duty operation.

"S" - Screw Type

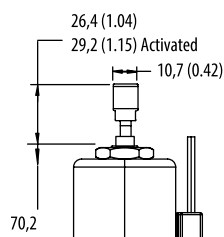
08 series
(210 bar pressure rating)



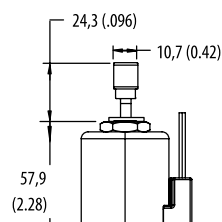
08 series
(350 bar pressure rating)



10, 12, 16, 20 series
(210 bar pressure rating)



10, 12, 16, 20 series
(350 bar pressure rating)



Product Availability

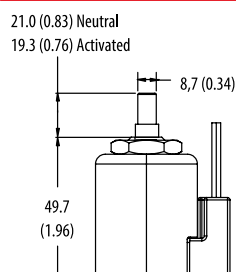
SV13-10-0	SV13-20-0	SV3-12-0
SV13-12-0	SV15-10-0	SV3-16-0
SV13-16-0	SV15-8-0	SV3-20-0

OPERATION

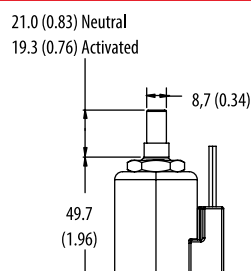
1. Screw the nut clockwise to actuate override.
2. Unscrew the nut counterclockwise to return to neutral position.

"P" - Push Type

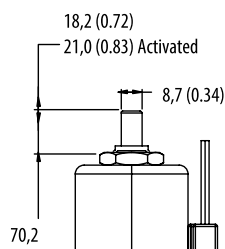
08 series
(210 bar pressure rating)



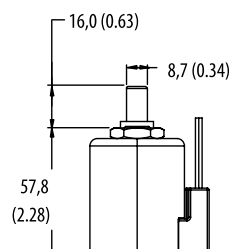
08 series
(350 bar pressure rating)



10, 12, 16, 20 series
(210 bar pressure rating)



10, 12, 16, 20 series
(350 bar pressure rating)



Product Availability

SV13-10-0	SV13-20-0	SV3-12-0
SV13-12-0	SV15-10-0	SV3-16-0
SV13-16-0	SV15-8-0	SV3-20-0

OPERATION

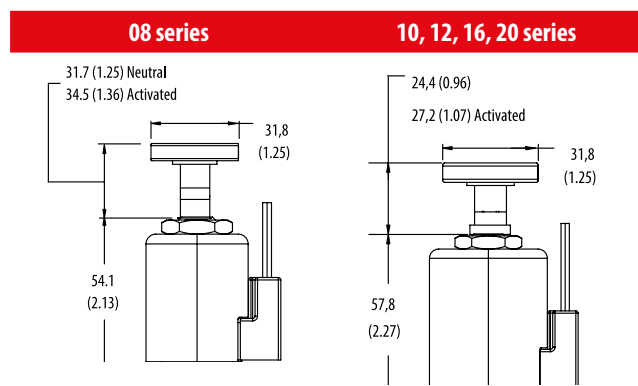
1. Push the button toward the valve to actuate override
2. Release the button to return to neutral position

Solenoid Valves

Manual Override Options

Note: Manual overrides are intended for emergency use only, not for continuous duty operation.

"M" - Pull and Twist

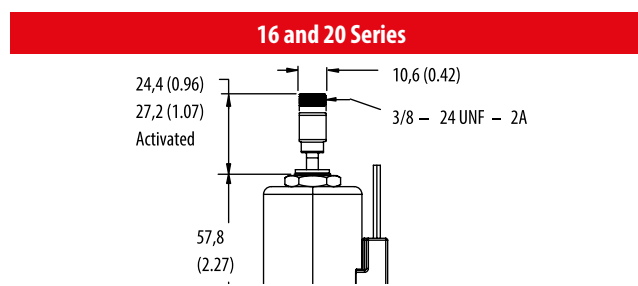


Product Availability			
SBV11-8-C	SV12-10-C	SV13-12-C	SV3-10-C
SV11-10-4	SV12-8-4	SV13-16-C	SV3-12-C
SV11-10-3	SV13-10-C	SV14-10-C	SV1-16-C
SV11-10-C	SBV11-10-C	SV15-8-C	SV2-20-C
SBV1-10-C			

OPERATION

1. Pull the knob upward until it stops.
2. Twist the knob clockwise until the override tooth is resting securely on top of the detent base slot.
3. Release the knob to leave in the actuated position.
4. To de-activate, pull the knob upward slightly.
5. Twist the knob clockwise until the override tooth is securely engaged in the detent base slot.

"R" - Cable Type



Product Availability	
SV1-16-C	
SV2-20-C	

Solenoid Valves

Quick Reference

Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-NC	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated	35 l/min [9 US gpm]	230 bar [3300 psi]	20
	SV15-8-C	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated	38 l/min [10 US gpm]	350 bar [5000 psi]	21
	SVP10-NC	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated	80 l/min [21 US gpm]	230 bar [3300 psi]	22
	SV11-10-C	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated	45 l/min [12 US gpm]	350 bar [5000 psi]	23

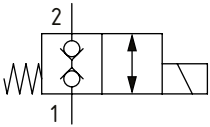
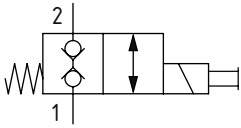
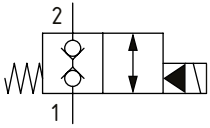
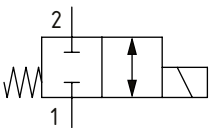
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-NCF	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Flow Control	15 l/min [4 US gpm]	230 bar [3300 psi]	24

Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-NCR	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	35 l/min [9 US gpm]	230 bar [3300 psi]	26
	SVP10-NCR	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	80 l/min [21 US gpm]	230 bar [3300 psi]	27
	SV13-10-C	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	45 l/min [12 US gpm]	350 bar [5000 psi]	28
	SLP13-10-C	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	95 l/min [25 US gpm]	350 bar [5000 psi]	29
	SV3-12-C	C-12-2/C-12-2U	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	114 l/min [30 US gpm]	210 bar [3000 psi]	30
	SV13-12-C	C-12-2 / C-12-2U	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	114 l/min [30 US gpm]	350 bar [5000 psi]	31
	SV1-16-C	SDC16-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	132 l/min [35 US gpm]	210 bar [3000 psi]	32
	SV13-16-C	SDC16-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	132 l/min [35 US gpm]	350 bar [5000 psi]	33
	SV2-20-C	SDC20-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	230 l/min [60 US gpm]	210 bar [3000 psi]	34
	SV13-20-C	SDC20-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow	230 l/min [60 US gpm]	350 bar [5000 psi]	35

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

Solenoid Valves

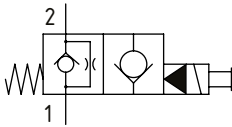
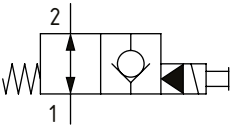
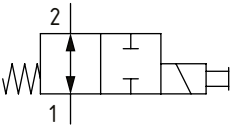
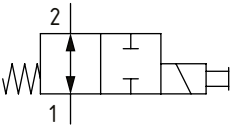
Quick Reference

Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SBV12-8-C	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Direct Acting, Double Blocking	1 l/min [0.25 US gpm]	350 bar [5000 psi]	36
	SVP08-CDB	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Direct Acting, Double Blocking	25 l/min [6.6 US gpm]	230 bar [3300 psi]	37
	EVK 06/C5	NCS 06/2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Direct Acting, Double Blocking	40 l/min [10.6 US gpm]	210 bar [3000 psi]	38
	SBV11-8-C	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Double Blocking	60 l/min [16 US gpm]	350 bar [5000 psi]	39
	SBV1-10-C	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Double Blocking	76 l/min [20 US gpm]	210 bar [3000 psi]	40
	SBV11-10-C	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Double Blocking	76 l/min [20 US gpm]	350 bar [5000 psi]	41
	SBV1-12-C	C-12-2 / C-12-2U	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Double Blocking	114 l/min [30 US gpm]	210 bar [3000 psi]	42
	SBV11-12-C	C-12-2 / C-12-2U	Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Double Blocking	114 l/min [30 US gpm]	350 bar [5000 psi]	43
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-22-02	SDC08-2	Solenoid Valve, 2-way, Spool Type, Normally Closed	18 l/min [4.7 US gpm]	230 bar [3300 psi]	44
	HSV08-22-02	SDC08-2	Solenoid Valve, 2-way, Spool Type, Normally Closed	20 l/min [5.3 US gpm]	350 bar [5000 psi]	45
	SV10-22-02	SDC10-2	Solenoid Valve, 2-way, Spool Type, Normally Closed	35 l/min [9 US gpm]	230 bar [3300 psi]	46
	SV14-10-C	SDC10-2	Solenoid Valve, 2-way, Spool Type, Normally Closed	23 l/min [6 US gpm]	350 bar [5000 psi]	47
	SV15-22-02	NCS 12/2	Solenoid Valve, 2-way, Spool Type, Normally Closed	60 l/min [16 US gpm]	230 bar [3300 psi]	48

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

Solenoid Valves

Quick Reference

Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-NO	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated	35 l/min [9 US gpm]	230 bar [3300 psi]	49
	SV15-8-O	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated	38 l/min [10 US gpm]	350 bar [5000 psi]	50
	SVP10-NO	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated	80 l/min [21 US gpm]	230 bar [3300 psi]	51
	SV15-10-O	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated	45 l/min [12 US gpm]	350 bar [5000 psi]	52
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SVP08-NOR	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	35 l/min [9 US gpm]	230 bar [3300 psi]	53
	SVP10-NOR	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	80 l/min [21 US gpm]	230 bar [3300 psi]	54
	SV13-10-O	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	45 l/min [12 US gpm]	350 bar [5000 psi]	55
	SLP13-10-O	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	95 l/min [25 US gpm]	350 bar [5000 psi]	56
	SV3-12-O	C-12-2/C-12-2U	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	114 l/min [30 US gpm]	210 bar [3000 psi]	57
	SV13-12-O	C-12-2 / C-12-2U	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	114 l/min [30 US gpm]	350 bar [5000 psi]	58
	SV3-16-O	SDC16-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	132 l/min [35 US gpm]	210 bar [3000 psi]	59
	SV13-16-O	SDC16-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	132 l/min [35 US gpm]	350 bar [5000 psi]	60
	SV3-20-O	SDC20-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	230 l/min [60 US gpm]	210 bar [3000 psi]	61
	SV13-20-O	SDC20-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow	230 l/min 60 US gpm]	350 bar [5000 psi]	62
	SV08-22-01	SDC08-2	Solenoid Valve, 2-way, Spool Type, Normally Open	16 l/min [4.2 US gpm]	230 bar [3300 psi]	63
	HSV08-22-01	SDC08-2	Solenoid Valve, 2-way, Spool Type, Normally Open	20 l/min [5.3 US gpm]	350 bar [5000 psi]	64
	SV10-22-01	SDC10-2	Solenoid Valve, 2-way, Spool Type, Normally Open	35 l/min [9 US gpm]	230 bar [3300 psi]	65
	SV14-10-O	SDC10-2	Solenoid Valve, 2-way, Spool Type, Normally Open	23 l/min [6 US gpm]	350 bar [5000 psi]	66
	SV15-22-01	NCS 12/2	Solenoid Valve, 2-way, Spool Type, Normally Open	60 l/min [16 US gpm]	230 bar [3300 psi]	67

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

Solenoid Valves

Quick Reference

Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	S207	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Direct Acting, Double Blocking	1 l/min [0.25 US gpm]	350 bar [5000 psi]	68
	SBV11-8-O	SDC08-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated, Double Blocking	60 l/min [16 US gpm]	350 bar [5000 psi]	69
	SBV11-10-O	SDC10-2	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated, Double Blocking	76 l/min [20 US gpm]	350 bar [5000 psi]	70
	SBV11-12-O	C-12-2 / C-12-2U	Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated, Double Blocking	114 l/min [30 US gpm]	350 bar [5000 psi]	71
	SVP08-DDB	SDC08-3	Solenoid Valve, 3-way, 2-position, Poppet Type	3 l/min [0.8 US gpm]	230 bar [3300 psi]	72
	EVH 06/D5	NCS 06/3	Solenoid Valve, 3-way, 2-position, Poppet Type	25 l/min [6.6 US gpm]	230 bar [3300 psi]	73
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-23-01	SDC08-3	Solenoid Valve, 3-way, 2-position, Spool Type	18 l/min [4.8 US gpm]	230 bar [3300 psi]	74
	HSV08-23-01	SDC08-3	Solenoid Valve, 3-way, 2-position, Spool Type	15 l/min [4 US gpm]	350 bar [5000 psi]	75
	SV10-23-01	SDC10-3	Solenoid Valve, 3-way, 2-position, Spool Type	35 l/min [9 US gpm]	230 bar [3300 psi]	76
	CP521-21	CP12-3	Solenoid Valve, 3-way, 2-position, Spool Type	60 l/min [16 US gpm]	240 bar [3500 psi]	77
	SV11M-12-3P	C-12-3	Solenoid Valve, 3-way, 2-position, Spool Type	35 l/min [9 US gpm]	350 bar [5000 psi]	78

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

Solenoid Valves

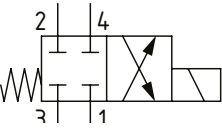
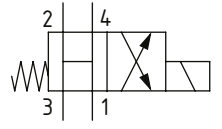
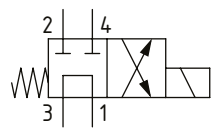
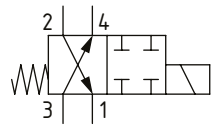
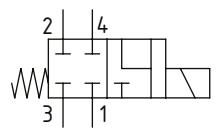
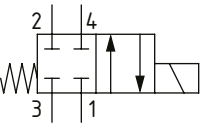
Quick Reference

Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV07-23-02	CP07-3	Solenoid Valve, 3-way, 2-position, Spool Type	8 l/min [2.11 US gpm]	80 bar [1160 psi]	79
	SV08-23-02	SDC08-3	Solenoid Valve, 3-way, 2-position, Spool Type	18 l/min [4.8 US gpm]	230 bar [3300 psi]	80
	HSV08-23-02	SDC08-3	Solenoid Valve, 3-way, 2-position, Spool Type	15 l/min [4 US gpm]	350 bar [5000 psi]	81
	SV09-23-02	SDC10-3	Solenoid Valve, 3-way, 2-position, Spool Type	21 l/min [5.5 US gpm]	100 bar [1450 psi]	82
	SV10-23-02	SDC10-3	Solenoid Valve, 3-way, 2-position, Spool Type	28 l/min [7.4 US gpm]	230 bar [3300 psi]	83
	SV11-10-3	SDC10-3	Solenoid Valve, 3-way, 2-position, Spool Type	23 l/min [6 US gpm]	350 bar [5000 psi]	84
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-23-03	SDC08-3	Solenoid Valve, 3-way, 2-position, Spool Type	18 l/min [4.7 US gpm]	230 bar [3300 psi]	85
	SV10-23-03	SDC10-3	Solenoid Valve, 3-way, 2-position, Spool Type	28 l/min [7.4 US gpm]	230bar [3300 psi]	86
	SV4M-12-3P	C-12-3	Solenoid Valve, 3-way, 2-position, Spool Type	42 l/min [11 US gpm]	210 bar [3000 psi]	87
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-23-04	SDC08-3	Solenoid Valve, 3-way, 2-position, Spool Type	12 l/min [3.2 US gpm]	230 bar [3300 psi]	88
	SV10-23-04	SDC10-3	Solenoid Valve, 3-way, 2-position, Spool Type	20 l/min [5.3 US gpm]	230 bar [3300 psi]	89
	SV15-23-04	NCS 12/3	Solenoid Valve, 3-way, 2-position, Spool Type	50 l/min [13.2 US gpm]]	230 bar [3300 psi]	90
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-24-01	SDC08-4	Solenoid Valve, 4-way, 2-position, Spool Type	12 l/min [3.2 US gpm]	230 bar [3300 psi]	91
	HSV08-24-01	SDC08-4	Solenoid Valve, 4-way, 2-position, Spool Type	20 l/min [5.3 US gpm]	350 bar [5000 psi]	92
	SV10-24-01	SDC10-4	Solenoid Valve, 4-way, 2-position, Spool Type	35 l/min [9 US gpm]	230 bar [3300 psi]	93
	SV09-24-01	SDC10-4	Solenoid Valve, 4-way, 2-position, Spool Type	21 l/min [5.5 US gpm]	100 bar [1450 psi]	94
	SV11-10-4	SDC10-4	Solenoid Valve, 4-way, 2-position, Spool Type	23 l/min [6 US gpm]	350 bar [5000 psi]	95
	SV15-24-01	NCS 12/4	Solenoid Valve, 4-way, 2-position, Spool Type	60 l/min [16 US gpm]	230 bar [3300 psi]	96

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

Solenoid Valves

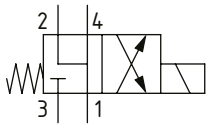
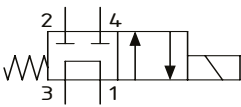
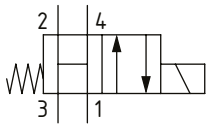
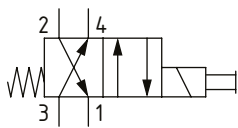
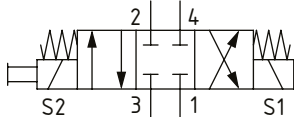
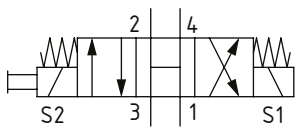
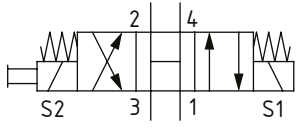
Quick Reference

Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-24-02	SDC08-4	Solenoid Valve, 4-way, 2-position, Spool Type	12 l/min [3.2 US gpm]	230 bar [3300 psi]	97
	SV12-8-4	SDC08-4	Solenoid Valve, 4-way, 2-position, Spool Type	11 l/min [2.9 US gpm]	350 bar [5000 psi]	98
	SV10-24-02	SDC10-4	Solenoid Valve, 4-way, 2-position, Spool Type	25 l/min [6.6 US gpm]	230 bar [3300 psi]	99
	SV12-10-4	SDC10-4	Solenoid Valve, 4-way, 2-position, Spool Type	23 l/min [6 US gpm]	350 bar [5000 psi]	100
	SV15-24-02	NCS 12/4	Solenoid Valve, 4-way, 2-position, Spool Type	60 l/min [16 US gpm]	230 bar [3300 psi]	101
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV15-24-03	NCS 12/4	Solenoid Valve, 4-way, 2-position, Spool Type	50 l/min [13.2 US gpm]	230 bar [3300 psi]	102
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-24-04	SDC08-4	Solenoid Valve, 4-way, 2-position, Spool Type	8 l/min [2 US gpm]	230 bar [3300 psi]	103
	SV15-24-04	NCS 12/4	Solenoid Valve, 4-way, 2-position, Spool Type	50 l/min [13.2 US gpm]	230 bar [3300 psi]	104
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-24-05	SDC10-4	Solenoid Valve, 4-way, 2-position, Spool Type	30 l/min [8 US gpm]	230 bar [3300 psi]	105
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-24-06	SDC10-4	Solenoid Valve, 4-way, 2-position, Spool Type	30 l/min [8 US gpm]	230 bar [3300 psi]	106
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-24-07	SDC10-4	Solenoid Valve, 4-way, 2-position, Spool Type	30 l/min [8 US gpm]	230 bar [3300 psi]	107

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

Solenoid Valves

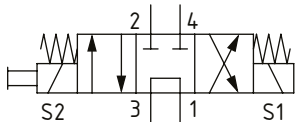
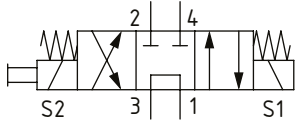
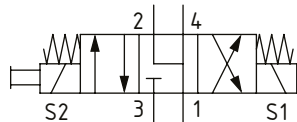
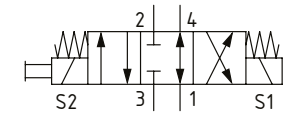
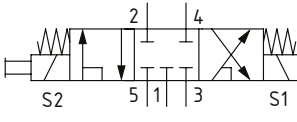
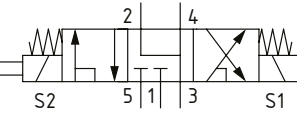
Quick Reference

Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-24-08	SDC08-4	Solenoid Valve, 4-way, 2-position, Spool Type	18 l/min [4.7 US gpm]	230 bar [3300 psi]	108
	SV10-24-12	SDC10-4	Solenoid Valve, 4-way, 2-position, Spool Type	25 l/min [6.6 US gpm]	230 bar [3300 psi]	109
	SV10-24-13	SDC10-4	Solenoid Valve, 4-way, 2-position, Spool Type	33 l/min [8.7 US gpm]	230 bar [3300 psi]	110
	SV7M-12-4P	C-12-4	Solenoid Valve, 4-way, 2-position, Spool Type	45 l/min [12 US gpm]	210 bar [3000 psi]	111
	SV17M-12-4P	C-12-4	Solenoid Valve, 4-way, 2-position, Spool Type	45 l/min [12 US gpm]	350 bar [5000 psi]	112
	SV08-34-02	SDC08-4	Solenoid Valve, 4-way, 3-position, Spool Type	16 l/min [4.2 US gpm]	230 bar [3300 psi]	113
	HSV08-34-02	SDC08-4	Solenoid Valve, 4-way, 3-position, Spool Type	17 l/min [4.5 US gpm]	350 bar [5000 psi]	114
	SV10-34-02	SDC10-4	Solenoid Valve, 4-way, 3-position, Spool Type	25 l/min [6.6 US gpm]	230 bar [3300 psi]	115
	SV15-34-02	NCS 12/4	Solenoid Valve, 4-way, 3-position, Spool Type	60 l/min [16 US gpm]	230 bar [3300 psi]	116
	SV08-34-03	SDC08-4	Solenoid Valve, 4-way, 3-position, Spool Type	8 l/min [2 US gpm]	230 bar [3300 psi]	117
	SV15-34-03	NCS 12/4	Solenoid Valve, 4-way, 3-position, Spool Type	50 l/min [13.2 US gpm]	230 bar [3300 psi]	118
	SV10-34-03	SDC 10-4	Solenoid Valve, 4-way, 3-position, Spool Type	24 l/min [6.3 US gpm]	230 bar [3300 psi]	119

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

Solenoid Valves

Quick Reference

Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-34-04	SDC08-4	Solenoid Valve, 4-way, 3-position, Spool Type	8 l/min [2 US gpm]	230 bar [3300 psi]	120
	SV15-34-04	NCS 12/4	Solenoid Valve, 4-way, 3-position, Spool Type	50 l/min [13.2 US gpm]	230 bar [3300 psi]	121
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-34-04	SDC10-4	Solenoid Valve, 4-way, 3-position, Spool Type	24 l/min [6.3 US gpm]	230 bar [3300 psi]	122
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV08-34-05	SDC08-4	Solenoid Valve, 4-way, 3-position, Spool Type	12 l/min [3.2 US gpm]	230 bar [3300 psi]	123
	HSV08-34-05	SDC08-4	Solenoid Valve, 4-way, 3-position, Spool Type	17 l/min [4.5 US gpm]	350 bar [5000 psi]	124
	SV10-34-05	SDC10-4	Solenoid Valve, 4-way, 3-position, Spool Type	24 l/min [6.3 US gpm]	230 bar [3300 psi]	125
	SV15-34-05	NCS 12/4	Solenoid Valve, 4-way, 3-position, Spool Type	60 l/min [16 US gpm]	230 bar [3300 psi]	126
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-34-11	SDC10-4	Solenoid Valve, 4-way, 3-position, Spool Type	28 l/min [7.4 US gpm]	230 bar [3300 psi]	127
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-35-02	SDC10-5	Solenoid Valve, 5-way, 3-position, Spool Type	30 l/min [8 US gpm]	230 bar [3300 psi]	128
Solenoid Valves	Model No.	Cavity	Description	Flow*	Pressure	Page
	SV10-35-05	SDC10-5	Solenoid Valve, 5-way, 3-position, Spool Type	30 l/min [8 US gpm]	230 bar [3300 psi]	129

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

Solenoid Valves

SVP08-NC

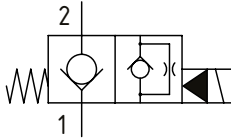
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated

230 bar [3300 psi] • 35 l/min [9 US gpm]

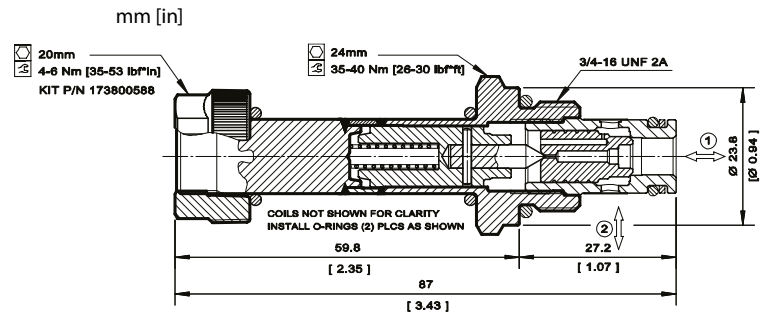
■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 but is restricted in the opposite direction. Some models have the option of a filter at port 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position and bypass excess oil to tank.

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Rated flow	35 l/min [9 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M13, R13
Weight	0,23 kg [0.51 lbs]
Cavity	SDC08-2

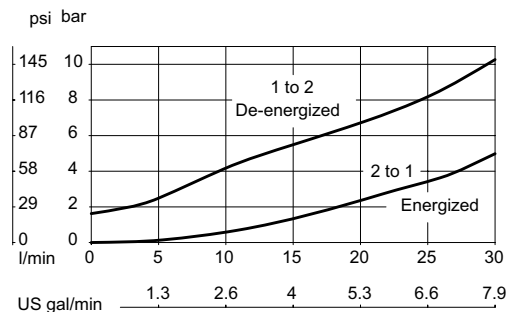
*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 600,000 cycles

■ PERFORMANCE CURVES

Pressure Drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



■ MODEL CODE

SVP08 - NC - 12D - DE - M - B - F - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
56S	#6 SAE, Steel	CP08-2-56S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	354000119
V-Viton	354000219

Manual Override Option

Omit - No Override
M - Screw Type (Pull)

Solenoid Valves

SV15-8-C

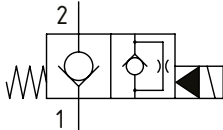
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated

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

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 but is restricted in the opposite direction. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position and bypass excess oil to tank.

■ SCHEMATIC

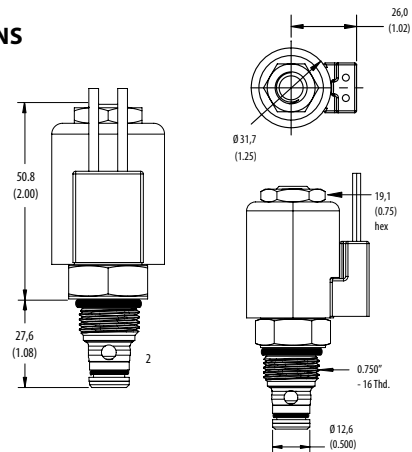


■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

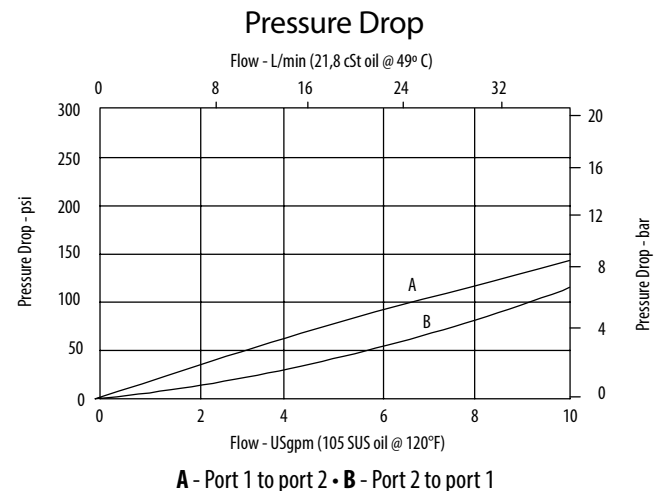
Installation torque
34-41 Nm [25-30 ft. lbs]



■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	37 l/min [10 US gpm]
Leakage	5 drops/min @ 210 bar [3000 psi]
Coil Options	P series
Weight	0.11 kg [0.25 lb]
Cavity	SDC08-2

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 8 - V - C - M - S - 2G - 12D - G - P

Seal Option

Code	Seal kit
Omit-Buna - N	02-165875
V-Viton	02-165877

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
2G	1/4" BSP	02-160733
3G	3/8" BSP	02-160734
4T	#4 SAE	02-160736
6T	#6 SAE	02-160737
8T	#8 SAE	02-160738

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

Coil Series

Omit - No coil
P - 8 series, 23 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	12 VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode
**Internally rectified
***Other voltage options available

Solenoid Valves

SVP10-NC

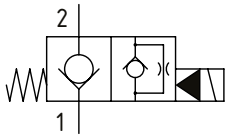
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated

230 bar [3300 psi] • 80 l/min [21 US gpm]

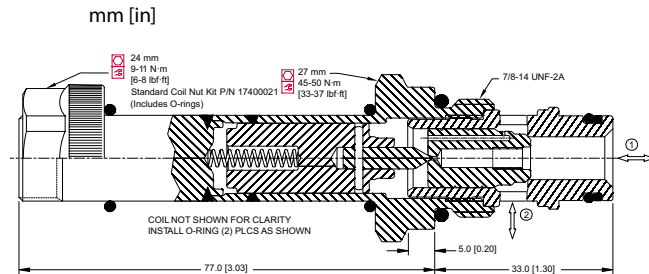
■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 but is restricted in the opposite direction. Some models have the option of a filter at port 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position and bypass excess oil to tank.

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Rated flow	80 l/min [21 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M16, R16
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2

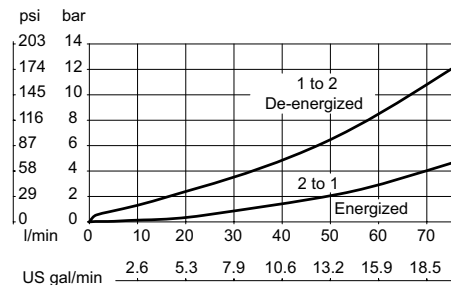
*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 250,000 cycles

■ PERFORMANCE CURVES

Pressure Drop

33 cSt [154 SUS] hyd.oil @ 38°C [100° F]



■ MODEL CODE

SVP10 - NC - 12D - DE - M - B - F - 00

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, Steel	CP10-2-S4B

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	354000719
V-Viton	354000819

Manual Override Option

Omit - No Override
M - Screw Type (Pull)

Solenoid Valves

SV11-10-C

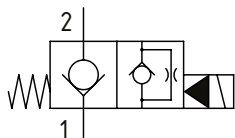
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated

350 bar [5000 psi] • 45 l/min [12 US gpm]

OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 but is restricted in the opposite direction. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position and bypass excess oil to tank.

SCHEMATIC



PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	45 l/min [12 US gpm]
Leakage	5 drops/min @ 350 bar [5000 psi]
Coil Options	H series
Weight	0,18 kg [0.39 lbs]
Cavity	SDC10-2

MODEL CODE

SV11 - 10 - V - C - M - S - 2G - 12D - G - H

Seal Option

Code	Seal kit
Omit-Buna - N	565803
V-Viton	566086

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No housing
S - Steel

Housing

Code	Ports	Steel
00	No Housing	
2G	1/4" BSP	02-175102
3G	3/8" BSP	02-175103
6T	#6 SAE	02-175100
8T	#8 SAE	02-175101

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

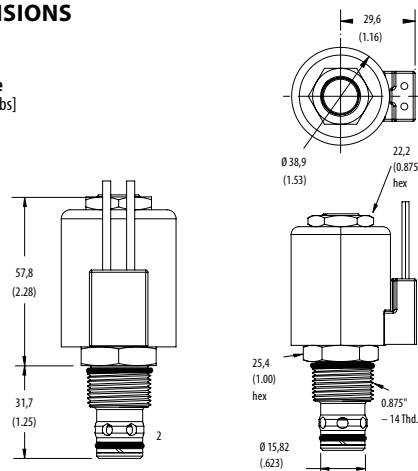
**Internally rectified

***Other voltage options available

DIMENSIONS

mm [in]

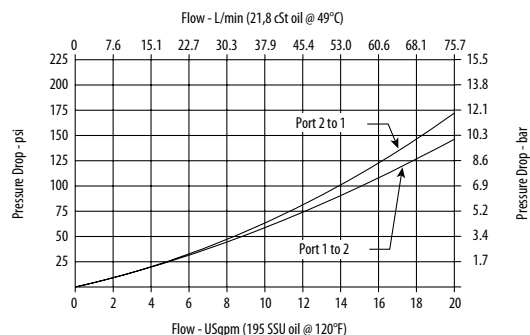
Coil nut torque
5-8 Nm [4-6 ft. lbs]



Installation torque
68-75 Nm [50-55 ft. lbs]

PERFORMANCE CURVES

Pressure Drop



A - Port 1 to 2 de-energized • B - Port 2 to 1 energized

Solenoid Valves

SVP08-NCF

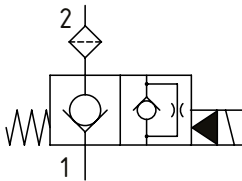
Solenoid Valve, Poppet Type, Normally Closed, Pilot Operated, Flow Control

230 bar [3300 psi] • 15 l/min 4 US gpm

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 1 to 2 but is restricted by a pre-determined orifice in the opposite direction. Some models have the option of a filter at port 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position and then provide controlled lowering in applications such as scissor lifts or man lifts.

■ SCHEMATIC



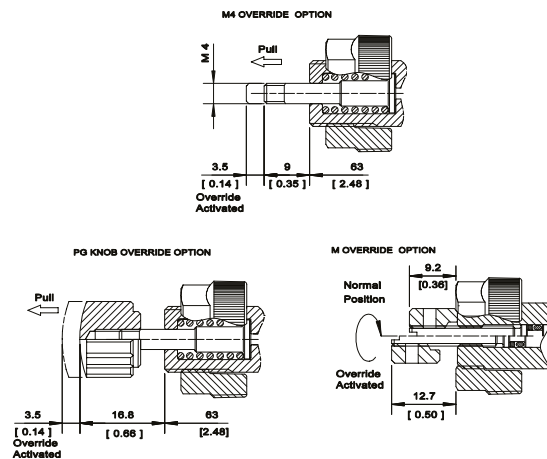
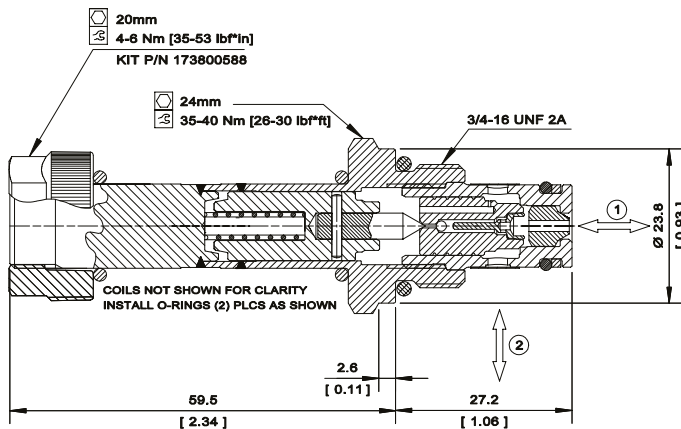
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]
Rated flow	15 l/min 4 US gpm
Leakage	6 drops/min @ Rated Pressure
Coil Options	M13, R13
Weight	0.23 kg [0.51 lb]
Cavity	SDC08-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

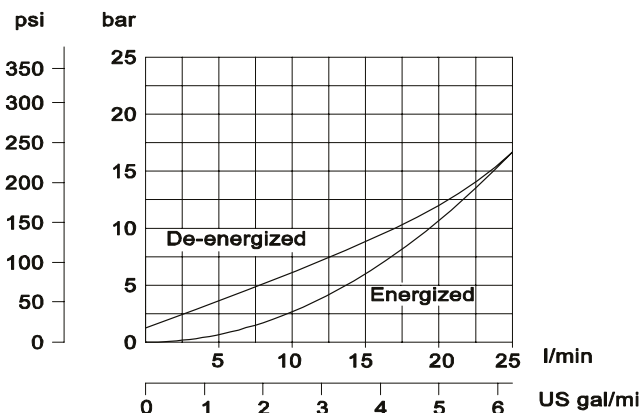
■ DIMENSIONS

mm [in]

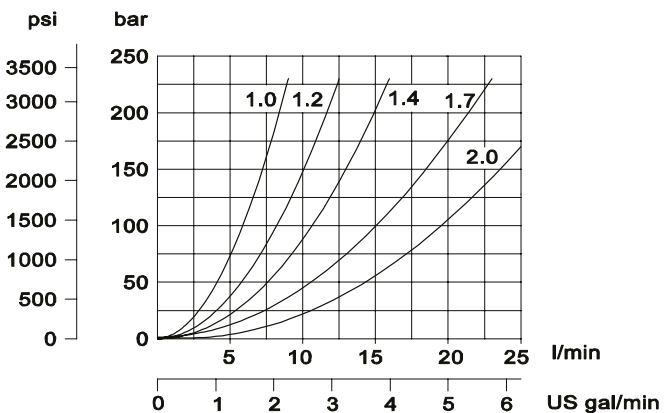


■ PERFORMANCE CURVES

Pressure drop (1 to 2)
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Pressure drop (2 to 1)
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Solenoid Valves

SVP08-NCF

Solenoid Valve, Poppet Type, Normally Closed, Pilot Operated, Flow Control

230 bar [3300 psi] • 15 l/min [4 US gpm]

MODEL CODE

SVP08 - NCF - 1.0 - 12D - DE - M4 - B - F - 6S

Orifice Size

Code [mm]	Flow @ 7 bar [100 psi]
1.0	1.3 LPM [0.34 GPM]
1.2	2.2 LPM [0.58 GPM]
1.4	2.7 LPM [0.71 GPM]
1.7	4 LPM [1.06 GPM]
2.0	5.8 LPM [1.54 GPM]

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
2B	1/4 BSP, AL	SDC08-2-2B
3B	3/8 BSP, AL	SDC06-2-3B
S3B	3/8 BSP, Steel	CP08-2-S3B

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B - Buna - N	364000119
V - Viton	364000219

Manual Override Option

Omit - No Override
M - Screw Type (Pull)
M4 - Pull Override (M4 Thread)
PG - Pull Override with Knob

Solenoid Valves

SVP08-NCR

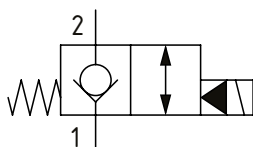
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

230 bar [3300 psi] • 35 l/min [9 US gpm]

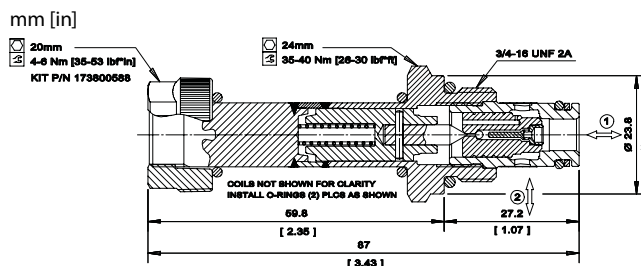
■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 and from 1 to 2. Some models have the option of a filter at port 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions.

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

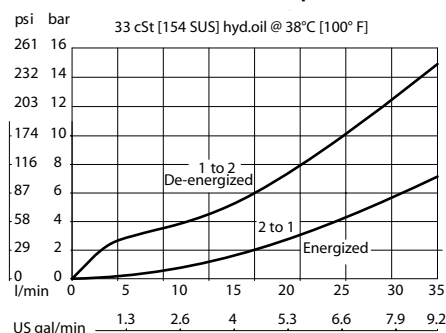
Rated Pressure*	230 bar [3300 psi]**
Rated flow	35 l/min [9 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M13, R13
Weight	0.23 kg [0.51 lb]
Cavity	SDC08-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 600,000 cycles

■ PERFORMANCE CURVES

Pressure Drop



■ MODEL CODE

SVP08 - NCR - 12D - DE - M - B - F - 00

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-2-6S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	354000119
V-Viton	354000219

Manual Override Option

Omit - No Override
M - Screw Type (Pull)

Solenoid Valves

SVP10-NCR

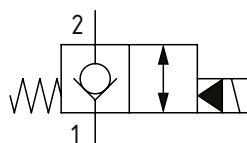
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

230 bar [3300 psi] • 80 l/min [21 US gpm]

■ OPERATION AND DESCRIPTION

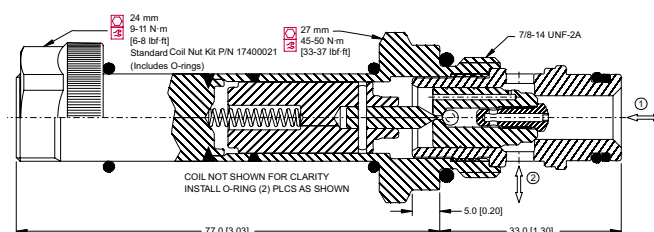
This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 and from 1 to 2. Some models have the option of a filter at port 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



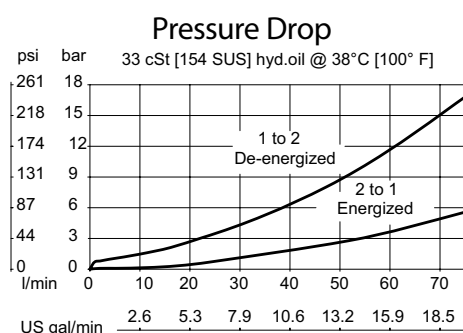
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Rated flow	80 l/min [21 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M16, R16
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 250,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SVP10 - NCR - 12D - DE - M - B - F - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, Steel	CP10-2-S4B

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

* Additional housings available

Filter Option

0mit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	354000719
V-Viton	354000819

Manual Override Option

0mit - No manual override
M - Screw Type (Pull)

Solenoid Valves

SV13-10-C

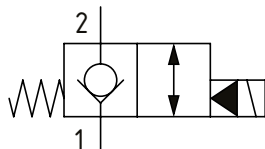
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

350 bar [5000 psi] • 45 l/min [12 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 and from 1 to 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions.

■ SCHEMATIC



■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	45 l/min [12 US gpm]
Leakage	5 drops/min @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.18 kg [0.39 lb]
Cavity	SDC10-2

■ MODEL CODE

SV13 - 10 - V - C - M - S - 2G - 12D - G - H

Seal Option

Code	Seal kit
Omit -Buna - N	565803
V -Viton	566086

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
2G	1/4" BSP	02-175102
3G	3/8" BSP	02-175103
6T	#6 SAE	02-175100
8T	#8 SAE	02-175101

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

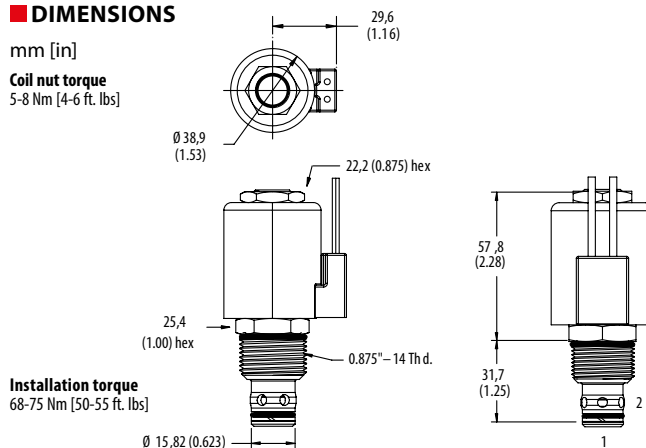
**Internally rectified

***Other voltage options available

■ DIMENSIONS

mm [in]

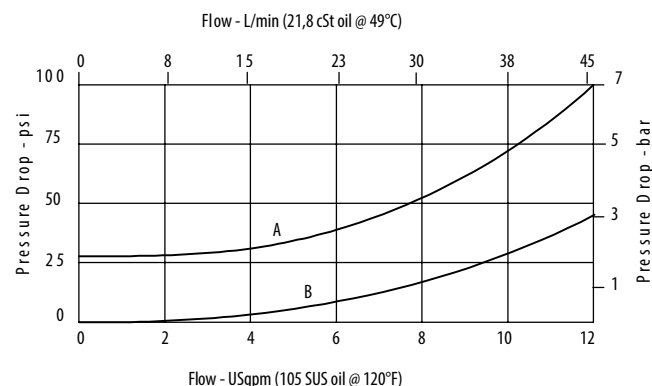
Coil nut torque
 5-8 Nm [4-6 ft. lbs]



Installation torque
 68-75 Nm [50-55 ft. lbs]

■ PERFORMANCE CURVES

Pressure Drop



A - Port 1 to port 2 • **B** - Port 2 to port 1 energized

Solenoid Valves

SLP13-10-C

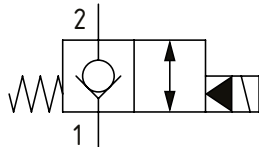
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

350 bar [5000 psi] • 95 l/min [25 US gpm]

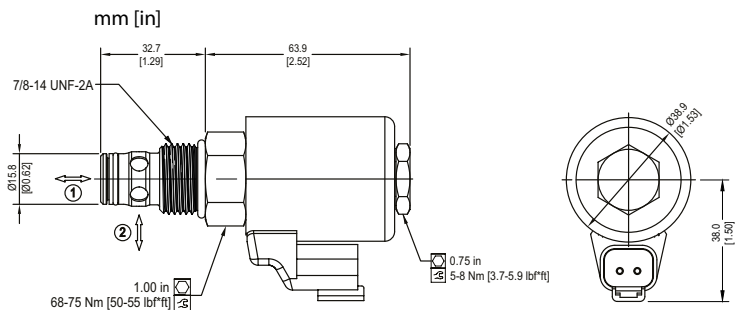
DESCRIPTION AND OPERATION

This is a 2-way, 2-position, poppet type, normally closed solenoid valve. In its de-energized condition flow can take place from port 1 to 2, but flow is blocked from port 2 to 1 with minimum leakage due to the poppet design. When energized, flow can take place from port 2 to 1 and from 1 to 2. These valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions. Due to its low power coil and low pressure drop, these valves are suitable for high ambient temperature applications, space savers in a HIC design or where reducing power consumption is important.

SCHEMATIC



DIMENSIONS

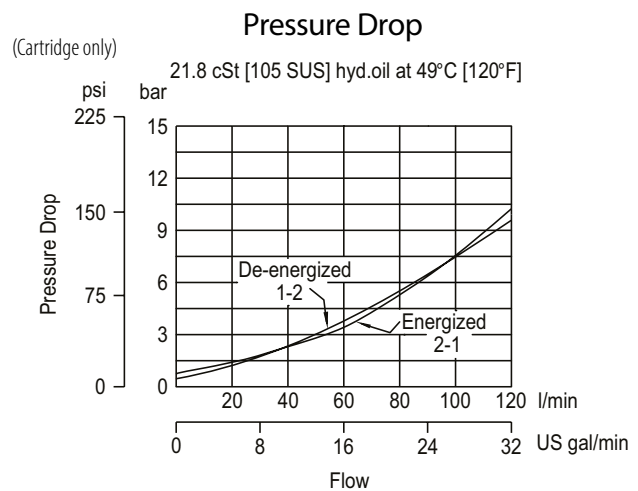


PERFORMANCE DATA

Rated pressure*	350 bar [5000 psi]
Rated flow	95 l/min [25 US gpm]
Leakage	10 drops/min @ 350 bar [5000 psi]
Coil Options	K series, 10 W
Weight	0.16 kg [0.35 lb]
Cavity	SDC10-2

*Note: Rated pressure based on NFPA fatigue test standard [at 1 million cycles]

PERFORMANCE CURVES



MODEL CODE

SLP13 - 10 - V - C - S - 2G - 12D - N - K

Seal Option

Code	Seal Kit
Omit-Buna-N	565803
V-Viton	566086

Housing Material

Omit - No housing
A - Aluminum
S - Steel

Housing

Code	Ports	Aluminum Standard Duty	Aluminum Heavy Duty	Steel Heavy Duty
0	No Housing			
3B	3/8" BSP	02-175462		
2G	1/4" BSP		876702	02-175102
3G	3/8" BSP		876703	02-175103
6H	#6 SAE		876700	
8H	#8 SAE		876701	
6T	#6 SAE	566151		02-175100
8T	#8 SAE			02-175101

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

* Additional housings available

Coil Series

Omit - No coil
K - K Series, 10 W

Connector Type

Omit - No coil
N - Deutsch
* Additional connectors available. Contact technical support.

Coil Voltage

00 - No Coil
12D - 12 VDC
24D - 24 VDC

Solenoid Valves

SV3-12-C

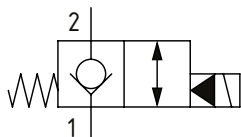
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

210 bar [3000 psi] • 114 l/min [30 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 and from 1 to 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions.

■ SCHEMATIC

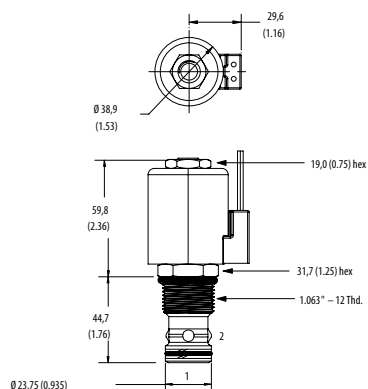


■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

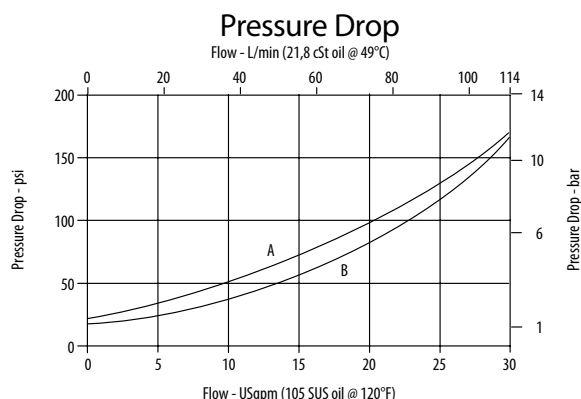
Installation torque
A - 81-95 Nm [60-70 ft. lbs]
S - 102-115 Nm [75-85 ft. lbs]



■ PERFORMANCE DATA

Rated Pressure	210 bar [3000 psi]
Rated flow	114 l/min [30 US gpm]
Leakage	5 drops/min @ 210 bar [3000 psi]
Coil Options	J series
Weight	0.34 kg [0.74 lb]
Cavity	C-12-2/C-12-2U

■ PERFORMANCE CURVES



■ MODEL CODE

A - Port 1 to port 2 de-energized • B - Port 2 to port 1 energized

SV3 - 12 - V - C - M - A - 4G - U - 12D - G

Seal Option

Code	Seal kit
Omit - Buna - N	02-165889
V - Viton	02-165888

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

O - No housing
A - Aluminium
S - Steel

Housing

Code	Ports	C-12-2 Aluminum Heavy Duty	C-12-2U Aluminum Heavy Duty	C-12-2 Steel Heavy Duty	C-12-2U Steel Heavy Duty
0	No Housing				
4G	1/2" BSP	02-161118	02-161116	02-172062	02-172512
6G	3/4" BSP	02-161117	02-161115	02-169665	02-162922
10T	#10 SAE	02-160640	02-160641	02-169744	02-169817
12T	#12 SAE	02-160644	02-160645	02-169782	02-169790

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

** Additional housings available

Cavity

Omit - Cavity without undercut/No housing
U - Cavity with undercut

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV13-12-C

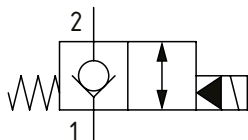
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

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

OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 and from 1 to 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions.

SCHEMATIC



PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	114 l/min [30 USgpm]
Leakage	5 drops/ min @ 350 bar (5000 psi)
Coil Options	H series
Weight	0.27 kg [0.59 lb]
Cavity	C-12-2 / C-12-2U

MODEL CODE

SV13 - 12 - V - C - M - S - 4G - U - 12D - G - H

Seal Option

Code	Seal kit
Omit -Buna - N	02-165889
V -Viton	02-165888

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

O - No Housing
A - Aluminium
S - Steel

Housing

Code	Ports	C-12-2 Aluminum Heavy Duty	C-12-2U Aluminum Heavy Duty	C-12-2 Steel Heavy Duty	C-12-2U Steel Heavy Duty
0	No Housing				
4G	1/2" BSP	02-161118	02-161116	02-172062	02-172512
6G	3/4" BSP	02-161117	02-161115	02-169665	02-162922
10T	#10 SAE	02-160640	02-160641	02-169744	02-169817
12T	#12 SAE	02-160644	02-160645	02-169782	02-169790

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

* Additional housings available

Cavity

Omit - Cavity without undercut/No housing
U - Cavity with undercut

DIMENSIONS

mm [in]

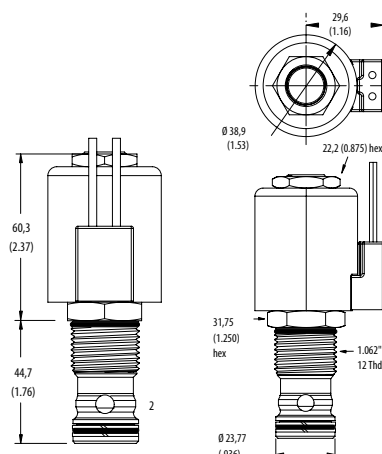
Coil nut torque

5-8 Nm [4-6 ft. lbs]

Installation torque

A - 81-95 Nm [60-70 ft. lbs]

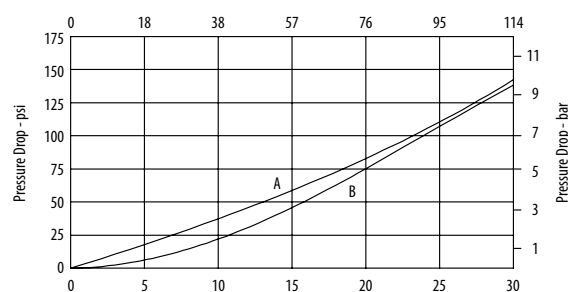
S - 102-115 Nm [75-85 ft. lbs]



PERFORMANCE CURVES

Pressure Drop

Flow - l/min (21,8 cSt oil @ 49°C)



Flow - USgpm (105 SUS oil @ 120°F)

A - Port 1 to 2 • **B** - Port 2 to 1 energized

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV1-16-C

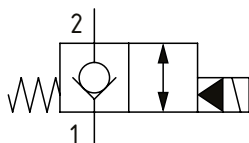
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

210 bar [3000 psi] • 132 l/min [35 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 and from 1 to 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions.

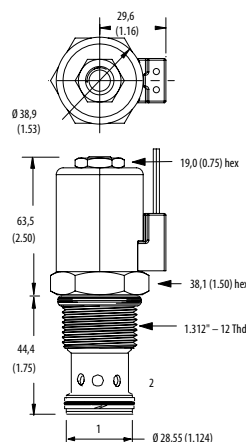
■ SCHEMATIC



■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]



Installation torque
108-122 Nm [80-90 ft. lbs]

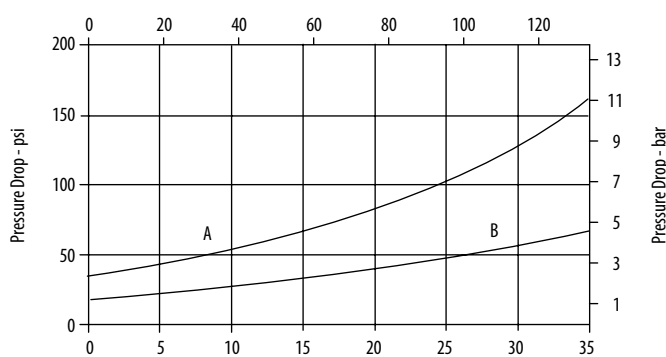
■ PERFORMANCE DATA

Rated Pressure	210 bar [3000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	5 drops/ min @ 210 bar [3000 psi]
Coil Options	J Series
Weight	0.32 kg [0.70 lb]
Cavity	SDC16-2

■ PERFORMANCE CURVES

Pressure Drop

Flow - L/min (21,8 cSt oil @ 49°C)



Flow - USgpm (105 SUS oil @ 120°F)

A - Port 2 to 1 energized • **B** - Port 1 to 2 de-energized

■ MODEL CODE

SV1 - 16 - V - C - M - 6B - 12D - G

Seal Option

Code	Seal kit
Omit - Buna - N	565810
V - Viton	02-889609

Manual Override Option

Omit - No manual override
M - Pull and Twist
R - Cable type

Housing

Code	Ports	Aluminum Standard duty	Aluminum Heavy duty
0	No Housing		
6B	3/4" BSP	02-175463	
12T	#12 SAE	566149	
6G	3/4" BSP		876718
10H	#10 SAE		876717
12H	#12 SAE		566113

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

* Additional housings available

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV13-16-C

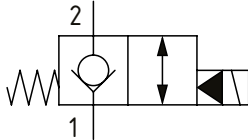
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

350 bar [5000 psi] • 132 l/min [35 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 and from 1 to 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions.

■ SCHEMATIC



■ DIMENSIONS

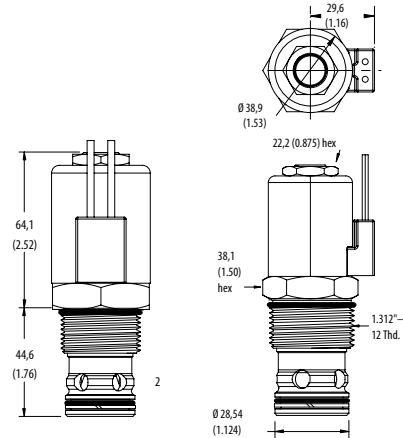
mm [in]

Coil Nut Torque

5-8 Nm [4-6 ft. lbs]

Installation torque

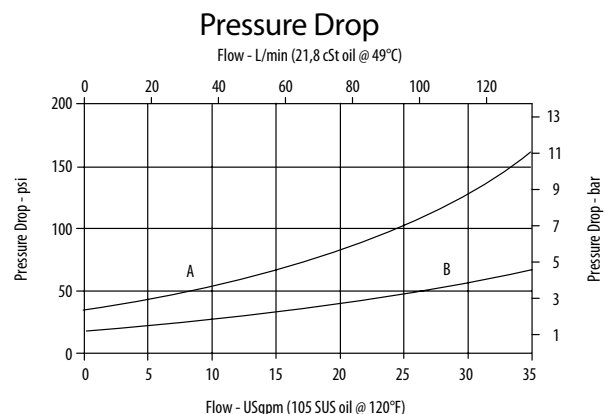
136-149 Nm [100-110 ft. lbs]



■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	5 drops/ min @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.39 kg [0.85 lb]
Cavity	SDC16-2

■ PERFORMANCE CURVES



■ MODEL CODE

SV13 - 16 - V - C - M - S - 4G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	565810
V - Viton	889609

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
4G	1/2" BSP	02-175106
6G	3/4" BSP	02-175107
10T	#10 SAE	02-175104
12T	#12 SAE	02-175105

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV2-20-C

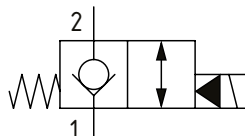
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

210 bar [3000 psi] • 230 l/min [60 USgpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 and from 1 to 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions.

■ SCHEMATIC



■ PERFORMANCE DATA

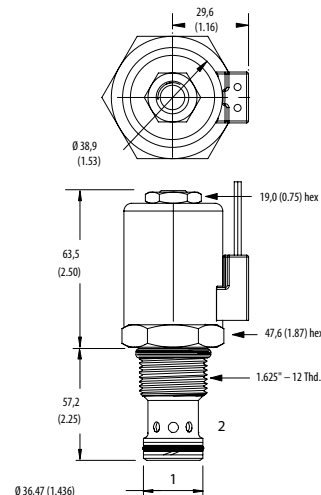
Rated Pressure	210 bar [3000 psi]
Rated flow	230 l/min [60 USgpm]
Leakage	5 drops/ min @ 210 bar [3000 psi]
Coil Options	J series
Weight	1.2 kg [2.70 lb]
Cavity	SDC20-2

■ DIMENSIONS

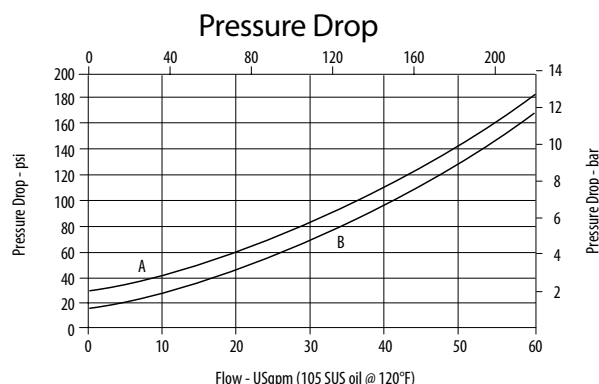
mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

Installation torque
128-155 Nm [95-115 ft. lbs]



■ PERFORMANCE CURVES



A - Port 1 to 2 de-energized • B - Port 2 to 1 energized

■ MODEL CODE

SV2 - 20 - V - C - M - 8B - 12D - G

Seal Option

Code	Seal kit
Omit -Buna - N	889615
V -Viton	889619

Manual Override Option

Omit - No manual override
M - Pull and Twist
R - Cable type

Housing

Code	Ports	Aluminum Standard duty	Aluminum Heavy duty
0	No Housing		
8B	1" BSP	02-175464	
16T	#16 SAE	566409	
6G	3/4" BSP		876732
8G	1" BSP		876734
12H	#12 SAE		876733
16H	#16 SAE		876735

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

* Additional housings available

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV13-20-C

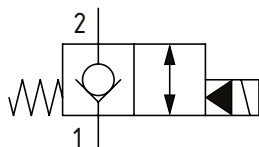
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

350 bar [5000 psi] • 230 l/min [60 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed solenoid valve. In its de-energized condition, flow passes from port 1 to 2 but is blocked in the opposite direction. When energized, flow passes from port 2 to 1 and from 1 to 2. Due to the low leakage provided by the poppet design, these valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions.

■ SCHEMATIC

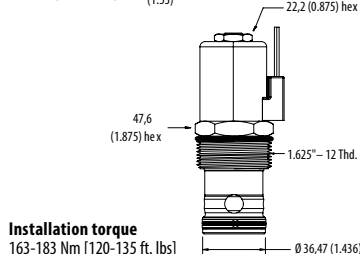


■ DIMENSIONS

mm [in]

Coil nut torque

5-8 Nm [4-6 ft. lbs]



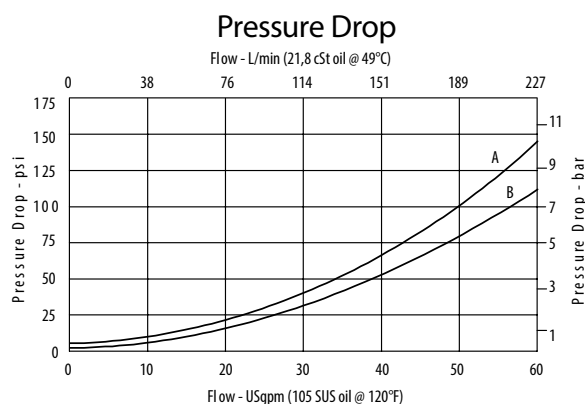
Installation torque

163-183 Nm [120-135 ft. lbs]

■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	230 l/min [60 US gpm]
Leakage	5 drops/ min @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.62 kg [1.37 lb]
Cavity	SDC20-2

■ PERFORMANCE CURVES



■ MODEL CODE

SV13 - 20 - V - C - M - S - 6G - 12D - G - H

Seal Option

Code **Seal kit**

Omit - Buna - N 889615

V - Viton 889619

Manual Override Option

Omit - No manual override

M - Pull and Twist

Housing Material

Omit - No Housing

S - Steel

Housing

Code	Ports	Steel
0	No Housing	
6G	3/4" BSP	02-175110
8G	1" BSP	02-175111
12T	#12 SAE	02-175108
16T	#16 SAE	02-175109

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

* Additional housings available

Coil Series

Omit - No coil

H - 10 series, 29 W

Connector Type

Omit - No coil

G - ISO 4400 DIN 43650

Q - Spade terminals

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SBV12-8-C

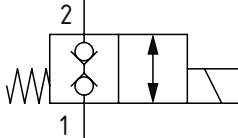
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Direct Acting, Double Blocking

350 bar [5000 psi] • 1 l/min [0.25 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, direct acting, normally closed, bi-directional solenoid valve for low flow applications. In its de-energized condition, flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. When energized, flow can take place from port 2 to 1 and from 1 to 2. These valves can be used to hold loads in position, provide controlled lowering, or as a pilot valve for larger valves such as ventable relief valves or logic elements.

■ SCHEMATIC



■ PERFORMANCE DATA

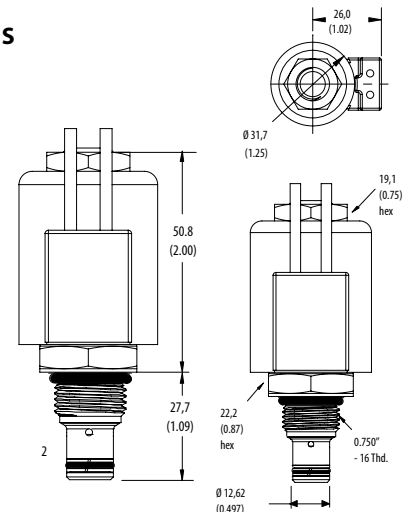
Rated Pressure	350 bar [5000 psi]
Rated flow	1 l/min [0.25 US gpm]
Leakage	5 drops/ min @ 350 bar [5000 psi]
Coil Options	P series
Weight	0.120 kg [0.26 lb]
Cavity	SDC08-2

■ DIMENSIONS

mm [in]

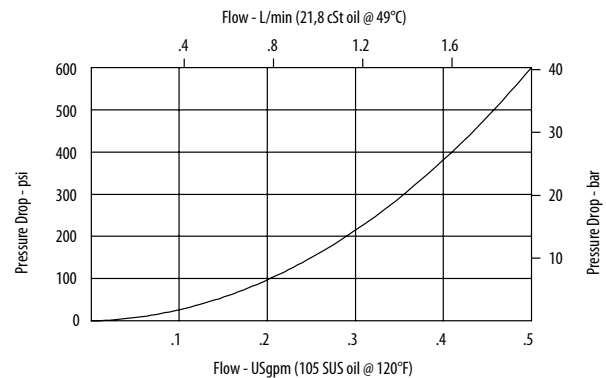
Coil nut torque
5-8 Nm [4-6 ft. lbs]

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



■ PERFORMANCE CURVES

Pressure Drop



■ MODEL CODE

SVB12 - 8 - V - C - M - A - 2G - 12D - G - P

Seal Option

Code	Seal kit
Omit-Buna - N	02-160777
V-Viton	02-160778

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports	Aluminium	Steel
0	No Housing		
2G	1/4" BSP	02-160727	02-160733
3G	3/8" BSP	02-160728	02-160734
4T	#4 SAE	02-160730	02-160736
6T	#6 SAE	02-160731	02-160737
8T	#8 SAE	02-160732	02-160738

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

* Additional housings available

Coil Series

Omit - No coil
P - 8 Series, 23 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SVP08-CDB

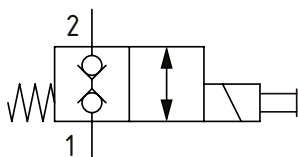
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Direct Acting, Double Blocking

230 bar [3300 psi] • 25 l/min [6.6 US gpm]

■ OPERATION AND DESCRIPTION

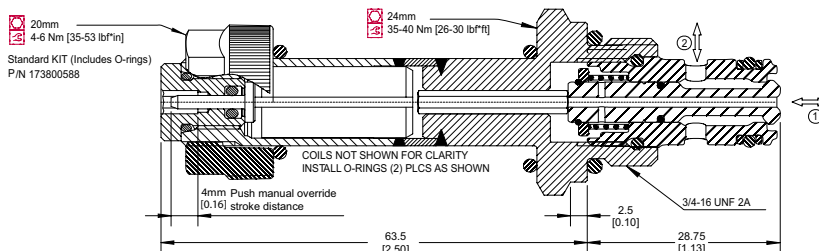
This is a 2-way, 2-position, poppet type, direct acting, normally closed, bi-directional solenoid valve. In its de-energized condition, flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. When energized, flow can take place from port 2 to 1 and from 1 to 2. These valves come standard with a push pin manual override. These valves can be used to hold loads in position or interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition. They do not suffer from momentary opening due to shock pressures.

■ SCHEMATIC



■ DIMENSIONS

mm [in]

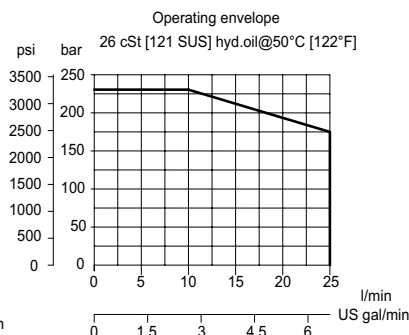
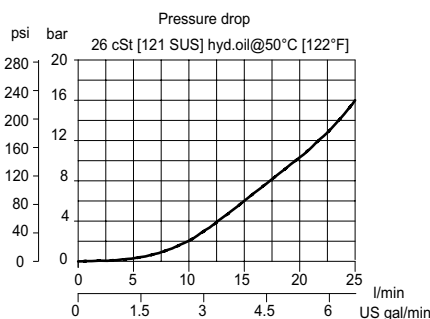


■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]
Flow Capability	25 l/min [6.6 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M13, R13
Weight	0.32 kg [0.71 lb]
Cavity	SDC08-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

SVP08 - CDB - 12D - DE - PB - B - F - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	354001619
V-Viton	354001719

Manual Override Option

Omit - Push Pin
PB - Push Button
SPS - Screw Type

Solenoid Valves

EVK 06/C5

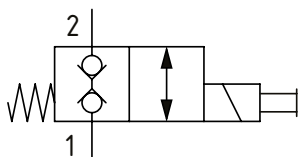
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Direct Acting, Double Blocking

210 bar [3000 psi] • 40 l/min [10.6 US gpm]

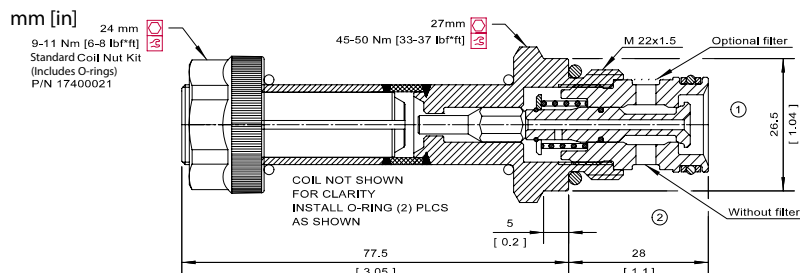
■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, direct acting, normally closed, bi-directional solenoid valve. In its de-energized condition, flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. When energized, flow can take place from port 2 to 1 and from 1 to 2. These valves come standard with a push pin manual override. These valves can be used to hold loads in position or interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition. They do not suffer from momentary opening due to shock pressures.

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

Rated Pressure* 210 bar [3000 psi]

Flow Capability 40 l/min [10.6 US gpm]

Leakage

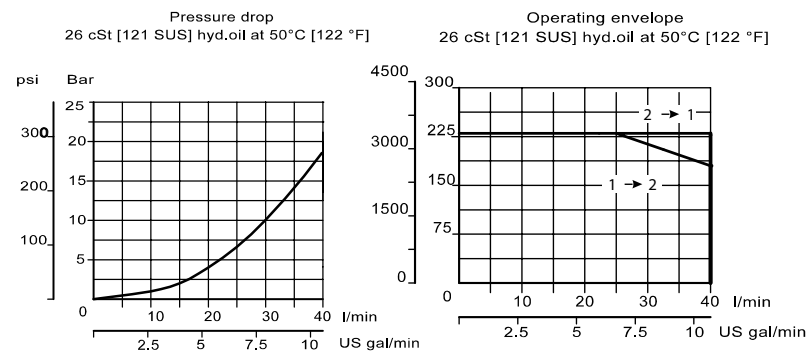
Coil Options M16, R16

Weight 0.43 kg [0.95 lb]

Cavity NCS06/2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

EVK 06/C5 - F - 12D - DE - PB - 00 - B

Filter Option

Omit - No filter

F - Filter 300 µm

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Seal Option

Code	Seal kit
B-Buna - N	230000440
V-Viton	230000710

Housing

Code	Ports	Housing Model Code
00	No Housing	
DG6S	#6 SAE, AI	NCS06/2 - DG -6S
DG8S	#8 SAE, AI	NCS06/2 - DG -8S
DG3/8	3/8 BSP, AI	NCS06/2 - DG -3/8
DG1/2	1/2 BSP, AI	NCS06/2 - DG -1/2

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

* Additional housings available

Manual Override Option

Omit - Push Pin
PB - Push Button
SPS - Screw Type
OPS - Protected Push Pin
PAT - Push and Twist

Solenoid Valves

SBV11-8-C

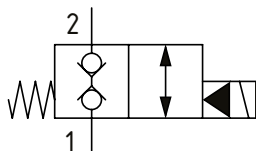
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Double Blocking

350 bar [5000 psi] • 45 l/min [12 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed, bi-directional solenoid valve. In its de-energized condition flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. When energized, flow can take place from port 2 to 1 and from 1 to 2. These valves can be used to hold loads in position or interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition.

■ SCHEMATIC



■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	45 l/min [12 US gpm]
Leakage	5 drops/ min @ 350 bar [5000 psi]
Coil Options	P series
Weight	0.12 kg [0.26 lb]
Cavity	SDC08-2

■ DIMENSIONS

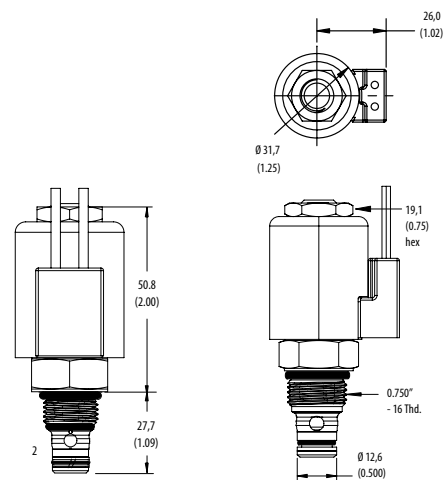
mm [in]

Coil nut torque

5-8 Nm [4-6 ft. lbs]

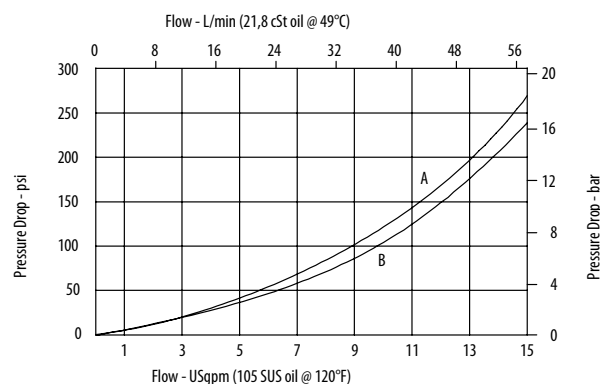
Installation torque

34-41 Nm [25-30 ft. lbs]



■ PERFORMANCE CURVES

Pressure Drop



A - Port 1 to 2 - B - Port 2 to 1

■ MODEL CODE

SBV11 - 8 - V - C - M - A - 2G - 12D - W - P

Seal Option

Code	Seal kit
Omit - Buna - N	02-160777
V - Viton	02-160778

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No Housing
A - Aluminium
S - Steel

Housing

Code	Ports	Aluminium	Steel
0	No Housing		
2G	1/4" BSP	02-160727	02-160733
3G	3/8" BSP	02-160728	02-160734
4T	#4 SAE	02-160730	02-160736
6T	#6 SAE	02-160731	02-160737
8T	#8 SAE	02-160732	02-160738

* Aluminium bodies are to be used for pressures less than 210 bar [3000 psi].

* Additional housings available

Coil Series

Omit - No coil
P - 8 Series, 23 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SBV1-10-C

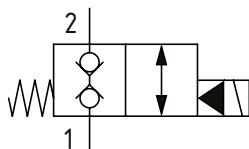
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Double Blocking

210 bar [3000 psi] • 76 l/min [20 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed, bi-directional solenoid valve. In its de-energized condition flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. When energized, flow can take place from port 2 to 1 and from 1 to 2. These valves can be used to hold loads in position or interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition.

■ SCHEMATIC



■ PERFORMANCE DATA

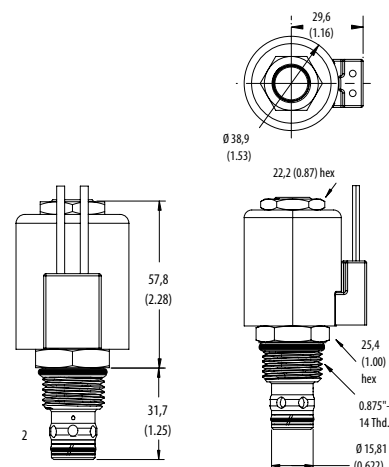
Rated Pressure	210 bar [3000 psi]
Rated flow	76 l/min [20 US gpm]
Leakage	5 drops/ min @ 210 bar [3000 psi]
Coil Options	J series
Weight	0.18 kg [0.39 lb]
Cavity	SDC 10-2

■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

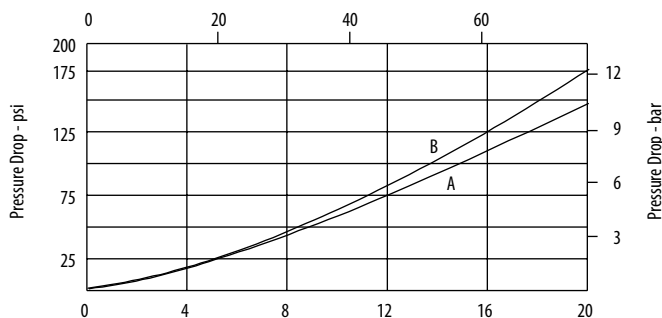
Installation torque
47-54 Nm [35-40 ft. lbs]



■ PERFORMANCE CURVES

Pressure Drop

Flow - L/min (21,8 cSt oil @ 49°C)



Flow - USgpm (105 SUS oil @ 120°F)

A - Port 1 to port 2 • B - Port 2 to port 1

■ MODEL CODE

SBV1 - 10 - V - C - M - A - 2G - 12D - G - J

Seal Option

Code	Seal kit
Omit - Buna - N	565806
V - Viton	889627

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

O - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports	Aluminum Standard Duty	Aluminum Heavy Duty	Steel
O	No Housing			
2G	1/4" BSP		876702	02-175102
3G	3/8" BSP		876703	02-175103
3B	3/8" BSP	02-175462		
6H	#6 SAE		876700	
6T	#6 SAE	566151		02-175100
8H	#8 SAE		876701	
8T	#8 SAE			02-175101

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

* Additional housings available

Coil Series

Omit - No coil
J - 10 Series, 23 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SBV11-10-C

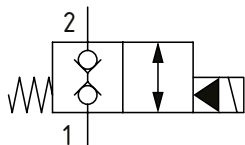
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Double Blocking

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

OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed, bi-directional solenoid valve. In its de-energized condition flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. When energized, flow can take place from port 2 to 1 and from 1 to 2. These valves can be used to hold loads in position or interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition.

SCHEMATIC



PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	76 l/min [20 US gpm]
Leakage	5 drops/ min @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.18 kg [0.39 lb]
Cavity	SDC10-2

DIMENSIONS

mm [in]

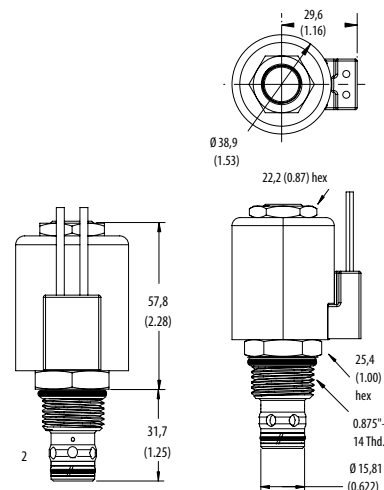
Coil nut torque

5-8 Nm [4-6 ft. lbs]

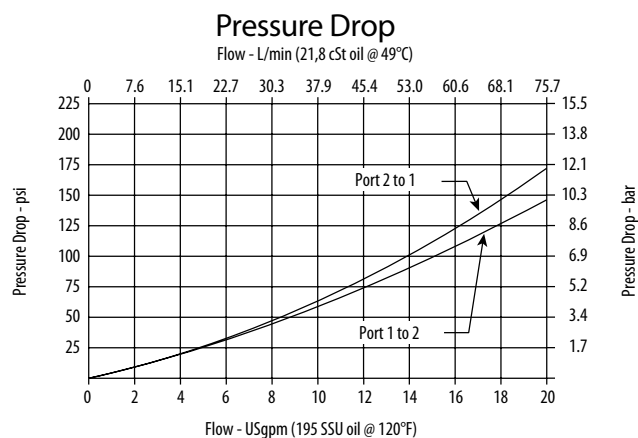
Installation torque

A - 47-54 Nm [35-40 ft. lbs]

S - 68-75 Nm [50-55 ft. lbs]



PERFORMANCE CURVES



MODEL CODE

SBV11 - 10 - V - C - A - 2G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	565806
V - Viton	889627

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports	Aluminum Standard Duty	Aluminum Heavy Duty	Steel
0	No Housing			
2G	1/4" BSP		876702	02-175102
3G	3/8" BSP		876703	02-175103
3B	3/8" BSP	02-175462		
6H	#6 SAE		876700	
6T	#6 SAE	566151		02-175100
8H	#8 SAE		876701	
8T	#8 SAE			02-175101

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

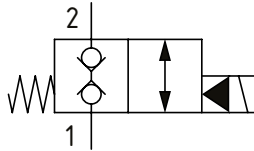
SBV1-12-C

Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Double Blocking
210 bar [3000 psi] • 114 l/min [30 USgpm]

OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed, bi-directional solenoid valve. In its de-energized condition flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. When energized, flow can take place from port 2 to 1 and from 1 to 2. These valves can be used to hold loads in position or interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition.

SCHEMATIC



PERFORMANCE DATA

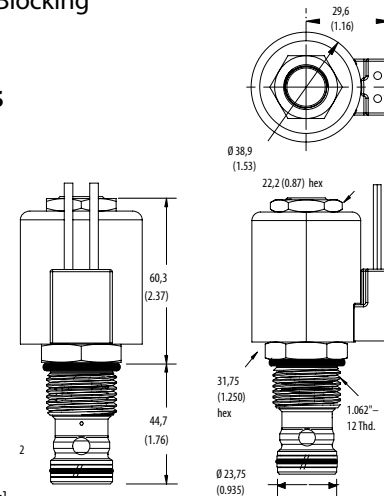
Rated Pressure	210 bar [3000 psi]
Rated flow	114 l/min [30 US gpm]
Leakage	5 drops/ min @ 210 bar [3000 psi]
Coil Options	J series
Weight	0.27 kg [0.59 lb]
Cavity	C-12-2 / C-12-2U

DIMENSIONS

mm [in]

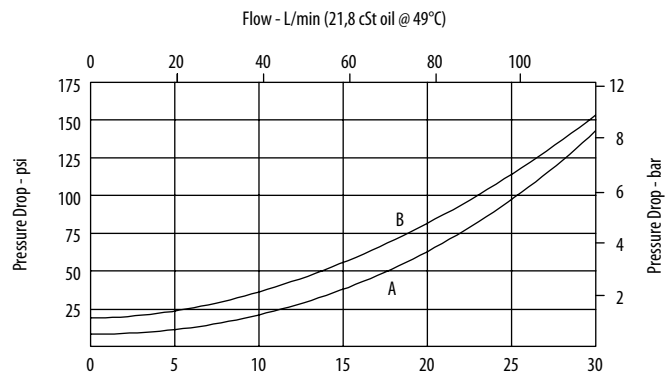
Coil nut torque
 5-8 Nm [4-6 ft. lbs]

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



PERFORMANCE CURVES

Pressure Drop



MODEL CODE

SBV1 - 12 - V - C - A - 4G - U - 12D - N - J

Seal Option

Code	Seal kit
Omit - Buna - N	02-165889
V - Viton	02-165888

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports	C-12-2 Aluminum Heavy Duty	C-12-2U Aluminum Heavy Duty	C-12-2 Steel Heavy Duty	C-12-2U Steel Heavy Duty
0	No Housing				
4G	1/2" BSP	02-161118	02-161116	02-172062	02-172512
6G	3/4" BSP	02-161117	02-161115	02-169665	02-162922
10T	#10 SAE	02-160640	02-160641	02-169744	02-169817
12T	#12 SAE	02-160644	02-160645	02-169782	02-169790

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

Cavity

Omit - Cavity without undercut/No housing
U - Cavity with undercut

Coil Series

Omit - No coil
J - 10 Series, 23 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SBV11-12-C

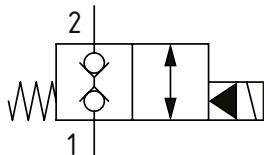
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated, Double Blocking

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

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally closed, bi-directional solenoid valve. In its de-energized condition flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. When energized, flow can take place from port 2 to 1 and from 1 to 2. These valves can be used to hold loads in position or interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition.

■ SCHEMATIC



■ PERFORMANCE DATA

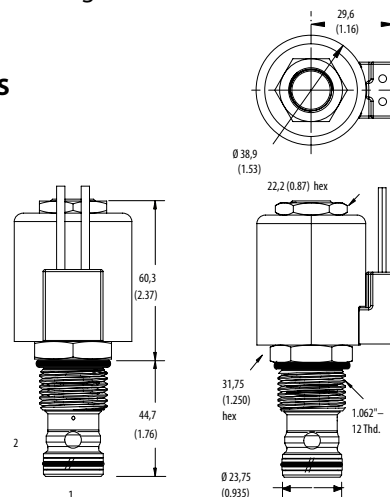
Rated Pressure	350 bar [5000 psi]
Rated flow	114 l/min [30 US gpm]
Leakage	5 drops/ min @ 350 bar [3000 psi]
Coil Options	H series
Weight	0.27 kg [0.59 lb]
Cavity	C-12-2 / C-12-2U

■ DIMENSIONS

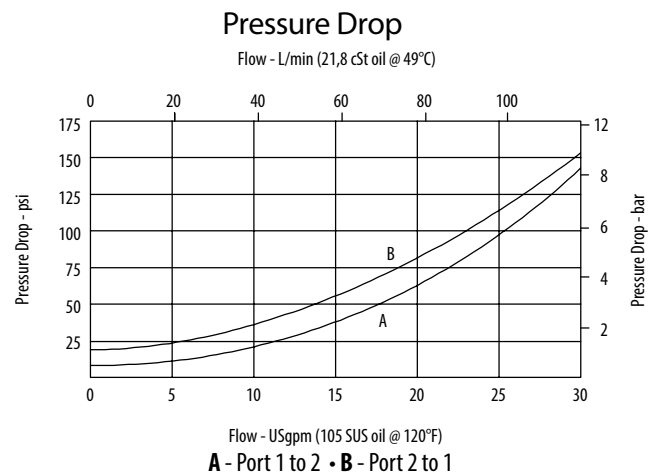
mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

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



■ PERFORMANCE CURVES



■ MODEL CODE

SBV11 - 12 - V - C - A - 4G - U - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	02-165889
V - Viton	02-165888

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports	C-12-2 Aluminum Heavy Duty	C-12-2U Aluminum Heavy Duty	C-12-2 Steel Heavy Duty	C-12-2U Steel Heavy Duty
0	No Housing				
4G	1/2" BSP	02-161118	02-161116	02-172062	02-172512
6G	3/4" BSP	02-161117	02-161115	02-169665	02-162922
10T	#10 SAE	02-160640	02-160641	02-169744	02-169817
12T	#12 SAE	02-160644	02-160645	02-169782	02-169790

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

* Additional housings available

Cavity

Omit - Cavity without undercut/No housing
U - Cavity with undercut

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV08-22-02

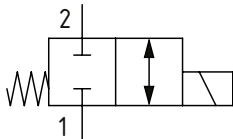
Solenoid Valve, 2-way, Spool Type, Normally Closed

230 bar [3300 psi] • 18 l/min [4.7 US gpm]

■ OPERATION AND DESCRIPTION

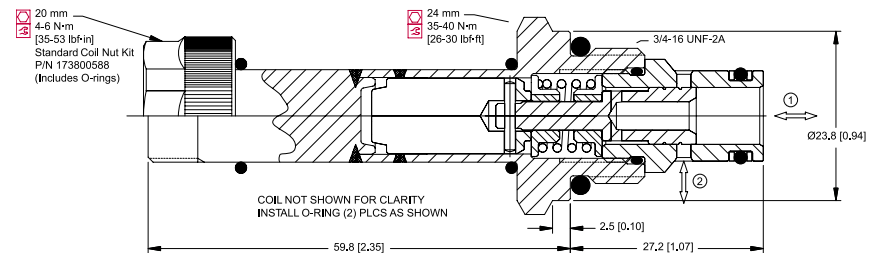
This is a 2-way, 2-position, spool type, normally closed solenoid valve. In its de-energized condition flow is blocked in both directions. When energized, flow can take place from port 2 to 1 and from 1 to 2. The valve will be subject to normal spool leakage dependent on the pressure difference between the ports. These valves can be used to interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



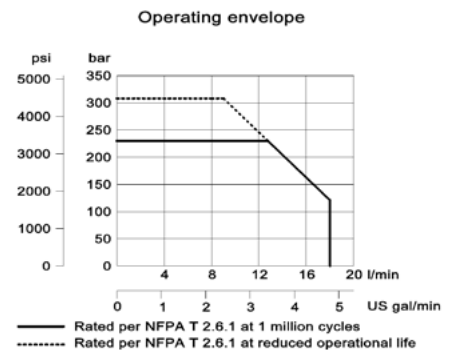
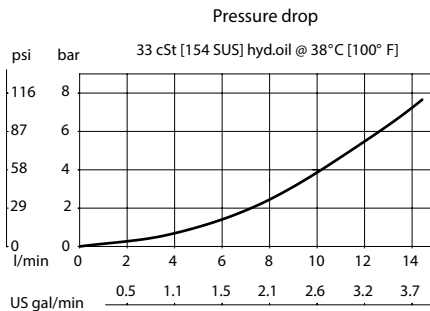
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	18 l/min [4.7 US gpm]
Leakage	
Coil Options	M13, R13
Weight	0.29 kg [0.64 lb]
Cavity	SDC08-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 400,000 cycles. With inlet at port 2, this can be increased to 600,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 22 - 02 - 12D - DE - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

**Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003119
V-Viton	354003619

Solenoid Valves

HSV08-22-02

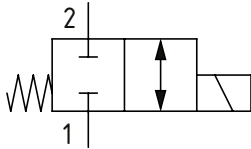
Solenoid Valve, 2-way, Spool Type, Normally Closed

350 bar [5000 psi] • 20 l/min [5.3 US gpm]

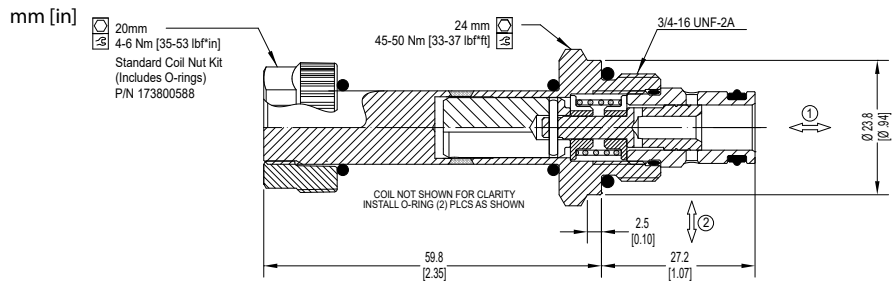
■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, spool type, normally closed solenoid valve. In its de-energized condition flow is blocked in both directions. When energized, flow can take place from port 2 to 1 and from 1 to 2. The valve will be subject to normal spool leakage dependent on the pressure difference between the ports. These valves can be used to interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition.

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

Rated Pressure* 350 bar [5000 psi]

Flow Capability 20 l/min [5.3 US gpm]

Leakage

Coil Options M13, R13

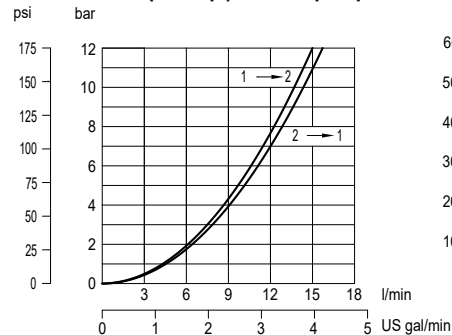
Weight 0.35 kg [0.77 lb]

Cavity SDC08-2

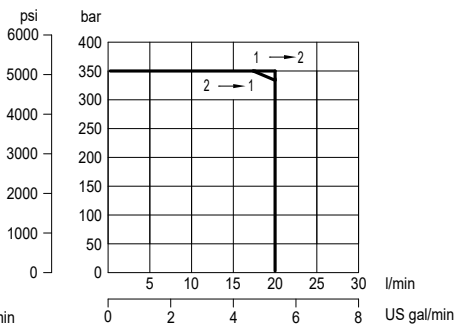
*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122°F]



Operating envelope



■ MODEL CODE

HSV08 - 22 - 02 - 12D - DE - XC - P - S3B

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
S3B	3/8 BSP, Steel	CP10-2-S3B
S4B	1/2 BSP, Steel	CP08-2-S4S
S6S	#6 SAE, Steel	CP08-2-S6S

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

* Additional housings available

Seal Option

Code	Seal kit
P-Polyurethane Single Seal	11167278

Solenoid Valves

SV10-22-02

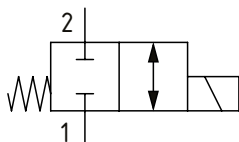
Solenoid Valve, 2-way, Spool Type, Normally Closed

230 bar [3300 psi] • 35 l/min [9 US gpm]

■ OPERATION AND DESCRIPTION

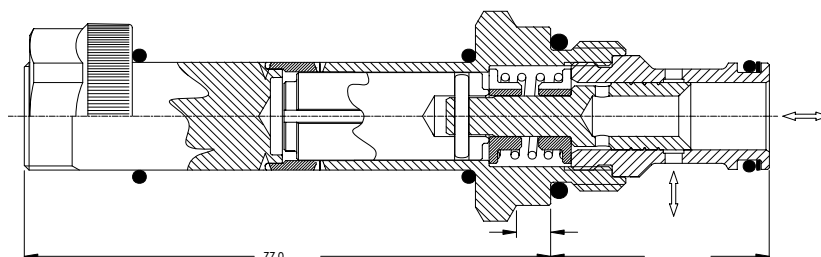
This is a 2-way, 2-position, spool type, normally closed solenoid valve. In its de-energized condition flow is blocked in both directions. When energized, flow can take place from port 2 to 1 and from 1 to 2. The valve will be subject to normal spool leakage dependent on the pressure difference between the ports. These valves can be used to interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



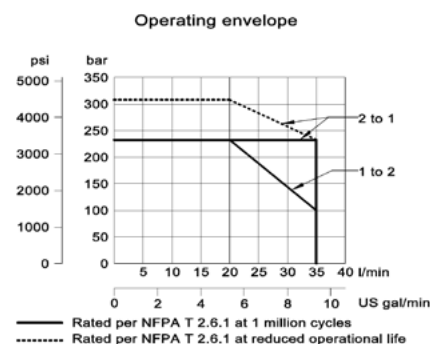
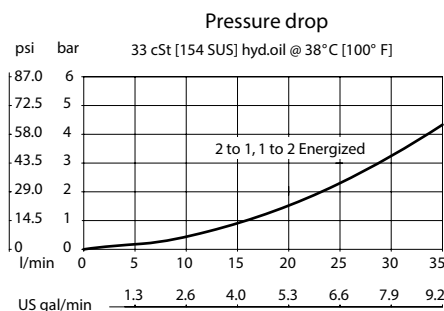
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	35 l/min [9 US gpm]
Coil Options	M16, R16
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 120,000 cycles. With inlet at port 2, this value is increased to 500,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 22 - 02 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP08-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, AL	CP10-2-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354004019
V-Viton	354003419

Solenoid Valves

SV14-10-C

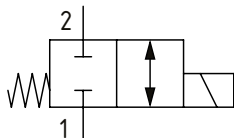
Solenoid Valve, 2-way, Spool Type, Normally Closed

350 bar [5000 psi] • 23 l/min [6 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, spool type, normally closed solenoid valve. In its de-energized condition flow is blocked in both directions. When energized, flow can take place from port 2 to 1 and from 1 to 2. The valve will be subject to normal spool leakage dependent on the pressure difference between the ports. These valves can be used to interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition.

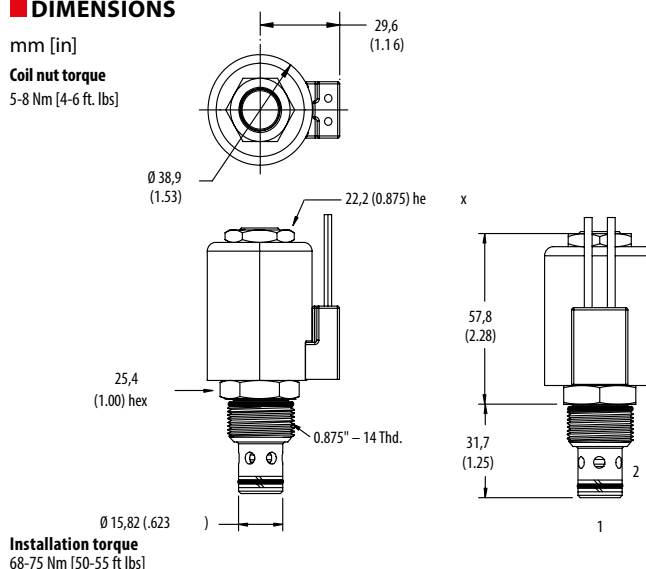
■ SCHEMATIC



■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

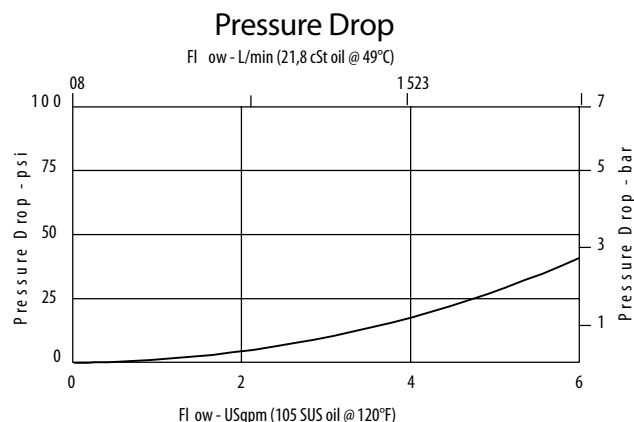


Installation torque
68-75 Nm [50-55 ft lbs]

■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Flow Capability	23 l/min [6 US gpm]
Leakage	140 ml/min (8.5 in ³ /min) max @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.18 kg [0.39 lb]
Cavity	SDC10-2

■ PERFORMANCE CURVES



■ MODEL CODE

SV14 - 10 - V - C - M - S - 2G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	565806
V - Viton	889627

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
2G	1/4" BSP	02-175102
3G	3/8" BSP	02-175103
6T	#6 SAE	02-175100
8T	#8 SAE	02-175101

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV15-22-02

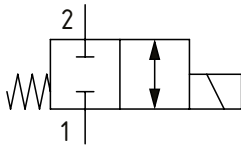
Solenoid Valve, 2-way, Spool Type, Normally Closed

230 bar [3300 psi] • 60 l/min [16 US gpm]

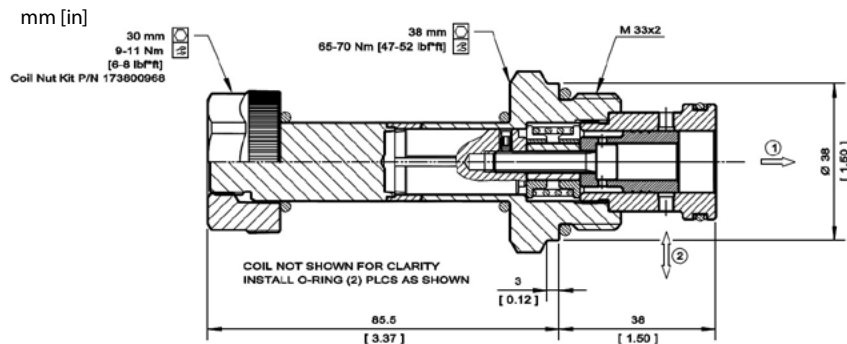
■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, spool type, normally closed solenoid valve. In its de-energized condition flow is blocked in both directions. When energized, flow can take place from port 2 to 1 and from 1 to 2. The valve will be subject to normal spool leakage dependent on the pressure difference between the ports. These valves can be used to interrupt a pressure line where flow is expected to pass in both directions in the de-energized condition.

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

Rated Pressure* 230 bar [3300 psi]**

Flow Capability 60 l/min [16 US gpm]

Coil Options M19

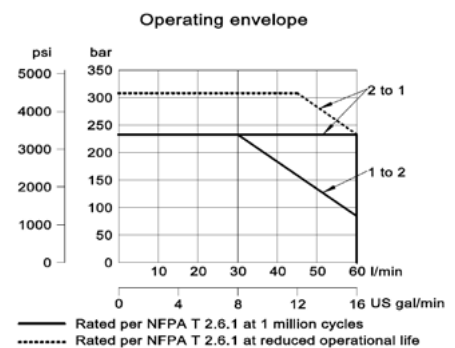
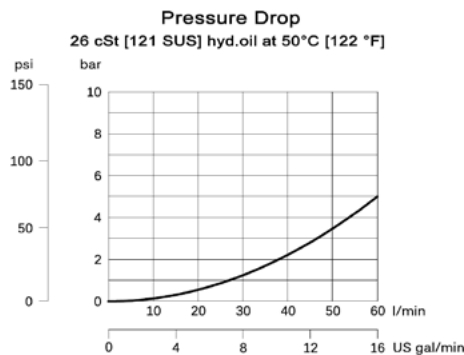
Weight 0.65 kg [1.65 lb]

Cavity NCS 12/2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 100,000 cycles. With inlet at port 2, this can be increased to 300,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 22 - 02 - 12D - DE - B - 8S

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included*
10D	10 VDC
12D	12 VDC
20D	20 VDC
24D	24 VDC
110A	110 VAC**
220A	220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800968)

**DIN only - external rectifier needed

Connector Type

Code	Connector Type
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS 12/2-DG-8S
12S	#12 SAE, Steel	NCS 12/2-DG-12S
4B	1/2 BSP, AL	NCS 12/2-DG-1/2
6B	3/4 BSP, AL	NCS 12/2-DG-3/4

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	11115411
V-Viton	11115413

Solenoid Valves

SVP08-NO

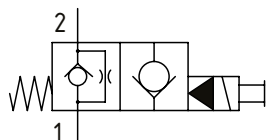
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated

230 bar [3300 psi] • 35 l/min [9 US gpm]

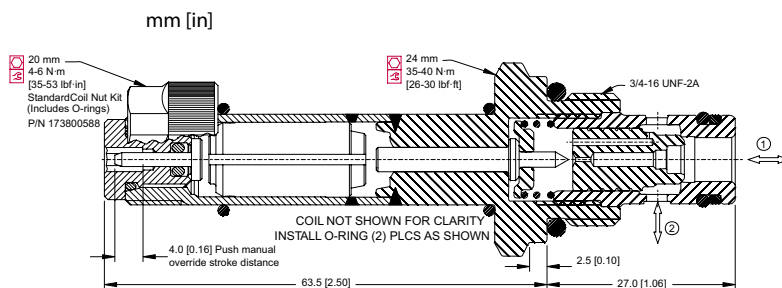
■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. In its de-energized condition, flow can take place from port 2 to 1 but is restricted in the other direction. When energized, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. Some models have the option of a filter around port 2, and these come standard with a push pin manual override. These valves can be used to hold loads in position when energized or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC



■ DIMENSIONS



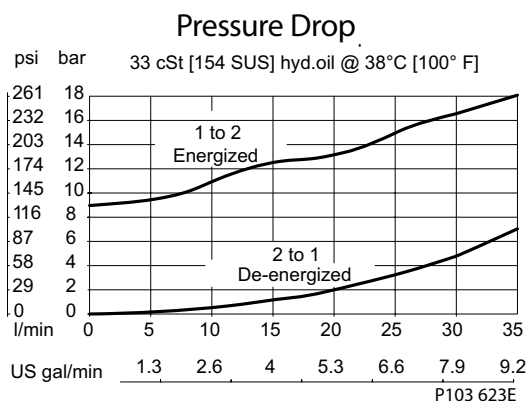
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Rated flow	35 l/min [9 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M13, R13
Weight	0.23 kg [0.51 lb]
Cavity	SDC08-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] on port 2 for 600,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SVP08 - NO - 12D - DE - PB - B - F - 00

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	354000119
V-Viton	354000219

Manual Override

Omit - Push Pin
PB - Push Button
SPS - Screw Type

Solenoid Valves

SV15-8-O

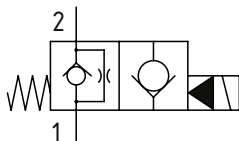
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated

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

OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. In its de-energized condition flow can take place from port 2 to 1 but restricted in the other direction. When energized flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. These valves can be used to hold loads in position when energized or bypass excess oil to tank in a fail-safe way.

SCHEMATIC



PERFORMANCE DATA

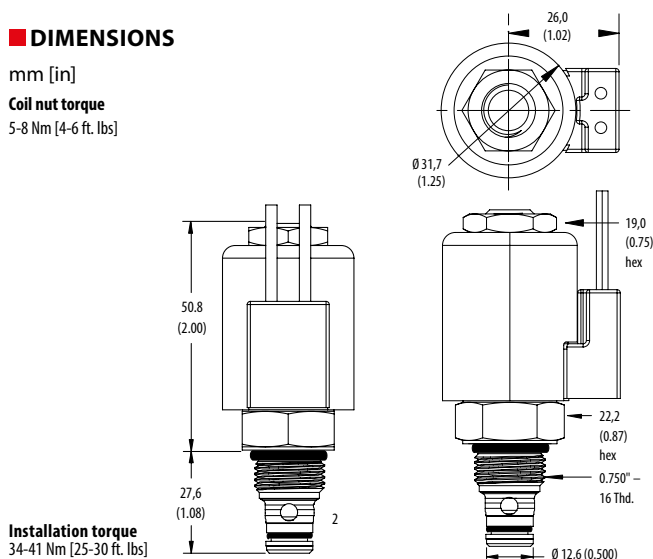
Rated Pressure	350 bar [5000 psi]
Rated flow	38 l/min [10 US gpm]
Leakage	5 drops/ min @ 210 bar [3000 psi]
Coil Options	P series
Weight	0.11 kg [0.25 lb]
Cavity	SDC08-2

DIMENSIONS

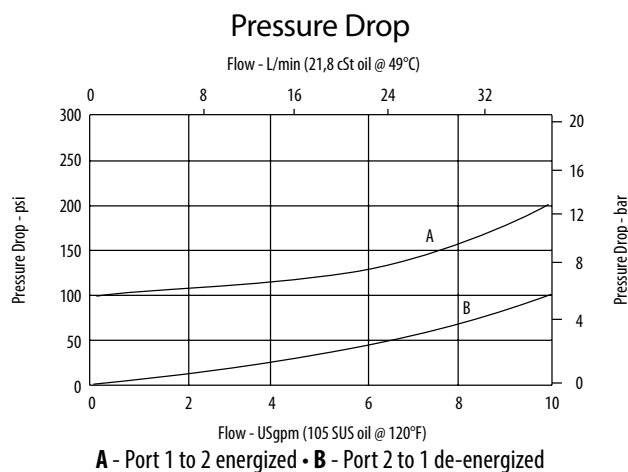
mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

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



PERFORMANCE CURVES



MODEL CODE

SV15 - 8 - V - O - P - S - 2G - 12D - G - P

Seal Option

Code	Seal kit
Omit - Buna - N	02-165875
V - Viton	02-165877

Manual Override Option

Omit - No manual override
P - Push type
S - Screw type

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
2G	1/4" BSP	02-160733
3G	3/8" BSP	02-160734
4T	#4 SAE	02-160736
6T	#6 SAE	02-160737
8T	#8 SAE	02-160738

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

* Additional housings available

Coil Series

Omit - No coil
P - 8 Series, 23 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SVP10-NO

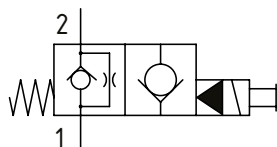
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated

230 bar [3300 psi] • 80 l/min [21 US gpm]

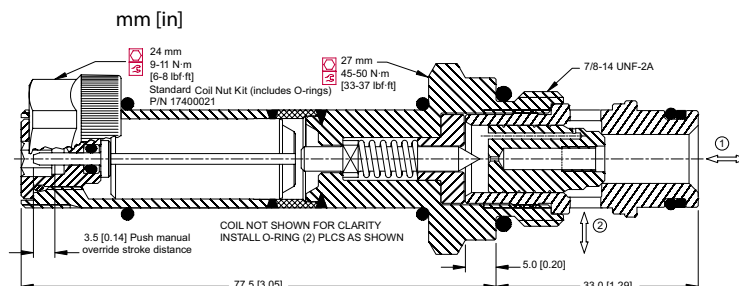
■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. In its de-energized condition, flow can take place from port 2 to 1 but is restricted in the other direction. When energized, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. Some models have the option of a filter around port 2, and these come standard with a push pin manual override. These valves can be used to hold loads in position when energized or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

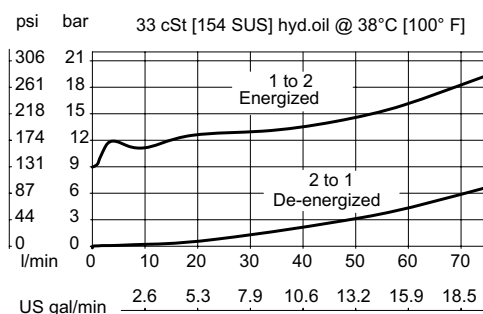
Rated Pressure*	230 bar [3300 psi]**
Rated flow	80 l/min [21 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M16, R16
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] on port 2 for 300,000 cycles.

■ PERFORMANCE CURVES

Pressure Drop



■ MODEL CODE

SVP10 - NO - 12D - DE - PB - B - F - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG3B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, Steel	CP10-2-S4B

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	354000719
V-Viton	354000819

Manual Override

Omit - Push Pin
PB - Push Button
SPS - Screw Type
OPS - Protected Push Pin
PAT - Push and Twist

Solenoid Valves

SV15-10-O

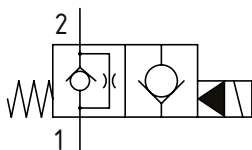
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated

350 bar [5000 psi] • 45 l/min [12 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. In its de-energized condition, flow can take place from port 2 to 1 but is restricted in the other direction. When energized, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. These valves can be used to hold loads in position when energized or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC

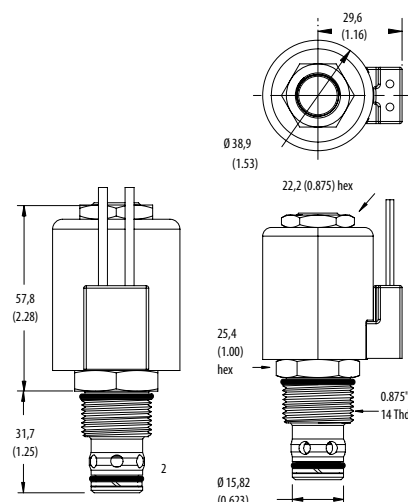


■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

Installation torque
68-75 Nm [50-55 ft. lbs]

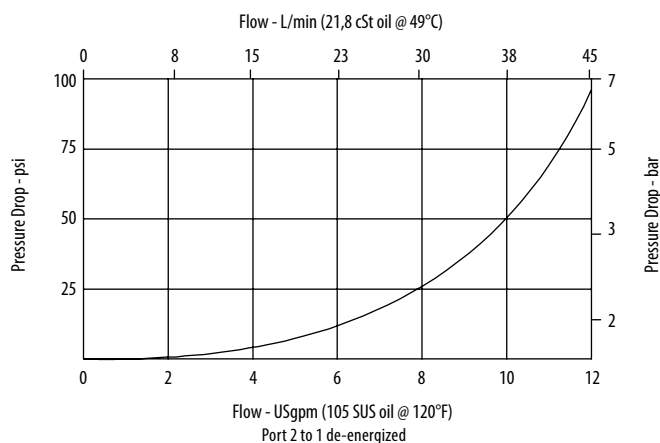


■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	45 l/min [12 US gpm]
Leakage	5 drops/ min @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.18 kg [0.39 lb]
Cavity	SDC10-2

■ PERFORMANCE CURVES

Pressure Drop



■ MODEL CODE

SV15 - 10 - V - O - P - S - 2G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	565803
V - Viton	566086

Manual Override Option

Omit - No manual override
P - Push type
S - Screw type

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
00	No Housing	
2G	1/4" BSP	02-175102
3G	3/8" BSP	02-175103
6T	#6 SAE	02-175100
8T	#8 SAE	02-175101

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code Coil Voltage

00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SVP08-NOR

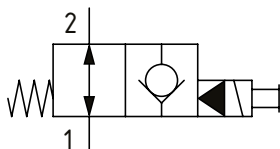
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow

230 bar [3300 psi] • 35 l/min [9 US gpm]

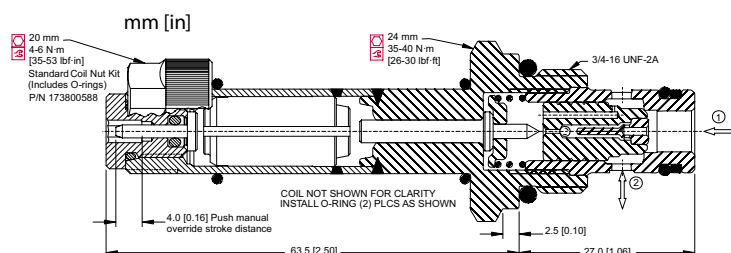
■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. Some models have the option of a filter around port 2, and these come standard with a push pin manual override. These valves can be used to hold loads in position when energized, interrupt a pressure line where flow normally passes in both directions, or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC



■ DIMENSIONS



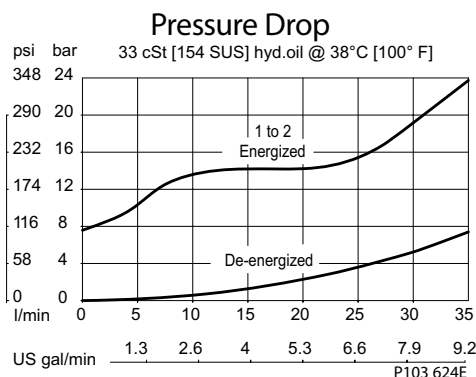
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Rated flow	35 l/min [9 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M13, R13
Weight	0.23 kg [0.51 lb]
Cavity	SDC08-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] on port 2 for 600,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SVP08 - NOR - 12D - DE - PB - B - F - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
S6S	#6 SAE, Steel	CP08-2-S6S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	354000119
V-Viton	354000219

Manual Override Option

Omit - Push Pin
PB - Push Button
SPS - Screw Type

Solenoid Valves

SVP10-NOR

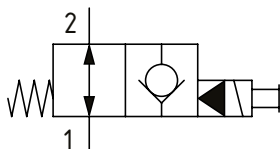
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow

230 bar [3300 psi] • 80 l/min [21 US gpm]

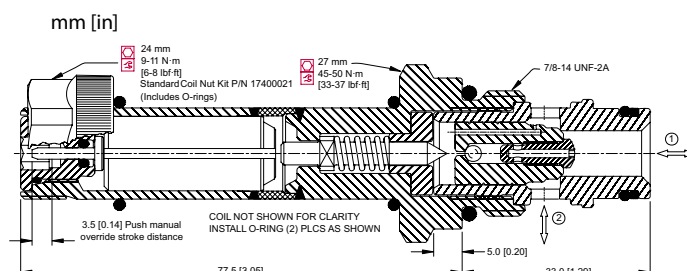
■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. Some models have the option of a filter around port 2, and these come standard with a push pin manual override. These valves can be used to hold loads in position when energized, interrupt a pressure line where flow normally passes in both directions, or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC



■ DIMENSIONS



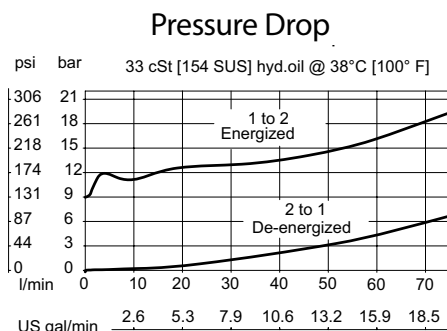
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Rated flow	80 l/min [21 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M16, R16
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] on port 2 for 300,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SVP10 - NOR - 12D - DE - PB - B - F - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, Steel	CP10-2-S4B

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	354000719
V-Viton	354000819

Manual Override Option

Omit - Push Pin
PB - Push Button
SPS - Screw Type
OPS - Protected Push Pin
PAT - Push and Twist

Solenoid Valves

SV13-10-O

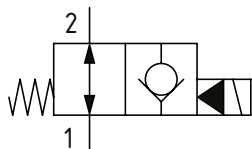
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow

350 bar [5000 psi] • 45 l/min [12 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. These valves can be used to hold loads in position when energized, interrupt a pressure line where flow normally passes in both directions, or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC



■ DIMENSIONS

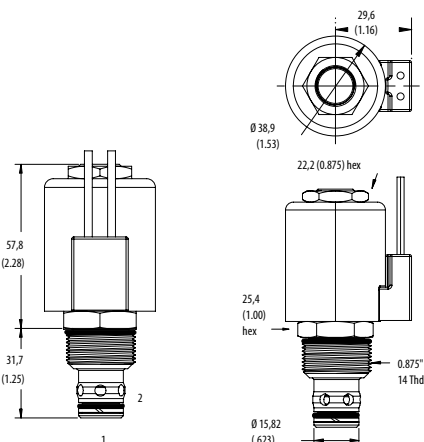
mm [in]

Coil nut torque

5-8 Nm [4-6 ft. lbs]

Installation torque

68-75 Nm [50-55 ft. lbs]



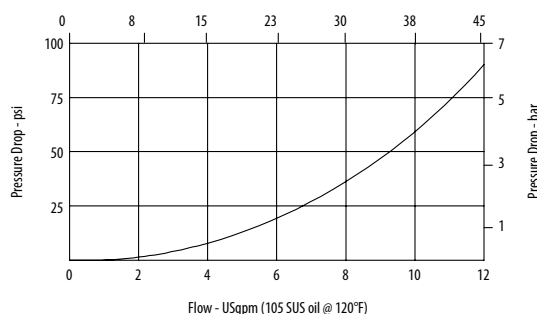
■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	45 l/min [12 US gpm]
Leakage	5 drops/ min @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.18 kg [0.39 lb]
Cavity	SDC10-2

■ PERFORMANCE CURVES

Pressure Drop

Flow - L/min (21,8 cSt oil @ 49°C)



Port 1 to 2 and port 2 to 1 de-energized

■ MODEL CODE

SV13 - 10 - V - O - P - S - 2G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	565803
V - Viton	566086

Manual Override Option

Omit - No manual override
P - Push type
S - Screw type

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
2G	1/4" BSP	02-175102
3G	3/8" BSP	02-175103
6T	#6 SAE	02-175100
8T	#8 SAE	02-175101

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SLP13-10-O

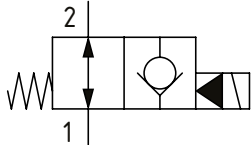
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow

350 bar [5000 psi] • 95 l/min [25 US gpm]

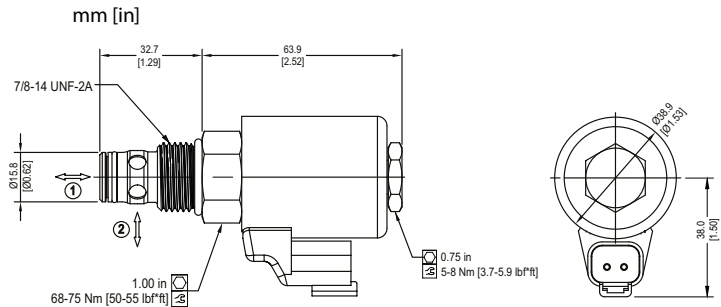
OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, normally open solenoid valve. In its de-energized condition flow can take place from port 2 to 1 and from 1 to 2. When energized, flow can take place from port 1 to 2, but flow is blocked from port 2 to 1 with minimum leakage due to the poppet design. These valves can be used to hold loads in position or to interrupt a pressure line where flow normally passes in both directions. Due to its low power coil and low pressure drop, these valves are suitable for high ambient temperature applications, as space savers in a HIC design, or where reducing power consumption is important.

SCHEMATIC



DIMENSIONS

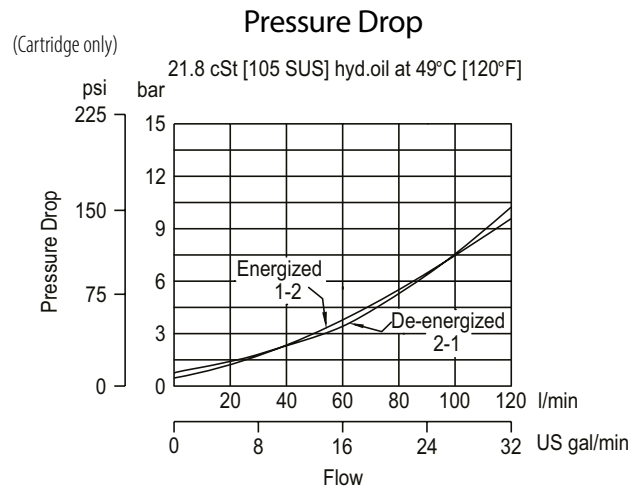


PERFORMANCE DATA

Rated pressure*	350 bar [5000 psi]
Rated flow	95 l/min [25 US gpm]
Leakage	10 drops/min @ 350 bar [5000 psi]
Coil Options	K series, 10 W
Weight	0.16 kg [0.35 lb]
Cavity	SDC10-2

*Note: Rated pressure based on NFPA fatigue test standard [at 1 million cycles]

PERFORMANCE CURVES



MODEL CODE

SLP13 - 10 - V - O - S - 2G - 12D - N - K

Seal Option

Code	Seal Kit
Omit-Buna	565803
V-Viton	566086

Housing Material

Omit - No housing
A - Aluminum
S - Steel

Housing

Code	Ports	Aluminum Standard Duty	Aluminum Heavy Duty	Steel Heavy Duty
0	No Housing			
3B	3/8" BSP	02-175462		
2G	1/4" BSP		876702	02-175102
3G	3/8" BSP		876703	02-175103
6H	#6 SAE		876700	
8H	#8 SAE		876701	
6T	#6 SAE	566151		02-175100
8T	#8 SAE			02-175101

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

* Additional housings available

Coil Series

Omit - No coil
K - K series, 10W

Connector Type

Omit - No coil
N - Deutsch
* Additional connectors available. Contact technical support.

Coil Voltage

00 - No Coil
12D - 12 VDC
24D - 24 VDC

Solenoid Valves

SV3-12-O

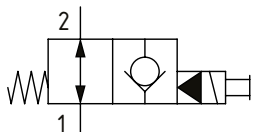
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow

210 bar [3000 psi] • 114 l/min [30 USgpm]

OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. These valves can be used to hold loads in position when energized, interrupt a pressure line where flow normally passes in both directions, or bypass excess oil to tank in a fail-safe way.

SCHEMATIC



PERFORMANCE DATA

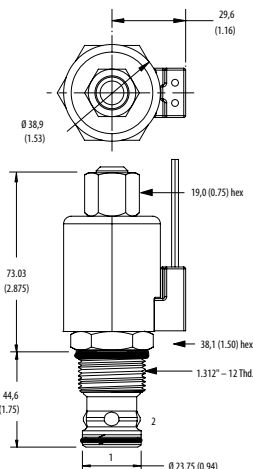
Rated Pressure	210 bar [3000 psi]
Rated flow	114 l/min [30 US gpm]
Leakage	5 drops/ min @ 210 bar [3000 psi]
Coil Options	J series
Weight	0.34 kg [0.74 lb]
Cavity	C-12-2/C-12-2U

DIMENSIONS

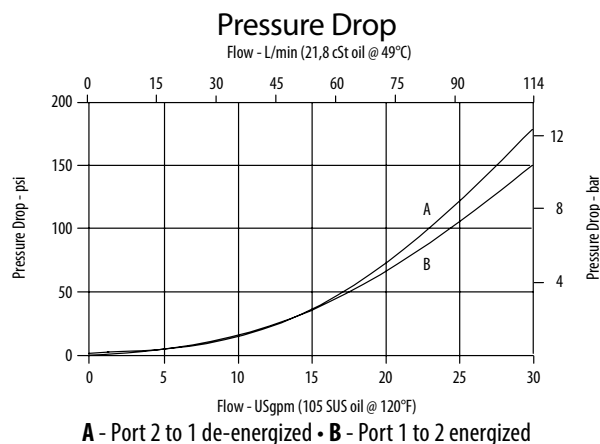
mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

Installation torque
81-95 Nm [60-70 ft. lbs]



PERFORMANCE CURVES



MODEL CODE

SV3 - 12 - V - O - P - A - 4G - U - 12D - G

Seal Option

Code	Seal kit
Omit - Buna - N	02-165889
V - Viton	02-165888

Manual Override Option

Omit - No manual override
P - Push type
S - Screw type

Housing Material

Omit - No housing
A - Aluminum

Housing

Code	Ports	C-12-2 Aluminum Heavy Duty	C-12-2U Aluminum Heavy Duty
0	No Housing		
4G	1/2" BSP	02-161118	02-161116
6G	3/4" BSP	02-161117	02-161115
10T	#10 SAE	02-160640	02-160641
12T	#12 SAE	02-160644	02-160645

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

* Additional housings available

Cavity

Omit - Cavity without undercut/No housing
U - Cavity with undercut

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565559)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV13-12-O

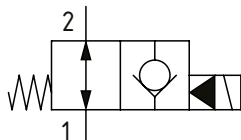
Solenoid Valve, 2-way, Poppet Type, Normally Closed, Pilot Operated with Reverse Free Flow

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

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. These valves can be used to hold loads in position when energized, interrupt a pressure line where flow normally passes in both directions, or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC



■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	114 l/min [30 US gpm]
Leakage	5 drops/ min @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.27 kg [0.59 lb]
Cavity	C-12-2 / C-12-2U

■ DIMENSIONS

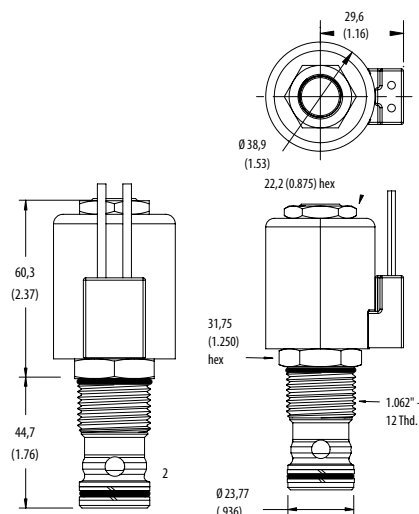
mm [in]

Coil nut torque

5-8 Nm [4-6 ft. lbs]

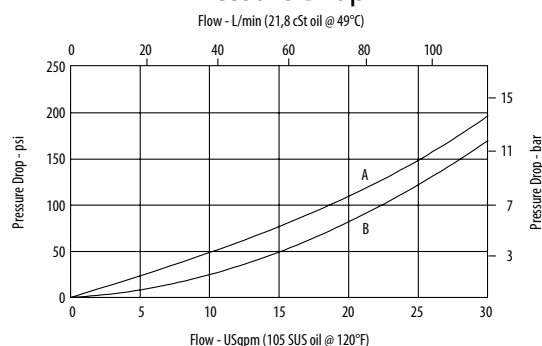
Installation torque

102-115 Nm [75-85 ft. lbs]



■ PERFORMANCE CURVES

Pressure Drop



A - Port 1 to 2 energized • B - Port 2 to 1 de-energized

■ MODEL CODE

SV13 - 12 - V - O - P - S - 4G - U - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	02-165889
V - Viton	02-165888

Manual Override Option

Omit - No manual override
P - Push type
S - Screw type

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	C-12-2 Steel Heavy Duty	C-12-2U Steel Heavy Duty
0	No Housing		
4G	1/2" BSP	02-172062	02-172512
6G	3/4" BSP	02-169665	02-162922
10T	#10 SAE	02-169744	02-169817
12T	#12 SAE	02-169782	02-169790

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

* Additional housings available

Cavity

Omit - Cavity without undercut/No housing
U - Cavity with undercut

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV3-16-O

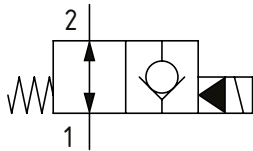
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow

210 bar [3000 psi] • 132 l/min [35 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. These valves can be used to hold loads in position when energized, interrupt a pressure line where flow normally passes in both directions, or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC



■ PERFORMANCE DATA

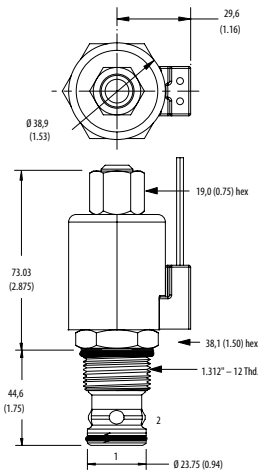
Rated Pressure	210 bar [3000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	5 drops/ min @ 210 bar [3000 psi]
Coil Options	J series
Weight	0.9 kg [1.98 lb]
Cavity	SDC16-2

■ DIMENSIONS

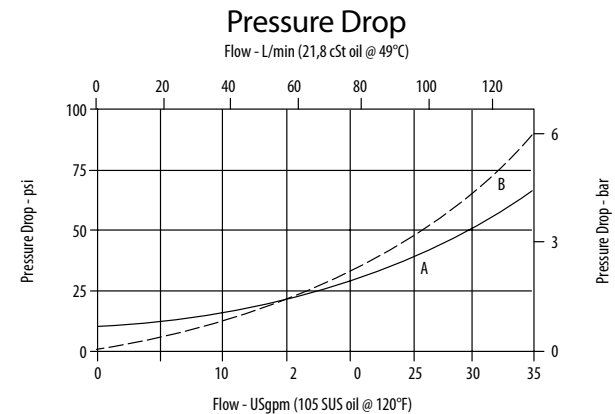
mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

Installation torque
108-122 Nm [80-90 ft. lbs]



■ PERFORMANCE CURVES



A - Port 1 to 2 energized • B - Port 2 to 1 de-energized

■ MODEL CODE

SV3 - 16 - V - O - P - A - 6B - 12D - G

Seal Option

Code	Seal kit
Omit - Buna - N	565810
V - Viton	889609

Manual Override Option

Omit - No manual override
P - Push type
S - Screw type

Housing Material

Omit - No Housing
A - Aluminum

Housing

Code	Ports	Aluminum Standard Duty	Aluminum Heavy Duty
0	No Housing		
6B	3/4" BSP	02-175463	
12T	#12 SAE	566149	
6G	3/4" BSP		876718
10H	#10 SAE		876717
12H	#12 SAE		566113

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

* Additional housings available

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 565559)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV13-16-O

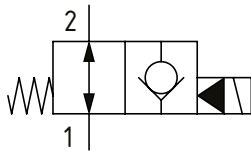
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow

350 bar [5000 psi] • 132 l/min [35 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. These valves can be used to hold loads in position when energized, interrupt a pressure line where flow normally passes in both directions, or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC



■ PERFORMANCE DATA

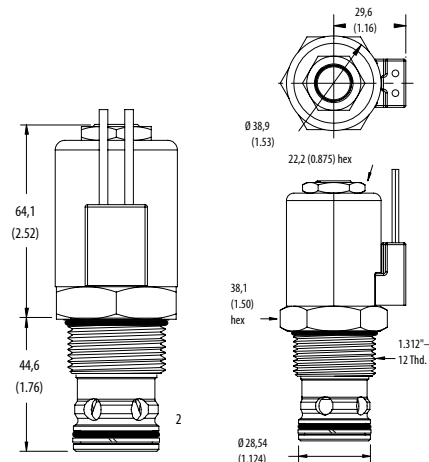
Rated Pressure	350 bar [5000 psi]
Rated flow	132 l/min [35 US gpm]
Leakage	5 drops/min max @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.39 kg [0.85 lb]
Cavity	SDC16-2

■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

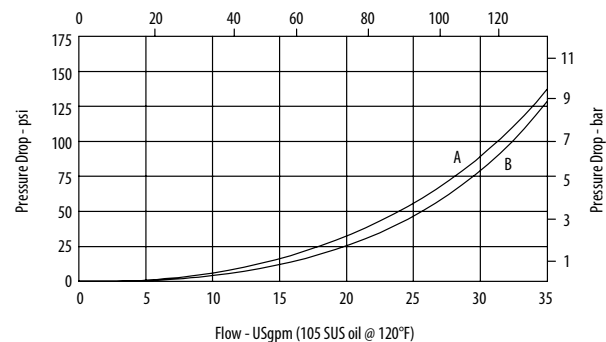
Installation torque
136-149 Nm [100-110 ft. lbs]



■ PERFORMANCE CURVES

Pressure Drop

Flow - L/min (21,8 cSt oil @ 49°C)



A - Port 2 to 1 de-energized • B - Port 1 to 2 energized

■ MODEL CODE

SV13 - 16 - V - O - P - S - 4G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	565810
V - Viton	889609

Manual Override Option

Omit - No manual override
P - Push type
S - Screw type

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
4G	1/2" BSP	02-175106
6G	3/4" BSP	02-175107
10T	#10 SAE	02-175104
12T	#12 SAE	02-175105

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV3-20-O

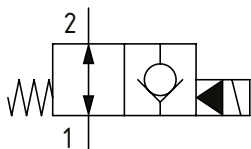
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow

210 bar [3000 psi] • 230 l/min [60 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. These valves can be used to hold loads in position when energized, interrupt a pressure line where flow normally passes in both directions, or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC



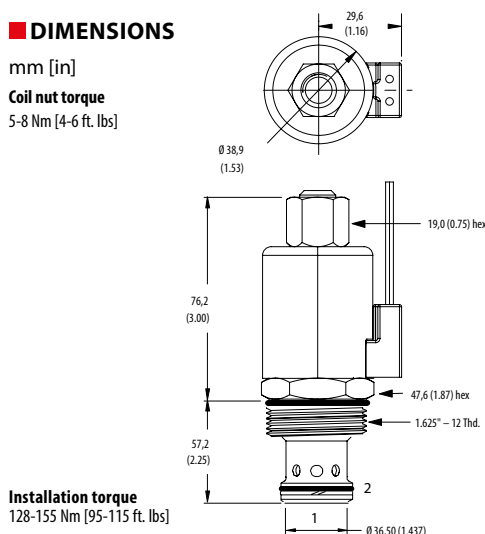
■ PERFORMANCE DATA

Rated Pressure	210 bar [3000 psi]
Rated flow	230 l/min [60 US gpm]
Leakage	5 drops/min max @ 210 bar [3000 psi]
Coil Options	J series
Weight	1.2 kg [2.70 lb]
Cavity	SDC20-2

■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

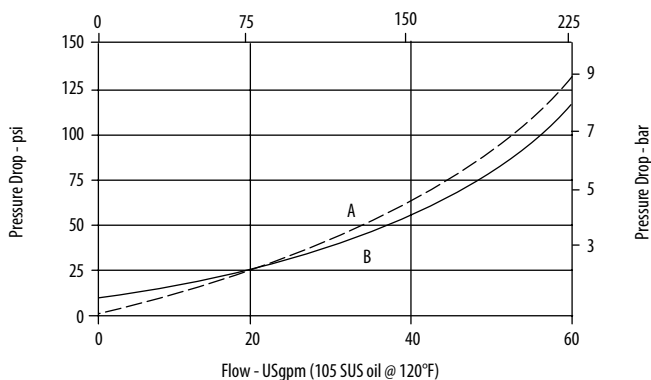


Installation torque
128-155 Nm [95-115 ft. lbs]

■ PERFORMANCE CURVES

Pressure Drop

Flow - L/min (21,8 cSt oil @ 49°C)



A - Port 2 to 1 and port 1 to 2 de-energized • B - Port 1 to 2 energized

■ MODEL CODE

SV3 - 20 - V - O - P - 8G - 12D - G

Seal Option

Code	Seal kit
Omit - Buna - N	889615
V - Viton	889619

Manual Override Option

Omit - No manual override
P - Push type
S - Screw type

Housing

Code	Ports	Aluminum Standard duty	Aluminum Heavy duty
0	Cartridge only		
8B	1" BSPP	02-175464	
16T	SAE 16	566409	
6G	3/4" BSPP		876732
8G	1" BSPP		876734
12H	SAE 12		876733
16H	SAE 16		876735

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

* Additional housings available

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 565559)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV13-20-O

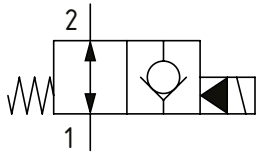
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated with Reverse Free Flow

350 bar [5000 psi] • 230 l/min [60 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition flow can take place from port 1 to 2 but is blocked in the other direction. Leakage is kept to a minimum due to the poppet design. These valves can be used to hold loads in position when energized, interrupt a pressure line where flow normally passes in both directions, or bypass excess oil to tank in a fail-safe way.

■ SCHEMATIC



■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	230 l/min [60 US gpm]
Leakage	5 drops/min max @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.62 kg [1.37 lb]
Cavity	SDC20-2

■ MODEL CODE

SV13 - 20 - V - O - P - S - 6G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	889615
V - Viton	889619

Manual Override Option

Omit - No manual override
P - Push type
S - Screw type

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
6G	3/4" BSP	02-175110
8G	1" BSP	02-175111
12T	#12 SAE	02-175108
16T	#16 SAE	02-175109

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

* Additional housings available

■ DIMENSIONS

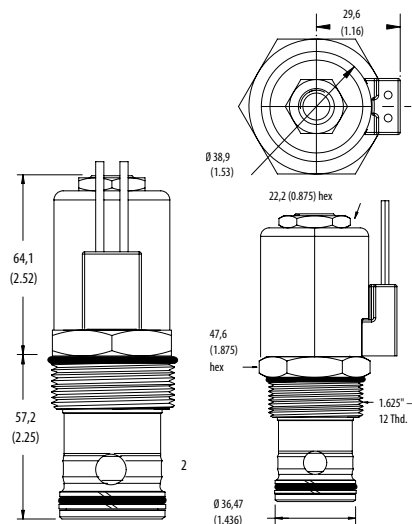
mm [in]

Coil nut torque

5-8 Nm [4-6 ft. lbs]

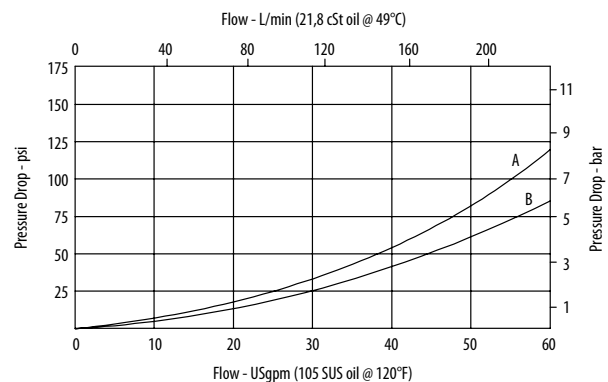
Installation torque

163-183 Nm [120-135 ft. lbs]



■ PERFORMANCE CURVES

Pressure Drop



A - Port 2 to 1 de-energized • B - Port 1 to 2 energized

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV08-22-01

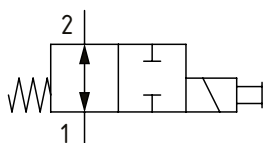
Solenoid Valve, 2-way, Spool Type, Normally Open

230 bar [3300 psi] • 16 l/min [4.2 US gpm]

OPERATION AND DESCRIPTION

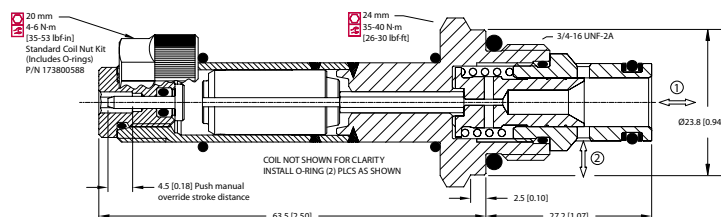
This is a 2-way, 2-position, spool type, direct acting, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow is blocked in both directions. The valve will be subject to normal spool leakage dependent on the pressure difference between the ports. They come standard with a push pin manual override. These valves can be used to interrupt a pressure line where flow is expected to pass in both directions in the energized condition.

SCHEMATIC



DIMENSIONS

mm [in]



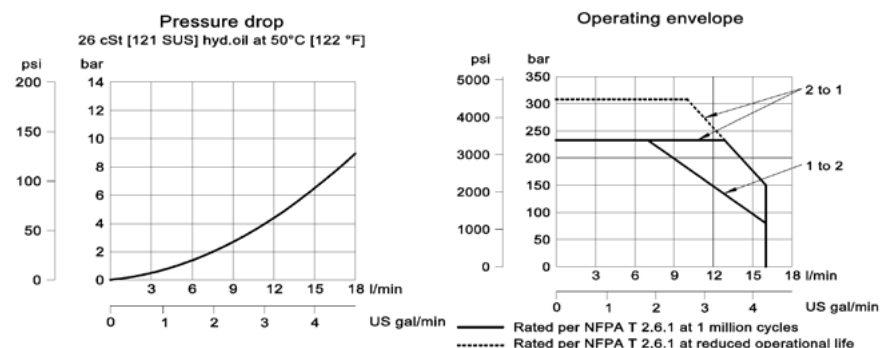
PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	16 l/min [4.2 US gpm]
Coil Options	M13, R13
Weight	0.29 kg [0.64 lb]
Cavity	SDC08-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 400,000 cycles. With inlet at port 2, this can be increased to 600,000 cycles.

PERFORMANCE CURVES



MODEL CODE

SV08 - 22 - 01 - 12D - DE - PB - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-2-4S
6S	#6 SAE, AL	CP08-2-6S
56S	#6 SAE, Steel	CP08-2-56S
DG2B	1/4 BSP, AL	SDC08-2-DG2B
DG3B	3/8 BSP, AL	SDC08-2-DG3B
S3B	3/8 BSP, Steel	CP08-2-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003119
V-Viton	354003619

Manual Override Option

Omit - Push Pin
PB - Push Button
SPS - Screw Type

Solenoid Valves

HSV08-22-01

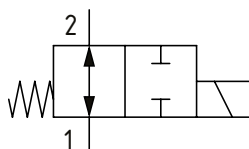
Solenoid Valve, 2-way, Spool Type, Normally Open

350 bar [5000 psi] • 20 l/min [5.3 US gpm]

■ OPERATION AND DESCRIPTION

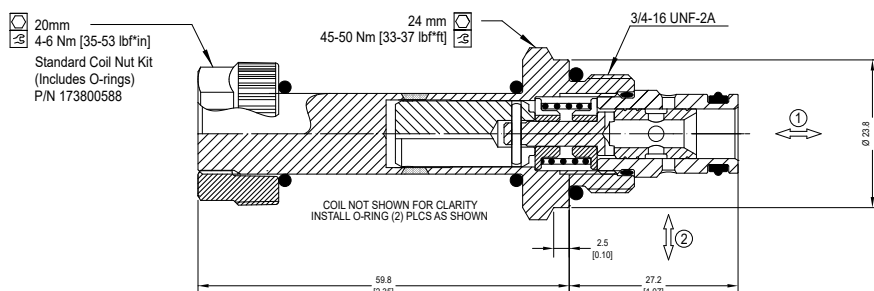
This is a 2-way, 2-position, spool type, direct acting, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow is blocked in both directions. The valve will be subject to normal spool leakage dependent on the pressure difference between the ports. These valves can be used to interrupt a pressure line where flow is expected to pass in both directions in the energized condition.

■ SCHEMATIC



■ DIMENSIONS

mm [in]

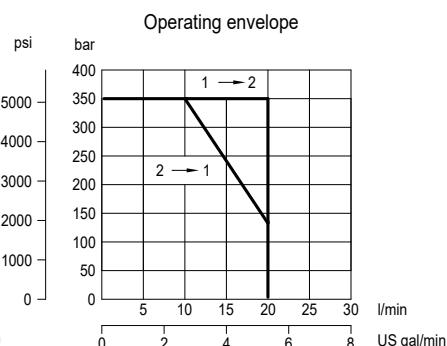
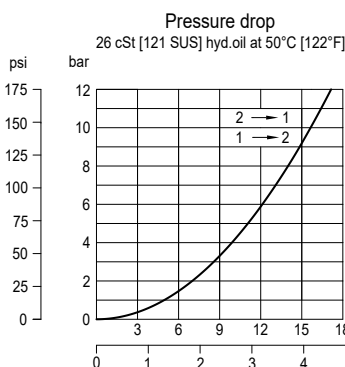


■ PERFORMANCE DATA

Rated Pressure*	350 bar [5000 psi]**
Flow Capability	20 l/min [5.3 US gpm]
Coil Options	M13, R13
Weight	0.35 kg [0.77 lb]
Cavity	SDC08-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

HSV08 - 22 - 01 - 12D - DE - XC - P - S3B

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Housing

Code	Ports	Housing Model Code
00	No Housing	
S3B	3/8 BSP, Steel	CP08-2-S3B
S4B	1/2 BSP, Steel	CP08-2-S4B
S6S	#6 SAE, Steel	CP08-2-S6S

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

* Additional housings available

Seal Option

Code	Seal kit
P-Polyurethane Single Seal	11167278

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Solenoid Valves

SV10-22-01

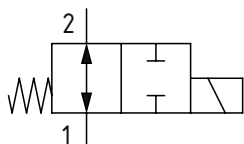
Solenoid Valve, 2-way, Spool Type, Normally Open

230 bar [3300 psi] • 35 l/min [9 US gpm]

■ OPERATION AND DESCRIPTION

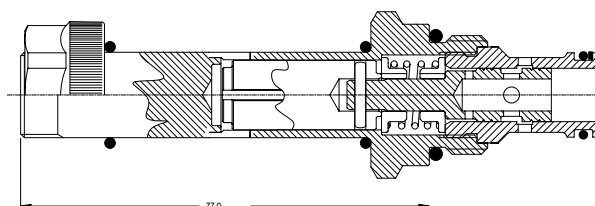
This is a 2-way, 2-position, spool type, direct acting, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow is blocked in both directions. The valve will be subject to normal spool leakage dependent on the pressure difference between the ports. They come standard with a push pin manual override. These valves can be used to interrupt a pressure line where flow is expected to pass in both directions in the energized condition.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



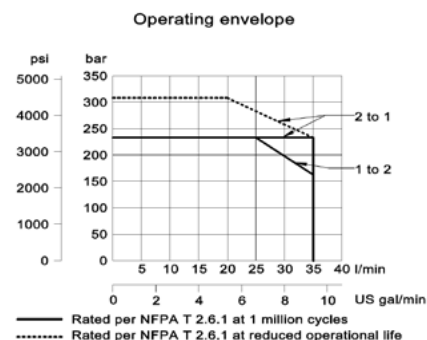
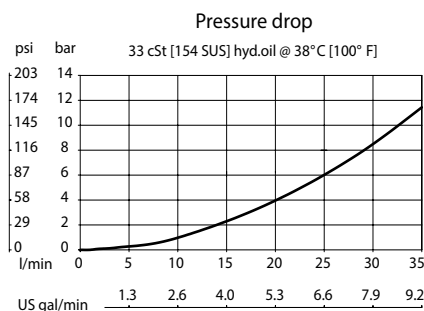
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	35 l/min [9 US gpm]
Coil Options	M16, R16
Weight	0.43 kg [0.95 lb]
Cavity	SDC10-2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 120,000 cycles. With inlet at port 2, this can be increased to 500,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 22 - 01 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-2-6S
8S	#8 SAE, AL	CP10-2-8S
S8S	#8 SAE, Steel	CP10-2-S8S
DG3B	3/8 BSP, AL	SDC10-2-DG3B
DG4B	1/2 BSP, AL	SDC10-2-DG4B
S4B	1/2 BSP, Steel	CP10-2-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354004019
V-Viton	354003419

Solenoid Valves

SV14-10-O

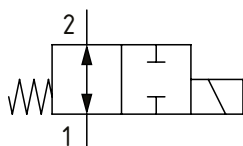
Solenoid Valve, 2-way, Spool Type, Normally Open

350 bar [5000 psi] • 23 l/min [6 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, spool type, direct acting, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow is blocked in both directions. The valve will be subject to normal spool leakage dependent on the pressure difference between the ports. These valves can be used to interrupt a pressure line where flow is expected to pass in both directions in the energized condition.

■ SCHEMATIC



■ PERFORMANCE DATA

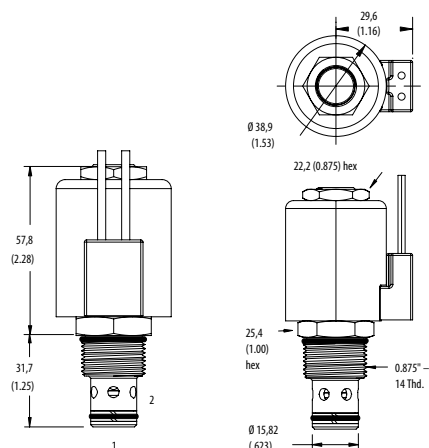
Rated Pressure	350 bar [5000 psi]
Flow Capability	23 l/min [6 US gpm]
Leakage	140 ml/min (8.5 in ³ /min) @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.18 kg [0.39 lb]
Cavity	SDC10-2

■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

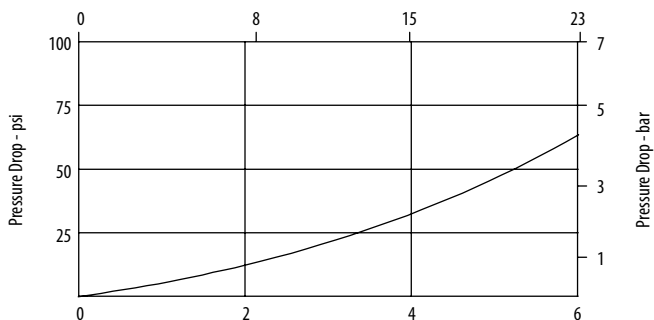
Installation torque
68-75 Nm [50-55 ft. lbs]



■ PERFORMANCE CURVES

Pressure Drop

Flow - L/min (21,8 cSt oil @ 49°C)



Flow - USgpm (105 SUS oil @ 120°F)

Port 2 to port 1 or Port 1 to port 2 de-energized

■ MODEL CODE

SV14 - 10 - V - O - M - S - 2G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	566806
V - Viton	889627

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
2G	1/4" BSP	02-175102
3G	3/8" BSP	02-175103
6T	#6 SAE	02-175100
8T	#8 SAE	02-175101
6H	#6 SAE	
8H	#8 SAE	

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV15-22-01

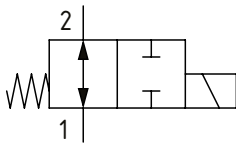
Solenoid Valve, 2-way, Spool Type, Normally Open

230 bar [3300 psi] • 60 l/min [16 US gpm]

■ OPERATION AND DESCRIPTION

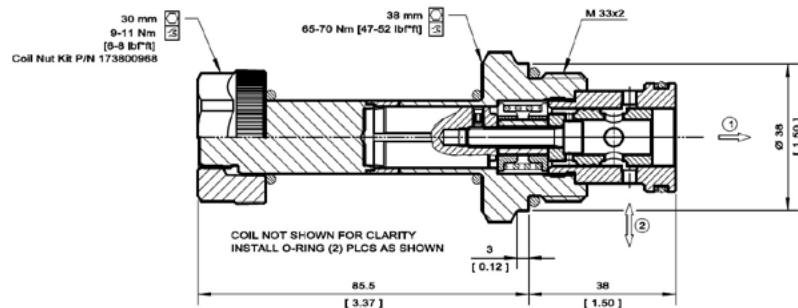
This is a 2-way, 2-position, spool type, direct acting, normally open solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow is blocked in both directions. The valve will be subject to normal spool leakage dependent on the pressure difference between the ports. These valves can be used to interrupt a pressure line where flow is expected to pass in both directions in the energized condition.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



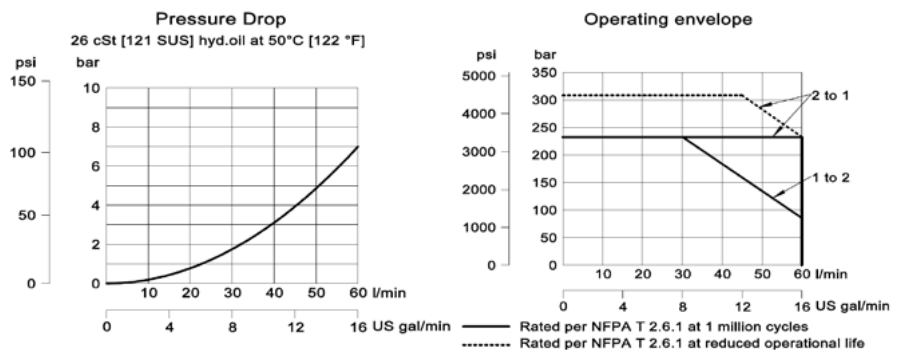
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	60 l/min [16 US gpm]
Coil Options	M19
Weight	0.65 kg [1.65 lb]
Cavity	NCS 12/2

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 100,000 cycles. With inlet at port 2, this can be increased to 300,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 22 - 01 - 12D - DE - B - 8S

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included*
10D	10 VDC
12D	12 VDC
20D	20 VDC
24D	24 VDC
110A	110 VAC**
220A	220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800968)

**DIN only - external rectifier needed

Connector Type

Code	Connector Type
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS 12/2-DG-8S
12S	#12 SAE, AL	NCS 12/2-DG-12S
4B	1/2 BSP, Steel	NCS 12/2-DG-1/2
6B	3/4 BSP, Steel	NCS 12/2-DG-3/4

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	11115411
V-Viton	11115413

Solenoid Valves

S207

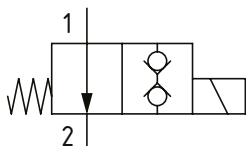
Solenoid Valve, 2-way, Poppet Type, Normally Open, Direct Acting, Double Blocking

350 bar [5000 psi] • 1 l/min [0.25 US gpm]

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, direct acting, normally open, bi-directional solenoid valve for low flow applications. When energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. These valves can be used to hold loads in position, provide controlled lowering or as a pilot valve for larger valves such as ventable relief valves or logic elements.

■ SCHEMATIC

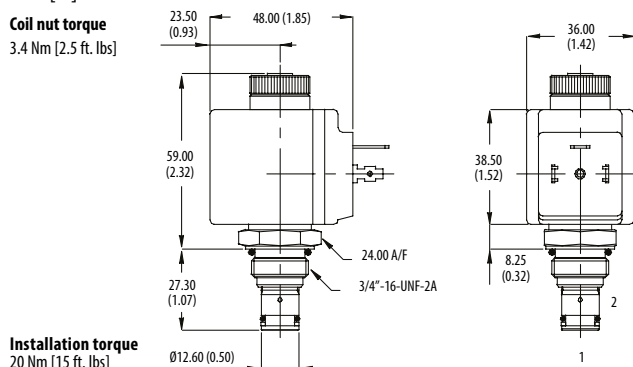


■ DIMENSIONS

mm [in]

Coil nut torque
3.4 Nm [2.5 ft. lbs]

Installation torque
20 Nm [15 ft. lbs]

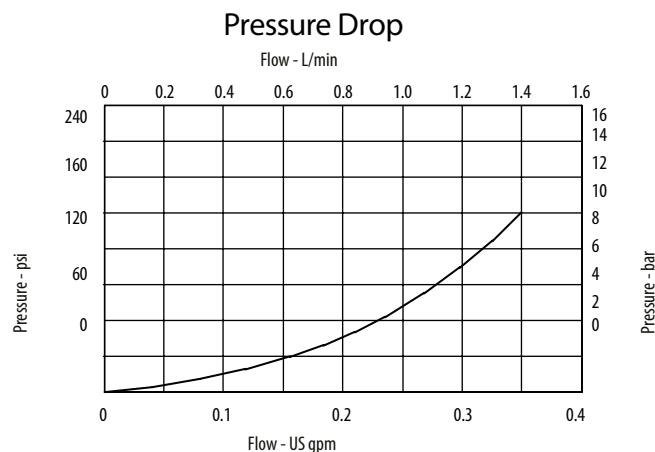


■ PERFORMANCE DATA

Rated Pressure*	350 bar [5000 psi]
Rated flow	1 l/min [0.25 US gpm]
Leakage	0.3 drops/min [5 dpm] @ 210 bar [3000 psi]
Coil Options	C13
Weight	0.1 kg [0.2 lb]
Cavity	SDC08-2

*Max pressure at port 2 is 210 bar [3000 psi]

■ PERFORMANCE CURVES



■ MODEL CODE

S207 - V - 24 - H - 3W - 377

Seal Option

Code	Seal kit
V-Viton®	SK1043V

Coil Voltage

12 - 12 VDC
24 - 24 VDC
110 - 110 VAC*
220 - 220 VAC*

*External rectifier needed

Connector Type

H - DIN43650
F - Flying lead
DM - Deutsch moulded

Housing Material

Omit - Aluminum / No housing
377 - Steel

Housing

Code	Ports	Aluminium	Steel
Omit	No Housing		
2W	1/4" BSP	A1485	
3W	3/8" BSP	A1043	A14175
6T	3/8" SAE	A15676	A14843

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

* Additional housings available

Solenoid Valves

SBV11-8-O

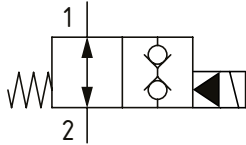
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated, Double Blocking

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

OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open, bi-directional solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. These valves can be used to hold loads in position or interrupt a pressure line where flow is expected to pass in both directions in the energized condition.

SCHEMATIC



PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	60 l/min [16 US gpm]
Leakage	5 drops/min @ 350 bar [5000 psi]
Coil Options	P series
Weight	0.12 kg [0.26 lb]
Cavity	SDC08-2

DIMENSIONS

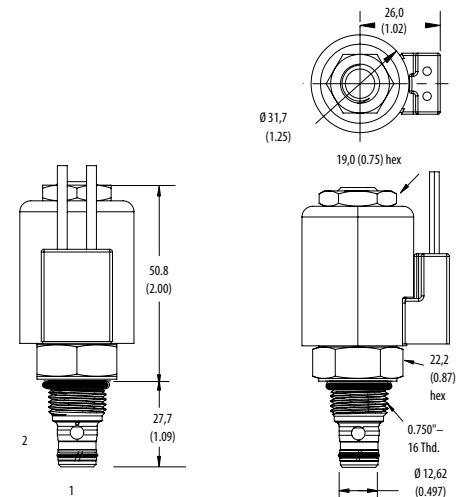
mm [in]

Coil nut torque

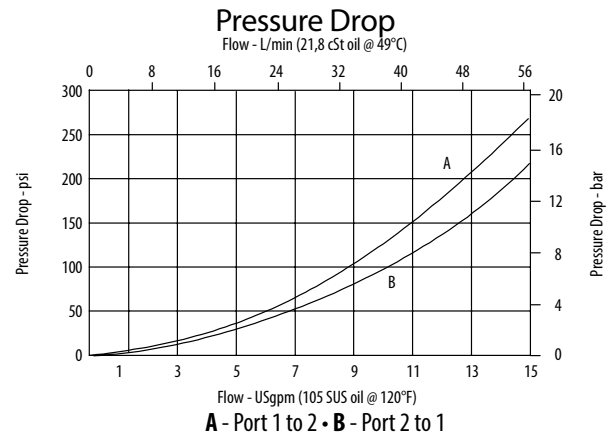
5-8 Nm [4-6 ft. lbs]

Installation torque

34-41 Nm [25-30 ft. lbs]



PERFORMANCE CURVES



MODEL CODE

SBV11 - 8 - V - O - A - 2G - 12D - G - P

Seal Option

Code	Seal kit
Omit - Buna - N	02-160777
V - Viton	02-160778

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports	Aluminium	Steel
0	No Housing		
2G	1/4" BSP	02-160727	02-160733
3G	3/8" BSP	02-160728	02-160734
4T	#4 SAE	02-160730	02-160736
6T	#6 SAE	02-160731	02-160737
8T	#8 SAE	02-160732	02-160738

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

* Additional housings available

Coil Series

Omit - No coil
P - 8 series, 23W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SBV11-10-O

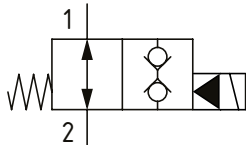
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated, Double Blocking

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

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open, bi-directional solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. These valves can be used to hold loads in position or interrupt a pressure line where flow is expected to pass in both directions in the energized condition.

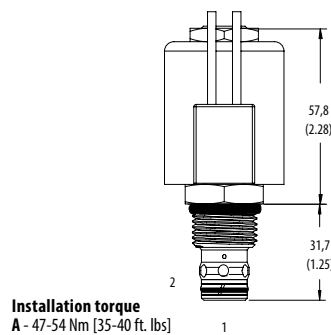
■ SCHEMATIC



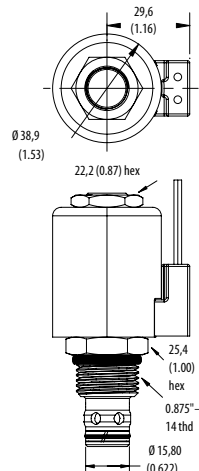
■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]



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

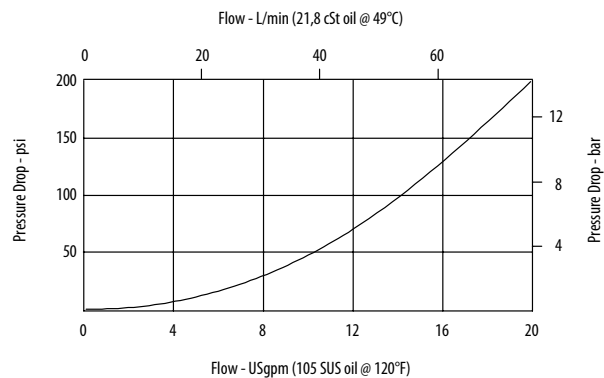


■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	76 l/min [20 US gpm]
Leakage	5 drops/ min @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.18 kg [0.39 lb]
Cavity	SDC10-2

■ PERFORMANCE CURVES

Pressure Drop



■ MODEL CODE

SBV11 - 10 - V - O - A - 2G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	565806
V - Viton	889627

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports	Aluminum Standard Duty	Aluminum Heavy Duty	Steel
0	No Housing			
2G	1/4" BSP		876702	02-175102
3G	3/8" BSP		876703	02-175103
3B	3/8" BSP	02-175462		
6H	#6 SAE		876700	
6T	#6 SAE	566151		02-175100
8H	#8 SAE		876701	
8T	#8 SAE			02-175101

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
36D	36 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SBV11-12-O

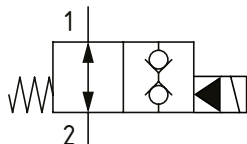
Solenoid Valve, 2-way, Poppet Type, Normally Open, Pilot Operated, Double Blocking

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

■ OPERATION AND DESCRIPTION

This is a 2-way, 2-position, poppet type, pilot operated, normally open, bi-directional solenoid valve. When de-energized, flow can take place from port 2 to 1 and from 1 to 2. In its energized condition, flow is blocked in both directions. Leakage in either direction is kept to a minimum due to the poppet design. These valves can be used to hold loads in position or interrupt a pressure line where flow is expected to pass in both directions in the energized condition.

■ SCHEMATIC



■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Rated flow	114 l/min [30 US gpm]
Leakage	5 drops/ min @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.27 kg [0.59 lb]
Cavity	C-12-2 / C-12-2U

■ DIMENSIONS

mm [in]

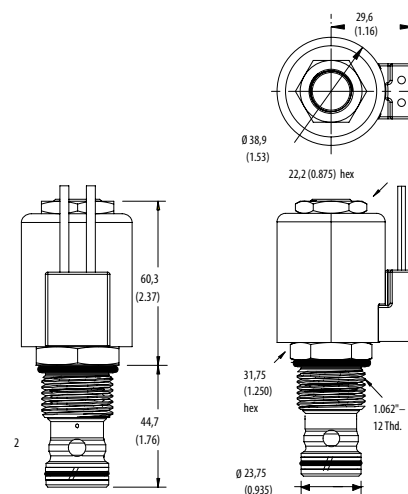
Coil nut torque

5-8 Nm [4-6 ft. lbs]

Installation torque

A - 81-95 Nm [60-70 ft. lbs]

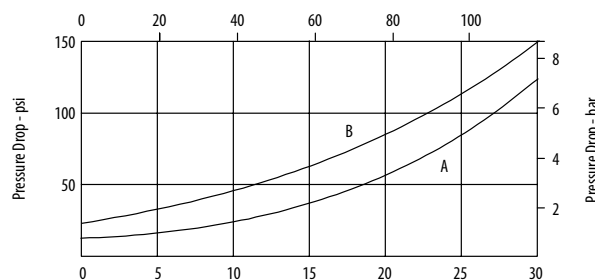
S - 102-115 Nm [75-85 ft. lbs]



■ PERFORMANCE CURVES

Pressure Drop

Flow - L/min (21,8 cSt oil @ 49°C)



Flow - USgpm (105 SUS oil @ 120°F)

A - Port 1 to 2 • **B** - Port 2 to 1

■ MODEL CODE

SBV11 - 12 - V - O - A - 4G - U - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	02-165889
V - Viton	02-165888

Housing Material

Omit - No Housing
A - Aluminum
S - Steel

Housing

Code	Ports	C-12-2 Aluminum Heavy Duty	C-12-2U Aluminum Heavy Duty	C-12-2 Steel Heavy Duty	C-12-2U Steel Heavy Duty
0	No Housing				
4G	1/2" BSP	02-161118	02-161116	02-172062	02-172512
6G	3/4" BSP	02-161117	02-161115	02-169665	02-162922
10T	#10 SAE	02-160640	02-160641	02-169744	02-169817
12T	#12 SAE	02-160644	02-160645	02-169782	02-169790

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

* Additional housings available

Cavity

Omit - Cavity without undercut/No housing
U - Cavity with undercut

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SVP08-DDB

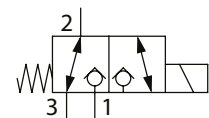
Solenoid Valve, 3-way, 2-position, Poppet Type

230 bar [3300 psi] • 3 l/min [0.8 US gpm]

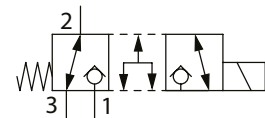
■ OPERATION AND DESCRIPTION

This is a 3-way, 2-position, poppet type, direct acting solenoid valve. When de-energized, the valve blocks flow from port 1 while allowing flow between port 2 and 3. When energized, the valve poppet blocks flow from port 3 while allowing flow between port 1 and 2. This valve is ideal for low leakage requirements to hold a load in position.

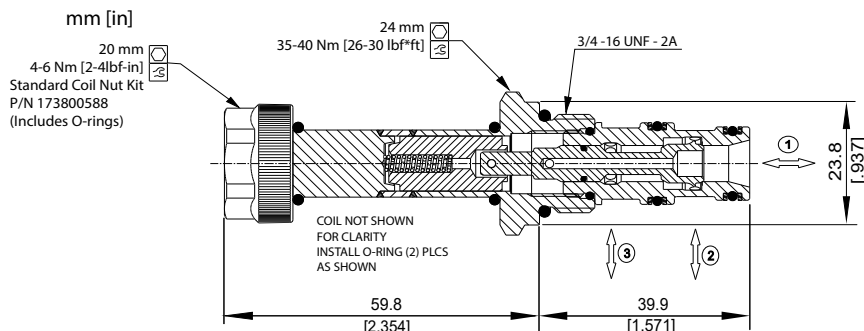
■ SCHEMATIC



Transition:



■ DIMENSIONS

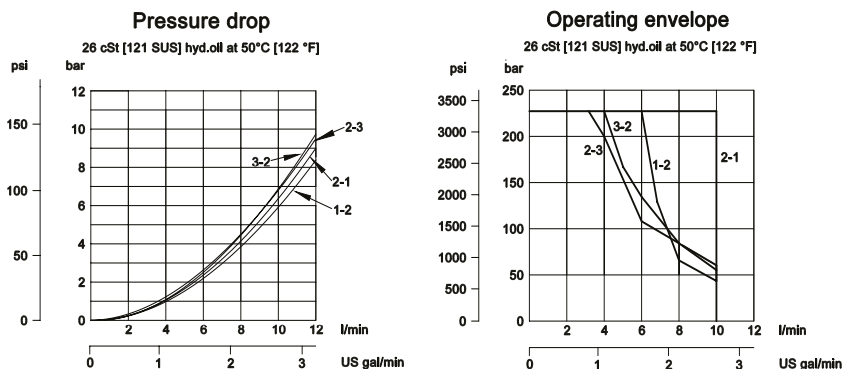


■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]
Flow Capability	3 l/min [0.8 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M13, R13
Weight	0.35kg [0.77 lb]
Cavity	SDC08-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

SVP08 - DDB - 12D - DE - M - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	No Housing
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
S6S	#6 SAE, Steel	CP08-3-S6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B
S3B	3/8 BSP, Steel	CP08-3-S3B

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

Seal Option

Code	Seal kit
B-Buna - N	354003210
V-Viton	354003819

Manual Override Option

Omit - No Override
M - Screw Type

Solenoid Valves

EVH 06/D5

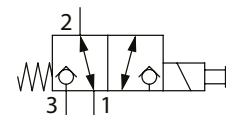
Solenoid Valve, 3-way, 2-position, Poppet Type

230 bar [3300 psi] • 25 l/min [6.6 US gpm]

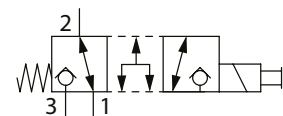
■ OPERATION AND DESCRIPTION

This is a 3-way, 2-position, poppet type, direct acting solenoid valve. When de-energized, the valve blocks flow from port 3 while allowing flow between port 1 and 2. When energized, the valve poppet blocks flow from port 1 while allowing flow between port 2 and 3. These valves come standard with a push pin manual override. This valve is ideal for low leakage requirements to hold a load in position.

■ SCHEMATIC

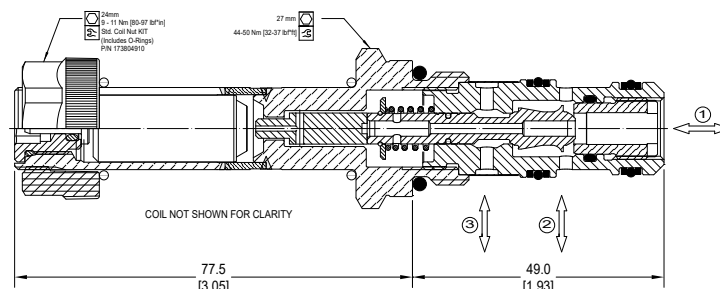


Transition:



■ DIMENSIONS

mm [in]

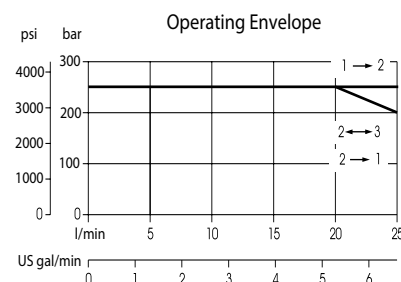
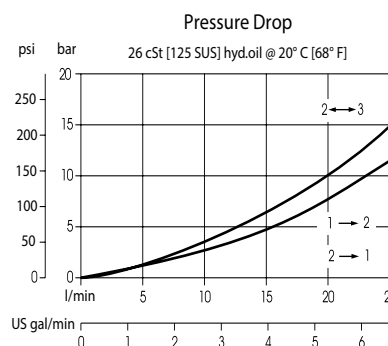


■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]
Flow Capability	25 l/min [6.6 US gpm]
Leakage	6 drops/min @ Rated Pressure
Coil Options	M16, R16
Weight	0.44 kg [0.97 lb]
Cavity	NCS06/3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

EVH 06/D5 - 12D - DE - PB - SE6S - B

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Seal Option

Code	Seal kit
B-Buna - N	230000590
V-Viton	230000430

Housing

Code	Ports	Housing Model Code
00	No Housing	
SE6S	#6 SAE, AL	NCS06/3-SE-6S
SE8S	#8 SAE, AL	NCS06/3-SE-8S
SE3/8	3/8 BSP, AL	NCS06/3-SE-3/8
SE1/2	1/2 BSP, AL	NCS06/3-SE-1/2

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

* Additional housings available

Manual Override Option

Omit - Push Pin
PB - Push Button
SPS - Screw Type
OPS - Protected Push Pin
PAT - Push and Twist

Solenoid Valves

SV08-23-01

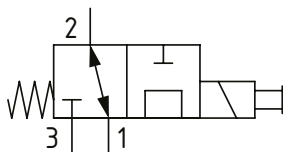
Solenoid Valve, 3-way, 2-position, Spool Type

230 bar [3300 psi] • 18 l/min [4.8 US gpm]

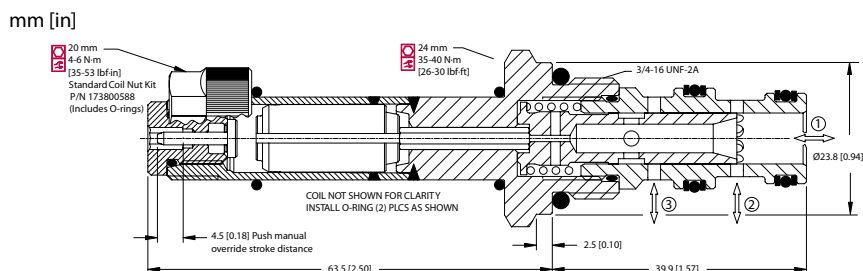
■ OPERATION AND DESCRIPTION

This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 1 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. They come standard with a push pin manual override. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

Rated Pressure* 230 bar [3300 psi]**

Flow Capability 18 l/min [4.8 US gpm]

Coil Options M13, R13

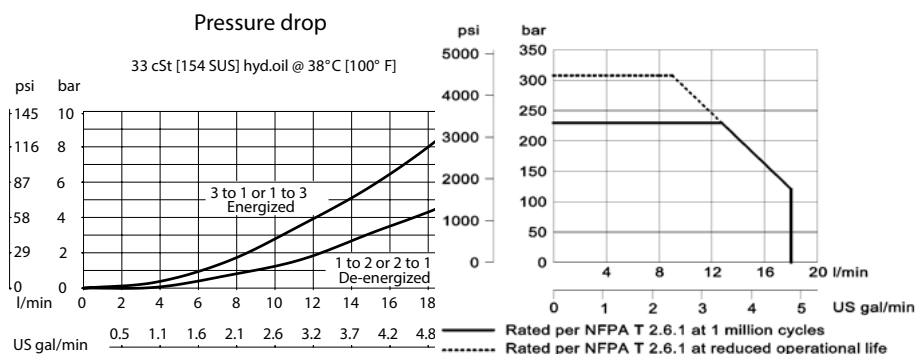
Weight 0.31 kg [0.68 lb]

Cavity SDC08-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 400,000 cycles. With inlet at port 2, this can be increased to 600,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 23 - 01 - 12D - DE - PB - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
S6S	#6 SAE, Steel	CP08-3-S6S
SE2B	1/4 BSP, Steel	SDC08-3-SE2B
SE3B	3/8 BSP, Steel	SDC08-3-SE3B
S3B	3/8 BSP, Steel	CP08-3-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003210
V-Viton	354003819

Manual Override

Omit-Push Pin

PB-Push Button

SPS-Screw Type

Solenoid Valves

HSV08-23-01

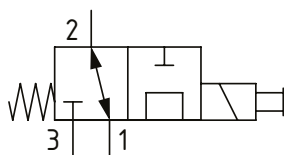
Solenoid Valve, 3-way, 2-position, Spool Type

350 bar [5000 psi] • 15 l/min [4 US gpm]

■ OPERATION AND DESCRIPTION

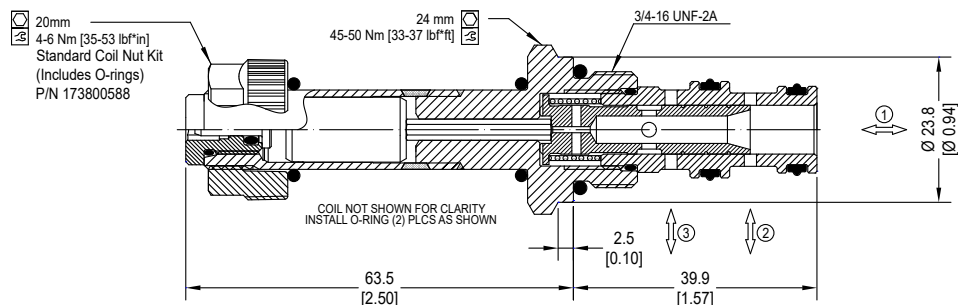
This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 1 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. They come standard with a push pin manual override. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]

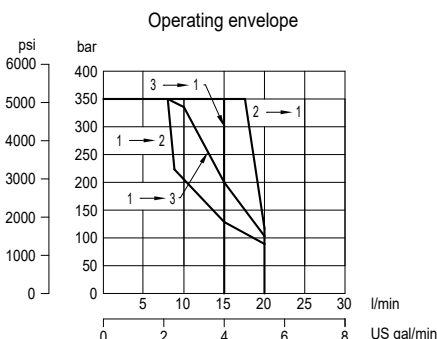
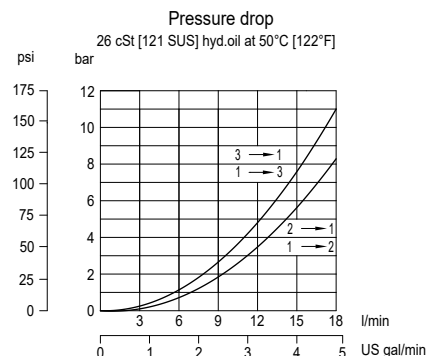


■ PERFORMANCE DATA

Rated Pressure*	350 bar [5000 psi]
Flow Capability	15 l/min [4 US gpm]
Coil Options	M13, R13
Weight	0.35 kg [0.77 lb]
Cavity	SDC08-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

HSV08 - 23 - 01 - 12D - DE - PN - P - S3B

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
S3B	3/8 BSP, Steel	CP08-3-S3B
S4S	#4 SAE, Steel	CP08-3-S4S
S6S	#6 SAE, Steel	CP08-3-S6S

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

* Additional housings available

Seal Option

Code	Seal kit
P-Polyurethane Single Seal	11167282

Solenoid Valves

SV10-23-01

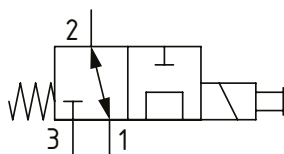
Solenoid Valve, 3-way, 2-position, Spool Type

230 bar [3300 psi] • 35 l/min [9 US gpm]

■ OPERATION AND DESCRIPTION

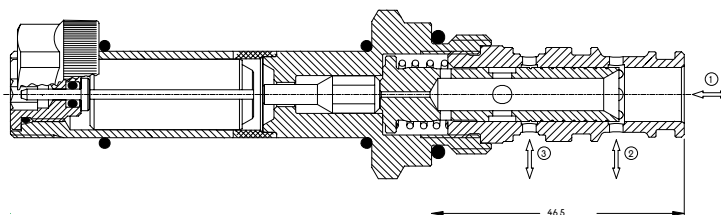
This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 1 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. They come standard with a push pin manual override. Always check the operating envelope to make sure the valve will work under the required application conditions. An open spool transition option is available for this valve (check model code for details).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



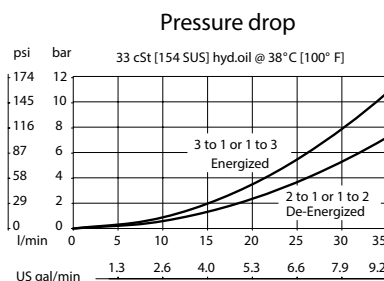
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	35 l/min [9 US gpm]
Coil Options	M16, R16
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-3

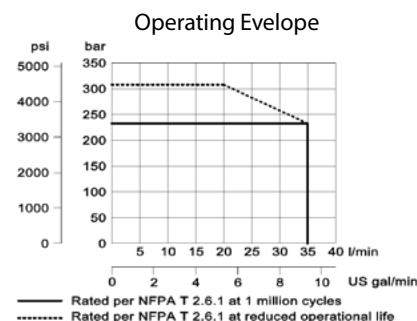
*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 400,000 cycles. With inlet at port 2, this can be increased to 600,000 cycles.

■ PERFORMANCE CURVES



Note: Performance curves apply to the "-01" spool transition option only. For "-C01" performance curves, contact technical support.



■ MODEL CODE

SV10 - 23 - 01 - 12D - DE - PB - B - 6S

Spool Transition

01 - Zero overlap

C01 - Open

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

**Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-3-6S
8S	#8 SAE, AL	CP10-3-8S
S8S	#8 SAE, Steel	CP10-3-S8S
DG3B	3/8 BSP, AL	SDC10-3-DG3B
DG4B	1/2 BSP, AL	SDC10-3-DG4B
S4B	1/2 BSP, Steel	CP10-3-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354004210
V-Viton	354003719

Manual Override

Omit-Push Pin

PB-Push Button

SPS-Screw Type

OPS-Protected Push Pin

PAT-Push and Twist

Solenoid Valves

CP521-21

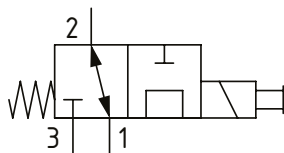
Solenoid Valve, 3-way, 2-position, Spool Type

240 bar [3500 psi] • 60 l/min [16 US gpm]

■ OPERATION AND DESCRIPTION

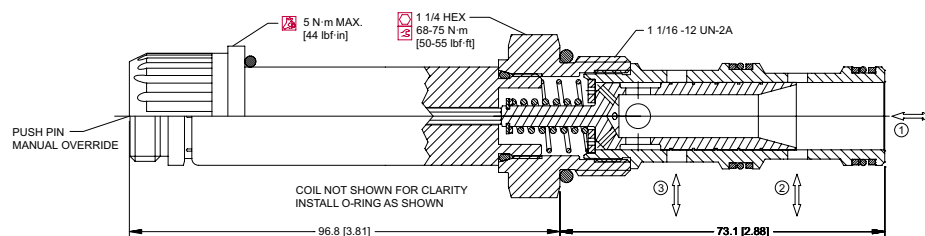
This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 1 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. This valve has an open transition, which reduces pressure spikes when changing flow direction. They come standard with a push pin manual override. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]

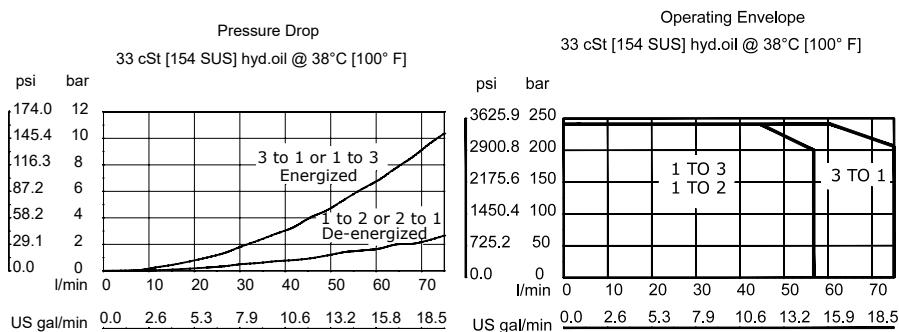


■ PERFORMANCE DATA

Rated Pressure*	240 bar [3500 psi]
Flow Capability	60 l/min [16 US gpm]
Coil Options	D14E [30W]
Weight	0.80 kg [1.76 lb]
Cavity	CP12-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

CP521 - 21 - B - 10S - 24D - S

Seal Option

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

Housing

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

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

* Additional housings available

Connector Type

0 - No connector
S - Spade
L - Lead wire
H - DIN43650
M2 - Metripak 150 Type 1
DE - Deutsch
AJ - Amp Junior
DED - Deutsch with diode

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included*
10D	10 VDC
12D	12 VDC
24D	24 VDC

*Coil nut and o-ring (p/n 321567)

Solenoid Valves

SV11M-12-3P

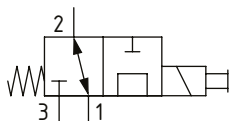
Solenoid Valve, 3-way, 2-position, Spool Type

350 bar [5000 psi] • 35 l/min [11 US gpm]

■ OPERATION AND DESCRIPTION

This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 1 is open to port 3 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Flow Capability	35 l/min [9 US gpm]
Leakage	350 ml/min [21.5 in ³ /min] @ 210 bar [3000 psi]
Coil Options	R series
Weight	0.86 kg [1.9 lb]
Cavity	C-12-3

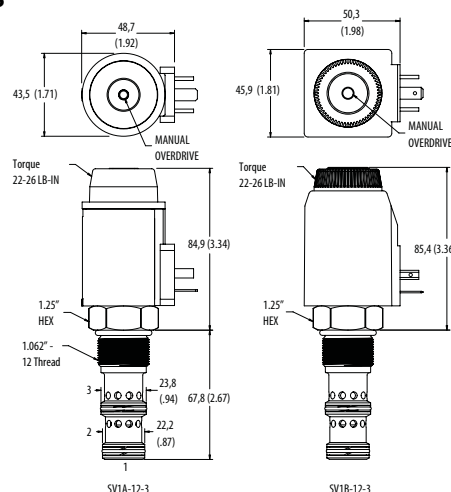
■ DIMENSIONS

mm [in]

Coil nut torque

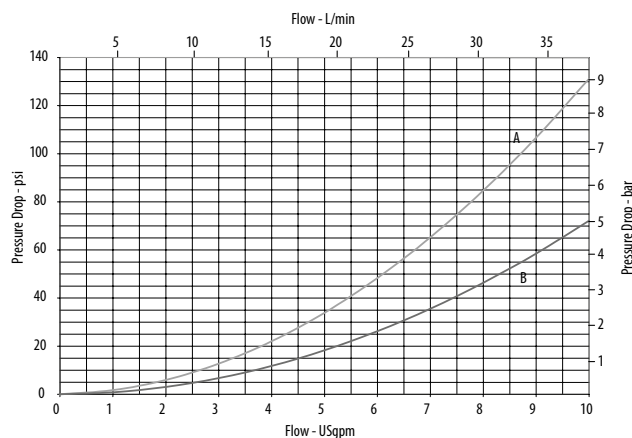
2.5-3 Nm [1.8-2.2 ft. lbs]

Installation torque
81-95 Nm [60-70 ft. lbs]



■ PERFORMANCE CURVES

Pressure Drop



A - Port 3 to 1 energized • B - Port 1 to 2 de-energized

■ MODEL CODE

SV11M - 12 - V - 3P - A - 6G - 12D - N - R

Seal Option

Code	Seal kit
Omit - Buna - N	9900171-000
V - Viton	9900172-000

Housing

Code	Ports	Aluminium	Steel
0	No Housing		
6G	3/4" BSP	02-161816	
12H	#12 SAE	02-160646	
4G	1/2" BSP		02-169815
6G	3/4" BSP		02-169814
10T	#10 SAE		02-161070
12T	#12 SAE		02-169816

* Aluminium bodies are to be used for pressures less than 210 bar [3000 psi].

* Additional housings available

Housing Material

Omit - No housing
A - Aluminium
S - Steel

Coil Series

Omit - No coil
R - R series, 30W

Connector Type

Omit - No coil
N - Deutsch male, DT04-2P, integrated

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 6036194-001)
12D	12 VDC
24D	24 VDC
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode.

Solenoid Valves

SV07-23-02

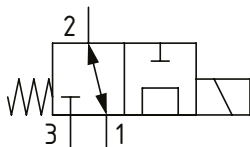
Solenoid Valve, 3-way, 2-position, Spool Type

80 bar [1160 psi] • 8 l/min [2.11 US gpm]

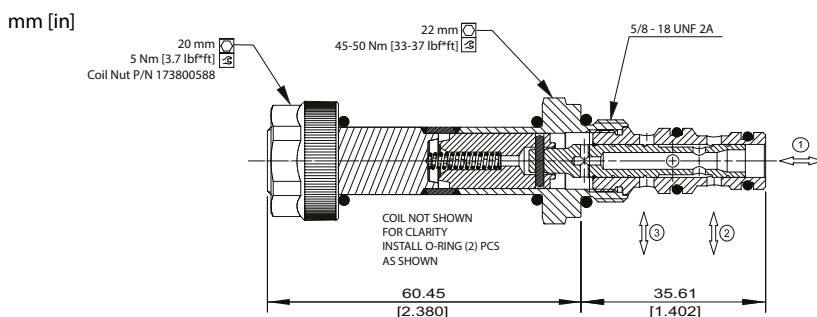
■ OPERATION AND DESCRIPTION

This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 1 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

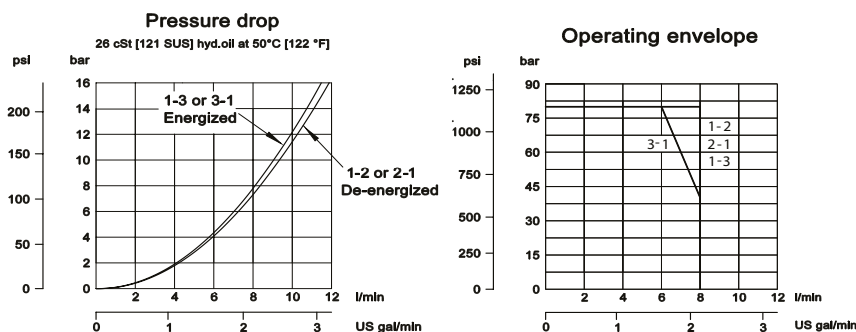


■ PERFORMANCE DATA

Rated Pressure*	80 bar [1160 psi]
Flow Capability	8 l/min [2.11 US gpm]
Coil Options	M13, R13
Weight	0.32 kg [0.72 lb]
Cavity	CP07-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

SV07 - 23 - 02 - 12D - DE - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP07-3-4S
6S	#6 SAE, AL	CP07-3-6S

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	11361898
V-Viton	11361899

Solenoid Valves

SV08-23-02

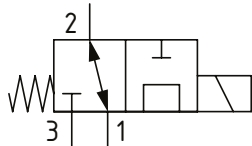
Solenoid Valve, 3-way, 2-position, Spool Type

230 bar [3300 psi] • 18 l/min [4.7 US gpm]

■ OPERATION AND DESCRIPTION

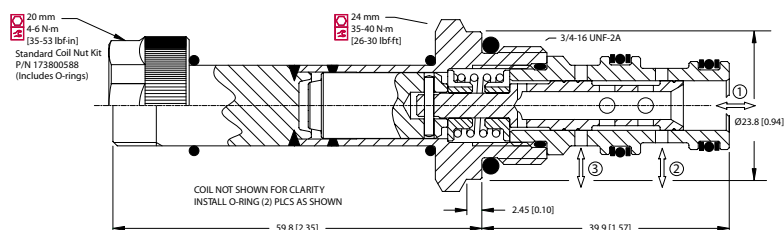
This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 1 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



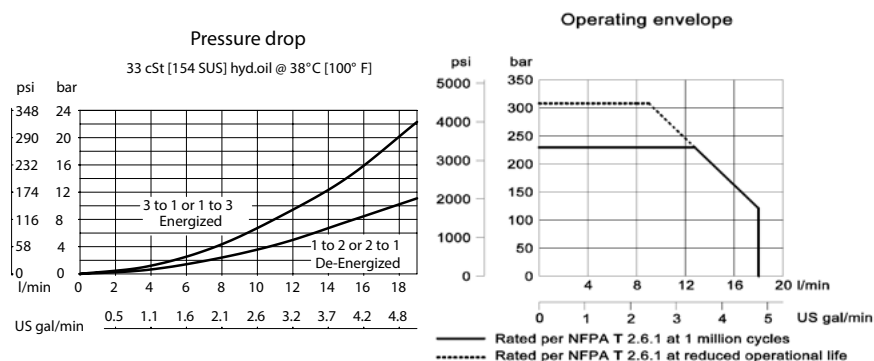
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	18 l/min [4.7 US gpm]
Coil Options	M13, R13
Weight	0.31 kg [0.68 lb]
Cavity	SDC08-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 400,000 cycles. With inlet at port 2, this can be increased to 600,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 23 - 02 - 12D - DE - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
S6S	#6 SAE, Steel	CP08-3-S6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B
S3B	3/8 BSP, Steel	CP08-3-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003210
V-Viton	354003819

Solenoid Valves

HSV08-23-02

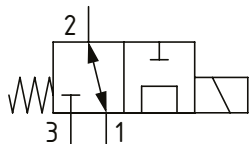
Solenoid Valve, 3-way, 2-position, Spool Type

350 bar [5000 psi] • 15 l/min [4 US gpm]

■ OPERATION AND DESCRIPTION

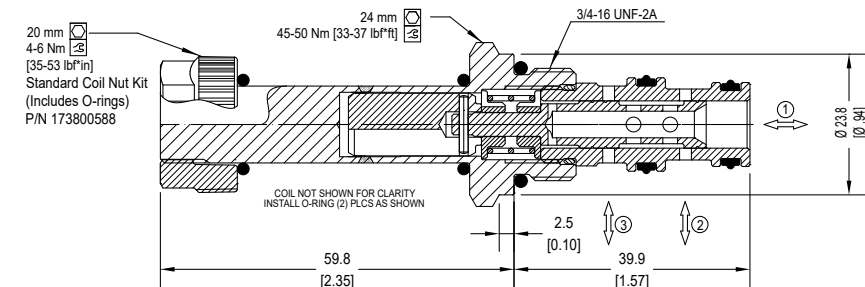
This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 1 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]

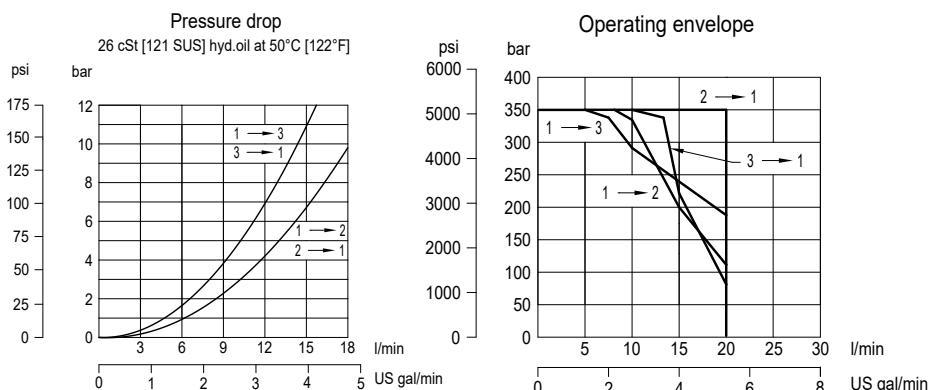


■ PERFORMANCE DATA

Rated Pressure*	350 bar [5000 psi]
Flow Capability	15 l/min [4 US gpm]
Coil Options	M13, R13
Weight	0.35 kg [0.77 lb]
Cavity	SDC08-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

HSV08 - 23 - 02 - 12D - DE - XC - P - S3B

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Housing

Code	Ports	Housing Model Code
00	No Housing	
S3B	3/8 BSP, Steel	CP08-3-S3B
S4S	#4 SAE, Steel	CP08-3-S4S
S6S	#6 SAE, Steel	CP08-3-S6S

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

* Additional housings available

Seal Option

Code	Seal kit
P-Polyurethane Single Seal	11167282

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Solenoid Valves

SV09-23-02

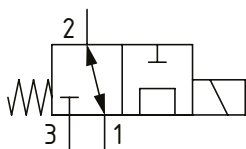
Solenoid Valve, 3-way, 2-position, Spool Type

100 bar [1450 psi] • 21 l/min [5.5 US gpm]

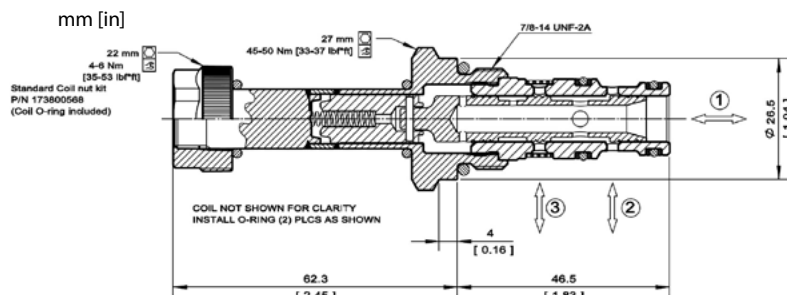
■ OPERATION AND DESCRIPTION

This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 1 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions. This valve is ideal for low pressure on-off control of single acting cylinders, clutches, and brake applications.

■ SCHEMATIC



■ DIMENSIONS



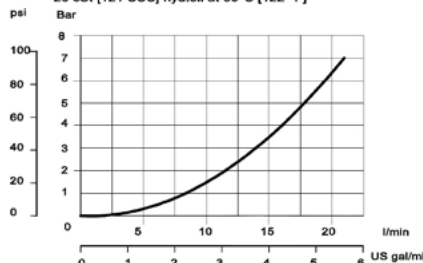
■ PERFORMANCE DATA

Rated Pressure*	100 bar [1450 psi]
Flow Capability	21 l/min [5.5 US gpm]
Leakage	20 ml/min [1.22 in ³ /min] at Rated Pressure
Coil Options	M13, R13
Weight	0.35 kg [0.78 lb]
Cavity	SDC10-3

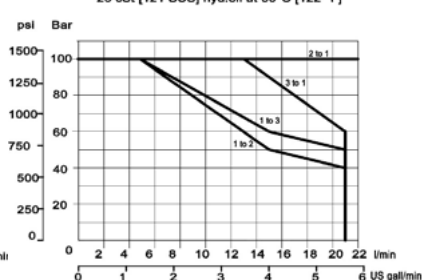
*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



■ MODEL CODE

SV09 - 23 - 02 - 12D - DE - B - F - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP10-3-4S
6S	#6 SAE, AL	CP10-3-6S
SE2B	1/4 BSP, AL	SDC10-3-SE2B
SE3B	3/8 BSP, AL	SDC10-3-SE3B

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

* Additional housings available

Filter Option

Omit-No Filter

F-Filter 500 µm

Seal Option

Code	Seal kit
B-Buna - N	354004210
V-Viton	354003719

Solenoid Valves

SV10-23-02

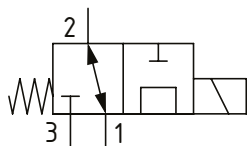
Solenoid Valve, 3-way, 2-position, Spool Type

230 bar [3300 psi] • 28 l/min [7.4 US gpm]

■ OPERATION AND DESCRIPTION

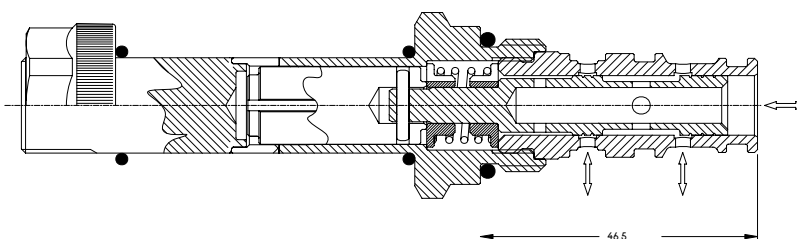
This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 1 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



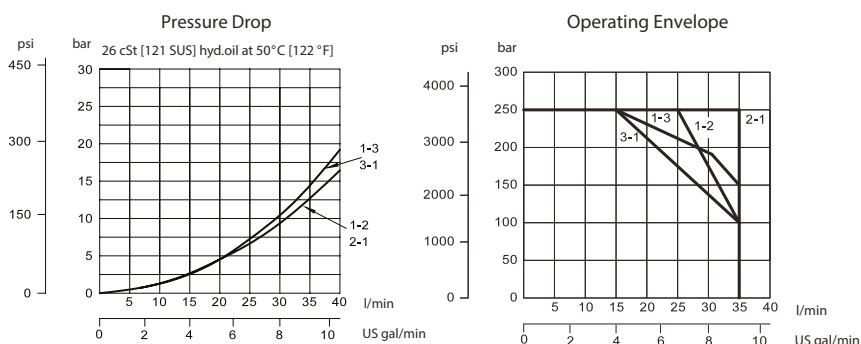
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	28 l/min [7.4 US gpm]
Coil Options	M16, R16
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 500,000 cycles. With inlet at port 2, this can be increased to 300,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 23 - 02 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-3-6S
8S	#8 SAE, AL	CP10-3-8S
S8S	#8 SAE, Steel	CP10-3-S8S
SE3B	3/8 BSP, AL	SDC10-3-SE3B
SE4B	1/2 BSP, AL	SDC10-3-SE4B
S4B	1/2 BSP, Steel	CP10-3-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354004210
V-Viton	354003719

Solenoid Valves

SV11-10-3

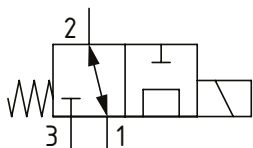
Solenoid Valve, 3-way, 2-position, Spool Type

350 bar [5000 psi] • 23 l/min [6 US gpm]

■ OPERATION AND DESCRIPTION

This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 1 is open to port 3 and port 2 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

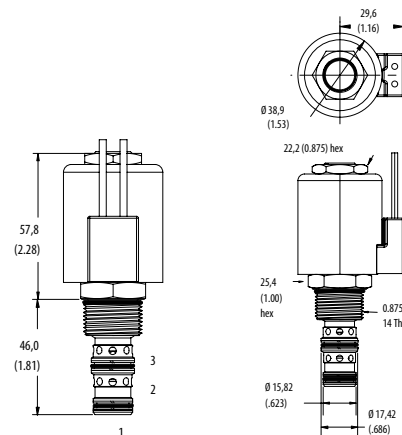
mm [in]

Coil nut torque

5-8 Nm [4-6 ft. lbs]

Installation torque

68-75 Nm [50-55 ft. lbs]



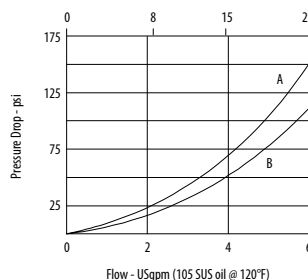
■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Flow Capability	23 l/min [6 US gpm]
Leakage	164 ml/min (10 in ³ /min) at 350 bar [5000 psi]
Coil Options	H series
Weight	0.19 kg [0.42 lb]
Cavity	SDC10-3

■ PERFORMANCE CURVES

Pressure Drop

Flow - L/min (21,8 cSt oil @ 49°C)

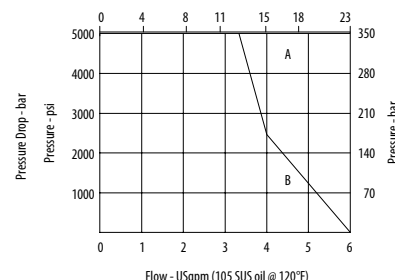


A - Port 3 to port 1

B - Port 1 to port 2

Operating Envelope

Flow - L/min (21,8 cSt oil @ 49°C)



A - Normally open, normally closed

B - Selector 1 to 2

■ MODEL CODE

SV11-10 - V - 3 - M - S - 2G - 12D - G - H

Seal Option

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

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
2G	1/4" BSP	02-175127
3G	3/8" BSP	02-175128
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

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV08-23-03

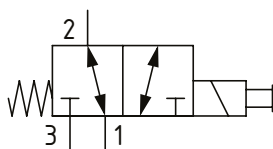
Solenoid Valve, 3-way, 2-position, Spool Type

230 bar [3300 psi] • 18 l/min [4.7 US gpm]

OPERATION AND DESCRIPTION

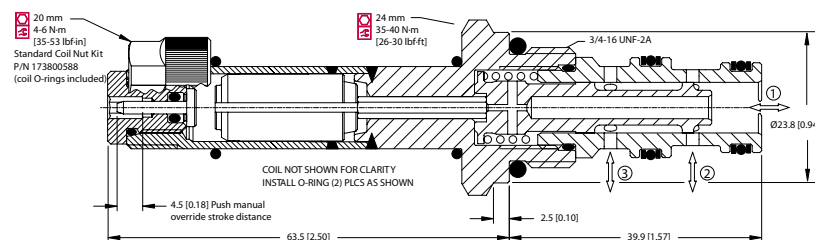
This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 2 and port 1 is blocked. These valves can be used in normally open, normally closed or selector modes. They come standard with a push pin manual override. Always check the operating envelope to make sure the valve will work under the required application conditions.

SCHEMATIC



DIMENSIONS

mm [in]



PERFORMANCE DATA

Rated Pressure* 230 bar [3300 psi]**

Flow Capability 18 l/min [4.7 US gpm]

Coil Options M13, R13

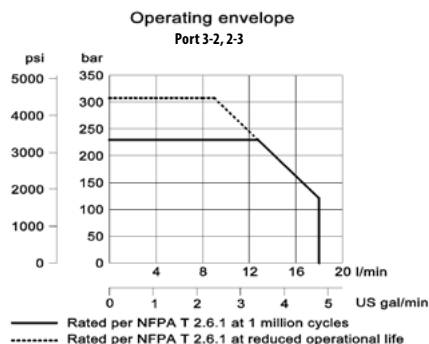
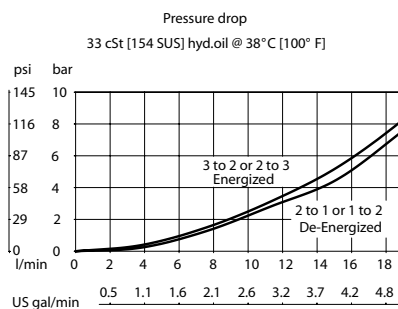
Weight 0.31 kg [0.68 lb]

Cavity SDC08-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 400,000 cycles. With inlet at port 2, this can be increased to 600,000 cycles.

PERFORMANCE CURVES



MODEL CODE

SV08 - 23 - 03 - 12D - DE - PB - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

**Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
S6S	#6 SAE, Steel	CP08-3-S6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B
S3B	3/8 BSP, Steel	CP08-3-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003210
V-Viton	354003819

Manual Override Option

Omit-Push Pin

PB-Push Button

SPS-Screw Type

Solenoid Valves

SV10-23-03

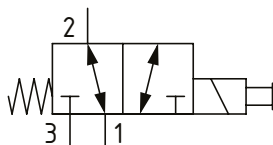
Solenoid Valve, 3-way, 2-position, Spool Type

230 bar [3300 psi] • 28 l/min [7.4 US gpm]

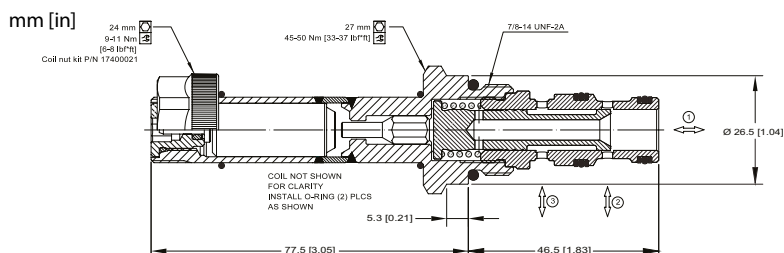
■ OPERATION AND DESCRIPTION

This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 2 and port 1 is blocked. These valves can be used in normally open, normally closed or selector modes. They come standard with a push pin manual override. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

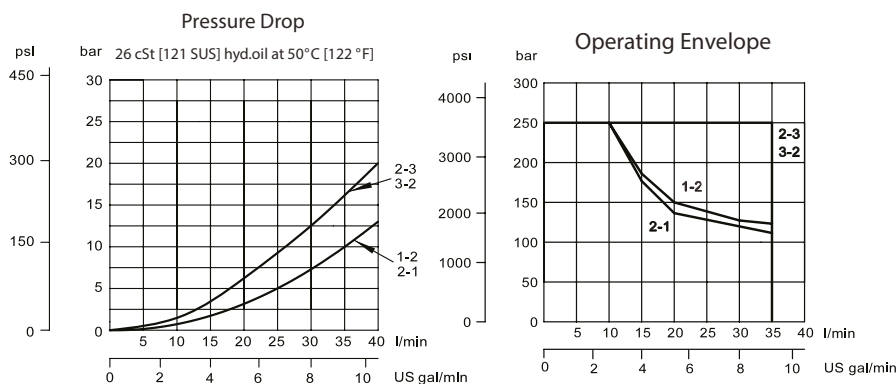


■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]
Flow Capability	28 l/min [7.4 US gpm]
Coil Options	M16, R16
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 23 - 03 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-3-6S
8S	#8 SAE, AL	CP10-3-8S
S8S	#8 SAE, Steel	CP10-3-S8S
SE3B	3/8 BSP, AL	SDC10-3-SE3B
SE4B	1/2 BSP, AL	SDC10-3-SE4B
S4B	1/2 BSP, Steel	CP10-3-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354004210
V-Viton	354003719

Solenoid Valves

SV4M-12-3P

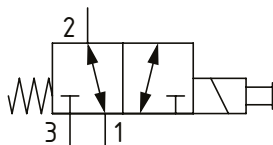
Solenoid Valve, 3-way, 2-position, Spool Type

210 bar [3000 psi] • 42 l/min [11 US gpm]

■ OPERATION AND DESCRIPTION

This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 1 is open to port 2 and port 3 is blocked. When energized, port 3 is open to port 2 and port 1 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC

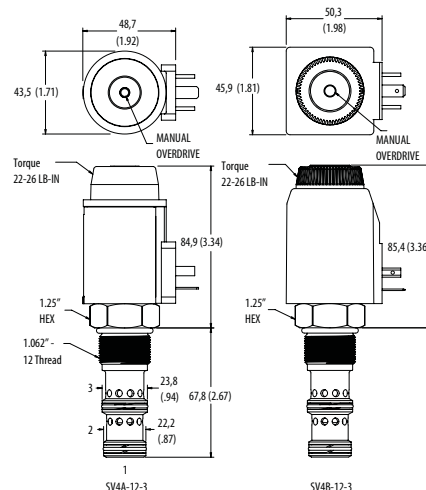


■ DIMENSIONS

mm [in]

Coil nut torque

2.5-3 Nm [1.8-2.2 ft. lbs]



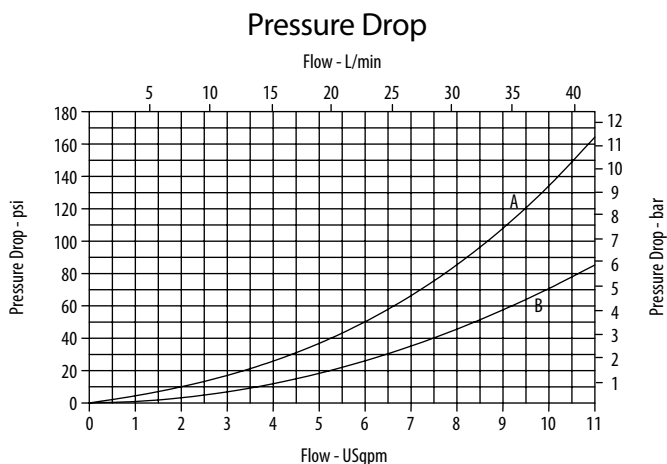
Installation torque

81-95 Nm [60-70 ft. lbs]

■ PERFORMANCE DATA

Rated Pressure	210 bar [3000 psi]
Flow Capability	42 l/min [11 US gpm]
Leakage	300 ml/min (21.5 in ³ /min) @ 210 bar [3000 psi]
Coil Options	R series
Weight	0.86 kg [1.9 lb]
Cavity	C-12-3

■ PERFORMANCE CURVES



A - Port 3 to 2 energized • B - Port 2 to 1 de-energized

■ MODEL CODE

SV4M - 12 - V - 3P - A - 0 - 12D - N - R

Seal Option

Code	Seal kit
Omit - Buna - N	9900171-000
V - Viton	9900172-000

Housing Material

Omit - No housing
A - Aluminium

Housing

Code	Ports	Aluminum
0	No Housing	
6G	3/4" BSP	02-161816
12H	#12 SAE	02-160646

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

* Additional housings available

Coil Series

Omit - No coil
R - R series, 30W

Connector Type

Omit - No coil
N - Deutsch (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 6036194-001)
12D	12 VDC
24D	24 VDC
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode.

Solenoid Valves

SV08-23-04

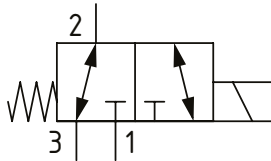
Solenoid Valve, 3-way, 2-position, Spool Type

230 bar [3300 psi] • 12 l/min [3.2 US gpm]

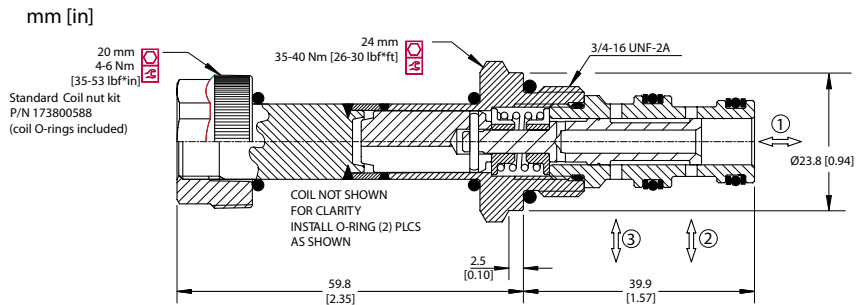
■ OPERATION AND DESCRIPTION

This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 3 is open to port 2 and port 1 is blocked. When energized, port 2 is open to port 1 and port 3 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

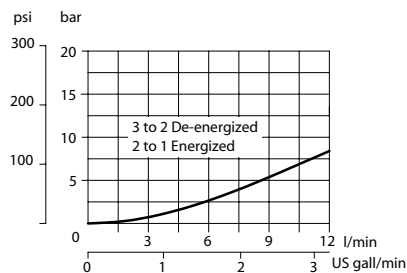
Rated Pressure*	230 bar [3300 psi]**
Flow Capability	12 l/min [3.2 US gpm]
Coil Options	M13, R13
Weight	0.31 kg [0.68 lb]
Cavity	SDC08-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

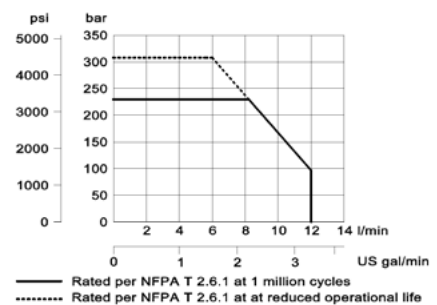
**Valve can operate at 315 bar [4600 psi] for 400,000 cycles. With inlet at port 2, this can be increased to 600,000 cycles.

■ PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



■ MODEL CODE

SV08 - 23 - 04 - 12D - DE - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
S6S	#6 SAE, Steel	CP08-3-S6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B
S3B	3/8 BSP, Steel	CP08-3-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003210
V-Viton	354003819

Solenoid Valves

SV10-23-04

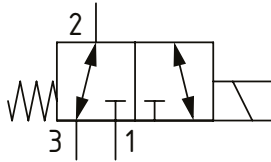
Solenoid Valve, 3-way, 2-position, Spool Type

230 bar [3300 psi] • 20 l/min [5.3 US gpm]

■ OPERATION AND DESCRIPTION

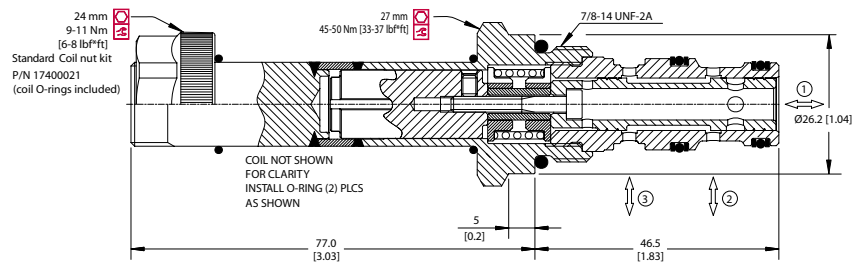
This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 3 is open to port 2 and port 1 is blocked. When energized, port 2 is open to port 1 and port 3 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



■ PERFORMANCE DATA

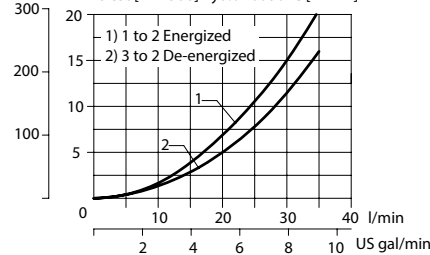
Rated Pressure*	230 bar [3300 psi]**
Flow Capability	20 l/min [5.3 US gpm]
Coil Options	M16, R16
Weight	0.42 kg [0.93 lb]
Cavity	SDC10-3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

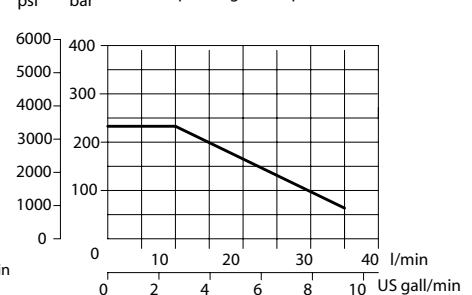
**Valve can operate at 315 bar [4600 psi] on port 2 for 500,000 cycles

■ PERFORMANCE CURVES

Pressure Drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



■ MODEL CODE

SV10 - 23 - 04 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	R00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-3-6S
8S	#8 SAE, AL	CP10-3-8S
S8S	#8 SAE, Steel	CP10-3-S8S
SE3B	3/8 BSP, AL	SDC10-3-SE3B
SE4B	1/2 BSP, AL	SDC10-3-SE4B
S4B	1/2 BSP, Steel	CP10-3-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354004210
V-Viton	354003719

Solenoid Valves

SV15-23-04

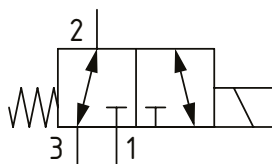
Solenoid Valve, 3-way, 2-position, Spool Type

230 bar [3300 psi] • 50 l/min [13.2 US gpm]

■ OPERATION AND DESCRIPTION

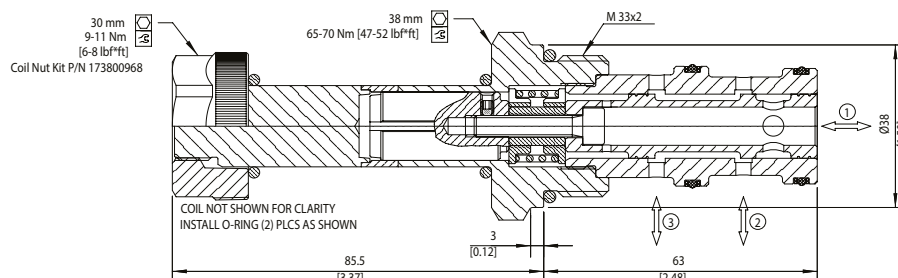
This is a 3-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 3 is open to port 2 and port 1 is blocked. When energized, port 2 is open to port 1 and port 3 is blocked. These valves can be used in normally open, normally closed or selector modes. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



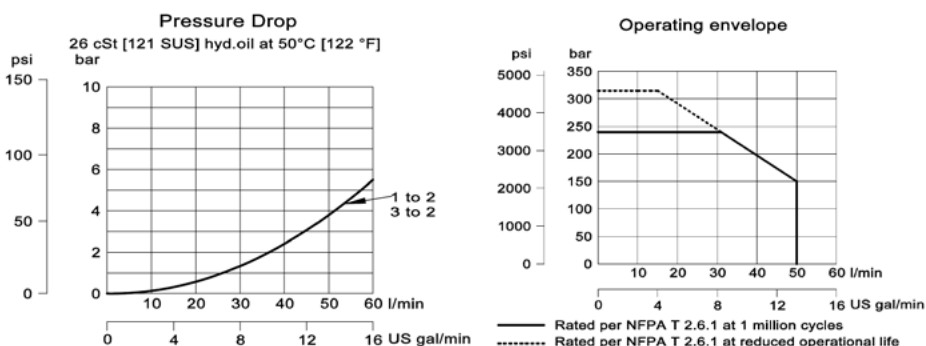
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	50 l/min [13.2 US gpm]
Coil Options	M19
Weight	0.89 kg [1.96 lb]
Cavity	NCS 12/3

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] for 100,000 cycles. With inlet at port 2, this can be increased to 300,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 23 - 04 - 12D - DE - B - 8S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800968)

**DIN only - external rectifier needed

Connector Type

Code	
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS 12/3-SE-8S
12S	#12 SAE, AL	NCS 12/3-DG-12S
4B	1/2 BSP, AL	NCS 12/3-DG-1/2
6B	3/4 BSP, AL	NCS 12/3-DG-3/4

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

** Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	11115764
V-Viton	11115765

Solenoid Valves

SV08-24-01

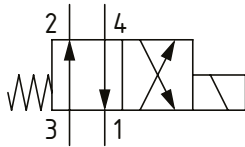
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 12 l/min [3.2 US gpm]

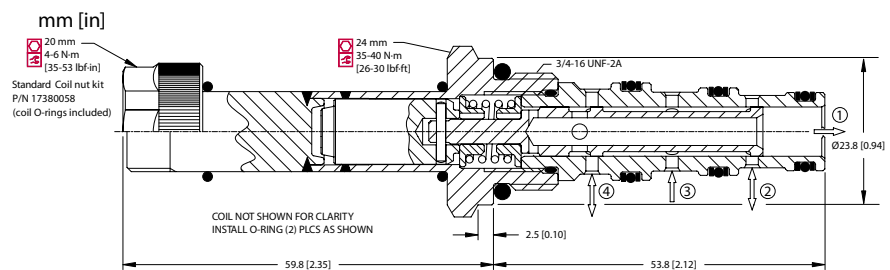
■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized, condition port 3 is open to 2 and port 4 to 1. When energized port 3 is open to 4 and port 2 to 1. These valves are used to control the movement of cylinders or motors able to reverse the motion. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS



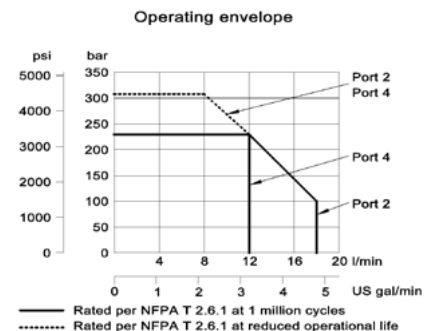
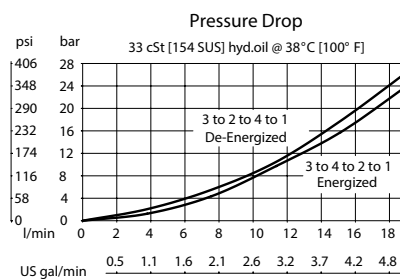
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	12 l/min [3.2 US gpm]
Coil Options	M13, R13
Weight	0.32 kg [0.71 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 500,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 24 - 01 - 12D - DE - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003319
V-Viton	354003919

Solenoid Valves

HSV08-24-01

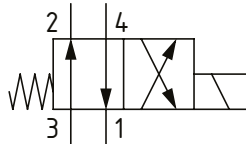
Solenoid Valve, Spool Type, 4-Way, 2-Position

350 bar [5000 psi] • 20 l/min [5.3 US gpm]

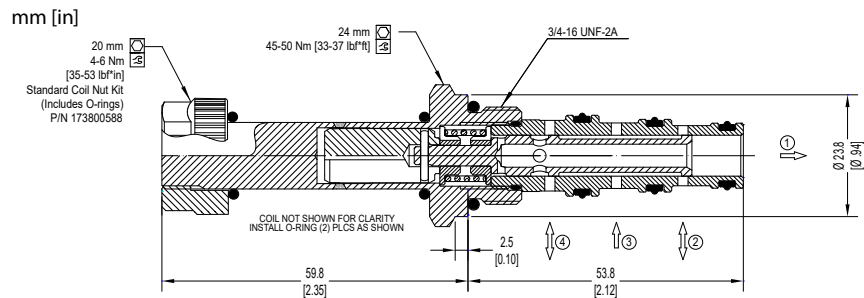
■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized, condition port 3 is open to 2 and port 4 to 1. When energized port 3 is open to 4 and port 2 to 1. These valves are used to control the movement of cylinders or motors able to reverse the motion. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

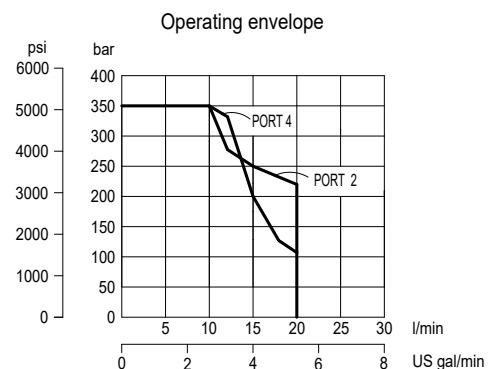
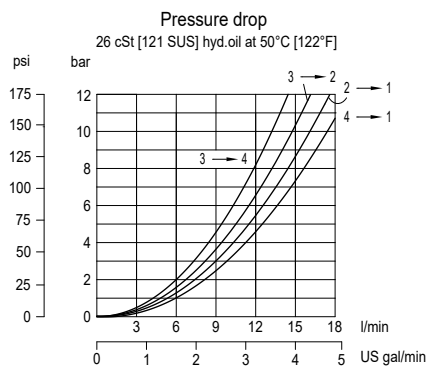


■ PERFORMANCE DATA

Rated Pressure*	350 bar [5000 psi]
Flow Capability	20 l/min [5.3 US gpm]
Coil Options	M13, R13
Weight	0.35 kg [0.77 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

HSV08 - 24 - 01 - 12D - DE - XC - P - S3B

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL		Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
S3B	3/8 BSP, Steel	CP08-4-S3B
S6S	#6 SAE, Steel	CP08-4-S6S

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

* Additional housings available

Seal Option

Code	Seal kit
P-Polyurethane Single Seal	11167316

Solenoid Valves

SV10-24-01

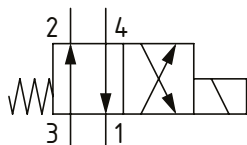
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 35 l/min [9 US gpm]

■ OPERATION AND DESCRIPTION

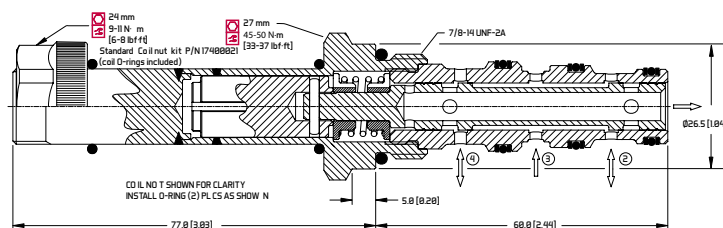
This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized, condition port 3 is open to 2 and port 4 to 1. When energized port 3 is open to 4 and port 2 to 1. These valves are used to control the movement of cylinders or motors able to reverse the motion. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as an inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



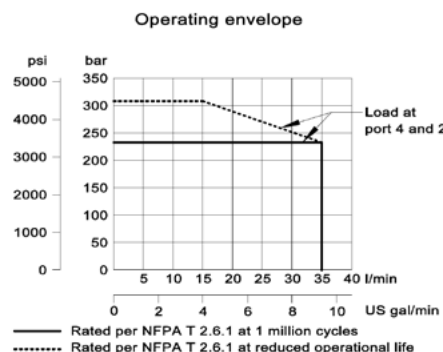
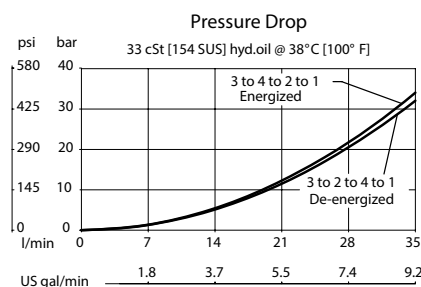
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	35 l/min [9 US gpm]
Coil Options	M16, R16
Weight	0.45 kg [0.99 lb]
Cavity	SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 24 - 01 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

**Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	R00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Solenoid Valves

SV09-24-01

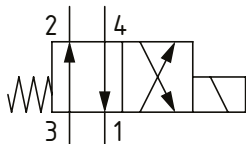
Solenoid Valve, 4-way, 2-position, Spool Type

100 bar [1450 psi] • 21 l/min [5.5 US gpm]

■ OPERATION AND DESCRIPTION

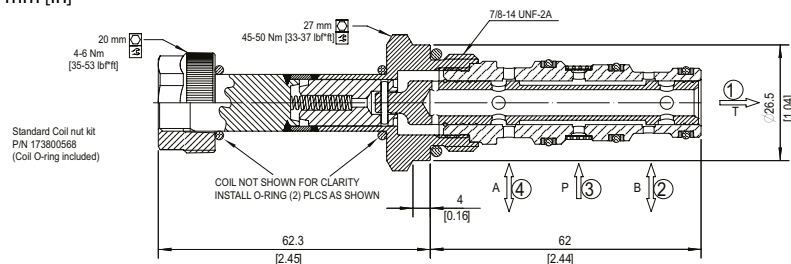
This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 3 is open to 2 and port 4 to 1. When energized, port 3 is open to 4 and port 2 to 1. These valves are used in low pressure, on/off control of dual clutch applications. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



■ PERFORMANCE DATA

Rated Pressure* 100 bar [1450 psi]

Flow Capability 21 l/min [5.5 US gpm]

Leakage 75 ml/min [5.6 in³/min]

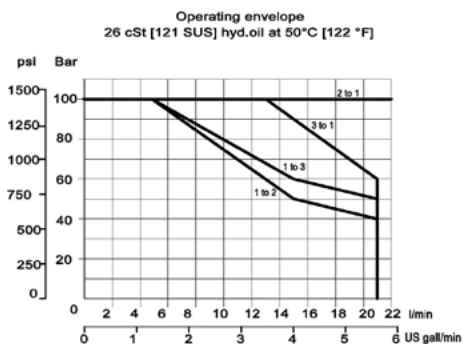
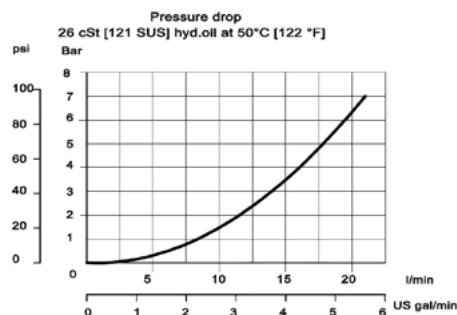
Coil Options M13, R13

Weight 0.37 kg [0.78 lb]

Cavity SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

SV09 - 24 - 01 - 12D - DE - B - F - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-3-4S
6S	#6 SAE, AL	CP08-3-6S
SE2B	1/4 BSP, AL	SDC08-3-SE2B
SE3B	3/8 BSP, AL	SDC08-3-SE3B

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

* Additional housings available

Filter Option

Omit - Omit
F - 500 µm

Seal Option

Code	Seal kit
B - Buna - N	354001919
V - Viton	354002019

Solenoid Valves

SV11-10-4

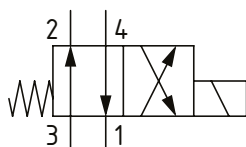
Solenoid Valve, 4-way, 2-position, Spool Type

350 bar [5000 psi] • 23 l/min [6 USgpm]

■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized, condition port 3 is open to 2 and port 4 to 1. When energized port 3 is open to 4 and port 2 to 1. These valves are used to control the movement of cylinders or motors able to reverse the motion. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC

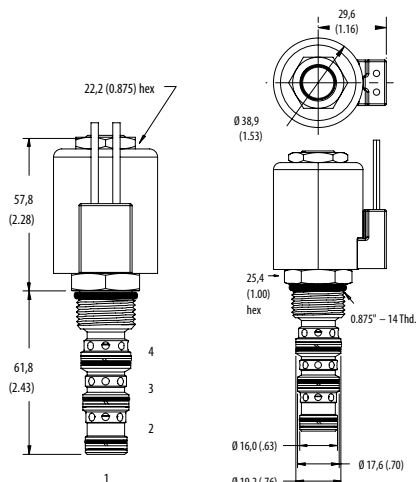


■ DIMENSIONS

mm [in]

Coil nut torque
5-8 Nm [4-6 ft. lbs]

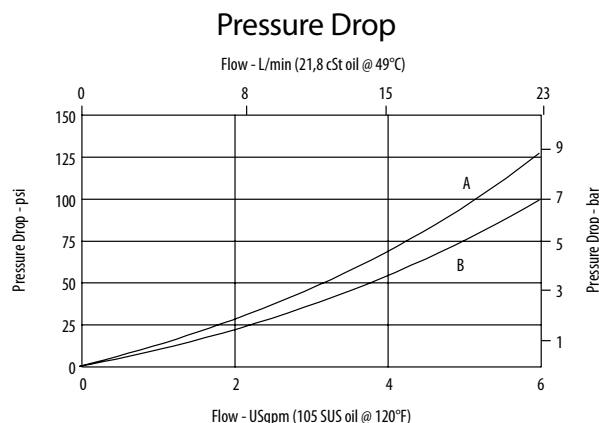
Installation torque
68-75 Nm [50-55 ft. lbs]



■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Flow Capability	23 l/min [6 USgpm]
Leakage	82 ml/min (5 in ³ /min) @ 350 bar [5000 psi]
Coil Options	H series
Weight	0.21 kg [0.46 lb]
Cavity	SDC10-4

■ PERFORMANCE CURVES



■ MODEL CODE

SV11 - 10 - V - 4 - M - S - 2G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	889625
V - Viton	566080

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
00	No Housing	
2G	1/4" BSP	02-175139
3G	3/8" BSP	02-175140
6T	#6 SAE	02-175137
8T	#8 SAE	02-175138

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male DC only
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV15-24-01

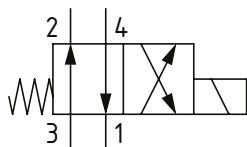
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 60 l/min [16 US gpm]

■ OPERATION AND DESCRIPTION

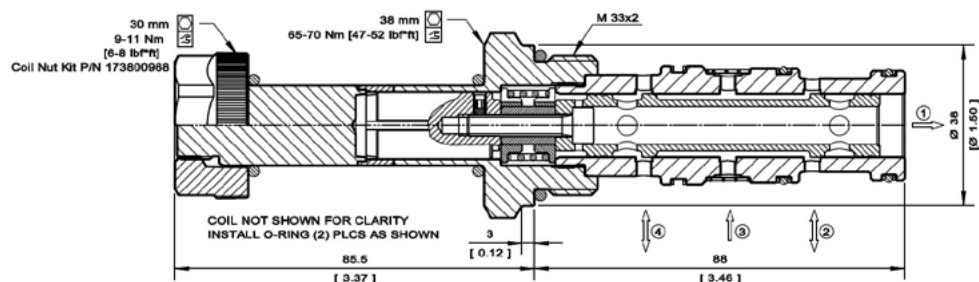
This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized, condition port 3 is open to 2 and port 4 to 1. When energized port 3 is open to 4 and port 2 to 1. These valves are used to control the movement of cylinders or motors able to reverse the motion. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



■ PERFORMANCE DATA

Rated Pressure* 230 bar [3300 psi]**

Flow Capability 60 l/min [16 US gpm]

Coil Option M19

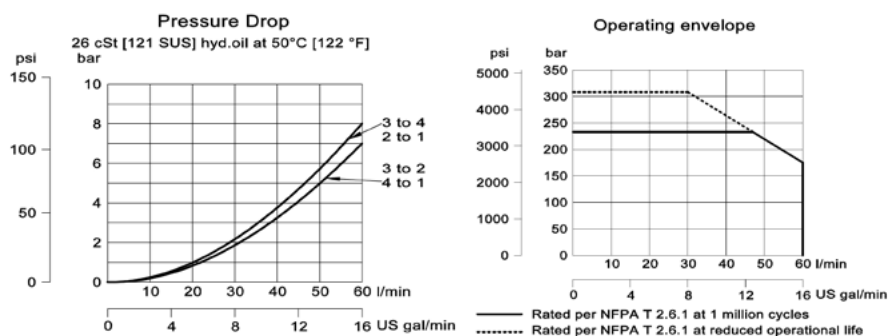
Weight 0.95 kg [2.09 lb]

Cavity NCS 12/4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate at 315 bar [4600 psi] with an inlet at port 3 for 300,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 24 - 01 - 12D - DE - B - F - 8S

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included*
10D	10 VDC
12D	12 VDC
20D	20 VDC
24D	24 VDC
110A	110 VAC**
220A	220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800978)

**DIN only - external rectifier needed

Connector Type

Code	Connector Type
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS12/4-L-8S
12S	#12 SAE, AL	NCS12/4-L-12S
4B	1/2 BSP, AL	NCS12/4-L-1/2
6B	3/4 BSP, AL	NCS12/4-L-3/4

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

* Additional housings available

Filter Option

Omit - Omit
F - 300 µm

Seal Option

Code	Seal kit
B-Buna - N	11115884
V-Viton	11115885

Solenoid Valves

SV08-24-02

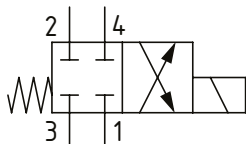
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 12 l/min [3.2 US gpm]

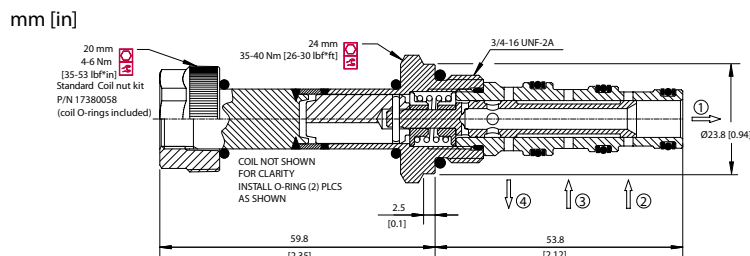
■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, all ports are blocked. When energized, port 3 is open to 4 and port 2 to 1. These valves can be used to isolate a function until required. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS



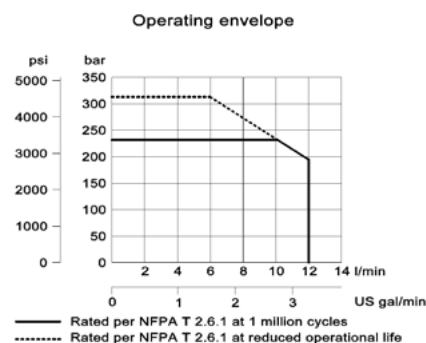
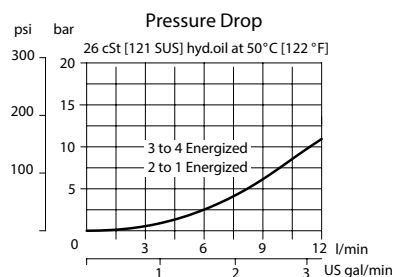
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	12 l/min [3.2 US gpm]
Coil Option	M13, R13
Weight	0.31 kg [0.68 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] on port 3 for 500,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 24 - 02 - 12D - DE - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003319
V-Viton	354003919

Solenoid Valves

SV12-8-4

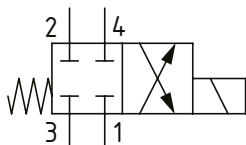
Solenoid Valve, 4-way, 2-position, Spool Type

350 bar [5000 psi] • 11 l/min [2.9 US gpm]

OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, all ports are blocked. When energized, port 3 is open to 4 and port 2 to 1. These valves can be used to isolate a function until required. Always check the operating envelope to make sure the valve will work under the required application conditions.

SCHEMATIC



PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]
Flow Capability	11 l/min [2.9 US gpm]
Leakage	82 ml/min (5 in ³ /min) @ 350 bar [5000 psi]
Coil Options	P series
Weight	0.14 kg [0.30 lb]
Cavity	SDC08-4

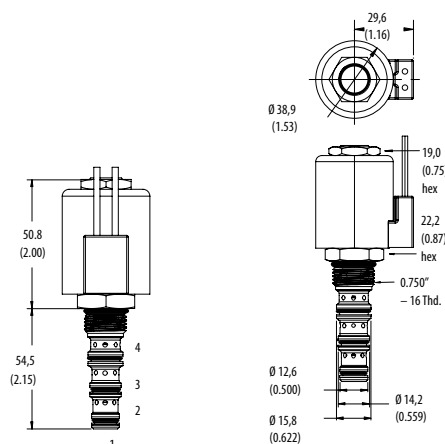
DIMENSIONS

mm [in]

Coil nut torque

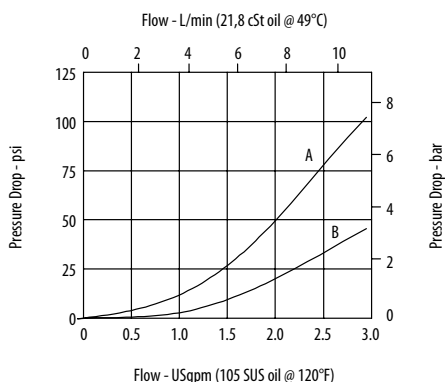
5-8 Nm [4-6 ft. lbs]

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



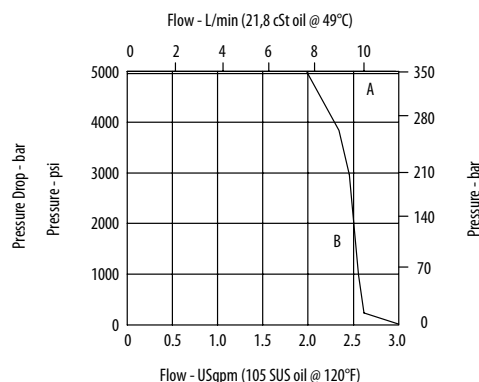
PERFORMANCE CURVES

Pressure Drop



A - Port 3 to 4 • B - Port 2 to 1

Operating Envelope



A - Port 2 to port 1 • B - Port 3 to port 4

MODEL CODE

SV12 - 8 - V - 4 - M - S - 2G - 12D - G - P

Seal Option

Code	Seal kit
Omit - Buna - N	02-160757
V-Viton	02-160758

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
00	No Housing	
2G	1/4" BSP	02-160751
3G	3/8" BSP	02-160752
4T	#4 SAE	02-160753
6T	#6 SAE	02-160754

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

Coil Series

Omit - No coil
P - 8 series, 23W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
Q - Spade terminals
W - Flying lead
N - Deutsch male, DT04-2P, integrated
Y - Amp JR (DC only)
D - Metripack 150 male DC only
J - Metripack 280 male (DC only)

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included (p/n 565558)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	12 VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV10-24-02

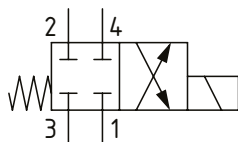
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 25 l/min [6.6 US gpm]

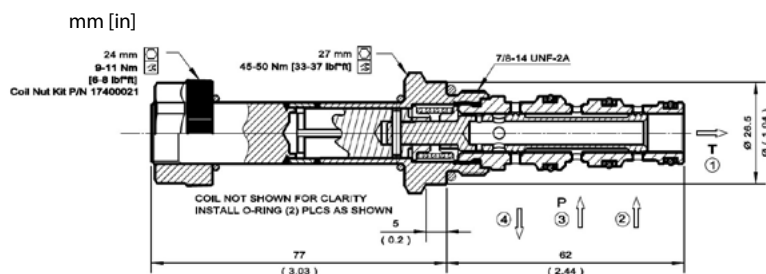
■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, all ports are blocked. When energized, port 3 is open to 4 and port 2 to 1. These valves can be used to isolate a function until required. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS



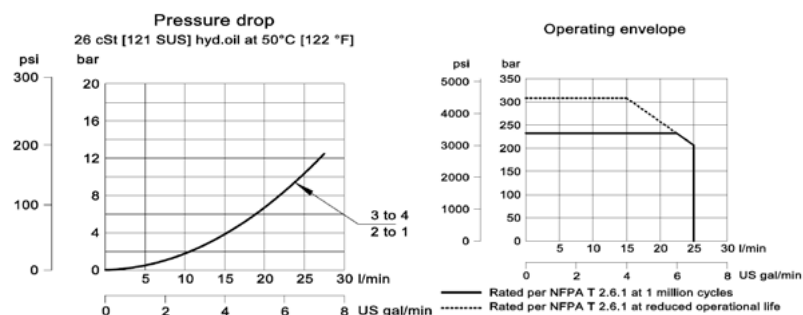
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	25 l/min [6.6 US gpm]
Coil Option	M16, R16
Weight	0.45 kg [1 lb]
Cavity	SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 24 - 02 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Solenoid Valves

SV12-10-4

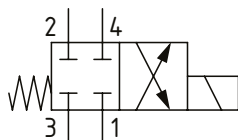
Solenoid Valve, 4-way, 2-position, Spool Type

350 bar [5000 psi] • 23 l/min [6 USgpm]

OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, all ports are blocked. When energized, port 3 is open to 4 and port 2 to 1. These valves can be used to isolate a function until required. Always check the operating envelope to make sure the valve will work under the required application conditions.

SCHEMATIC



PERFORMANCE DATA

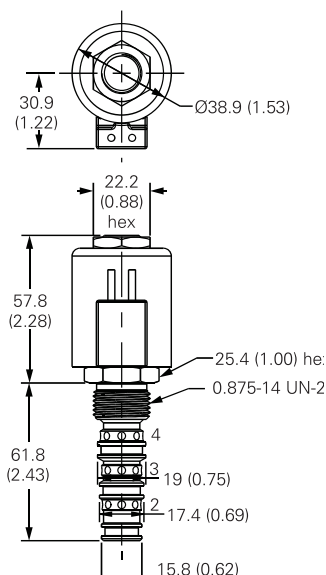
Rated Pressure	350 bar [5000 psi]
Flow Capability	23 l/min [6 US gpm]
Leakage	140 ml/min [8.5 in3] at 350 bar [5000 psi]
Coil Options	H series
Weight	0.44 kg [1 lb]
Cavity	SDC10-4

DIMENSIONS

mm [in]

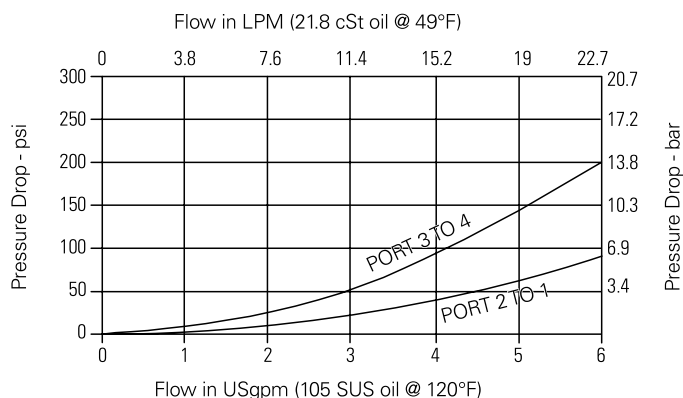
Coil nut torque
5-8 Nm [4-6 ft. lbs]

Installation torque
81-95 Nm [60-70 ft. lbs]



PERFORMANCE CURVES

Pressure Drop



MODEL CODE

SV12 - 10 - V - 4 - M - S - 2G - 12D - G - H

Seal Option

Code	Seal kit
Omit - Buna - N	889625
V - Viton	566080

Manual Override Option

Omit - No manual override
M - Pull and Twist

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
0	No Housing	
2G	1/4" BSP	02-175102
3G	3/8" BSP	02-175103
6T	#6 SAE	02-175100
8T	#8 SAE	02-175101

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

* Additional housings available

Coil Series

Omit - No coil
H - 10 series, 29 W

Connector Type

Omit - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male DC only
J - Metripack 280 male (DC only)
E - Weather Pack (Packard) female on wire leads
F - Weather Pack (Packard) female on wire leads

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 02-175698)
12D	12 VDC
24D	24 VDC
115A	115 VAC**
230A	230 VAC**
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

***Other voltage options available

Solenoid Valves

SV15-24-02

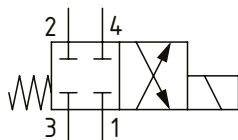
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar/3300 psi • 60 l/min [16 US gpm]

■ OPERATION AND DESCRIPTION

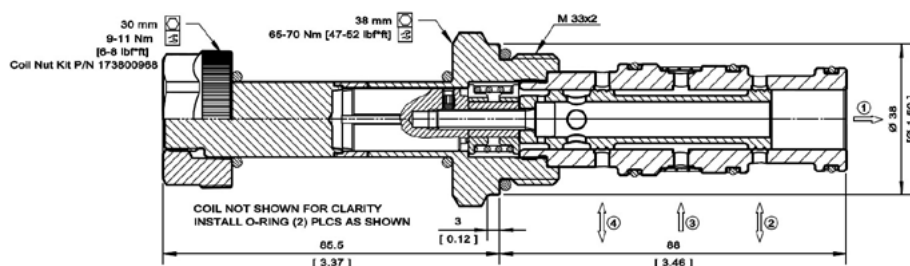
This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, all ports are blocked. When energized, port 3 is open to 4 and port 2 to 1. These valves can be used to isolate a function until required. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only)

■ SCHEMATIC



■ DIMENSIONS

mm [in]



■ PERFORMANCE DATA

Rated Pressure* 230 bar [3300 psi]**

Flow Capability 60 l/min [16 US gpm]

Coil Option M19

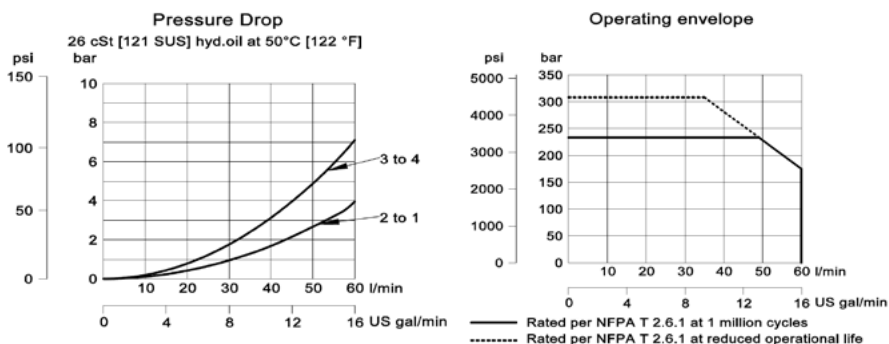
Weight 0.95 kg [2.09 lb]

Cavity NCS 12/4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 300,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 24 - 02 - 12D - DE - B - F - 8S

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included*
10D	10 VDC
12D	12 VDC
20D	20 VDC
24D	24 VDC
110A	110 VAC**
220A	220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800968)

**DIN only - external rectifier needed

Connector Type

Code	Connector Type
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS12/4-L-8S
12S	#12 SAE, AL	NCS12/4-L-12S
4B	1/2 BSP, AL	NCS12/4-L-1/2
6B	3/4 BSP, AL	NCS12/4-L-3/4

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

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	11115884
V-Viton	11115885

Solenoid Valves

SV15-24-03

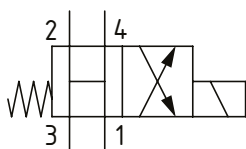
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 50 l/min [13.2 US gpm]

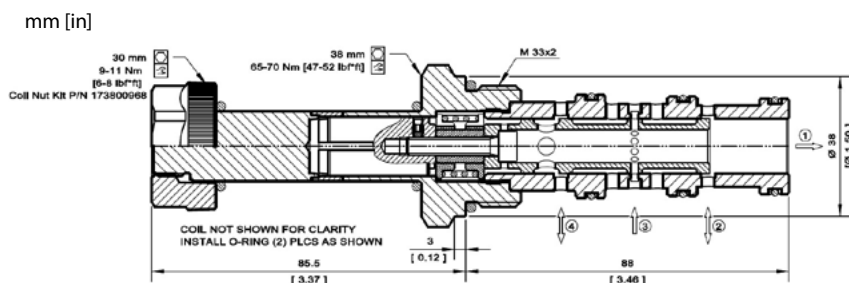
■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, all ports are open. When energized, port 3 is open to 4 and port 2 to 1. These valves can be used to isolate a function until required. The open center will allow all pressure in all ports to decay when de-energized. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

Rated Pressure* 230 bar [3300 psi]**

Flow Capability 50 l/min [13.2 US gpm]

Coil Option M19

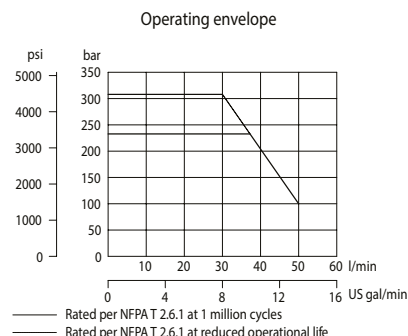
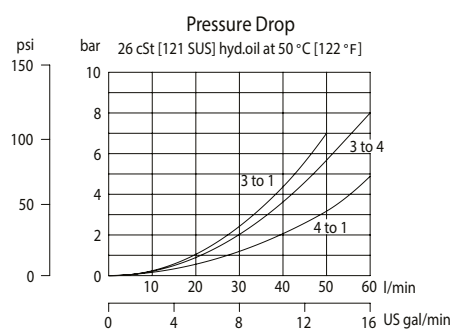
Weight 0.95 kg [2.09 lb]

Cavity NCS 12/4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 300,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 24 - 03 - 12D - DE - B - 8S

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included*
10D	10 VDC
12D	12 VDC
20D	20 VDC
24D	24 VDC
110A	110 VAC**
220A	220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800968)

**DIN only - external rectifier needed

Connector Type

Code	Connector Type
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS12/4-L-8S
12S	#12 SAE, AL	NCS12/4-L-12S
4B	1/2 BSP, AL	NCS12/4-L-1/2
6B	3/4 BSP, AL	NCS12/4-L-3/4

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	11115884
V-Viton	11115885

Solenoid Valves

SV08-24-04

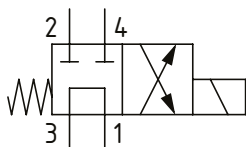
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 8 l/min [2 US gpm]

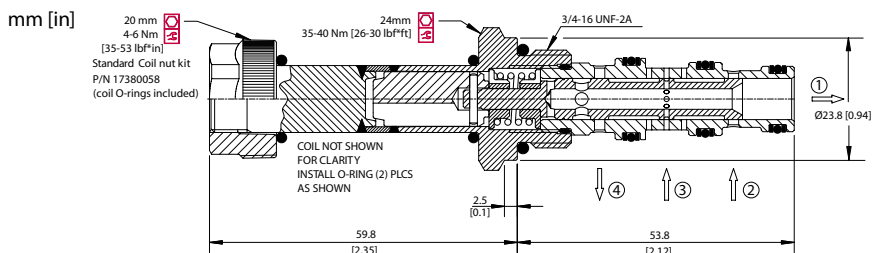
■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 3 is open to port 1 and ports 2 and 4 are blocked. When energized, port 3 is open to 4 and port 2 to 1. These valves can be used to control a unidirectional function when required. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS



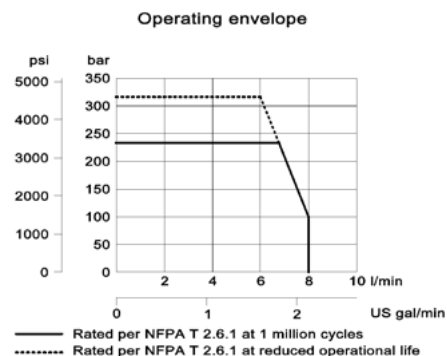
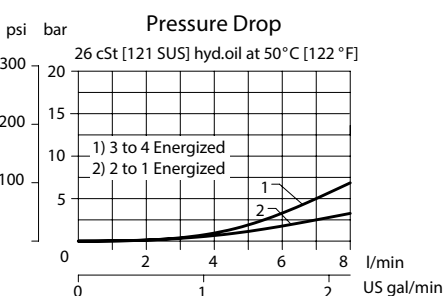
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	8 l/min [2 US gpm]
Coil Options	M13, R13
Weight	0.31 kg [0.68 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 500,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 24 - 04 - 12D - DE - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003319
V-Viton	354003419

Solenoid Valves

SV15-24-04

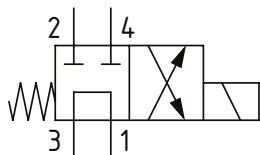
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 50 l/min [13.2 US gpm]

■ OPERATION AND DESCRIPTION

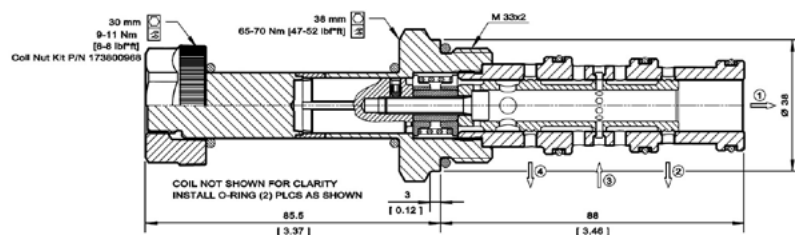
This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 3 is open to port 1 and ports 2 and 4 are blocked. When energized, port 3 is open to 4 and port 2 to 1. These valves can be used to control a unidirectional function when required. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



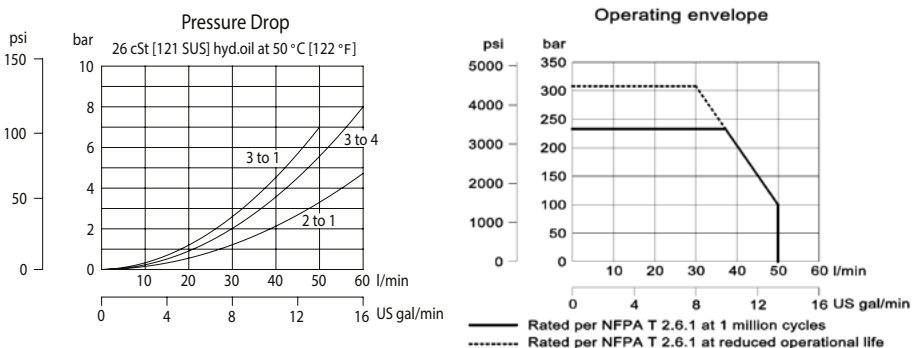
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	50 l/min [13.2 US gpm]
Coil Options	M19
Weight	0.95 kg [2.09 lb]
Cavity	NCS 12/4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 300,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 24 - 04 - 12D - DE - BV - 8S

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included*
10D	10 VDC
12D	12 VDC
20D	20 VDC
24D	24 VDC
110A	110 VAC**
220A	220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800968)

**DIN only - external rectifier needed

Connector Type

Code	Connector Type
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS12/4-L-8S
12S	#12 SAE, AL	NCS12/4-L-12S
4B	1/2 BSP, AL	NCS12/4-L-1/2
6B	3/4 BSP, AL	NCS12/4-L-3/4

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	11115884
V-Viton	11115885

Solenoid Valves

SV10-24-05

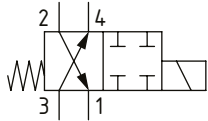
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 30 l/min [8 US gpm]

■ OPERATION AND DESCRIPTION

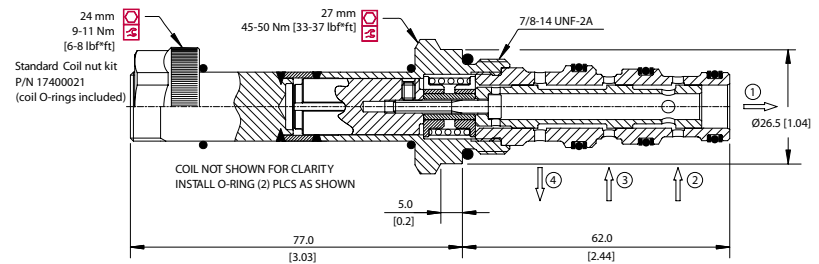
This is a 4-way, 2-position, spool type, direct acting solenoid valve. When de-energized, port 3 is open to 4 and port 2 to 1. In the energized condition, all ports are blocked. These valves can be used to isolate a function when required. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



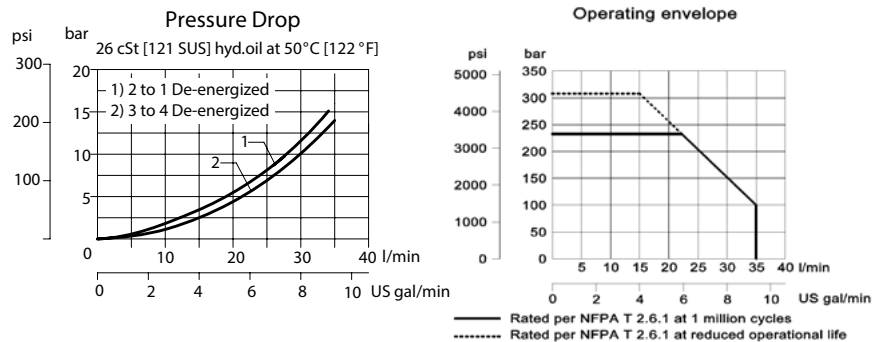
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	30 l/min [8 US gpm]
Coil Options	M16, R16
Weight	0.45 kg [0.99 lb]
Cavity	SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 24 - 05 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Solenoid Valves

SV10-24-06

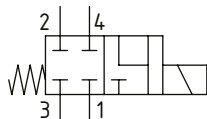
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 30 l/min [8 US gpm]

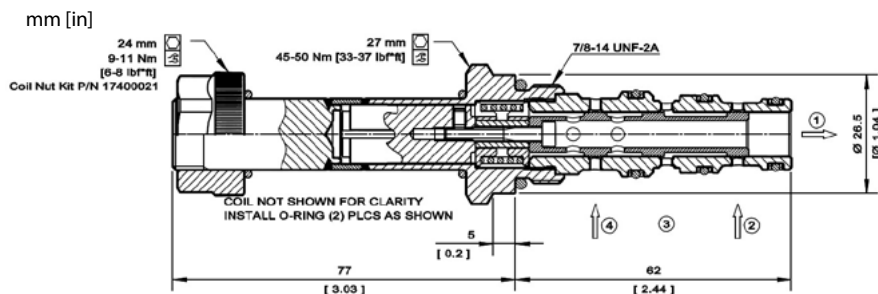
■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, all ports are blocked. When energized, port 3 and 4 are open to 1 and port 3 is blocked. These valves can be used to switch a motor into a free-wheeling mode or a cylinder into a float condition. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS



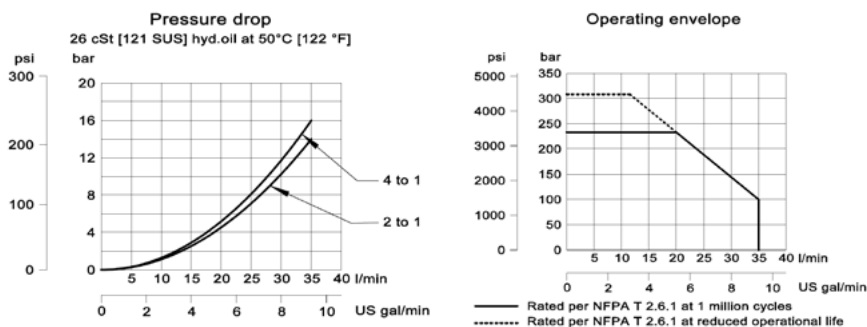
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	30 l/min [8 US gpm]
Coil Options	M16, R16
Weight	0.45 kg [1.0 lb]
Cavity	SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 24 - 06 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Solenoid Valves

SV10-24-07

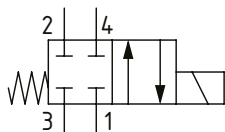
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 30 l/min [8 US gpm]

■ OPERATION AND DESCRIPTION

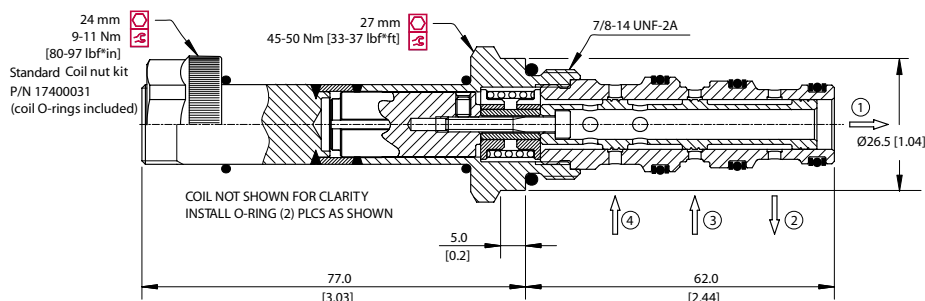
This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, all ports are blocked. When energized, port 3 is open to 2 and port 4 to 1. These valves can be used to isolate a function until required. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



■ PERFORMANCE DATA

Rated Pressure* 230 bar [3300 psi]**

Flow Capability 30 l/min [8 US gpm]

Coil Options M16, R16

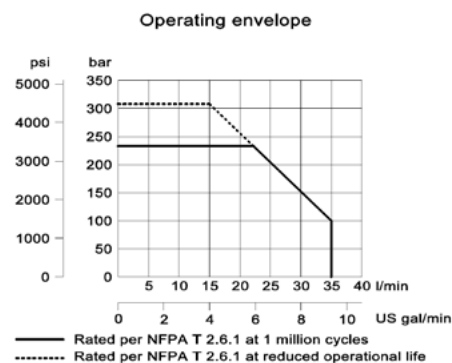
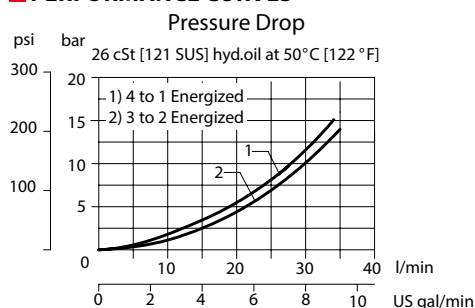
Weight 0.45 kg [0.99 lb]

Cavity SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles.

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 24 - 07 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Solenoid Valves

SV08-24-08

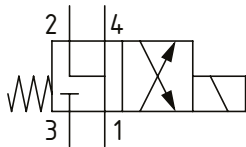
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 18 l/min [4.7 US gpm]

■ OPERATION AND DESCRIPTION

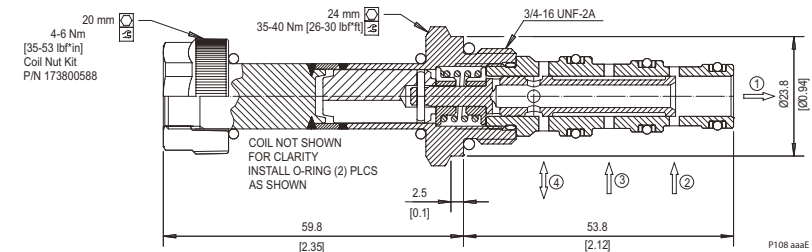
This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, ports 2 and 4 are open to port 1 with port 3 closed. When energized, port 1 is open to 2 and port 3 to 4. In the de-energized condition, these valves can allow a motor into a free-wheel mode or a cylinder to float condition. Energizing the valve will provide unidirectional flow. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



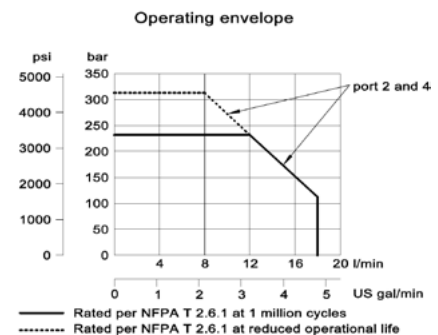
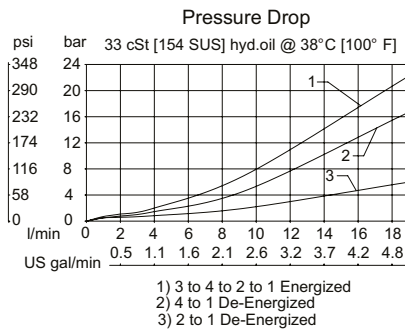
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	18 l/min [4.7 US gpm]
Coil Options	M13, R13
Weight	0.45 kg [0.99 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 500,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 24 - 08 - 12D - DE - B - 4S

Coil Voltage

Standard Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800588)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003319
V-Viton	354003919

Solenoid Valves

SV10-24-12

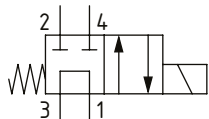
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 25 l/min [6.6 US gpm]

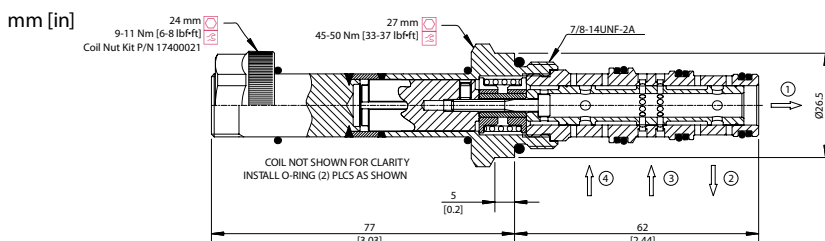
■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, port 3 is open to 1 while ports 2 and 4 are blocked. When energized, port 1 is open to 4 and port 2 open to 3. This valve allows the inlet oil to pass through the valve to tank or a separate system while holding the actuator in position. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS



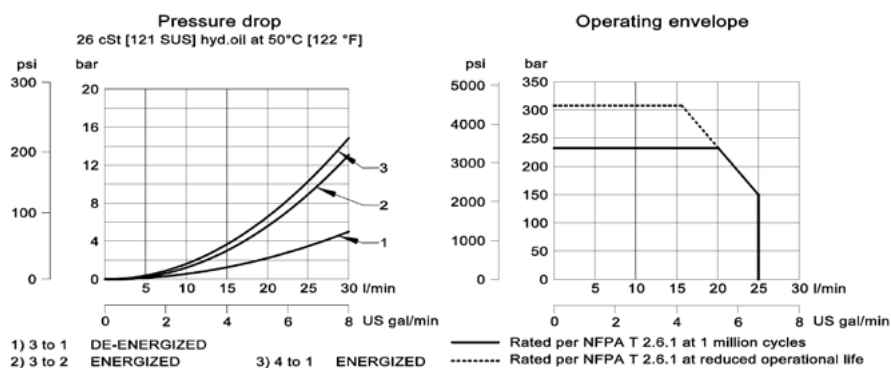
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	25 l/min [6.6 US gpm]
Coil Options	M16, R16
Weight	0.31 kg [0.68 lb]
Cavity	SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 24 - 12 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B - Buna - N	354001919
V - Viton	354002019

Solenoid Valves

SV10-24-13

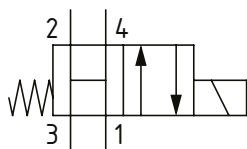
Solenoid Valve, 4-way, 2-position, Spool Type

230 bar [3300 psi] • 33 l/min [8.7 US gpm]

■ OPERATION AND DESCRIPTION

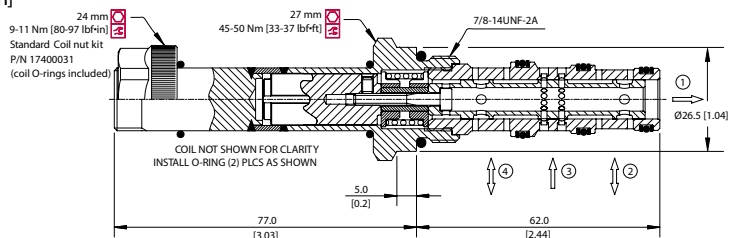
This is a 4-way, 2-position, spool type, direct acting solenoid valve. In the de-energized condition, all ports are open. When energized, port 1 is open to 4 and port 2 open to 3. This valve allows pressure to decay in all ports in its de-energized condition and provides unidirectional flow when energized. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



■ PERFORMANCE DATA

Rated Pressure* 230 bar [3300 psi]**

Flow Capability 33 l/min [8.7 US gpm]

Coil Options M16, R16

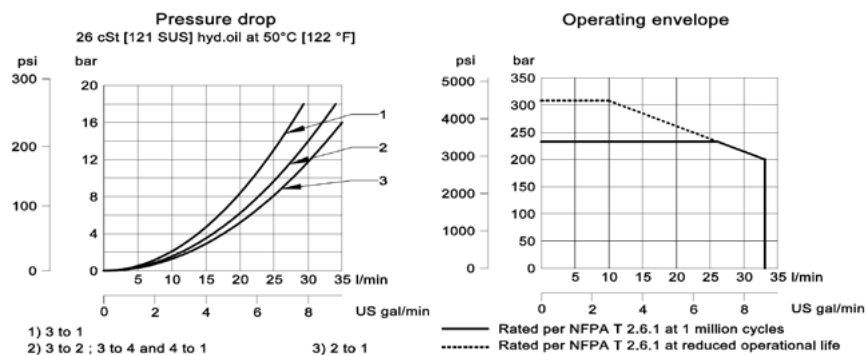
Weight 0.45 kg [0.99 lb]

Cavity SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 24 - 13 - 12D - DE - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400021)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Solenoid Valves

SV7M-12-4P

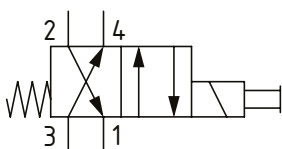
Solenoid Valve, 4-way, 2-position, Spool Type

210 bar [3000 psi] • 45 l/min [12 USgpm]

■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. When de-energized, port 3 is open to 4 and port 2 to 1. In the energized condition, port 3 is open to 2 and port 4 to 1. These valves can be used to isolate a function when required. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ PERFORMANCE DATA

Rated Pressure	210 bar [3000 psi]
Flow Capability	45 l/min [12 USgpm]
Coil Options	R series
Weight	0.86 kg [1.9 lb]
Cavity	C-12-4

■ DIMENSIONS

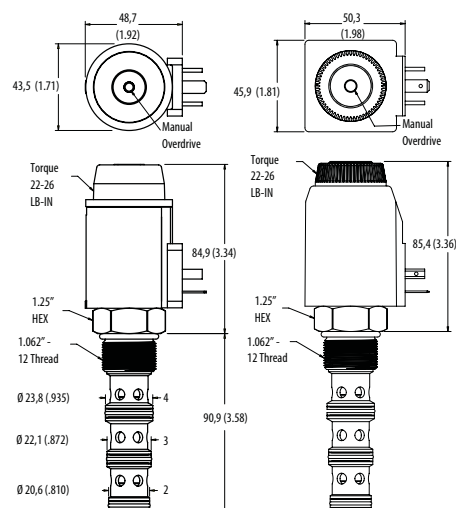
mm [in]

Coil nut torque

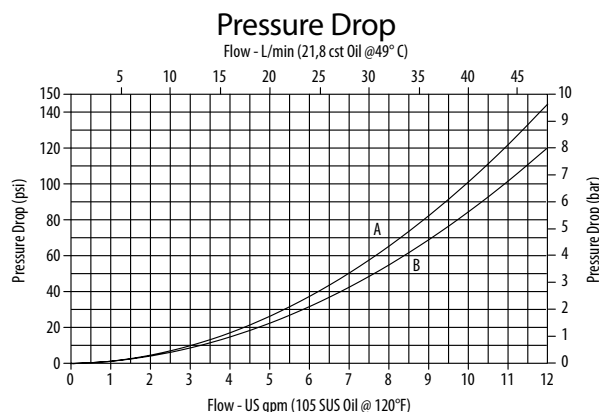
2.5-3 Nm [1.8-2.2 ft. lbs]

Installation torque

34-41 Nm [25-30 ft. lbs]



■ PERFORMANCE CURVES



A - Port 2 to 1, port 3 to 4 • B - Port 3 to 2, port 4 to 1

■ MODEL CODE

SV7M - 12 - V - 4P - A - 6G - 12D - N - R

Seal Option

Code	Seal kit
Omit - Buna - N	02-160980
V - Viton	02-160979

Housing Material

Omit - No housing
A - Aluminum
S - Steel

Housing

Code	Ports	Aluminum	Steel
0	No Housing		
6G	3/4" BSP	5986432-001	5991073-001
10T	#10 SAE	5986434-001	
12T	#12 SAE	5986436-001	
10H	#10 SAE		5991074-001
12H	#12 SAE		5991075-001

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

* Additional housings available

Coil Series

Omit - No coil
R - R series, 30W

Connector Type

Omit - No coil
N - Deutsch male, DT04-2P, integrated

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 6036194-001)
12D	12 VDC
24D	24 VDC
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

Solenoid Valves

SV17M-12-4P

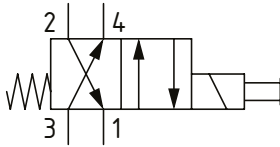
Solenoid Valve, 4-way, 2-position, Spool Type

350 bar [5000 psi] • 45 l/min [12 US gpm]

■ OPERATION AND DESCRIPTION

This is a 4-way, 2-position, spool type, direct acting solenoid valve. When de-energized, port 3 is open to 4 and port 2 to 1. In the energized condition, port 3 is open to 2 and port 4 to 1. These valves can be used to isolate a function when required. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ PERFORMANCE DATA

Rated Pressure	350 bar [5000 psi]*
Flow Capability	45 l/min [12 US gpm]
Coil Options	R series
Weight	0.86 kg [1.9 lb]
Cavity	C-12-4

*Max pressure at port 1 is 210 bar [3000 psi]

■ DIMENSIONS

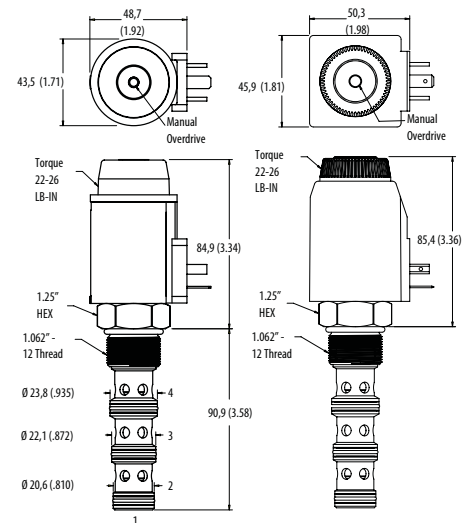
mm [in]

Coil Nut Torque

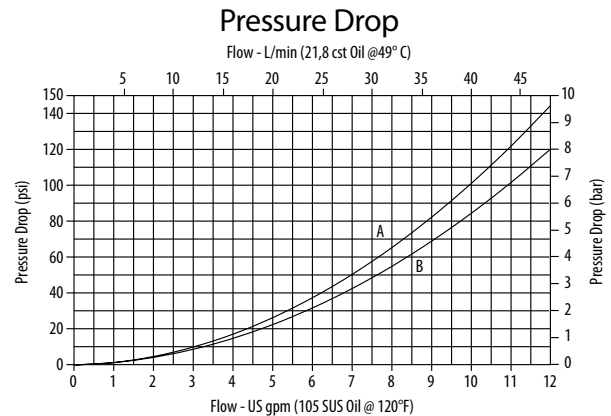
2.5-3 Nm [1.8-2.2 ft. lbs]

Installation torque

81-95 Nm [60-70 ft. lbs]



■ PERFORMANCE CURVES



A - Port 2 to 1, port 3 to 4 • B - Port 3 to 2, port 4 to 1

■ MODEL CODE

SV17M - 12 - V - 4P - A - 6G - 12D - N - R

Seal Option

Code	Seal kit
Omit-Buna - N	02-160980
M-Viton	02-160979

Housing Material

Omit - No housing
A - Aluminum
S - Steel

Housing

Code	Ports	Aluminum	Steel
0	No Housing		
6G	3/4" BSP	5986432-001	5991073-001
10T	#10 SAE	5986434-001	
12T	#12 SAE	5986436-001	
10H	#10 SAE		5991074-001
12H	#12 SAE		5991075-001

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

* Additional housings available

Coil Series

Omit - No coil
R - R series, 30W

Connector Type

Omit - No coil
N - Deutsch male, DT04-2P, integrated

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included, (p/n 6036194-001)
12D	12 VDC
24D	24 VDC
12B	2VDC/w diode*
24B	24 VDC/w diode*

*Optional arc suppression diode

**Internally rectified

Solenoid Valves

SV08-34-02

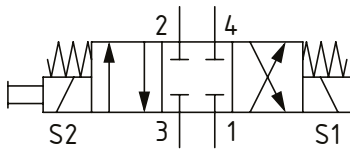
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 16 l/min [4.2 US gpm]

■ OPERATION AND DESCRIPTION

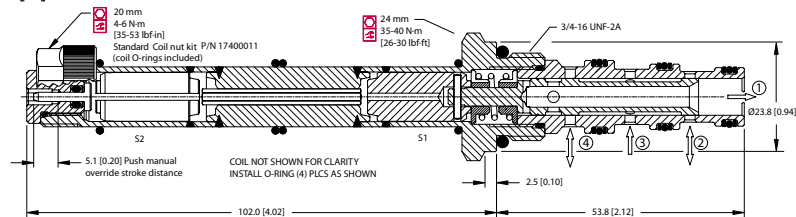
This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, all ports are blocked. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port 3 opens to 4 and port 2 to 1. This valve provides a directional control function with a neutral de-energized state (all ports blocked). It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



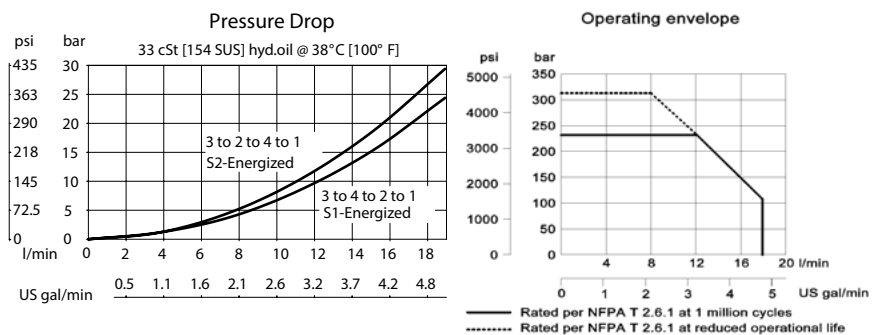
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	16 l/min [4.2 US gpm]
Coil Options	M13, R13
Weight	0.55 kg [1.21 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 500,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 34 - 02 - 12D - DE - PB - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400011)

**Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003319
V-Viton	354003919

Manual Override Option

Omit-Push Pin
 PB-Push Button
 SPS-Screw Type
 PAP-Push and Pull

Solenoid Valves

HSV08-34-02

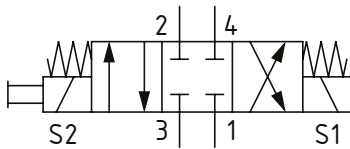
Solenoid Valve, 4-way, 3-position, Spool Type

350 bar [5000 psi] • 17 l/min [4.5 US gpm]

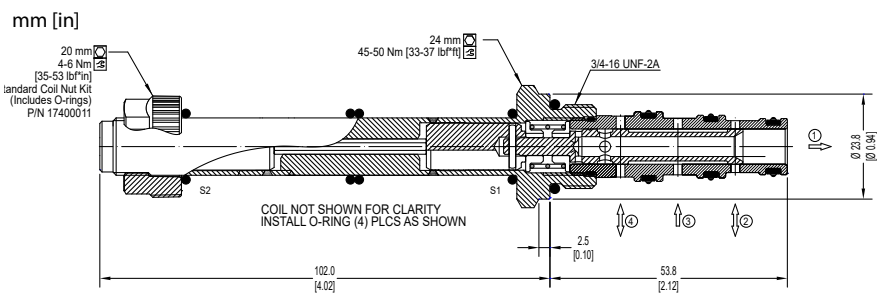
OPERATION AND DESCRIPTION

This is a 4-way 3-position direct acting solenoid operated spool valve. In the center condition, all ports are blocked. By energizing one solenoid, port 3 opens to 2 and port 4 to 1. When energizing the other solenoid port opens port 3 to 4 and port 2 to 1. This valve provides a directional control function with a neutral de energized state (all ports blocked). It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

SCHEMATIC



DIMENSIONS

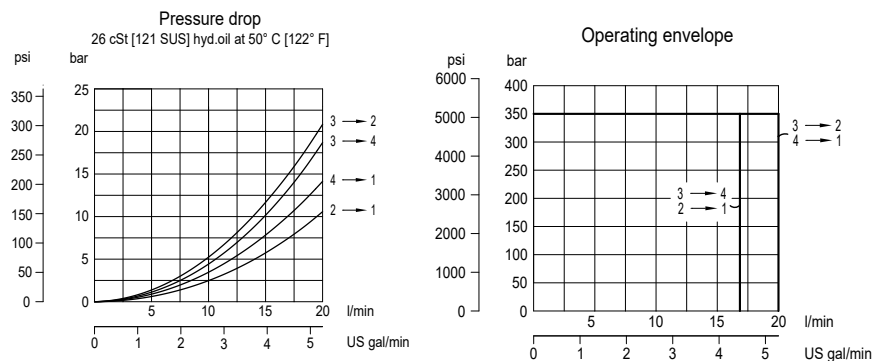


PERFORMANCE DATA

Rated Pressure*	350 bar [5000 psi]
Flow Capability	17 l/min [4.5 US gpm]
Coil Options	M13, R13
Weight	0.55 kg [1.21 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

PERFORMANCE CURVES



MODEL CODE

HSV08 - 34 - 02 - 12D - DE - PN - P - S3B

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400011)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
S3B	3/8 BSP, Steel	CP08-4-S3B
S6S	#6 SAE, Steel	CP08-4-S6S

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

* Additional housings available

Seal Option

Code	Seal kit
P-Polyurethane Single Seal	11167316

Solenoid Valves

SV10-34-02

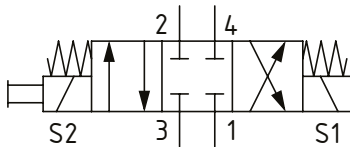
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 25 l/min [6.6 US gpm]

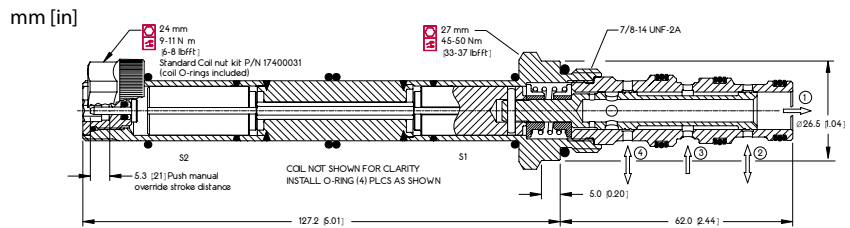
■ OPERATION AND DESCRIPTION

This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, all ports are blocked. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port 3 opens to 4 and port 2 to 1. This valve provides a directional control function with a neutral de-energized state (all ports blocked). It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS



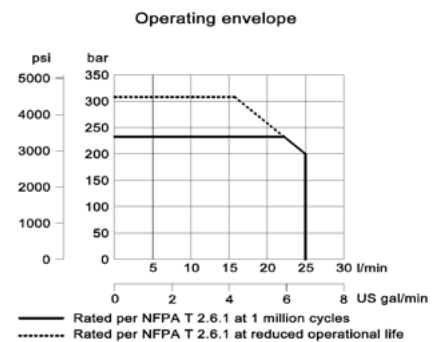
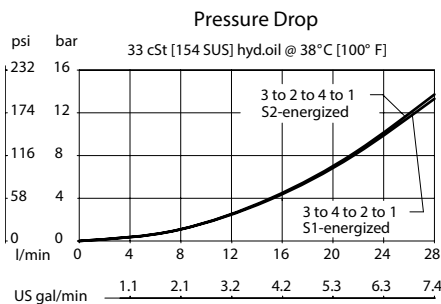
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	25 l/min [6.6 US gpm]
Coil Options	M16, R16
Weight	0.81 kg [1.79 lb]
Cavity	SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 34 - 02 - 12D - DE - PB - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400031)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Manual Override Option

Omit-Push Pin
PB-Push Button
SPS-Screw Type
OPS-Protected Push Pin
PAT-Push and Twist
PAP-Push and Pull

Solenoid Valves

SV15-34-02

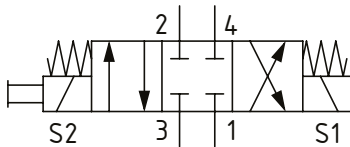
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 60 l/min [16 US gpm]

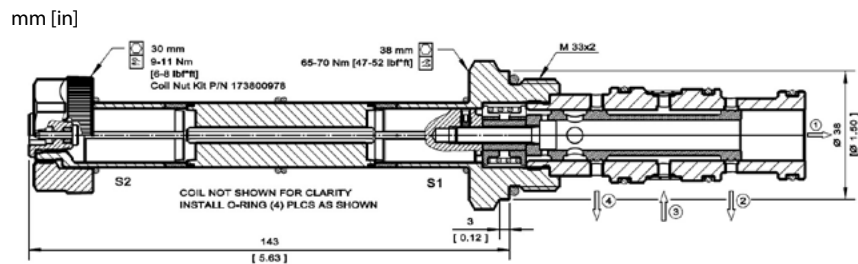
■ OPERATION AND DESCRIPTION

This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, all ports are blocked. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port 3 opens to 4 and port 2 to 1. This valve provides a directional control function with a neutral de-energized state (all ports blocked). It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS



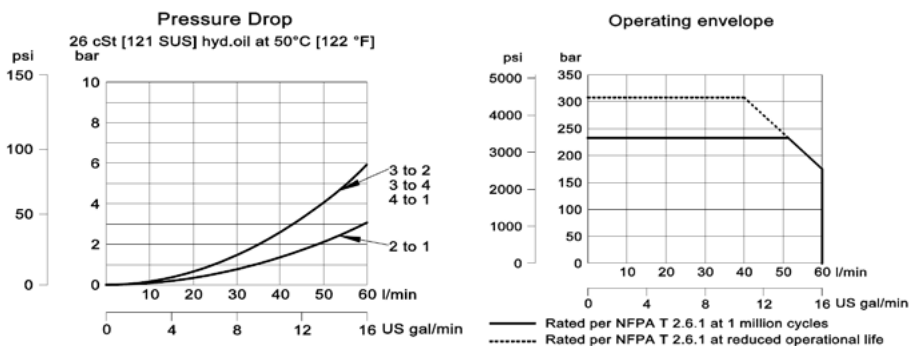
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	60 l/min [16 US gpm]
Coil Options	M19
Weight	1.4kg [3.09 lb]
Cavity	NCS 12/4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 300,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 34 - 02 - 12D - DE - B - F - 8S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800978)

**DIN only - external rectifier needed

Connector Type

Code	
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS12/4-L-8S
12S	#12 SAE, AL	NCS12/4-L-12S
4B	1/2 BSP, AL	NCS12/4-L-1/2
6B	3/4 BSP, AL	NCS12/4-L-3/4

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B-Buna - N	11115884
V-Viton	11115885

Solenoid Valves

SV08-34-03

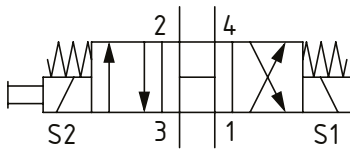
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 8 l/min [2 US gpm]

■ OPERATION AND DESCRIPTION

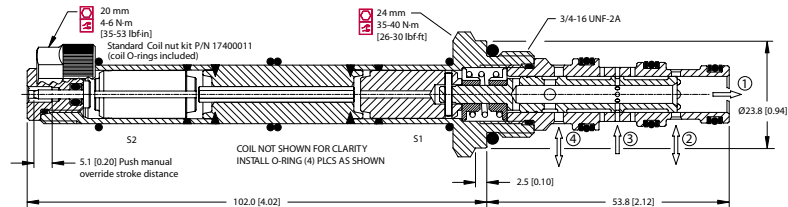
This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, all ports are open. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port opens port 3 to 4 and port 2 to 1. This valve provides a directional control function with a neutral de energized state (all ports open). It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. valve. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



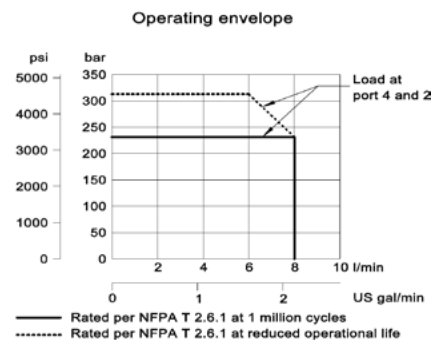
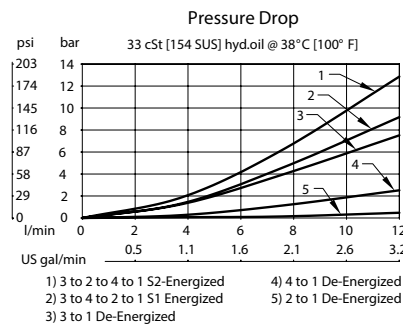
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	8 l/min [2 US gpm]
Coil Options	M13, R13
Weight	0.55 kg [1.21 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 500,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 34 - 03 - 12D - DE - PB - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400011)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003319
V-Viton	354003919

Manual Override Option

Omit-Push Pin
PB-Push Button
SPS-Screw Type

Solenoid Valves

SV15-34-03

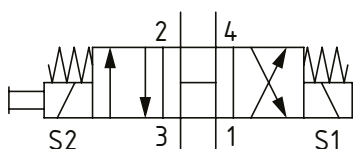
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 50 l/min [13.2 US gpm]

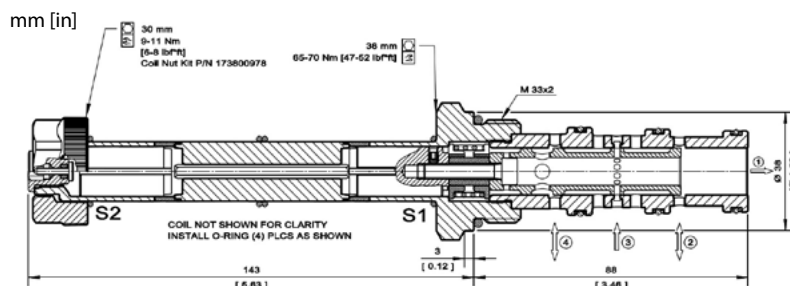
■ OPERATION AND DESCRIPTION

This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, all ports are open. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port opens port 3 to 4 and port 2 to 1. This valve provides a directional control function with a neutral de energized state (all ports open). It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only)

■ SCHEMATIC



■ DIMENSIONS



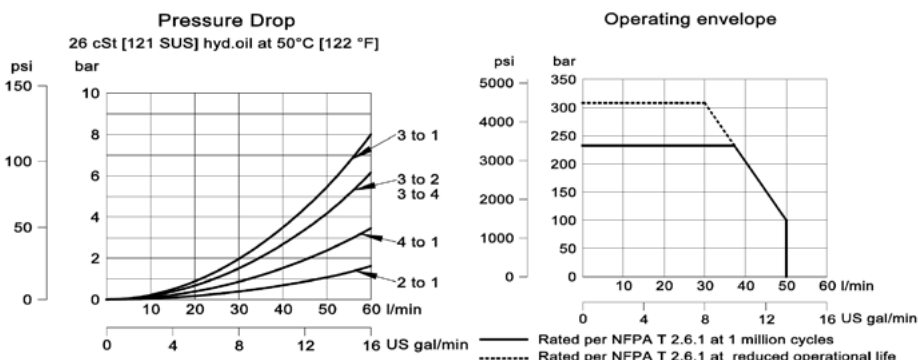
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	50 l/min [13.2 US gpm]
Coil Options	M19
Weight	1.40 kg [3.09 lb]
Cavity	NCS 12/4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 300,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 34 - 03 - 12D - DE - B - 4B

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800978)

**DIN only - external rectifier needed

Connector Type

Code	
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS12/4-L-8S
12S	#12 SAE, AL	NCS12/4-L-12S
4B	1/2 BSP, AL	NCS12/4-L-1/2
6B	3/4 BSP, AL	NCS12/4-L-3/4

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	11115884
V-Viton	11115885

Solenoid Valves

SV10-34-03

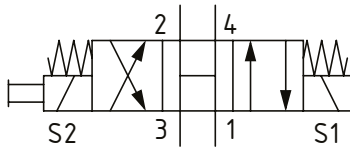
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 24 l/min [6.3 US gpm]

■ OPERATION AND DESCRIPTION

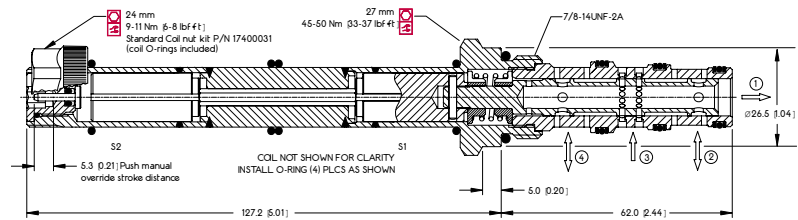
This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, all ports are open. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port opens port 3 to 4 and port 2 to 1. This valve provides a directional control function with a neutral de energized state (all ports open). It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



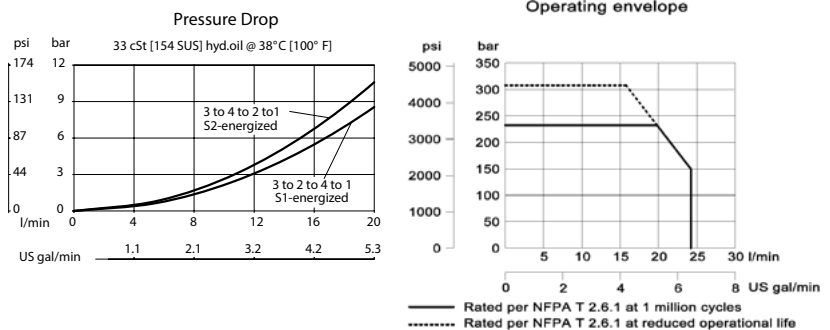
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	24 l/min [6.3 US gpm]
Coil Options	M16, R16
Weight	0.81 kg [1.79 lb]
Cavity	SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 34 - 03 - 12D - DE - PB - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400031)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Manual Override Option

Omit-Push Pin
PB-Push Button
SPS-Screw Type
OPS-Protected Push Pin

Solenoid Valves

SV08-34-04

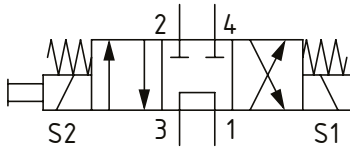
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 8 l/min [2 US gpm]

■ OPERATION AND DESCRIPTION

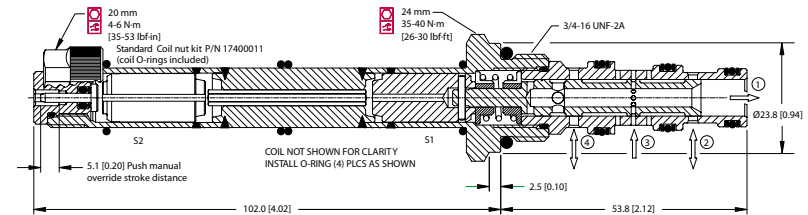
This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, ports 2 and 4 are closed while port 3 is connected to port 1. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port 3 opens to 4 and port 2 to 1. This valve provides a directional control function with a neutral de energized state allowing the inlet flow to pass to tank or to another function while the work ports are blocked. It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



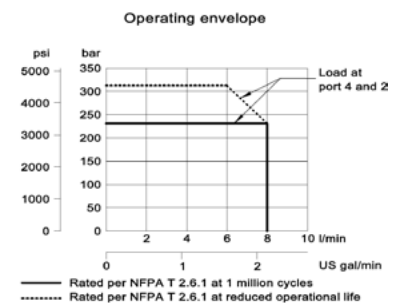
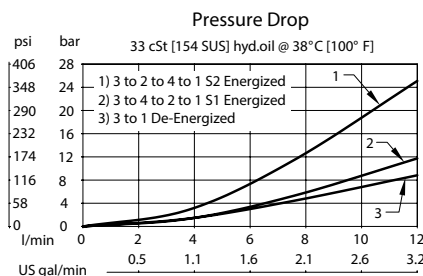
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	8 l/min [2 US gpm]
Coil Options	M13, R13
Weight	0.55 kg [1.21 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 500,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 34 - 04 - 12D - DE - PB - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400011)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
S6S	#6 SAE, Steel	CP08-4-S6S
L2B	1/4 BSP, AL	SDC08-4-L2B
S3B	3/8 BSP, Steel	CP08-4-S3B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003319
V-Viton	354003919

Manual Override Option

Omit-Push Pin
PB-Push Button
SPS-Screw Type

Solenoid Valves

SV15-34-04

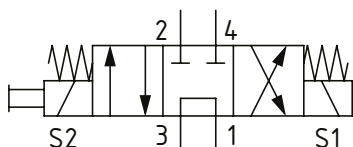
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 50 l/min [13.2 US gpm]

■ OPERATION AND DESCRIPTION

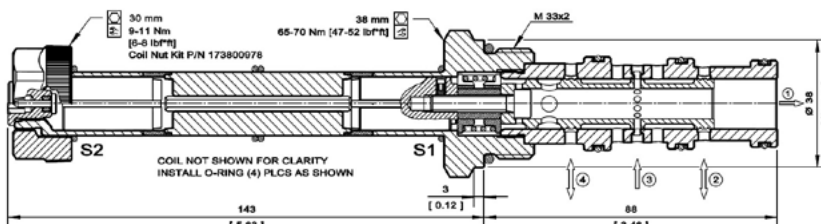
This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, ports 2 and 4 are closed while port 3 is connected to port 1. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port 3 opens to 4 and port 2 to 1. This valve provides a directional control function with a neutral de energized state allowing the inlet flow to pass to tank or to another function while the work ports are blocked. It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



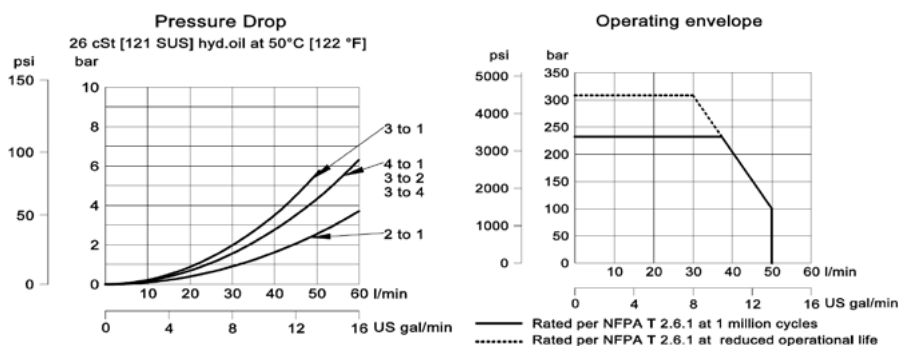
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	50 l/min [13.2 US gpm]
Coil Options	M19
Weight	1.4 kg [3.09 lb]
Cavity	NCS 12/4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 300,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV15 - 34 - 04 - 12D - DE - B - 8S

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included*
10D	10 VDC
12D	12 VDC
20D	20 VDC
24D	24 VDC
110A	110 VAC**
220A	220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800978)

**DIN only - external rectifier needed

Connector Type

Code	Connector Type
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS12/4-L-8S
12S	#12 SAE, AL	NCS12/4-L-12S
4B	1/2 BSP, AL	NCS12/4-L-1/2
6B	3/4 BSP, AL	NCS12/4-L-3/4

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	11115884
V-Viton	11115885

Solenoid Valves

SV10-34-04

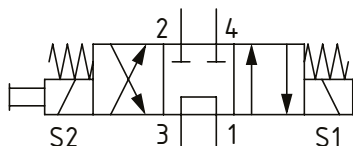
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 24 l/min [6.3 US gpm]

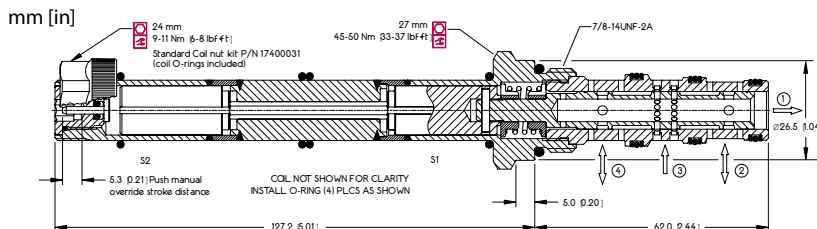
■ OPERATION AND DESCRIPTION

This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, ports 2 and 4 are closed while port 3 is connected to port 1. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port 3 opens to 4 and port 2 to 1. This valve provides a directional control function with a neutral de energized state allowing the inlet flow to pass to tank or to another function while the work ports are blocked. It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only)

■ SCHEMATIC



■ DIMENSIONS



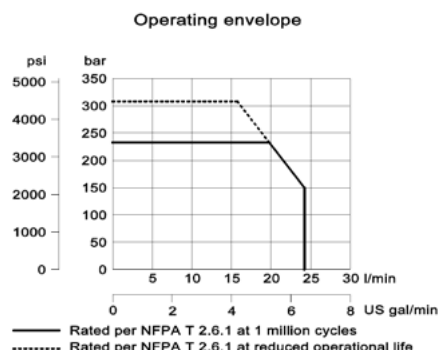
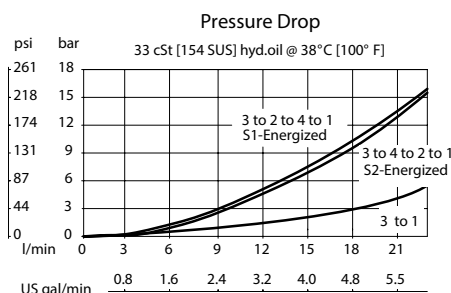
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	24 l/min [6.3 US gpm]
Coil Options	M16, R16
Weight	0.81 kg [1.79 lb]
Cavity	SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 34 - 04 - 12D - DE - PB - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400031)

**Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Manual Override Options

Omit-Push Pin
PB-Push Button
SPS-Screw Type
OPS-Protected Push Pin

Solenoid Valves

SV08-34-05

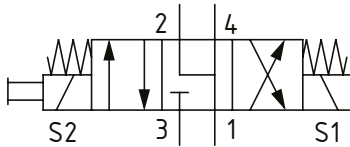
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 12 l/min [3.2 US gpm]

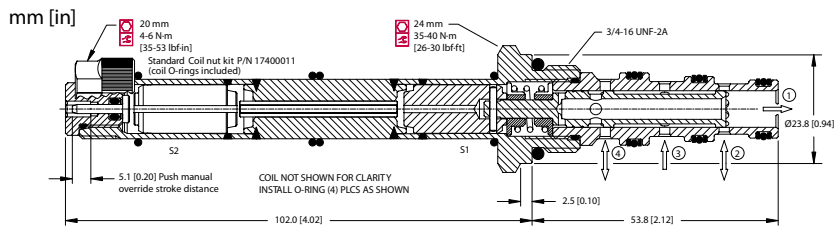
■ OPERATION AND DESCRIPTION

This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, ports 2, 4 and 1 are open while port 3 is blocked. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port opens port 3 to 4 and port 2 to 1. This valve provides a directional control function with a neutral de-energized state allowing the work ports to be referenced to tank, removing locked in pressure with the inlet port 3 closed. It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS



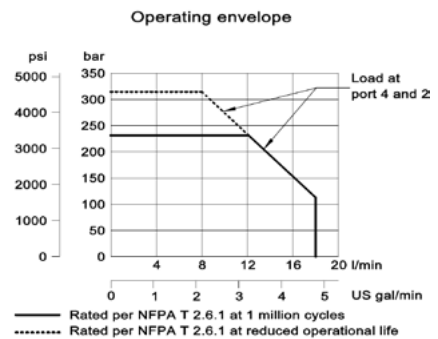
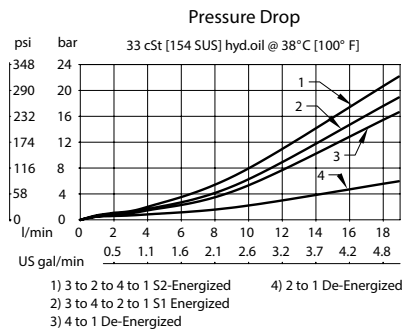
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	12 l/min [3.2 US gpm]
Coil Options	M13, R13
Weight	0.55 kg [1.21 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 500,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV08 - 34 - 05 - 12D - DE - PB - B - 4S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400011)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
4S	#4 SAE, AL	CP08-4-4S
6S	#6 SAE, AL	CP08-4-6S
56S	#6 SAE, Steel	CP08-4-56S
L2B	1/4 BSP, AL	SDC08-4-L2B
53B	3/8 BSP, Steel	CP08-4-53B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354003319
V-Viton	354003919

Manual Override Option

Omit-Push Pin
PB-Push Button
SPS-Screw Type
PAP-Push and Pull

Solenoid Valves

HSV08-34-05

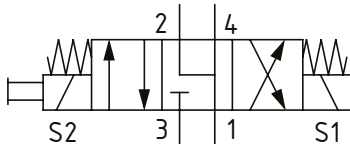
Solenoid Valve, 4-way, 3-position, Spool Type

350 bar [5000 psi] • 17 l/min [4.5 US gpm]

■ OPERATION AND DESCRIPTION

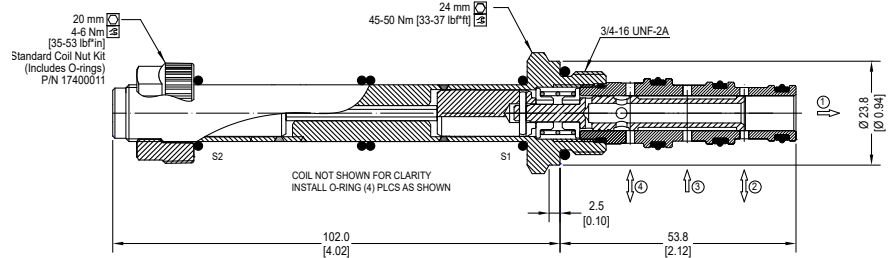
This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, ports 2, 4 and 1 are open while port 3 is blocked. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port opens port 3 to 4 and port 2 to 1. This valve provides a directional control function with a neutral de-energized state allowing the work ports to be referenced to tank, removing locked in pressure with the inlet port 3 closed. It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]

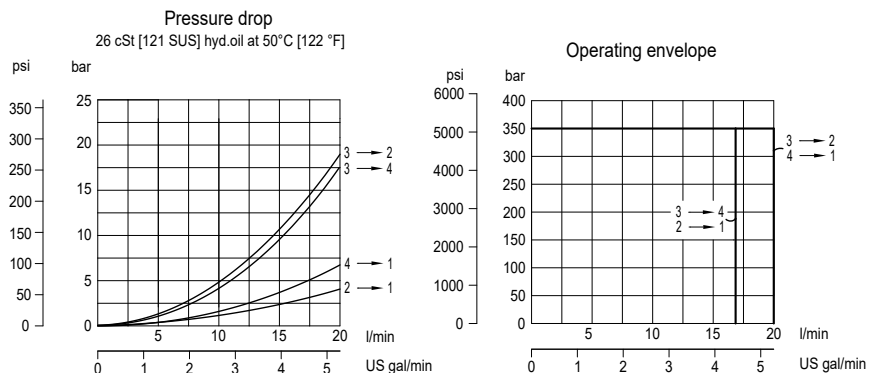


■ PERFORMANCE DATA

Rated Pressure*	350 bar [5000 psi]
Flow Capability	17 l/min [4.5 US gpm]
Coil Options	M13, R13
Weight	0.55 kg [1.21 lb]
Cavity	SDC08-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

■ PERFORMANCE CURVES



■ MODEL CODE

HSV08 - 34 - 05 - 12D - DE - PN - P - S3B

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400011)

*Robust Coil - Steel coil nut and no o-rings (p/n 173800539)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports	Housing Model Code
00	No Housing	
S3B	3/8 BSP, Steel	CP08-4-S3B
S6S	#6 SAE, Steel	CP08-4-S6S

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

* Additional housings available

Seal Option

Code	Seal kit
P-Polyurethane Single Seal	11167316

Solenoid Valves

SV10-34-05

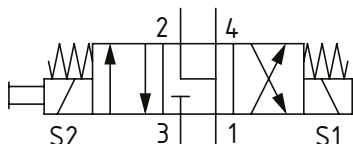
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 24 l/min [6.3 US gpm]

■ OPERATION AND DESCRIPTION

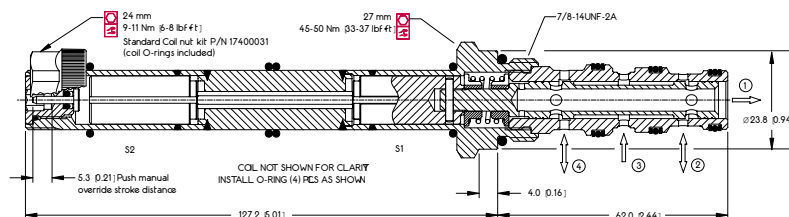
This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, ports 2, 4 and 1 are open while port 3 is blocked. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port opens port 3 to 4 and port 2 to 1. This valve provides a directional control function with a neutral de-energized state allowing the work ports to be referenced to tank, removing locked in pressure with the inlet port 3 closed. It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



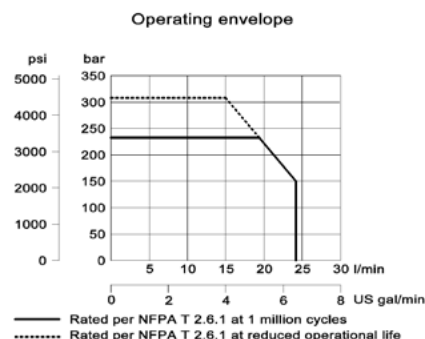
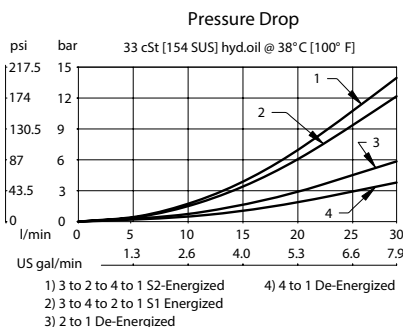
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	24 l/min [6.3 US gpm]
Coil Options	M16, R16
Weight	0.81 kg [1.79 lb]
Cavity	SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 34 - 05 - 12D - DE - PB - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400031)

**Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Manual Override Option

Omit-Push Pin
 PB-Push Button
 SPS-Screw Type
 OPS-Protected Push Pin
 PAT-Push and Twist
 PAP-Push and Pull

Solenoid Valves

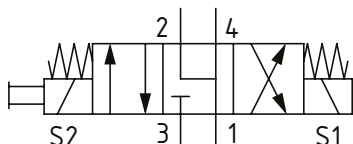
SV15-34-05

Solenoid Valve, 4-way, 3-position, Spool Type
230 bar [3300 psi] • 60 l/min [16 US gpm]

OPERATION AND DESCRIPTION

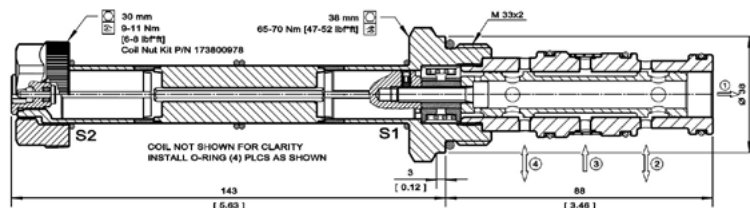
This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, ports 2, 4 and 1 are open while port 3 is blocked. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port opens port 3 to 4 and port 2 to 1. This valve provides a directional control function with a neutral de-energized state allowing the work ports to be referenced to tank, removing locked in pressure with the inlet port 3 closed. It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

SCHEMATIC



DIMENSIONS

mm [in]



PERFORMANCE DATA

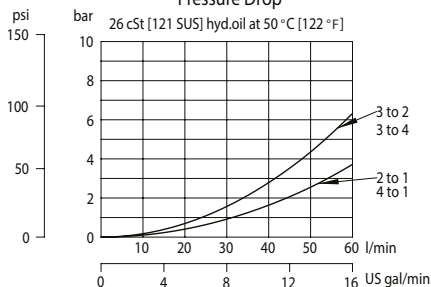
Rated Pressure*	230 bar [3300 psi]**
Flow Capability	60 l/min [16 US gpm]
Coil Options	M19
Weight	1.4 kg [3.09 lb]
Cavity	NCS 12/4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

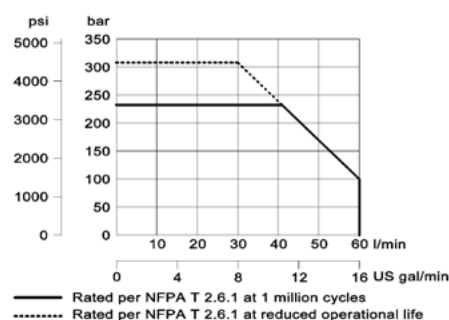
**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 300,000 cycles

PERFORMANCE CURVES

Pressure Drop



Operating envelope



MODEL CODE

SV15 - 34 - 05 - 12D - DE - V - F - 8S

Coil Voltage

Code	Coil Voltage
00	No Coil, nut included*
10D	10 VDC
12D	12 VDC
20D	20 VDC
24D	24 VDC
110A	110 VAC**
220A	220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 173800978)

**DIN only - external rectifier needed

Connector Type

Code	Connector Type
00	No Coil
AJ	Amp Junior
AJD	Amp Junior with Diode
DE	Deutsch
DED	Deutsch with Diode
FL	Flying Leads
DN	DIN 43650

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
8S	#8 SAE, AL	NCS12/4-L-8S
12S	#12 SAE, AL	NCS12/4-L-12S
4B	1/2 BSP, AL	NCS12/4-L-1/2
6B	3/4 BSP, AL	NCS12/4-L-3/4

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

* Additional housings available

Filter Option

Omit - No filter
F - Filter 300 µm

Seal Option

Code	Seal kit
B -Buna - N	11115884
V -Viton	11115885

Solenoid Valves

SV10-34-11

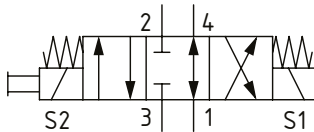
Solenoid Valve, 4-way, 3-position, Spool Type

230 bar [3300 psi] • 28 l/min [7.4 US gpm]

■ OPERATION AND DESCRIPTION

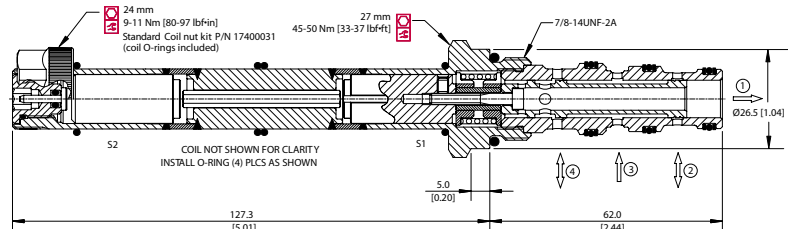
This is a 4-way, 3-position, spool type, direct acting solenoid valve. In the center condition, ports 2 and 3 blocked while port 4 is open to 1. By energizing one coil, port 3 opens to 2 and port 4 to 1. When energizing the other coil, port opens port 3 to 4 and port 2 to 1. This valve provides a directional control function with a neutral de energized state allowing the service line from port 4 to be referenced to tank removing locked in pressure with ports 3 and 2 closed. It can be used in any hydraulic application where an actuator needs to be controlled in both directions. Always check the operating envelope to make sure the valve will work under the required application conditions. Port 1 is not intended for use as inlet (Tank only).

■ SCHEMATIC



■ DIMENSIONS

mm [in]



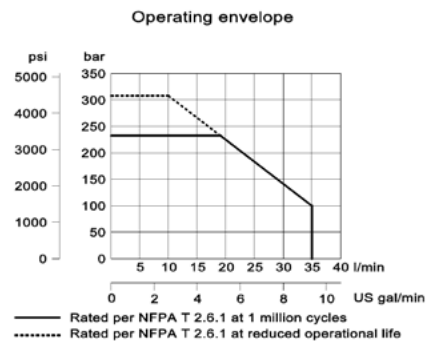
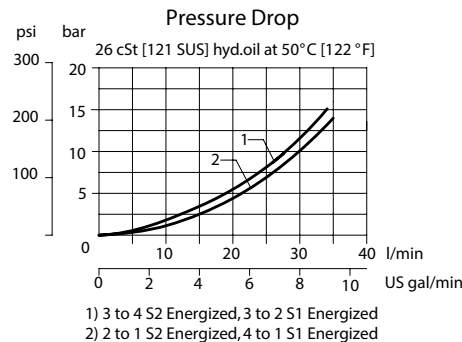
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	28 l/min [7.4 US gpm]
Coil Options	M16, R16
Weight	0.81 kg [1.79 lb]
Cavity	SDC10-4

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 34 - 11 - 12D - DE - PB - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400031)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	CP10-4-6S
8S	#8 SAE, AL	CP10-4-8S
S8S	#8 SAE, Steel	CP10-4-S8S
L3B	3/8 BSP, AL	SDC10-4-L3B
L4B	1/2 BSP, AL	SDC10-4-L4B
S4B	1/2 BSP, Steel	CP10-4-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	354001919
V-Viton	354002019

Manual Override Option

Omit-Push Pin
PB-Push Button
SPS-Screw Type
OPS-Protected Push Pin
PAT-Push and Twist
PAP-Push and Pull

Solenoid Valves

SV10-35-02

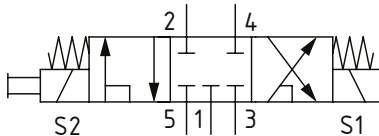
Solenoid Valve, 5-way, 3-position, Spool Type

230 bar [3300 psi] • 30 l/min [8 US gpm]

■ OPERATION AND DESCRIPTION

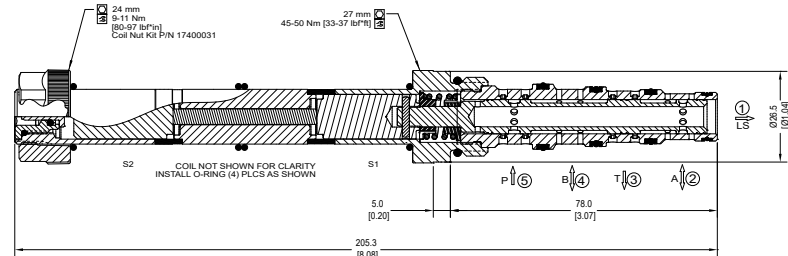
This is a 5-way, 3-position, spool type, direct acting solenoid valve. In the center condition, all ports are blocked. By energizing one coil, port 5 opens to 2 and 1 and port 4 to 3. When energizing the other coil, port 5 will be open to 4 and 1, and port 2 connects to 3. This valve provides a directional control function with a neutral de-energized state with all ports closed including port 1, which is normally used as a load sense port. The valve can be used in any hydraulic application where an actuator needs to be controlled in both directions needing a load sense line to activate a pump controller. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS

mm [in]



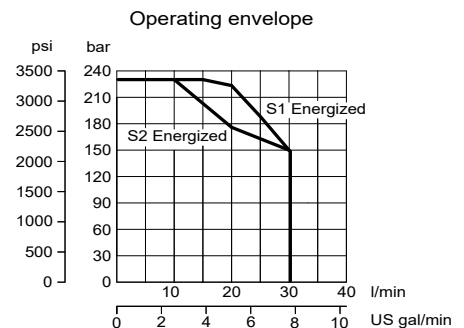
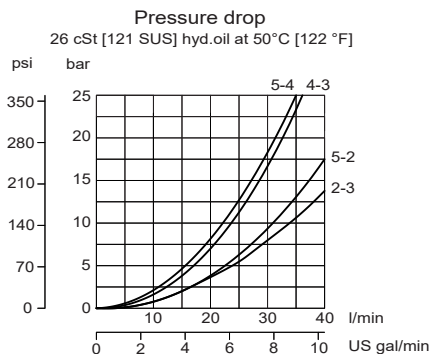
■ PERFORMANCE DATA

Rated Pressure*	230 bar [3300 psi]**
Flow Capability	30 l/min [8 US gpm]
Coil Options	M16, R16
Weight	0.9 kg [1.98 lb]
Cavity	SDC10-5

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles

■ PERFORMANCE CURVES



■ MODEL CODE

SV10 - 35 - 02 - 12D - DE - PB - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400031)

*Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	SDC10-5-6S
8S	#8 SAE, AL	SDC10-5-8S
S8S	#8 SAE, Steel	SDC10-5-S8S
L3B	3/8 BSP, AL	SDC10-5-L3B
L4B	1/2 BSP, AL	SDC10-5-L4B
S4B	1/2 BSP, Steel	SDC10-5-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	11192395
V-Viton	11192396

Manual Override Option

Omit-Push Pin
PB-Push Button
SPS-Screw Type
OPS-Protected Push Pin
PAP-Push and Pull*

*For PAP override, load sense pressure must be less than 150 bar

Solenoid Valves

SV10-35-05

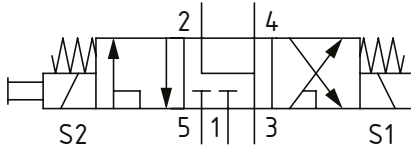
Solenoid Valve, 5-way, 3-position, Spool Type

230 bar [3300 psi] • 30 l/min [8 US gpm]

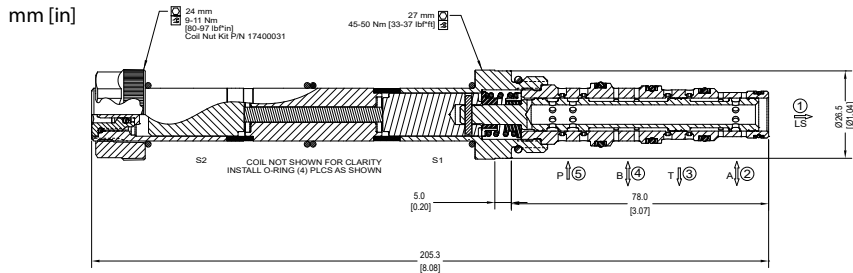
■ OPERATION AND DESCRIPTION

This is a 5-way, 3-position, spool type, direct acting solenoid valve. In the center condition, ports 2 and 4 are connected to port 3, and port 5 and 1 are blocked. By energizing one coil, port 5 opens to 2 and 1 and port 4 to 3. When energizing the other coil, port 5 will be open to 4 and 1, port 2 connects to 3. This valve provides a directional control function with a neutral de-energized state with the service lines open to tank allowing pressure to decay. Port 5 and port 1, which is normally used as a load sense port, are closed. The valve can be used in any hydraulic application where an actuator needs to be controlled in both directions needing a load sense line to activate a pump controller. Always check the operating envelope to make sure the valve will work under the required application conditions.

■ SCHEMATIC



■ DIMENSIONS



■ PERFORMANCE DATA

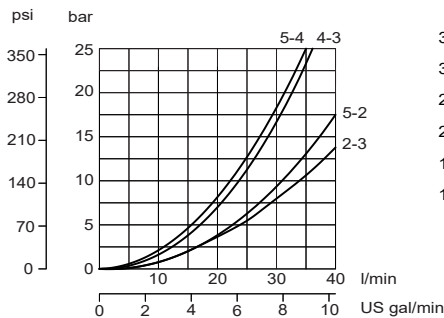
Rated Pressure*	230 bar [3300 psi]**
Flow Capability	30 l/min [8 US gpm]
Coil Options	M16, R16
Weight	0.9 kg [1.98 lb]
Cavity	SDC10-5

*Rated Pressure based on NFPA fatigue test standards (at 1 million cycles)

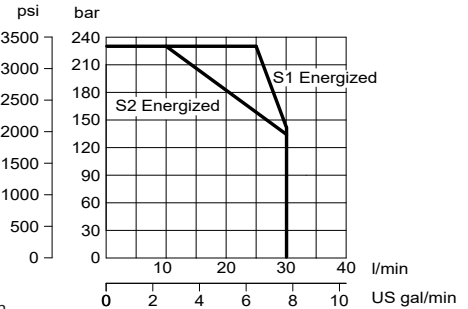
**Valve can operate with an inlet pressure of 315 bar [4600 psi] at port 3 for 400,000 cycles

■ PERFORMANCE CURVES

Pressure drop
26 cSt [121 SUS] hyd.oil at 50°C [122 °F]



Operating envelope



■ MODEL CODE

SV10 - 35 - 05 - 12D - DE - PB - B - 6S

Coil Voltage

Standard Coil Code	Robust Coil Code	Coil Voltage
00	R00	No Coil, nut included*
10D	R10D	10 VDC
12D	R12D	12 VDC
20D	R20D	20 VDC
24D	R24D	24 VDC
110A		110 VAC**
220A		220 VAC**

*Standard Coil - Plastic coil nut and o-rings (p/n 17400031)

**Robust Coil - Steel coil nut and no o-rings (p/n 173804910)

**DIN only - external rectifier needed

Connector Type

Standard Coil Code	Robust Coil Code	Connector Type
00	00	No Coil
AJ		Amp Junior
AJD		Amp Junior with Diode
AS	AS	AMP SuperSeal 1.5
ASD	ASDB*	AMP SuperSeal with Diode
DE	DE	Deutsch
DED	DEDB*	Deutsch with Diode
FL	FL	Flying Leads
FLD	FLDB*	Flying Leads with Diode
DN		DIN 43650

*Bi-directional diode

Housing

Code	Ports & Material	Housing Model Code
00	No Housing	
6S	#6 SAE, AL	SDC10-5-6S
8S	#8 SAE, AL	SDC10-5-8S
S8S	#8 SAE, Steel	SDC10-5-S8S
L3B	3/8 BSP, AL	SDC10-5-L3B
L4B	1/2 BSP, AL	SDC10-5-L4B
S4B	1/2 BSP, Steel	SDC10-5-S4B

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

* Additional housings available

Seal Option

Code	Seal kit
B-Buna - N	11192395
V-Viton	11192396

Manual Override Option

Omit-Push Pin

PB-Push Button

SPS-Screw Type

OPS-Protected Push Pin

PAP-Push and Pull*

*For PAP override, load sense pressure must be less than 150 bar

Danfoss